



# 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:*

C. Cook

P. Flanagan

J. Foti

B. Peña

H. Vitale

J. Walsh

P. Walsh

J. Wolowicz

## **BOARD OF DIRECTORS' MEETING**

**To be Held on Wednesday, May 25, 2022**

Time: 1:00pm

To be Held Virtually

Pursuant to An Act Relative to Extending Certain COVID-19  
Measures Adopted During the State of Emergency.

### **WebEx Meeting Link (Registration Required)**

<https://mwra.webex.com/mwra/onstage/g.php?MTID=e6be3bcb8e1c96516fcd1fc856e51135f>

Event Number: 2337 825 3320

Password: 52522

### **Revised AGENDA (1)**

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

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

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

#### **IV. FY2023 BUDGET HEARINGS**

- Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY2023 CIP and CEB
- MWRA's FY2023 Draft Final Budget Hearings Presentation

#### **V. EXECUTIVE SESSION**

i. Approval of April 13, 2022 Executive Session Minutes

##### **A. Real Estate**

1. Watershed Land Acquisition

##### **B. Collective Bargaining**

1. Collective Bargaining Update (verbal)

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

##### **A. Annual Meeting of the Personnel and Compensation Committee Independent of Management**

1. Authority Accountability and Transparency Act Compliance

Telephone: (617) 242-6000

Fax: (617) 788-4899

TTY: (617) 788-4971

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

**B. Review and Extension of Contract for Executive Director**

**C. Information**

1. Staffing Recruitment and Retention

**D. Approvals**

1. PCR Amendments – May 2022
2. Appointment of Director, Design and Construction, Tunnel Redundancy
3. Non-Union Compensation and Extension of Employment Contract, Director, Tunnel Redundancy Program

**VII. WASTEWATER POLICY & OVERSIGHT**

**A. Information**

1. Update on Combined Heat and Power Study – Deer Island Treatment: Black & Veatch Corporation, Contract 6963A

**B. Contract Awards**

1. Struvite, Scum, Sludge and Grit Removal Services at the Deer Island Treatment Plant: Moran Environment Recovery, LLC, Purchase Order Contract WRA-5128
2. Annual Renewal of Wastewater Advisory Committee Contract

**VIII. WATER POLICY & OVERSIGHT**

**A. Approvals**

1. Memorandum of Agreement with the City of Waltham - Section 101 Extension Water Main Project (materials to follow)

**B. Contract Awards**

1. Section 101 Extension Water Main Project: Waltham: Balthazar Contractors, Inc., Contract 7457
2. Annual Renewal of Water Supply Citizens Advisory Committee Contract

**C. Contract Amendments/Change Orders**

1. Marlborough Emergency Pump Station Connection: GVC Construction Inc., Contact 7791, Change Order 3

**IX. ADMINISTRATION, FINANCE AND AUDIT**

**A. Information**

1. FY2022 Third Quarter Orange Notebook
2. Delegated Authority Report – April 2022
3. FY2022 Financial Update and Summary as of April 2022

**B. Approvals**

1. Bond Defeasance of Future Debt Service

**C. Contract Awards**

1. MWRA FY2023 Insurance Program Renewal

**X. CORRESPONDENCE TO THE BOARD**

**XI. OTHER BUSINESS**

**XII. ADJOURNMENT**

# MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

April 13, 2022

ii  
5/25/22

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A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on April 13, 2022. The meeting was conducted virtually, pursuant to Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency. Chair Theoharides presided remotely. Also participating remotely from the Board were Messrs. Carroll, Cook, Flanagan, Foti, Pappastergion, Peña, Vitale, J. Walsh, and P. Walsh. Ms. Wolowicz was absent.

MWRA staff in attendance virtually included Frederick Laskey, Executive Director; Carolyn Francisco Murphy, General Counsel; David Coppes, Chief Operating Officer; Carolyn Fiore, Deputy Chief Operating Officer; Thomas Durkin, Director of Finance; Michele Gillen, Director, Administration; Kathy Murtagh, Director, Tunnel Redundancy; Paula Weadick, Director, MIS; Katherine Ronan, Environmental Analyst, Operations Administration; Matthew Horan, Deputy Finance Director/Treasurer; Paula Weadick, Director, MIS; and, Assistant Secretaries Ria Convery and Kristin MacDougall. Vandana Rao, Executive Office of Environmental Affairs (EEA), and Joseph Favaloro, MWRA Advisory Board, were also in attendance virtually.

Chair Theoharides called the meeting to order at 1:03pm. 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 ([www.mwra.com](http://www.mwra.com)). 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, where Board Members could vote affirmatively or in the negative, or abstain from voting. 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 MARCH 16, 2022 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors’ meeting of March 16, 2022. Chair Theoharides called for any questions, discussion, or objections. Hearing none, she referred the motion to an omnibus roll call vote. (ref. I)

## REPORT OF THE CHAIR

Chair Theoharides reported on state spending and the allocation of new federal funds and surplus, including State Revolving Fund (SRF) funding for water and sewer and clean water improvements; Infrastructure Investment and Jobs Act fund matching; formula funding for combined sewer overflow (CSO) control and clean water initiatives; and potential funding for land conservation, park stewardship, resiliency and climate change programs.

There was brief discussion about MWRA's Biobot wastewater Covid tracking data. (ref. II)

(Mr. Carroll temporarily left the meeting during the report.)

#### REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey updated Board members on MWRA's reservoir levels; the Wachusett Reservoir Railroad; and staff's assistance with security for the upcoming Boston Marathon. He then presented a brief report about staffing challenges. Next, he noted that staff would provide an update on developments regarding the Conservation Law Foundation (CLF) Notice of Intent to File Suit during Executive Session. Finally, Mr. Laskey and Ms. Francisco Murphy advised that An Act Relative to Extending Certain COVID-19 Measures Adopted During the State of Emergency was set to expire in July 2022. Ms. Francisco Murphy explained that staff would monitor any related legislation and provide an update in May 2022. (ref. III)

#### EXECUTIVE SESSION

Chair Theoharides requested that the Board move into Executive Session to discuss litigation and collective bargaining, since open session could have a detrimental effect on the litigation and bargaining positions of the Authority. She announced that the planned topics of discussion in Executive Session were an update on a Notice of Intent to File Suit from the Conservation Law Foundation, and the approval and ratification of collective bargaining agreements for United Steelworkers Units 1 and 6. She also 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 are 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>
Theoharides		
Cook		
Flanagan		
Foti		
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		

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

The Board moved to Executive Session to discuss litigation and collective bargaining, since discussing such in Open Session could have a detrimental effect upon the litigation and bargaining positions of the Authority.

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

The meeting entered Executive Session at 1:14pm and adjourned at 1:26pm.

(Mr. Carroll returned to the meeting during Executive Session.)

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

Open Session resumed at 1:14pm. Chair Theoharides presided.

#### COLLECTIVE BARGAINING ANNOUNCEMENT

Chair Theoharides announced that during Executive Session the Board voted to approve and ratify the collective bargaining agreements with United Steelworkers Units 1 and 6, which included ATB (across the board) increases of 2.5%, 2.0% and 2.0% for FY21, FY22 and FY23, respectively, and a one-time signing bonus payment of 1.5% (with a minimum of \$1,000); and that Board also authorized a one-time Hazard Pay payment of either \$2,000 or \$1,000 for certain members of United Steelworkers 1 and 6.

#### ADMINISTRATION, FINANCE AND AUDIT

##### Information

##### Delegated Authority Report – March 2022

MWRA Director of Administration Michele Gillen advised that items highlighted in the Delegated Authority Report for March 2022 would have required Board approval prior to the Board's February 16, 2022 adoption of the new delegations of authority. She also advised that staff have interpreted the new delegations of authority on change orders and amendments as applying to both existing contracts and future contracts, and requested the Board's confirmation of staff's interpretation.

Board members confirmed that they were in agreement.

Hearing no further questions or discussion, Committee Chair Foti proceeded to the next agenda item. (ref. V A.1)

#### 2021 Annual Update on New Connections to the MWRA System

MWRA Director of Environmental and Regulatory Affairs Rebecca Weidman introduced MWRA Environmental Analyst Katherine Ronan who presented an annual update on new connections to

the MWRA system since 2002, pursuant to requirements of MWRA's system expansion policies. The presentation included an overview of 2021 system expansion inquiries; non-MWRA community local water system PFAS detections; potential future connections; and, two system expansion studies and corresponding study areas.

Mr. Laskey noted that system expansion could present opportunities for economic development, and financial and environmental benefits.

Chair Theoharides agreed with Mr. Laskey and added that this program was a priority for the Baker-Polito administration and EEA.

There was general discussion about potential standby fees and entrance fees for MWRA communities.

Mr. Laskey invited MWRA Advisory Board Executive Director Joseph Favaloro to offer remarks.

Mr. Favaloro advised that the MWRA Advisory Board could potentially bring a proposal to waive new system entrance fees to the Board of Directors in May 2022.

Hearing no further questions or discussion, Committee Chair Foti proceeded to the next agenda item. (ref. V A.2)

#### Financial Update and Summary through March 2022

MWRA Director of Finance Thomas Durkin reported positive variances for direct expenses (6.4%) and indirect expenses (2.4%), and no variance for capital finance after transfer to the defeasance account. He added that FY22 revenues to date were higher than estimated and that the total year to date variance was \$17 million. He advised that staff planned to recommend that the surplus be applied to defeasance in May 2022. Finally, Mr. Durkin summarized the potential budgetary impacts of inflation and increased chemical use due to higher MWRA system flows.

There was general discussion about the costs, bidding processes and inventory practices for chemicals; and electricity pricing. There was also discussion about MWRA's budget and community assessments; MWRA's rate methodology; and MWRA's managed security services contract.

Hearing no further questions or discussion, Committee Chair Foti proceeded to the next agenda item. (ref. V A.3)

#### Approvals

##### Approval of the Eighty-Fifth Supplemental Bond Resolution

A motion was duly made and seconded to adopt the Eighty-Fifth Supplemental Resolution authorizing the issuance of up to \$50,000,000 of Massachusetts Water Resources Authority Subordinated General Revenue Bonds and the supporting issuance resolution.

MWRA Deputy Director of Finance/Treasurer Matthew Horan explained that MWRA sought approval to borrow up to \$50 million through an interim loan through the Massachusetts Clean Water Trust ("Trust") at a 0% interest rate until the Trust issued permanent financing. He noted that as part of this transaction, the Trust would provide principal forgiveness using a portion of funding that Massachusetts had received through the American Rescue Plan Act (ARPA), and that staff anticipated additional funding through the Infrastructure and Jobs Act. There was discussion about MWRA's loan coverage calculations.

Chair Theoharides 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)

Memorandum of Agreement between MWRA and the City of Chelsea: Griffin Way/Eastern Avenue Intersection Traffic Signalization, Contract OP-339

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement with the City of Chelsea, substantially in the form attached to the April 13, 2022 Staff Summary presented and filed with the records of this meeting, related to the design and construction by MWRA, and ownership, operation and maintenance by the City of Chelsea, of traffic signals, cameras and equipment and roadway and sidewalk improvements at the intersection of Griffin Way and Eastern Avenue in Chelsea.

Mr. Coppes and Mr. Laskey presented an overview of the proposed Memorandum of Agreement (MOA) with the City of Chelsea including traffic from Griffin Way, safety improvements at an intersection near MWRA's Chelsea facility, scope of work, and estimated construction costs and funding sources.

There was discussion about the Chelsea facility's abutters; the intersection's traffic patterns; escrow account as a funding source; and the project's safety benefits.

Chair Theoharides asked if the City of Chelsea supported the intersection improvement project. Mr. Laskey affirmed that the project had the City's approval.

Chair Theoharides asked if there was further discussion or any objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. V B.2)

Contract Awards

Maintenance and Support of the Integrated Financial, Procurement and Human Resources/Payroll Management System: Infor Inc.

A motion was duly made and seconded to approve the award of a sole source purchase order contract for the annual maintenance and support of the integrated financial, procurement, and human resources/payroll management system to Infor Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$539,283.23 for a period of one year, from June 1, 2022 through May 31, 2023.

MWRA MIS Director Paula Weadick summarized the terms of the proposed annual maintenance



and support contract for MWRA's integrated financial, procurement and human resources/payroll management system ("Lawson").

Board Member Vitale requested more information about Infor Inc.'s clients. Ms. Weadick advised that staff would provide a client list at a later date. There was general discussion on Lawson's clients and software maintenance costs; the frequency of source code updates; the potential to subscribe to a cloud-based version; and contract cost increases.

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

## WATER POLICY AND OVERSIGHT

### Information

#### Update on the William A. Brutsch Hydroelectric Facility and the McLaughlin Fish Hatchery Pipeline

MWRA Deputy Chief Operating Officer Carolyn Fiore presented an update on the Brutsch Hydroelectric Facility and the McLaughlin Fitch Hatchery Pipeline Project. The presentation included an overview of the project; its joint participants, project funding; location; flows; hydroelectric power generation; costs; and environmental and financial benefits.

Board Member Jack Walsh requested more information about the hatchery's maintenance costs. Ms. Fiore advised that staff would provide this information at a later date. There was further discussion about the facility's maintenance costs and benefits to fish and the environment.

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

Hearing no further questions or discussion, Committee Vice Chair Vitale proceeded to the next agenda item. (ref. VI A.1)

### Contract Amendments/Change Orders

#### Quinapoxet Dam Removal Design, Permitting and Engineering Services During Construction: SLR International Corporation, Contract 7347, Amendment 1

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7347, Quinapoxet Dam Removal Design and Engineering Services During Construction, with SLR International Corporation to increase the contract term by 24 months from April 1, 2022 to April 1, 2024, with no increase in contract price.

Ms. Weidman explained that the proposed amendment would extend the contract term by 24 months to accommodate delays in required permitting. She further explained that once permitting is complete the project will move forward with 100% design and procurement for the removal of the dam, streambank restoration and the construction of a new path and fishing platform. She added that the next phases of the project were expected to begin in fall 2023, with estimated completion in spring 2024.

Chair Theoharides 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)

## PERSONNEL AND COMPENSATION

### Information

#### Proposed Organizational Changes within MWRA

Mr. Durkin provided an overview of the Finance Division and explained that the proposed organizational changes within the Finance Division would increase operational efficiencies, communication and coordination.

Hearing no questions or discussion, Committee Vice Chair Peña proceeded to the next agenda item. (ref. VII A.1)

#### PCR Amendments - April 2022

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

Ms. Gillen summarized the proposed PCR amendments, which included a salary change for one filled position and a title and grade change to one vacant position.

There was brief discussion about MWRA's pay equity policy.

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

#### Appointment of Controller, Finance Division

A motion was duly made and seconded to approve the appointment of Mr. William Kibaja to the position of Controller, Finance Division (Non-Union, Grade 15) at an annual salary of \$147,000 commencing on a date to be determined by the Executive Director.

Ms. Gillen summarized the interview process and the proposed candidate's work history, experience, education, and qualifications.

There was brief discussion about the recommended candidate's work experience.

Chair Theoharides asked if there was further discussion or any objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VII B.2)

#### Appointment of Business Relationship Manager, Management Information Systems, Administration

A motion was duly made and seconded that the Board approve the appointment of Ms. Renata Thomas to the position of Business Relationship Manager, Management Information Systems (MIS), Non-Union, Grade 14, at an annual salary of \$130,000.00 commencing on a date to be

determined by the Executive Director.

Ms. Gillen described the position's responsibilities, the interview process and the proposed candidate's qualifications and work experience.

Chair Theoharides asked if there was any discussion or objections. Hearing none, she advanced the motion to an omnibus roll call vote. (ref. VII B.3)

#### OMNIBUS ROLL CALL VOTE

Chair Theoharides 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>
Theoharides		
Flanagan		
Foti		
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		

Voted: to approve the minutes of the Board of Directors' meeting of March 16, 2022; (ref. I)

Further, voted: to adopt the Eighty-Fifth Supplemental Resolution authorizing the issuance of up to \$50,000,000 of Massachusetts Water Resources Authority Subordinated General Revenue Bonds and the supporting issuance resolution; (ref. V B.1)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to execute a Memorandum of Agreement with the City of Chelsea, substantially in the form attached to the April 13, 2022 Staff Summary presented and filed with the records of this meeting, related to the design and construction by MWRA, and ownership, operation and maintenance by the City of Chelsea, of traffic signals, cameras and equipment and roadway and sidewalk improvements at the intersection of Griffin Way and Eastern Avenue in Chelsea; (ref V B.2)

Further, voted: to approve the award of a sole source purchase order contract for the annual maintenance and support of the integrated financial, procurement, and human resources/payroll management system to Infor Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$539,283.23 for a period of one year, from June 1, 2022 through May 31, 2023; (ref. V C.1)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7347, Quinapoxet Dam Removal Design and Engineering Services During Construction, with SLR International Corporation to increase the contract term by 24 months from April 1, 2022 to April 1, 2024, with no increase in contract price; (ref. VI B.1),

Further, voted: to approve amendments to the Position Control Register (PCR) as presented and filed with the records of this meeting; (ref. VII B.1)

Further, voted: to approve the appointment of Mr. William Kibaja to the position of

Controller, Finance Division (Non-Union, Grade 15) at an annual salary of \$147,000 commencing on a date to be determined by the Executive Director; (ref. VII B.2) and,

Further, voted: that the Board approve the appointment of Ms. Renata Thomas to the position of Business Relationship Manager, Management Information Systems (MIS), Non-Union, Grade 14, at an annual salary of \$130,000.00 commencing on a date to be determined by the Executive Director. (ref. VII B.3)

#### CORRESPONDENCE TO THE BOARD

There was no correspondence to the Board.

#### OTHER BUSINESS

Mr. Laskey reported that the latest Biobot results indicated an upward trend in detections, and encouraged meeting participants to stay safe during the spring holidays. Chair Theoharides echoed these remarks.

#### 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>
Theoharides		
Carroll		
Flanagan		
Foti		
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		


The meeting adjourned at 2:35pm.

Approved: May 28, 2022

Attest:


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

**STAFF SUMMARY**

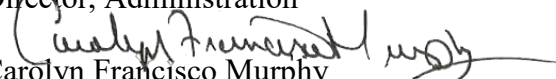
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** Authority Accountability and Transparency Act Compliance

**COMMITTEE:** Personnel and Compensation

X  INFORMATION  
  VOTE

  
Michele S. Gillen  
Director, Administration

Andrea Murphy, Director, Human Resources  
Preparer/Title

  
Carolyn Francisco Murphy  
General Counsel

*As required by the 2011 Authority Accountability and Transparency Act, the Personnel and Compensation Committee must meet independently of management at least once a year to establish and evaluate executive compensation, and analyze and assess comparable compensation for positions with similar functions and responsibilities at state agencies and authorities, and for-profit and non-profit private sector employers. This meeting will occur at the end of the May 25, 2022 Personnel and Compensation meeting. Analyses of comparable salaries are attached to facilitate the Committee's review.*

**RECOMMENDATION:**

For information only.

**DISCUSSION:**

The Authority Accountability and Transparency Act (G.L. c. 29, §29K) became law in July 2011 and required the Executive Office for Administration and Finance (A&F) to adopt regulations governing accountability and transparency for state authorities. As applicable to MWRA, the statute requires the Board to review executive compensation based on an analysis of comparable public and private-sector compensation; and to prepare an annual report of all Authority expenditures including disclosure of salaries of highly compensated employees who earn more than the Governor's salary. It also prohibits the Commonwealth from subsidizing the health insurance, pension, and other post-employment benefits of employees and retirees of authorities that participate in the state retirement system or the Group Insurance Commission. A&F filed interim emergency regulations in July 2011, and in 2013, A&F promulgated the permanent regulation.

The final regulation:

- Defines the statutory term "executive" as the authority's chief executive officer, chief financial officer, general counsel and others as determined by the authority's compensation committee.

- Defines “highly compensated employees,” whose compensation is reported in the annual financial report, as those whose salary exceeds that of the Governor.
- Defines “meet independently of management” to exclude authority managers from statutorily required meetings of the authority's audit and compensation committees.
- Implements the benefits anti-subsidy statute, by requiring each state authority that participate in the state retirement system or the Group Insurance Commission to:
  - contribute the employer share of the cost attributable to that authority of the state retirement system (as determined by the PERAC actuary), and of the state group insurance system (as determined by the GIC);
  - be responsible for the full actuarial value of its liabilities as determined no less often than every 3 years by PERAC and the GIC after consulting A&F, the State Treasurer, and the State Board of Retirement.

At the April 2012 meeting, the Board took several steps in order to comply with the Transparency Act and the emergency regulations: the Board created the Administration, Finance and Audit Committee, as well as the Personnel and Compensation Committee; made adjustments to the sick leave buy back for executives; and made certain minor adjustments to existing employment contracts. Each year since April 2012, the Personnel and Compensation Committee has met independently of management as required by the regulations. As a result of these actions, MWRA is in compliance with the permanent regulations and Transparency Act. Neither MWRA Board members nor the Administration, Finance and Audit Committee are required to meet independently with respect to the audited financials of the Authority because the statute carves out an exception for state authorities that are otherwise required to retain an outside independent audit firm.

In order to remain in compliance with the statute’s requirements, staff recommend that the Personnel and Compensation Committee meet independently of management at the May 25, 2022 meeting. In order to facilitate the committee's review, analyses of comparable salaries are included with this staff summary.

**BUDGET/FISCAL IMPACT:**

The passage and implementation of section 29K of Chapter 29 of the Massachusetts General Laws will not have any impact upon either the FY23 CEB or CIP.

**ATTACHMENTS:**

- Attachment A: Summary of Compensation Data for State Agencies, Authorities, Non-Profit Organizations and Private Companies
- Attachment B: Survey of Comparable National Water/Wastewater Utilities
- Attachment C: American Water Works Association – 2021 Water Utility Survey

## Attachment A

## Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

<b>MWRA Position:</b>	<b>Executive Director</b>			
<b>Organization</b>	<b>Sector</b>	<b>Title</b>	<b>Reporting Period</b>	<b>Annual Salary</b>
Eversource Energy	Private Utility	President and CEO	2022	\$1,004,424
Citizens Energy, Inc.	Non-Profit	President and CEO	2018	\$885,180
Boston Foundation, Inc.	Non-Profit	President and CEO	2020	\$694,127
City Year, Inc.	Non-Profit	President	2019	\$383,520
Greater Boston Food Bank, Inc.	Non-Profit	President and CEO	2019	\$381,979
Mass Port Authority	Quasi Public	Chief Executive Officer	2022	\$360,000
MBTA	State	General Manager	2022	\$334,617
Mass Housing Partnership	Quasi Public	Executive Director	2022	\$265,000
Conservation Law Foundation	Non-Profit	President	2019	\$253,215
Mass Convention Center Authority	Quasi Public	Executive Director	2021	\$252,012
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	President	2020	\$249,039
Commonwealth Health Insurance Connector Authority	Quasi Public	Executive Director	2022	\$242,558
<b>MWRA</b>	<b>Quasi Public</b>	<b>Executive Director</b>	<b>2022</b>	\$226,600
Commonwealth of Massachusetts	State	State Auditor	2022	\$190,989
Commonwealth of Massachusetts	State	Treasurer	2022	\$189,560
Commonwealth of Massachusetts	State	Attorney General	2022	\$185,378
Commonwealth of Massachusetts	State	Governor	2022	\$185,000
Commonwealth of Massachusetts	State	Secretary of State	2022	\$178,695
MassDOT	State	Acting Secretary and CEO	2022	\$178,159
Mass Department of Revenue	State	Commissioner of Revenue	2022	\$177,735
Save the Harbor/Save the Bay	Non-Profit	Executive Director	2022	\$115,755

## Attachment A

## Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

<b>MWRA Position:</b>	<b>Chief Operating Officer</b>			
<b>Organization</b>	<b>Sector</b>	<b>Title</b>	<b>Reporting Period</b>	
Eversource Energy	Private Utility	Executive Vice President/Chief Operating Officer	2022	\$770,001
Citizens Energy, Inc.	Non-Profit	Chief Executive Officer	2018	\$606,913
City Year, Inc.	Non-Profit	Chief Operating Officer	2019	\$346,656
Commonwealth Health Insurance Connector Authority	Quasi Public	Deputy Executive Director and COO	2022	\$291,571
Greater Boston Food Bank, Inc.	Non-Profit	Chief Operating Officer and Vice President of Distribution	2019	\$286,345
MBTA	State	Deputy General Manager	2022	\$265,431
Mass Port Authority	Quasi Public	Director, Capitol Programs & Environmental Affairs	2022	\$260,000
Mass Housing Partnership	Quasi Public	Managing Director	2022	\$223,600
<b>MWRA</b>	<b>Quasi Public</b>	<b>Chief Operating Officer</b>	<b>2022</b>	<b>\$197,359</b>
Conservation Law Foundation	Non-Profit	Executive VP and Director	2019	\$152,197
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	Vice President, Park Partnerships and Operations	2020	\$110,177
Save the Harbor/Save the Bay	Non-Profit	No Match		
Boston Foundation, Inc.	Non-Profit	No Match		



## Attachment A

## Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

<b>MWRA Position:</b>	<b>Director, Finance</b>			
<b>Organization</b>	<b>Sector</b>	<b>Title</b>	<b>Reporting Period</b>	
Eversource Energy	Private Utility	Executive Vice President & CFO	2022	\$720,001
Citizens Energy, Inc.	Non-Profit	CFO	2018	\$417,560
Boston Foundation, Inc.	Non-Profit	Chief Financial Officer and Treasurer	2020	\$379,747
Mass Port Authority	Quasi Public	Director, Admin & Finance/SecurityTreasurer	2022	\$311,825
City Year, Inc.	Non-Profit	Chief Financial and Administrative Officer	2019	\$290,089
Greater Boston Food Bank, Inc.	Non-Profit	Chief Financial Officer	2019	\$244,778
MBTA	State	Chief Financial Officer	2022	\$226,874
Mass Housing Partnership	Quasi Public	Chief Financial & Administrative Officer	2022	\$205,000
Commonwealth Health Insurance Connector Authority	Quasi Public	Chief Financial Officer	2022	\$185,414
<b>MWRA</b>	<b>Quasi Public</b>	<b>Director, Finance</b>	<b>2022</b>	<b>\$176,576</b>
MassDOT	State	Chief Financial Officer	2021	\$159,926
Mass Department of Revenue	State	Chief Financial Officer	2022	\$155,152
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	Director of Finance	2020	\$100,481
Mass Convention Center Authority	Quasi Public	Chief Financial Officer	2021	
Conservation Law Foundation	Non-Profit	No Match		
Save the Harbor/Save the Bay	Non-Profit	No Match		

## Attachment A

## Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

<b>MWRA Position:</b>	<b>General Counsel</b>			
<b>Organization</b>	<b>Sector</b>	<b>Title</b>	<b>Reporting Period</b>	
Eversource Energy	Private Utility	Executive Vice President and General Counsel	2021	\$670,002
Mass Port Authority	Quasi Public	Chief Legal Counsel	2022	\$255,397
City Year, Inc.	Non-Profit	Co-Clerk and General Counsel	2019	\$241,621
Mass Housing Partnership	Quasi Public	General Counsel	2022	\$200,000
MassDOT	State	General Counsel	2021	\$178,059
<b>MWRA</b>	<b>Quasi Public</b>	<b>General Counsel</b>	<b>2022</b>	<b>\$176,576</b>
Commonwealth Health Insurance Connector Authority	Quasi Public	General Counsel	2022	\$175,158
Mass Department of Revenue	State	General Counsel and Acting Deputy Commissioner	2022	\$165,556
MBTA	State	Chief Counsel	2022	\$163,000
Conservation Law Foundation	Non-Profit	Sr. Counsel	2019	\$160,241
Mass Convention Center Authority	Quasi Public	General Counsel	2021	
Boston Foundation Inc.	Non-Profit	No match		
Greater Boston Food Bank Inc.	Non-Profit	No match		
Citizens Energy, Inc.	Non-Profit	No match		
Save the Harbor/Save the Bay	Non-Profit	No match		
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	No match		

Attachment B  
 MWRA Survey of Comparable National Water/Wastewater  
 Utilities - May 2022

<b>Executive Director</b>										
<b>Organization</b>	<b>Location</b>	<b>Operating Budget</b>	<b># Employees</b>	<b>Population Served</b>	<b>Title</b>	<b>Base Salary</b>	<b>Car Allowance</b>	<b>Deferred Comp</b>	<b>2021 Bonus</b>	<b>Employment Contract</b>
Fairfax Water	Fairfax, VA	\$105.24 Million	475	2.5 million	General Manager	\$285,000	\$0 - car provided	\$0	\$0	Yes
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1786	19 million	General Manager	\$400,005	District vehicle	\$11,025	\$0	Yes
WSSC Water	Laurel, MD	\$817.4 million	1639	1.8 million	General Manager/CEO	\$294,309	\$12,000	\$26,000	\$0	Yes
Seattle Public Utilities	Seattle, WA	935 Million	1,304	1.4 million	Acting General Manager/CEO	\$218,633	\$0	\$0	\$0	No
East Bay Municipal Utility District	Oakland, CA	641.8 Million	1,962	1.4 Million	General Manager	\$324,444	District vehicle	\$26,000	\$0	Yes
					<b>Average Salary</b>	<b>\$304,478</b>				
<b>MWRA</b>					<b>MWRA Executive Director</b>	<b>\$220,000</b>	<b>included in salary</b>	<b>\$0</b>	<b>0</b>	<b>Yes</b>
<b>Chief Operating Officer</b>										
<b>Organization</b>	<b>Location</b>	<b>Operating Budget</b>	<b># Employees</b>	<b>Population Served</b>	<b>Title</b>	<b>Base Salary</b>	<b>Car Allowance</b>	<b>Deferred Comp</b>	<b>2021 Bonus</b>	<b>Employment Contract</b>
Fairfax Water	Fairfax, VA	\$105.24 Million	475	2.5 million	Deputy General Manager	\$252,000	\$0 - car provided	\$0	\$13,000	No
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1786	19 million	Assistant General Manager/ Chief Operating Officer	\$348,774	\$700	\$0	\$0	No
WSSC Water	Laurel, MD	\$817.4 million	1693	1.8 million	Deputy General Manager for Operations	\$235,767	\$8,000	\$0	\$0	Yes
Seattle Public Utilities	Seattle, WA	935 Million	1,304	1.4 million	Chief Administration Officer	vacant	\$0	\$0	\$0	No
East Bay Municipal Utility District	Oakland, CA	641.8 Million	1,962	1.4 Million	Director, Operations & Maintenance	\$306,192	\$0	\$0	\$0	No
					<b>Average Salary</b>	<b>\$285,683</b>				
<b>MWRA</b>					<b>MWRA Chief Operating Officer</b>	<b>\$191,611</b>	<b>\$700/month</b>	<b>\$0</b>	<b>\$0</b>	<b>No</b>

Attachment B  
 MWRA Survey of Comparable National Water/Wastewater  
 Utilities - May 2022

<b>Director Finance</b>										
<b>Organization</b>	<b>Location</b>	<b>Operating Budget</b>	<b># Employees</b>	<b>Population Served</b>	<b>Title</b>	<b>Base Salary</b>	<b>Car Allowance</b>	<b>Deferred Comp</b>	<b>2021 Bonus</b>	<b>Employment Contract</b>
Fairfax Water	Fairfax, VA	\$105.24 Million	475	2.5 million	Director, Finance	\$245,561	\$0	\$0	\$0	No
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1786	19 million	Assistant General Manager/ Chief Financial Officer	\$339,394	\$700	\$0	\$0	No
WSSC Water	Laurel, MD	\$817.4 million	1693	1.8 million	Chief Financial Officer	\$212,160	\$3,000	\$0	\$0	Yes
Seattle Public Utilities	Seattle, WA	935 Million	1,304	1.4 million	Finance Director	\$229,225	\$0	\$0	\$0	No
East Bay Municipal Utility District	Oakland, CA	641.8 Million	1,962	1.4 Million	Director, Finance	\$281,052	\$0	\$0	\$0	No
					<b>Average Salary</b>	<b>\$261,478</b>				
<b>MWRA</b>					<b>MWRA Director, Finance</b>	<b>\$171,433</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>No</b>
<b>General Counsel</b>										
<b>Organization</b>	<b>Location</b>	<b>Operating Budget</b>	<b># Employees</b>	<b>Population Served</b>	<b>Title</b>	<b>Base Salary</b>	<b>Car Allowance</b>	<b>Deferred Comp</b>	<b>2021 Bonus</b>	<b>Employment Contract</b>
Fairfax Water	Fairfax, Virginia	\$105.24 Million	439	2.5 million	No Match					
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1786	19 million	General Counsel	\$358,363	\$700	\$0	\$0	No
WSSC Water	Laurel, MD	\$817.4 million	1695	1.8 million	General Counsel	\$230,318	\$3,000	\$0	\$0	Yes
Seattle Public Utilities	Seattle, WA	935 Million	1,304	1.4 million	No Match (uses city legal services)					
East Bay Municipal Utility District	Oakland, Ca	641.8 Million	1,962	1.4 Million	General Counsel	\$267,348	\$0	\$0	\$0	Yes
					<b>Average Salary</b>	<b>\$285,343</b>				
<b>MWRA</b>					<b>MWRA General Counsel</b>	<b>\$171,433</b>				<b>No</b>

Attachment C:  
American Water Works Association 2021 Water Utility Compensation Survey

<b>Survey Position:</b>	<b>Top Executive</b>				
<b>MWRA Position:</b>	<b>Executive Director</b>				
<b>Survey Scope:</b>	<b>ALL utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	136	137	\$201,708	\$228,517	\$226,600
<b>Survey Scope:</b>	<b>All <u>water</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	54	54	\$199,993	\$235,038	\$226,600
<b>Survey Scope:</b>	<b>All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	82	83	\$206,539	\$224,275	\$226,600

<b>Survey Position:</b>	<b>Top Operations and Maintenance Executive</b>				
<b>MWRA Position:</b>	<b>Chief Operating Officer</b>				
<b>Survey Scope:</b>	<b>ALL utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	116	131	\$154,907	\$162,958	\$197,359
<b>Survey Scope:</b>	<b>All <u>water</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	45	49	\$177,024	\$181,011	\$197,359
<b>Survey Scope:</b>	<b>All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	71	82	\$141,291	\$152,170	\$197,359

Attachment C:  
American Water Works Association 2021 Water Utility Compensation Survey

<b>Survey Position:</b>	<b>Top Finance Executive</b>				
<b>MWRA Position:</b>	<b>Director, Finance</b>				
<b>Survey Scope:</b>	<b>ALL utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	111	109	\$161,518	\$169,748	\$175,576
<b>Survey Scope:</b>	<b>All <u>water</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	46	44	\$164,549	\$180,108	\$175,576
<b>Survey Scope:</b>	<b>All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	65	65	\$155,275	\$162,735	\$175,576

<b>Survey Position:</b>	<b>Top Legal Executive</b>				
<b>MWRA Position:</b>	<b>General Counsel</b>				
<b>Survey Scope:</b>	<b>ALL utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	42	42	\$194,311	\$196,367	\$175,576
<b>Survey Scope:</b>	<b>All <u>water</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	19	19	\$202,010	\$211,272	\$175,576
<b>Survey Scope:</b>	<b>All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000</b>				
	<b># of Utilities</b>	<b># of Employees</b>	<b>50th Percentile Salary</b>	<b>Average Salary</b>	<b>MWRA Salary</b>
	23	23	\$179,100	\$184,054	\$175,576

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Staffing Recruitment and Retention




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**COMMITTEE:** Personnel & Compensation

X  INFORMATION  
  VOTE

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

  
Michele S. Gillen  
Director, Administration

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### 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 some of the steps staff are taking and considering to address this. This staff summary provides an update and proposed strategy with respect to recruitment and retention.

MWRA is not immune to the effects of this extraordinary time, described by some as the "great COVID resignation," which has seen unprecedented numbers of people leave the workforce entirely or make significant career changes. MWRA has also had a number of applicants decline employment offers. On top of the large number of people retiring and resigning, recruiting and retaining staff is increasingly difficult across all industries in this highly competitive and evolving employment market. Resigning staff and applicants who have declined employment offers cite many reasons for their resignations and declined offers including salary, the move out of the Navy Yard, better opportunities, not enough flexibility or remote work and not enough vacation time. While MWRA is quite proud to have successfully promoted many staff to positions of increasing responsibility, this can also negatively impact staffing levels because it often results in multiple hiring processes prolonging the time it takes to break even on the FTE count for one position. It has also "thinned the bench" during a time in which it is difficult to rebuild it.

### Staffing Levels

Currently, there are 1,051.7 full time employees (FTEs), which is about 100 positions below the budgeted FTE number. There are over 100 jobs currently posted. To give some comparative perspective, for fiscal years 2017 through 2021, the average number of annual retirements and resignations was 75.6, with FY19 having the most at 85. In FY22 (just through March 31, 2022), 115 people have retired or resigned. The average number of people hired annually in fiscal years 2017 through 2021 was 83.2. To date in FY22, there have been 48 new hires. In FY21, 17

candidates declined job offers at MWRA. In FY 22 (through May 2, 2022), 30 candidates have already declined job offers. Today, there are close to 100 employees who are at or near their maximum pension amounts who could retire at any time.

#### Hard to Fill Positions:

Historically hard to fill positions have included operators, some of the trades at certain times, heavy equipment operators (“HEOs”), 1st, 2nd and 3rd class engineers, automotive technicians and all IT positions. In addition to those, other positions that have more recently become difficult to fill include, deputy contracts manager, OMC laborers, operators, area supervisors in operations, staff engineers and certain non-union positions.

#### Ongoing and Potential Short and Long-Term Strategies:

The multi-pronged approach that staff are recommending addresses both short-term (and in some cases immediate) staffing needs while planning for the next several months and years.

To date, staff have taken several steps to enhance recruiting efforts. The job postings have been modified to highlight the Authority’s role as an environmental steward as well as its culture of valuing and promoting diversity, equity and inclusion. And, where applicable, job postings highlight the hybrid work model. Changes to the website are also underway to enhance interest in working at the MWRA. Staff continue to increase MWRA’s digital media presence, utilizing forums such as LinkedIn, Twitter and association job networks to advertise job postings. As part of an ongoing effort, staff review job requirements, including years of experience, certifications and licenses and make modifications where appropriate to broaden the applicant pool. Staff have established relationships with several vocational technical high schools to create a diverse but less experienced “pipeline” of applicants for entry level positions. Related to this, staff are developing career ladders through which new hires would be trained and encouraged to advance. Staff are also doing some targeted recruiting and have also begun to use staffing firms for a limited number of positions. The pool of staff to interview candidates was expanded to include some managers and the DEI working group members to expedite the hiring process. Signing and employee referral bonuses are also under consideration for a limited number of hard to fill positions. Training programs to enhance professional development continue to be important and a mentoring program is in development. A training program was recently developed to refresh and upskill administrative support staff.

One immediate concern is the understaffing in Metro Water Operations, which has only 3 of the 7 operator positions filled due to staff leaving or being on long-term medical leave. In this case, staff plan to “recruit” MWRA staff who hold water licenses but serve in other non-water roles, to train for and cover water operations shifts. This stop-gap measure would be covered using overtime shifts allowing staff to complete their own work week while also covering water operations.

In both water and wastewater there is also shortage of operations Area Supervisors. One significant challenge in filling both area supervisor and operator positions is the limited number of licensed operators in Massachusetts. In the case of area supervisors, the required years of experience is also an issue. Staff recently reviewed the experience requirements and reduced the number of required years of experience to hopefully expand the area supervisor candidate pool. A targeted mailing of all the licensed water operators in Massachusetts is in process. Staff and NAGE Unit 3 have agreed to a 6 month “recruitment rate” to hire/promote operators and area supervisors at steps 3 and 5,



respectively, to attract more applicants (new hires and promoted staff typically begin at step 1).<sup>1</sup> Per the collective bargaining terms, all current operators and water and wastewater Area Supervisors who are at lower steps would be adjusted to the recruitment and retention rate at a total cost of \$22,776 and \$63,478, respectively. Staff are also undertaking an analysis of other hard to fill positions to determine whether or not it would be beneficial to also start new hires and promotions at a higher step in other positions. OMC laborers are currently under consideration to start at a higher step. Also under consideration for OMC laborers is a modification to the job description to allow new hires/promotions 6-12 months to obtain a CDL. Staff believe the current a requirement to have a CDL upon hire has been an impediment to attracting candidates for vacant positions given the nation-wide shortage of truck drivers. CDL training would be provided by MWRA and failure to obtain a CDL within this timeframe would result in termination of employment.

Staff are recommending as part of the PCR staff summary a new HR generalist position whose initial focus will be recruitment. Staff anticipate seeking the Board's approval for other positions at a later Board meeting. In addition, staff are considering enhancing the operator in training program for new hires and incentivizing current staff to participate in the operator shadow training program. Staff would also like to develop an Area Supervisor in Training program. Training will play a key role in many of these efforts.

#### **Diversity, Equity and Inclusion (DEI) and Collective Bargaining:**

All of the efforts to enhance recruitment and workforce development are consistent with the 5-Year Strategic Business Plan FY2021-2022 goals to "Foster a diverse and inclusive workplace" is and to "Foster and sustain an excellent workforce." MWRA's DEI working group is actively involved in developing and implementing the strategic staffing and workforce development recommendations to recruit and retain a diverse workforce.

Staff are also considering a number of other initiatives that are subject to collective bargaining and will update the Board at a future meeting with further recommendations on these recruitment and retention efforts.

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<sup>1</sup> There are six other positions (instrument specialist, instrument technician, M&O specialist, HEO, 2<sup>nd</sup> class engineer and T&T operator) that are hard to fill that already have recruitment rates higher than step 1.

**STAFF SUMMARY**

**TO:** Board of Director  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** PCR Amendments - May 2022




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**COMMITTEE:** Personnel and Compensation

     INFORMATION  
  X   VOTE

Andrea Murphy, Director of Human Resources  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

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**RECOMMENDATION:**

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

**DISCUSSION:**

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR 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.

**May PCR Amendments**

There are ten PCR Amendments this month.

Organizational Changes:

1. New position in the Administration Division, Human Resources Department for a Unit 6 Grade 11 to Assistant Manager of Human Resources Operations to better meet the staffing needs of the department.
2. Title and Grade adjustment to one filled position in the Operations Division, Deer Island Thermal Plant Departments from Second Class Engineer (in Training) Unit 3 Grade 24 to Third Class Engineer Unit 3, Grade 20 per union agreement to reflect duties.
3. Salary adjustment to three filled positions in the Operations Division, Wastewater General Department for Area Supervisor Unit 3 Grade 19 per union agreement for internal pay adjustment due to new recruitment rate.
4. Salary adjustment to five filled positions in the Operations Division, Wastewater General, Deer Island, and Metro Water Departments for Operator Unit 3 Grade 16 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 \$194,664. Staff will ensure that the cost increase associated with this PCR amendment will not result in spending over the approved FY22 Wages and Salaries budget.

**ATTACHMENTS:**

New Job Descriptions  
Old Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2022**

PCR AMENDMENTS REQUIRING BOARD APPROVAL - May 25, 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		
B37	Human Resources Administration TBD	N/A	N/A	N/A	N/A	N/A	Assistant Manager, Human Resources Operations	C6	11	\$0	\$72,866	-	\$111,499	\$72,866	-	\$111,499	New position to support all functions in Human Resources.
B38	Deer Island Operations 2931015	F	T, G	Second Class Engineer (in Training)	3	24	Third Class Engineer	3	20	\$95,556	\$95,556	-	\$95,556	\$0	-	\$0	Per union agreement to reflect duties.
B39	Wastewater General Operations 2470019	F	S	Area Supervisor Wastewater Transport	3	19	Area Supervisor Wastewater Transport	3	19	\$68,420	\$91,535	-	\$91,535	\$23,115	-	\$23,115	Per union agreement. Internal pay adjustment due to new recruitment rate.
B40	Wastewater General Operations 2470085	F	S	Area Supervisor Wastewater Transport	3	19	Area Supervisor Wastewater Transport	3	19	\$72,899	\$91,535	-	\$91,535	\$18,636	-	\$18,636	Per union agreement. Internal pay adjustment due to new recruitment rate.
B41	Wastewater General Operations 24700102	F	S	Area Supervisor Wastewater Transport	3	19	Area Supervisor Wastewater Transport	3	19	\$72,899	\$91,535	-	\$91,535	\$18,636	-	\$18,636	Per union agreement. Internal pay adjustment due to new recruitment rate.
B42	Wastewater General Operations 2470059	F	S	Operator Wastewater Transport	3	16	Operator Wastewater Transport	3	16	\$55,671	\$63,265	-	\$63,265	\$7,594	-	\$7,594	Per union agreement. Internal pay adjustment due to new recruitment rate.
B43	Wastewater General Operations 2470034	F	S	Operator Wastewater Transport	3	16	Operator Wastewater Transport	3	16	\$59,469	\$63,265	-	\$63,265	\$3,796	-	\$3,796	Per union agreement. Internal pay adjustment due to new recruitment rate.
B44	Deer Island Operations 2937515	F	S	Operator Wastewater Treatment	3	16	Operator Wastewater Treatment	3	16	\$59,469	\$63,265	-	\$63,265	\$3,796	-	\$3,796	Per union agreement. Internal pay adjustment due to new recruitment rate.
B45	Wastewater General Operations 24700104	F	S	Operator Wastewater Transport	3	16	Operator Wastewater Transport	3	16	\$59,469	\$63,265	-	\$63,265	\$3,796	-	\$3,796	Per union agreement. Internal pay adjustment due to new recruitment rate.
B46	Metro Water Operations 3385012	F	S	Operator Metro Water	3	16	Operator Metro Water	3	16	\$59,469	\$63,265	-	\$63,265	\$3,796	-	\$3,796	Per union agreement. Internal pay adjustment due to new recruitment rate.
<b>BOARD TOTAL=</b>					10												
<b>TOTAL:</b>														\$156,031	-	\$194,664	

**MWRA  
POSITION DESCRIPTION**

**NEW**

**POSITION:** Assistant Manager, Human Resources Operations

**DIVISION:** Administration

**DEPARTMENT:** Human Resources

**BASIC PURPOSE:**

Provides professional-level support in a variety of human resource areas as a Human Resources Generalist including HR Operations, Labor Relations, Employment, Benefits, Training, and Special Projects.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Manager, Human Resources Operations. May receive project supervision from other Human Resources Managers.

**SUPERVISION EXERCISED:**

May direct administrative staff on specific assignments.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Screens and evaluates candidates for employment or promotion. Conducts employment interviews. Performs pre-employment background and reference checks.
- Conducts orientation sessions for summer interns. Helps coordinate annual event with interns and facility tours.
- Assists with performance evaluation forms and tracks completion including probationary evaluations and annual evaluations.
- Provides support to Human Resources Department with developing and building career ladders, required training, competencies, and licenses.
- Coordinates the VISTE school volunteer program.
- Assists with tracking telework agreements and requests for telework.
- Assists each unit in Human Resources as needed during periods of peak workloads.

- Participates in collective bargaining negotiations, preparation of management proposals, and implementation of ratified contracts.
- Assists with completion and implementation of special projects such as audits, service awards, workforce planning, and move to new facility.

**SECONDARY DUTIES:**

- Performs other related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Completion of a Bachelor's degree in human resources, public administration, business, or related field; and
- (B) A general understanding of labor relations, human resources, recruitment as acquired through four (4) to six (6) years experience preferably in the public sector; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated analytical and time management skills.
- (B) Excellent interpersonal, written and oral communication skills.
- (C) Ability to maintain confidentiality and exercise discretion.
- (D) Knowledge of Microsoft Office.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle 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 feel, finger, handle or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required to stand and walk. The employee is regularly required to sit, and talk or hear.

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

### **WORK ENVIRONMENT:**

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

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

The noise level in the normal work environment is quiet.

**May 2022**

**MWRA  
POSITION DESCRIPTION**

**OLD**

**POSITION:** Third Class Engineer (3rd class)/ (2nd Class Engineer-in-Training)

**DIVISION:** Operations

**DEPARTMENT:** Thermal

**BASIC PURPOSE:**

Under the direction of the Thermal/Power Plant Chief Engineer, operates, adjusts and maintains Thermal Power equipment, as necessary to maintain required supply of heat and electrical power.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Thermal/Power Plant Second Class Engineer.

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Will work closely with and shadow a Second Class Engineer daily for 12 months in order to prepare for passing the licensing exam and obtaining licensure as a Second Class Engineer within 12 months of appointment.
- Performs the proper operation of all Thermal/Power Plant equipment high pressure boilers, steam topping turbine, combustion turbine generators, fuel oil and waste gas supply systems, diesel generators, pumps, blowers, compressors, water treatment cooling and heating systems, electrical distribution, instrumentation systems, hydroturbines, and burner management systems.
- Performs standard operating procedures (SOPs) for the Thermal/Power Plant and the electrical distribution system.
- Inspects engineering plant machinery and operation to determine efficiency and need for maintenance requirements.
- Lubricates equipment and machinery.
- Communicates with other Thermal/Plant personnel on the Thermal/Power Plant Operations.
- Adheres and knows Lockout/Tagout procedures for equipment in the Thermal/Power Plant.



- Maintains operating logs and records properly.
- Contributes to a safe working environment and follows safety policies.
- Monitors gauges, meters and recording devices and makes adjustments to maintain specified pressures and temperature, flows, amperage, voltage and power.
- Makes ordinary repairs such as replacing gaskets, re-packing pumps, cleaning, scraping and washing out water boxes. Assists in making minor repairs to auxiliary equipment.
- Monitors steam, combustion, and hydro turbines, boilers, feed and circulating pumps, diesel engines, compressors, digester gas systems, digital control systems, etc., controls steam water/oil flows as required.
- Collects water, steam, oil, and gas samples and tests to determine quality. Records results and reports abnormalities to 2<sup>nd</sup> Class Engineer.
- Maintains a clean and orderly work area.
- Directs all chemical and fuel deliveries/ordering as required.
- Prepares injury and illness reports, safety work orders and maintenance work order requests as necessary.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
  - Operation of forklift or other light equipment that does not require a special license.
  - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
  - Inspects and troubleshoots various systems and equipment
  - Installs and retrofits/new equipment related to plant systems.
  - Modifies and/or aligns existing equipment to specifications.
  - With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
  - Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
  - Greases and lubricates, replaces oil reserves, minor packing adjustments and

- opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Removes snow from immediate work area in order to perform tasks.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

- Performs other related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Basic technical and communication skills as normally attained through a high school education or the equivalent; and
- (B) Three (3) to five (5) years of experience in the operation of Thermal/Power Plant equipment, high pressure boilers, topping turbines and related auxiliary equipment; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of operation of generating equipment, plant heating, large diesel-fuel engines and electrical distribution systems.
- (B) Ability to plan, organize and perform assigned duties independently.
- (C) Ability to understand responsibility and work with minimal supervision.
- (D) Extensive knowledge of safety practices and application in Steam Engineering and Wastewater Facilities.
- (E) Ability to work as a team to support the goals of Deer Island Facility.

**SPECIAL REQUIREMENTS:**

- A valid Massachusetts Third Class Engineer's License.
- Will be required to obtain a Massachusetts Second Class Engineer License within twelve months. Once the license is obtained, the position will to be upgraded to a Second Class Engineer title (Grade 20).

- Complete productivity improvement competency-based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

**TOOLS AND EQUIPMENT USED:**

Motor vehicle including forklift, power and hand tools, mobile radio, telephone, and 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 frequently is required to stoop, kneel, crouch or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance, taste or smell.

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 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.

**July 2019**

**MWRA  
POSITION DESCRIPTION**

**NEW**

**POSITION:** Third Class Engineer (Thermal/Power Plant)

**DIVISION:** Operations

**DEPARTMENT:** Thermal

**BASIC PURPOSE:**

Under the direction of the Second Class Engineer (Thermal/Power Plant), operates, adjusts and maintains complex Thermal Power equipment, critical to maintain required supply of heat and electrical power.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Second Class Engineer (Thermal/Power Plant). May receive some direction from Manager, Power Generation.

**SUPERVISION EXERCISED:**

None. Provides oversight to interns. Works closely with and provides general direction to outside contractors.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Performs the proper operation of all Thermal/Power Plant equipment in accordance with M.G.L. Chapter 146: high pressure boilers, steam topping turbine, combustion turbine generators, fuel oil and waste gas supply systems, diesel generators, pumps, blowers, compressors, water treatment cooling and heating systems, electrical distribution, instrumentation systems, hydroturbines, and burner management systems.
- Performs standard operating procedures (SOPs) for the Thermal/Power Plant and the electrical distribution system.
- Performs casualty control training as required.
- Inspects engineering plant machinery and operation to determine efficiency and need for maintenance requirements.
- Lubricates equipment and machinery.
- Communicates with other Thermal/Plant personnel on the Thermal/Power Plant Operations.
- Understands and complies with Lockout/Tagout procedures for equipment in the

## Thermal/Power Plant.

- Works with contractors and vendors to support plant maintenance as required.
- Attends all Toolbox Talks to ensure safety.
- Maintains operating logs and records properly.
- Contributes to a safe working environment and follows safety policies.
- Monitors gauges, meters and recording devices and makes adjustments to maintain specified pressures and temperature, flows, amperage, voltage and power.
- Makes routine repairs such as replacing gaskets, re-packing pumps, cleaning, scraping and washing out water boxes. Assists in making minor repairs to auxiliary equipment.
- Monitors steam, combustion, and hydro turbines, boilers, feed and circulating pumps, diesel engines, compressors, digester gas systems, digital control systems, etc., controls steam water/oil flows as required.
- Collects water, steam, oil, and gas samples and tests to determine quality. Records results and reports abnormalities to Second Class Engineer.
- Performs as directed, scheduled Preventive Maintenance and minor Corrective Maintenance, including all shift, daily, weekly and monthly checks.
- Maintains a clean and orderly work area.
- Directs all chemical and fuel deliveries/ordering as required.
- Prepares injury and illness reports, safety work orders and maintenance work order requests as necessary.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
  - Operation of forklift or other light equipment that does not require a special license.
  - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
  - Inspects and troubleshoots various systems and equipment
  - Installs and retrofits/new equipment related to plant systems.
  - Modifies and/or aligns existing equipment to specifications.

- With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Removes snow from immediate work area in order to perform tasks.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

- Performs other related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Basic technical and communication skills as normally attained through a high school education or the equivalent. Trade or vocational training preferred; and
- (B) Three (3) to five (5) years of experience in the operation of Thermal/Power Plant equipment, high pressure boilers, topping turbines and related auxiliary equipment; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of operation of generating equipment, plant heating, large diesel-fuel engines and electrical distribution systems.
- (B) Ability to plan, organize and perform assigned duties independently.
- (C) Ability to understand responsibility and work with minimal supervision.
- (D) Extensive knowledge of safety practices and application in Steam Engineering and Wastewater Facilities.

(E) Ability to work as a team to support the goals of Deer Island Facility.

**SPECIAL REQUIREMENTS:**

- Required to respond to emergencies and provide overtime shift coverage as required.
- A valid Massachusetts Third Class Engineer's License.
- Annual completion of the following training: Right to Know, Confined Space Entry Refresher, 8-hour OSHA training, Hazard Communications, and other OSHA training as needed.
- Completion of Adult CPR/AED/First Aid Training every two years.
- Complete productivity improvement competency-based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

**TOOLS AND EQUIPMENT USED:**

Motor vehicle including forklift, power and hand tools, mobile radio, telephone, and 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 frequently is required to stoop, kneel, crouch or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance, taste or smell.

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 an office environment. The employee occasionally 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 high, precarious places and is regularly 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.

**October 2021**



**MWRA  
POSITION DESCRIPTION**

**POSTION:** Area Supervisor (Wastewater Transport)

**DIVISION:** Operations

**DEPARTMENT:** Wastewater General

**BASIC PURPOSE:**

Supervises the operation and maintenance requirements of assigned wastewater treatment facilities.

**SUPERVISION RECEIVED:**

Works under general supervision of the shift manager or operations supervisor.

**SUPERVISION EXCERCISED:**

Exercises close supervision of operations/maintenance staff.

**ESSENTIAL DUTIES AND RESPONSIBILITES:**

- Supervises and instructs applicable operational/maintenance personnel as required.
- Reviews performance for compliance and efficiency to ensure safe environmentally sound, efficient uninterrupted wastewater transport and treatment service.
- Supervises, coordinates and participates in the operational and maintenance requirements of facilities including, chemical feed systems, grit collection systems, sludge collection, gas monitoring, operation of VFD units, emergency generators, system calibration and other related equipment as needed.
- Supervises, controls and participates in the operation of plant treatment processing units, including settling tanks, sludge and scum conditioning and transfer equipment, digestion and gas control equipment, chlorine equipment, electric generating and control equipment and other treatment plant equipment as needed.
- Supervises, coordinates and participates in the operation of all operational and support systems, including influent and effluent gates, the grit and screening systems, the air scrubbers, the boilers and ventilation systems. Operates and exercises emergency generators as needed. Communicates with other Area Supervisors, Unit Supervisors, Operations

Manager and Senior Managers regarding operational, maintenance and process control conditions.

- Controls pumping equipment, disinfection systems, storage facilities, screen units and ventilation systems.
- Supervises and coordinates the cleaning, repairing and assisting in the maintaining of pumps, engines, electric generators, air compressors, vacuum pumps, water and oil circulating pumps, tests injectors for proper operating pressures, renews and repairs air starting valves, directs oil changes and changing of oil filters.
- Supervises applicable preventive maintenance and coordinate corrective maintenance with operations and maintenance personnel.
- Maintains and reviews operational records and data. Prepares and submits daily and weekly operational reports with observations and recommendations as required. Requests materials, equipment and supplies necessary for operation. Reports needs for major equipment repair to avoid serious breakdown.
- Makes regular inspections to monitor and document facility conditions.
- Monitors and operates graphic indicator-recorder panel.
- Makes necessary adjustments to operational procedures based on data interpreted from control panel to insure continuous operation of facility and maintains elevations, flow rates and velocities of flows within prescribed limits.
- Utilizes personal computers, data terminals and specialized software applications packages to perform related duties, such as work planning and scheduling, inventory maintenance, etc.
- Works with engineers in the Technical Information Center to develop and improve designs for assigned work orders. Reports modifications made to equipment.
- Prepares, edits and submits operational information as required.
- Collects and ensures quality of samples taken. Performs related laboratory analysis.
- Prepares work orders for predictive and corrective maintenance, as needed utilizing computer maintenance management systems.
- Performs supervisory responsibilities of roving field crews and operational personnel located within an operational control center (OCC) as needed.
- Operates the Process Instrumentation and Controls System (PICS), TELOG or SCADA.

- Coordinates shutdown and start-up of process equipment.
- Ensures plant cleanliness and makes rounds to ensure plant facility is maintained by staff.
- Schedules and works overtime as required.
- Needs to be available during any emergency.
- Provides training to assigned staff.
- Directs remedial action in all emergencies.
- Reviews assigned employee performance per MWRA procedures.
- Assists employee with procurement of tools, parts and materials.
- Operates motor vehicles, such as vans and pick-up trucks, to transport materials to work sites, pick up equipment, etc.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
  - Operates forklift or other light equipment that does not require a special license.
  - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
  - Inspects and troubleshoots various systems and equipment
  - Installs and retrofits/new equipment related to plant systems.
  - Modifies and/or aligns existing equipment to specifications.
  - With proper safety training, sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
  - Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
  - Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
  - Installs safety rails, changes light bulbs and replaces HVAC filters.
  - Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.

- Removes snow from immediate work area in order to perform tasks.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

- Assists employees with the preparation of injury and illness reports, safety work orders, and maintenance work order requests, reviews requests for completeness and accuracy.
- Assists in maintaining harmonious labor management relations through proper application of collective bargaining agreement provisions and established personnel policies.
- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Basic reading, writing, mathematical, scientific and oral communication skills as normally attained through a high school diploma or GED; and
- (B) Knowledge of principles, procedures, methods, equipment and materials used in the operation, repair and maintenance of a large municipal wastewater or water treatment facility as acquired by five (5) to seven (7) years direct experience of which three (3) must be in a supervisory capacity. Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience; and
- (C) Satisfactory completion of competency-based training program in accordance with the productivity improvement plan training program established at MWRA; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) A working knowledge of the methods, techniques, operations, systems, equipment, principles and practices of wastewater or water treatment.
- (B) A working knowledge of water and/or wastewater process areas.
- (C) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training program or an approved substitution.

- (D) Extensive knowledge of safety practices and applications in wastewater treatment operations.
- (E) Knowledge of groundwater level monitoring and sampling procedures and proper sludge land filling operations.
- (F) Knowledge of lab procedures and analyses related to process control of secondary plant and NPDES permit requirements.
- (G) Ability to understand and apply process control techniques.
- (H) Ability to plan, organize, direct, train and assign duties to subordinates.

**SPECIAL REQUIREMENTS:**

- A valid Massachusetts Wastewater Treatment Plant Operator's Grade 4 license.
- A valid Collections System IV certification within 12 months of entering the position.
- A valid Class D Massachusetts Motor Vehicle Operator License.
- Complete competency based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

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

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

## **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanic parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals.

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

March 2022

## **MWRA POSITION DESCRIPTION**

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

### **BASIC PURPOSE:**

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

### **SUPERVISION RECEIVED:**

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

### **SUPERVISION EXERCISED:**

May supervise or direct assigned employees at a lower grade.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES:**

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

- Operates motor vehicles such as vans and pick-up trucks to transport materials to work sites, and pickup and deliver supplies and equipment.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
- Operates forklift or other light equipment that does not require a special license.
- Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
- Inspects and troubleshoots various systems and equipment.
- Installs and retrofits/new equipment related to plant systems.
- Modifies and/or aligns existing equipment to specifications.
- With proper safety training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Removes snow from immediate work area in order to perform tasks.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

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

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- A high school diploma or GED; and
- Two (2) to three (3) years experience with a working knowledge of water distribution system operation and treatment plant equipment; and
- Satisfactory completion of competency-based training program in accordance with the productivity improvement plan training program established at MWRA; or
- Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

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



### **SPECIAL REQUIREMENTS:**

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

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

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

### **PHYSICAL DEMANDS:**

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

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

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

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals.

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

April 2021

U3, Grade 16

## **MWRA POSITION DESCRIPTION**

**POSITION:** Operator (Wastewater Transport)  
**DIVISION:** Operations  
**DEPARTMENT:** Wastewater General

### **BASIC PURPOSE:**

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

### **SUPERVISION RECEIVED:**

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

### **SUPERVISION EXERCISED:**

May supervise or direct assigned employees at a lower grade.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES:**

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

- Operates motor vehicles such as vans and pick-up trucks to transport materials to work sites, and pickup and deliver supplies and equipment.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
- Operates forklift or other light equipment that does not require a special license.
- Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
- Inspects and troubleshoots various systems and equipment.
- Installs and retrofits/new equipment related to plant systems.
- Modifies and/or aligns existing equipment to specifications.
- With proper safety training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Removes snow from immediate work area in order to perform tasks.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

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

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- A high school diploma or GED; and
- Two (2) to three (3) years experience with a working knowledge of wastewater treatment and treatment plant equipment; and
- Satisfactory completion of competency-based training program in accordance with the productivity improvement plan training program established at MWRA; or
- Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

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

### **SPECIAL REQUIREMENTS:**

- A valid Massachusetts Wastewater Treatment Plant Operation Grade II license and a Collections Systems II certification.
- A valid Massachusetts Class D Motor Vehicle Operator's license
- Complete productivity improvement competency-based training program related to ESSENTIAL DUTIES AND RESPONSIBILITIES as outlined above and successfully demonstrates required competencies.

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

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

### **PHYSICAL DEMANDS:**

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

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

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

### **WORK ENVIRONMENT:**

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

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals.

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

April 2021

Unit 3, Grade 16

## **MWRA POSITION DESCRIPTION**

**POSITION:** Operator (Wastewater Treatment)  
**DIVISION:** Operations  
**DEPARTMENT:** Deer Island Operations  
**UNION/GRADE:** Unit 3/Grade 16

### **BASIC PURPOSE:**

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

### **SUPERVISION RECEIVED:**

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

### **SUPERVISION EXERCISED:**

May supervise or direct assigned employees at a lower grade.

### **ESSENTIAL DUTIES AND RESPONSIBILITIES:**

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

- Operates motor vehicles such as vans and pick-up trucks to transport materials to work sites, and pickup and deliver supplies and equipment.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
- Operates forklift or other light equipment that does not require a special license.
- Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
- Inspects and troubleshoots various systems and equipment.
- Installs and retrofits/new equipment related to plant systems.
- Modifies and/or aligns existing equipment to specifications.
- With proper safety training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails, changes light bulbs and replaces HVAC filters.
- Removes snow from immediate work area in order to perform tasks.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

**SECONDARY DUTIES:**

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

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- A high school diploma or GED; and
- Two (2) to three (3) years experience with a working knowledge of wastewater treatment and treatment plant equipment; and
- Satisfactory completion of competency-based training program in accordance with the productivity improvement plan training program established at MWRA; or
- Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

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

### **SPECIAL REQUIREMENTS:**

- A valid Massachusetts Wastewater Treatment Plant Operator Grade 4 license.
- A valid Massachusetts Class D Motor Vehicle Operator's license
- Complete productivity improvement competency-based training program related to ESSENTIAL DUTIES AND RESPONSIBILITIES as outlined above and successfully demonstrates required competencies.

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

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

### **PHYSICAL DEMANDS:**

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

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

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

### **WORK ENVIRONMENT:**

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


While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals.

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

April 2021

Unit 3, Grade 16

## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2020  
**SUBJECT:** Appointment of Director, Design and Construction  
Tunnel Redundancy Department

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**COMMITTEE:** Personnel & Compensation

       INFORMATION  
  X   VOTE

Andrea Murphy, Director, Human Resources  
Preparer/Title

  
Kathleen Murtagh, P.E.  
Director, Tunnel Redundancy

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### RECOMMENDATION:

To approve the appointment of Mr. Paul V. Savard to the position of Director of Design and Construction, Tunnel Redundancy Department (Non-Union, Grade 16) at an annual salary of \$157,000, commencing on a date to be determined by the Executive Director.

### DISCUSSION:

The Director of Design and Construction position was vacated in October 2021 upon the retirement of the incumbent. This position was one of the original Tunnel Department positions created in 2018 and is an essential role for success of the Metropolitan Water Tunnel Program. The Director of Design and Construction serves as the chief engineer for the Tunnel Program and performs a critical leadership role within the Tunnel Department. The Tunnel Department oversees the planning, design, construction, procurement, budget, schedule, and quality management aspects of the Tunnel Program.

Mr. Savard joined the Tunnel Department in January 2019 as the Deputy Director of Design and Construction and worked closely with previous incumbent. In that role Mr. Savard directs the administration of the Tunnel Department to ensure timely and cost-effective delivery of tunnel redundancy projects. He oversees program quality management, schedule and budget controls, risk management, and constructability/value engineering. Since October 2021, Mr. Savard has also assumed most of the responsibilities previously performed by the previous incumbent.

### Selection Process

The position was not posted. The Director of Tunnel Redundancy, and Mr. Savard discussed the position, his interest and the responsibilities. Mr. Savard was deemed an excellent candidate for this position based on his experience, abilities, knowledge and education.



Mr. Savard has 34 years of experience in planning, designing, and constructing water and wastewater transmission and conveyance systems. His experience has a strong focus on design and construction using tunnel and trenchless construction methods including soft ground and hard rock tunnel boring machines, micro-tunneling, and other construction methods. He also has extensive experience in quality management of engineering services, risk management and risk registers, and project controls.

As stated previously, Mr. Savard is currently the Deputy Director of Design and Construction for the Tunnel Program. Previously, he served as a Project Manager and Senior Water Practice Group Lead with Parsons Corporation. He led a multidiscipline joint venture team in design of a \$280 million sewer conveyance tunnel and sewage pump station replacement project serving the Regional Municipality of York, Ontario. It involved building a tunnel that was 3-meters in diameter and 14 kilometers long using an earth pressure balance tunnel boring machine. Prior to his role at Parsons Corporation, he was a Project Manager at Jacobs Engineering responsible for managing large infrastructure design and construction projects including the MWRA Hultman Aqueduct Interconnections Project and East Boston Branch Sewer Relief Project. Mr. Savard has also served as a quality manager for 8 years responsible for training up to 200 staff members on corporate quality requirements. Mr. Savard started his career at MWRA in 1988 working as a Staff Engineer in the Waterworks Division working on the design of large diameter water transmission mains.

Mr. Savard has a Bachelor of Science Degree in Civil Engineering from UMass Amherst and Master of Science Degree in Environmental Sciences and Engineering from the University of North Carolina, Chapel Hill. He is a registered professional engineer in the Commonwealth of Massachusetts.

**BUDGET/FISCAL IMPACTS:**

There are sufficient funds for this position in the FY22 CEB.

**ATTACHMENTS:**

Resume of Paul V. Savard  
Position Description  
Organization Chart

**TRAINING & CERTIFICATIONS**

OSHA 29 CFR 1910 Construction Safety and Health 10 Hour Training | 2020

NASTT Horizontal Directional Drilling Good Practices Course. North American Society of Trenchless Technology | 2019

NASTT Rehabilitation Good Practices Course. North American Society of Trenchless Technology | 2018

NASTT Cured-in-Place Pipe Good Practices Course. North American Society of Trenchless Technology | 2018

Project Management Course (PMC). Parsons | 2014

PACE Quality Management Training. Parsons | 2014

CSM Microtunneling Short Course. Colorado School of Mines | 2013

OSHA 29 CFR 1910.146 Confined Space 8 Hour Training | 2012

**PROJECT AWARDS**

East Boston Branch Sewer Relief Project, Trenchless Technology Project of the Year New Installation, North American Society of Trenchless Technology, 2011.

HDD Construction Risks and Challenges on the King County Bellevue Pump Station Force Main Project, Trenchless Technology NASTT No-Dig Outstanding Paper Award, 2008.

West Roxbury Tunnel Rehabilitation Project, Trenchless Technology Project of the Year Honorable Mention, Rehabilitation by the North American Society for Trenchless Technology, 2003.

**REGISTRATION**

Professional Engineer – Active

- Massachusetts - #41768

**PROFESSIONAL PROFILE**

Successful project, program, and construction management roles with a proven history building and leading multifunctional teams to meet budget, schedule, and quality performance. Experience over 30 years involving planning, designing, and constructing water and wastewater transmission and conveyance systems. Strong focus on design and construction using tunnel and trenchless construction methods including soft ground and hard rock TBM, microtunneling, and other construction methods. Led large tunnel design and construction teams in multiple roles as project engineer, lead design manager, and project manager. Experienced in constructability reviews and value engineering. Excellent communicator with passion as a results oriented manager, mentor and leader.

**Project Management**

Managed tunnel projects with construction valued between \$500,000 and \$280 million and supporting federal, state, municipal, and commercial stakeholders. Understands national and international markets through management of projects in California, Connecticut, Florida, Georgia, Maryland, Massachusetts, Missouri, New York, Rhode Island, Texas, Washington, Washington D.C., Puerto Rico, and Canada. Effectively used information technology to lead design groups across multiple offices to complete work on time and on budget.

**Quality Management**

Served as a quality manager for 8 years responsible for training up to 200 staff members on corporate quality requirements. Conducted project audits to verify compliance with quality procedures, developed job-specific quality plans, and monitoring implementation for compliance.

**Professional Experience**

**Massachusetts Water Resources Authority — Jan 2021 – Present**

- Deputy Director Design and Construction responsible to direct the administration of the Tunnel Redundancy Department to ensure timely and cost-effective delivery of tunnel redundancy projects. Responsible to oversee program quality management, schedule and budget controls, risk management, and constructability/value engineering and for managing the Program Support Services consultant services.

**Parsons Corporation**

**June 2013 – Jan 2021**

- Senior water practice group lead responsible to coordinate workload and assignments for 20 staff, manage backlog, identify new project opportunities, and monitor and take corrective action for financial performance.
- Led multidiscipline joint venture team in design of a \$280M sewer conveyance tunnel and sewage pump station replacement serving the Regional Municipality of York. Tunnel was 3-meter diameter and 14 kilometers long using an earth pressure balance tunnel boring

**PROFESSIONAL AFFILIATIONS**

Boston Society of Civil Engineers,  
2011-2014

North American Society for  
Trenchless Technology, 2002-2018  
Member Program Committee 2018-  
present

Northeast Chapter North American  
Society for Trenchless Technology  
Member Publication Committee and  
Treasurer 2017-present

**EDUCATION**

Master of Science, Environmental  
Sciences and Engineering,  
University of North Carolina at  
Chapel Hill, 1995

Bachelor of Science, Civil  
Engineering, University of  
Massachusetts Amherst, 1987

**COMPUTER/SOFTWARE SKILLS**

Microsoft Office

machine and a new sewage pumping station with a capacity of 2,400L/d. Developed Project Management Plan in compliance with PMP® certification program and managed cash flow, quality assurance, risk management, and project controls of the design team's 55,000 labor hours.

- Provided staff augmentation to the Washington Suburban Sanitary Commission (WSSC) engineering group associated with their consent decree driven sewer rehabilitation program. Directed the quality control program responsible for verifying compliance on more than 100 construction task orders with construction value from \$700,000 to \$5 million each.
- Condition Assessment Task Lead for DC Water Capital Improvement Program (CIP) Program Management (PgMC) DC Water. Developed asset management plans documenting physical condition and performance levels and set risk-based protocols for 40 miles of large diameter sewer gravity and force mains and 25 miles of pressure water pipeline assets.

**Jacobs Engineering****Oct 1994 - June 2013**

Project Manager

Boston, MA

- Lead project manager for large regional water and wastewater clients including Massachusetts Water Resources Authority, Narragansett Bay, and Hartford Metropolitan District Commission focused on delivering high quality, schedule driven design and construction phase services.
- Representative projects include rehabilitation of 17 miles of the 132-inch Hultman Aqueduct and 84-inch Hultman Aqueduct Branch pipeline; East Boston Branch Sewer Relief Project 14,000 feet of relief sewer installed by microtunneling and other infrastructure rehabilitation, including management of the subsurface exploration program to minimize overall risk; tunnel rehabilitation study for West Roxbury Tunnel; constructability review for SFPUC on 15 miles of large diameter water transmission infrastructure.
- Managed multiple projects for design of water, wastewater, electric and gas pipelines installed using trenchless technology of HDD, microtunneling, pipe jacking, and other construction methodologies receiving project awards and recognition.

**Massachusetts Water Resources Authority****Oct 1988 - Aug 1992**

Project Engineer

Boston, MA

- Capital Engineering and Development department responsible for large diameter water transmission main designs.

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Director, Design and Construction

**DIVISION:** Executive

**DEPARTMENT:** Tunnel Redundancy

**BASIC PURPOSE:**

Directs and manages professional multi-disciplinary engineering and design for large and complex projects such as the Tunnel Redundancy Program as and rehabilitation and capital improvement of other water and wastewater facilities and infrastructure Applies professional engineering principles and exercises independent engineering judgment. Manages professional staff in the Tunnel Redundancy Program. Under the direction of the Director of Tunnel Redundancy, develops, implements, manages, coordinates, controls, and performs quality assurance/quality control (QA/QC) on policies and procedures for shaft and tunnel projects from planning through construction to ensure projects comply with approved schedules and budgets.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director of Tunnel Redundancy.

**SUPERVISION EXERCISED:**

Directly manages Tunnel Redundancy Program Unit professional staff and consultants.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Serves as the chief engineer during the planning, design and construction of the tunnel systems related to the Tunnel Redundancy Program. Develops concept designs and/or reviews designs received from consultant engineering firms which involves overseeing and managing schedules and budgets. Develops and implements program design standards including CADD.
- Determines all design delivery methods, specification types and schedules for all projects that support the Tunnel Redundancy Program. Provides and controls construction input into bid documents and process. Participates in consultant selection procedures and contract negotiations for projects. Additionally, oversees applicable phases of consultant selection for assigned projects including development of scope of services, specifications, cost estimates, work schedules, negotiations, and preparations of contract award recommendations.
- Directs review of construction cost estimates and schedules.

- Oversees the professional engineering consultants' efforts to identify and mitigate potential sources of project delays during the construction phase.
- Performs engineering analysis, prepares engineering documents and writes project reports.
- Directs, develops, and administers the program management plan and program to ensure timely and cost-effective delivery of the Tunnel Redundancy Program. Develops and implements control and tracking methods and procedures to ensure project compliance with approved budgets and schedules. Provides timely reporting to senior management of the status of all projects, associated issues that impact schedules and budgets. Drafts proposals to address budget/schedule non-compliance issues.
- Ensures all projects are implemented using comprehensive work plans and resources by selecting consultant services groups that deliver a technically sound, controlled project on budget and on time. Ensures compliance with contract budgets, schedules and terms.
- Manages the efficient and cost effective execution of capital investment programs and projects.
- Establishes design schedules and budgets to ensure fundamental management controls, techniques, and accountability for projects related to the Tunnel Redundancy Program.
- Oversees the monitoring, control, schedule and budget for all projects using scope controls, performance reports, change requests and cost management and controls using integrated time/cost management controls.
- Reviews project change orders and cost estimates. Identifies new project funding requirements.
- Develops annual and supplementary budget requests for the Tunnel Redundancy Program in the Capital Improvement Program. Oversees and reviews projects' budgets and schedules for compliance with established goals.
- Develops safety procedures working closely with MWRA Safety staff.
- Ensures compliance with MWRA procedures and policies, local, state, and federal environmental regulatory requirements, and applicable engineering and construction standards.
- Develops and implements a Quality Assurance/Quality Control (QA/QC) plan for the program ensure a project's fast tracking and the effect on contract document preparation that will result in technical, effective and constructible projects.
- Directs quality management during design and construction process. Ensures that fundamentals and recommended practices and procedures for QA/QC are followed and managed by staff.

- Directs development and implementation of risk management plans for tunneling projects.
- Provides project development and overall oversight of professional engineering consultants related to the Tunnel Redundancy Program.
- Manages professional staff including assigning projects, evaluating performance, and planning staff development. Oversees professional engineering consultants working on the Tunnel Redundancy Program.
- Provides technical and administrative assistance to staff in the development and management of projects which include design and engineering services during construction.
- Works effectively with and ensures coordinates with other departments such as Procurement, Law, Operations and Administration divisions. Oversees and facilitates cooperative project development with other departments to ensure complete and coordinated projects.
- Provides overall oversight and facilitates cooperative project development of work breakdown and construction packaging.
- Coordinates projects with communities and government agencies by providing technical information and assistance and addressing professional and community groups. Initiates community outreach projects as required.
- Implements MWRA goals and commitments outlined in the MWRA business plan such as customer service, diversity, affirmative action, economy, efficiency, health, safety, emergency response, security, integrity, and public trust.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A bachelor's degree in civil or geotechnical engineering or associated engineering field; and
- (B) At least twelve (12) years demonstrated success in progressively responsible management positions in engineering design, engineering project management, and/or construction functions relating to deep shaft and rock tunnel systems or major water/wastewater facilities; and
- (C) At least five (5) years of experience must be in a managerial capacity; or

- (D) Any equivalent combination of education or experience.
- (E) Preferred qualifications: An advanced degree or other post-graduate study in civil engineering or construction management. Experience with water systems. Experience using alternative delivery methods on large complex underground projects. Design or construction experience on a megaproject(s) (i.e., projects over \$1B)

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of civil engineering, geotechnical, and tunneling engineering.
- (B) Advanced understanding of issues related to design, construction and operation of large and complex water and wastewater facilities and infrastructure.
- (C) Demonstrated ability to work effectively in a senior leadership position of a collaborative project team and to function independently with minimal supervision.
- (D) Demonstrated understanding of Massachusetts bidding laws, including M.G.L Chapter 30 and Chapter 149 construction bidding regulations.
- (E) Knowledge of environmental regulations and permitting requirements.
- (F) Demonstrated experience in construction project dispute resolution procedures such as partnering, dispute resolution boards and other equivalent dispute resolution procedures.
- (G) Proficiency with Microsoft Office Suite and CADD.
- (H) Exceptional leadership and project management skills.
- (I) Excellent interpersonal, written, and oral and communications skills.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.  
Massachusetts license as a Registered Professional Engineer. (P.E.)  
Preferred qualifications: Project Management Institute certification as a Project Management Professional (PMP)

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

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

### **WORK ENVIRONMENT:**

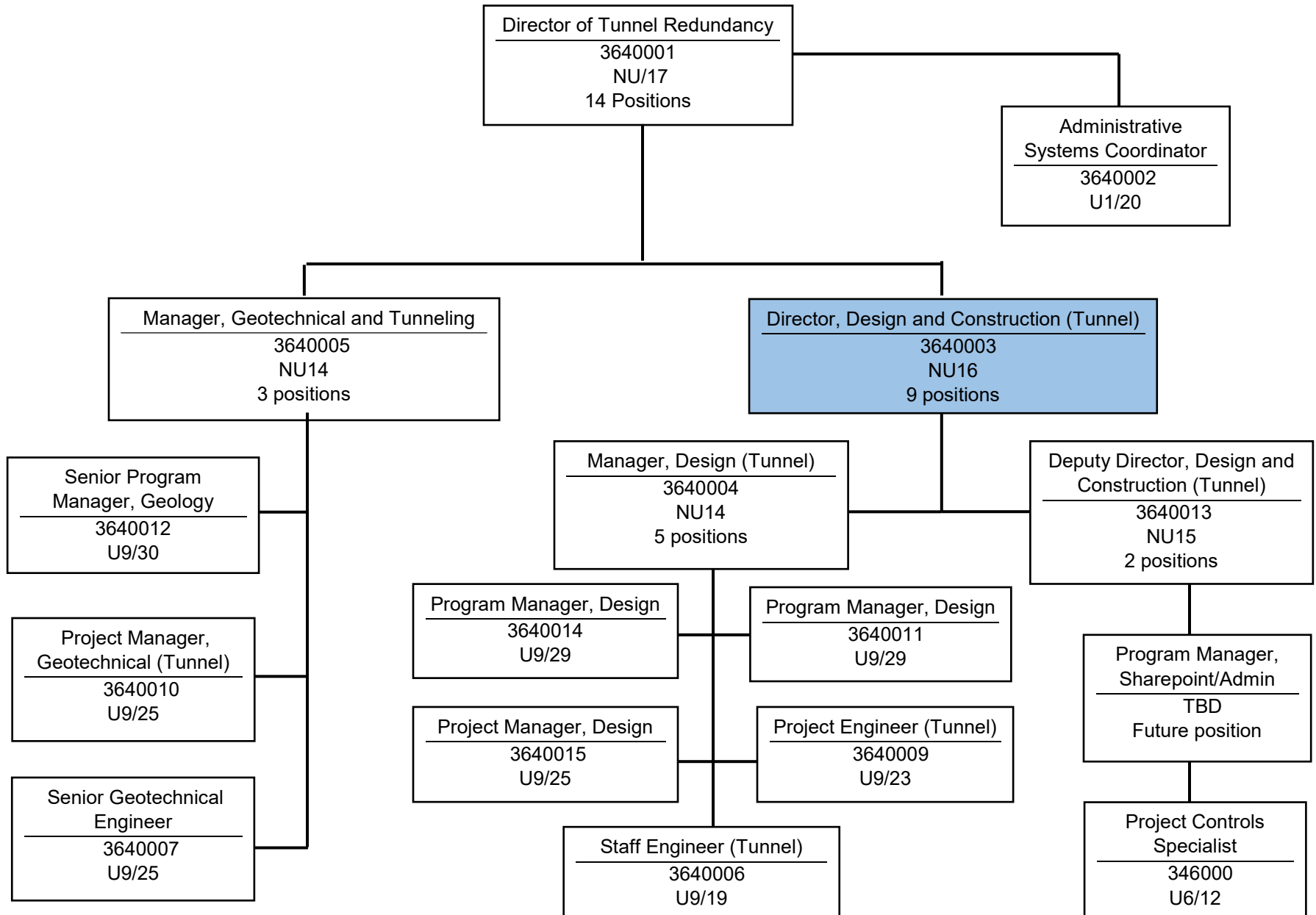
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in 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 or underground 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 an office setting.



# Tunnel Redundancy May 2022



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** FY21 and FY23 Non-Union Compensation and Extension of Employment Contract, Director Tunnel Redundancy Program

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**COMMITTEE:** Personnel and Compensation

X  VOTE  
    INFORMATION

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### RECOMMENDATION:

That the Board of Directors take the following actions for MWRA's FY21 and FY23 non-union compensation review:

Authorize the Executive Director to implement a 1.5% across-the-board compensation adjustment for eligible non-union managers effective with the first FY21 payroll;

Authorize the Executive Director to implement a 2.0% across-the-board compensation adjustment for non-union managers effective with the first FY23 payroll;

Authorize the Executive Director to implement a 1.5% one-time payment for current non-union managers based on the employee's salary as of June 1, 2022; and

Approve a revision to the non-union salary ranges for FY21, FY22 and FY23 presented in Attachment A and filed with the records of the meeting.

Further, that the Board of Directors adopt the Executive Director's performance rating of Excellent for Kathleen M. Murtagh, Director Tunnel Redundancy Program for FY22 and extend the term of her employment agreement to June 3, 2025 and adjust her salary consistent with other non-union managers.

### DISCUSSION:

Under this proposal, MWRA non-union managers will receive an adjustment of 6.5% for the period FY21 to FY23, and a 1.5% compensation adjustment effective with the first payroll of FY21, including retroactive pay where applicable, which is consistent with the Commonwealth's adjustments for managers and agency heads. This will necessitate adjustments for eligible non-union managers relating to the FY22 3% increase that was approved by the Board at the June 23, 2021 meeting, including retroactive pay where applicable. Eligible personnel for the FY21 and resulting FY22 adjustments are current employees in a non-union manager role. Retroactive pay will only be issued to such current employees for time worked in their non-union manager positions between June

22, 2020 and June 25, 2021 for the FY21 adjustment and between June 26, 2021 and June 24, 2022 for the FY22 resulting adjustment. For FY23, adjustments of 2% will be made with the first payroll of FY23 for current non-union managers. Finally, a one-time payment of 1.5% will also be paid to current non-union managers based on the employee’s salary as of June 1, 2022. These adjustments do not apply to the Executive Director with whom the Authority maintains an individual employment contract.

The recommended adjustments are intended to provide appropriate compensation to non-union managers who receive fewer benefits than those provided to union employees, which include annual step increases, longevity payments, sick leave buy back and subsidized parking (CNY only). Below is a chart comparing the FY21-FY23 adjustments for MWRA union employees, Commonwealth managers and agency heads, and MWRA managers.

Salary Increases July 2020 - June 2023				
Date	MWRA Unions	Commonwealth Managers	MWRA Managers	Proposed Increases for MWRA Managers
Jul-20	2.50%	2.50%	0.00%	1.50%
Jul-21	2.00%	2.00%	3.00%	3.00%
Jul-22	2.00%	2.00%		2.00%
Total	6.50%	6.50%		6.50%
One-Time Payment	1.50%	1.50%		1.50%*
*Paid based on salary as of June 1, 2022 (includes July 2020 and July 2021 increases)				

Kathleen M. Murtagh serves as the Director of the Tunnel Redundancy Program under a three-year employment agreement with the Authority that commenced in 2018. The Executive Director has conducted annual reviews of Ms. Murtagh’s performance, which he has rated as “excellent” for each year of her employment, including for FY22. This rating entitles Ms. Murtagh to the amount of any Board-approved salary increase for non-union managers, unless otherwise provided by the Board. Further, the Executive Director recommends that the term of Ms. Murtagh’s contract be extended one year, to June 3, 2025.

**BUDGET/FISCAL IMPACT**

These adjustments for non-union managers result in a total annual cost of approximately \$111,066 for FY21 and \$199,578 for FY23. The cost of the one-time bonus is approximately \$147,704.

**ATTACHMENTS:**

Attachment A: FY21, FY22 and FY23 Proposed Non-Union Salary Ranges

**Attachment A**

**FY21 Proposed Non-Union Salary Ranges effective June 27, 2020**

<b>Grade</b>	<b>Minimum</b>	<b>Maximum</b>
13	86,635.03	134,740.60
14	97,492.54	148,164.16
15	109,750.99	164,009.47
16	123,459.90	181,027.42
17	138,949.86	194,870.94
18	131,803.83	251,112.91
20	129,214.48	258,426.88


**FY22 Proposed Non-Union Salary Ranges effective June 26, 2021**

<b>Grade</b>	<b>Minimum</b>	<b>Maximum</b>
13	89,234.08	138,782.82
14	100,417.31	152,609.08
15	113,043.52	168,929.75
16	127,163.70	186,458.24
17	143,118.35	200,717.06
18	135,757.94	258,646.30
20	133,090.92	266,179.68

**FY23 Proposed Non-Union Salary Ranges effective June 25, 2022**

<b>Grade</b>	<b>Minimum</b>	<b>Maximum</b>
13	91,018.76	141,558.47
14	102,425.66	155,661.26
15	115,304.39	172,308.34
16	129,706.97	190,187.41
17	145,980.72	204,731.41
18	138,473.10	263,819.22
20	135,752.74	271,503.28

## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** Combined Heat and Power Study – Deer Island Treatment Plant  
Black & Veatch Corporation  
Contract 6963A

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**COMMITTEE:** Wastewater Policy & Oversight

X  INFORMATION  
  VOTE

David F. Duest, Director, Deer Island Treatment Plant  
Richard J. Adams, Manager, Engineering Services  
Christian A. Murphy, Program Manager I&C  
Preparer/Title

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

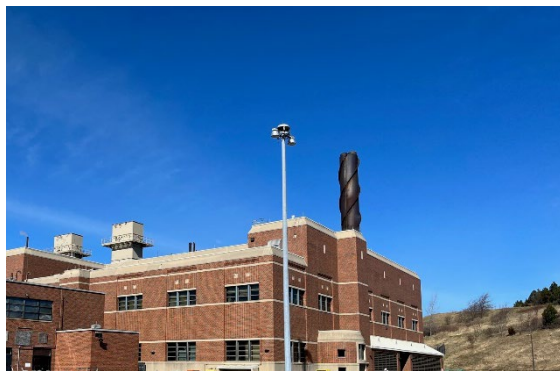
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### RECOMMENDATION:

For Information only.

### DISCUSSION:

Deer Island meets approximately 57% (by energy) to 65% (by cost) of its energy requirements through onsite generation primarily from a combined heat and power system (CHP). Sludge collected from its primary and secondary treatment processes is digested in up to 12 three-million gallon egg-shaped digesters. The biogas generated within the digesters is then consumed in one of the two high-pressure boilers to create high-pressure steam. The steam passes through two steam turbine generators to generate electricity. The generator steam is discharged into a heat exchanger, which heats a hydronic (water) heat loop that distributes process and building heat throughout the Deer Island Treatment Plant. The boilers can also operate on No. 2 ultra-low-sulfur fuel oil if digester gas is not available or when supplemental fuel is required to meet Deer Island's thermal demand. (Refer to Figure 2.) The existing CHP was placed into operation in 1997.



*Figure 1- On-Site Thermal Power Plant (Location of Existing CHP)*

As part of the long-term planning process for combined heat and power system infrastructure, the Board authorized the award of Contract 6963A, Combined Heat and Power Study, to Black & Veatch Corporation on March 20, 2019. The contract goal was to evaluate the existing Thermal/Power Plant and develop recommendations to reliably and economically meet Deer Island's long-term energy needs, while also maximizing onsite generation and reducing the

purchase of electricity. This information was deemed essential in order to accurately develop future capital projects for Deer Island’s combined heat and power system.

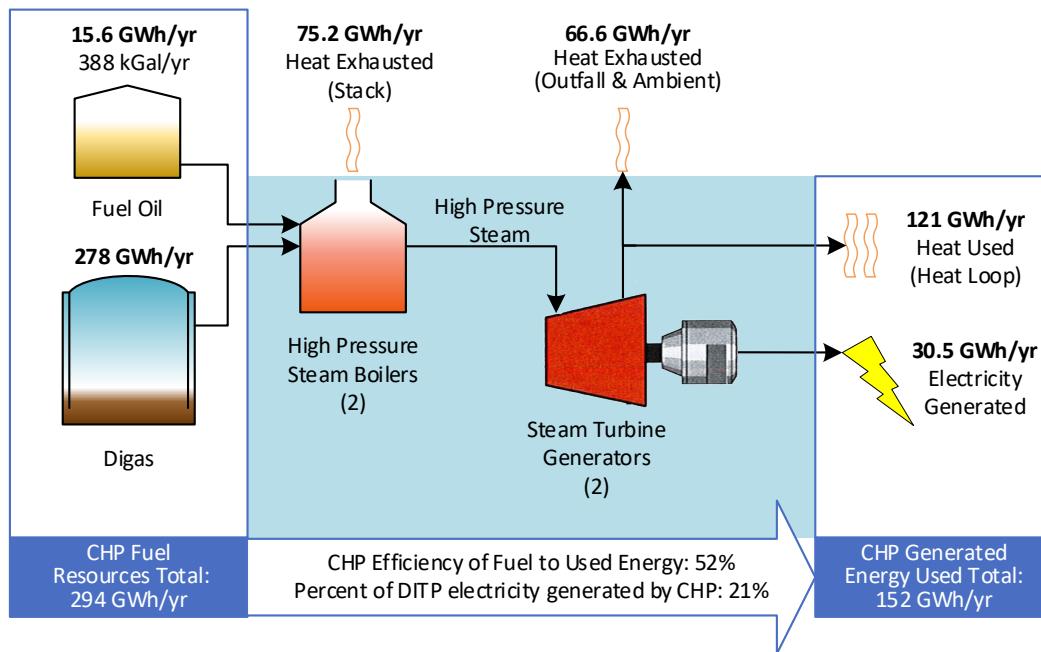


Figure 2– Schematic of Deer Island’s Existing CHP

The scope of Contract 6963A consisted of the following major components:

- Existing Energy System Asset Condition Assessment:** The remaining useful life of Deer Island’s existing Thermal/Power Plant assets was estimated based on a review of maintenance history, condition inspections, similar equipment industry averages and feedback obtained from manufacturers.
- Existing Thermal/Power Plant System Economic Evaluation:** The economic performance of the existing Thermal/Power Plant system was evaluated and used as a baseline to compare to the performance of the new combined heat and power system.
- Evaluation of CHP Technologies:** Current combined heat and power technologies were evaluated to determine their applicability for use at Deer Island. Reciprocating engines and combustion turbines were the two primary technologies that were evaluated. These two technologies were found to be the primary options due to their improved efficiency, combined with their technological maturity and commercial availability at the size required. Based on this evaluation, spark ignition reciprocating engines were selected.

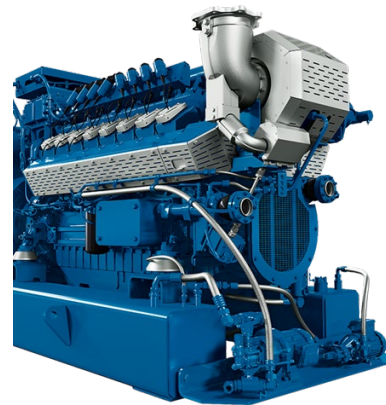


Figure 3 – Typical CHP Reciprocating Engine

- CHP Alternatives Analysis:** An evaluation of multiple combined heat and power system alternatives was performed using the selected combined heat and power system technology. The evaluation performed for each alternative included a conceptual design to confirm engineering viability, a performance simulation to predict system operation and an economic analysis. The new combined heat and power system was then compared to the existing Thermal/Power Plant system during the same 25-year analysis period.

The new CHP that proved to be most promising based on Black & Veatch’s analysis is shown in Figure 4. The existing Thermal/Power Plant steam-based system would be replaced with three hot water (hydronic) boilers fueled primarily with digester gas and supplemented with fuel oil. Electricity would be generated by an array of five spark ignition reciprocating engines fueled only with digester gas. These engines use pistons with the fuel being ignited by a sparkplug – similar to an automotive engine. Heat recaptured from the exhaust of these engines combined with the output of the new boilers would enable Deer Island to fully meet its thermal demand.

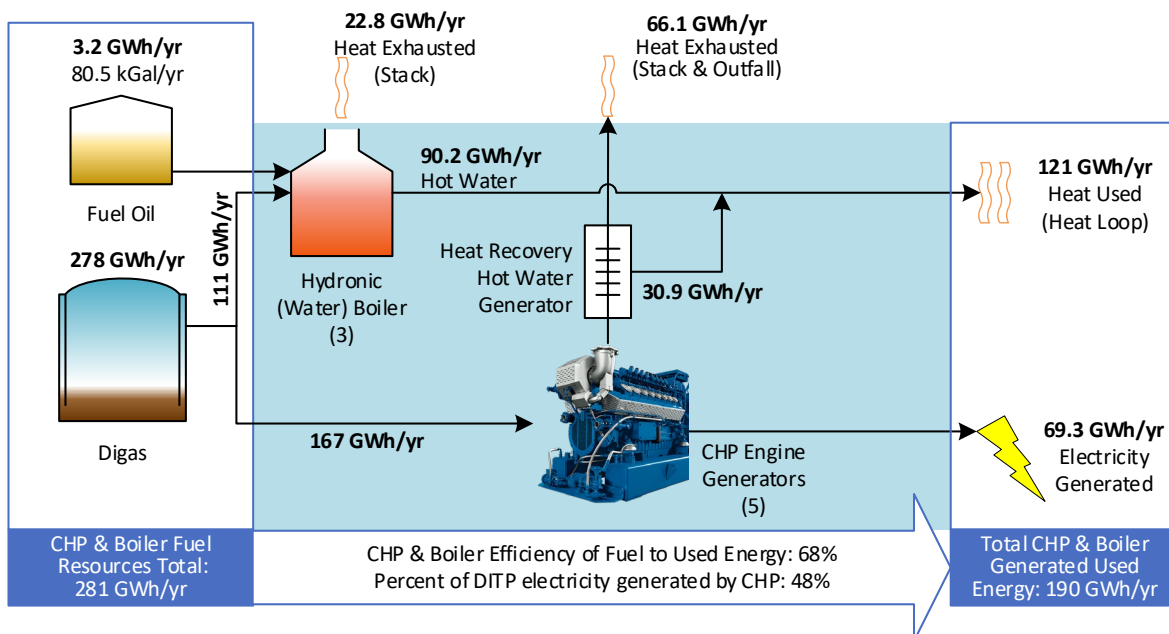


Figure 4 – Schematic of Deer Island’s Proposed new CHP

The CHP alternatives analysis performed by Black & Veatch contained a performance simulation that determined the system energy flows. The simulation predicted improvements in efficiency and increases in thermal and electrical demand met from onsite resources with the new combined heat and power system.

A 25-year economic analysis was performed to determine the net present value of operating the existing Thermal/Power Plant and new combined heat and power system, as well as purchasing electricity and boiler fuel oil. The costs to design and construct the new combined heat and power system were also included in the analysis. The net present value was determined by discounting future money to a base year (2021) value using a 6% discount rate. This allowed for the comparison of monetary values over multiple years.

The results of Black & Veatch's analysis were submitted in a report and presented to staff on February 8, 2022. Based on its analysis, Black & Veatch determined, at this time, that continued use of the existing Thermal/Power Plant system would be the most cost effective alternative given that its 25-year net present value is approximately \$13.1 million lower (\$213.7 million vs. \$226.8 million) than the new combined heat and power system.

Subsequent to the submission of Black & Veatch's final report, staff identified a number of topics that should be expanded upon due to their possible impact on net present value results. To accomplish this, staff developed a simulation using Wolfram's Mathematica software, utilizing millions of Deer Island operational data elements and manufacturer performance curves to model the new combined heat and power system. This simulation, which was used by staff to produce an independent analysis while also building upon Black & Veatch's work, identified and further refined the following issues.

- **Adjustment to Estimated Operation and Maintenance Costs:** Black & Veatch's operations and maintenance cost estimates for the Thermal/Power Plant were based on average costs per kilowatt and the amount of electricity generated, rather than a summation of historical maintenance, contract and staff costs for the facility. Staff revised these costs in its analysis. For the new plant, staff utilized the same operations costs as Black & Veatch, but used a lower maintenance cost based upon input received by CHP experts from the University of Maine. These adjustments contributed to an overall increase in the net present value of both the existing Thermal Power Plant and the new combined heat and power system with a greater impact to the existing Thermal Power Plant.
- **Adjustment to Discount Rate:** MWRA's cost of money (discount rate) is a key component of the net present value calculation. In accordance with MWRA's Life Cycle Cost Analysis guidelines, Black & Veatch used a discount rate of 6% to determine net present value. Based on follow-up discussions with MWRA's Finance Department staff, it was determined that an adjusted discount rate of 4% was a more representative figure, while still accounting for recent interest rate volatility.
- **Adjustment to Useful Life of Existing Boilers:** The existing Deer Island boilers have an industry standard design life of 40 years. Black & Veatch estimated that the boilers may have a useful life of 50+ years without the need for interim capital expenditures. Black & Veatch made this determination based on the maintenance history and current condition of the boilers. The extended boiler useful life moved its replacement costs just outside the economic analysis timeframe. Based on staff's experience with other equipment's ability to withstand the harsh conditions at Deer Island, the industry standard of 40-year design life was determined to be a more representative estimate of useful life. This also aligns with a prior assessment that was performed by Brown & Caldwell during a Thermal/Power Plant equipment condition survey performed in 2017.

The modeling performed by staff indicates that these adjustments impact the difference in the 25-year net present value between the existing Thermal/Power Plant system and the new CHP by approximately \$56.2 million (from \$13.1 million in favor of the existing Thermal/Power Plant to \$43.1 million in favor of the new CHP) and are summarized in Table 1.



Table 1 – Results of Staff Modeling

	Consultant Results	Staff Preliminary Results		
Alternative		O&M Adjustment	Discount Rate Adjustment	Boiler Useful Life Adjustment
Existing CHP NPV	\$ 214M	\$ 233M	\$ 290M	\$ 328M
New CHP NPV	\$ 227M	\$ 239M	\$ 284M	\$ 284M
NPV	<b>\$ +13.1M 6%</b>	<b>\$ +5.8M 3%</b>	<b>\$ -6.5M* 2%</b>	<b>\$ -43.1M** 13%</b>

\* Includes O&M adjustment

\*\*Includes O&M and discount rate adjustments

The key metric of Table 1 is NPV , which is the difference between the existing Thermal/Power Plant and the new CHP net present values. A positive NPV indicates that the existing Thermal/Power Plant is more cost effective than the new CHP over the analysis period, while a negative NPV indicates that the new CHP will be more cost effective. The analysis performed by staff indicates that the cost to construct and operate the new CHP is approximately \$43.1 million less than the cost to replace and operate the existing Thermal/Power Plant over the 25-year analysis period.

In addition, staff also considered the following non-economic factors when comparing the existing Thermal/Power Plant to the new CHP:

- Greenhouse Gas Emissions Reduction:** The new CHP would reduce the greenhouse gas emissions of Deer Island by reducing the amount of fuel oil consumed and electricity purchased. This does not account for renewable energy certificate purchases and sales, the inclusion of which would further decrease overall greenhouse gas emissions reduction. The reduction in greenhouse gas emissions expressed in metric tons per year and, to put it into perspective, the number of miles one would have to drive an automobile are summarized as follows:
  - Fuel Oil Consumed: 300,000 gallons/year reduction = 3,000 metric tons greenhouse gas /year = 8 million car miles/year
  - Electricity Purchased: 40 GWh/year reduction = 13,800 metric tons greenhouse gas /year = 34 million car miles/year
  - Total Reduction in Greenhouse Gas Emissions: 16,800 metric tons greenhouse gas /year = 42 million car miles/year

Further, the social cost of carbon was estimated in an attempt to quantify the adverse economic impacts resulting from carbon in greenhouse gas emissions. While it is not revenue that MWRA would receive, it instead represents the potential benefit to the public of not emitting carbon. The rate is based on the results from a U.S. Presidential Interagency Working Group convened in 2009 to develop a social cost of carbon metric for the use of federal agencies. Using this rate the new CHP would result in a reduction of approximately \$775,000 per year in Deer Island’s social cost of carbon impact.

- **Increase On-Site Generation:** Along with greenhouse gas reduction is the goal of increasing the percentage of energy used at Deer Island that is generated on site. Currently, Deer Island generates 57% (by energy) to 65% (by cost) of its energy demand from onsite resources. With the new CHP, Deer Island would generate approximately 74% (by energy) to 78% (by cost) of its energy demand from on-site resources.
- **Fuel Oil Use Reduction:** Executive Order 594, Leading by Example: Decarbonizing and Minimizing Environmental Impacts of State Government sets as one of its goals the reduction of fuel oil use for heating. The new CHP will reduce Deer Island’s fuel oil consumption by approximately 300,000 gallons per year, which will result in the elimination of 30 tanker truck deliveries per year.
- **Elimination of High Pressure Steam System:** The switch to water-based hydronic boilers will eliminate hazards that accompany the operation of high-pressure steam boilers. This may also reduce operator licensing requirements making it easier to fill staffing positions that have been historically difficult to fill.



*Figure 5 - Fuel Oil Delivery at Deer Island*

The combination of the analyses performed under Contract 6963A and the follow-up analyses performed by staff play a critical role in the development of the capital planning process for Deer Island’s CHP. Staff have gained a better understanding of the performance of the existing Thermal/Power Plant while also providing confirmation that a new CHP is viable from both an economic and environmental standpoint.

Next Steps:

The recommended next step is to procure the services of a consultant to prepare a detailed design for the new CHP. This effort would also include a conceptual design to confirm the results of staff’s investigation as well as determine the location and optimal number of combined heat and power system units.

**BUDGET/FISCAL IMPACTS:**

The proposed FY23 CIP includes two projects related to the new CHP: 1) Contract 6730 CHP Design/Engineering Services during Construction and Resident Engineering (\$11.4 million) and 2) Contract 6964 Combined Heat and Power System construction (\$95.0 million). Black & Veatch estimated the design and construction cost of the new CHP to be \$82.3 million.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Struvite, Scum, Sludge and Grit Removal Services  
Moran Environmental Recovery, LLC  
WRA-5128



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**COMMITTEE:** Wastewater Policy & Oversight

           INFORMATION

  X   VOTE



Michele S. Gillen

Director of Administration

Lisa Wong, Acting Deputy Director, Deer Island  
David F. Duest, Director, Deer Island  
Douglas J. Rice, Director, Procurement  
Preparer/Title



David W. Coppes, P.E.

Chief Operating Officer

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### RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-5128 to provide struvite, scum, sludge and grit removal services at the Deer Island Treatment Plant to the lowest responsive bidder, Moran Environment Recovery, LLC and to authorize the Executive Director, on behalf of the Authority to execute said purchase order contract in an amount not to exceed \$1,370,000 for a period of two years, from July 1, 2022 through June 30, 2024.

### DISCUSSION:

Struvite is a crystallized compound forming from solubilized phosphate, ammonia and magnesium, which can form a matrix with digested sludge solids and coat pipelines or other surfaces. An example of struvite buildup can be seen in the picture on the right.

Struvite build-up is a concern because of the operational problems that it can cause. Struvite can affect process equipment and piping, and can result in the loss of digester and sludge thickening capacity.



Staff have been preventing struvite buildup with the addition of ferric chloride to the digesters. The iron in ferric chloride binds up soluble phosphate, which reduces the risk of struvite formation. However, struvite buildup can still occur. When it does, it requires the specialized services and industrial equipment of specialty contractors, often working in confined spaces.



Staff also use these specialized services to clean severe blockages and the buildup of scum, sludge and grit in a number of other process areas of the plant. An example of struvite that has been removed can be seen in the picture to the left. While struvite buildup has only occurred in the Deer Island Residuals complex, staff have found other types of blockages in the gravity thickeners, primary clarifiers, influent channels and scum receiving well.

Contracted services are utilized only as a last resort measure as MWRA staff are the first option in clearing these types of blockages. Staff employ MWRA vacor trucks to clean some of the blockages, but contracted services are required when blockages reach a level that is beyond in-house capability, or when the scum, sludge or grit, or rags from flushable and non-flushable wipes material are of such a thick consistency that processing through the plant could cause plant upset conditions or the potential for equipment damage.

Approximately 20% of this contract is utilized for the removal and disposal of struvite as the use of iron chlorides in digested sludge has greatly reduced the level of struvite formation in the residuals process areas. The remaining portion of the contract is used for clearing and removing other materials causing blockages in plant process areas, such as in the scum receiving wells and in the gravity thickeners as seen in the picture to the right. Since the start of the COVID-19 pandemic, there has been an increased use and disposal of flushable, non-flushable, and antiseptic wipes.



**Procurement Process**

Bid WRA-5128 was advertised in the following publications: the Boston Herald, the Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA’s e-procurement system (Event 5064) and six potential bidders were solicited through the e-Portal.

On April 19, 2022, Event 5064 closed with the following results:

<b>BIDDER</b>	<b>TOTAL BID PRICE</b>
<b>Moran Environmental Recovery, LLC</b>	<b>\$1,370,000</b>
Clean Harbors Environmental Services, Inc.	\$1,524,450

The scope of services and estimated quantities for this contract include 300 days of field work; 100 days with a five-person work crew and 200 days with a three-person work crew and all necessary special cleaning equipment, to be used on an as-needed basis. In addition, bid prices were submitted for the hauling and disposal of an estimated 700 tons of solid material and 50,000 gallons of wet material during a two-year period. These estimates were based on recent workloads under the existing contract, including added work to clear blockages due to an increased presence of flushable wipes over the past several years. This requested level of effort is an estimate and not a guaranteed commitment to the vendor; MWRA will incur costs only for the services provided

and satisfactory documentation of quantities removed (e.g., weight slips from licensed landfills or disposal sites) during the two-year contract term.

The existing contract for these services was awarded to Moran Environmental Recovery, LLC. A close comparison of the two contracts reveal increases in costs of the five-person work crew from \$3,425 per day to \$3,770 per day and the three-person work crew from \$2,475 per day to \$2,770 per day. Three-person crews are typically required to remove grit, scum and rags from difficult to access areas in the plant.

In addition, this contract includes 400 hours of off-hour work; 200 hours with a five-person crew and 200 hours with a three-person crew. These bid items will be used only if treatment processes are impacted such that crews need to be either extended beyond the normal working day or if crews need to be called in during off-hours.

Staff have reviewed Moran's bid and determined that it meets all of the requirements of the bid specifications. Staff are satisfied with Moran's performance on the existing and other past contracts and, therefore, recommend the award of this purchase order contract to Moran Environmental Recovery, LLC as the lowest responsive bidder.

**BUDGET/FISCAL IMPACTS:**

The FY23 Proposed Current Expense Budget includes \$300,000 for the first portion of this contract. Any overspending will be absorbed within the Deer Island Current Expense Budget. Appropriate funding will be included in subsequent Proposed CEB requests for the remaining term of this two-year contract.

**MBE/WBE PARTICIPATION:**

Moran Environmental Recovery, LLC is not a certified Minority-owned or Women-owned business.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Wastewater Advisory Committee Contract



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**COMMITTEE:** Wastewater Policy & Oversight

INFORMATION  
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer  
Wendy Leo, Senior Program Manager  
Katherine Ronan, Environmental Analyst  
Preparer/Title

Sean Navin  
Director, Intergovernmental Affairs



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### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Wastewater Advisory Committee for a term of one year, from July 1, 2022 to June 30, 2023, for a total contract cost of \$80,144.

### DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Wastewater Advisory Committee (WAC) and the Water Supply Citizens Advisory Committee (WSCAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WSCAC for FY23.

The Wastewater Advisory Committee was created in 1990 to offer independent recommendations on wastewater programs and policies; it is a successor to the Facilities Planning Citizen Advisory Committee established during the planning of the new Deer Island Treatment Plant. WAC's members include citizen advocates, representatives from the Metropolitan Area Planning Council, watershed associations, the engineering and business communities, environmental law, and science and education fields. The Advisory Board has historically appointed a member as well.

The proposed FY23 WAC contract is 3.02% higher than the FY22 contract. Health insurance increased by 5.8%, while hourly salaries increased by 2% and other reimbursable expense items increased by \$400 to cover the cost of a virtual meeting platform and of increased mileage reimbursement if WAC returns to in-person meetings. Health insurance is budgeted at 80% reimbursement for the Executive Director only, not to exceed \$11,740, with an optional health insurance buy-out program similar to that offered to MWRA employees who do not use MWRA's health insurance benefit. Office space and support services for WAC are provided by MWRA at the Charlestown Navy Yard Headquarters. The proposed total FY23 WAC funding is \$80,144.

WAC's monthly meetings are geared towards engendering discussion and facilitating timely recommendations to MWRA's Board of Directors and staff on wastewater policies, projects, and program initiatives directly related to MWRA, and public concerns. Current topics of interest to WAC include reissuance of MWRA NPDES permits, operations and maintenance, combined sewer overflows, green energy, PFAS, treatment technologies, climate change, and wastewater/water policy and funding initiatives in Massachusetts.

WAC elects its chair and employs an Executive Director (selected by WAC's membership with the concurrence and approval of MWRA's Public Affairs Department). WAC's current chair is Wayne Chouinard and WAC's current Executive Director is Andreae Downs. Pursuant to the terms of the attached contract, WAC's members are approved by MWRA's Board of Directors.

**BUDGET/FISCAL IMPACT:**

Sufficient funds for the WAC contract are included in the Draft Final FY23 Current Expense Budget.

**ATTACHMENT:**

Agreement between Massachusetts Water Resources Authority and Wastewater Advisory Committee.

**AGREEMENT**  
**BETWEEN**  
**MASSACHUSETTS WATER RESOURCES AUTHORITY**  
**AND**  
**WASTEWATER ADVISORY COMMITTEE**

This Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“Authority”), a body politic and corporate and a public instrumentality of the commonwealth, created by Chapter 372 of the Acts of 1984, with offices at Building 39, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Wastewater Advisory Committee (“WAC”) a body created by the Authority’s Board of Directors (“Board”) (collectively “Parties”).

WHEREAS, the WAC was created to offer independent advice to the Board and to the professional staff of the Authority, regarding wastewater programs and policies directly related to the Authority;

WHEREAS, the WAC will (i) review and comment to the Authority on wastewater reports and related proposed documents, and (ii) offer independent commentary and advice on current and proposed wastewater program and policy directions to further Authority objectives;

WHEREAS, the WAC membership is designed to reflect the knowledge and interest of major affected constituencies, including engineering, construction, business/industry, planning, academic research, and environmental advocacy;

WHEREAS, the Authority desires the WAC to advise the Authority in wastewater planning, and

WHEREAS, the WAC desires to have a role advising the Authority on such matters.

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WAC agree as follows:

**ARTICLE 1. EFFECTIVE DATE**

This Agreement shall be effective from July 1, 2022 through June 30, 2023, inclusive.



## ARTICLE 2. COMPENSATION, BUDGET, PAYMENT, AND EXPENSES

2.1 The Authority shall make funds available as follows:

(a) Executive Director Salary.

In order to minimize the WAC's expenses and for the WAC's convenience, the Authority shall make direct payments to the WAC for the WAC Executive Director salary. Such payments shall not exceed \$66,330 from July 1, 2022 through June 30, 2023, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$45.84 with annual total hours of 1,447 (average 30 hours per week for 49 weeks).

(b) Reimbursable expenses.

The Authority shall reimburse the WAC for 80% of the non-employer-sponsored health insurance for the WAC Executive Director (not to exceed \$11,740), and for stationery, payroll services expenses, bank expenses, and for mileage costs, public transportation costs, highway tolls and parking expenses for meeting attendance by WAC's Executive Director and membership, and for other miscellaneous expenses of the WAC staff approved by the Authority on a case-by-case basis. Such expenses will be reimbursed when submitted to the Public Affairs Unit. Mileage costs will be reimbursed at the prevailing Authority rate per mile.

The percentage rate for reimbursement of health insurance costs shall be changed to that of Authority staff if the Group Insurance Commission changes the rate.

Health insurance buy-out: The WAC Executive Director may elect a monetary allowance in lieu of reimbursement of health insurance costs, provided he or she has health insurance coverage through another employer-sponsored plan that meets Internal Revenue Service "minimum value" criteria, throughout that six-month period. The amount of the allowance will be \$1000 to waive family coverage or \$700 for waiving individual coverage. The WAC Executive Director is responsible for any withholding taxes on these payments with WAC being responsible for the employer share of payroll taxes.

The total annual expense reimbursement to WAC, excluding health insurance reimbursements or buy-out, shall not exceed \$2,074.

(c) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees, or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

### ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WAC.

- (a) The WAC shall employ an Executive Director who is prohibited from being a member of the WAC while serving his or her term as a paid employee. The Authority Public Affairs Office must concur with and approve the selection of the WAC Executive Director by the WAC. The duties of the Executive Director shall be in accordance with the job description prepared by the WAC, and on file with the Authority.
- (b) The WAC shall submit weekly statements to the Authority requesting payment for expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, and by such other supporting data as may be required by the Authority.
- (c) The WAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The parties and their duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.
- (d) The Authority or its duly authorized agent shall have the right at any and all reasonable times, to examine and audit WAC's records, documents and other evidence.
- (e) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.
- (f) The parties shall agree to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.
- (g) The WAC acknowledges that the Authority is a state agency for purposes of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WAC staff and members are special state employees.
- (h) The WAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

### ARTICLE 4. RESPONSIBILITIES OF THE WAC STAFF.

- 4.1 The WAC staff shall be responsible for the following tasks:
  - (a) aiding the WAC in its tasks under Article 6, educating the public, and acting as liaison with the Authority and its staff;
  - (b) maintaining financial records, minutes of the WAC meetings, and other WAC records;
  - (c) providing to the Authority copies of the notices for and minutes of all meetings of WAC and of all WAC correspondence relative to Authority projects and proposals as soon as such materials are available; and

(d) administering and maintaining compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

## ARTICLE 5. MEMBERSHIP, MEETINGS, TERMS.

5.1 the WAC membership, meetings and terms shall be as follows:

- (a) the WAC will have a maximum of twenty (20) members ("Members") approved by the Board. (Alternates or designees are prohibited);
- (b) the WAC shall meet once per month and maintain records of its meetings;
- (c) to the extent reasonable, Members will meet as a committee of the whole, without resort to subcommittees;
- (d) members will elect their chairman.
- (e) members' terms will be three (3) years; members may succeed themselves.
- (f) members unable to maintain reasonable participation in the committee's work will be expected to resign. The Authority's Public Affairs Unit, in consultation with the WAC chairman, will nominate a replacement for Board approval.

## ARTICLE 6. WAC TASKS.

The WAC shall undertake the following tasks:

### 6.1 Wastewater Policies and Programs Review.

Advise the Authority staff and Board. Participate in review and evaluation of wastewater management plans (e.g., local limits, I/I, CSO), reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of wastewater planning and policy directly related to MWRA.

### 6.2 Outreach and Education.

Strive to increase citizen participation and education by providing assistance in outreach to various groups regarding the Authority's wastewater programs and state wastewater resource policies. Review programs and explain plans and policies to organizations and citizens.

6.3 Working Group Representation.

When possible, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to wastewater programs and policy, including the Advisory Board and its subcommittees and the Water Supply Citizens Advisory Committee.

6.4 Recommendations on Long Term Public Involvement.

Provide to the Authority staff and Board, proposals for continued effective and efficient long term public involvement in wastewater programs.

6.5 Recommendations and Discussion Documents.

The WAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on wastewater programs and policy. Documents may be in the form of minutes of WAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity

The WAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract.

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by the WAC to fulfill its obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority an equitable adjustment shall be made providing for payment to the WAC for services rendered and expenses incurred prior to the termination.

(c) No termination hereunder may be effected unless the terminating party gives the other party:

- (1) not less than forty-five days' written notice delivered by certified mail, return receipt requested, of intent to terminate; and
- (2) an opportunity for consultation with the other party prior to termination, or
- (3) by mutual agreement of the parties.

8.2 Assignability.

The WAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this agreement.

8.3 Integration Clause.

This Agreement integrates and supersedes all prior negotiations, representations, or agreements.

8.4 Amendment.

This Agreement may be amended only by a writing executed by each of the parties.

8.5 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.6 Massachusetts Law to Govern.

All parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.7 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.8 Notices.

Communications shall be deemed to have been made when mailed postage prepaid or delivered among:

Executive Director  
Wastewater Advisory Committee  
c/o MWRA  
100 First Avenue  
Charlestown Navy Yard  
Boston, MA 02129

Executive Director  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue  
Boston, MA 02129

Director of Public Affairs  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue  
Boston, MA 02129

IN WITNESS WHEREOF, this Agreement is executed as of this \_\_\_\_th day of  
June, 2022.


FOR; WASTEWATER ADVISORY COMMITTEE

By: \_\_\_\_\_  
Wayne Chouinard, Chair

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: \_\_\_\_\_  
Frederick A. Laskey, Executive Director

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** Revised Memorandum of Agreement between MWRA and the City of Waltham  
Section 101 Extension Waltham  
Contract 7457

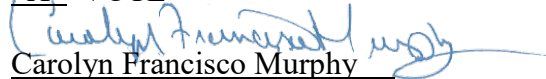
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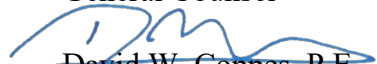
**COMMITTEE:** Water Policy & Oversight

Peter Grasso, Project Manager  
John Colbert, P.E., Chief Engineer  
Preparer/Title

     INFORMATION

VOTE

  
Carolyn Francisco Murphy  
General Counsel

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

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### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a revised Memorandum of Agreement with the City of Waltham, substantially in the form attached hereto and/or such other terms which the Executive Director determines are in the best interest of the Authority, related to reimbursement to MWRA for design and construction costs associated with the installation of City of Waltham local water, sewer and drain lines and appurtenances. This authorization is contingent on the Authority reaching an agreement with the City of Waltham on the terms of the revised Memorandum of Agreement.

### DISCUSSION:

The Section 101 Pipeline Extension project consists of a new 36-inch diameter water main and appurtenances extending from MWRA's Meter 182 at the Waltham/Lexington town line down Lexington Street to Totten Pond Road, where it will connect to Waltham's water system. (See Figure 1.) This connection will provide a new redundant water supply to Waltham's Prospect Hill Service area from the NEH pressure zone and to MWRA's Lexington Street Pumping Station. In an emergency, the pipeline will provide a partial water supply to MWRA's NEH pressure zone from the Lexington Pumping Station. This new water main will provide sufficient capacity to maintain water service to Waltham during the anticipated shutdown of MWRA's WASM 3 pipeline and the Lexington Street Pumping Station for future rehabilitation.

The contract documents for the project include water, sewer and drain utility replacement work in the project area for the City of Waltham that needs to be completed concurrent with the MWRA work and prior to construction of the City's new high school that has an anticipated completion in 2024. In discussions between MWRA and the City of Waltham concerning the project, the City requested that MWRA complete the Section 101 Extension construction before the planned

opening of the City's new high school in 2024. In order to avoid conflicts related to the construction of the new high school, and due to its need for future work in the vicinity of the project, Waltham also requested that MWRA include in Contract 7457 certain additional water, sewer and drain line replacements within the same roadway as MWRA's 36-inch water pipeline along Lexington Street. Specifically, the Waltham work includes installing approximately 3,000 linear feet of Waltham local water main, and 870 linear feet of Waltham local drain line, as well as replacing and reconnecting all local water and sewer services and appurtenances, and related work.

Bids for Contract 7457 were received on April 4, 2022. A separate staff summary will be presented at this meeting for the award of the contract.

### **Revisions to Memorandum of Agreement**

Staff negotiated the terms of a Memorandum of Agreement (MOA) with the City of Waltham, which the Board approved at its December 15, 2021 meeting. Among other provisions, the agreement provided for the payment by the City of the design and construction costs for the Waltham work included in Contract 7457. The bid documents for Contract 7457 included a separate line item for the Waltham work, referenced in the original MOA as the basis for payment by Waltham for its work. The original MOA was not executed by the parties, as Waltham was awaiting the bid results.

The low bidder for Contract 7457, Baltazar Corporation, Inc., provided a cost of \$6,375,000 for the Waltham work. After discussions on the bid pricing with MWRA staff and the Waltham City Engineer, the parties learned that Baltazar incorrectly allocated the cost of certain MWRA work (e.g., relocating Waltham's water and sewer lines to provide a corridor for the installation of the new 36-inch MWRA water main) to the City of Waltham instead of MWRA. When accounting for these items (\$2,027,619), the construction cost for the Waltham work in the MOA should be \$4,347,381. This value is included in the proposed revised MOA for reimbursement to MWRA by Waltham. On April 25, 2022, the Waltham City Council voted to approve the appropriation of funds for Waltham's work under the contract.

Waltham and MWRA continue to discuss and negotiate the terms of the revised MOA including, for example, terms regarding Waltham's appropriations and contingencies, change orders, final restoration and notice upon the discovery of contaminated soil. The revised MOA would also include updated language to reflect that the project has been bid, the costs for construction and design and Waltham paying directly for police details and fire department services. Staff hope to reach an agreement with Waltham on the revised terms soon. So as not to delay the award of the construction contract, staff are presenting this staff summary to the Board for its consideration, with the request to authorize the Executive Director to enter into a Revised MOA substantially in the form attached and/or such other terms which the Executive Director determines are in the best interest of the Authority. This authorization is contingent on the Authority reaching an agreement on the revised terms of the MOA with Waltham. If approved by the Board, the revised MOA will take the place of the original MOA.



**BUDGET/FISCAL IMPACT:**

The FY22 CIP includes a budget of \$13,780,520 for Contract 7457.

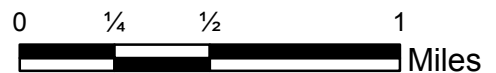
**ATTACHMENT:**

Figure 1- Section 101 Extension Project Map  
Revised Memorandum of Agreement between MWRA and the City of Waltham

# Section 101 Ext. Waltham Project Map



Figure 1



MEMORANDUM OF AGREEMENT  
BETWEEN  
MASSACHUSETTS WATER RESOURCES AUTHORITY  
AND  
CITY OF WALTHAM, MASSACHUSETTS

This MEMORANDUM OF AGREEMENT (“MOA”) is made this \_\_\_\_ day of \_\_\_\_\_, 2022 by and between the MASSACHUSETTS WATER RESOURCES AUTHORITY (“MWRA”), a body corporate and politic and an independent authority pursuant to St. 1984, c. 372 of the laws of the Commonwealth of Massachusetts, and the CITY OF WALTHAM (“City of Waltham”), a duly incorporated city under the laws of the Commonwealth of Massachusetts (each individually a “Party” and collectively the “Parties”). MWRA’s address is 100 First Avenue, Boston, MA 02129. The City of Waltham’s address is 610 Main Street, Waltham, MA 02452.

**RECITALS**

WHEREAS, MWRA is planning to install, by open-cut construction, approximately 8,920 linear feet of new 36-inch water pipeline in portions of roadway along Lexington Street in Waltham, from Meter 182 to a new meter near Totten Pond Road, including installation of valves, meters and other appurtenances, by-pass pumping, replacement of certain utilities, pavement restoration, traffic and environmental controls (“Project”);

WHEREAS, the Project will be performed by MWRA as “MWRA Contract 7457, MWRA Section 101 Extension in Waltham”;

WHEREAS, in order to avoid construction conflicts related to the City of Waltham’s construction of a new high school and the need for future work in the vicinity of the Project, the City of Waltham requested that MWRA include in MWRA Contract 7457 certain additional water, sewer and drain line replacements within the same roadway as MWRA’s 36-inch water pipeline along Lexington Street;

WHEREAS, the additional water, sewer and drain line replacements requested by the City of Waltham include more specifically: a) remove 12-inch water main and replace with 12-inch water main from new High School entrance north to Lake Street including replace services on this line from the water main to the curb stop; b) abandon 8-inch and 10-inch water mains from Lake Street to Meter 182; c) transfer water services not already connected to existing 16-inch water main from Lake Street to Meter 182; d) along Lexington Street, just south of the driveway to the new High School, incorporate the upsizing of the existing 15-inch drain to a 36-inch RCP drain from Station 71+60 to Station 79+73. (The City of Waltham will upsize the drainage system downstream of the proposed drain manhole, located between houses #473 and #475, where the 36-inch RCP drain is shown connected to the existing 15-inch drain line.); e) upsize 10-inch Sanitary Sewer main to 12-inch from Totten Pond Road to Stanley Road and, replace a 10-inch Sanitary Sewer main with a 10-in from Stanley Road to Jack’s Way; f) add sewer lateral replacements from Totten Pond Rd to Jack's Way; g) install a meter box for residential complex; h) revise connection of new 12-inch water line to show a stub and valve

into Jack's Way; and i) provide a detail (to be provided by the City of Waltham) to replace all water services on new 12-inch water line; j) provide 8" pipe stub for future connection on Totten Pond Road; k) install a PRV at Totten Pond Road; and l) provide a connection between the 12" and 24" water main at Totten Pond Road (collectively the "City of Waltham Work").

WHEREAS, MWRA and the City of Waltham have determined that it is in the best interest of the Parties to include the City of Waltham Work within the scope of MWRA Contract 7457;

WHEREAS, MWRA included the City of Waltham Work in Contract 7457 "MWRA Section 101 Extension in Waltham" and competitively bid the Project. Bids were received on April 4, 2022;

WHEREAS, MWRA expects that after award of MWRA Contract 7457, a Notice to Proceed will issue in or around May 2022; and

WHEREAS, MWRA and the City of Waltham wish to enter into this MOA regarding certain aspects of the design, bidding and construction, as well as payment for and sharing of costs with respect to the Project, MWRA Contract 7457 and installation of the sections of MWRA and City of Waltham pipelines referenced above.

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

## **1. PROJECT RESPONSIBILITIES AND ALLOCATION OF COSTS**

1.1 MWRA's design consultant, CDM Smith, Inc. (CDM), in coordination with MWRA, completed the design of MWRA's work on the Project that was included in the contract documents for MWRA Contract 7457. The MWRA issued to CDM, Task Order No. 9 under its As Needed Agency Wide Technical Assistance Consultant Services Contract, to provide design and bidding services for the City of Waltham Work, the scope of which was also included in the contract documents for MWRA Contract 7457. The City of Waltham shall pay for all costs and expenses for the design and bidding services associated with the City of Waltham Work and will reimburse the MWRA for all such costs and expenses in accordance with Section 6.1 of this MOA.

1.2 The City of Waltham had two opportunities to review and comment on the design documents associated with the City of Waltham Work, with the first opportunity at the 90% design milestone for the City of Waltham Work, and the second opportunity at the 100% design milestone for the City of Waltham Work.

1.3 The bid documents for MWRA Contract 7457 included a separate line item for all construction work associated with the City of Waltham Work, which will be installed by means of open cut construction at various locations along Lexington Street. The City of Waltham shall pay for all costs and expenses arising out of the construction of the City of Waltham Work, up to , the sum of **Four Million Three Hundred Forty-Seven Thousand Three Hundred Eight-One and 00/100 (\$4,347,381.00)**, plus all costs for

services of uniformed police officers and local fire department services associated with the City of Waltham Work. The City of Waltham shall also be responsible for all Change Order costs under MWRA Contract 7457 arising out of the City of Waltham Work that are within the appropriated contingency amount. If the Change order amount exceeds the appropriated contingency amount, Waltham shall seek an additional appropriation and, if approved, shall make payment. The City of Waltham shall make all payments to MWRA in accordance with Section 6.2 of this MOA. See below, sections 6.1 and 6.2 for method of invoicing and payment for City police and fire services associated with the City of Waltham Work.

1.4 Consistent with the provisions of G.L. c. 44, §31C, the City of Waltham certifies that it has duly appropriated funds to cover all costs for the design, engineering, construction administration and construction of its portion of Contract 7457 including, without limitation, cost of the design and bidding services to be performed under Task Order No. 9 for the City of Waltham Work based upon a current cost estimate of approximately \$130,000 (which sum Waltham agrees to pay MWRA for reimbursement for such work), the cost of construction of the City of Waltham Work under MWRA Contract 7457 based upon the current cost of \$4,347,381.00, and the cost of police and fire details.

1.5 Under MWRA Contract 7457, MWRA shall require its selected contractor for the Project to: (i) name the City of Waltham as an additional insured on all insurance policies required for the Project, except for Workers Compensation; and (ii) name the City of Waltham as an obligee on the Performance and/or Labor and Materials Payment Bonds to be provided by the contractor under MWRA Contract 7457.

1.6 Under MWRA Contract 7457, MWRA shall cause its contractor to warrant, for the benefit of the City of Waltham, that the City of Waltham Work will be free from defects in materials and workmanship for a period of one (1) year from substantial completion of the Project in accordance with standard MWRA terms. Provision shall be made for the contractor to repair or replace all defective work within said one-year period in accordance with standard MWRA terms. MWRA may also assign, at its discretion, any claims arising out of deficiencies in the design or construction of the City of Waltham Work to the City of Waltham.

1.7 Under MWRA Contract 7457, MWRA shall cause its contractor to indemnify and hold harmless the City of Waltham to the same extent that MWRA requires its contractor to indemnify and hold harmless the MWRA under Paragraphs 5.1.1 and 5.2.1 of Article 5 of the general conditions of Contract 7457.

## **2. ADVERTISEMENT AND AWARD OF CONTRACT**

2.1 In accordance with G.L. c. 30, sec. 39M of the Massachusetts public bid laws, MWRA advertised and accepted bids for MWRA Contract 7457. MWRA, in its sole discretion, reserved the right to accept and/or reject any and/or all bids for the reasons articulated in the MWRA Contract 7457 bid solicitation materials and/or as provided by law. MWRA has determined the lowest responsible and eligible bidder pursuant to the

public bid laws and represents that such determination complies with all statutory requirements.

2.2 If and/or when MWRA awards MWRA Contract 7457 and enters into a contract for the Project, such contract shall include the City of Waltham Work.

### **3. EXTRA WORK/CHANGE ORDERS**

3.1 Should the City of Waltham request changes in the City of Waltham Work such request shall be forwarded by MWRA to the contractor so that the contractor, in accordance with Article 13 of the general conditions of Contract 7457, may prepare a written statement setting forth the contractor's estimate of the increased or decreased cost and time impact, if any, of such proposed changes.

MWRA shall determine whether a request for a Change Order under MWRA Contract 7457 should be approved or rejected, in whole or in part. In the event a request for a Change Order relates, in whole or in part, to the City of Waltham Work, MWRA will provide the City of Waltham with a copy of the proposed Change Order for review and comment and, at the City of Waltham's request, MWRA project personnel shall meet with the City of Waltham personnel to discuss and consider the City of Waltham's and MWRA's respective positions. The parties shall, in good faith, confer regarding their respective positions. After conferring with the City of Waltham, MWRA shall process those Change Orders that MWRA approves. Change Orders approved by MWRA shall be included in the contractor's monthly invoice to MWRA. The City of Waltham shall make payments to MWRA for its portion of the Change Order costs arising out of or relating to the City of Waltham Work, if the Change Order amount is within the appropriated contingency amount. If the Change Order amount exceeds the appropriated contingency amount, Waltham shall seek an additional appropriation and, if approved, shall make payment. All payments shall be made in accordance with Section 6 of this MOA.

In the event the contractor submits a claim for additional compensation and/or additional time relating to or arising out of, in whole or in part, the City of Waltham Work, which claim sums and/or time request are not included in an approved Change Order, MWRA shall provide the City of Waltham with a copy of such claim, the Parties shall confer and cooperate with each other, and the City of Waltham shall assist MWRA in the defense and/or resolution of such claim.

### **4. HAZARDOUS MATERIALS**

MWRA shall be responsible for, and shall take all actions necessary or appropriate in accordance with MGL Chapter 21E and the Massachusetts Contingency Plan ("MCP") Utility Related Abatement Measures ("URAM") necessary to conduct the work under the Project. In the event contaminated soil is discovered in the area associated with the City of Waltham Work, MWRA shall notify the City immediately and, at the City of Waltham's request, MWRA project personnel shall meet with the City of Waltham personnel to discuss information related to the contaminated soils. The City of Waltham

shall reimburse MWRA for all costs associated with the disposal of contaminated soils related to the City of Waltham Work under MWRA Contract 7457. All costs associated with the disposal of contaminated soils related to MWRA's work will be MWRA's responsibility.

**5. TERM**

The term of this MOA shall, unless otherwise agreed to by the Parties, commence on the date written above and continue until final completion of the Project and any Warranty period within MWRA Contract 7457.

**6. PAYMENT BY THE CITY OF WALTHAM**

6.1 CDM shall submit monthly invoices to MWRA for services rendered and reimbursable expenses incurred under Task Order No. 9 associated with the City of Waltham Work. MWRA shall provide the City of Waltham with a copy of CDM's invoices related to the Task Order No. 9 City of Waltham Work for review and comment. The City of Waltham shall review and provide comments, if any, to MWRA within 5 business days of receipt of the CDM invoice. MWRA shall pay CDM approved invoiced amounts in accordance with the agreement between MWRA and CDM for the Project. MWRA will invoice the City of Waltham for approved invoice amounts paid by MWRA to CDM for the City of Waltham Work on a monthly basis. The City of Waltham shall make payment to MWRA within 15 days of receiving said invoices from MWRA. Excepted from this payment method and procedure shall be all police and fire services for the City of Waltham Work, which shall be invoiced and paid separately by the City directly to the City department(s) involved.

6.2 The contractor shall submit monthly invoices to MWRA for the work under MWRA Contract 7457, including the City of Waltham Work and approved Change Orders, in accordance with the contract documents. When invoicing MWRA shall request that the contractor include the City of Waltham Work on line items separate and apart from line items for MWRA's work. MWRA shall pay the contractor its monthly invoices in accordance with the contract documents. The City of Waltham shall make payment to MWRA of the amounts requested in the contractor's monthly invoice for line items and Change Orders approved by MWRA associated with the City of Waltham Work within 15 working days of receiving invoices from MWRA. Payment amounts shall be in accordance with the Schedule of Values submitted by the contractor and approved by MWRA. MWRA will invoice the City of Waltham on a monthly basis. Excepted from this payment method and procedure shall be all police and fire services for the City of Waltham Work, which shall be invoiced and paid separately by the City directly to the City department(s) involved.

**7. AMENDMENTS**

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

**8. SEVERABILITY**

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

**9. NOTICE**

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

To the City of Waltham:      Robert Winn, City Engineer  
   City of Waltham  
   119 School Street  
   Waltham, MA 02451

To MWRA:                              John Colbert, Chief Engineer  
   Massachusetts Water Resources Authority  
   2 Griffin Way  
   Chelsea, MA 02150

**10. ENTIRE AGREEMENT**

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

**11. GOVERNING LAW**

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



**12. DISPUTES/COOPERATION**

The Parties shall each use their best efforts to cooperate in the performance of the Project and MWRA Contract 7457 by appointing appropriate representatives who, respectively, shall be responsible for expediting and responding to any and all inquiries, problems, and matters requiring coordination among the Parties concerning the scheduling, performance, progress or completion of the Project. Any and all disputes which arise and which cannot be amicably resolved by the Parties during the course of the performance of the Project, if at all possible, shall be resolved after the completion of the Project.

**13. COUNTERPARTS**

This MOA may be executed in duplicate counterparts, each of which shall be deemed an original and both of which shall constitute one and the same instrument.

**14. AUTHORITY**

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

**15. NO PRESUMPTION**

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

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

**EXECUTED AS A SEALED INSTRUMENT** this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

MASSACHUSETTS WATER RESOURCES  
AUTHORITY:

CITY OF WALTHAM:

By: \_\_\_\_\_  
Frederick A. Laskey  
Executive Director

By: \_\_\_\_\_  
The Honorable Jeannette McCarthy  
Mayor

By: \_\_\_\_\_  
Robert Winn  
City Engineer

Approved as to form only, not  
substance:

By: \_\_\_\_\_  
John Cervone, City Solicitor

I, PAUL CENTOFANTI, ON BEHALF OF THE CITY OF WALTHAM, CERTIFY THAT  
SUFFICIENT FUNDS ARE AVAILABLE FOR THIS MOA.

By: \_\_\_\_\_  
Paul Centofanti, Auditor

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Section 101 Pipeline Extension (Waltham)  
Baltazar Contractors Inc.  
Contract 7457



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**COMMITTEE:** Water Policy & Oversight


       INFORMATION

  X   VOTE

  
Michele S. Gillen

Director of Administration

Peter Grasso, Project Manager  
John Colbert, P.E., Chief Engineer  
Preparer/Title

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

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### RECOMMENDATION:

To approve the award of Contract 7457, Section 101 Pipeline Extension (Waltham), to the lowest responsible and eligible bidder, Baltazar Contractors, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$31,900,000 for a contract term of 635 calendar days from the Notice to Proceed.

### DISCUSSION:

The Section 101 Pipeline Extension project consists of a new 36-inch diameter water main and appurtenances extending from MWRA's Meter 182 at the Waltham/Lexington town line down Lexington Street to Totten Pond Road, where it will connect to Waltham's water system (see Figure 1). This connection will provide a new redundant water supply to Waltham's Prospect Hill Service area from the NEH pressure zone and to MWRA's Lexington Street Pumping Station. In an emergency, the pipeline will provide a partial water supply to MWRA's NEH pressure zone from the Lexington Pumping Station. This new water main will provide sufficient capacity to maintain water service to Waltham during the anticipated shutdown of MWRA's WASM 3 pipeline and the Lexington Street Pumping Station for future rehabilitation.

The contract documents include water, sewer and drain utility replacement work in the project area for the City of Waltham that needs to be completed concurrently with the MWRA work and prior to completion of construction of the City's new high school anticipated in 2024. Reimbursement to MWRA for the design and construction of the City's portions of work will be made under the terms of a Memorandum of Agreement (MOA), approved by the Board of Directors at the December 15, 2021 meeting and subsequently revised, which is the subject of a separate staff summary presented at this meeting. On April 25, 2022, the Waltham City Council voted to approve the appropriation of funds for its work under the contract and the City has certified this pursuant to the agreement.

## Procurement Process

Contract 7457 was advertised in the Central Register, the Boston Herald, Banner Publications, El Mundo, and COMMBUYS and bid in accordance with Chapter 30 of the Massachusetts General Laws. In addition, bid documents were made available for public viewing and download on the MWRA Supplier Portal as Event 4977. Five bids were received and opened on April 4, 2022, with the following results:

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineers Estimate</i>	\$27,920,000
<b>Baltazar Contractors, Inc.</b>	<b>\$31,900,000</b>
Revoli Construction Co., Inc.	\$34,985,000
RJV Construction Corp.	\$36,214,000
P. Gioioso & Sons Inc.	\$36,458,000
Albanese D&S, Inc.	\$36,842,000

Baltazar Contractors, Inc. submitted a bid price that is \$3,980,000 (14%) higher than the Engineer's Estimate. The cost difference between the Engineer's Estimate and the bids is attributable to recent price volatility in material prices due to supply chain issues, current raw material costs, fuel price increases and related surcharges, and labor shortages in manufacturing.

Staff from MWRA, Waltham, CDM Smith and Green International reviewed Baltazar's bid in detail and discussed the major bid items with the company. After discussing the bid item pricing for MWRA's and Waltham's work, the parties learned that Baltazar had incorrectly allocated the cost of certain MWRA work to the City of Waltham instead of to MWRA. This has been accounted for in the proposed revised MOA between MWRA and Waltham, which is to be voted on separately at this meeting, but does not impact the total cost bid for the project. Based on the bid review and subsequent discussions with Baltazar, staff are satisfied the firm understands the full scope of work and can perform the work for the price bid, which includes the payment of prevailing wages, and reflects all work described in the contract documents.

Baltazar has been in business for 30 years and successfully completed several water and sewer projects of similar size and complexity including the South Maple CSO Separation Project for The Metropolitan District of Hartford Connecticut which involved 7,300 feet of water mains and services, 8,600 feet of sewer pipe, and 4,400 feet drain pipe (\$31.2 million); and a project for the Springfield Water and Sewer Commission in furnishing and installing approximately six miles of new 54-inch and 48-inch water transmission main and appurtenances (\$20.3 million). References were checked and found to be favorable. Baltazar is currently working on six MassDOT roadway projects and four water and sewer projects for The Metropolitan District of Hartford Connecticut water and sewer projects and its performance, to date, has been good. Five years of OSHA records for Baltazar were reviewed and there was one violation noted in 2019. The violation was for vests that were too dirty and not reflective and drilling dewatering wells too close to power lines for a sewer line project in Billerica. After this incident, additional safety meetings and toolbox talks were held to prevent reoccurrence. The contractor has not had any new violations in the past three years.

Staff have concluded Baltazar possesses the skill, ability and integrity necessary to perform the work under this contract, and is qualified to do so. Further, staff have determined that the bid price

is reasonable, complete and includes the payment of prevailing wage rates, as required. Therefore, staff recommend that Contract 7457 be awarded to Baltazar Contractors, Inc. as the lowest responsible and eligible bidder.

**BUDGET/FISCAL IMPACTS:**

The Proposed FY23 CIP included \$21,800,000 for MWRA work for Contract 7457. The award amount is \$31,900,000, or \$10,100,000 over the Proposed CIP amount, of which \$4,347,381 will be reimbursed to MWRA in accordance with the terms of the MOA between MWRA and City of Waltham. The draft Final CIP was updated to \$27,552,619, which includes the reimbursement from the City of Waltham in the amount of \$4,347,381.

**MBE/WBE PARTICIPATION:**

The MBE and WBE participation requirements for this project were established at 7.24% and 3.6%, respectively. The Affirmative Action and Compliance Unit has reviewed the bids and has determined that the bid from Baltazar Contractors, Inc. is responsive to these requirements.

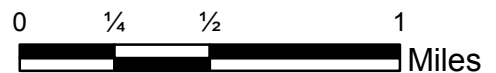
**ATTACHMENT:**

Figure 1 - Section 101 Pipeline Extension


# Section 101 Ext. Waltham Project Map



Figure 1



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** Water Supply Citizens Advisory Committee Contract

---

**COMMITTEE:** Water Policy & Oversight

INFORMATION  
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer  
Stephen Estes-Smargiassi, Director, Planning and Sustainability  
Katherine Ronan, Environmental Analyst  
Preparer/Title

  
Sean Navin, Director  
Intergovernmental Affairs

---

### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Water Supply Citizens Advisory Committee for a one-year period beginning July 1, 2022 to June 30, 2023, with a total contract cost of \$116,978.

### DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Water Supply Citizens Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WAC for FY23.

WSCAC originated in 1978 when its predecessor committee, the Northfield Citizens Advisory Committee, was formed at the direction of the Secretary of the Executive Office of Environmental Affairs. WSCAC has received direct funding from MWRA since MWRA's formation in 1984.

The proposed FY23 WSCAC contract is 2.5% greater than the FY22 contract. Health insurance increased 5.8%, while hourly salaries increased 2% and other reimbursable expense items increased 3.21%. Health insurance is budgeted at 80% reimbursement for the Executive Director only, not to exceed \$11,740, with an optional health insurance buy-out program similar to that offered to MWRA employees who do not use MWRA's health insurance benefit. The proposed total FY23 WSCAC funding is \$116,978.

Current topics of interest to WSCAC include system redundancy, energy efficiency and carbon footprint, water system expansion issues, changing drinking water regulations, the Water System Master Plan, and watershed management and protection issues. The committee currently has 15 active members. WSCAC continues to work to identify additional members in categories which are not well represented on the committee.

WSCAC's office is located at Quabbin Reservoir in a Department of Conservation and Recreation building. Most meetings were held at MWRA's Southborough facility prior to the pandemic. Since

March 2020, meetings have been held virtually. WSCAC's Executive Director is Lexi Dewey (selected by WSCAC's Executive Committee), and the current Chairman is Gerald Eves, elected from among the members.

**BUDGET/FISCAL IMPACT:**

Sufficient funds for the WSCAC contract are included in the proposed FY23 Current Expense Budget.

**ATTACHMENT:**

Agreement between Massachusetts Water Resources Authority and Water Supply Citizens Advisory Committee



**AGREEMENT**  
**BETWEEN**  
**MASSACHUSETTS WATER RESOURCES AUTHORITY**  
**AND**  
**WATER SUPPLY CITIZENS ADVISORY COMMITTEE**

This Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“Authority”), a body politic and corporate and a public instrumentality of the commonwealth created by Chapter 372 of the Acts of 1984 with offices at Building 39 First Avenue, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Water Supply Citizens Advisory Committee (“WSCAC”) an organization initially created under the Massachusetts Environmental Policy Act (“MEPA”) to ensure public representation and participation in Authority water supply activities, with offices currently at 485 Ware Road, Belchertown, MA 01007 (collectively “Parties”).

WHEREAS, the Authority is required to meet the water needs of its communities;

WHEREAS, the Authority desires WSCAC to continue to advise in water supply planning and programming; and

WHEREAS, WSCAC desires to have a continued role advising the Authority;

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WSCAC agree as follows:

Article 1. Effective Date.

This Agreement shall be effective from July 1, 2022 through June 30, 2023, inclusive.

Article 2. Compensation, Budget, Payment, and Expenses.

2.1 The Authority shall make funds available as follows:

(a) Salaries and Duties.

Director. An Executive Director shall be chosen by WSCAC members at a salary not to exceed \$76,369 for the year commencing on July 1, 2022 through June 30, 2023, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$45.84 with annual total hours of 1,666 (average 34 hours per week for 49 weeks). The duties of the Executive Director shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

Administrative Assistant. A part-time Administrative Assistant shall be chosen by the WSCAC Executive Director in consultation with the Executive Committee of WSCAC at a salary not to exceed \$16,022 for the year commencing on July 1, 2022 through June 30, 2023, inclusive. The hourly salary rate shall be \$23.84 (inclusive of payroll taxes) with annual total hours of 672 (average 14 hours per week for 48 weeks). The duties of the Administrative Assistant shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

(b) Reimbursable Expenses.

- (1) The Authority shall reimburse the WSCAC for 80% of the non-employer-sponsored health insurance for the WSCAC Executive Director (not to exceed \$11,740). The percentage rate for reimbursement of health insurance costs shall be changed to that of Authority staff if the Group Insurance Commission changes the rate.
- (2) Health insurance buy-out: The WSCAC Executive Director may elect a monetary allowance in lieu of reimbursement of health insurance costs, provided he or she has health insurance coverage through another employer-sponsored plan that meets Internal Revenue Service “minimum value” criteria, throughout that six-month period. The amount of the allowance will be \$1000 to waive family coverage or \$700 for waiving individual coverage. The WSCAC Executive Director is responsible for any withholding taxes on these payments with WSCAC being responsible for the employer share of payroll taxes.
- (3) Mileage costs, public transportation costs, highway tolls and parking expenses incurred by WSCAC staff and members from attendance at WSCAC meetings, pertinent conferences and seminars, or while performing other functions directly related to its scope of services. Mileage costs will be reimbursed at the prevailing Authority rate per mile.
- (4) Office supplies (such as letterhead, envelopes, pencils, paper clips), postage, office telephone and internet access, meeting expenses, and general administrative and office expenses;
- (5) The purchase or rental by WSCAC staff of books, films, cassettes, tapes, etc., if specifically approved by the Authority in advance, except that single copies of individual publications, books, and other written documents may be purchased for the WSCAC library use without prior approval, provided that the cost per item does not exceed \$200. All materials purchased under this section shall be considered property of the Authority.
- (6) Other miscellaneous expenses of the WSCAC staff approved by the Authority on a case-by-case basis. When possible, approval of the Authority should be received in advance of incurring such expenditures.

The Authority may advance up to \$750 to WSCAC, such advance to be applied to the payment of Miscellaneous Expenses as defined herein and as approved and budgeted under the terms of this Agreement. Payments made from an advance shall be accounted for in the same manner as all other Miscellaneous Expense payments. Prior to the expiration of this Agreement, any outstanding balance on an advance shall be applied against amounts due WSCAC.

The annual total reimbursement to WSCAC for annual and miscellaneous expenses combined shall not exceed \$24,587 from July 1, 2022 through June 30, 2023, inclusive.

(c) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees, or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WSCAC.

(a) WSCAC shall employ an Executive Director, who is prohibited from being a member of WSCAC while serving his or her term as a paid employee.

(b) WSCAC shall, whenever applicable, take all necessary steps to receive an exemption from the Massachusetts Sales and Use taxes for materials, printing, and equipment purchased by WSCAC on behalf of the Authority.

(c) WSCAC shall submit monthly or periodic statements to the Authority requesting payment for salary, and for annual and miscellaneous expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, and by such other supporting data as may be required by the Authority.

(d) WSCAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The Parties and their duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.

(e) The Authority or its duly authorized agent shall have the right at any and all reasonable times, to examine and audit WSCAC's records, documents and other evidence.

(f) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.

(g) The Parties agree to consent to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.

(h) WSCAC acknowledges that the Authority is a state agency for purpose of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WSCAC staff and members are special state employees.

(i) WSCAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

#### ARTICLE 4. RESPONSIBILITIES OF THE WSCAC STAFF.

4.1 The WSCAC staff shall be responsible for the following tasks:

- (a) aiding WSCAC in its tasks under Article 6, managing the WSCAC office, educating the public, and acting as liaison with the Authority and its staff;
- (b) preparing monthly progress reports for submission to the WSCAC Executive Committee, the WSCAC members, and the Authority;
- (c) maintaining financial records, minutes of the WSCAC meetings, and other WSCAC records;
- (d) assuring that at least every other meeting be held in Eastern Massachusetts at a location to be jointly agreed upon by WSCAC and the Authority where Authority attendance is expected.
- (e) providing to the Authority copies of the notices for and minutes of all meetings of WSCAC and of all the WSCAC correspondence as soon as such materials are available.
- (f) administering and maintaining compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

#### ARTICLE 5. MEMBERSHIP

##### 5.1 Membership of WSCAC

- (a) Membership of WSCAC shall maintain parity between those individuals representing the interests of the communities listed in section 8(d) of the Authority's Enabling Act, c. 372 of the Acts of 1984, ("User Representatives") and those individuals representing the interests of the watershed communities ("Donor Representatives") and those individuals representing the interests of statewide or other appropriate interests as mutually agreed upon by WSCAC and the MWRA ("Other Representatives").
- (b) In order to maintain WSCAC membership status, members must be active participants, as defined in the WSCAC by-laws.

5.2 The appointment of WSCAC members shall be by joint designation by WSCAC and the MWRA and shall have a goal of achieving at least 10% minority representation on WSCAC.

## ARTICLE 6. WSCAC TASKS.

WSCAC shall undertake the following tasks:

### 6.1 Water Supply Programs Review.

Advise the Authority staff and Board in the performance of their duties relating to water supply planning and policies. Participate in the design, review and evaluation of research, reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of water planning and policy development.

### 6.2 Outreach and Education.

Assure informed public input by providing assistance in outreach to various groups regarding the Authority's water supply programs and policies, and state water resources legislation and policies. Review programs with and explain plans and policies to organizations and citizens, including the scheduling of workshops, meetings and conferences. Provide comments and assistance on legislation of importance to the Authority.

### 6.3 Working Group Representation.

When requested, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to water supply planning and policy development, including the Advisory Board and its subcommittees and the Wastewater Advisory Committee.

### 6.4 Recommendations on Long Term Public Involvement.

Provide to the Authority staff and Board, proposals for continued effective and efficient long-term public involvement in water programs.

### 6.5 Recommendations and Discussion Documents.

The WSCAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on the subjects of the above tasks. Documents may be in the form of minutes of WSCAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

## ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

### 7.1 Nondiscrimination and Equal Employment Opportunity.

(a) WSCAC agrees to comply with all Federal and State laws pertaining to Civil Rights and Equal Opportunity, including executive orders and rules and regulations regarding employment,

demotion, transfers, recruitment, layoffs or termination, rates of pay or other compensation and training, including apprenticeships. With regard to WSCAC membership, WSCAC agrees to affirmatively solicit minority representation.

(b) WSCAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

## ARTICLE 8. GENERAL PROVISIONS.

### 8.1 Termination of Contract.

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by WSCAC to fulfill their obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority an equitable adjustment shall be made providing for payment to WSCAC for services rendered and expenses incurred prior to the termination. In addition, termination settlement costs reasonably incurred by WSCAC relating to commitments, which had become firm prior to the termination, shall be paid.

(c) This agreement may be terminated at any time, in whole or in part, in writing by WSCAC in the event of substantial failure by the Authority to fulfill its obligations or for violation by the Authority to fulfill its obligations or for violation by the Authority of any of the covenants and stipulations of this agreement.

(d) No termination hereunder may be effected unless the terminating party gives the other party: (1) not less than forty-five days' written notice delivered by certified mail, return receipt requested of intent to terminate; and (2) an opportunity for consultation with the other party prior to termination, or (3) by mutual agreement of the parties.

### 8.2 Ownership of Property.

Upon termination of this Agreement for any reason, WSCAC shall turn over to the Authority all materials, equipment, including computer equipment currently on loan from the Authority and owned by the Authority, unused office supplies, books, pamphlets, publications and all other properties for which Authority or MDC reimbursements were made in whole or in part, directly or indirectly.

### 8.3 Assignability.

WSCAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this contract.

### 8.4 Integration Clause.

This Agreement may be amended only by a writing executed by each of the Parties.

8.5 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.6 Massachusetts Law to Govern.

All parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.7 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.8 Notices.

Communications shall be deemed to have been made when mailed postage prepaid or delivered to among:

Chair and  
Executive Director  
Water Supply Citizens Advisory Committee  
485 Ware Road  
Belchertown, MA 01007

Director of Public Affairs  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
Building 39, First Avenue  
Boston, MA 02129

Executive Director  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
Building 39, First Avenue  
Boston, MA 02129

IN WITNESS WHEREOF, this Agreement is executed as of this      day of June, 2022.

FOR: WATER SUPPLY CITIZENS ADVISORY COMMITTEE

By: \_\_\_\_\_  
Title: Chair, Water Supply Citizens  
Advisory Committee

Dated:

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: \_\_\_\_\_  
Title: Executive Director

Dated:

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Marlborough Emergency Pump Station Connection  
GVC Construction, Inc.  
Contract 7791, Change Order 3




---

**COMMITTEE:** Water Policy & Oversight

     INFORMATION  
  X   VOTE

Corinne M. Barrett, Director, Construction  
James Snow, Construction Coordinator  
Preparer/Title

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

---

**RECOMMENDATION:**

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 3 to Contract 7791, Marlborough Emergency Pump Station Connection, with GVC Construction, Inc. for a not-to-exceed amount of \$600,000, increasing the contract amount from \$919,007.57 to \$1,519,007.57, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7791 in an amount not to exceed the aggregate of \$224,182.50, and to extend the contract duration 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

**DISCUSSION:**

The sole source of water supply for the City of Marlborough is from the City’s Cedar Hill Pump Station, which is located near the front gate of the John J. Carroll Water Treatment Plant. This pump station’s water is supplied from an old 16-inch connection off the Hultman Aqueduct, which is interconnected to a 30-inch diameter pipe that is connected to the Carroll Plant. The 16-inch connection line is a single point of failure in MWRA’s ability to provide water to the City of Marlborough. Marlborough is in the process of constructing piping and three emergency pumps with suction and discharge piping to provide redundancy for its side of the system if the Cedar Hill Pump Station is not available. This project provides redundancy on MWRA’s side of the system.

**This Change Order**

Change Order 3 consists of the following item:

Redesign, Furnish and Install Revised Support of Excavation                      Not to Exceed \$600,000

The contract work includes furnishing and installing an engineered support of excavation, a 23-foot deep excavation to the 30-inch main, protecting and supporting the 12-inch fire protection

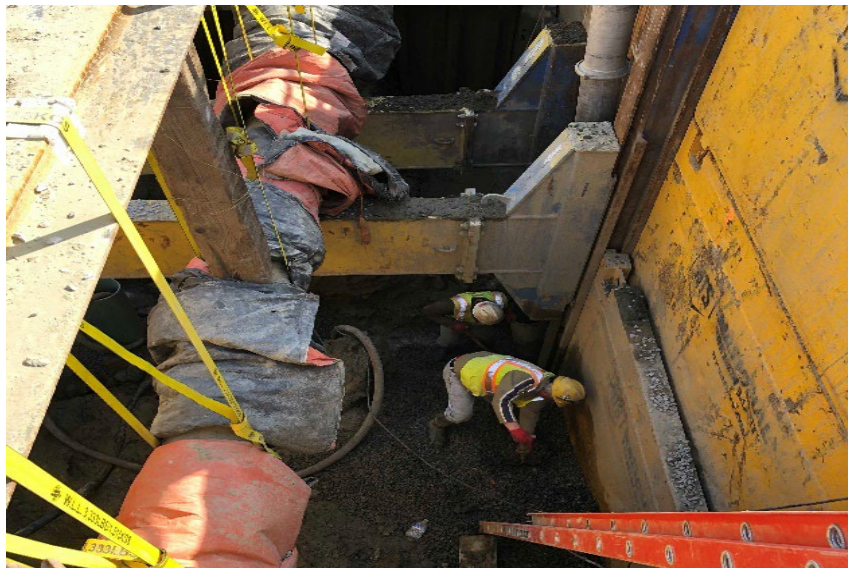


line within the excavation, connecting into the existing main with a 30-inch by 24-inch tee and installing the new 24-inch connection, including a gate valve and manhole.



*Slide Rail Support of Excavation*

The Contractor furnished and installed an engineered slide rail support of excavation system and excavated to the bottom of excavation, but did not encounter the existing 30-inch water main as shown on the contract drawings. Ultimately, the existing 30-inch main was located outside the support of excavation, approximately seven feet farther west than indicated on the contract drawings.



*Support and Insulation of 12-inch Fire Protection Line*

The actual location of the existing 30-inch main also falls partially below a 24-inch by 48-inch concrete duct bank that now must be protected and supported within the excavation. The Consultant developed a redesign of the 24-inch piping connection to the existing 30-inch main to address the actual pipe location. The redesign requires furnishing and installing a tapping sleeve and valve with manhole in lieu of the 30-inch by 24-inch tee connection, due to the proximity of the large concrete duct bank directly above the actual location of the 30-inch water main, and a longer 24-inch pipe connection.

The Contractor must now furnish and install two independent engineered supports of excavation, one consisting of drilled mini piles and contact lagging and the other consisting of a slide rail system and contact lagging. Due to the time required to complete both redesigns, staff directed the Contractor to remove the initial support of excavation and backfill the excavation to grade to secure the roadway and further protect the fire protection line. The Contractor must now procure additional materials, including the 30-inch by 24-inch tapping sleeve and valve with manhole, frame and cover, additional 24-inch piping including 45 degree bends, schedule specialty new work to install the tapping sleeve and valve and drilled mini piles, as well as perform the revised scope of work.

This item was identified by MWRA staff as a design error. MWRA staff, the Consultant, and the Contractor have agreed to a not-to-exceed amount of \$600,000 for this work. Staff and the Contractor are currently negotiating the final cost of this item. The Contractor proceeded with this work at its own risk in order to complete the remainder of the contract work.

Staff will conduct a review at the end of the project regarding responsibility of the Design Consultant, Stantec, Inc., and the potential for any cost recovery.

**CONTRACT SUMMARY:**

	AMOUNT	TIME	DATED
Original Contract:	\$896,730.00	180 Days	11/4/21
<b>CHANGE ORDERS:</b>			
Change Order 1*	\$22,277.57	0 Days	3/24/22
Change Order 2*	\$0.00	178 Days	Pending
Change Order 3	<u>\$600,000.00</u>	<u>0 Days</u>	Pending
Total Change Orders:	\$622,277.57	178 Days	
Adjusted Contract:	\$1,519,007.57	358 Days	

\*Approved under delegated authority

If Change Order 3 is approved, the cumulative value of all change orders to this contract will be \$622,277.57 or 69.4% of the original contract amount. Work on this contract is approximately 54% complete.

**BUDGET/FISCAL IMPACTS:**

The FY22 Capital Improvement Program includes \$541,000 for Contract 7791. Including this change order for \$600,000, the adjusted subphase total will be \$1,519,007.57 or \$978,007.57 greater than the amount in the CIP. This amount will be absorbed within the FY19-23 CIP spending cap.

**MBE/WBE PARTICIPATION:**

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

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** FY2022 Third Quarter Orange Notebook



---

**COMMITTEE:** Administration, Finance & Audit

INFORMATION

VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer  
Stephen Estes-Smargiassi, Director Planning & Sustainability  
Michael D. O'Keefe, Senior Program Manager, Planning  
Preparer/Title



David W. Coppes, P.E.

Chief Operating Officer

---

### RECOMMENDATION:

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

### DISCUSSION:

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

#### Wastewater Treatment Plant Flows

Similarly to the Second Quarter, wastewater flows to the Deer Island Treatment Plant continued to be in line with the four-year average (349.4 actual vs. 366.0 expected million gallons per day (mgd)) due to precipitation being slightly below average. (See page 1.)

As mentioned in the previous update on the Second Quarter, substantial precipitation in the summer of 2021 led to significantly higher flows from Clinton and Lancaster at the Clinton Wastewater Treatment Plant. This higher inflow and infiltration resulted in the 12-month rolling annual average exceeding the NPDES permit limit (3.01 mgd) for each month in the Second Quarter. These rolling annual average exceedances continued for each month in the Third Quarter due to continued elevated community flows. (See page 28.)

#### Energy Costs at the Deer Island Treatment Plant

Due to above average precipitation and flows to Deer Island Treatment Plant earlier in the fiscal year, total electricity purchased is 6.1 percent above target for the year. However, overall electricity costs are proportionally much higher at 24.3 percent (\$1,415,430) above target, driven by higher unit costs per kWh at 17.1 percent above target fiscal year to date. Unit costs continue to rise: the actual total energy unit price in January (the most current invoice available) was 40.4 percent above target. (See page 1.)

## Reservoir Levels and Drinking Water Use

Reservoir levels remained high throughout the Third Quarter. The volume of the Quabbin Reservoir was at 99.1 percent as of March 31, 2022, a 3.9 percent increase for the quarter, which represents a gain of more than 15.8 billion gallons of storage and an increase in elevation of 2.06 feet. Yield for the quarter was above its long-term quarterly average, and Quabbin is in normal operating range for this time of year. Additionally, Quabbin began spilling on February 12, and spilled a total of 2.6 billion gallons during the quarter. A total of 10.3 billion gallons was released from Wachusett Reservoir during the Third Quarter. (See page 26.)

MWRA customers used an average of 168.19 mgd in the third quarter, which is an increase of 7.5 mgd or 4.7 percent compared to the third quarter of FY2021. (See page 29.) Burlington and Wellesley both had increased use due to PFAS contamination of their local sources and several core communities, including Boston, saw increases as the regional use patterns continue to adjust post pandemic.

MASSACHUSETTS WATER RESOURCES AUTHORITY

# Board of Directors Report

on

## Key Indicators of MWRA Performance

Third Quarter FY2022

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director  
David Coppes, Chief Operating Officer  
a 2 2022

# Board of Directors Report on Key Indicators of MWRA Performance

## 3<sup>rd</sup> Quarter - FY22

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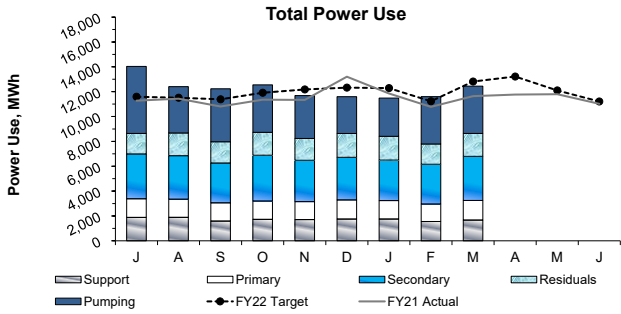
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This quarterly report is prepared by MWRA staff to track a variety of MWRA performance measures for routine review by MWRA's board of directors. The content and format of this report is expected to develop as time passes. Information is reported on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

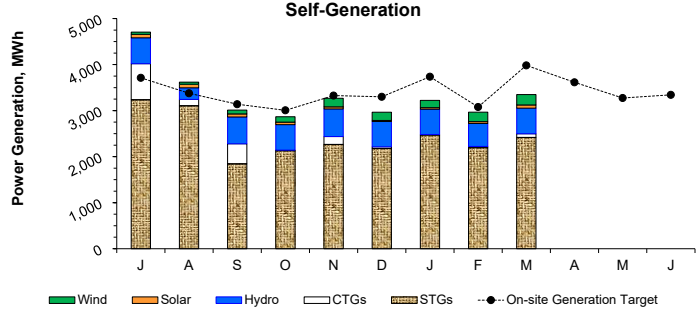
# OPERATIONS AND MAINTENANCE

# Deer Island Operations

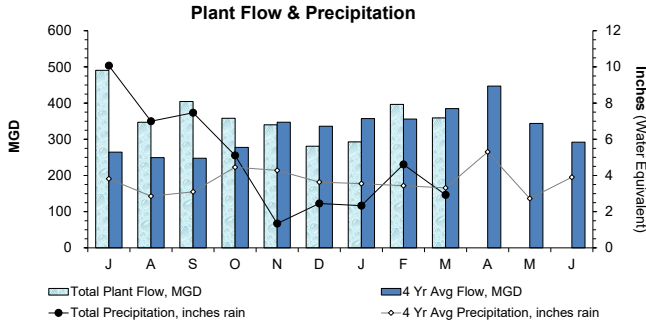
3rd Quarter - FY22



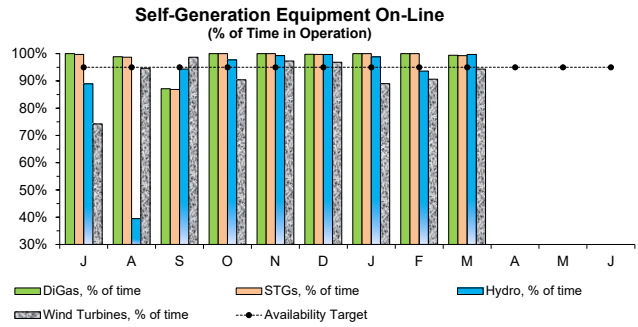
Total power usage in the 3rd Quarter was 2.2% below target as plant flow for this period was 4.5% below target with historical data (4 year average) used to generate the electricity model. As a result, power usage for all treatment process areas were similar to or below target during the 3rd Quarter. Power usage for raw wastewater pumping was 4.2% lower than expected due to the lower-than-expected plant flow.



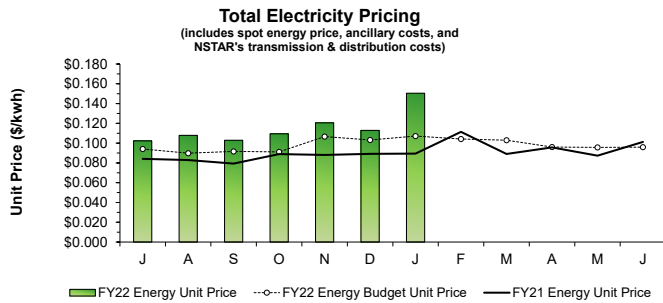
Power generated on-site during the 3rd Quarter was 4.5% below target. CTG generation was below target by 87.2% since CTG operation for storm events was not needed but had been included in the budget based on historical CTG operation. The CTGs were operated for a demand response event (which was later determined to be an error due to an issue with ISO-New England's automated notification system), for annual emissions opacity testing, and for routine maintenance/checkout purposes. STGs generation was 6.1% below target as digester gas production was 8.7% below target. Hydro Turbine generation was 10.7% above target partly due to a budget estimate that was biased low and both turbines were in operation simultaneously from February through March. Wind Turbine generation was 17.6% below target partially due to both lower wind conditions in January, as well as several electrical and mechanical issues with Wind Turbine #2 during periods in January and in March. Solar Panel generation was 7.8% below target mostly due to overcast conditions and occasional snow cover in February.



Total Plant Flow for the 3rd Quarter was 4.5% below target with the budgeted 4 year average plant flow (349.4 MGD actual vs. 366.0 MGD expected) as precipitation was 4.1% below target this quarter (9.87 inches actual vs. 10.29 inches expected).

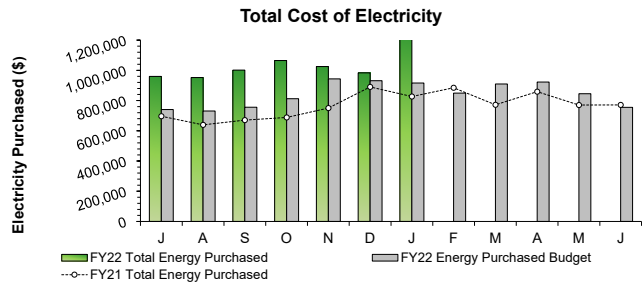


The DiGas System, STGs, and Hydro Turbine availability all exceeded the 95% availability in the 3rd Quarter. The Wind Turbine availability was 3.7% below target mainly due to electrical and mechanical issues with Wind Turbine #2, in addition to turbulent wind conditions and icing of the weather sensors following flash freeze conditions in February.



Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price in January (the most current invoice available) was 40.4% above target with budgetary estimates due to the high real time electricity prices for January. The actual Total Energy Unit Prices in February and March are not yet available as the complete invoices have not been received. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

Note: Only the actual energy prices are reported. Therefore, the dataset lags by two (2) months due to the timing of invoice receipt and review.



The Electricity cost data for Electricity Purchased in February and March are not yet available as the complete invoices have not been received. Year-to-date Total Cost of Electricity is \$1,415,430 (24.3% higher than budgeted through January as the Total Energy Unit Price was 17.1% higher than target and the Total Electricity Purchased was 6.1% above target.

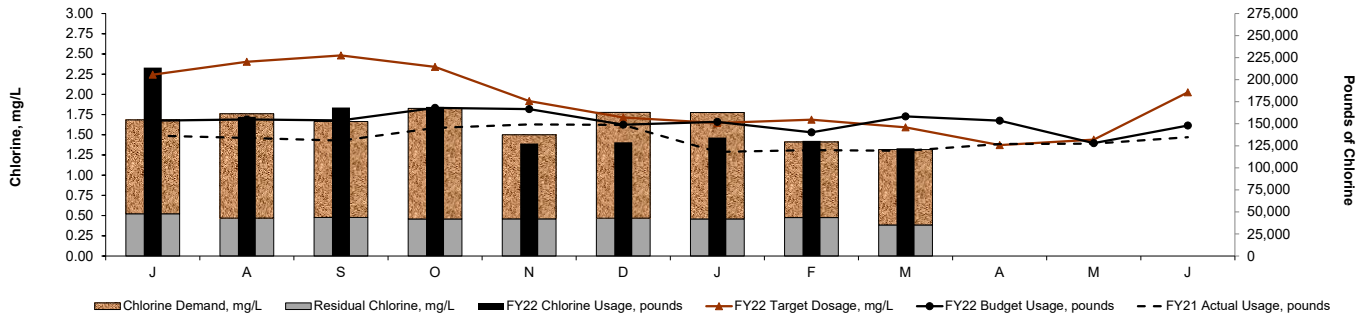
Note: Only months with complete Electricity Purchased data are reported. Therefore, the dataset lags by two (2) months due to the timing of invoice receipt and review.



## Deer Island Operations

3rd Quarter - FY22

### Deer Island Sodium Hypochlorite Use



The disinfection dosing rate in the 3rd Quarter was 9.0% below target with budgetary estimates. Actual sodium hypochlorite usage in pounds of chlorine was 14.1% lower-than-expected as the average plant flow was 4.5% below target. DITP maintained an average disinfection chlorine residual of 0.44 mg/L this quarter with an average dosing rate of 1.50 mg/L (as chlorine demand was 1.06 mg/L).

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

### Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
J	7	7	0	95.1%	84.65
A	6	6	0	99.0%	17.42
S	2	2	0	96.4%	35.02
O	4	4	0	99.3%	16.48
N	1	1	0	99.9%	2.41
D	0	0	0	100.0%	0.00
J	1	1	0	99.9%	2.89
F	2	2	0	99.8%	7.50
M	0	0	0	100.0%	0.00
A					
M					
J					
<b>Total</b>	<b>23</b>	<b>23</b>	<b>0</b>	<b>98.6%</b>	<b>166.37</b>

99.9% of all flows were treated at full secondary during the 3rd Quarter. There were three (3) secondary blending events due to high plant flows from heavy precipitation. These blending events resulted in 10.39 hours of blending and a total of 30.0 MGal of primary-only treated effluent blended with secondary effluent. The Maximum Secondary Capacity during the entire quarter was 700 MGD. Secondary permit limits were met at all times during the 3rd Quarter of FY22.

## Deer Island Operations & Maintenance Report

### Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 878.5 MGD in the 3rd Quarter during the morning of February 4. This peak flow occurred during a storm event that brought 2.09 inches of precipitation to the metropolitan Boston area, mostly in the form of rain. Overall, Total Plant Flow in the 3rd Quarter was 4.5% below target with the 4 year average plant flow estimate for the quarter.

There were a few snowfall records or near records for Boston in January resulting from the blizzard on January 29 caused by a nor'easter storm event that brought recordbreaking snowfall along the northeast coast. The all time record daily snowfall of 23.6 inches on January 29 tied a record that was set on February 17, 2003 and it also set a new daily snowfall record for Boston for the month of January which was previously 22.1 inches set on January 27, 2015. Additionally, the two (2) day snowfall total of 23.8 inches from January 28 to January 29 this year was the second highest two (2) day snowfall total for the month of January behind the 24.4 inches of snowfall set January 26 to January 27, 2015. This storm was the seventh biggest snowstorm of all time in Boston's recorded history. The record is still 27.6 inches set back in February 2003. DITP had additional operations and maintenance storm staffing coverage during the storm event. An Eversource technician and the Thermal Power Plant service contractor were both onsite as well to support any power related issues. Fortunately, there were no operational issues at the DITP as a result of this storm.

### Odor Control Treatment:

The scrubber packing media and mist eliminator in wet chemical scrubber units #1, #2, #3 & #4 in the East Odor Control (EOC) Facility, and #2, #3 & #4 in the West Odor Control (WOC) Facility were replaced by a contractor in February and March. Brief odor control shutdowns were necessary to allow maintenance staff to install airflow isolation blanks in the fans to prevent the escape of fugitive emissions while the contractor works in the scrubber units. This work will be completed in April for a total of 11 wet chemical scrubbers in the EOC, WOC, and the Residuals Odor Control (ROC) Facilities.

## Deer Island Operations

3rd Quarter - FY22

### Deer Island Operations & Maintenance Report (continued)

#### Chemical Storage:

On February 3, at approximately 9:45am, DITP Operations staff confirmed a sodium hypochlorite leak from the underground feed piping of sodium hypochlorite Tank #2 (which had been placed online at 8:48 am). Upon discovery of this leak, staff immediately isolated the tank from service. Immediate notifications were made to all required emergency responders and regulatory agencies. Gel mats were immediately placed over the catch basin in the vicinity of the leak and staff began inspecting the storm drainage system for potential hypochlorite release to the surface water. No release to the surface water was found and the hypochlorite material that was contained within the storm drainage system was soon removed by vactor truck. Both Winthrop Fire and Boston Fire Departments responded as did the DEP. A Licensed Site Professional was also onsite to assess the impact. All parties were briefed on the event, observed the cleanup effort, and were satisfied with the response and containment of the released hypochlorite. No hypochlorite was released to the environment or surface waters. The remainder of sodium hypochlorite in Tank #2 was then transferred to storage Tank #1. Repair of the failed line will be planned for the future and Tank #2 will remain out of service until repairs are completed.

#### Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 26.8% of Deer Island's total power use for the 3rd Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 26.5% of Deer Island's total electrical power use for the quarter.

On February 2, Hydro Turbine #2 was returned to service after having been out of service since October 21, 2019 due to issues stemming from repairs that were completed by the previous maintenance contractor in late 2018. A turbine inspection performed on June 17, 2020, by the current maintenance contractor, found the turbine's nose cone and shroud missing, as well as damage to the runner blade assembly. After a lengthy period of investigations and discussions with the previous maintenance contractor, MWRA settled a claim with the previous contractor in mid-2021. Since then, the current maintenance contractor has been working on the repairs. Additionally, DITP staff and various contractors made adjustments to the wicket gate system and the turbine's control system in January before the turbine was able to be successfully placed into operation. The turbine has operated through much of February and March.

DITP took delivery of 430,000 gallons of #2 fuel oil, a total of 43 oil tanker trucks, without incident from October 5 through October 15. This fuel oil is used for CTG operation, for boiler startup operations, and for supplemental fuel for boiler operation during periods of low or unstable digester gas production.

Repairs were performed to the Residuals Odor Control Facility's rooftop mounted solar panel array on March 16. A contractor was able to repair and restore the operation of 105 solar panel modules in the array. There were a total of 525 solar panel modules in the array. However, 45 of these solar panel modules sustained damage that was beyond repair during the October 26, 2021 storm that brought severe wind conditions. Forty of these 45 damaged solar panel modules have been physically removed from the roof for safety reasons. The repaired solar panel modules consisted of 60 panel modules that were damaged during the storm but were able to be repaired, and the other 45 panel modules had been non-functional for some time (not associated with the wind damage) and had been pending repair. The array is currently operating with 480 total solar panel modules out of the original 525. This is the maximum possible capacity available at this time.

### Clinton Operations & Maintenance Report

#### Dewatering Building:

Operations staff washed down gravity thickener # 1 surface and weirs. Maintenance staff checked equipment for proper operation and lubrication. Maintenance staff replaced a grinder on digested sludge feed line going to belt filter press.

#### Digester Building:

Operations staff added 10 gallons of ferric chloride to the gravity thickener to control foaming in the digester. The Facilities Specialist cleaned the dried sludge on the top of the floating digester cover. The Electrical Contractor was called to troubleshoot a mercury switch on the #1 digester sludge transfer pump.

#### Chemical Building:

Maintenance staff changed a three (3) inch gate valve and the check valve on the peerless sump pumps. They also checked plant equipment for proper operation and lubrication. Maintenance staff replaced the auger assembly and gear box on the upper soda ash mix tank. A contractor rewired the controls for Return Activated Sludge pump #3. Staff repaired a leaking 1 1/2" copper pipe on the soda ash water feed system.

#### Clarifloculator:

Operations and Maintenance staff checked both clarifiers for proper operation and lubrication. They also washed down both clarifiers.

#### Trickling Filters:

Maintenance staff cleaned the nozzles and flushed the trickling filter arms.

#### Primary Tanks:

Operations staff washed down primary tank #2, #3, and # 4. They also dewatered primary tank #3.

#### Headworks:

Maintenance staff completed air handler and blower PMs. Staff also cleaned the influent and mechanical bar racks and greased the upper and lower pin racks as well.

#### Aeration Basins:

Operations staff cleaned the online pH and Dissolved Oxygen probes.

#### Phosphorus Reduction Facility (PRF):

Operation staff placed the phosphorus reduction system in the PRF back on line for the lower effluent phosphorus limit season. Staff cleaned the troughs on the #1, #2, and #3 disk filters. Operations staff cleaned both CL17 chlorine analyzers.

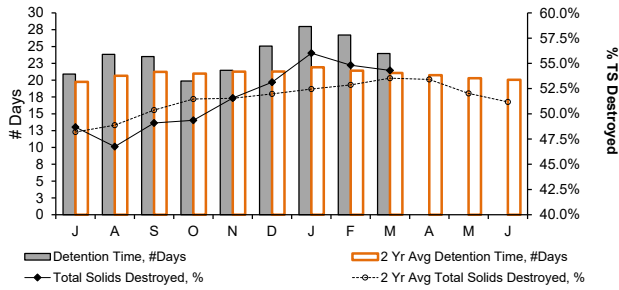
#### Other:

Inspection of fire sprinkler valves.  
Inspection of emergency eyewash and shower stations.  
Exercised both standby generators.  
Exercised influent and intermediate screw pumps and tested high water level alarms.  
Maintenance test operated both influent diesel pumps.  
Maintenance staff pumped down electrical manholes.  
Maintenance completed all PM's on Laboratory eyewash stations.

# Deer Island Operations and Residuals

3rd Quarter - FY22

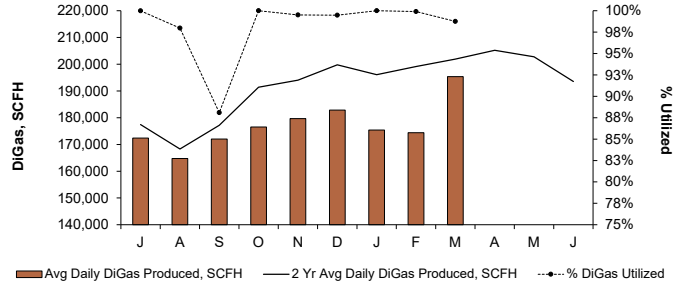
### Sludge Detention Time in Digesters and Total Solids Destruction



Total solids (TS) destruction following anaerobic sludge digestion averaged 55.0% during the 3rd Quarter, 3.9% higher than the 2 year average of 52.9%. Sludge detention time in the digesters was 26.2 days, 22.1% above target. 8.0 digesters were in operation, on target with the 6 year average of 8.0 digesters. Sludge detention time was higher-than-expected as the volume of sludge going to the digesters was lower-than-expected leading to higher-than-expected solids destruction.

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

### Digester Gas Production and % Utilized

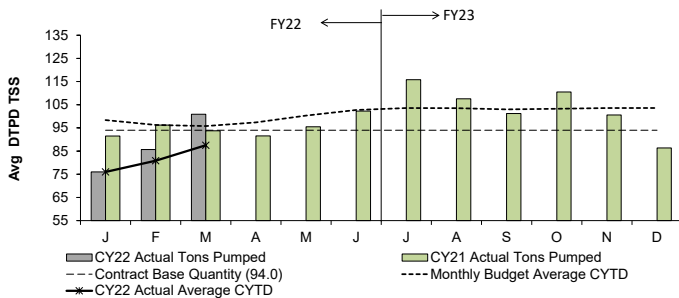


The Avg Daily DiGas Production in the 3rd Quarter was 8.7% below the 6 Year Avg Daily DiGas Production. 99.6% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant (TPP).

## Residuals Pellet Plant

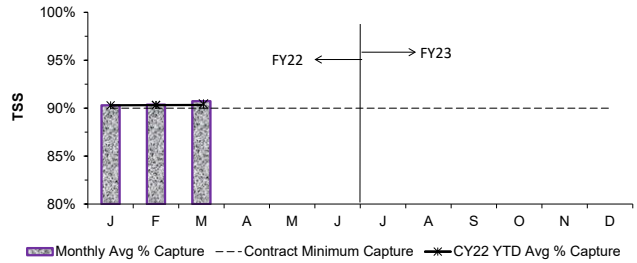
New England Fertilizer Company (NEFCO) operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 94.0 DTPD/TSS as an annual average (for the extended contract period of January 1, 2021 through December 31, 2022). The monthly invoice is based on 94.0 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 94.0 DTPD/TSS each year (FY22's budget is 104.0 DTPD/TSS and the preliminary FY23's budget is 103.3 DTPD/TSS).

### Sludge Pumped From Deer Island



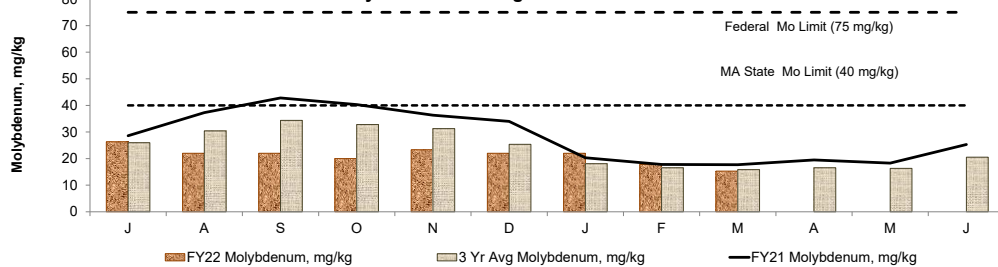
The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 3rd Quarter was 87.5 TSS Dry Tons Per Day (DTPD), 8.6% below target with the FY22 budget of 95.8 TSS DTPD for the same period.

### Monthly Average % Capture of Processed Sludge



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 3rd Quarter was 90.47%.

### Molybdenum in Sludge Fertilizer Pellets



Copper, lead, and molybdenum (Mo) are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer. Molybdenum-based cooling tower water is a significant source of Mo in the sludge fertilizer pellets. The Federal standard for Mo is 75 mg/kg. In 2016, Massachusetts Type I biosolids standard for molybdenum was changed to 40 mg/kg from the previous standard of 25 mg/kg. This has allowed MWRA to sell its pellets in-state for land application whereas the previous limits forced several months' worth of pellets to be shipped out of state. This made it an impractical source of fertilizer for local Massachusetts farms since NEFCO does not distribute product that does not meet the suitability standards.

Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 3rd Quarter averaged 18.4 mg/kg, 9% above the 3 year average, 54% below the MA State Limit, and 76% below the Federal Limit.

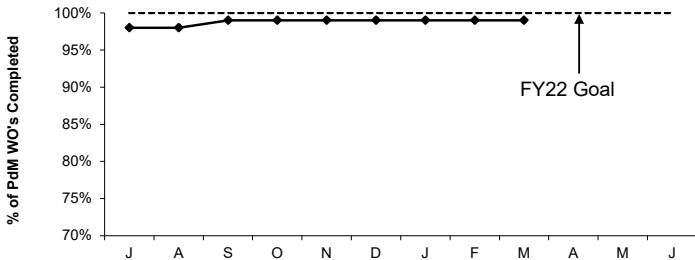
# Deer Island Maintenance

3rd Quarter - FY22

## Productivity Initiatives

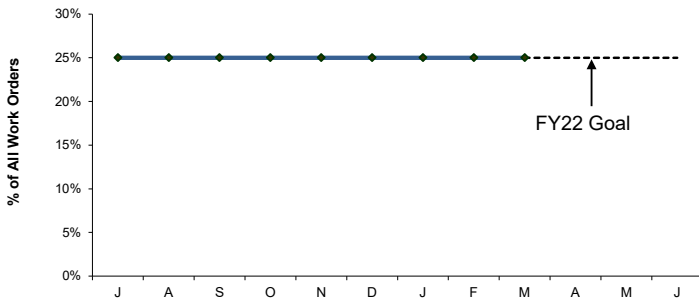
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

### Predictive Maintenance Compliance



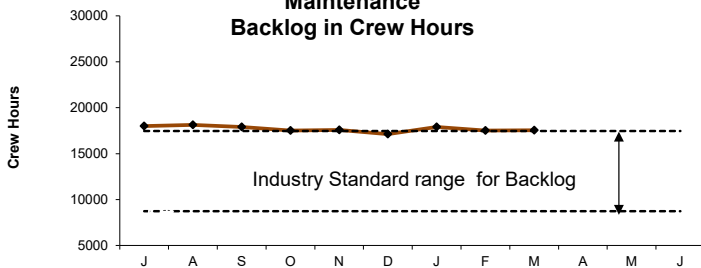
Deer Island's FY22 predictive maintenance goal is 100%. DITP completed 99% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program. Deer Island is below our goal this quarter, but we are working on meeting our goal.

### Predictive Maintenance



Deer Island's increased FY22 predictive maintenance goal is 25% of all work orders to be predictive. 25% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

### Maintenance Backlog in Crew Hours

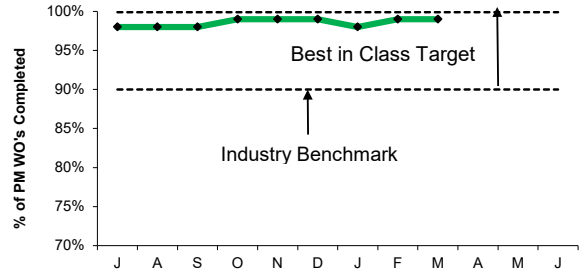


DITP's maintenance backlog at Deer Island is 17,530 hours this quarter. DITP is slightly over the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by (6) vacancies; (1) HVAC Tech (3) Electricians, (1) Mechanic and (1) Plumber. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

## Proactive Initiatives

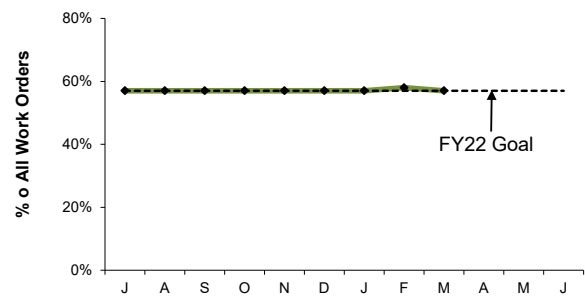
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

### Preventive Maintenance Compliance



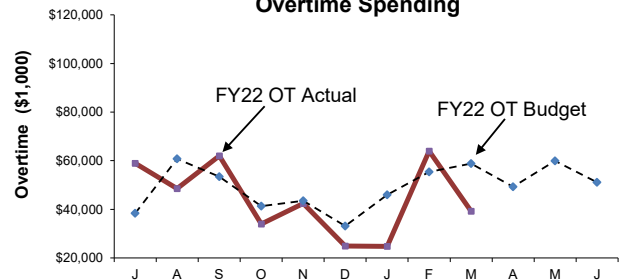
Deer Island's FY22 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 99% of all PM work orders this quarter. Deer Island was slightly below our goal, but well within Industry Standards. This quarter's slight decrease is due to additional safety protocols implemented to mitigate the COVID-19 omicron surge.

### Maintenance Kitting



Deer Island's increased FY22 maintenance kitting goal is 57% of all work orders to be kitted. 57% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

### Overtime Spending



Maintenance overtime was under budget by \$32K this quarter and is \$32K under for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarter's overtime was predominately used for Storm Coverage/High Flows, Pump/Grinder Clogging Issues, Installation of Vapor Coil Bundle in Cryo Facility, Installed Centrifuge #10, and Fabrication/Installation of North Main Pumping Station Sump Area Stairs. This quarter's drop in Overtime spending was due to additional safety protocols implemented to mitigate the COVID-19 omicron surge.



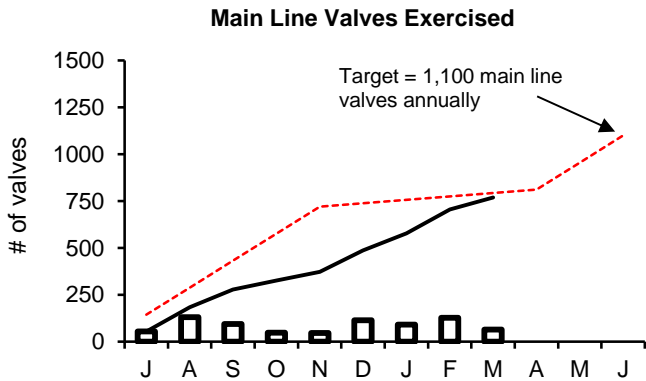
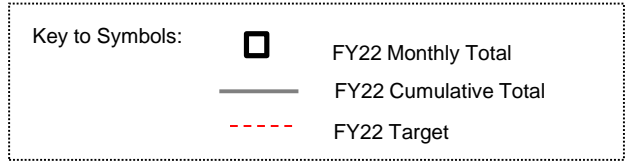
# Water Distribution System Valves

## 3rd Quarter - FY22

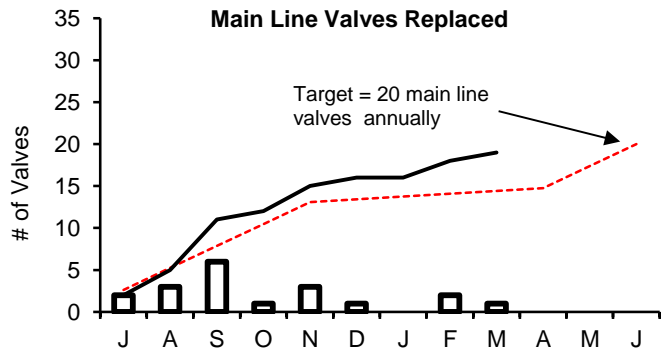
### Background

Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but is often displaced during the construction season. This is due to the fact that a large number of construction contracts involving rehabilitation, replacement, or new installation of water lines, requires valve staff to operate valves and assist with disinfection, dechlorination, pressure-testing, and final acceptance. Valve exercising can also be impacted due to limited redundancy in the water system; valve exercising cannot be performed in areas where there is only one source of water to the community meters or flow disruptions will occur.

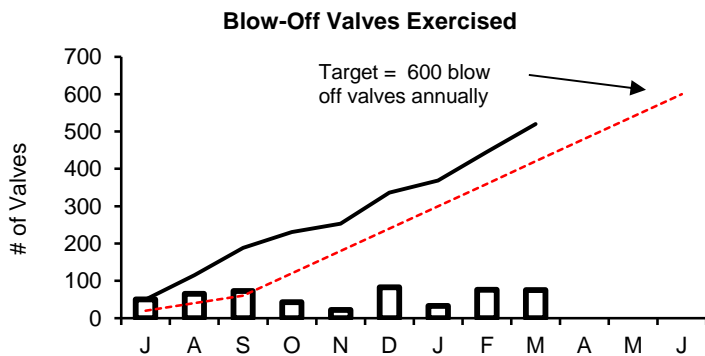
Type of Valve	Inventory #	Operable Percentage	
		FY22 to Date	FY22 Targets
Main Line Valves	2,159	97.1%	95%
Blow-Off Valves	1,317	98.6%	95%
Air Release Valves	1,380	95.8%	95%
Control Valves	49	100.0%	95%



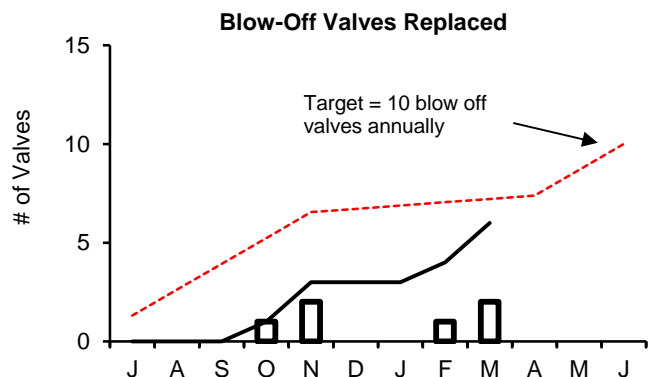
During the 3rd Quarter of FY22, 283 main line valves were exercised. The total exercised for the fiscal year to date is 769.



During the 3rd Quarter of FY22, there were three main line valves replaced. The total replaced for the fiscal year to date is nineteen.



During the 3rd Quarter of FY22, 184 blow off valves were exercised. The total exercised for the fiscal year to date is 520.



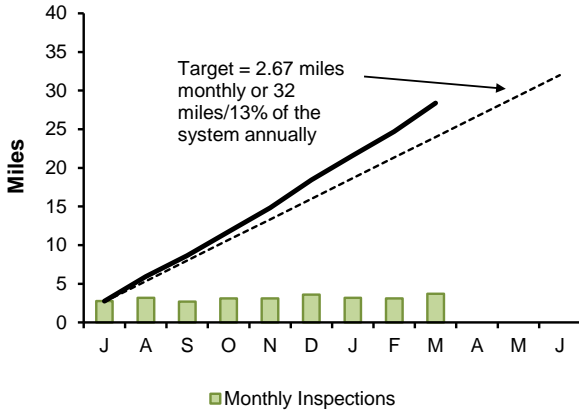
During the 3rd Quarter of FY22, there were three blow off valves replaced. The total replaced for the fiscal year to date is six. Below target due to isolation & permit issues and staff vacancies.

# Wastewater Pipeline and Structure Inspections and Maintenance

3rd Quarter F 22

## Inspections

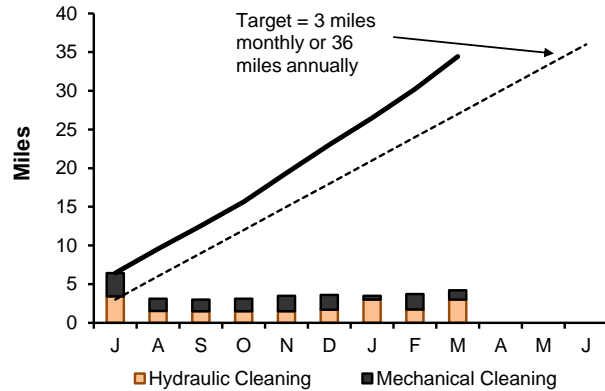
### Pipeline Inspections



Staff internally inspected 9.96 miles of MWRA sewer pipe during this quarter. The year to date total is 28.39 miles. No Community Assistance was provided.

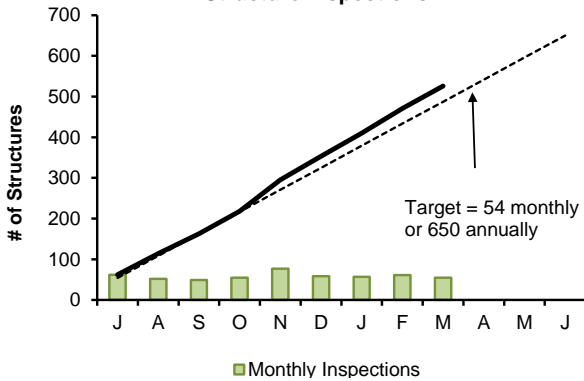
## Maintenance

### Pipeline Cleaning



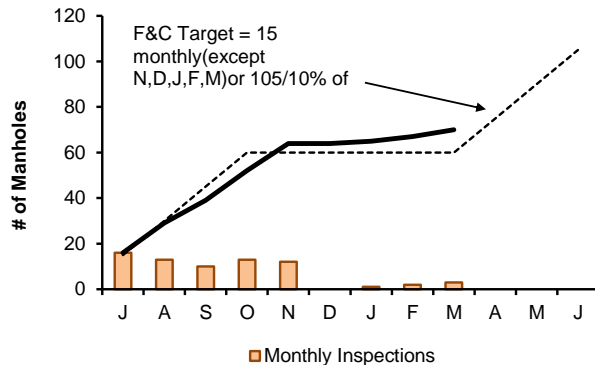
Staff cleaned 8.92 miles of MWRA sewer pipe, and removed 74 yards of grit. The year to date total is 34.44 miles. No Community Assistance was provided.

### Structure Inspections



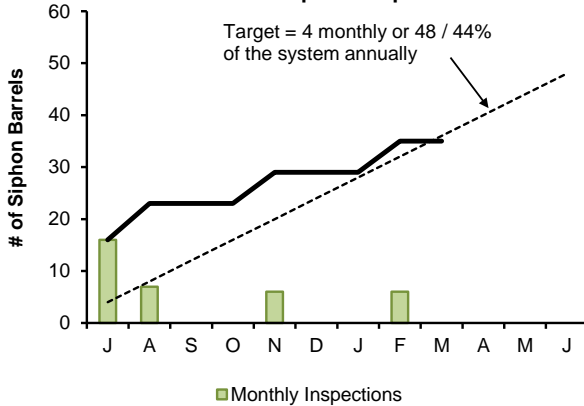
Staff inspected the 36 CSO structures and performed 137 other additional manhole/structure inspections during this quarter. The year to date total is 526 inspections.

### Manhole Rehabilitation



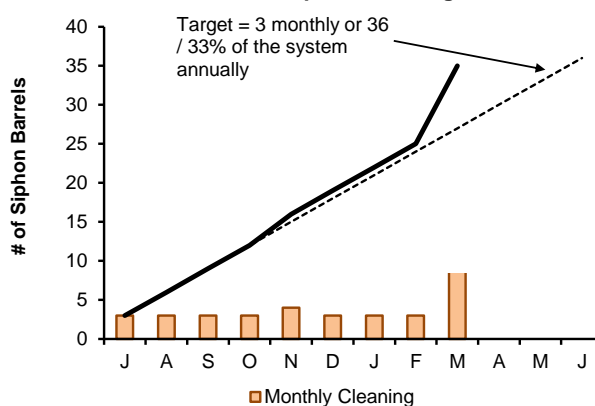
Staff replaced 3 frame and cover replacements this quarter. The year to date total is 70.

### Inverted Siphon Inspections



Staff inspected 6 siphon barrels this quarter. The year total is 35 inspections.

### Inverted Siphon Cleaning

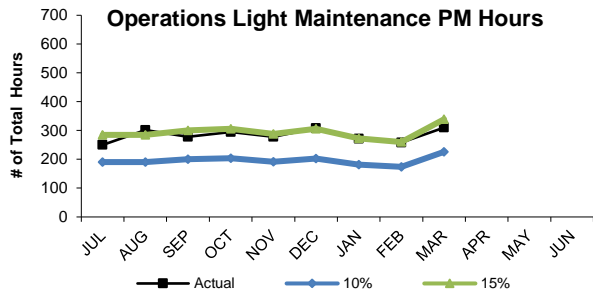


Staff cleaned 10 siphon barrels this quarter. The year total is 35.

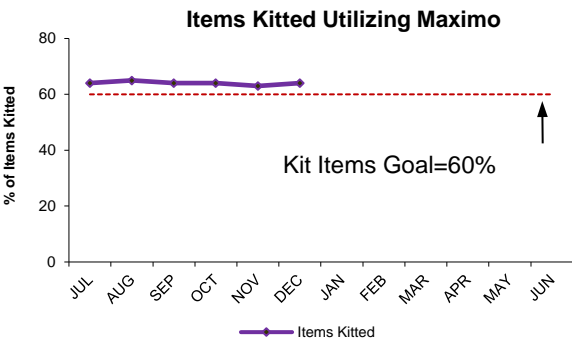
# Field Operations' Metropolitan Equipment & Facility Maintenance

3rd Quarter - FY22

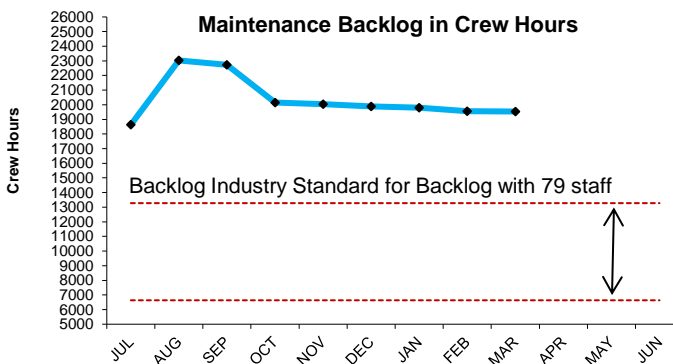
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog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



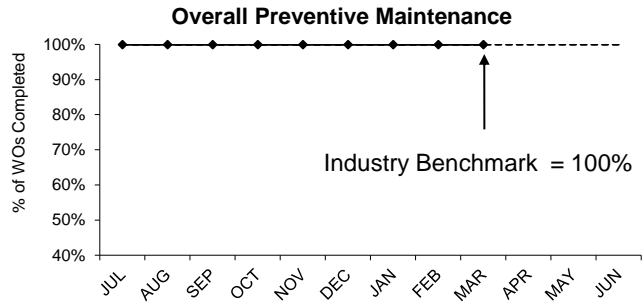
Operations staff averaged 280 hours per month of preventive maintenance during the 3rd Quarter of FY22, an average of 14% of the total PM hours for the 3rd Quarter, which is within the industry benchmark of 10% to 15%.



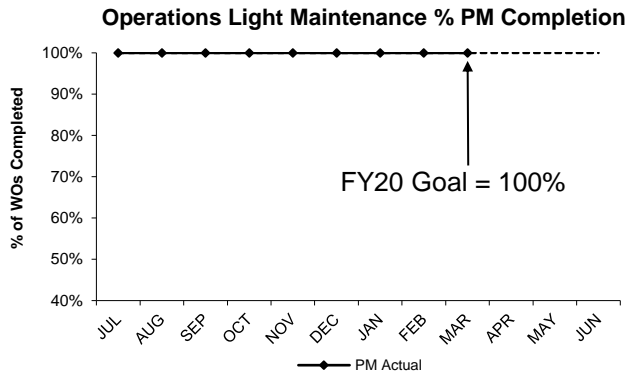
Operations' FY22 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 3rd Quarter of FY22, 64% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



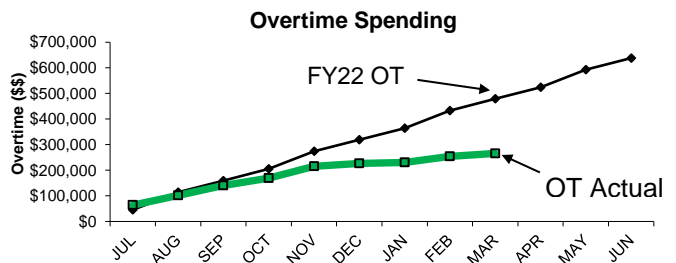
The 3rd Quarter of FY22 backlog average is 19,625 hours. Management's goal is to continue to control overtime and try to get back within the industry benchmark of 6,636 to 13,275 hours. The increase is due to vacations, vacancies and several large maintenance projects.



The Field Operations Department (FOD) preventive maintenance goal for FY22 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 3rd Quarter of FY22.



Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY22 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 3rd Quarter of FY22.

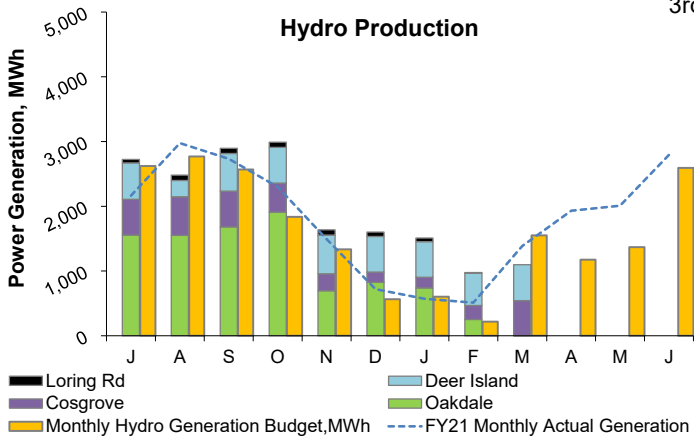


Maintenance overtime was \$40,018 under budget on average, per month, for the 3rd Quarter of FY22. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 3rd Quarter of FY22 is \$478,646. Overtime spending was \$265,857 which is \$212,789 under budget for the fiscal year.

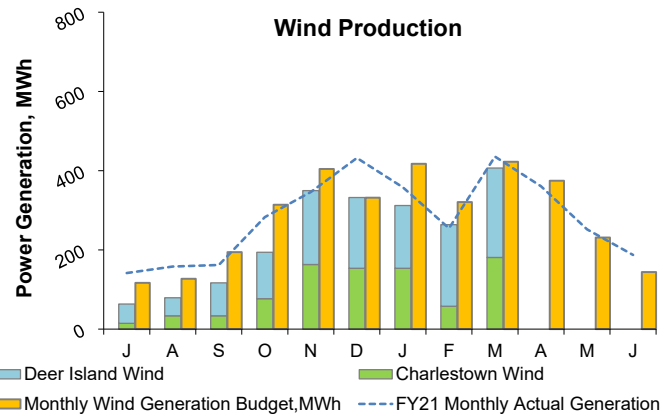


# Renewable Electricity Generation: Savings and Revenue

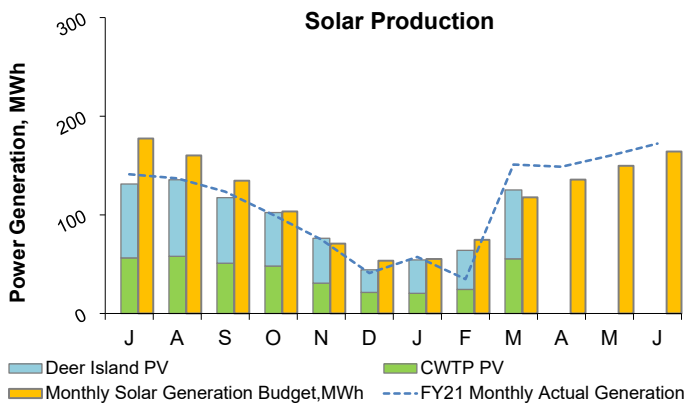
3rd Quarter - FY22



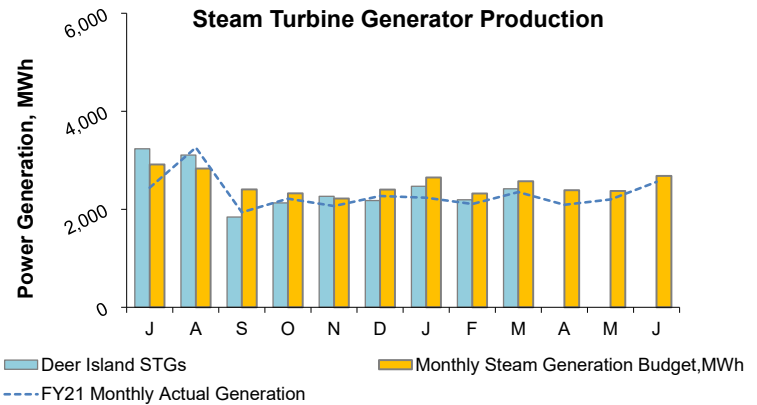
In Quarter 3 of FY22, the renewable energy produced from all hydro turbines totaled 3,695 MWh; 56 % above budget<sup>3</sup>. The total savings and revenue to date in FY22 (actuals through Jan<sup>1</sup>) is \$1,107,266 ; 111% above budget<sup>3</sup>. The savings and revenue value does not include RPS REC revenue (see next page).



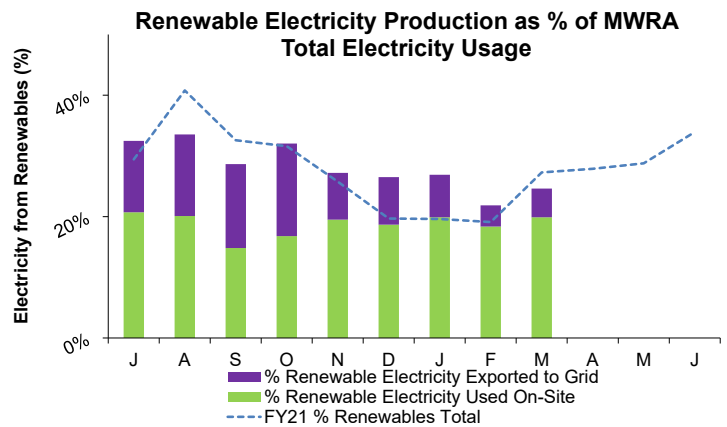
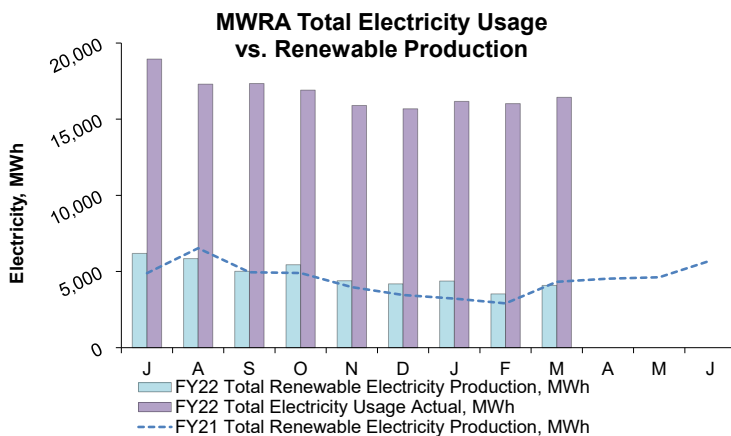
In Quarter 3 of FY22, the renewable energy produced from all wind turbines totaled 982 MWh; 15% below budget<sup>3</sup>. The total savings and revenue to date in FY22 (actuals through Jan<sup>1</sup>) is \$235,471 ; 24% below budget<sup>3</sup>. The savings and revenue value does not include RPS REC revenue (see next page).



In Quarter 3 of FY22, the renewable energy produced from all solar PV systems totaled 244 MWh; 5% above budget<sup>3</sup>. The total savings and revenue to date in FY22 (actuals through Jan<sup>1</sup>) is \$97,374; 1% below budget<sup>3</sup>. The savings and revenue value does not include RPS REC revenue (see next page).



In Quarter 3 of FY22, the renewable energy produced from all steam turbine generators totaled 7,081 MWh; 6% below budget<sup>3</sup>. The total savings and revenue to date in FY22 (actuals through Jan<sup>1</sup>) is \$1,979,136 ; on budget<sup>3</sup>. The savings and revenue value does not include RPS REC revenue (see next page).



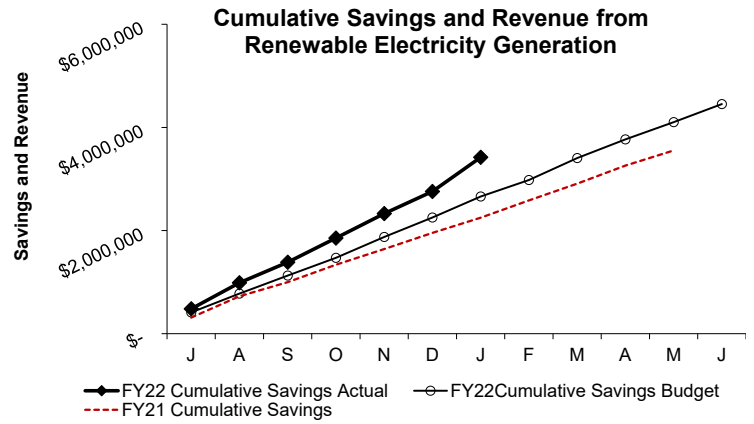
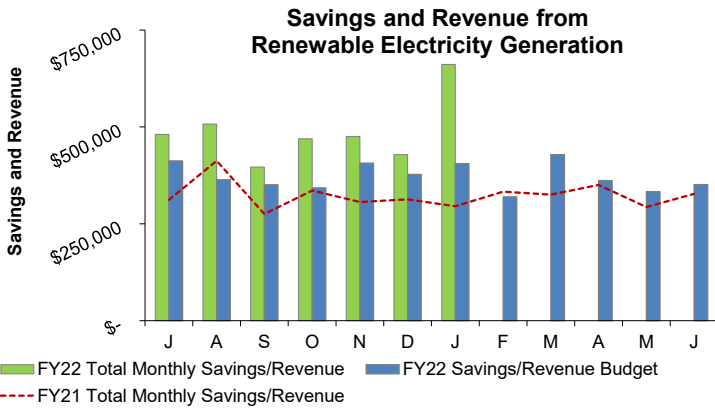
In Quarter 3 of FY22, MWRA's electricity generation by renewable resources totaled 12,002 MWh, 6% above budget. MWRA's total electricity usage was approximately 48,629 MWh. Renewable generation was 25% of total electrical use. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget.

All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

- Notes:
1. Only the actual energy prices are being reported. Therefore, some of the data lags up to 2 months due to timing of invoice receipt.
  2. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
  3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

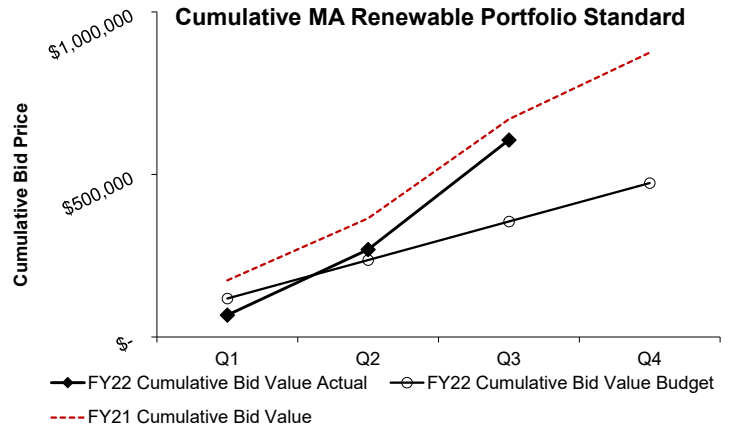
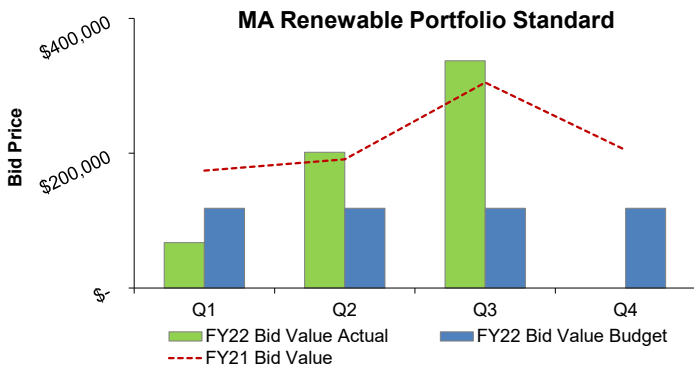
# Renewable Electricity Generation: Savings and Revenue

3rd Quarter - FY22



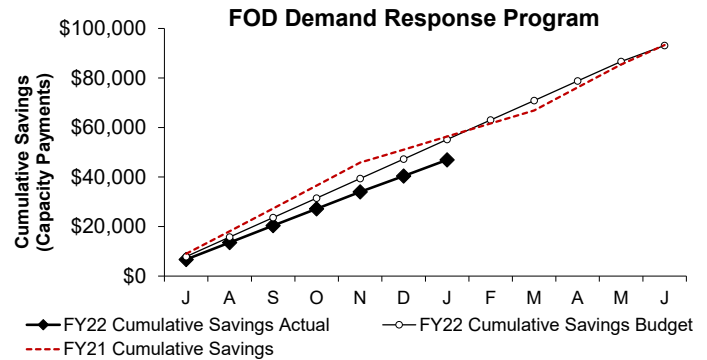
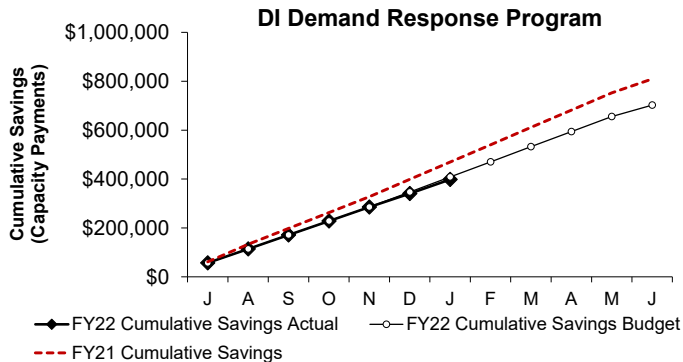
Savings and revenue from MWRA renewable electricity generation in the first seven months of FY22 (actuals only through Jan<sup>1</sup>) is \$3,419,247 ; which is 29% above the budget<sup>3</sup>.

Savings and revenue<sup>2</sup> from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs). The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value



Bids were awarded during the 3rd Quarter<sup>1</sup> from MWRA's renewable energy assets; 5,286 Q3 CY2021 Class I Renewable Energy Certificates (RECs); 4,650 Q3 CY2021 Class 2 RECs; and 74 Q3 CY2021 Solar RECs were sold for a total value of \$201,462 RPS revenue; which is 185% above budget<sup>3</sup> for the Quarter.

REC values reflect the bid value on the date that bids are accepted. Cumulative bid values reflects the total value of bids received to date.

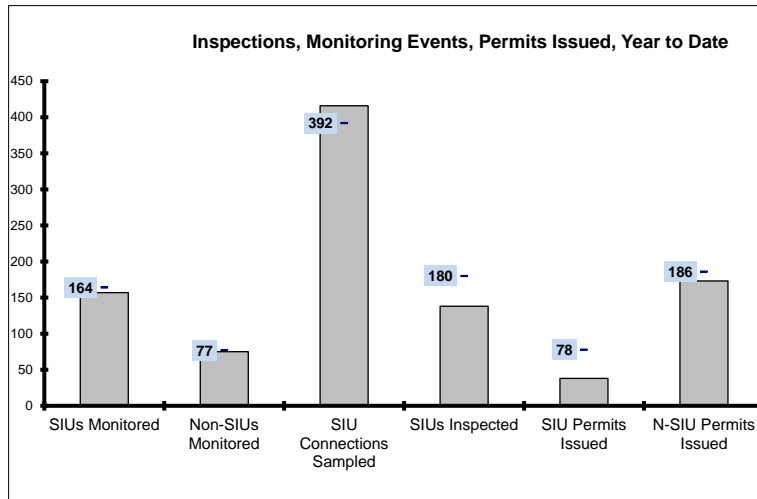


Currently Deer Island, JCWTP, Loring Rd, and Brusch participate in the ISO-New England Demand Response Programs<sup>4</sup>. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. FY22 Cumulative savings (Capacity Payments only) through January<sup>1</sup> total \$398,082 for DI and payments for FOD total \$46,944 for the same period<sup>1</sup>.

- Notes:
1. Only the actual energy prices are being reported. Therefore, some of the data lags up to 2 months due to timing of invoice receipt.
  2. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
  3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.
  4. Chelsea Creek, Columbus Park, Ward St., and Nut Island participated in the ISO Demand Response Program through May 2016, until an emissions related EPA regulatory change resulted in the disqualification of these emergency generators, beginning June 2016. MWRA is investigating the cost-benefit of emissions upgrades for future possible participation.

# Toxic Reduction and Control

3rd Quarter - FY22



EPA Required SIU Monitoring Events for FY22: 164  
YTD : 157

Required Non-SIU Monitoring Events for FY22: 77  
YTD : 75

SIU Connections to be Sampled For FY22: 392  
YTD: 416

EPA Required SIU Inspections for FY22: 180  
YTD: 138

SIU Permits due to Expire In FY22: 78  
YTD: 38

Non-SIU Permits due to Expire for FY22: 186  
YTD: 173

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

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

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

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	3	9	2	1	0	0	5	10
Aug	0	14	0	6	0	3	0	23
Sep	0	7	0	8	0	4	0	19
Oct	2	12	0	5	0	3	2	20
Nov	0	6	0	2	0	2	0	10
Dec	1	2	0	1	0	0	1	3
Jan	2	3	1	3	1	18	4	24
Feb	2	12	2	10	3	22	7	44
Mar	5	9	12	3	2	8	19	20
Apr							0	0
May							0	0
Jun							0	0

% YTD	39%	43%	45%	23%	16%	35%	38	173
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This is the third quarter of the MWRA fiscal year, FY22. SIU permit issuances are still far below the benchmark. This is mainly due to the incidences of staff turnover coupled with the workload of the available personnel and the lingering effects the COVID pandemic has had on the daily operations of the department.

In the third quarter, 118 permits were issued, 30 of which were SIUs. Nine of the SIU permits were issued within the 120-day timeframe, with 6 issued beyond 181 days. There were 88 non-SIU permits issued, of which 64 were issued late.

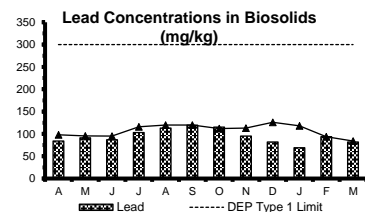
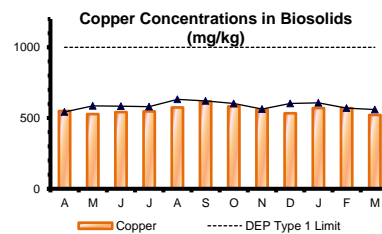
Reasons for late issuances continue to include a) waiting for critical data needed for permit processing b) delays relating to new start-up operations and c) the late payment of the relevant permit charges.

Overall, in the first three quarters of FY22, only half of the projected SIU permits have been issued and those have been issued with a 39% compliance rate, falling short of the 90% compliance rate required by the EPA.

There have also been a number of facility closings since the COVID pandemic started and these are slowly being brought to the department's attention and being processed.

For the Clinton Sewer Service area, there were no SIU permits issued so far in this fiscal year.

TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs. Monitoring of SIUs and Non-SIUs is dynamic for several reasons, including: newly permitted facilities; sample site changes within the year requiring a permit change; changes in operations necessitating a change in SIU designation; non-discharging industries; a partial sample event is counted as an event even though not enough sample was taken due to the discharge rate at the time; and also, increased/decreased inspections leading to permit category changes requiring additional monitoring events.



Copper, lead, and molybdenum are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer.

Overall, copper and lead levels remain relatively constant, below the DEP Type 1 Limit, and within the range of values over the past several years.

A discussion of molybdenum concentrations in biosolids is included in the Deer Island Residuals Pellet discussion.

# Field Operations Highlights

## 3rd Quarter – FY22

### Western Water Operations and Maintenance

- Chestnut Hill Reservoir Refill via the Sudbury Aqueduct: Chestnut Hill had been lowered below its normal operating band to freeze invasive plants. To refill it, staff activated the Sudbury Aqueduct in March. It took around 7 hours for flow to reach Chestnut Hill and 3.5 days to refill it. Activation provided a training opportunity on the operation of this critical backup facility.
- Hultman Tree Project: About 5 acres of Red Pine trees along the aqueduct in Framingham were cleared as a safety measure for the houses and school in the area. The area will be replanted.
- Oakdale Turbine Bearing Inspection: While the Oakdale turbine was offline and no Quabbin transfer was taking place this spring, staff inspected the lower bearing on the turbine. No issues were identified and the turbine has subsequently been run for environmental testing.
- Carroll Water Treatment Plant Hypochlorite Project: Replacement of all the hypo piping and pumps is still underway. During the quarter, the operations team isolated, flushed, and opened the hypo storage tanks so the project team could replace the suction line piping feeding the pumps.
- Carroll Water Treatment Plant Lighting Project: Replacement of all the fixtures at CWTP with more efficient LED fixtures was completed in March.

### Operations Engineering

- Section 89 Replacement: Staff provided contingency training for communities and in-house staff.
- Staff continued community assistance as needed:
  - Newton System, supported the testing of the isolation of Ward Street to support the replacement of Newton's 20 inch.
- Staff continued to manage the lead pipe rig corrosion control study at CWTP.
- Staff assisted in several wet weather storm events, compiled and finalized storm reports, monitored and reported on CSO activation durations and volumes.
- Staff provided on-going hydraulic modeling assistance for operational shutdowns.
- Staff developed simplified SOPs for water pumping stations. Staff continued Processbook development for water and wastewater facilities and OMMS updates.
- SCADA Staff completed the investigation of pump vibration issues at Alewife and resolved gate control issues of Channel 1 at Columbus Park Headworks.
- Staff improved SCADA alarming at Nut Island Headworks and supported Chelsea Headworks
- Rehabilitation Project, Nut Island Odor Control Improvements Project, and Hayes Pump Station Improvements Project.

### Wastewater Operations & Maintenance

- Ward Street and Columbus Park Headworks Upgrade – Contract 7429: Operations staff continued to work Engineering staff and the consultant for this project. Staff attended meetings to discuss the lessons learned from the Chelsea Creek Headworks upgrade project.
- Chelsea Screen House: Based on the forecast for the predicted storm surge for the incoming storm on 1/26/22, the flood barrier protection was installed at the Chelsea Screen house facility as a precaution.
- Operations & Maintenance Meeting: Operations and maintenance staff attended weekly meetings to discuss the top 25 critical maintenance items that need to be addressed. Nuisance alarms: Operations and Operations Engineering staff attended bi-weekly meetings to discuss the top 15 alarms that came into SCADA to determine if operational issues are causing the condition.
- MassDEP Sewer System Overview: Staff met with MassDEP Northeast Region on 2/22/22 to discuss the operation of the MWRA wastewater collection and transport system.

### Metro Equipment and Facility Maintenance

- Commonwealth Ave East Pump Station: The variable frequency drive for Pump #3 failed. MWRA electricians installed a new drive.
- Braintree/Weymouth IPS: The #1 Vortex grit pump was not operating properly. A pinch valve for the grit pump failed. MWRA mechanics installed a new pinch valve.
- An outside vendor and an MWRA Medium Voltage electrician conducted non-invasive thermal imaging scans at Columbus Park and Ward Street Headworks, Hayes, Squantum, New Neponset, Chestnut Hill, Braintree/Weymouth, Quincy, Framingham, and Gillis pump stations, and Somerville Marginal.
- New Neponset Pump Station: Light fixtures in the screen room/wet well area of the facility were corroded beyond repair. MWRA electricians replaced fixtures with more efficient LED explosion proof lighting.
- Hingham Pump Station: Operations requested better lighting in the wet well area in preparation for the valve replacement project. MWRA electricians installed new LED explosion proof fixtures.

### Metering

Wastewater upgrade project:

# Field Operations Highlights

## 3rd Quarter – FY22

- The Wastewater Meter upgrade project had conditionally accepted all meters by the December 2021 install deadline. Staff have begun tracking wastewater community flows for billing purposes. The wastewater collection system has a stated goal of billing greater than 95% of wastewater flows off metered flows. Prior to the meter replacement project, equipment reliability had left us unable to meet this goal with data capture rates typically between 88% and 93%. During Q3FY22, the new wastewater metering system will allow MWRA to bill communities with a data capture rate of 98%. Our 95% data capture goal was met all 3 months this quarter. This is the first time we met this goal across all 3 months in a quarter since 2017.

### TRAC

#### Compliance and Enforcement

- TRAC issued 47 Notices of Violation, 6 Notices of Noncompliance and 1 Extension Letter.
- Dental Permit Fees: TRAC issued Annual Fee Invoices to the facilities permitted under the Group Permit for Dentists. The total number of invoices issued was 738, for a total of \$150,756.

#### Inspections and Permitting

- TRAC monitored the septage receiving sites a total of 30 times, and conducted inspections at 20 new construction and 168 existing gasoline/oil separators.
- TRAC staff conducted 44 Annual SIU Inspections and 278 other inspections. Annual SIU Inspections are required under TRAC's EPA approved Industrial Pretreatment Program. Other inspections include inspections for enforcement, permit renewal, NSIU, follow-up, temporary construction dewatering sites, group/combined permit audits, out-of-business facility reviews, and surveys.
- 118 MWRA Sewer Use Discharge Permits (Permits) were issued and/or renewed to its sewer users. One permit was issued and/or renewed in the Clinton Service Area.

#### Monitoring

- TRAC completed 80 first time SIU monitoring events, 33 first time NSIU monitoring events and 124 other events including Clinton NPDES and Local Limits sampling, Metropolitan Local Limits sampling, Local Limits PFAS sampling, Special Sulfide sampling, Cosgrove and Oakdale NPDES sampling, CSO NPDES sampling, Sudbury Aqueduct monitoring and CSO Hypochlorite Tank chemical sampling.

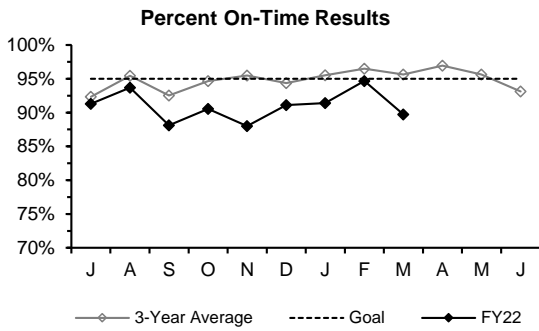
### Environmental Quality-Water

- DCR algae monitoring commenced at Wachusett and Quabbin Reservoirs in March. Both reservoirs continue to be well-mixed with diatoms noted as the dominant phytoplankton. Sampling staff are preparing for algae monitoring season by establishing the annual algal toxin monitoring contract and training on the use of FlowCam Cyano fluid imaging equipment.

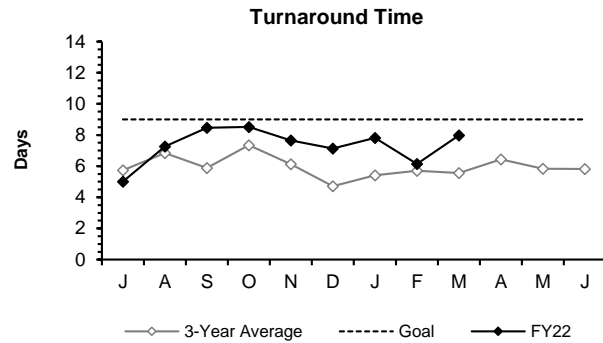
#### Community & In-House Support

- Sampling & Analysis: On 1/27, staff assisted Melrose with a complaint sample collection. Coliform and HPC results were non-detect and all other results were typical. On 3/23, staff assisted Hanscom AFB in collecting chlorine measurements at several coliform monitoring locations. Staff also trained their staff and the sampling contractor on proper technique for cleaning the sample taps and total chlorine testing. On 3/25, staff performed clearance samples associated with WASM-3, Segment 1A: all results were typical and bacteria results were absent for total coliform.
- Training & Guidance: Staff helped in the filming of a video for community drinking water sampling staff on proper coliform sampling technique and chlorine residual testing. On March 31, staff provided a virtual presentation to 17 MWRA and community drinking water sampling staff from several local communities on proper coliform sampling technique and chlorine residual measurement.
- Projects: Staff collected samples on six occasions during the quarter as part of the pipe-loop study. Many MWRA departments are involved in this initiative, to measure lead levels through community lead service lines with various corrosion control treatments. On March 29 and March 31, staff helped with clearance samples following an ROV inspection at four MWRA tanks: Arlington Covered, Bear Hill, Spot Pond Tank #1, and Blue Hills #1. All results were typical and bacteria results were absent for total coliform, and all tanks were cleared to go back on-line.
- Chemical Supply: Staff are closely monitoring bulk chemical inventories and adherence to delivery schedules. Staff continue to check-in with chemical suppliers to review adherence to delivery schedules and to work on chemical supply emergency planning.

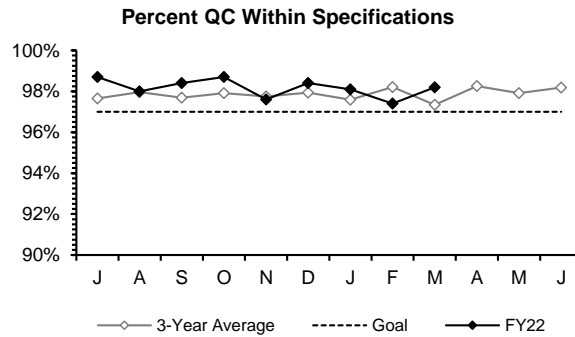
## Laboratory Services 3rd Quarter - FY22



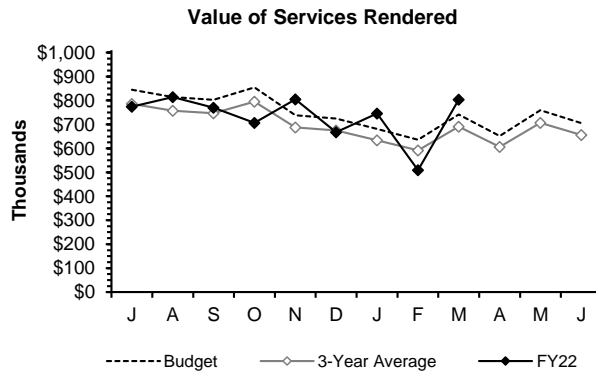
The Percent On-Time measurement continued to run below the 95% goal due to staffing vacancies.



Turnaround Time met the 9-day goal.



Percent of QC tests meeting specifications met the 97% goal.



Value of Services Rendered recovered as late samples from February were reported in March. Overall Value of Services Rendered is below the annual budget projection due to staffing vacancies.

**Performance:** Met Turnaround Time and Percent QC within Specification indicators for the quarter at reduced staffing level. Value of Services Rendered is slightly below budget, but ahead of the 3-year average year to date.

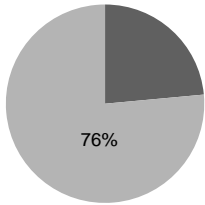
**School Lead Program:** During the 3rd quarter of FY22, MWRA's lab completed 32 tests from 8 schools and childcare facilities in 4 communities. Since 2016, MWRA's Laboratory has conducted over 39,000 tests from 536 schools and daycares in 44 communities. We have also completed 693 home lead tests under the DPH sampling program since 2017.

# CONSTRUCTION PROGRAMS

# Projects In Construction

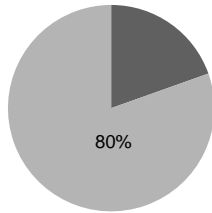
## 3<sup>rd</sup> Quarter – FY22

### Money



- Amount Remaining
- Billed to Date

### Time



- Days Remaining
- Days Expended

### Permanent Metering Replacement and Installation

Project Summary: This project consists of the replacement of 174 flow meters in sewer manholes located throughout the MWRA service district.

Contract Amount: \$3,291,198.64

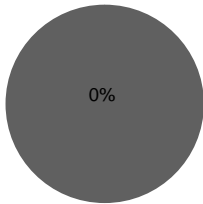
Contract Duration: 450 Days

Notice to Proceed: 3-Dec-20

Contract Completion: 26-Feb-22

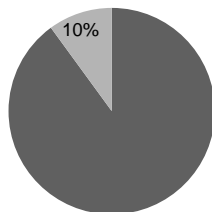
Status and Issues: As of December, the Contractor installed 173 meters of which, 159 have received final acceptance. All meter confirmations are complete.

### Money



- Amount Remaining
- Billed to Date

### Time



- Days Remaining
- Days Expended

### Section 89 Replacement Pipeline

Project Summary: This project will include replacement of a 10,500-foot portion of PCCP with class IV reinforcing wire, line valves and appurtenances, and abandonment of the 118-year old, 24-inch diameter cast iron Section 29 pipeline.

Contract Amount: \$32,619,000

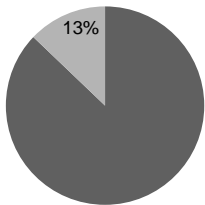
Contract Duration: 1,475 Days

Notice to Proceed: 15-Aug-21

CoContract Completion: 25-Aug-25

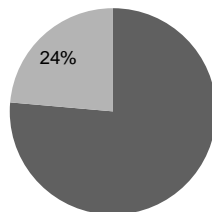
Status and Issues: As of December, the Contractor continued to secure the necessary permits, laydown areas and organizing the field office. They have continued to provide submittals for review and have completed pre-construction videos of phase one surface areas.

### Money



- Amount Remaining
- Billed to Date

### Time



- Days Remaining
- Days Expended

### Low Service PRV Improvements

Project Summary: This project will replace pressure reducing valves on the Weston Aqueduct Supply Main (WASM) 4 at Nonantum Road in Boston and WASM 3 at Mystic Valley Parkway in Medford

Contract Amount: \$11,326,000

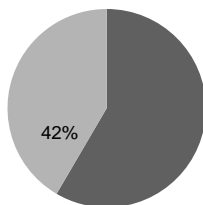
Contract Duration: 720 Days

Notice to Proceed: 14-Jul-21

Contract Completion: 4-Jul-23

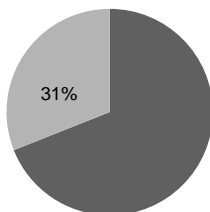
Status and Issues: As of December, the contractor Installed forms and placed concrete for the north and south vertical walls of the cast in place (CIP) vault. Loaded trucks with excavated material for disposal. They installed rebar and wall pipe sleeves for the east and west vertical walls of the CIP vault.

### Money



- Amount Remaining
- Billed to Date

### Time



- Days Remaining
- Days Expended

### Rehabilitation of WASM 3

Project Summary: This project consists of the rehabilitation of 13,800 feet of 56-inch and 60-inch diameter water main in Arlington, Somerville and Medford.

Contract Amount: \$19,656,427.23

Contract Duration: 1,383 Days

Notice to Proceed: 28-Oct-20

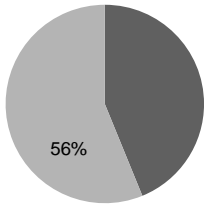
Contract Completion: 11-Aug-24

Status and Issues: As of December, the Contractor installed and welded a new (20 lf) 60" steel connection piece to the existing cement lined pipes, backfilled and paved at AP 14 Irvington Road Somerville. They finished cleaning and cement lining the 60" water main from AP 12 to AP 13B (505 LF) and AP 11 towards AP 10 in Town of Arlington.



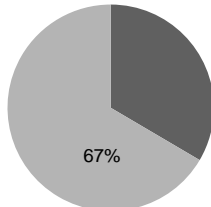
## Projects In Construction 3<sup>rd</sup> Quarter – FY22

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### Nut Island Odor Control and HVAC

**Project Summary:** This project will provide upgrades to the odor control system, heating, ventilation and air conditioning system and other equipment.

**Contract Amount:** \$58,541,461.62

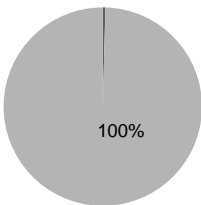
**Contract Duration:** 1,034 Days

**Notice to Proceed:** 12-Feb-20

**Contract Completion:** 12-Dec-22

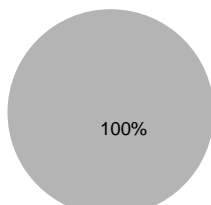
**Status and Issues:** As of December, the Contractor set frames and covers to grade for the underground storage tank (UST) and adjusted rebar to grade. They placed 4,000 psi concrete for the top slab, finished, and cured after which, they removed the forms and backfilled and compacted around the top slab and removed the access covers at abandoned existing USTs.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### Chemical Tank Relining & Pipe Replacement

**Project Summary:** This project involves replacing the chlorobutyl rubber linings in 3 sodium hypochlorite and 2 sodium bisulfite storage tanks and assorted gravity thickener overflow piping at Deer Island.

**Contract Amount:** \$8,698,341

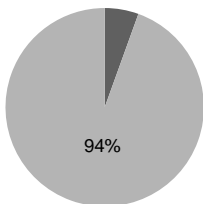
**Contract Duration:** 850 Days

**Notice to Proceed:** 13-Aug-19

**Contract Completion:** 10-Dec-21

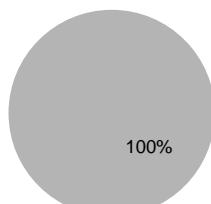
**Status and Issues:** As of December, the Contractor complete the 7-day leak test for Sodium Bisulfite Tank No. 2., they complete miscellaneous punch list items and began demobilizing from site.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### Clinton Valve and Pipe Replacement

**Project Summary:** This project involves the replacement of return activated sludge, waste activated sludge and plant water valves and associated piping.

**Contract Amount:** \$488,946.27

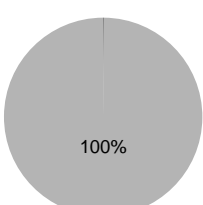
**Contract Duration:** 493 Days

**Notice to Proceed:** 8-Sep-20

**Contract Completion:** 14-Jan-22

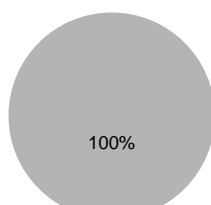
**Status and Issues:** As of December the Contractor addressed punch list items (valve tags, pipe stenciling, grouting, concrete repair, installation of SS chain and replacement of damaged flanges) and has completed all project related work with the exception of touch-up paint to the concrete pedestals.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### Gravity Thickener Rehabilitation

**Project Summary:** This project involves the upgrade of all six gravity thickeners, including the complete replacement of each tank's sludge and scum thickening equipment and 5 of the 6 FRP dome covers.

**Contract Amount:** \$20,223,830.33

**Contract Duration:** 1,230 Days

**Notice to Proceed:** 11-May-18

**Contract Completion:** 22-Sep-21

**Status and Issues:** As of December, the contract is being closed out.

# CSO CONTROL PROGRAM

## 3rd Quarter – FY22

All 35 projects in the CSO Long-Term Control Plan (LTCP) were complete as of December 2015 in compliance with milestones in the Federal District Court Order. MWRA has completed a multi-year CSO post-construction monitoring program and performance assessment, filing the Final CSO Post Construction Monitoring Program and Performance Assessment Report with the Court and submitted copies to EPA and DEP in December 2021. The report shows that 70 of 86 outfalls met the LTCP goals for CSO activation frequency and volume. MWRA and its member CSO communities are moving forward with plans to bring 6 of the 16 CSOs in line with the LTCP goals. With respect to the remaining 10 CSO outfalls, MWRA identified potentially feasible alternatives that may enable four of these outfalls to achieve CSO LTCP volume and activation goals; but at least six CSO outfalls remained particularly challenging. In early 2022 the MWRA reached an agreement with EPA, DEP and the Conservation Law Foundation (“CLF”) on a six-part framework to govern any unfinished work. The framework consisted of: (i) submission of the Final Report (which had been achieved); (ii) three-years of additional time for certain system improvements at six of the 16 outfalls, and continued investigations as to the remaining 10 outfalls; (iii) annual reporting; (iv) periodic meetings; (v) submission of a supplemental report in December 2024 as to the 16 outfalls; and (vi) corresponding additional Schedule Seven compliance milestones for the MWRA’s submission of the annual reports and supplemental report. On February 4, 2022, the MWRA filed a motion, with the assent of EPA, DEP and CLF, to amend Schedule Seven consistent with the proposed framework. On February 18, 2022, the Court issued Schedule Seven Compliance Order Number 250 in which it allowed the request to amend Schedule Seven. In compliance with the new schedule seven milestones, MWRA has been developing the materials/tables/results that will be included in the Annual Report which covers the 2021 Calendar Year. The report will be submitted early in Q4. Of the \$913.1 million budget in the FY22 CIP for the CSO Control Program, **approximately \$2.3 million remain to be spent**, as described below.

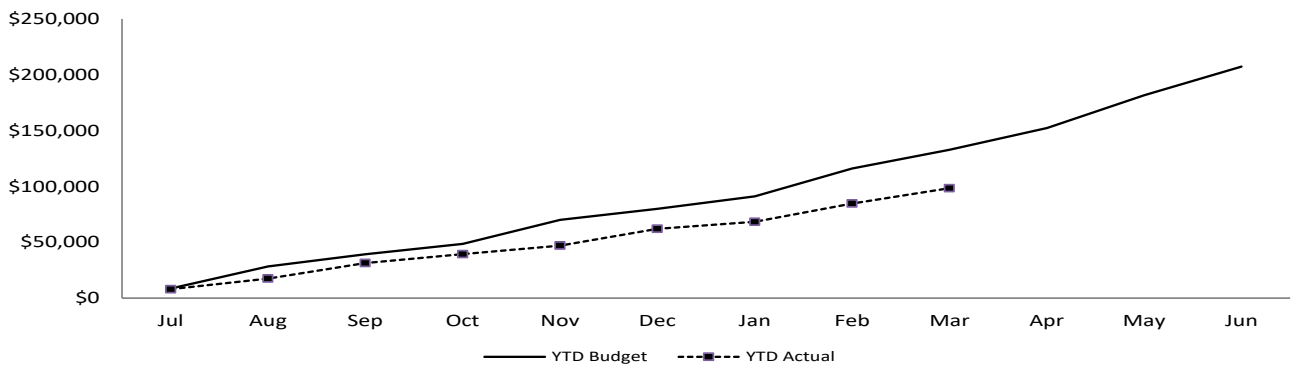
Project/Item	Status as of April 30, 2022
BWSC Dorchester Interceptor Inflow Removal	This agreement with BWSC provided up to \$3.76 million in MWRA financial assistance for reimbursement of the eligible costs of construction to remove inflow from the BWSC’s Dorchester Interceptor system. BWSC awarded one construction contract for inflow removal in the amount of \$1.58 million. BWSC completed the contract work on June 30, 2021, when the financial assistance agreement ended. MWRA has received payment requests of \$1,382,953 from BWSC for completed work, which was paid in November of 2021. No further request for payment are expect on this FAA. \$2.18 million of remaining funds in the Dorchester agreement has been transferred into a new agreement by which BWSC will construct sewer separation and other CSO improvements in East Boston (see below).
BWSC East Boston Sewer Separation and other CSO Improvements	On April 14, 2021, the MWRA Board of Directors authorized the East Boston CSO financial assistance agreement in the amount of \$2.18 million for a term of two years, from July 1, 2021 through June 30, 2023. BWSC and MWRA executed the agreement on June 10, 2021. BWSC has awarded East Boston Sewer Separation Contract 3 and is finalizing design of an upgraded connection to the MWRA system to lower CSO discharges at Outfall BOS014. <b>BWSC has submitted a request for payment of two-thirds of the agreement amount upon contract award, which had been processed on September 16, 2021 in the amount of \$1,454,445. BWSC submitted as-builts on the BOS014 modification. MWRA is reviewing the submittal for release of the remaining one-third of the agreement amount, to be paid in the fourth quarter of FY22.</b>
City of Cambridge Memorandum of Understanding and Financial Assistance Agreement	The City of Cambridge attained substantial completion of its last MWRA CSO plan project in December 2015 in compliance with Schedule Seven. The \$100.2 million MOU/FAA by which MWRA funded the eligible costs of the Cambridge-implemented CSO projects ended on June 30, 2018. With the assistance of internal audit, MWRA recently revisited the final eligibility review of the Cambridge construction contracts, making a few revisions and reviewing those edits with Cambridge. Cambridge is calculating the final eligible amount less the interest accrued. Once the final payment request is submitted MWRA will review. It is anticipated that the final payment will be made Q4 FY22.
City of Somerville Financial Assistance Agreement	By this agreement, MWRA will provide up to \$1.4 million upon construction award of City of Somerville’s repair of its combined sewer trunk line upstream of the Somerville Marginal CSO Facility. Pursuant to the agreement, the repair work is intended to maintain the full in-system storage capacity of the trunk sewer to support CSO control. <b>Somerville completed the design that includes a cementitious/geopolymer lining and has awarded to National Water Main. The notice to proceed was issued in January. Somerville has request payment of the \$1.4 million to partial fund the work in accordance with the FAA. Payment was made on February 24, 2022</b>
WRA CSO Performance Assessment – Contract 7572	<p>MWRA issued the Notice to Proceed with the contract for CSO Post-Construction Monitoring and Performance Assessment to AECOM Technical Services, Inc., in November 2017. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality impact assessments, culminating in the submission of a report to EPA and DEP in December 2021 verifying whether the LTCP goals are attained. <b>The Board approved Amendment No. 3 on February 16<sup>th</sup> increasing the contract amount from \$5.28 million to \$6.84 million and extending the contract term by three years to April 7, 2025. Approximately \$4.6 million has been spent.</b></p> <p>On August 30, 2019, DEP issued five-year CSO variances to water quality standards for the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River effective through August 31, 2024. The variance conditions include receiving water quality modeling and CSO and stormwater sampling; the evaluation of certain additional CSO controls; other requirements intended to minimize CSO discharges, their impacts and public health risk; and preparation of updated CSO control plans for these waters. In compliance with the CSO variances, MWRA has implemented a subscriber-based system to notify the public of CSO discharges at its permitted outfalls within four hours of the start of discharge at each location, using meter readings. MWRA also reports estimated discharge volumes on its CSO notification web page.</p> <p>Cambridge and Somerville are also parties to the variances and have implemented notification systems for their own outfalls. AECOM continues to make progress with CSO variance-required project evaluations and other site-specific investigations to mitigate CSO discharges at locations where LTCP goals are not yet attained. In these efforts, MWRA is maintaining close coordination with the CSO communities. CSO mitigation implemented in late 2020/early 2021 included: BWSC completed its East Boston sewer separation Contract 1 <b>and continues to make substantial progress on Contract 3</b>, Chelsea raised the overflow weir at Outfall CHE004, Cambridge removed heavy sediments in the Outfall CAM401A system, - all expected to bring associated outfalls into attainment with LTCP discharge goals. In addition, Cambridge completed the partial sewer separation improvements that have reduced discharges from the Cottage Farm facility. <b>MWRA has reached the 100% design stage associated with the new interceptor connection at Chelsea’s Outfall CHE008 and has submitted an application for MA Historical Commission as required per the SRF application. Design of the new pipe connection and control gate to the Somerville Marginal Conduit upstream of the Somerville Marginal Facility continues. Once the construction is completed it is predicted to significantly reduce CSO discharges from the facility (MWR205/MWR205A). MWRA and BWSC continue to meet monthly to discuss improving the flow conveyance at Outfall BOS017 in Charlestown. The dry-weather connection modification in East Eagle Square was added to Construction contract 3 (partially funded by MWRA) is complete. BWSC submitted the as-builts for review and upon approval MWRA will release payment. BWSC’s construction contractor continues to make progress on the construction of South Boston sewer separation Contract 1 that will lower CSO discharges to Fort Point Channel.</b></p> <ul style="list-style-type: none"> <li>• AECOM updated the MWRA hydraulic model to Q4-2021 system conditions in part to produce an updated Typical Year CSO performance assessment relative to the LTCP activation and volume goals. The Final CSO Post Construction Monitoring Program and Performance Assessment Report was submitted to the Court and EPA and DEP on December 29, 2021. The report shows that 70 of 86 outfalls met the LTCP goals for CSO activation frequency and volume. <b>MWRA plans to submit first Annual CSO Discharge Estimates and Rainfall Analysis for Calendar Year 2021 on April 29, 2022.</b> MWRA and its member CSO communities are moving forward with plans to bring 6 of the 16 CSOs in line with the LTCP goals. The remaining 10 will require further investigation to determine an appropriate plan. MWRA and the CSO communities will continue to identify and evaluate alternatives to further reduce discharges at these outfalls. <b>AECOM continued to perform evaluations to optimize the performance to the Alewife Brook and Charles River systems.</b></li> <li>• Utilizing receiving water quality models of the Lower Charles River and the Alewife Brook/Upper Mystic River AECOM completed and calibrated last fall, it performed water quality assessments of current river conditions and the impacts of remaining CSO and non-CSO (dry weather and stormwater) pollution sources. MWRA responded to comments provided on the draft and distributed a final Water Quality Assessment Report to EPA, DEP, the CSO communities, Charles River Watershed Association, and Mystic River Watershed Association. MWRA submitted the Water Quality Alternatives Assessment report in December. <b>Comments on the report were received and the MWRA will respond to each individual. Comments were outside of the scope of report and therefore the report will not be re-issued.</b></li> </ul>

## CIP Expenditures 3<sup>rd</sup> Quarter – FY22

FY22 Capital Improvement Program Expenditure Variances through March by Program - (\$ in thousands)				
Program	FY22 Budget Through March	FY22 Actual Through March	Variance Amount	Variance Percent
Wastewater	\$68,740	\$52,280	(\$16,460)	-24%
Waterworks	\$51,152	\$43,144	(\$8,008)	-16%
Business and Operations Support	\$12,936	\$2,902	(\$10,034)	-78%
<b>Total</b>	<b>\$132,828</b>	<b>\$98,325</b>	<b>(\$34,503)</b>	<b>-26%</b>

Project underspending within Wastewater was due to Prison Point Rehabilitation work on hold, timing of grant and loan distributions for the I/I Local Financial Assistance program, timing of final work for Winthrop Terminal Facility (WTF) VFD Replacement, Dorchester Interceptor Sewer, and Gravity Thickener Rehab contracts, and completion of some design and inspection tasks were later than anticipated for Ward Street and Columbus Park Headworks Upgrades Design/CA. This underspending was partially offset by work scheduled in FY21 that was completed in FY22 for the Chelsea Creek Headworks Upgrades, timing of payments for the Somerville Marginal In-System Storage and for Dorchester I/I Removal work, and work completed earlier than anticipated for East Boston CSO Control. Project underspending in Waterworks was due to updated schedules for the NIH Section 89 & 29 Replacement, timing of community distributions for the Water Loan program, less than anticipated Final Design and CA/RI work for CP-3 Sections 23, 24, and 47 Design CA/RI, and scope reduction for Sections 50 & 57 Water Rehabilitation - Design/ESDC. This underspending was partially offset by contractor progress for both WASM 3 Rehabilitation, CP-1 and WASM/Spot Pond Supply Mains Pressure Reducing Valve Improvements, and earlier than anticipated land purchase for the Tunnel Admin, Legal & Public Outreach contract.

**Budget vs. Actual CIP Expenditures** (\$ in thousands)  
Total FY22 CIP Budget of \$207,312



### Construction Fund Management

All payments to support the capital program are made from the Construction Fund. Sources of fund in-flows include bond proceeds, commercial paper, SRF reimbursements, loan repayments by municipalities, and current revenue. Accurate estimates of cash withdrawals and grant payments (both of which are derived from CIP spending projections) facilitate planning for future borrowings and maintaining an appropriate construction fund balance.

Cash Balance as of 3/26/22	\$122.5million
Unused capacity under the debt cap:	\$1.83 billion
Estimated date for exhausting construction fund without new borrowing:	May-22
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$ 53 million
Commercial paper capacity / Revolving Loan	\$250 million
Budgeted FY22 Cash Flow Expectancy*:	\$186 million

\* Cash based spending is discounted for construction retainage.

# DRINKING WATER QUALITY AND SUPPLY

## Source Water – Microbial Results and UV Absorbance

3rd Quarter – FY22

### Source Water – Microbial Results

Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliform, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal tract of mammals. They act as indicators of possible fecal contamination. The Surface Water Treatment Rule for unfiltered water supplies allows for no more than 10% of source water samples prior to disinfection over any six-month period to have more than 20 fecal coliforms per 100mL.

#### Sample Site: Quabbin Reservoir

Quabbin Reservoir water is sampled at the William A. Brutsch Water Treatment Facility raw water tap before being treated and entering the CVA system.

All samples collected during the quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

#### Sample Site: Wachusett Reservoir

Wachusett Reservoir water is sampled at the CWTP raw water tap in Marlborough before being treated and entering the MetroWest/Metropolitan Boston systems.

In the wintertime when smaller water bodies near Wachusett Reservoir freeze up, many waterfowl will roost in the main body of the reservoir - which freezes later. This increased bird activity tends to increase fecal coliform counts. DCR has an active bird harassment program to move the birds away from the intake area.

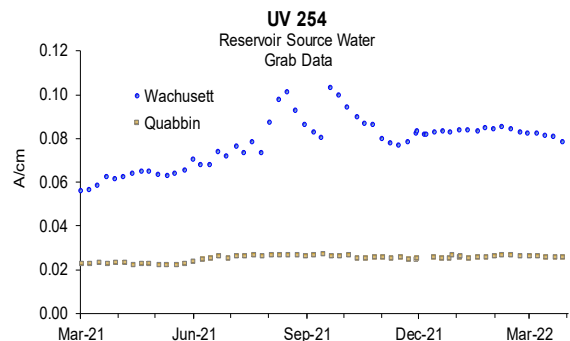
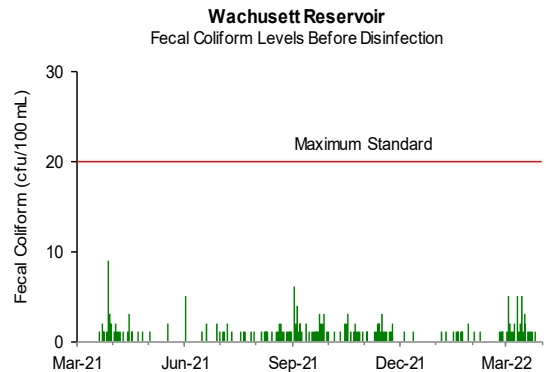
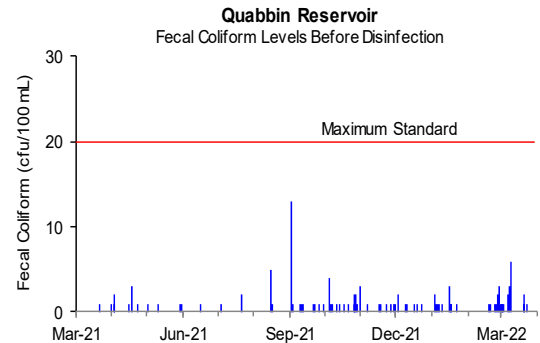
All samples collected during the 3rd Quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

### Source Water – UV Absorbance

UV Absorbance at 254nm wavelength (UV-254), is a measure of the amount and reactivity of natural organic material in source water. Higher UV-254 levels cause increased ozone and chlorine demand resulting in the need for higher ozone and chlorine doses, and can increase the level of disinfection by-products. UV-254 is impacted by tributary flows, water age, sunlight and other factors.

Quabbin Reservoir UV-254 levels averaged 0.026 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.083 A/cm for the quarter.



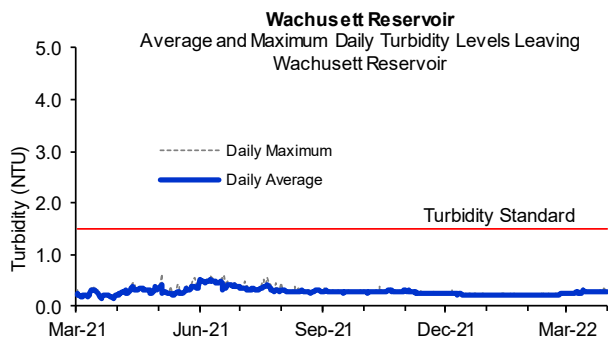
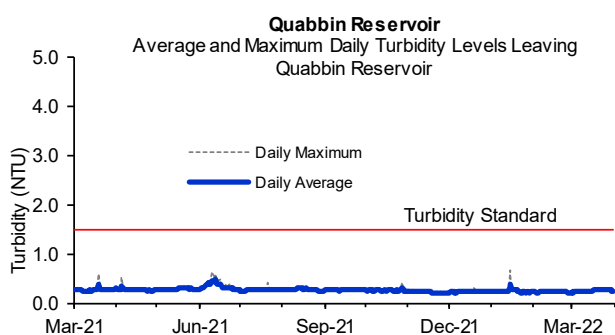
## Source Water – Turbidity

3rd Quarter – FY22

Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may protect bacteria from disinfection effects, thereby interfering with the disinfectant residual throughout the distribution system.

There are two standards for turbidity: all water must be below five NTU (Nephelometric Turbidity Units), and water only can be above one NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Brutsch Water Treatment Facility (BWTF) before UV and chlorine disinfection. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant (CWTP) before ozonation and UV disinfection. Maximum turbidity results at Quabbin and Wachusett were within DEP standards for the quarter.

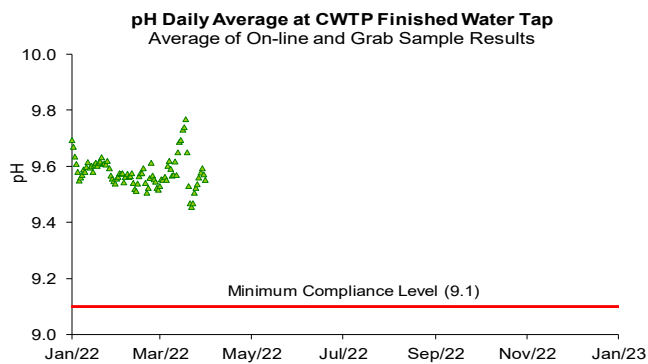
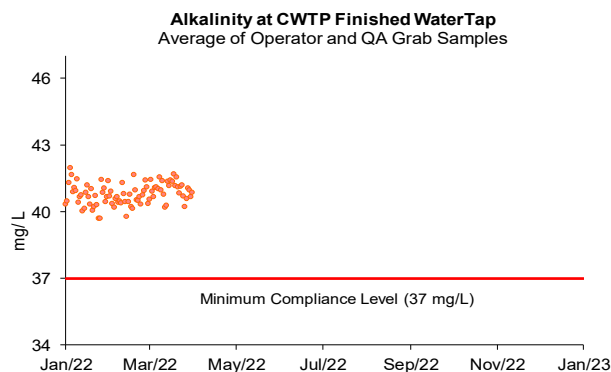


## Treated Water – pH and Alkalinity Compliance

MWRA adjusts the alkalinity and pH of Wachusett water at CWTP to reduce its corrosivity, which minimizes the leaching of lead and copper from service lines and home plumbing systems into the water. MWRA tests finished water pH and alkalinity daily at the CWTP's Fin B sampling tap. MWRA's target for distribution system pH is 9.3; the target for alkalinity is 40 mg/l. Per DEP requirements, CWTP finished water samples have a minimum compliance level of 9.1 for pH and 37 mg/L for alkalinity. Samples from 27 distribution system locations have a minimum compliance level of 9.0 for pH and 37 mg/L for alkalinity. Results must not be below these levels for more than nine days in a six month period. Distribution system samples are collected in March, June, September, and December.

Each CVA community provides its own corrosion control treatment. See the CVA report: [www.mwra.com/water/html/awqr.htm](http://www.mwra.com/water/html/awqr.htm).

Quarterly distribution system samples were collected over a course of two weeks in March. Distribution system sample pH ranged from 9.3 to 9.7 and alkalinity ranged from 39 to 41 mg/L. No sample results were below DEP limits for this quarter.



## Treated Water – Disinfection Effectiveness

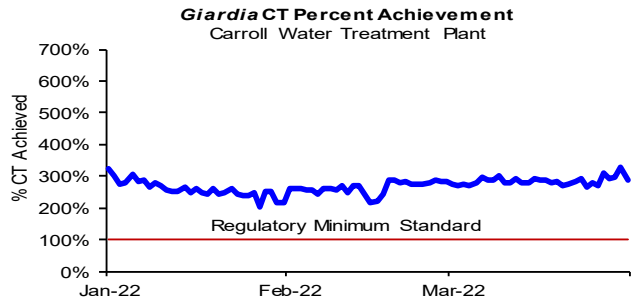
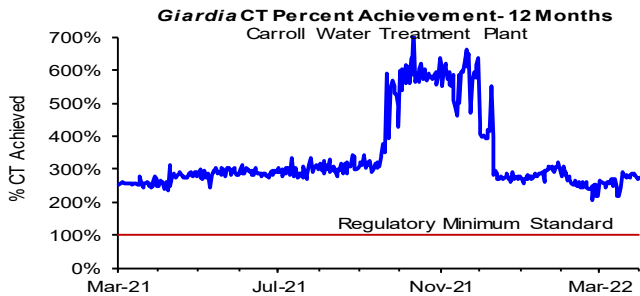
3rd Quarter – FY22

At the Carroll Water Treatment Plant (CWTP), MWRA meets the required 99.9% (3-log) inactivation of *Giardia* using ozone (reported as CT: concentration of disinfectant x contact time) and the required 99% (2-log) inactivation of *Cryptosporidium* using UV (reported as IT: intensity of UV x time). MWRA calculates inactivation rates hourly and reports *Giardia* inactivation at maximum flow and *Cryptosporidium* inactivation at minimum UV dose. MWRA must meet 100% of required CT and IT.

CT achievement for *Giardia* assures CT achievement for viruses, which have a lower CT requirement. For *Cryptosporidium*, there is also an "off-spec" requirement. Off-spec water is water that has not reached the full required UV dose or if the UV reactor is operated outside its validated ranges. No more than 5% off-spec water is allowed in a month.

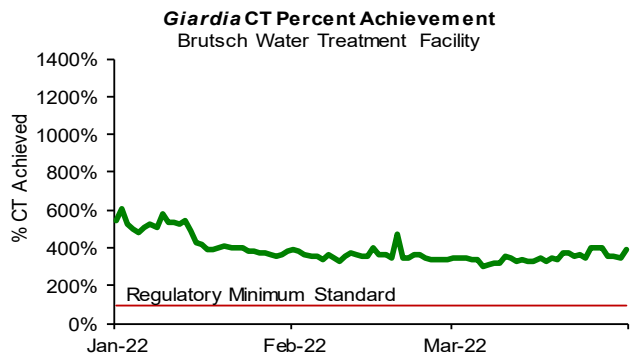
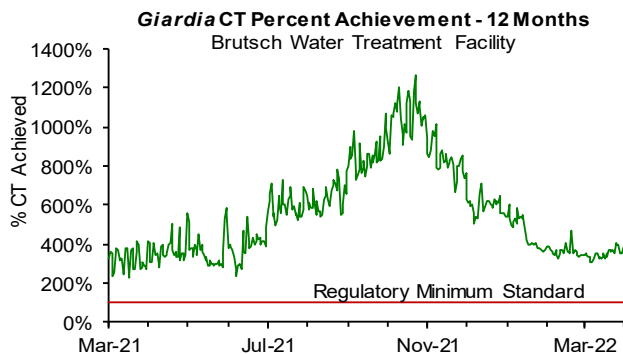
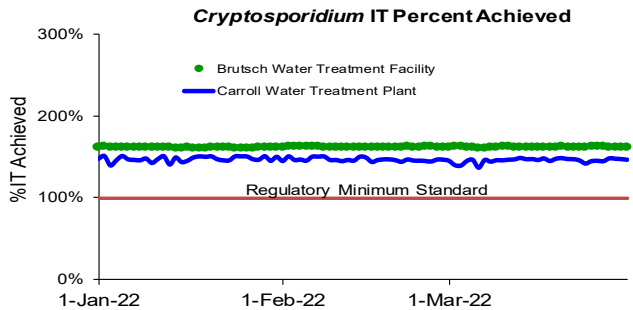
### Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 2.3 to 2.6 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.
- The ozone target was increased in mid-August 2021 through early November to reduce chlorine demand and decay, as during this time chlorine residuals declined in the distribution system.



### Quabbin Reservoir (CVA Supply) at: Brutsch Water Treatment Facility

- The chlorine dose at BWTF is adjusted in order to achieve MWRA's seasonal target of 0.75 - 0.85 mg/L (November 1 – May 31) and 0.85 - 1.05 mg/L (June 1 – October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.22 to 1.45 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.
- There was a break in the sodium hypochlorite feed piping on February 19. LMS free chlorine residuals, as measured through online analyzers and grab sampling, were below 0.2 mg/L between 6:00PM-7:10PM; this period is less than the 4-hour maximum allowable period noted in 310 CMR 22.20A (6)(a)7. Daily average for chlorine dose in February at BWTF dropped to 1.2 mg/L from 1.3 mg/L as a result of this low dose incident.



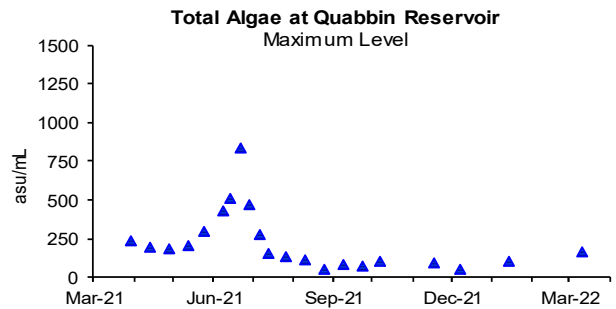
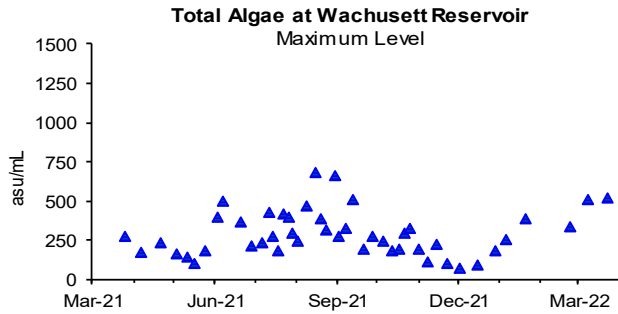
## Source Water - Algae

### 3rd Quarter – FY22

Algae levels in the Wachusett and Quabbin Reservoir are monitored by DCR and MWRA. These results, along with taste and odor complaints, are used to make decisions on source water treatment for algae control.

Taste and odor complaints at the tap may be due to algae, which originate in source reservoirs, typically in trace amounts. Occasionally, a particular species grows rapidly, increasing its concentration in water. When *Synura*, *Anabaena*, or other nuisance algae bloom, MWRA may treat the reservoirs with copper sulfate, an algaecide. During the winter and spring, diatom numbers may increase. While not a taste and odor concern, consumers that use filters may notice a more frequent need to change their filters.

In the 3rd quarter, there were no complaints which may be related to algae reported from the local water departments.

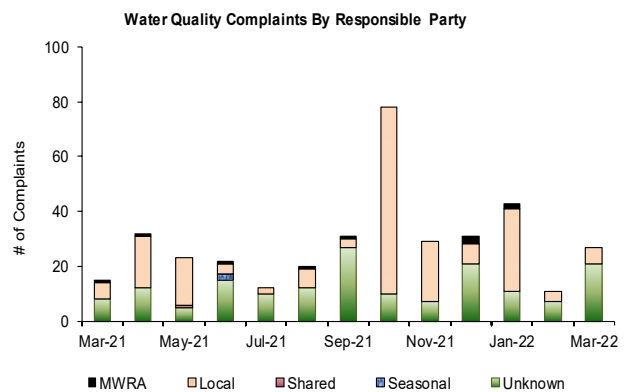
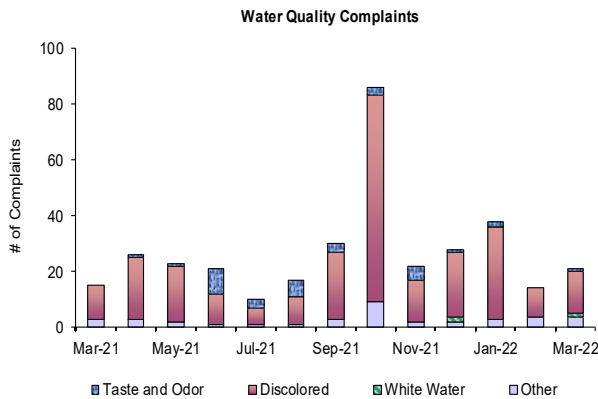


## Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

MWRA collects information on water quality complaints that typically fall into four categories: 1) discoloration due to MWRA or local pipeline work; 2) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3) white water caused by changes in pressure or temperature that traps air bubbles in the water; or 4) "other" complaints including no water, clogged filters or other issues.

MWRA routinely contacts communities to classify and tabulate water complaints from customers. This count, reflecting only telephone calls to towns, probably captures only a fraction of the total number of customer complaints. Field Operations staff have improved data collection and reporting by keeping track of more kinds of complaints, tracking complaints to street addresses and circulating results internally on a daily basis.

Communities reported 81 complaints during the quarter compared to 41 complaints from 3rd Quarter of FY21. Of these complaints, 58 were for "discolored water", 3 were for "taste and odor", 1 was for "white water", and 19 were for "other". Of these complaints, 40 were local community issues, 2 were MWRA related, and 39 were unknown in origin.





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

### 3rd Quarter – FY22

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 44 systems that use MWRA's Laboratory are reported below.

The MWRA TCR program has 144 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

Samples are tested for total coliform and *Escherichia coli* (*E.coli*). *E.coli* is a specific coliform species whose presence likely indicates potential contamination of fecal origin.

If *E.coli* are detected in a drinking water sample, this is considered evidence of a potential public health concern. Public notification is required if repeat tests confirm the presence of *E.coli* or total coliform.

Total coliform provide a general indication of the sanitary condition of a water supply. If total coliform are detected in more than 5% of samples in a month (or if more than one sample is positive when less than 40 samples are collected), the water system is required to investigate the possible source/cause with a Level 1 or 2 Assessment, and fix any identified problems.

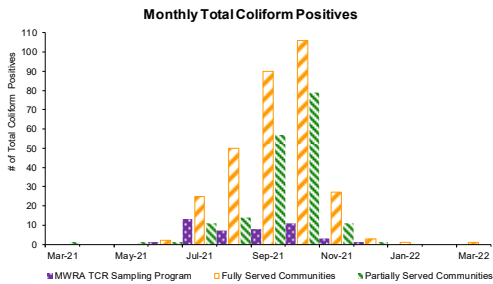
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

### Highlights

In the 3rd Quarter, two of the 6,664 samples (0.03% system-wide) submitted to MWRA labs for analysis tested positive. No communities were required to perform a Level Assessment. None of the 1905 MWRA locations or Community/MWRA Shared samples (0.00%) tested positive for total coliform. No samples tested positive for *E.coli*. Only 0.1% of the Fully Served community samples had chlorine residuals lower than 0.2 mg/L for the quarter.

### NOTES:

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



		Total Coliform		<i>E.coli</i> Positive	# Assessment Required	
		# Samples (b)	# (%) Positive			
MWRA	a	MWRA Locations	354	0 (0%)	0	
	Shared Community/MWRA sites	1551	0 (0%)	0		
		<b>Total: MWRA</b>	<b>1905</b>	<b>0 (0%)</b>	<b>0</b>	
Fully Served		ARLINGTON	156	0 (0%)	0	
		BELMONT	104	0 (0%)	0	
		BOSTON	779	0 (0%)	0	
		BROOKLINE	217	0 (0%)	0	
		CHELSEA	169	0 (0%)	0	
		DEER ISLAND	52	0 (0%)	0	
		EVERETT	169	0 (0%)	0	
		FRAMINGHAM	237	0 (0%)	0	
		LEXINGTON	120	0 (0%)	0	
		LYNNFIELD	18	0 (0%)	0	
		MALDEN	234	0 (0%)	0	
		MARBLEHEAD	72	0 (0%)	0	
		MARLBOROUGH	126	0 (0%)	0	
		MEDFORD	208	0 (0%)	0	
		MELROSE	117	0 (0%)	0	
		MILTON	102	0 (0%)	0	
		NAHANT	30	0 (0%)	0	
		NEWTON	276	0 (0%)	0	
		NORTHBOROUGH	48	0 (0%)	0	
		NORWOOD	99	0 (0%)	0	
		QUINCY	364	0 (0%)	0	
		READING	130	0 (0%)	0	
		REVERE	198	1 (0.51%)	0	No
		SAUGUS	104	0 (0%)	0	
		SOMERVILLE	255	1 (0.39%)	0	No
		SOUTHBOROUGH	30	0 (0%)	0	
		STONEHAM	91	0 (0%)	0	
		SWAMPSCOTT	51	0 (0%)	0	
		WALTHAM	215	0 (0%)	0	
		WATERTOWN	130	0 (0%)	0	
		WESTON	45	0 (0%)	0	
		WINTHROP	66	0 (0%)	0	
		<b>Total: Fully Served</b>	<b>5072</b>	<b>2 (0.04%)</b>		
Partially Served		BEDFORD	57	0 (0%)	0	
		BURLINGTON	151	0 (0%)	0	
		CANTON	90	0 (0%)	0	
		NEEDHAM	123	0 (0%)	0	
		PEABODY	206	0 (0%)	0	
		WAKEFIELD	138	0 (0%)	0	
		WELLESLEY	114	0 (0%)	0	
		WILMINGTON	87	0 (0%)	0	
		WINCHESTER	91	0 (0%)	0	
		WOBURN	199	0 (0%)	0	
		<b>Total: Partially Served</b>	<b>1256</b>	<b>0 (0.0%)</b>		
CVA		MWRA CVA Locations	103	0 (0%)	0	
		CHICOPEE	186	0 (0%)	0	
		SOUTH HADLEY FD1	61	0 (0%)	0	
		WILBRAHAM	46	0 (0%)	0	
		<b>Total: CVA</b>	<b>396</b>	<b>0 (0%)</b>		
		<b>Total: Community Samples</b>	<b>6664</b>	<b>2 (0.03%)</b>		

### Chlorine Residuals in Fully Served Communities

	2021												2022		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
% <0.1	0.0	0.0	0.0	0.1	0.3	0.3	0.7	0.9	0.5	0.4	0.1	0.1	0.0		
% <0.2	0.0	0.0	0.0	0.2	0.7	1.3	2.8	3.1	1.7	0.8	0.1	0.2	0.0		
% <0.5	0.2	0.3	0.2	0.6	2.6	6.0	12.3	10.9	7.4	2.8	1.1	1.1	0.5		
% <1.0	1.5	2.0	1.0	2.1	8.6	17.3	27.9	26.2	15.7	7.3	3.7	4.1	2.3		
% ≥1.0	98.5	98.0	99.0	97.9	91.4	82.7	72.1	73.8	84.4	92.7	96.3	95.9	97.7		

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

### 3rd Quarter – FY22

Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. TTHMs and HAA5s are of concern due to their potential adverse health effects at high levels. EPA’s locational running annual average (LRAA) standard is 80 µg/L for TTHMs and 60 µg/L for HAA5s.

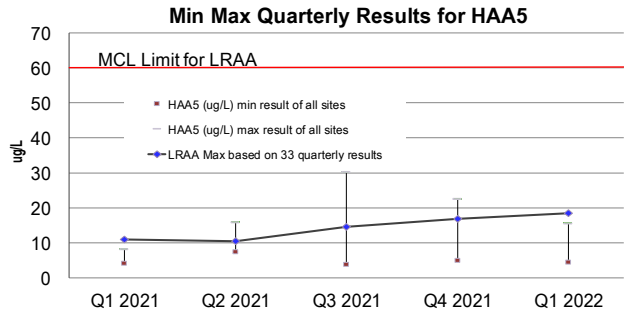
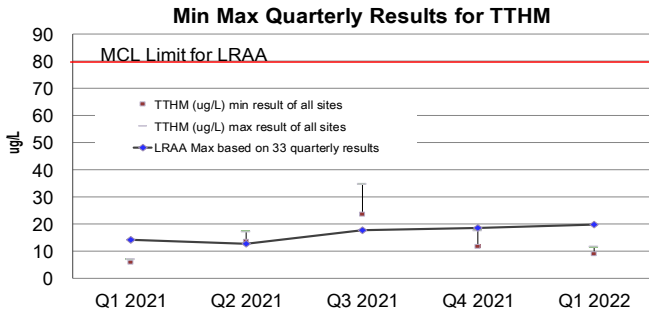
The locational running annual average calculated quarterly at each individual sampling location must be below the Total HAA5 or Total TTHM MCL standard. The charts below show the highest and lowest single values for all sites, and the LRAA of the highest location each quarter.

Partially served and CVA communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their individual results. The chart below combines data for all three CVA communities data (Chicopee, Wilbraham and South Hadley FD1). Each community is regulated individually.

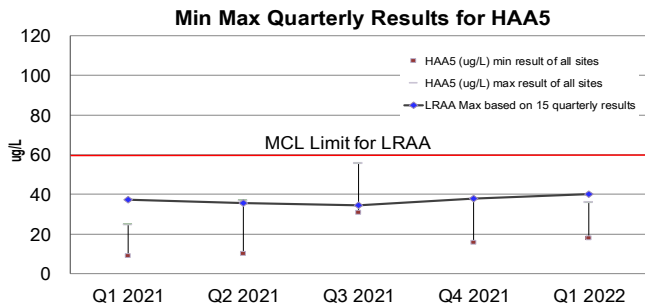
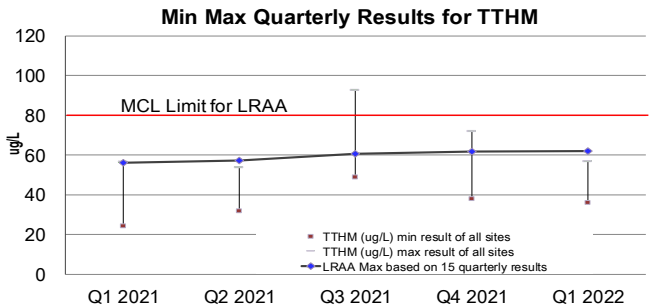
Bromate is tested monthly as required for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA’s RAA MCL standard for bromate is 10 µg/L.

The LRAA for TTHMs and HAA5s for MWRA’s Compliance Program (represented as the line in the top two graphs below) remain below current standards. The Max LRAA in the quarter for TTHMs = 19.8 µg/L; HAA5s = 18.6 µg/L. The current RAA for Bromate = 0.0 µg/L. No LRAA exceedances or violations occurred this quarter for MetroBoston and any of the CVA communities. MWRA and the CVA communities continue to closely monitor and manage the disinfection process to minimize DBP production.

### MetroBoston Disinfection By-Products



### CVA Disinfection By-Products (Combined Results)



# Water Supply and Source Water Management

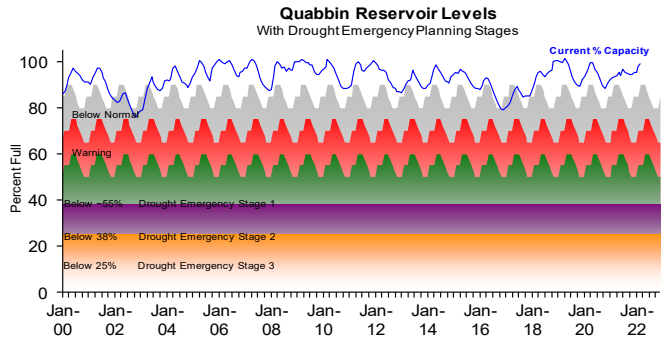
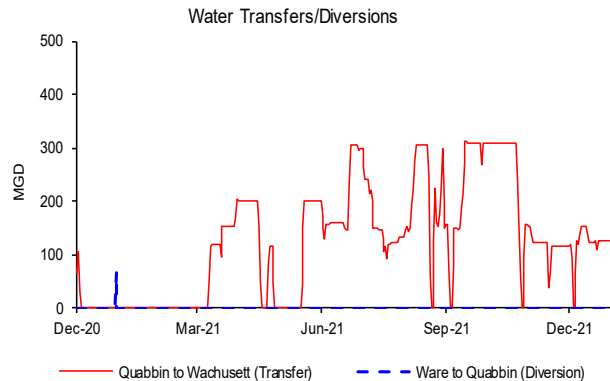
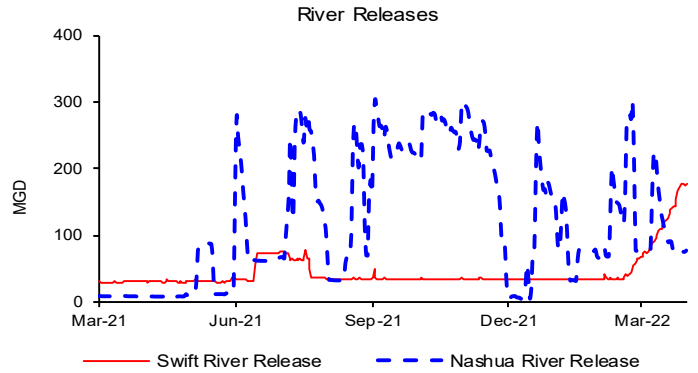
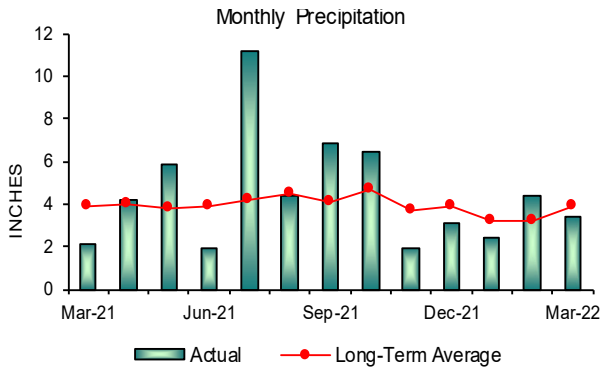
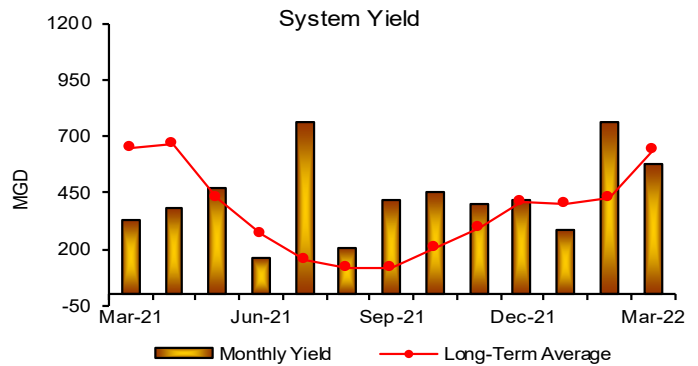
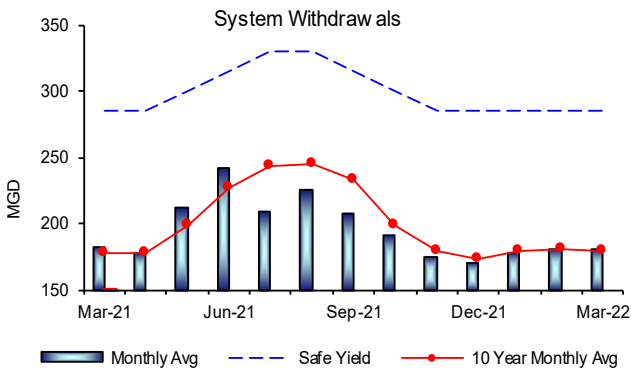
3rd Quarter – FY22

## Background

A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir was designed to effectively supply water to the service areas under a range of climatic conditions and has the ability to endure a range of fluctuations. Wachusett Reservoir serves as a terminal reservoir to meet the daily demands of the Greater Boston area. A key component to this reservoir's operation is the seasonal transfer of Quabbin Reservoir water to enhance water quality during high demand periods. On an annual basis, Quabbin Reservoir accounts for nearly 50% of the water supplied to Greater Boston. The water quality of both reservoirs (as well as the Ware River, which is also part of the System Safe Yield) depend upon implementation of DCR's DEP-approved Watershed Protection Plans. System Yield is defined as the water produced by its sources, and is reported as the net change in water available for water supply and operating requirements.

## Outcome

The volume of the Quabbin Reservoir was at 99.1% as of March 31, 2022; a 3.9 % increase for the quarter, which represents a gain of more than 15.8 billion gallons of storage and an increase in elevation of 2.06'. System withdrawal and precipitation were below their long term quarterly average. Yield for the quarter was above its long term quarterly average. Quabbin is in Normal Operating Range for this time of year. Quabbin began spilling on February 12, and spilled a total of 2.6 BG during the quarter. A total of 10.3 BG was released from Wachusett Reservoir during the quarter.



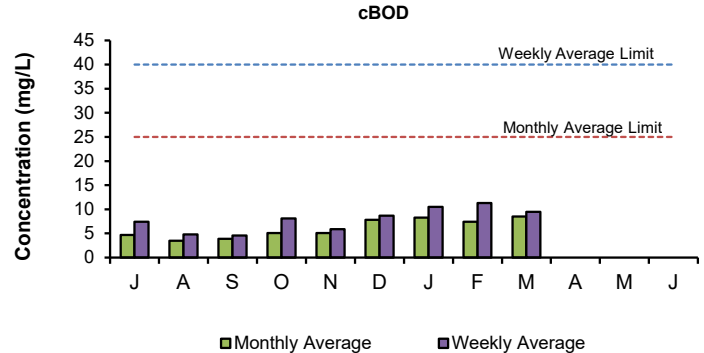
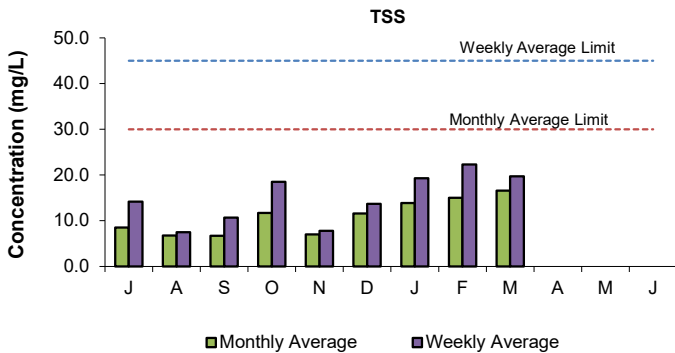
# WASTEWATER QUALITY

## NPDES Permit Compliance: Deer Island Treatment Plant 3rd Quarter - FY22

### NPDES Permit Limits

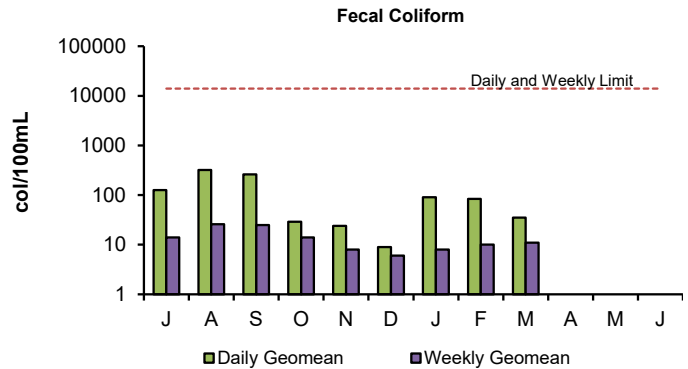
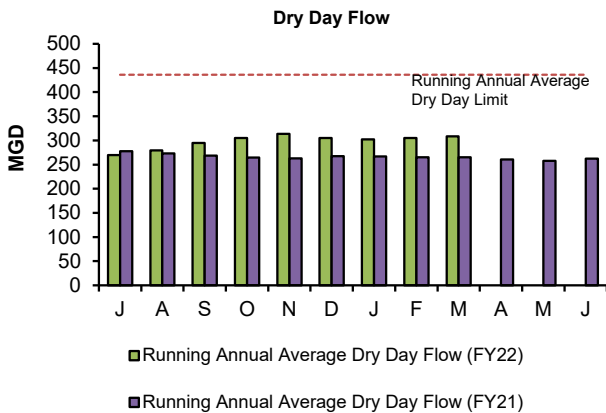
Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY22 YTD Violations
Dry Day Flow (365 Day Average):		mgd	436	302.4	304.8	308.3	0	0
cBOD:	Monthly Average	mg/L	25	8.3	7.4	8.5	0	0
	Weekly Average	mg/L	40	10.5	11.3	9.5	0	0
TSS:	Monthly Average	mg/L	30	13.9	15.0	16.6	0	0
	Weekly Average	mg/L	45	19.3	22.3	19.7	0	0
TCR:	Monthly Average	ug/L	456	0.0	0.0	0.4	0	0
	Daily Maximum	ug/L	631	0.0	0.0	13.3	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	91	84	35	0	0
	Weekly Geometric Mean	col/100mL	14000	8	10	11	0	0
	% of Samples >14000	%	10	0	0	0	0	0
	Consecutive Samples >14000	#	3	0	0	0	0	0
pH:		SU	6.0-9.0	6.5-7	6.5-7.0	6.5-7	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
	Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	≥1.5	100	100	100	0	0
	Inland Silverside	%	≥1.5	100	50	50	0	0

There have been no permit violations in FY22 to date at the Deer Island Treatment Plant (DITP).



Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 3rd Quarter were within permit limits.

Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 3rd Quarter were within permit limits.



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 3rd Quarter was well below the permit limit of 436 MGD.

Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 3rd Quarter, all permit conditions for fecal coliform were met.

## NPDES Permit Compliance: Clinton Wastewater Treatment Plant 3rd Quarter - FY22

### NPDES Permit Limits

Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY22 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	3.12	3.24	3.31	3	6
BOD:	Monthly Average:	mg/L	20	3.20	3.50	1.40	0	0
	Weekly Average:	mg/L	20	4.00	4.20	2.10	0	0
TSS:	Monthly Average:	mg/L	20	4.90	4.80	2.80	0	0
	Weekly Average:	mg/L	20	5.80	6.90	4.30	0	0
pH:		SU	6.5-8.3	7.2-7.6	7-7.7	7-8.1	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	10.00	9.10	10.10	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	5	5	5	0	0
	Daily Geometric Mean:	cfu/100mL	409	7	10	7	0	0
TCR:	Monthly Average:	ug/L	17.6	0.00	0.00	0.00	0	0
	Daily Maximum:	ug/L	30.4	0.00	0.00	0.00	0	0
Copper:	Monthly Average:	ug/L	11.6	9.20	10.00	7.15	0	0
	Daily Maximum:	ug/L	14.0	9.20	10.00	8.19	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	10.0	0.00	0.09	0.12	0	0
	Daily Maximum:	mg/L	35.2	0.00	0.19	0.41	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	ug/L	1000	449	245	86	0	0
	Daily Maximum:	ug/L	RPT	620	370	211	0	0
Acute Toxicity <sup>+</sup> :	Daily Minimum:	%	≥100	N/A	N/A	>100	0	0
Chronic Toxicity <sup>+</sup> :	Daily Minimum:	%	≥62.5	N/A	N/A	62.5	0	0

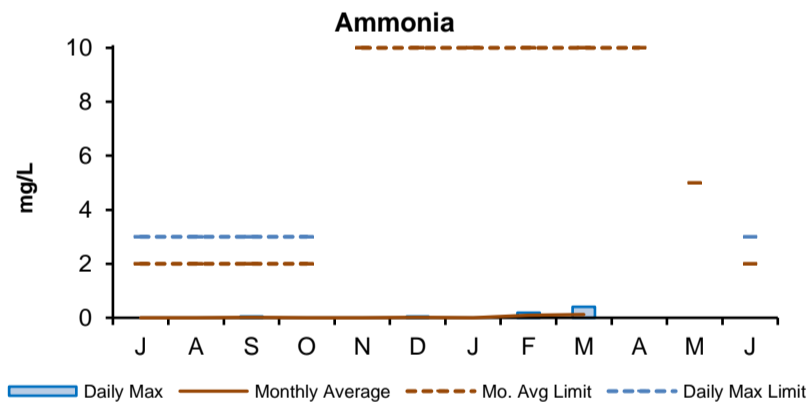
There have been six permit violations at the Clinton Treatment Plant in FY22.

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

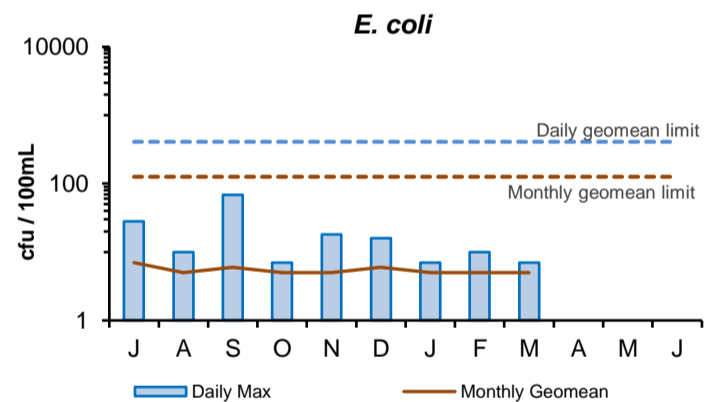
**2nd Quarter:** There were three permit violations in the second quarter, all rolling average flow exceedances. The 12-month rolling average flow exceeded 3.01 MGD in the 2nd quarter due to excessive rains in the region during summer 2021.

**3rd Quarter:** There were three permit violations in the third quarter, all rolling average flow exceedances. The 12-month rolling average flow exceeded 3.01 MGD in the 3rd quarter due to excessive rains in the region during summer 2021.

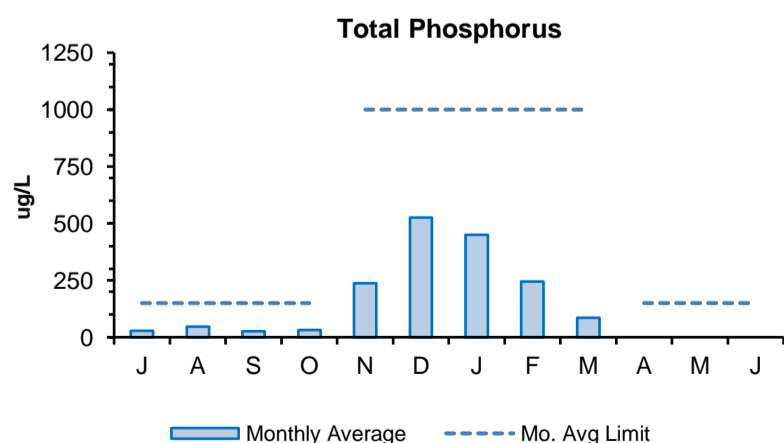
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



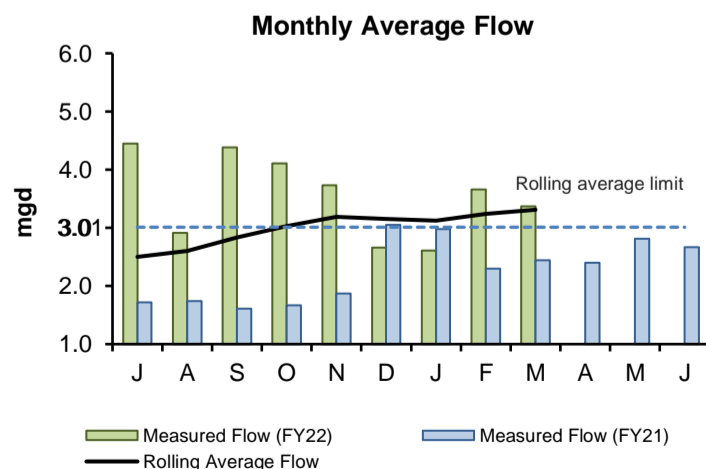
The 3rd Quarter's monthly average and daily maximum concentrations of ammonia were below the permit limits. The monthly average and daily maximum limits for the 3rd Quarter are variable. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.



*E. coli* is an indicator for the possible presence of pathogens. There were no violations of permit limits in the 3rd Quarter. The monthly and daily limits are 126 cfu/100 mL and 409 cfu/100 mL respectively.



Total phosphorus limits are most stringent during the growing season from April to October. The 3rd Quarter's monthly average concentrations for total phosphorus were below permit limits.



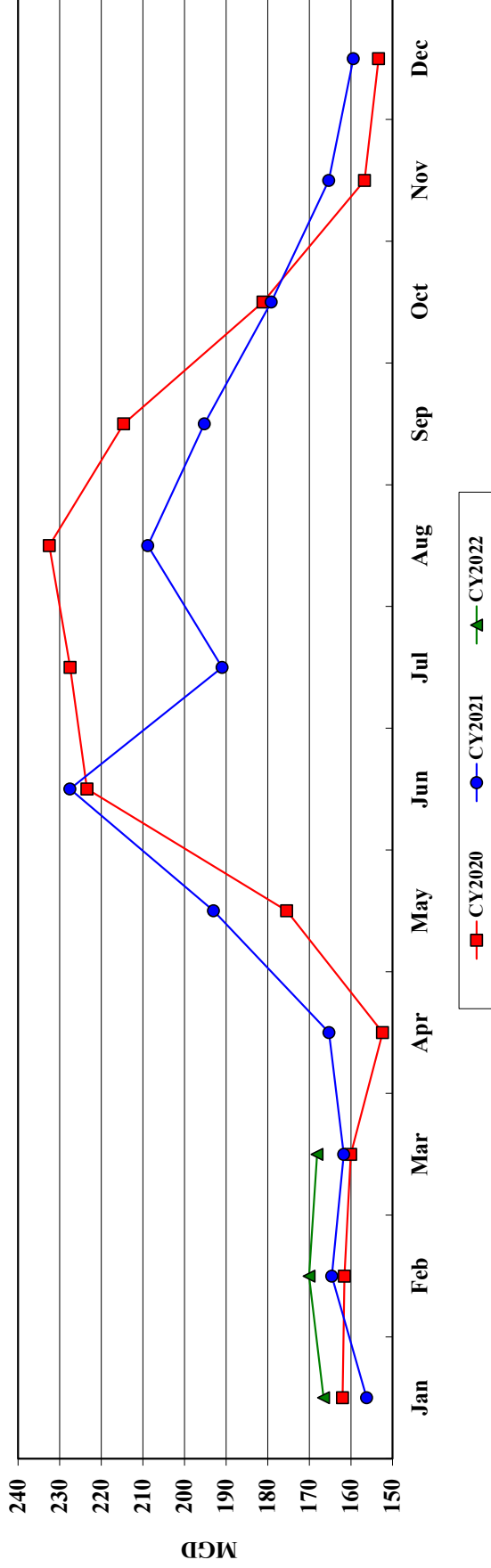
The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 3rd Quarter were above the permit limit.

# COMMUNITY FLOWS AND PROGRAMS

# Customer Water Use

3rd Quarter - FY22

## MWRA Water Supplied: All Revenue Customers



MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2020	162.016	161.551	160.018	152.368	175.435	223.405	227.454	232.496	214.617	181.110	156.727	153.367	244.467	183.462
CY2021	156.213	164.567	161.697	165.284	192.998	227.522	190.945	208.810	195.229	179.116	165.302	159.442	160.701	180.641
CY2022	166.570	170.056	168.115	-	-	-	-	-	-	-	-	-	168.187	168.187

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2020	5,022.510	4,684.968	4,960.567	4,571.025	5,438.470	6,702.146	7,051.078	7,207.384	6,438.520	5,614.399	4,701.821	4,754.375	14,668.045	67,147.263
CY2021	4,842.593	4,607.873	5,012.608	4,958.533	5,982.944	6,825.661	5,919.300	6,473.120	5,856.857	5,552.611	4,959.064	4,942.705	14,463.074	65,933.870
CY2022	5,163.682	4,761.563	5,211.556	-	-	-	-	-	-	-	-	-	15,136.802	15,136.802

The March 2022 Community Water Use Report was recently distributed to communities served by the MWRA Metropolitan and Chicopee Valley waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2022 water use will be used to allocate the FY2024 water utility rate revenue requirement.

MWRA customers used an average of 168.19 mgd in the 3rd quarter (Jan-Mar 2022) of FY2022. This is an increase of 7.5 mgd or 4.7% compared to the 3rd quarter of FY2021.

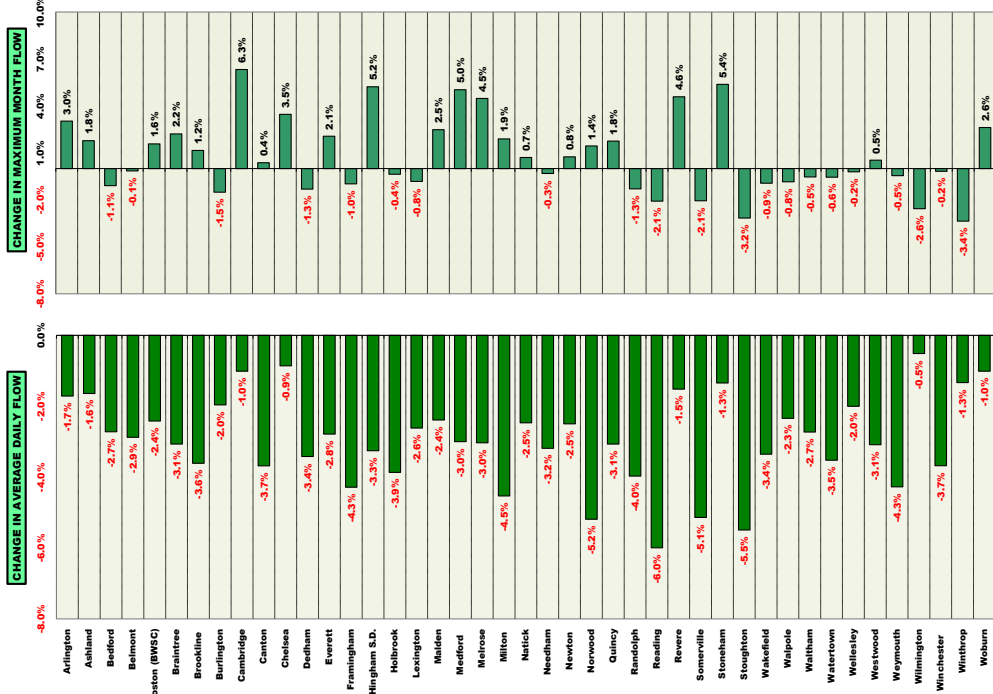


# Community Wastewater Flows

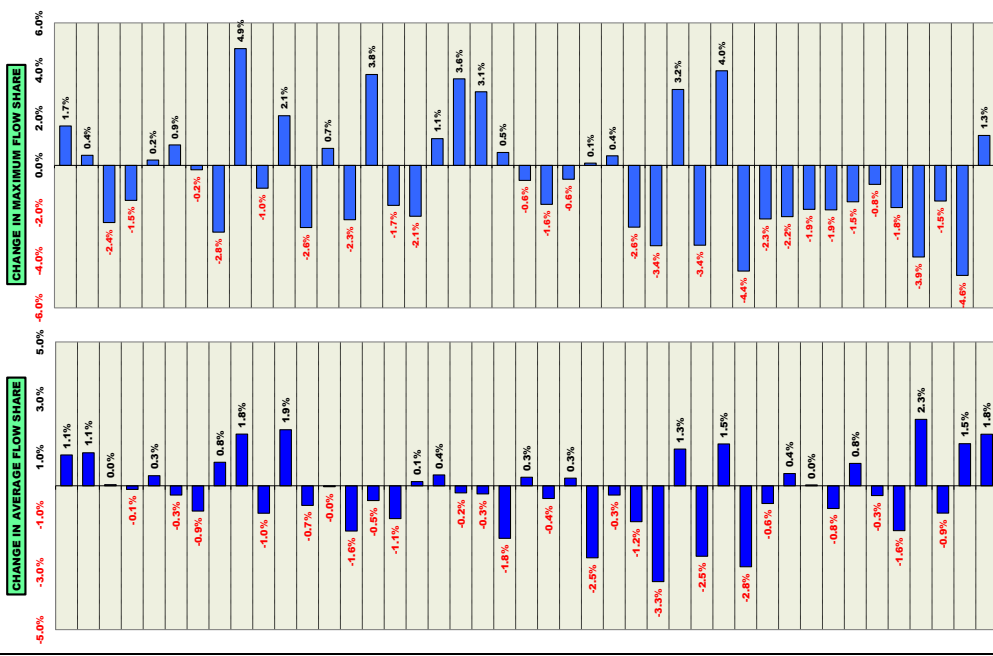
## 3rd Quarter - FY22

### How CY2019-21 Community Wastewater Flows Could Effect FY2023 Sewer Assessments

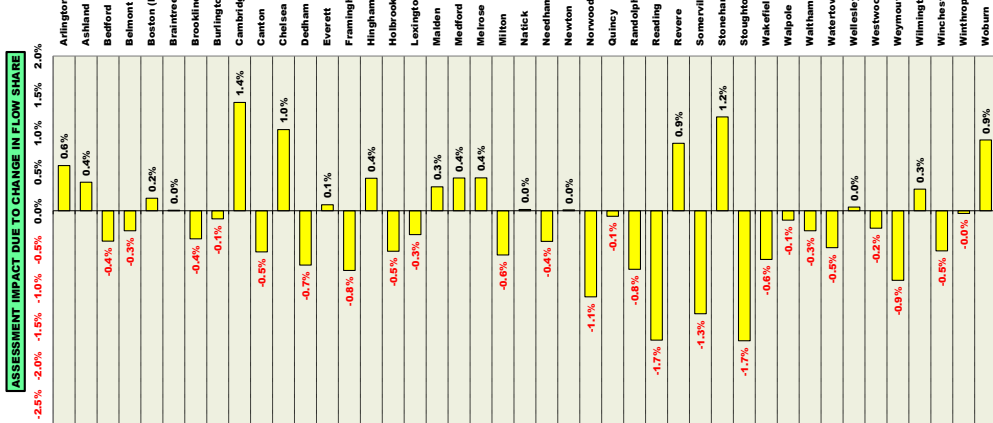
The flow components of FY2023 sewer assessments will be calculated using a 3-year average of CY2019 to CY2021 wastewater flows compared to FY2022 assessments that will use a 3-year average of CY2018 to CY2020 wastewater flows.



But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2019 to CY2021 flow share compared to CY2018 to CY2020 flow share, compared to all other communities in the system.



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



<sup>1</sup> MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.  
<sup>2</sup> Based on actual flows for 2018 and 2019, and January to March, and June to December 2020. April & May 2020 based on the average of three prior years, adjusted for 2020 water use. January to December 2021 estimate based on the average of the three prior years.  
<sup>3</sup> Flow data is preliminary and subject to change pending additional MWRA and community review.  
<sup>4</sup> Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

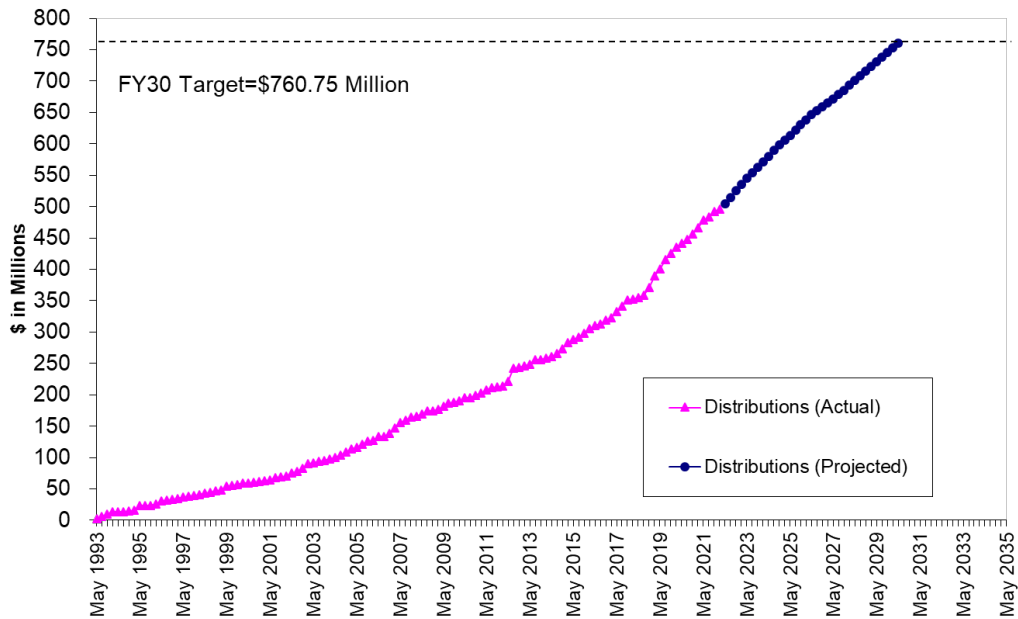
# Community Support Programs

## 3<sup>rd</sup> Quarter – FY22

### Infiltration/Inflow Local Financial Assistance Program

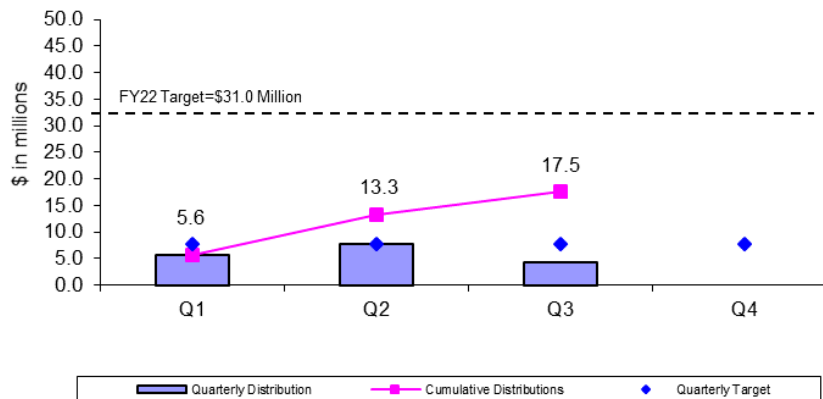
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$760.75 million in grants and interest-free loans (average of about \$20 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total \$300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 through 12 funds (total \$360 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. Phase 13 provides an additional \$100 million in ten-year loan-only funds.

### I/I Local Financial Assistance Program Distribution FY93-FY30



During the 3rd Quarter of FY22, \$4.2 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Arlington, Brookline and Weymouth. Total grant/loan distribution to date for FY22 is \$17.4 million. From FY93 through the 3rd Quarter of FY22, all 43 member sewer communities have participated in the program and \$496 million has been distributed to fund 642 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

### FY22 Quarterly Distributions of Sewer Grant/Loans



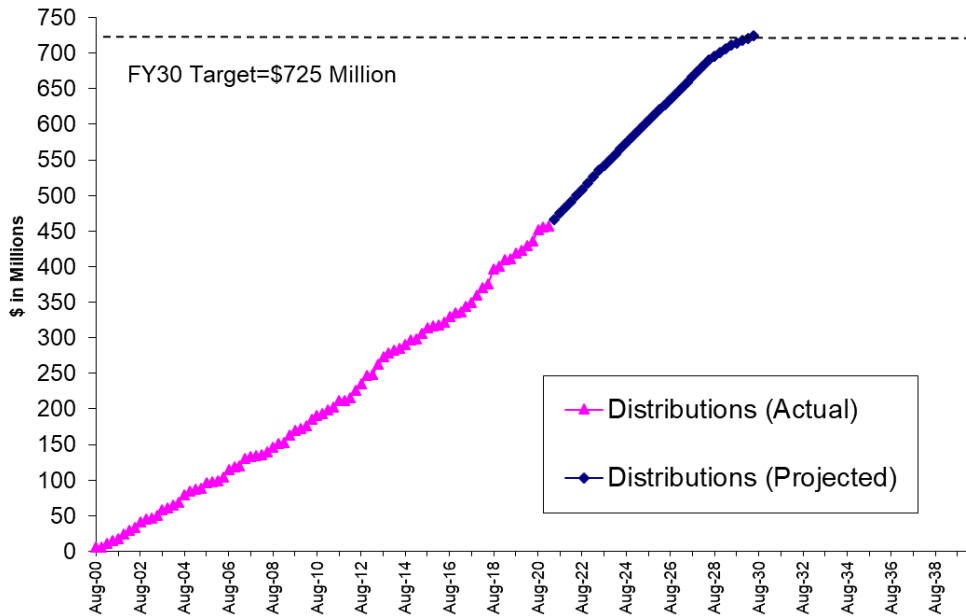
# Community Support Programs

## 3<sup>rd</sup> Quarter – FY22

### Local Water System Assistance Program

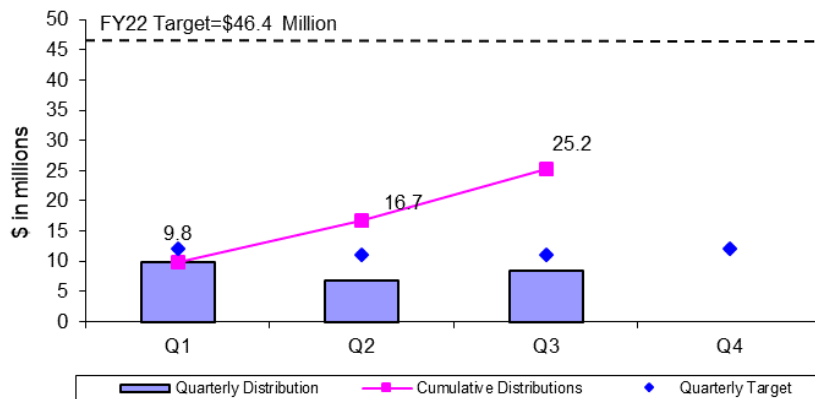
MWRA's Local Water System Assistance Programs (LWSAP) provides \$725 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There have been 3 phases: Phase 1 at \$222 Million, Phase 2 at \$210 Million, and Phase 3 at \$293 Million. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with \$222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY23. The Phase 3 Water Loan Program is authorized for distributions FY18 through FY30.

### Local Water System Assistance Program Distribution FY01-FY30



During the 3<sup>rd</sup> Quarter of FY22, \$8.5 million in interest-free loans was distributed to fund local water projects in Arlington, Malden, and Weston. Total loan distribution to date for FY22 is \$25.2 million. From FY01 through the 3<sup>rd</sup> Quarter of FY22, \$492 million has been distributed to fund 496 local water system rehabilitation projects in 43 MWRA member water communities. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

### FY22 Quarterly Distributions of Water Loans



# Community Support Programs

3<sup>rd</sup> Quarter – FY22

## Lead Service Line Replacement Loan Program

By its vote on March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide up to \$100 million in 10-year zero-interest loans to communities solely for efforts to fully replace lead service lines. The Lead Service Line Replacement Loan Program is also referenced as the Lead Loan Program or LLP. Each community can develop its own program, tailored to their local circumstances. MWRA's goal in providing financial assistance to member communities is to improve local water systems so that the high quality water MWRA delivers can make it all the way to the consumer's tap. The presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines are in use.

FY17 was the first year of the Lead Service Line Replacement Loan Program – MWRA made three Lead Loans.

FY18 was the second year of the Lead Loan Program - MWRA made five Lead Loans.

FY19 was the third year of the Lead Loan Program - MWRA made four Lead Loans.

FY20 was the fourth year of the Lead Loan Program - MWRA made eight Lead Loans.

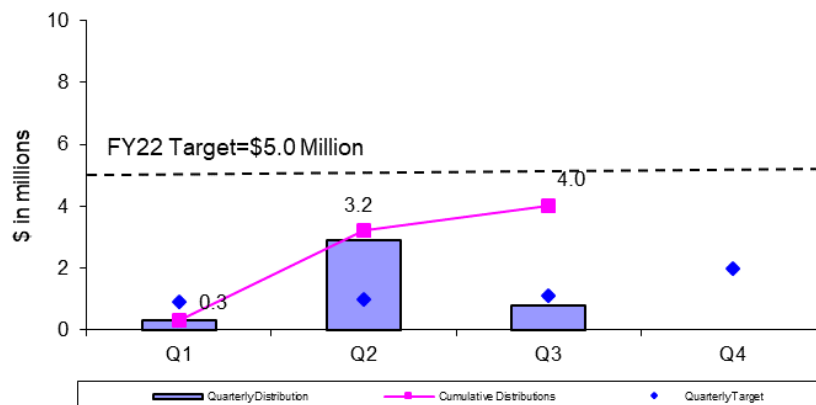
FY21 is the fifth year of the Lead Loan Program – MWRA made seven Lead Loans.

FY22 is the sixth year of the Lead Loan Program – MWRA made four Lead Loans in the first three quarters.

Summary of Lead Loans:

Winthrop in FY22	\$0.8 Million	Winthrop in FY18	\$0.3 Million
Somerville in FY22	\$1.6 Million	Marlborough in FY18	\$1.0 Million
Revere in FY22	\$1.3 Million	Newton in FY17	\$4.0 Million
Chelsea in FY22	\$0.3 Million	Quincy in FY17	\$1.5 Million
Watertown in FY21	\$0.6 Million	Winchester in FY17	\$0.5 Million
Marlborough in FY21	\$2.0 Million	<b>TOTAL</b>	<b>\$29.0 Million</b>
Everett in FY21	\$1.5 Million		
Boston in FY21	\$2.6 Million		
Winthrop in FY21	\$0.8 Million		
Chelsea in FY21	\$0.3 Million		
Winchester in FY21	\$0.6 Million		
Everett in FY20	\$0.5 Million		
Marlborough in FY20	\$1.0 Million		
Winchester in FY20	\$0.6 Million		
Winthrop in FY20	\$0.7 Million		
Weston in FY20	\$0.2 Million		
Everett in FY20	\$1.0 Million		
Somerville in FY20	\$0.9 Million		
Chelsea in FY20	\$0.3 Million		
Marlborough in FY19	\$1.0 Million		
Winthrop in FY19	\$0.5 Million		
Chelsea in FY19	\$0.1 Million		
Everett in FY19	\$1.0 Million		
Needham in FY18	\$1.0 Million		
Winchester in FY18	\$0.5 Million		
Revere in FY18	\$0.2 Million		

**FY22 Quarterly Distributions of Lead Service Line Replacement Loans**

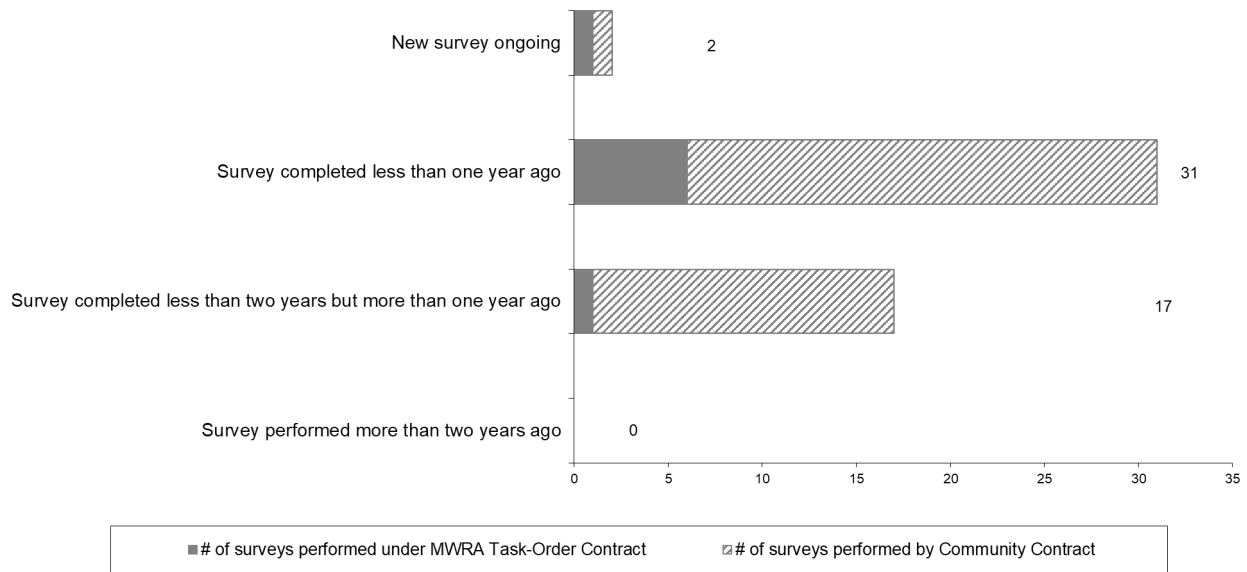


## Community Support Programs

3<sup>rd</sup> Quarter – FY22

### Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA’s task order leak detection contract. MWRA’s task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 3<sup>rd</sup> Quarter of FY22, all member water communities were in compliance with MWRA’s Leak Detection Regulation.



### Community Water Conservation Outreach

MWRA’s Community Water Conservation Program helps to maintain average water demand below the regional water system’s safe yield of 300 mgd. Current 5-year average water demand is less than 200 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor - outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, and toilet leak detection dye tabs), all at no cost to member communities or individual customers. The Program’s annual budget is \$25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	732	11,057	33		11,822
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,070	970	372		2,412
Toilet Leak Detection Dye Tablets	_____	1,432	657	1,344		2,433

## BUSINESS SERVICES

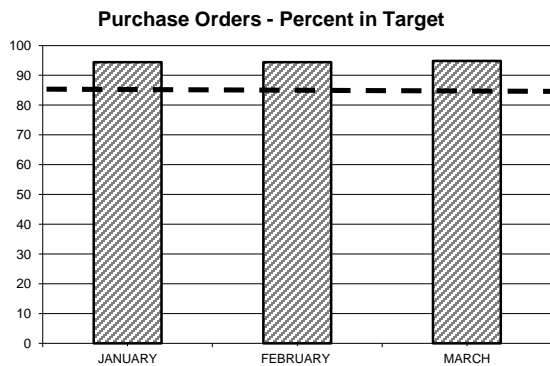
# Procurement: Purchasing and Contracts

## 3rd Quarter - FY22

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

**Outcome:** Processed 95% of purchase orders within target; Average Processing Time was 4.51 days vs. 3.77 days in Quarter 3 of FY21. Processed 54% (7 of 13) of contracts within target timeframes; Average Processing Time was 203 days vs. 204 days in Quarter 3 of FY21.

### Purchasing



	No.	TARGET	PERCENT IN TARGET
\$0 - \$500	495	3 DAYS	89.8%
\$500 - \$2K	610	7 DAYS	97.8%
\$2K - \$5K	447	10 DAYS	97.3%
\$5K - \$10K	46	25 DAYS	91.3%
\$10K - \$25K	90	30 DAYS	92.2%
\$25K - \$50K	20	60 DAYS	60.0%
Over \$50K	29	90 DAYS	100.0%

The Purchasing Unit processed 1737 purchase orders, 152 less than the 1889 processed in Qtr 3 of FY21 for a total value of \$12,639,174 versus a dollar value of \$6,056,680 in Qtr 3 of FY22.

The purchase order processing target was not met for the \$25K - \$50K category due to specification revisions and staff summary requirements.

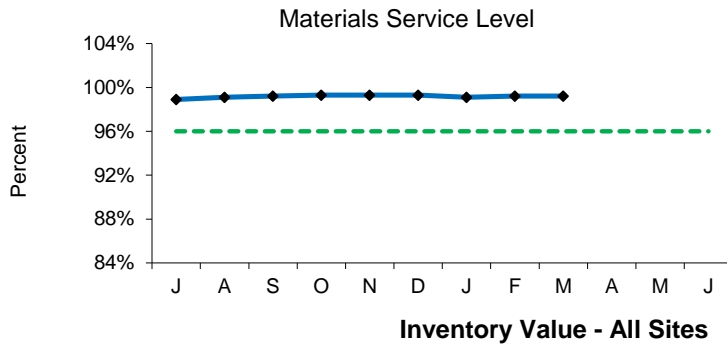
### Contracts, Change Orders and Amendments

Procurement executed thirteen contracts with a value of \$25,512,383 and four amendments with a value of \$2,426,113. Twenty five change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY22 was \$1,762,194 and the value of credit change orders was (\$322,451).

Six contracts were not executed within the target timeframes. One contract was delayed due to delays receiving signed documents from the contractor. Another contract was delayed due to staff summary requirements. A third contract was not executed within the target timeframe due to the decision to extend the existing contract. A fourth contract required additional time to review contract specifications and another was delayed due to the additional time required to prepare the project specifications to reflect a Chapter 30 project. The final contract was not executed within the target timeframe due to the need for one of the filed sub-bid categories for the contract to be re-bid in order to clarify the scope of the work/bid documents.

Staff reviewed 9 proposed change orders and 7 draft change orders.

## Materials Management 3rd Quarter - FY22



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,014 (99.2%) of the 7,070 items requested in Q3 from the inventory locations for a total dollar value of \$1,286,741.

Inventory goals focus on:

- Maintaining optimum levels of consumables and spare parts inventory
- Adding new items to inventory to meet changing business needs
- Reviewing consumables and spare parts for obsolescence
- Managing and controlling valuable equipment and tools via the Property Pass Program

The FY22 goal is to reduce consumable inventory from the July '21 base level (\$8.7 million) by 2.0% (approximately \$175,120), to \$8.5 million by June 30, 2022.

Items added to inventory this quarter include:

- Deer Island – hydraulic, engine, fuel, air and oil filters for Fleet Services; nylon brushes and wire wheels for HVAC; pressure gauges, motor brushes and cables for Electrical; flooring for B&G.
- Chelsea –flow monitor gaskets, fuses, headlamps and transmitters for Metering; expansion joints, retainer ring set, saw blades, air and fuel filters and pump for Planning; sensor assembly for Operations Engineering.
- Southboro – ball valves, elbows, adapters, tees, reducing bushings, couplings and unions for Plumbing; portable batteries for all Trades.

Property Pass Program:

- Twelve audits were conducted during Q3.
- Scrap revenue received for Q3 amounted to \$15,445. Year to date revenue received amounted to \$40,908.
- Revenue received from online auctions held during Q3 amounted to \$22,239. Year to date revenue received amounted to \$485,195.

Items	Base Value July-21	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	8,756,035	9,073,242	317,207
Spare Parts	9,317,998	9,316,109	-1,889
<b>Total</b>	<b>18,074,033</b>	<b>18,389,351</b>	<b>315,318</b>

**Note:** New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

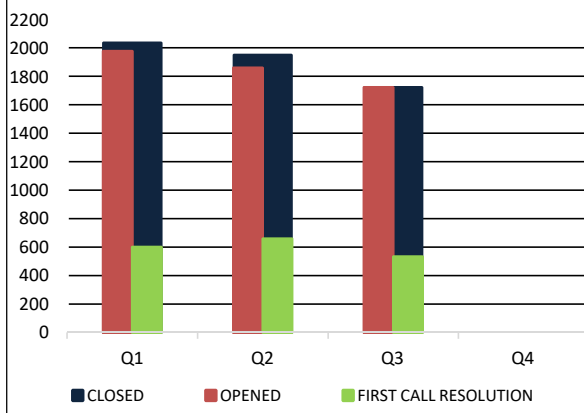


# MIS Program

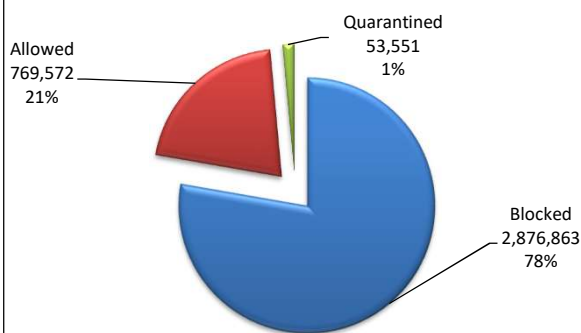
3rd Quarter – FY22

## Numbers & Statistics

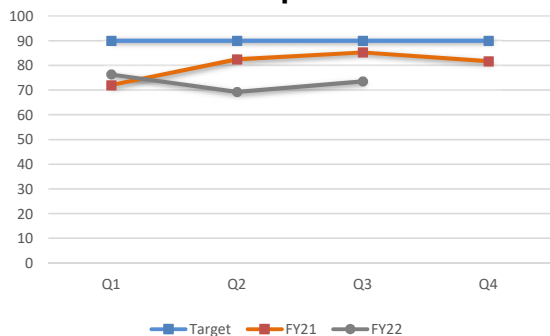
### Monthly Call Volume



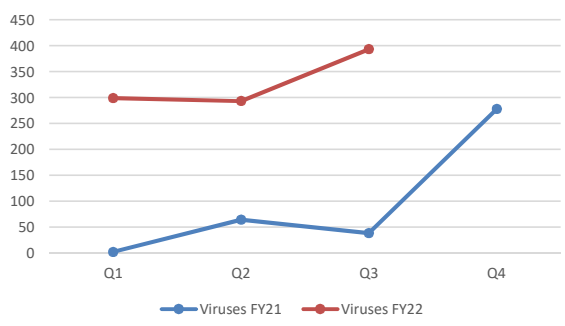
### Emails Received: 3,699,986



### PC Compliance



### Viruses Caught by McAfee



## Project Updates

### Infrastructure & Security

**Managed Security Services Contract:** A six month extension of the existing MSSP contract is being procured. The scope continues to be drafted for the new MSSP contract advertisement of the new procurement is anticipated for May.

**Identity and Access Management:** Implementation of the Okta single sign-on (SSO) solution was started during Q2 and is targeted to complete in Q4. Initial integrations will be with Webex, GIS and LMS.

**PBX (Telephone System Upgrade):** Verizon network circuit upgrades were completed in Chelsea, Pellet Plant, Nut Island, CWTP, Walpole and Clinton sites. While circuit upgrades are underway, the server configurations are nearing completion, with functional tests underway. Pilot group cutover scheduled for April.

**Expansion of Wi-Fi Networking:** Wireless is now available at CWTP and DI Primary Ops. Cabling updates and Wi-Fi access point installation continued to be scoped and implemented in DI.

**Cyber Security Awareness Training:** New cycle for cyber security awareness training has begun. MIS has begun to identify updated or new modules that will be part of the curriculum. Timing and coordination are still being considered.

**Laptop Deployment:** Deployment of laptops to approved teleworkers that are currently using their own devices has started and is 20% complete.

**Cell Phone Upgrades:** iPhone 8 to iPhone 11 upgrade completed.

### Other Software & Custom Applications

**A&F Year End:** Assisted the Treasury Department in producing year end tax forms and filed the 2021 1099 tax forms electronically to the Internal Revenue Service for the first time, subsequently correcting one via the same process.

**ECM/Electronic Document Management:** Continued to meet on data and document migration, file structure, CADD standards, naming conventions, etc. Vendor continued to build out new workflow processes, set up the backend repository that will hold all MWRA drawings going forward, and continued to provision the physical records module. Process for moving over electronic files was defined and disseminated to end users in anticipation of the full migration.

**MWRA Website Replacement:** SOW was rewritten to include option for cloud solutions and updated Form 2 began routing. Anticipated posting of RFQ/P in May.

**Learning Management System:** Several data issues were discovered prior to anticipated go-live. Continued to work on resolving those issues along with adding courses and certificate programs to the system. New anticipated go-live date scheduled for June.

**PIMS:** Dental Permitting fees completed and invoiced (738 permits for a total of \$150,756). Installed two new software releases that contained several enhancements and bug fixes.

### Library, Record Center, & Training

**Library:** undertook 22 research requests, supplied 12 books for circulation, provided 10 articles, and 11 new standards. The MWRA Library Portal supported 675 end user searches. Research topics included: Alewife Reservation and Alewife CSO, Alewife Brook sediment, Wachusett Lower Gatehouse-Venturi Meters, Green Infrastructure Funding.

**Record Center (RC):** The Record Center added 79 new boxes, handled 144 total boxes, and shredded (25) 65 gallon bins of confidential documentation on-site. It performed 126 database/physical box searches for multiple departments on various topics, including administrative info, law cases, and project documents for Engineering.

**Training:** Training: In Q3, 47 online IT lessons were taken, by 14 employees, spanning 52 hours (260 YTD). 2 total sessions of 2 standard class lessons were taken by 7 employees, spanning 7 hours (312 YTD). 1 outside certification was earned (4 YTD), by 2 employees (7, YTD), spanning 48 hours (320 YTD).

**Legal Matters**  
**3rd Quarter FY 2022**

**PROJECT ASSISTANCE**

**Real Estate, Contract, Environmental and Other Support:**

- **8(m) Permits and Licenses:** Reviewed one hundred and thirty (130) 8(m) permits. Finalized amendment to public access 8(m) permit for the Town of Southborough. Drafted Amendment to Northborough Public Access 8 (m) permit.
- **Real Property:** Drafted Traffic Signalization Memorandum of Agreement; researched property interests along Griffin Way and Eastern Avenue, Chelsea for Traffic Signalization project. Researched and reviewed Article 97 for acquisition of property interests for Tunnel Redundancy Project. Finalized legal review of Quabbin Watershed Preservation Restriction – W-001227 and Wachusett Watershed Fee Acquisition W-001217. Reviewed MWRA property rights in the area of 9 Ledges Road in Newton, MA. Revised language and reviewed revised plan for grant of temporary and permanent water easements in Woburn, MA related to MWRA Contract 7117 – Northern Intermediate High Section 89 Replacement Pipeline. Mapping and overlay of property interests and various use restrictions for 125 Barton Road, Wellesley (Hegarty Pump Station). Researched and confirmed ownership for Elm Street Pump Station, Framingham. Reviewed Chelsea Creek Headworks parcels to determine ownership and title reference as well as property located between MDC/MWRA parcels; researched Suffolk Registry of Deeds and Land Court records and plans, reviewed historical MWRA memoranda regarding Chelsea Creek Headworks parcel and confirmed Land Court determination for property to update MWRA database. Reviewed Taking 424, Hultman Aqueduct, and confirmed Commonwealth’s ownership for Tunnel Redundancy. Reviewed property rights for 525 Lincoln Street in Brighton. Reviewed Chelsea lease requirements related to proposed improvements by landlord. Recorded Notice of Restriction for property at 340 Marginal Street, Chelsea. Reviewed title, plans, and documents for parcel concerning a land court case. Obtained plans and records for property development in Stoneham. Reviewed property rights in area of Beaver Brook Reservation for 6543 WASM3 Rehab project. Reviewed DCR construction permit process for accessing MWRA infrastructure.
- **Energy:** Reviewed U.S. Department of Energy (DOE) funding announcement and guidance under the Hydroelectric Production Incentive Program, which is mandated by Section 242 of the Energy Policy Act of 2005. Assisted with preparation of related DOE applications for the Loring Road and CVA Fish Hatchery hydro facilities. Reviewed Nstar Electric and Western Massachusetts Electric Company (d/b/a Eversource Electric) recent rate case filing (D.P.U. 22-22) and potential rate impacts to the Authority’s Deer Island and other facilities located in the Eversource service territory. Provided assistance regarding updates to the Interconnection Service Agreements for the Cosgrove and Oakdale hydropower facilities, as well as applicability of Commonwealth Small Hydro Net Metering Program to the Cosgrove facility. Reviewed and revised draft agreement between MWRA and Eversource regarding EV charging “make-ready” program at the MWRA Chelsea facility.
- **Environmental/NPDES:** Reviewed and revised one new water supply contract and two water supply renewal agreements. Prepared and finalized Amendment Three to a Memorandum of Agreement between the Authority and the Boston Water and Sewer Commission regarding the Union Park facility. Reviewed and prepared comments regarding EPA's general NDPEs permit for medium wastewater treatment facilities, which is applicable to MWRA's Clinton wastewater treatment facility. Reviewed and finalized Activity and Use Limitation, Opinion Letter, MMIP, and Notice of PCB Restriction documents related to Chelsea Creek Headworks facility project. Reviewed state PFAS task force draft report. Assisted TRAC with: (a) preparation of Penalty Assessment Notice; and (b) sewer use permit Request for Reconsideration.

- **Miscellaneous:** Drafted terms for Tunnel Redundancy consultant contract. Reviewed and approved documents for submission to Records Conservation Board for destruction. Prepared historical deeds, plans of land and easements for permanent archiving with Records Center. Researched MWRA land takings and added to database for mapping and archiving electronic records. Collaborated with Real Property Division to improve and expand Real Property/GIS interactive database with information for Alford Street Pump Station, Fore River Shipyard, Chelsea Creek Headworks and Caruso Pump Station. Updated schedule and sequencing of tasks for property acquisitions to support Tunnel Redundancy. Reviewed general conditions and advised on a warranty claim. Reviewed MWRA executive session minutes for real property and security matters and identified those for recommendation for release. Summarized House Bill 4345 and compared to Senate Bill 2622 and identified proposed terms applicable to MWRA. Collaborated with Tunnel Redundancy Department to outline process for disposition of real property interests by DCR and DCAMM. Reviewed IRS tax filing requirements and notice of sale for 167-175 School Street, Waltham and confirmed responsibilities with seller's attorney. Reviewed and confirmed FY 2022 – 2023 real property taxes for 167-175 School Street, Waltham and verified with Waltham's Assessing Office assignment of land use code for tax exemption and effective date. Edited geotechnical consultant contract. Summarized Senate Bill 1179 for proposed changes to the prevailing wage law and applicability to MWRA. Reviewed certified payroll reports, researched prevailing wage law, advised on employee health and pension coverages versus employer costs and deductions. Updated reference guide for commonly used codes from Statewide Records Retention schedule, and reviewed documents, identified applicable codes and retention periods for various MWRA departments. Reviewed and edited MIS security policies and video surveillance program to bring current with applicable laws. Researched law and provided guidance for use of electronic signatures for contract documents.
- **Public Records Requests:** During the 3<sup>rd</sup> Quarter of FY22, MWRA received and responded to one hundred eighty seven (187) public records requests.

## **LABOR, EMPLOYMENT AND ADMINISTRATIVE**

### **New Matters**

Two demands for arbitration were filed.

A charge was filed at the Massachusetts Commission Against Discrimination alleging that the MWRA discriminated against an employee on the basis of gender identity, disability and retaliation.

### **Matters Concluded**

Received a decision in favor of the MWRA from the Department of Unemployment Assistance's Board of Review following the MWRA's appeal of a Review Examiner's decision awarding benefits to a former employee.

Settled an arbitration case alleging the MWRA violated a collective bargaining agreement when an employee alleged he was bypassed for overtime.

A union withdrew a demand for arbitration regarding a grievance alleging that MWRA violated a collective bargaining agreement when an employee was not granted a lateral transfer.

A union withdrew a demand for arbitration regarding a grievance alleging that MWRA violated a collective bargaining agreement when an employee was terminated.

## **LITIGATION/CLAIMS**

**New Lawsuits/Claims:** The Conservation Law Foundation sent MWRA a February 23, 2022 Notice of Intent to File Suit against MWRA for alleged violations of the Clean Water Act,

claiming that MWRA failed to properly implement its industrial pretreatment program between fiscal years 2017 and 2021.

Teneo Funds SPVi , LLC vs. Ermont, Inc.;  
Suffolk Superior Court C.A. No. 2184-CV-01563  
MWRA received notice of receivership for Ermont, Inc.

Vosburg v. Dept. of Unemployment Assistance (DUA) and MWRA: Worcester District Court C.A. No. 2262-000304  
A former employee filed a Complaint appealing the denial of benefits by DUA.

**Significant Developments:**

DiGregorio, et al. v. Griffin Way, LLC v. MWRA:  
Suffolk Superior Court C.A. No. 2084-CV-02429-K  
The Court approved a proposed settlement of the litigation during a hearing on the Plaintiff’s Assented to Motion to Approve Settlement held on January 7<sup>th</sup>.

(Employee) v. MWRA: Suffolk Superior Court C.A. No. 21-1434  
The conclusion of plaintiff’s deposition was held on February 8, 2022. A former MWRA employee’s deposition was also taken.

GEICO v. MWRA: Suffolk Superior Court C.A. No. 2184CV02107  
The parties reached a settlement of the subrogation claim and are expected to finalize the Settlement Agreement in April.

**Closed Cases:**

DiGregorio, et al. v. Griffin Way, LLC v. MWRA:  
Suffolk Superior Court C.A. No. 2084-CV-02429-K  
The parties finalized and signed a Settlement Agreement. A Stipulation of Dismissal was filed on March 8, 2022. The matter is now closed.

**Closed Claims:**

There are no closed claims to report.

**Subpoenas:**

During Third Quarter FY 2022, two subpoenas were received and two subpoenas were closed.

**Wage Garnishments**

There are two wage garnishment matters that are active and monitored by Law Division.

**SUMMARY OF PENDING LITIGATION MATTERS**

TYPE OF CASE/MATTER	As of Mar 2022	As of Dec 2021	As of Sept 2021
Construction/Contract/Bid Protest (other than BHP)	0	0	0
Tort/Labor/Employment	4	5	3
Environmental/Regulatory/Other	3	3	3
Eminent Domain/Real Estate	0	0	1
<b>Total</b>	<b>7</b>	<b>8</b>	<b>7</b>

Other Litigation matters (restraining orders, etc.)	2	2	2
<b>Total – all pending lawsuits</b>	<b>9</b>	<b>10</b>	<b>9</b>
<b>Claims not in suit:</b>	0	0	1
Bankruptcy	2	1	1
Wage Garnishment	2	2	2
TRAC/Adjudicatory Appeals	0	0	0
Subpoenas	0	0	1
<b>TOTAL – ALL LITIGATION MATTERS</b>	<b>13</b>	<b>13</b>	<b>14</b>

**TRAC/MISC.**

**New Appeals:** There were no new appeals in the 3<sup>rd</sup> Quarter FY 2022.

**Settlement by Agreement of Parties** There were no Settlements by Agreement of Parties in the 3<sup>rd</sup> Quarter FY 2022.

**Stipulation of Dismissal** No Stipulations of Dismissal were filed in 3<sup>rd</sup> Quarter FY 2022.

**Notice of Dismissal Fine paid in full** No Notices of Dismissal for Fines Paid in Full were filed in the 3<sup>rd</sup> Quarter FY 2022.

**Tentative Decision** No Tentative Decisions were issued in the 3<sup>rd</sup> Quarter FY 2022.

**Final Decisions** No Final Decisions were issued in the 3<sup>rd</sup> Quarter FY 2022.

**INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES  
3rd Quarter FY22**

**Highlights**

During the 3rd quarter FY22, Internal Audit (IA) continued to work with management to enhance controls and procedures to increase inspection compliance. An internal review of inspection compliance is progressing and an internal review of water and wastewater licenses and certifications is nearing completion.

In addition, IA issued 34 indirect cost rate letters to professional service consultants, completed 2 incurred cost reviews while 4 are in process, and completed 1 labor burden review while 1 is in process. Management advisory services included continued analysis on delegation of authority.

There were 3 policies updated with several others updates in process.

**Status of Recommendations**

During FY22, 21 recommendations were closed.

IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation. When a recommendation has not been implemented within 36 months, the appropriateness of the recommendation is re-evaluated.

**All Open Recommendations Pending Implementation – Aging Between 0 and 36 Months**

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
Asset Tracking – Fleet Data Verification (8/21/19)	1	15	16
Fleet Services Non-Plated Equipment Inspections (3/30/20)	3	12	15
Overhead Crane Inspections (4/28/21)	-	11	11
Compliance Status of Employees' Mandatory Confined Space Entry Training (6/30/21)	7	1	8
<b>Total Recommendations</b>	<b>11</b>	<b>39</b>	<b>50</b>

**Cost Savings**

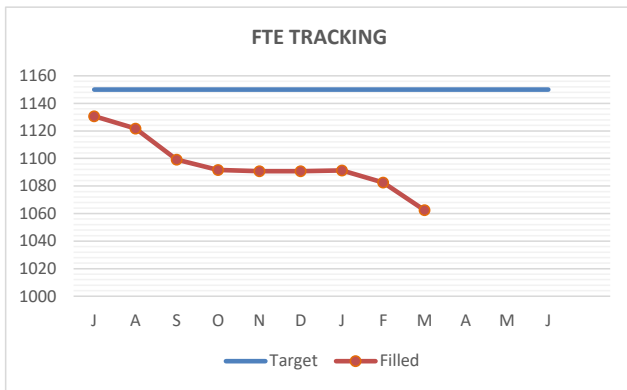
IA's target is to achieve at least \$1,000,000 in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of prior years' audits.

Cost Savings	FY18	FY19	FY20	FY21	FY22 Q3	TOTALS
Consultants	\$118,782	\$262,384	\$643,845	\$563,525	\$2,349	\$1,590,885
Contractors & Vendors	\$1,323,156	\$3,152,884	\$2,097,729	\$1,547,223	\$652,163	\$8,773,155
Internal Audits	\$204,202	\$210,063	\$212,517	\$214,458	\$165,564	\$1,006,804
<b>Total</b>	<b>\$1,646,140</b>	<b>\$3,625,331</b>	<b>\$2,954,091</b>	<b>\$2,325,206</b>	<b>\$820,076</b>	<b>\$11,370,845</b>

## OTHER MANAGEMENT

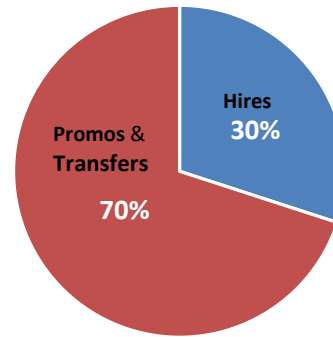
# Workforce Management

## 3rd Quarter - FY22

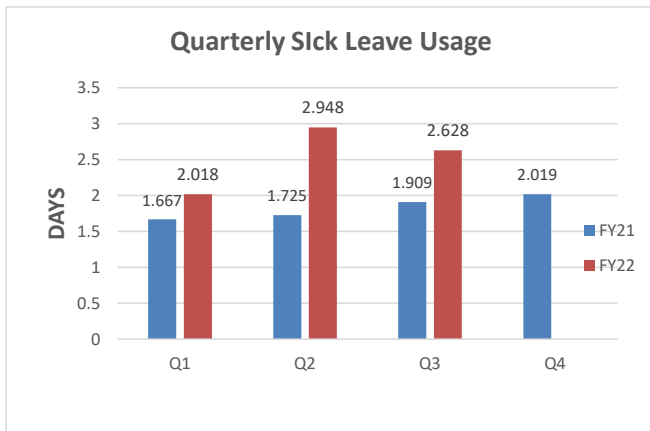


FY22 Target for FTE's = 1150  
 FTE's as of March 2022 = 1062.5  
 Tunnel Redundancy as of Mar 2022 = 10

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



	Pr/Trns	Hires	Total
FY20	84 (59%)	58 (41%)	142
FY21	81 (56%)	64 (44%)	145
FY22	95 (70%)	40 (30%)	135

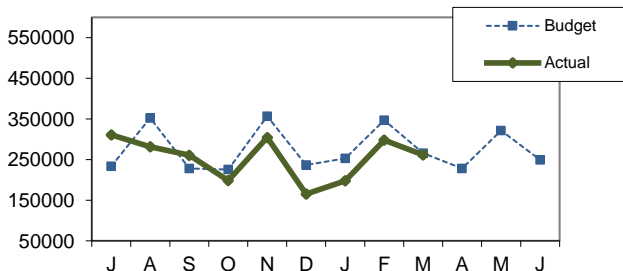


Average quarterly-sick leave for the 3rd Quarter of FY22 has increased compared to the 3rd Quarter of FY21 (2.628 from 1.909)

	Number of Employees	YTD (usage to date)	Annualized Total	Annual FMLA %	FY21
Admin	132	5.05	6.73	10.3%	5.87
Aff. Action	5	6.96	9.27	38.1%	3.14
Executive	3	2.24	2.99	0.0%	3.60
Finance	31	4.62	6.15	0.0%	3.17
Int. Audit	5	0.78	1.04	0.0%	0.89
Law	11	8.58	11.44	21.4%	5.83
OEP	4	5.23	6.97	0.0%	1.33
Operations	869	8.22	10.96	21.1%	7.95
Tunnel Red	10	2.79	3.71	27.3%	1.62
Pub. Affs.	9	7.93	10.57	57.5%	1.13
<b>MWRA Avg</b>	<b>1079</b>	<b>1.13</b>	<b>10.13</b>	<b>20.7%</b>	<b>7.32</b>

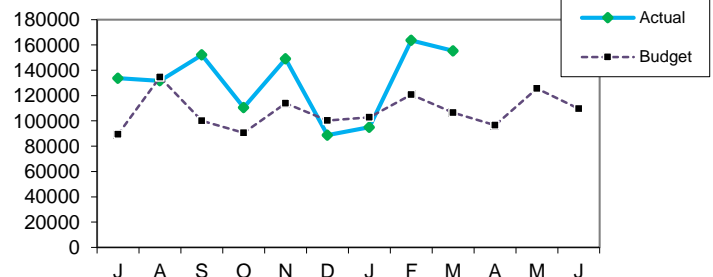
Percent of sick leave usage for FY22, attributable to Family and Medical Leave Act (FMLA) is 20.7%.

### Field Operations Current Month Overtime \$



Total Overtime for Field Operations for March was \$262k which is (\$1k) under budget. Emergency overtime was \$108k, which is (\$22k) under budget. Snow Removal was \$11k, Rain events were \$34k, Emergency Maintenance was \$8k and OT Retro Pay was \$49k. Coverage overtime was \$113k, which is \$69k over budget, reflecting the month's shift coverage requirements and included \$51k in OT Retro Pay. Planned overtime was \$41k or (\$46k) under budget with combined spending of \$14k for Maintenance, \$4k for Planned Ops, and \$18k for OT Retro Pay

### Deer Island Treatment Plant Current Month Overtime \$

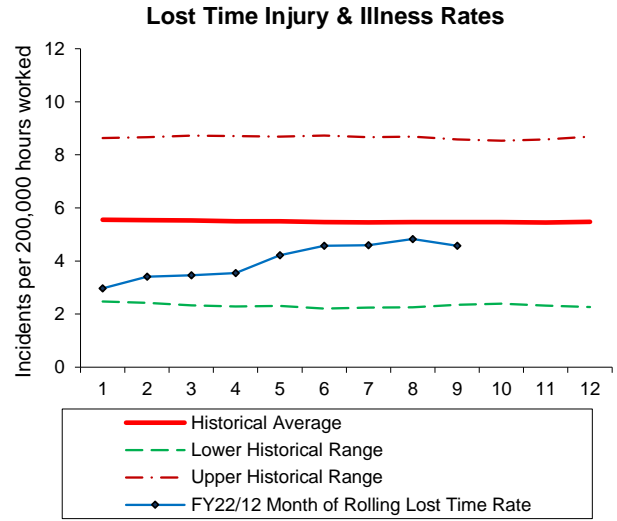
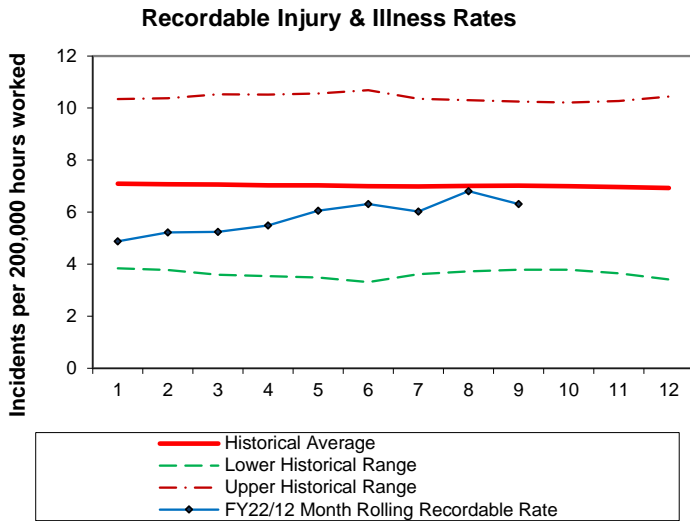


Deer Island's total overtime expenditure in March 2022 was \$155k, which was \$49k or 45.8% over budget. In March 2022 Deer Island experienced higher than anticipated shift coverage of \$75k. This is offset by lower than anticipated storm coverage of (\$22k) and planned/unplanned overtime of (\$4k). YTD Deer Island's overtime spending is \$1.2M, which is \$221k or 23.0% over budget due to higher than anticipated shift coverage of \$275k and storm coverage of \$31k. This is offset by lower than anticipated planned/unplanned overtime of (\$85k).



# Workplace Safety

## 3rd Quarter - FY22



- "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.
- "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness. Each month this rate is calculated using the previous 12 months of injury data.
- The "Historical Average" is computed using the actual MWRA monthly incident rates for FY99 through FY22. The "Upper" and "Lower Historical Ranges" are computed using these same data – adding and subtracting two standard deviations respectively.
- With Changes in state law, in February 1, 2019, MWRA began record keeping and reporting according to Federal OSHA standards for injury and illness record keeping. Strictly adhering to the federal OSHA reporting regulation has caused an increase in recorded injuries and illnesses. This increase is causing both the Recordable injury and illness Rate and the Lost Time Injury and Illness rate to trend higher than in past years but does not necessarily mean there is an increase in injuries or illnesses. OSHA injuries and illnesses, and lost time are recorded differently than the Massachusetts Workers' Compensation standards and could result in an increase in the OSHA rate while the Workers' Compensation claims are decreasing. Over time, the rise on the charts should stabilize as new data replaces the older data.

### WORKERS COMPENSATION HIGHLIGHTS

	3rd Quarter Information		Open Claims
	New	Closed	
Lost Time	14	18	63
Medical Only	15	24	15
Report Only	13	29	
	QYTD		FYTD
Regular Duty Returns	7		21
Light Duty Returns	0		0
Indemnity payments as of March 2022 included in open claims listed			21

### COMMENTS:

#### Regular Duty Returns

**Jan** 3 Employees returned to full duty/no restrictions  
**Feb** 1 Employees returned to full duty/no restrictions  
**March** 3 Employees returned to full duty/no restrictions

#### Light Duty Returns

**Jan** N/A  
**Feb** N/A  
**March** N/A

**Note:** Claims may initially be counted in one category and changed to another category at a later date. Examples include a medical treatment only claim (no lost time from work) but the employee may require surgery at a later date resulting in the claim becoming a lost time claim. At that time we would only count the claim as opened but not as a new claim. \*Report only claims are closed the month they are filed.



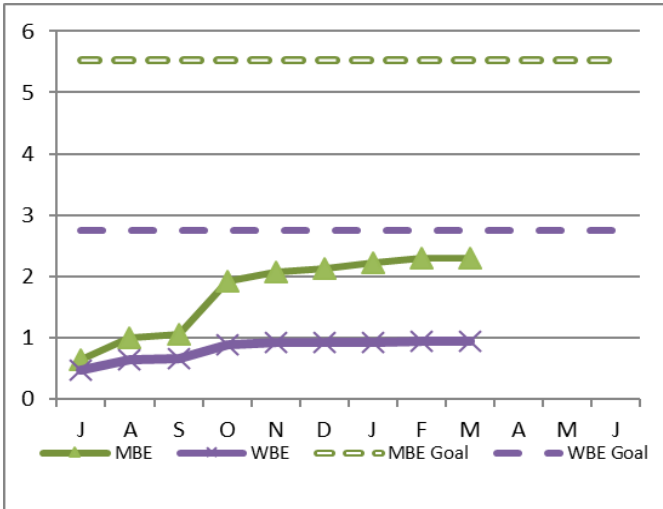
## MBE/WBE Expenditures

3rd Quarter - FY22

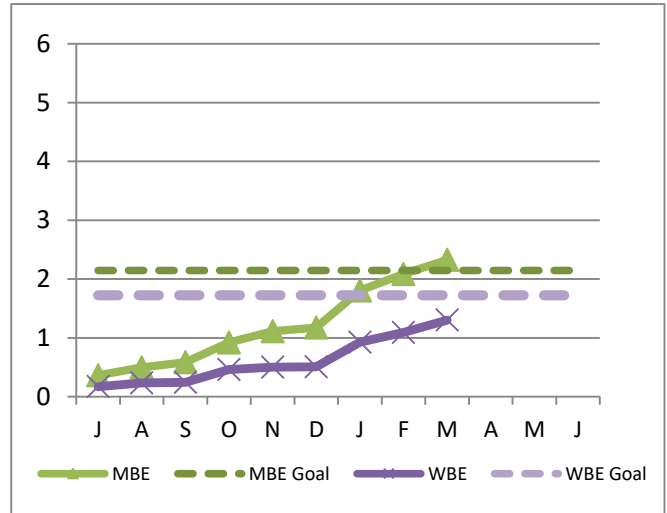
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY21 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they have no MBE/WBE spending goals.

MBE/WBE percentages are the results from a 2002 Availability Analysis, and MassDEP's Availability Analysis. As a result of the Availability Analyses, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through March.

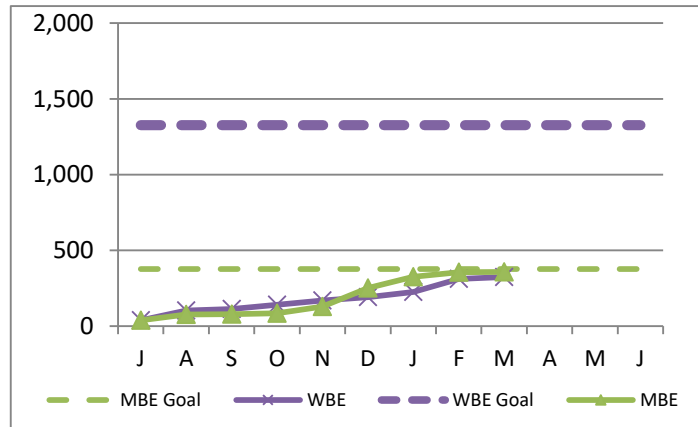
### Construction



### Professional Services



### Goods/Services



FY22 spending and percentage of goals achieved, as well as FY21 performance are as follows:

<b>MBE</b>			
FY22 YTD		FY21	
Amount	Percent	Amount	Percent
2,294,866	41.6%	4,234,355	51.6%
2,325,720	108.4%	2,439,855	107.0%
357,614	94.9%	403,728	113.2%
4,978,200	61.9%	7,077,938	65.3%

<b>WBE</b>			
FY22 YTD		FY21	
Amount	Percent	Amount	Percent
934,719	34.0%	3,238,772	79.3%
1,300,896	75.5%	554,298	30.3%
324,085	24.4%	528,645	40.9%
<b>Totals</b>	<b>44.2%</b>	<b>4,321,715</b>	<b>60.0%</b>

FY22 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

## MWRA FY22 CEB Expenses through 3<sup>rd</sup> Quarter – FY22

As of March 2022, total expenses are \$560.8 million, \$13.0 million or 2.3% lower than budget, and total revenue is \$614.2 million, \$4.0 million or 0.7% over budget, for a net variance of \$17.0 million.

### Expenses –

**Direct Expenses** are \$175.5 million, \$12.0 million or 6.4% under budget.

- **Wages & Salaries** are \$8.6 million under budget or 10.3%. Regular pay is also \$8.6 million under budget, due primarily to lower head count, and timing of backfilling positions. YTD through March, the average Full Time Equivalent (FTE) positions was 1,111, fifty-six fewer than the 1,167 FTE's budgeted.
- **Ongoing Maintenance** expenses are \$2.4 million under budget or 10.3%, primarily due to the timing of projects.
- **Other Materials** expenses are \$1.1 million under budget or 25.7%, due to timing differences for Other Materials.
- **Fringe Benefits** expenses are \$979k million under budget or 5.7%, primarily due lower health insurance expense \$774k under budget, reflecting the lower headcount.
- **Workers Compensation** expenses are \$878k under budget or 44.8%, primarily due to under spending for Compensation Payments of \$589k and Medical Payments of \$257k. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
- **Professional Services** expenses are \$522k under budget or 8.4%, primarily due to under spending for Computer System Consultant of \$779k and Engineering of \$287k. Underspending was partially offset by higher spending on Other Professional Services and Security which were over budget by \$520k and \$162k, respectively.
- **Chemicals** expenses are \$334k under budget or 3.6%, primarily due to under spending for Hydrogen Peroxide of \$306k based on usage as excessive rainfall helped lower H2S levels at Deer Island, Polymer of \$68k, Activated Carbon of \$68k primarily due to timing of replacements at DITP, and Soda Ash of \$53k driven by Water Operations due to lower average flows at CWTP. These are partially offset by higher spending for Ferric Chloride of \$152k, Sodium Bisulfite of \$89k, and Liquid Oxygen of \$85k.
- **Utilities** expenses are \$3.4 million over budget or 17.9%, primarily due over spending for Electricity of \$2.7 million due to higher flows at Deer Island which accounted for \$1.8 million of the electricity variance. Field Operations accounted for overspending of \$0.9 million in electricity over spending. Deer Island purchased 5.1% more kWh than planned as plant flows were 15.1% over budget due to wet weather events earlier in the year. Higher electricity prices also contributed to the spending variance. Higher spending for diesel, \$730k over budget, reflects higher quantity purchase at a higher price.

**Indirect Expenses** are \$41.8 million, \$1.0 million or 2.4% under budget. Lower Watershed Reimbursements of \$986k due primarily to lower spending on Equipment, Fringe, and Telecommunications as well as under budget net HEEC payments of \$186k, which are partially offset by higher Insurance cost of \$153k, due to Claims being \$150k over budget.

**Capital Finance Expenses** totaled \$343.5 million, matching budget after the transfer of \$12.7 million to the Defeasance account, driven by lower than budgeted variable interest expense of \$7.8 million, \$3.6 million related to the refunding and new money transaction, and lower SRF spending of \$1.4 million as a result of timing.

### Revenue and Income –

**Total Revenue and Income** is \$614.2 million, or \$4.0 million over budget. Other Revenue was \$3.0 million over budget, due to Payments from the Commonwealth of Massachusetts of \$1.2 million for Debt Service Assistance, higher Miscellaneous Revenue of \$898,000 driven by \$443,000 in reimbursement from the Commonwealth of Massachusetts for Biobot costs associated with FY21, Energy Rebates of \$697,000, and Income from the Disposal of Equipment of \$256,000. Other User Charges were over budget by \$0.9 million primarily for unplanned water use by the Town of Burlington. Investment Income was \$179,000 over budget due to higher than budgeted average balances.

	Mar 2022 Year-to-Date			
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 83,685,418	\$ 75,048,039	\$ (8,637,379)	-10.3%
OVERTIME	3,882,522	3,849,118	(33,404)	-0.9%
FRINGE BENEFITS	17,126,762	16,147,829	(978,933)	-5.7%
WORKERS' COMPENSATION	1,960,619	1,082,976	(877,643)	-44.8%
CHEMICALS	9,160,965	8,827,344	(333,621)	-3.6%
ENERGY AND UTILITIES	18,773,895	22,125,357	3,351,462	17.9%
MAINTENANCE	23,111,929	20,733,392	(2,378,537)	-10.3%
TRAINING AND MEETINGS	355,634	166,853	(188,781)	-53.1%
PROFESSIONAL SERVICES	6,233,218	5,711,588	(521,630)	-8.4%
OTHER MATERIALS	4,392,622	3,263,345	(1,129,277)	-25.7%
OTHER SERVICES	18,750,654	18,524,283	(226,371)	-1.2%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 187,434,238</b>	<b>\$ 175,480,124</b>	<b>\$ (11,954,111)</b>	<b>-6.4%</b>
INSURANCE	\$ 2,957,700	\$ 3,110,380	\$ 152,680	5.2%
WATERSHED/PILOT	21,127,031	20,141,266	(985,765)	-4.7%
HEEC PAYMENT	5,243,965	5,057,789	(186,176)	-3.6%
MITIGATION	1,270,020	1,270,020	-	0.0%
ADDITIONS TO RESERVES	1,059,485	1,059,485	-	0.0%
RETIREMENT FUND	11,205,000	11,205,000	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 42,863,201</b>	<b>\$ 41,843,939</b>	<b>\$ (1,019,262)</b>	<b>-2.4%</b>
STATE REVOLVING FUND	\$ 68,713,702	\$ 67,323,372	\$ (1,390,330)	-2.0%
SENIOR DEBT	180,111,317	176,537,607	(3,573,710)	-2.0%
DEBT SERVICE ASSISTANCE	(1,287,870)	(1,287,870)	-	0.0%
CURRENT REVENUE/CAPITAL	-	-	-	---
SUBORDINATE MWRA DEBT	93,562,068	93,562,068	-	0.0%
LOCAL WATER PIPELINE CP	-	-	-	---
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%
VARIABLE DEBT	-	(7,778,815)	(7,778,815)	---
DEFEASANCE ACCOUNT	-	12,742,855	12,742,855	---
DEBT PREPAYMENT	-	-	-	---
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 343,512,011</b>	<b>\$ 343,512,011</b>	<b>\$ -</b>	<b>0.0%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 573,809,450</b>	<b>\$ 560,836,074</b>	<b>\$ (12,973,373)</b>	<b>-2.3%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 594,063,000	\$ 594,063,000	\$ -	0.0%
OTHER USER CHARGES	6,733,168	7,594,088	860,920	12.8%
OTHER REVENUE	5,548,016	8,513,638	2,965,622	53.5%
RATE STABILIZATION	937,500	937,500	-	0.0%
INVESTMENT INCOME	2,952,358	3,131,489	179,131	6.1%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 610,234,042</b>	<b>\$ 614,239,715</b>	<b>\$ 4,005,672</b>	<b>0.7%</b>

# Cost of Debt

## 3<sup>rd</sup> Quarter – FY22

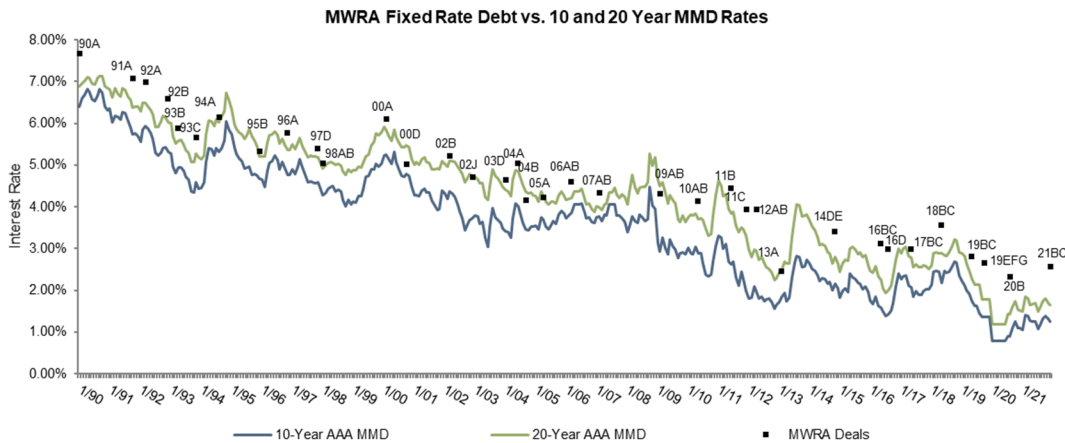
MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

### Average Cost of MWRA Debt FYTD

Fixed Debt (\$3.41 billion)	3.22%
Variable Debt (\$299.1million)	0.49%
SRF Debt (\$822.0 million)	1.63%
<b>Weighted Average Debt Cost (\$4.53 billion)</b>	<b>2.75%</b>

### Most Recent Senior Fixed Debt Issue December 2021

2021 Series B and C (\$748.0 million) 2.56%



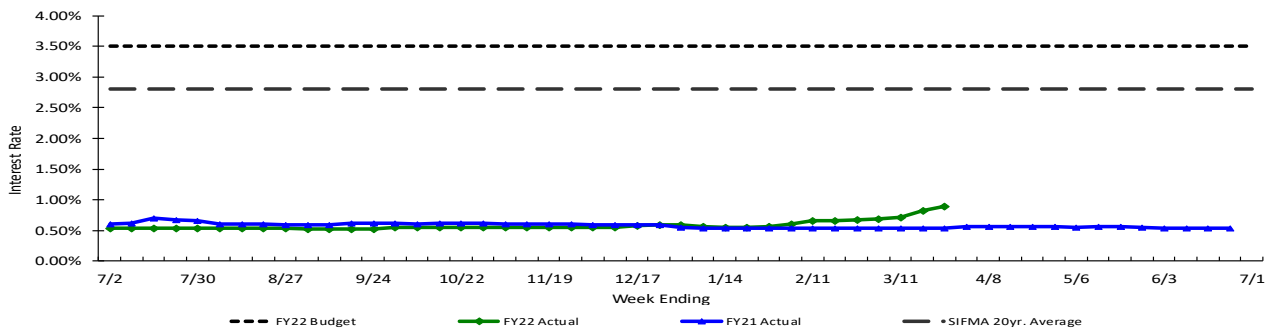
Bond Deal	1996A	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB
Rate	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%
Avg Life	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs

Bond Deal	2010AB	2011B	2011C	2012AB	2013A	2014D-F	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B	2021BC
Rate	4.14%	4.45%	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%	2.98%	3.56%	2.82%	2.66%	2.33%	2.56%
Avg Life	16.4 yrs	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8 yrs	11.2 yrs	11.7 yrs	11.9 yrs	9.73 yrs.	15.6 yrs	12.2 yrs

### Weekly Average Variable Interest Rates vs. Budget

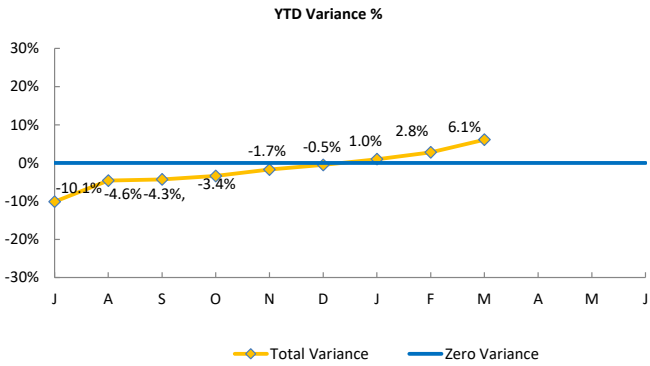
MWRA currently has nine variable rate debt issues with \$532.7 million outstanding, excluding commercial paper. Of the ten outstanding series, four have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In March, the SIFMA rate ranged from a high of 0.49% to a low of 0.20% for the month. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate risk as compared to fixed rate debt.



# Investment Income

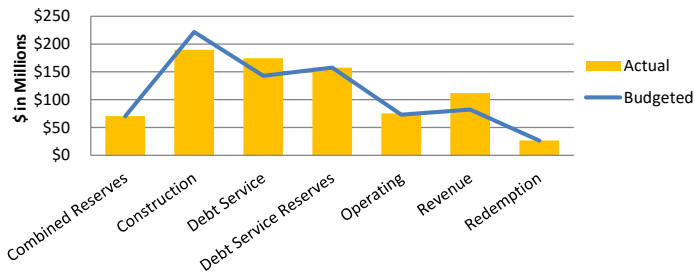
## 3<sup>rd</sup> Quarter – FY22

### Year To Date

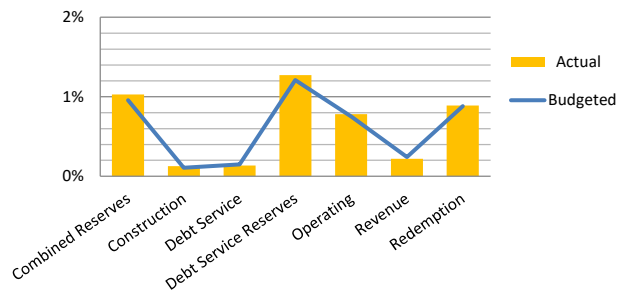


	YTD BUDGET VARIANCE			
	(\$000)			
	BALANCES IMPACT	RATES	IMPACT	TOTAL
Combined Reserves	\$1		\$39	40
Construction	(\$20)		\$13	(8)
Debt Service	\$35		(\$20)	15
Debt Service Reserves	\$4		\$73	77
Operating	\$20		(\$1)	19
Revenue	\$52		(\$18)	34
Redemption	(\$0)		\$1	1
<b>Total Variance</b>	<b>\$92</b>		<b>\$87</b>	<b>\$179</b>
				<b>6.1%</b>

**YTD Average Balances Budgeted vs. Actual**

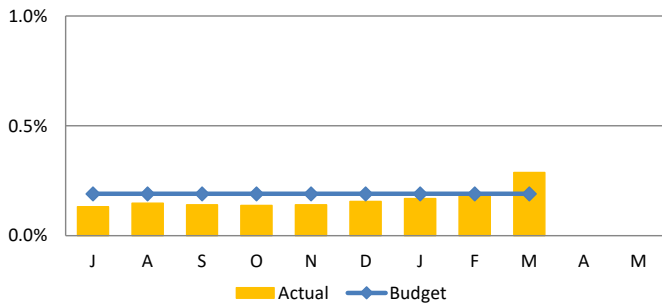


**YTD Average Interest Rate Budgeted vs. Actual**

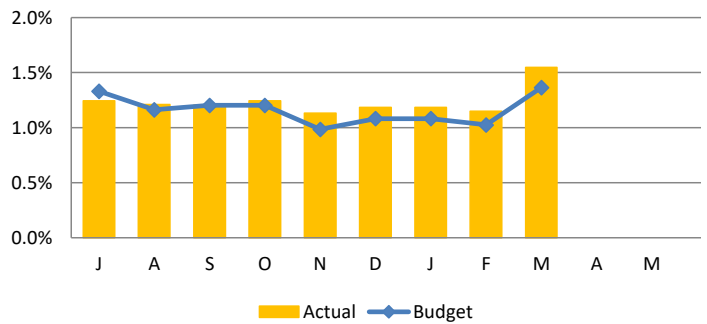


### Monthly

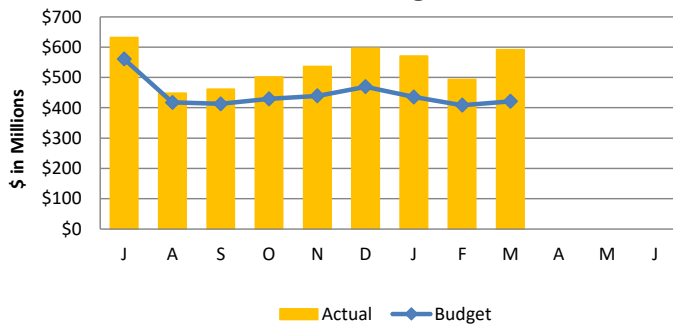
**Short -Term Interest Rates**



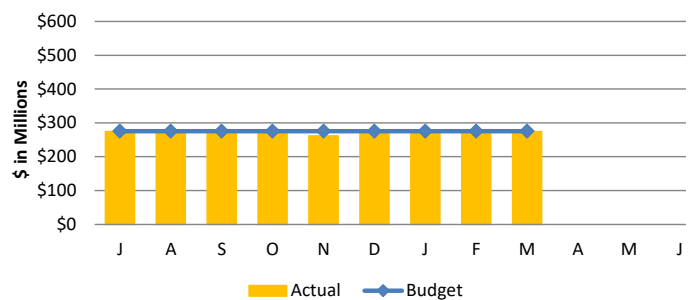
**Long -Term Interest Rates**



**Short-Term Average Balances**



**Long-Term Average Balances**



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Delegated Authority Report – April 2022



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**COMMITTEE:** Administration, Finance & Audit

INFORMATION  
 VOTE



Michele S. Gillen  
Director, Administration

Jacqueline Collins, Administrative Coordinator  
Barbara Aylward, Administrator A & F  
Preparer/Title



Douglas J. Rice  
Director of Procurement

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**RECOMMENDATION:**

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period April 1 – 30, 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 APRIL 1 - 30, 2022


NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	04/01/22	<b>MWRA BOAT STORAGE AND COSGROVE INTAKE IMPROVEMENTS</b> FURNISH AND INSTALL TWO ELECTRIC WATER HEATERS AND TWO EXPLOSION PROOF SUBMERSIBLE PUMPS; EXTEND THE CONTRACT TERM BY 76 CALENDAR DAYS FROM APRIL 15, 2022 TO JUNE 30, 2022.	6650C	2	POULIN CONSTRUCTION, INC.	\$40,000.00
C-2.	04/19/22	<b>FIRE PROTECTION SPRINKLER SYSTEM SERVICE</b> FINAL BALANCING CHANGE ORDER TO DECREASE FOLLOWING BID ITEMS: ON-SITE TESTING, NON-EMERGENCY AND EMERGENCY REPAIRS, AUTHORIZED MANUFACTURER'S REPRESENTATIVE SERVICES, ON-SITE EMERGENCY REPAIR SERVICES, REPLACEMENT PARTS AND RENTAL EQUIPMENT.	OP-390	3	J.C. CANNISTRATRO, LLC	(\$53,442.38)
C-3.	04/19/22	<b>NORTHERN EXTRA HIGH PRESSURE ZONE IMPROVEMENTS SECTION 63 (LEXINGTON) - RE/RI SERVICES</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR NORTHERN EXTRA HIGH PRESSURE ZONE IMPROVEMENTS SECTION 63 (LEXINGTON) RESIDENT ENGINEERING/RESIDENT INSPECTION SERVICES FOR A TERM OF 30 MONTHS.	7724	AWARD	CDM SMITH, INC.	\$865,228.00
C-4.	04/28/22	<b>QUABBIN ADMINISTRATION COMPLEX WATER SUPPLY CONSTRUCTION</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE QUABBIN ADMINISTRATION COMPLEX WATER SUPPLY CONSTRUCTION FOR A TERM OF 270 CALENDAR DAYS.	7753	AWARD	MASS-WEST CONSTRUCTION, INC.	\$473,000.00

## PURCHASING DELEGATED AUTHORITY ITEMS APRIL 1 - 30

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1	04/01/22	<b>PURCHASE OF 75 NORDIC DISC FILTER CARTRIDGES</b> Award of a Sole Source Purchase Order Contract for 75 Nordic Disc Filter Cartridges to the Clinton Wastewater Treatment Plant. The Clinton Wastewater Treatment Plant utilizes three Westech Engineering Nordic Super Disc Filtration Systems in the Phosphorus Reduction Facility.			Westech Engineering, Inc.	\$41,925.00
P-2	04/04/22	<b>PURCHASE ORDER FOR REPAIRS TO A FREIGHTLINER 10-WHEEL DUMP TRUCK</b> Award of a confirming purchase order for repairs to a Freightliner 10-wheel dump truck that is critical for snow removal during the winter months.	WRA-260		Tri State Truck Truck Center, Inc.	\$26,927.54
P-3	04/04/22	<b>DIVER ASSISTED SUCTION HARVESTING OF INVASIVE PLANTS</b> Award of a purchase order contract to the lowest responsive bidder for Diver Assisted Suction Harvesting of invasive plants at the Sudbury and Westor Reservoir.	WRA-5091Q		AE Commercial Diving Services, Inc.	\$35,000.00
P-4	04/04/22	<b>PURCHASE OF ONE SUBMERSIBLE REMOTELY OPERATED VEHICLE</b> Award of a purchase order contract to the lowest responsive bidder for one Submersible Remotely Operated Vehicle to provide water quality and wate supply inspection needs in open water reservoirs, internal storage tank inspections, gatehouse sluiceways, shafts, and underwater recovery operations.	WRA-5083		Electronic Sales of New England, LLC	\$54,500.00
P-5	04/04/22	<b>ONE YEAR SUBSCRIPTION RENEWAL AND SUPPORT OF 1,200 PROOFPOINT ENTERPRISE LICENSES AND 1200 CYBER SECURITY TRAINING SUBSCRIPTIONS</b> Award of a purchase order contract under State Contract ITS75 to the lowest responsive bidder for the renewal of 1,200 Proofpoint Enterprise Subscriptior Licenses with Support and 1,200 Cyber Security Subscriptions. These licenses allow MWRA to secure and control inbound and outbound email.	WRA-5113Q		Insight Public Sector, Inc.	\$67,644.00
P-6	04/06/22	<b>ONE-YEAR MAINTENANCE AND SUPPORT FOR IVANTI ENTERPRISE MANAGEMENT SUITE LICENSES</b> Award of a one-year purchase order contract under State Contract ITS75 to the lowest responsive bidder for the Maintenance and Support for Ivanti Enterprise Management Suite Licenses. MWRA currently utilizes the Ivanti Management Suite to manage all MIS deployed IT assets such as PCs, Laptops and Surface tablets. PC software inventory, remote control, software distribution and systems diagnostics capabilities are leveraged through this application suite.	WRA-5116Q		Insight Public Sector, Inc.	\$67,357.51
P-7	04/06/22	<b>PURCHASE OF VMWARE AND VSPHERE LICENSES MAINTENANCE AND SUPPORT</b> Award of a one-year purchase order contract under State Contract ITS75 to the lowest responsive bidder for VMWare and Vsphere licenses, Maintenance and Support. MIS utilizes this technology to reduce capital and operating costs, minimize or eliminate downtime, increase productivity, efficiency, agility and responsiveness, improve provisioning times of applications and resources, and improve business continuity and disaster recovery times.	WRA-5118Q		Insight Public Sector, Inc.	\$62,321.62
P-8	04/13/22	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL TO COLUMBUS PARK HEADWORKS FACILITY</b> Confirming purchase order payment under State Contract ENE 47 for delivery Ultra Low Sulfur Diesel Fuel to the Columbus Park Headworks Facility			Dennis K. Burke Inc.	\$29,289.15
P-9	04/13/22	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL TO WARD STREET HEADWORKS FACILITY</b> Confirming purchase order payment under State Contract ENE 47 for delivery Ultra Low Sulfur Diesel Fuel to the Ward Street Headworks Facility.			Dennis K. Burke Inc.	\$30,858.20
P-10	04/13/22	<b>UPGRADE OF FIBER CABLING AT THE DEER ISLAND TREATMENT PLANT</b> Award of a purchase order under State Contract ITC68 to the lowest responsive bidder to Upgrade the Fiber Cabling at the Deer Island Treatment Plant The current fiber cable running between the data center and data closets is in need of replacement to support faster network speeds	WRA-5105Q		Future Technologies Group, LLC	\$31,232.67
P-11	04/13/22	<b>ONE-YEAR MAINTENANCE AND SUPPORT RENEWAL OF THE COMMVAULT BACKUP AND RECOVERY LICENSES</b> Award of a one-year purchase order contract under State Contract ITS75 to the lowest responsive bidder for the Maintenance and Support Renewal of the Commvault Licenses. This system is used to archive emails.	WRA-5124Q		SHI International Corp.	\$41,382.00
P-12	04/13/22	<b>ONE-YEAR MAINTENANCE, TECHNICAL ASSISTANCE AND SUPPORT OF THE ARC GEOGRAPHIC INFORMATION SYSTEM</b> Award of a one-year purchase order under State Contract ITS65 for maintenance, technical assistance and support of the ARC Geographic Information System. The MWRA uses this system for the geospatial needs of the agency.			Environmental Systems Research Institute, Inc.	\$49,506.85
P-13	4/14/22	<b>ANALYSIS OF CYANOBACTERIA IN RESERVOIR AND FINISHED DRINKING WATER SAMPLES</b> Award of a one-year purchase order contract to the lowest responsive bidder for the Analysis of Cyanobacteria in Reservoir and Finished Drinking Water Samples. Cyanobacteria naturally occurs in surface waters and has the potential to produce toxins that can cause adverse health effects in humans and animal through the contamination of waterways used for recreational purposes and drinking water supplies.	WRA-5111Q		Weck Analytical Environmental Services, Inc.	\$29,273.50
P-14	04/14/22	<b>QUALITY CONTROL DIVER SERVICES FOR AQUATIC INVASIVE PLANT CONTROL</b> Award of a purchase order contract to the lowest responsive bidder for Quality Control Diver Services for Aquatic Invasive Plant Control at the Wachusett, Sudbury and Weston Reservoirs.	WRA-5098		Fathom Resources, Inc.	\$52,470.00
P-15	04/15/22	<b>ONE-YEAR SUBSCRIPTION RENEWAL OF THE RSTUDIO SERVER PRO AND CONNECT LICENSE</b> Award of a one-year purchase order contract under State Contract ITS75 to the lowest responsive bidder for the Subscription Renewal of the RStudio Server Pro and Connect License. This subscription allows Environmental Quality Water and Wastewater (ENQUAL) staff to publish custom-developed reports for MWRA management and staff.	WRA-5127Q		SHI International Corp.	\$30,627.00

P-16	04/15/22	<b>PURCHASE OF ONE NEW PORTABLE DIESEL GENERATOR</b> Award of a purchase order to the lowest responsive bidder for One New Portable Diesel Generator to the Western Operations Water Facility. This generator will be used as an emergency replacement in the event of a failure to the existing generators, which provide emergency power to critical facility equipment	WRA-5110Q	Kraft Power Corporation	\$41,500.00
P-17	04/15/22	<b>EMERGENCY SPILL RESPONSE TRAINING</b> Award of a two-year purchase order contract to the lowest responsive bidder for Emergency Spill Response Training. This training equips staff for response to spills in the watershed and reservoir system.	WRA-5104	Moran Environmental Recovery, LLC	\$56,000.00
P-18	04/19/22	<b>TECHNICAL CONSULTING SERVICES TO CONVERT ORACLE DISCOVERER WORKBOOKS TO THE SAP BUSINESS OBJECTS PLATFORM</b> Award of a purchase order contract under State Contract ITS77 to the lowest responsive bidder for Technical Consulting Services to Convert Oracle Discoverer Workbooks to the SAP Business Objects Platform. SAP Business Objects (BO) is the standard reporting and ad-hoc query tool for the Authority	WRA-5087Q	ACRO Service Corporation	\$729,894.88
P-19	04/20/22	<b>AQUATIC INVASIVE MACROPHYTE SURVEY AND WATER QUALITY ANALYSIS</b> Award of a purchase order contract to the lowest responsive bidder for an Aquatic Invasive Macrophyte Survey and Water Quality Analysis of the Ware River, Spot Pond and the Quabbin, Wachusett, Sudbury, Foss, Norumbega, Weston, Chestnut Hill and Fells Reservoirs.	WRA-5099	TRC Environmental Corporation	\$93,850.00
P-20	04/20/22	<b>PURCHASE OF ONE NEW LATHE MACHINE FOR THE DEER ISLAND TREATMENT PLANT</b> Award of a purchase order to the lowest responsive bidder for one new Lathe Machine to the Deer Island Treatment Plant. A lathe is an integral piece of equipment where major components for Deer Island facilities are fabricated. This purchase will replace an existing unit that is over 30 years old	WRA-5081	Baldwin Services Group Ltd, Inc.	\$99,789.00
P-21	04/25/22	<b>PURCHASE OF TWO 20-INCH HORIZONTAL RESILIENT SEAT GATE VALVES</b> Award of a purchase order to the lowest responsive bidder for two 20-inch Horizontal Gate Valves to the MWRA Chelsea Facility. As a part of its overall maintenance and operation of the Metropolitan water system, Operations' Water Pipeline Unit replaces approximately twenty main line valves of varying sizes every year. This purchase request is to ensure that the proper sized valve is always available to minimize down time and allow for immediate response.	WRA-5112Q	Billerica Winwater Works Company	\$31,130.00
P-22	04/25/22	<b>PROVIDE APPLICATION DEVELOPER CONSULTANT TO THE MIS DEPARTMENT</b> Award of a purchase order contract under State Contract ITS77 to the lowest responsive bidder to provide an Application Developer Consultant to temporarily fill the .Net Developer/Programmer II Position (for 975 billable hours). No qualified applicants were found to permanently fill this position	WRA-5125Q	LanceSoft, Inc.	\$82,875.00

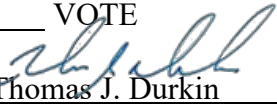
**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** May 25, 2022  
**SUBJECT:** FY22 Financial Update and Summary through April 2022

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**COMMITTEE:** Administration, Finance & Audit

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

X  INFORMATION  
 —  VOTE  
  
Thomas J. Durkin  
Director, Finance

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**RECOMMENDATION:**

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2022 through April 2022, comparing actual spending to the budget, and includes a projection to June 30, 2022.

**DISCUSSION:**

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of recommending Board approval to use these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority’s multi-year rate management strategy. As such, in April the year-to-date debt related savings of \$15.6 million was transferred to the Defeasance Account. This variance is primarily due to lower than budgeted variable interest expense, the beneficial impact of the refunding, and the timing of the new money SRF transactions. Staff are requesting Board approval at this meeting for the FY22 planned defeasance, the benefit of which will be included in the Final FY23 budget.

The total Year-to-Date variance for the FY22 CEB is \$16.8 million, due to lower direct expenses of \$11.7 million, lower indirect expenses of \$0.9 million, and higher revenue of \$4.2 million. The year-end favorable variance is projected at \$45.1 million, of which \$27.9 million is related to debt service. The strategic use of this surplus will continue to be a valuable tool to assist MWRA in managing its long-term rate projections. Beyond debt service savings, staff project a surplus of approximately \$17.1 million at year-end of which \$11.6 million would be from lower direct expenses, \$1.6 million from lower indirect expenses, and \$3.9 million from greater than budgeted revenues.

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

**FY22 Current Expense Budget**

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

- Lower Direct Expenses of \$11.7 million or 5.6% under budget. Spending was lower for Wages and Salaries, Maintenance, Other Materials, Fringe Benefits, Workers’ Compensation, Professional Services, Chemicals, Training and Meetings, Overtime, and Other Services. Spending was higher than budget for Utilities.
- Lower Indirect Expenses of \$0.9 million or 2.1% under budget primarily due to lower Watershed Reimbursements and HEEC expenses. Spending was higher for insurance payments/claims.
- Debt Service expenses were right on budget after the transfer to the defeasance account, driven by lower than budgeted variable interest expense, the beneficial impact of the refunding, and the timing of the new money SRF transactions.

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

	<b>FY22 Budget YTD</b>	<b>FY22 Actual YTD</b>	<b>\$ Variance</b>	<b>% Variance</b>
Direct Expenses	\$207.5	\$195.8	-\$11.7	-5.6%
Indirect Expenses	\$45.7	\$44.7	-\$0.9	-2.1%
Capital Financing	\$381.3	\$381.3	\$0.0	0.0%
<b>Total</b>	<b>\$634.4</b>	<b>\$621.8</b>	<b>-\$12.7</b>	<b>-2.0%</b>

*Totals may not add due to rounding*

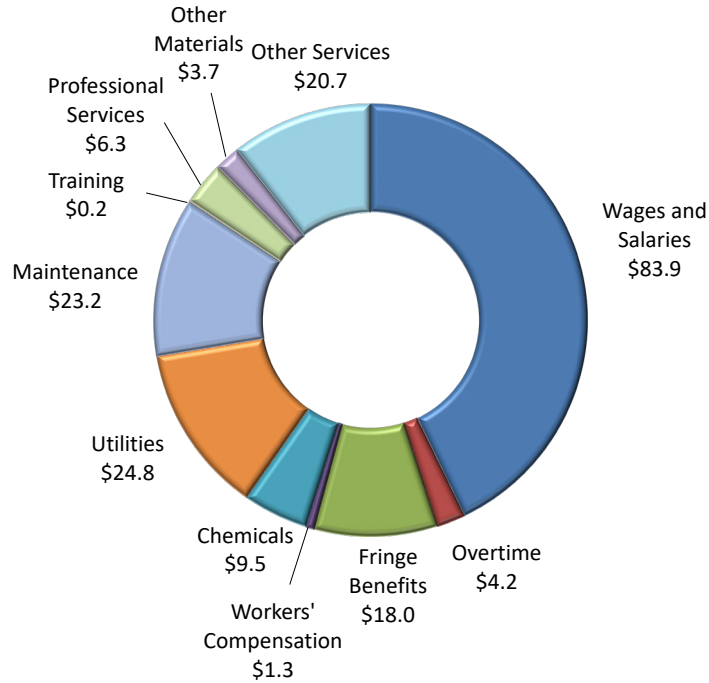
Total Revenues of \$677.6 million were \$4.2 million or 0.4% over budget driven by higher Other Revenue, Other User Charges, and the receipt of Debt Service Assistance from the Commonwealth.

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

**Direct Expenses**

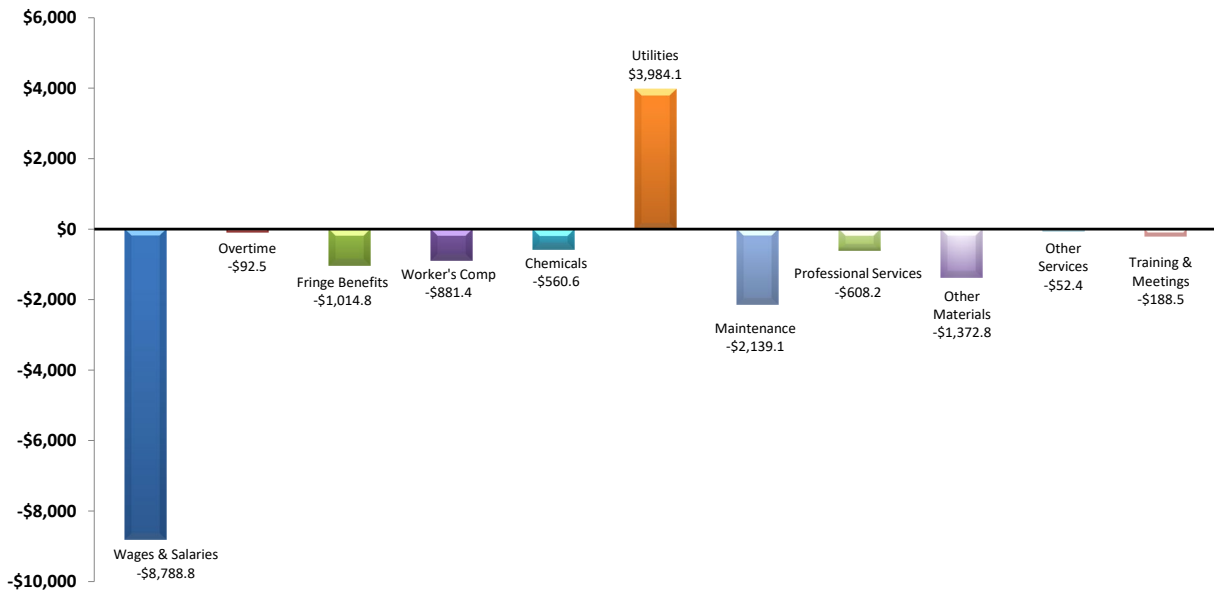
FY22 direct expenses through April totaled \$195.8 million, which was \$11.7 million or 5.6% less than budgeted.

**FY22 Direct Expenses  
(in millions)**



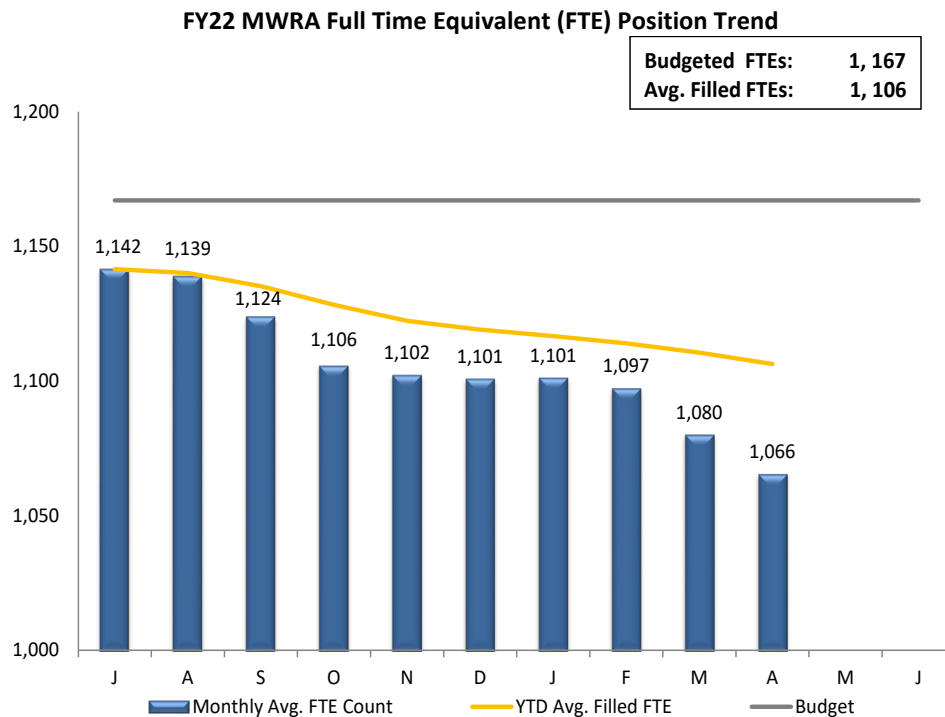
Lower spending for Wages & Salaries, Maintenance, Other Materials, Fringe Benefits, Worker's Compensation, Professional Services, Chemicals, Training & Meetings, Overtime, and Other Services. Spending was higher than budget for Utilities.

**FY22 Direct Expense Variance  
(in thousands)**



## Wages and Salaries

Wages and Salaries are under budget by \$8.8 million or 9.5%. Through April, there were 61 fewer average FTEs (1,106 versus 1,167 budget) or 5.2% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.



## Maintenance

Maintenance was less than budget by \$2.1 million or 8.4%, largely driven by the timing of projects. Maintenance Materials are under budget by \$1.5 million, driven by Plant and Machine Materials of \$958,000, Special Equipment Materials of \$387,000, HVAC Materials of \$228,000, and Pipe Materials of \$140,000, all largely due to timing. Maintenance Services are under budget by \$0.6 million driven by Building & Grounds Services of \$617,000 due to timing of service contracts and Special Equipment Services of \$370,000 due to timing of service contracts and a lower award than budgeted for the telephone system maintenance contract. This is partially offset by higher Computer Software Licenses of \$414,000 primarily due to timing.

## Other Materials

Other Materials were lower than budget by \$1.4 million or 27.1%, driven by less than budgeted spending for Other Materials of \$1.5 million primarily due to funding for the office space modifications now included in the CIP, Equipment/Furniture of \$200,000, Computer Software of \$96,000, Vehicle Purchases/Replacements of \$93,000, and Office Supplies of \$86,000, all largely due to the timing of purchasing. This underspending was partially offset by higher Computer Hardware of \$657,000 in MIS due to additional hardware purchased for teleworking.

## **Fringe Benefits**

Fringe Benefit spending was lower than budget by \$1.0 million or 5.3%. This is primarily driven by lower Health Insurance costs of \$790,000 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.

## **Worker's Compensation**

Worker's Compensation expenses were lower than budget by \$0.9 million or 40.5%. The lower expenses were due to favorable variances in Compensation Payments of \$550,000, Medical Payments of \$288,000, and Administrative Expenses of \$44,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

## **Professional Services**

Professional Services were lower than budget by \$0.6 million or 8.8%. The overall underspending is driven by lower spending in Computer Systems Consultant of \$872,000 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 and Engineering of \$287,000 primarily in Field Operations, partially offset by higher Other Services of \$456,000 primarily for design work for the move from CNY to Deer Island and Chelsea.

## **Chemicals**

Chemicals were lower than budget by \$0.6 million or 5.6%. Lower than budget spending on Hydrogen Peroxide of \$288,000 is driven by Deer Island based on usage as excessive rainfall helped lower H<sub>2</sub>S levels, Soda Ash of \$131,000 driven by Water Operations due to lower average flows at Carroll, Activated Carbon of \$126,000 primarily driven by Deer Island due to timing of replacements, Polymer of \$97,000 driven by Deer Island due to less usage for centrifuge operations, and Carbon Dioxide of \$65,000 driven by Water Operations due to lower dosing combined with lower flows. This is partially offset by Ferric Chloride of \$126,000 driven by Deer Island to keep the orthophosphate levels in the digesters at the desired target level. Deer Island flows are 10.7% higher than the budget and Carroll flows are 1.5% lower than the budget through April. It is important to note that Chemical variances are also based on deliveries, which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

## **Training and Meetings**

Training and Meetings expenses were lower than budget by \$0.2 million or 51.2% 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 2.2%. Lower spending mainly in Field Operations of \$256,000 primarily for planned and emergency overtime being under budget, Engineering & Construction of \$89,000, are partially offset by higher spending at Deer Island of \$214,000 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 Deer Island Operations continue to drive higher overtime costs than anticipated.



## Other Services

Other Services were lower than budget by \$0.1 million or 0.3%. Lower than budgeted spending for Health/Safety of \$80,000, Telecommunication costs of \$58,000, Grit and Screenings of \$53,000 due to lower quantities, and Space/Lease Rentals of \$48,000, partially offset by higher Sludge Pelletization of \$291,000 due to higher than anticipated sludge production.

## Utilities

Utilities were greater than budget by \$4.0 million or 19.2%. Overspending in Electricity of \$2.8 million primarily at Deer Island of \$1.9 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 is \$0.9 million over budget primarily due to new T&D rates and quantity. Diesel Fuel is overspent by \$1.2 million driven by Deer Island Treatment Plant due to a higher quantity purchased at a higher price.

## Indirect Expense

Indirect Expenses totaled \$44.7 million, which is \$0.9 million or 2.1% under budget. The variance is driven by lower Watershed Reimbursements of \$884,000 and lower HEEC costs of \$196,000, partially offset by higher insurance premiums/claims of \$135,000.

Based on FY22 operating activity only, the Watershed Division is \$617,000 or 4.4% under budget. Lower spending on Equipment, Maintenance, Fringe, and Telecommunications are the drivers of the underspending. When factoring in the FY21 balance forward (\$69,000) which was paid during Q1 of FY22, Watershed Reimbursement is \$548,000 or 3.9% below budget through April 2022. In addition, the PILOT payment is \$336,000 or 3.8% below budget.

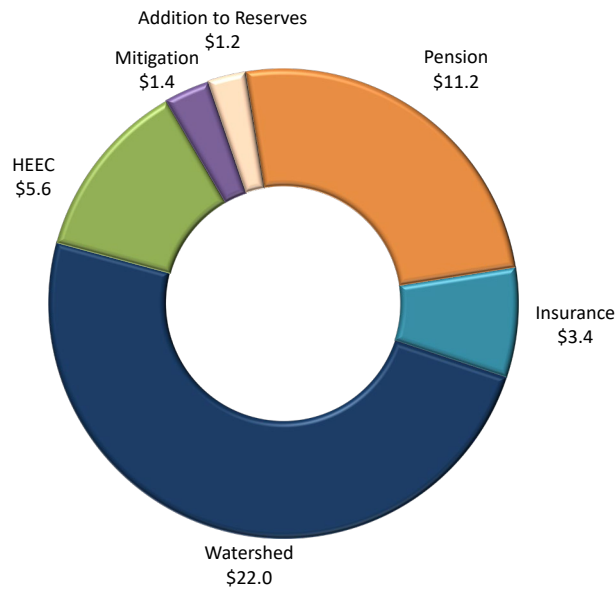
**FY22 Watershed Variance**

<b>\$ in millions</b>	<b>YTD Budget</b>	<b>YTD Actual</b>	<b>YTD \$ Variance</b>	<b>YTD % Variance</b>
Operating Expenses	14.8	14.4	-0.4	-2.7%
Operating Revenues - Offset	0.8	1.0	0.2	27.9%
<b>FY22 Operating Totals</b>	<b>14.0</b>	<b>13.4</b>	<b>-0.6</b>	<b>-4.4%</b>
DCR Balance Forward (FY21 4th quarter accrual true-up)	0.0	0.1	0.1	
<b>FY22 Adjusted Operating Totals</b>	<b>14.0</b>	<b>13.5</b>	<b>-0.5</b>	<b>-3.9%</b>
PILOT	8.8	8.5	-0.3	-3.8%
<b>Total Watershed Reimbursement</b>	<b>22.9</b>	<b>22.0</b>	<b>-0.9</b>	<b>-3.9%</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 April was 140 (and 135.2 on a year-to-date basis) vs. a budget of 150.

**FY22 Indirect Expenses  
(in millions)**

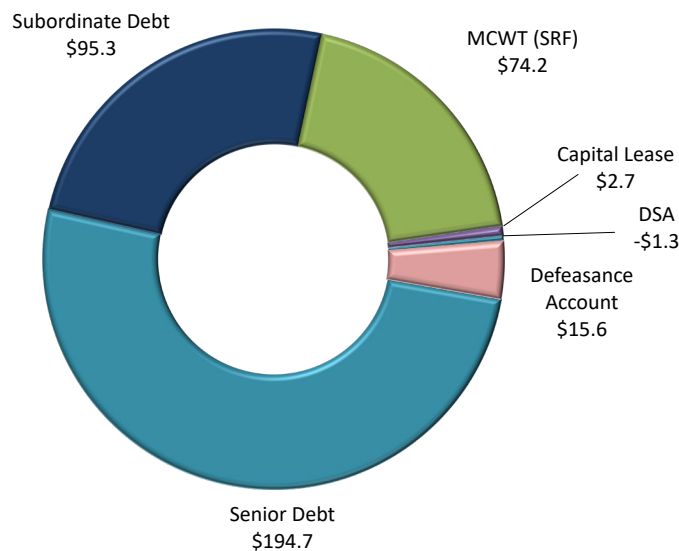


**Capital Financing**

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.

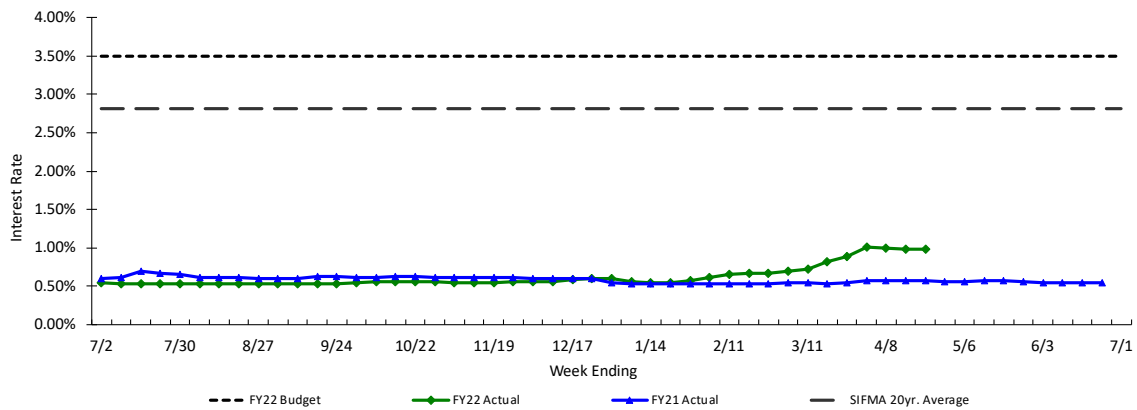
Capital Financing expenses for FY22 through April totaled \$381.3 million, which is on budget after the transfer of \$15.6 million to the Defeasance account, driven by lower than budgeted variable interest expense of \$8.5 million due to lower interest rates, \$4.4 million related to the refunding and timing of new money transactions, and lower SRF spending of \$2.8 million as a result of timing.

**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)**



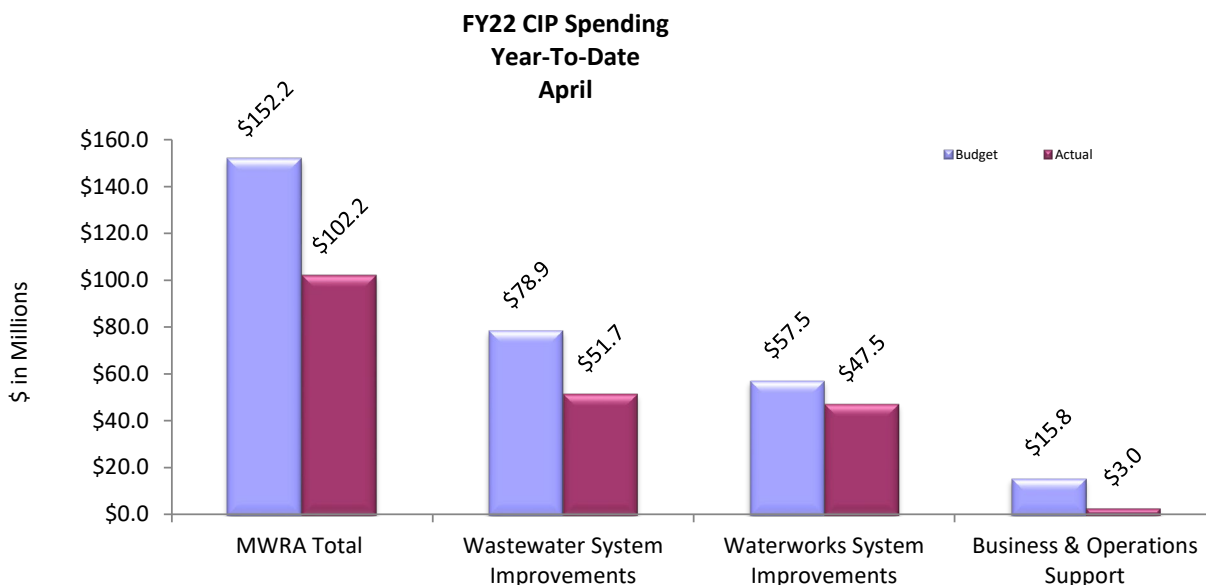
## **Revenue and Income**

Revenues of \$677.6 million were \$4.2 million or 0.4% over budget. Other Revenue was \$3.0 million or 51.5% over budget due to Payments from the Commonwealth of Massachusetts of \$1.2 million for Debt Service Assistance, higher Miscellaneous Revenue of \$876,000 driven by \$443,000 million in reimbursement from the Commonwealth of Massachusetts for Biobot costs associated with FY21, Energy Revenue of \$481,000, Energy Rebates of \$289,000, and Income from the Disposal of Equipment of \$257,000. Other User Charges were over budget by \$0.8 million or 10.1% primarily for unplanned water use by the Town of Burlington. Investment Income was \$327,000 or 10.1% over budget due to higher than budgeted interest rates and average balances.

## FY22 Capital Improvement Program

Capital expenditures in Fiscal Year 2022 through April total \$102.2 million, \$50.0 million or 32.8% 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 \$76.8 million, \$41.1 million or 34.8% under budget.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$27.2 million), Waterworks (\$10.0 million) and Business and Operations Support (\$12.8 million). Major variances in Wastewater are primarily due to Prison Point Rehabilitation contract on hold, timing of community grants and loans for the I/I Local Financial Assistance Program, timing of final work for the Winthrop Terminal Facility VFD Replacement contract, and completion of some design and inspection tasks later than anticipated for the Ward Street and Columbus Park Headworks Upgrades Design/ESDC, and updated schedules for Deer Island Motor Control Center & Switchgear Replacements, Primary & Secondary Clarifier Rehab, and Fire Alarm Replacement contracts. This was partially offset by planned FY21 work completed in FY22 for the Chelsea Creek Headworks Upgrades

Waterworks variances are primarily due to updated schedules for NIH Section 89 & 29 Replacement, timing of community loan distributions for the Water Loan Program, and reduction in scope for Sections 50 and 57 Water Pipeline. This was partially offset by contractor progress for WASM 3 Rehabilitation, CP-1 and WASM/Spot Pond Supply Mains Pressure Reducing Valves Construction and earlier than anticipated land purchase for the Metropolitan Tunnel Redundancy Administration, Legal, Public Outreach contract.

**FY22 Budget and FY22 Actual Variance by Program  
(in millions)**

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	38.9	28.8	(10.0)	-25.8%
Treatment	18.0	4.7	(13.3)	-73.9%
Residuals	0.0	0.0	(0.0)	0.0%
CSO	2.9	4.6	1.7	58.8%
Other	19.2	13.6	(5.6)	-29.1%
<b>Total Wastewater System Improvements</b>	<b>\$78.9</b>	<b>\$51.7</b>	<b>(\$27.2)</b>	<b>-34.5%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	2.7	3.1	0.3	12.1%
Transmission	22.5	25.6	3.0	13.4%
Distribution & Pumping	14.7	6.8	(7.9)	-53.8%
Other	17.5	12.1	(5.4)	-30.9%
<b>Total Waterworks System Improvements</b>	<b>\$57.5</b>	<b>\$47.5</b>	<b>(\$10.0)</b>	<b>-17.3%</b>
<b>Business &amp; Operations Support</b>	<b>\$15.8</b>	<b>\$3.0</b>	<b>(\$12.8)</b>	<b>-80.9%</b>
<b>Total MWRA</b>	<b>\$152.2</b>	<b>\$102.2</b>	<b>(\$50.0)</b>	<b>-32.8%</b>

*Totals may not add due to rounding*

**FY22 Spending by Program:**

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

**Wastewater Treatment:** Net underspending of \$13.3 million

- \$2.6 million each for Motor Control Center and Switchgear Replacement - Design/ESDC/REI and Construction, \$1.9 million for Clarifier Rehabilitation Phase 2 – Construction, \$1.7 million for Fire Alarm System Replacement - Design/CA and Construction, \$1.0 million for Deer Island Dystor Membrane Replacements, and \$0.5 million for Clinton Screw Pump Replacement all due to updated construction schedules.
- \$1.8 million for Winthrop Terminal Facility VFD and Motors Replacements, \$0.6 million for Gravity Thickener Rehabilitation, and \$0.6 million for Miscellaneous VFD Replacements due to timing of work.

**Business & Operations Support:** Net underspending of \$12.8 million

- \$2.3 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work.
- \$1.8 million for Cabling, \$1.2 million for Lawson Upgrade, \$1.1 million for MSSP/SIEM, \$0.7 million for Sans Storage, \$0.5 million for Enterprise Data Management, and \$0.3 million for Instrumentation and Controls all due to updated schedules and timing of work.
- \$1.6 million for Vehicle Purchases due to timing of purchases.
- \$0.8 million for Office Space Modifications due to updated schedule.

**Interception and Pumping:** Net underspending of \$10.0 million

- \$7.7 million for Prison Point Design CA/RI and Construction due to project on hold.
- \$1.6 million for Ward Street & Columbus Park Headworks - Design/CA due to completion of some design and inspection tasks later than anticipated.
- \$0.8 million for Interceptor Renewal No. 3, Dorchester Interceptor Sewer – Construction due to timing of contractor work. Contract is substantially complete.
- This underspending was partially offset by overspending of \$1.9 million for Chelsea Creek Headworks Upgrades - Construction and REI and \$0.9 million for Wastewater Metering Construction due to work scheduled for FY21 performed in FY22.

**Water Distribution and Pumping:** Net underspending of \$7.9 million

- \$5.6 million for Section 89 & 29 Replacement Construction and REI due to updated schedules.
- \$1.1 million for Sections 50 & 57 Water Rehabilitation - Design/ESDC due to contract scope reduction.
- \$1.0 million for CP-3 CP3-Sections 23, 24, 47 Final Design/CA/RI due to less than anticipated Final Design and CA/RI work.
- \$0.5 million for Cathodic Protection Shafts N & W due to schedule change.
- \$0.4 million for SEH Redundancy Design CA/RI due to less than anticipated budgeted spending.

**Other Wastewater:** Net underspending of \$5.6 million

- \$5.6 million for Infiltration/Inflow Financial Assistance due to timing of grant and loan distributions.

**Other Waterworks:** Net underspending of \$5.4 million

- \$4.7 million for Local Financial Assistance due to timing of community loan distributions.
- \$0.3 million for Water System Hydraulic Model due to slower than anticipated start-up.
- \$0.3 million for New Roofs at Water Pumping Stations due to updated schedule.

**Waterworks Transmission:** Net overspending of \$3.0 million

- \$2.9 million for WASM 3 Rehabilitation, CP-1, and \$1.4 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.
- \$0.3 million for Wachusett Dam Bridge Crane Removal for FY21 planned work completed in FY22.
- \$0.3 million for Program Support Services due to timing of consultant work.
- This overspending was partially offset by underspending of \$0.9 million for Tunnel Redundancy Preliminary Design and MEPA Review due to timing of consultant work. Also, \$0.6 million for CP2 Shaft 5, \$0.5 million for Wachusett Lower Gatehouse Pipe and Boiler Replacement, and \$0.3 million for Chestnut Hill Emergency Pumping Station Improvements due to updated construction schedules.

**Combined Sewer Overflow:** Net overspending of \$1.7 million

- \$0.9 million for Somerville Marginal In-System Storage due to timing of payment.
- \$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 \$0.4 million for CSO Performance Assessment due to time extension.

**Drinking Water Quality Improvements:** Net overspending of \$0.3 million

- \$0.5 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 \$0.3 million for Existing Facilities Modifications - CP7 due to timing of work and \$0.3 million for Carroll Water Treatment Plant due to updated schedule.

**Construction Fund Balance**

The construction fund balance was \$115 million as of the end of April. Commercial Paper/Revolving Loan available capacity was \$197 million.

**ATTACHMENTS:**

Attachment 1 – Variance Summary April 2022

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

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

ATTACHMENT 1  
FY22 Actuals vs. FY22 Budget

	Apr 2022 Year-to-Date				
	Period 10 YTD Budget	Period 10 YTD Actual	Period 10 YTD Variance	%	FY22 Approved
<b><u>EXPENSES</u></b>					
WAGES AND SALARIES	\$ 92,711,111	\$ 83,922,339	\$ (8,788,772)	-9.5%	\$ 116,680,341
OVERTIME	4,248,021	4,155,476	(92,545)	-2.2%	5,156,681
FRINGE BENEFITS	19,043,189	18,028,371	(1,014,818)	-5.3%	23,253,137
WORKERS' COMPENSATION	2,178,466	1,297,053	(881,413)	-40.5%	2,614,159
CHEMICALS	10,049,687	9,489,049	(560,638)	-5.6%	12,202,286
ENERGY AND UTILITIES	20,800,804	24,784,919	3,984,115	19.2%	24,749,865
MAINTENANCE	25,382,128	23,243,073	(2,139,055)	-8.4%	32,442,382
TRAINING AND MEETINGS	368,036	179,548	(188,488)	-51.2%	473,994
PROFESSIONAL SERVICES	6,913,139	6,304,901	(608,238)	-8.8%	8,773,258
OTHER MATERIALS	5,071,069	3,698,286	(1,372,783)	-27.1%	8,334,774
OTHER SERVICES	20,719,893	20,667,526	(52,367)	-0.3%	25,129,234
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 207,485,543</b>	<b>\$ 195,770,541</b>	<b>\$ (11,715,001)</b>	<b>-5.6%</b>	<b>\$ 259,810,111</b>
INSURANCE	\$ 3,261,054	\$ 3,395,952	\$ 134,898	4.1%	\$ 3,943,600
WATERSHED/PILOT	22,854,192	21,970,225	(883,967)	-3.9%	26,731,490
HEEC PAYMENT	5,781,807	5,585,466	(196,341)	-3.4%	6,991,953
MITIGATION	1,400,278	1,400,278	-	0.0%	1,693,360
ADDITIONS TO RESERVES	1,168,150	1,168,150	-	0.0%	1,412,647
RETIREMENT FUND	11,205,000	11,205,000	-	0.0%	11,205,000
POST EMPLOYEE BENEFITS	-	-	-	---	4,673,624
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 45,670,481</b>	<b>\$ 44,725,071</b>	<b>\$ (945,410)</b>	<b>-2.1%</b>	<b>\$ 56,651,674</b>
STATE REVOLVING FUND	\$ 77,008,993	\$ 74,228,333	\$ (2,780,660)	-3.6%	\$ 95,673,399
SENIOR DEBT	199,140,797	194,726,214	(4,414,583)	-2.2%	244,957,128
DEBT SERVICE ASSISTANCE	(1,287,870)	(1,287,870)	-	0.0%	(1,287,870)
CURRENT REVENUE/CAPITAL	-	-	-	---	17,200,000
SUBORDINATE MWRA DEBT	103,763,304	103,763,304	-	0.0%	125,046,218
LOCAL WATER PIPELINE CP	-	-	-	---	6,120,127
CAPITAL LEASE	2,660,261	2,660,261	-	0.0%	3,217,060
VARIABLE DEBT	-	(8,452,579)	(8,452,579)	---	-
DEFEASANCE ACCOUNT	-	15,647,822	15,647,822	---	-
DEBT PREPAYMENT	-	-	-	---	5,609,355
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 381,285,485</b>	<b>\$ 381,285,485</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 496,535,417</b>
<b>TOTAL EXPENSES</b>	<b>\$ 634,441,509</b>	<b>\$ 621,781,096</b>	<b>\$ (12,660,411)</b>	<b>-2.0%</b>	<b>\$ 812,997,202</b>
<b><u>REVENUE &amp; INCOME</u></b>					
RATE REVENUE	\$ 654,992,539	\$ 654,992,539	\$ -	0.0%	\$ 792,084,000
OTHER USER CHARGES	8,331,769	9,174,278	842,509	10.1%	9,222,883
OTHER REVENUE	5,857,931	8,875,561	3,017,630	51.5%	6,479,203
RATE STABILIZATION	1,033,654	1,033,654	-	0.0%	1,250,000
INVESTMENT INCOME	3,246,694	3,573,726	327,032	10.1%	3,961,116
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 673,462,587</b>	<b>\$ 677,649,758</b>	<b>\$ 4,187,172</b>	<b>0.6%</b>	<b>\$ 812,997,202</b>



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

Total MWRA	FY22 Budget YTD April	FY22 Actuals April	FY22 YTD Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	92,711,111	83,922,339	(8,788,772)	-9.5%	Wages and Salaries are under budget by \$8.8 million. Year to date, there have been 61 fewer average FTEs (1,106 versus 1,167 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	4,248,021	4,155,476	(92,545)	-2.2%	Overtime expenses were less than budget by \$93,000 or 2.2%. Lower spending mainly in Field Operations of (\$256,000) primarily for planned and emergency overtime being under budget, Engineering & Construction of (\$89,000), are partially offset by higher spending at Deer Island of \$214,000 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	19,043,189	18,028,371	(1,014,818)	-5.3%	Lower than budget in <b>Health Insurance</b> of \$790,000, 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. Also, <b>Unemployment Insurance</b> of \$55,000 and <b>Dental Insurance</b> of \$47,000 were lower than budget.
Worker's Compensation	2,178,466	1,297,053	(881,413)	-40.5%	The lower expenses were due to favorable variances in <b>Compensation Payments</b> of \$550,000, <b>Medical Payments</b> of \$288,000, and <b>Administrative Expenses</b> of \$44,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	10,049,687	9,489,049	(560,638)	-5.6%	Chemicals were lower than budget by \$0.6 million or 5.6%. Lower than budget spending on <b>Hydrogen Peroxide</b> of \$288,000 driven by DITP based on usage as excessive rainfall helped lower H2S levels, <b>Soda Ash</b> of \$131,000 driven by Water Operations due to lower average flows at CWTP, <b>Activated Carbon</b> of \$126,000 primarily driven by Deer Island due to timing of replacements, <b>Polymer</b> of \$97,000 driven by DITP due to less usage for centrifuge operations, and <b>Carbon Dioxide</b> of \$65,000 driven by Water Operations due to lower dosing combined with lower flows. This is partially offset by <b>Ferric Chloride</b> of \$126,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level. DITP flows are 10.7% higher than the budget and CWTP flows are 1.5% lower than the budget through April. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	20,800,804	24,784,919	3,984,115	19.2%	Utilities were greater than budget by \$4.0 million or 19.2%. Overspending in <b>Electricity</b> of \$2.8 million primarily at DITP of \$1.9 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 \$0.9 million is over budget primarily due to new T&D rates and quantity. <b>Diesel Fuel</b> is overspent by \$1.2 million driven by Deer Island Treatment Plant due to higher quantity purchase at a higher price.

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

Total MWRA	FY22 Budget YTD April	FY22 Actuals April	FY22 YTD Actual vs. FY22 Budget		Explanations
			\$	%	
Maintenance	25,382,128	23,243,073	(2,139,055)	-8.4%	Maintenance was less than budget by \$2.1 million or 8.4%, largely driven by the timing of projects. <i>Maintenance Materials</i> are under budget by \$1.5 million, driven by <b>Plant and Machine Materials</b> of \$958,000, <b>Special Equipment Materials</b> of \$387,000, <b>HVAC Materials</b> of \$228,000, and <b>Pipe Materials</b> of \$140,000, all largely due to timing. <i>Maintenance Services</i> are under budget by \$0.6 million driven by <b>Building &amp; Grounds Services</b> of \$617,000 due to timing of service contracts, <b>Special Equipment Services</b> of \$370,000 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 \$196,000 due to HP and Cisco Smartnet renewal contracts being less than budgeted and the Distributed Antenna System Support agreement at DITP being delayed. This is partially offset by <b>Computer Software Licenses</b> of \$414,000 primarily due to timing.
Training & Meetings	368,036	179,548	(188,488)	-51.2%	Lower than budget spending on <b>Training &amp; Meetings</b> by \$188,000 is driven by MIS of \$96,000, Tunnel Redundancy of \$21,000, DITP of \$10,000, Field Operations of \$9,000, and Procurement of \$9,000, partially offset by higher spending in Engineering & Construction of \$8,000.
Professional Services	6,913,139	6,304,901	(608,238)	-8.8%	Lower than budget spending primarily for <b>Computer Systems Consultant</b> of \$872,000 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 and <b>Engineering</b> of \$287,000 primarily in Field Operations, partially offset by <b>Other Services</b> of \$456,000 primarily for design work for the move from CNY to DI and Chelsea.
Other Materials	5,071,069	3,698,286	(1,372,783)	-27.1%	Other Materials were lower than budget by \$1.4 million or 27.1%, driven by less than budgeted spending for <b>Other Materials</b> of \$1.5 million primarily due to funding for the office space modifications now coming from the CIP, <b>Equipment/Furniture</b> of \$200,000, <b>Computer Software</b> of \$96,000, <b>Vehicle Purchases/Replacements</b> of \$93,000, and <b>Office Supplies</b> of \$86,000, all largely due to the timing of purchasing. This underspending was partially offset by <b>Computer Hardware</b> of \$657,000 in MIS due to additional hardware purchased for teleworking.
Other Services	20,719,893	20,667,526	(52,367)	-0.3%	Other Services were lower than budget by \$0.2 million or 1.2%. Lower than budgeted spending for <b>Health/Safety</b> of \$80,000, <b>Telecommunication</b> costs of \$58,000, <b>Grit and Screenings</b> of \$53,000 due to lower quantities, and <b>Space/Lease Rentals</b> of \$48,000, partially offset by <b>Sludge Pelletization</b> of \$291,000 due to higher than anticipated sludge production.
<b>Total Direct Expenses</b>	<b>207,485,543</b>	<b>195,770,541</b>	<b>(11,715,002)</b>	<b>-5.6%</b>	

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

Total MWRA	FY22 Budget YTD April	FY22 Actuals April	FY22 YTD Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Indirect Expenses</b>					
Insurance	3,261,054	3,395,952	134,898	4.1%	Higher Payments/Claims of \$140,000 and lower Premiums of \$5,000 than budgeted.
Watershed/PILOT	22,854,192	21,970,225	(883,967)	-3.9%	Lower Watershed Reimbursement of \$0.9 million favorable variance to budget driven by lower spending on (1) Equipment (2) Maintenance (3) Fringe Benefits (4) and Telecommunications. Also, PILOT is \$336,000 below budget.
HEEC Payment	5,781,807	5,585,466	(196,341)	-3.4%	Decrease is due to HEEC Revenue Requirement (\$330,000), partially offset by and HEEC O&M charge (\$134,000).
Mitigation	1,400,278	1,400,278	-	0.0%	
Addition to Reserves	1,168,150	1,168,150	-	0.0%	
Pension Expense	11,205,000	11,205,000	-	0.0%	
Post Employee Benefits	-	-	-		
<b>Total Indirect Expenses</b>	<b>45,670,481</b>	<b>44,725,071</b>	<b>(945,410)</b>	<b>-2.1%</b>	
<b>Debt Service</b>					
Debt Service	382,573,355	382,573,355	-	0.0%	Debt Service matches the budget after the transfer of \$15.6 million to the Defeasance account, driven by lower than budgeted variable interest expense of \$8.5 million due to lower interest rates, lower Senior Debt spending of \$4.4 million as a result of the refunding and new money transactions, and lower SRF spending of \$2.8 million as a result of timing.
Debt Service Assistance	(1,287,870)	(1,287,870)	-	0.0%	
<b>Total Debt Service Expenses</b>	<b>381,285,485</b>	<b>381,285,485</b>	<b>-</b>	<b>0.0%</b>	
<b>Total Expenses</b>					
<b>Total Expenses</b>	<b>634,441,509</b>	<b>621,781,097</b>	<b>(12,660,412)</b>	<b>-2.0%</b>	

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

Total MWRA	FY22 Budget YTD April	FY22 Actuals April	FY22 YTD Actual vs. FY22 Budget		Explanations
			\$	%	
<b>Revenue &amp; Income</b>					
Rate Revenue	654,992,539	654,992,539	-	0.0%	
Other User Charges	8,331,769	9,174,278	842,509	10.1%	Unplanned water use by the town of Burlington.
Other Revenue	5,857,931	8,875,561	3,017,630	51.5%	Other Revenue was \$3.0 million or 51.5% 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 \$0.9 million driven by the reimbursement from the Commonwealth of Massachusetts for Biobot costs associated with FY21, <b>Energy Revenue</b> of \$0.5 million, <b>Energy Rebates</b> of \$0.3 million, and <b>Income from the Disposal of Equipment</b> of \$0.3 million.
Rate Stabilization	1,033,654	1,033,654	-	0.0%	HEEC Reserve.
Investment Income	3,246,693	3,573,727	327,034	10.1%	Investment Income is over budget is due to higher than budgeted interest rates and average balances.
<b>Total Revenue</b>	<b>673,462,586</b>	<b>677,649,759</b>	<b>4,187,173</b>	<b>0.6%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>39,021,077</b>	<b>55,868,662</b>	<b>16,847,585</b>		

**ATTACHMENT 3  
FY22 CIP Year-to-Date Variance Report (\$000's)**

	FY22 Budget YTD April	FY22 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$38,851	\$28,827	(\$10,024)	-25.8%	<u>Underspending</u> Prison Point Design CA/RI and Construction: \$7.7M (project on hold) Ward Street & Columbus Park Headworks Upgrades - Design/ESDC: \$1.6M (completed some design and inspection tasks later than anticipated) Interceptor Renewal No. 3, Dorchester Interceptor Sewer - Construction: \$846k (timing of contractor work. Contract is substantially complete.) <u>Offset Overspending</u> Chelsea Creek Headworks Upgrades - Construction, CA and REI: \$1.9M (work scheduled for FY21 performed in FY22) Wastewater Metering Asset Protection/Equipment Purchase: \$912k (work scheduled for FY21 completed in FY22. Contract is substantially complete.)
Treatment	\$17,996	\$4,696	(\$13,300)	-73.9%	<u>Underspending</u> Winthrop Terminal Facility (WTF) VFD and Motors Replacement - Construction: \$1.8M, Gravity Thickener Rehabilitation: \$616k, and Miscellaneous VFD Replacements FY19-FY23: \$583k (timing of work) Motor Control Center and Switchgear Replacement - Design/ESDC/REI and Construction: \$2.6M, Clarifier Rehabilitation Phase 2 - Construction: \$1.9M, Fire Alarm System Replacement - Design/CA and Construction: \$1.7M, DI Dystor Membrane Replacements: \$1.0M, Clinton Screw Pump Replacement: \$546k, Eastern Seawall Design/ESDC/REI: \$308k, and Gas Protection System Replacement - Phase 2: \$235k (updated construction schedules), Digester & Storage Tank Rehabilitation - Design/ESDC: \$308k, and Odor Control Rehab - Design/ESDC: \$267k, (updated schedules) As-Needed Technical Assistance: \$648k (lower than projected task order work) Clarifier Rehabilitation Phase 2 - Design: \$241k (time extension) <u>Offset Overspending</u> Chemical Tank and Digester Pipe: \$207k (timing of final work) Clinton Wastewater Treatment Plant Valves and Pipe Replacement: \$183k (contractor progress)
Residuals	\$33	\$14	(\$19)	-58.4%	

**ATTACHMENT 3  
FY22 CIP Year-to-Date Variance Report (\$000's)**

	FY22 Budget YTD April	FY22 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
CSO	\$2,887	\$4,584	\$1,696	58.8%	<u>Overspending</u> Somerville Marginal In-System Storage: \$934k (timing of payment) East Boston CSO Control - BOS014: \$727k (work completed earlier than anticipated) Dorchester Inflow Removal Construction: \$572k (timing of payment) <u>Offset Underspending</u> CSO Performance Assessment: \$413k (time extension)
Other Wastewater	\$19,152	\$13,580	(\$5,572)	-29.1%	<u>Underspending</u> I/I Local Financial Assistance: \$5.6M (timing of community distributions of grants and loans)
<b>Total Wastewater</b>	<b>\$78,920</b>	<b>\$51,701</b>	<b>(\$27,219)</b>	<b>-34.5%</b>	

**ATTACHMENT 3  
FY22 CIP Year-to-Date Variance Report (\$000's)**

	FY22 Budget YTD April	FY22 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$2,739	\$3,070	\$332	12.1%	<u>Overspending</u> Ancillary Modifications - Construction: \$461k (contractor progress) CWTP As-Needed Technical Assistance: \$385k (greater than projected task order work) <u>Offset Underspending</u> CWTP Parapet Wall Repairs: \$312k (updated schedule) Existing Facilities Modifications - CP7: \$300k (timing of work)
Transmission	\$22,535	\$25,559	\$3,024	13.4%	<u>Overspending</u> WASM 3 Rehabilitation, CP-1: \$2.9M, and WASM/Spot Pond Supply Mains West Pressure Reducing Valves - Construction: \$1.4M (contractors progress) Metropolitan Tunnel Redundancy Administration, Legal & Public Outreach: \$1.9M (timing of land purchase), and Program Support Services: \$293k (timing of consultant work) Wachusett Dam Bridge Crane Removal: \$291k (FY21 planned work completed in FY22) Shaft 2 - Construction: \$227k (timing of work) <u>Offset Underspending</u> Tunnel Redundancy Preliminary Design & MEPA Review: \$900k (timing of consultant work) CP2 Shafts 5: \$555k, Wachusett Lower Gatehouse Pipe and Boiler Replacement - Construction: \$500k, and Chestnut Hill Emergency Pump Station Improvements - Construction: \$250k (updated construction schedules) Chestnut Hill Emergency Pump Station Improvements - Design/CA: \$288k, and River Road Improvements-Wachusett: \$263k (timing of work)

**ATTACHMENT 3**  
**FY22 CIP Year-to-Date Variance Report (\$000's)**

	FY22 Budget YTD April	FY22 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$14,683	\$6,788	(\$7,895)	-53.8%	<u>Underspending</u> Section 89/29 Replacement - Construction and RE/RI Services: \$5.6M (updated schedule) Sections 50 & 57 Water Pipeline Rehabilitation - Design/ESDC; \$1.1M (contract scope reduction) New Connecting Mains CP3-Sections 23, 24, 47 Final Design/CA/RI: \$996k (less than anticipated Final Design and CA/RI work) Cathodic Protection Shafts N & W: \$500k (schedule change) 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: \$769k, and CP-1 NEH Improvements: \$500k (earlier than anticipated start-up)
Other Waterworks	\$17,519	\$12,097	(\$5,421)	-30.9%	<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$4.7M (timing of community loan distributions) Water System Hydraulic Model: \$308k (slower than anticipated start-up) New Roofs at Water Pumping Stations - Construction: \$259k (updated schedule) <u>Offset Overspending</u> CWTP SCADA Upgrades - Construction: \$203k (timing of work)
<b>Total Waterworks</b>	<b>\$57,476</b>	<b>\$47,515</b>	<b>(\$9,961)</b>	<b>-17.3%</b>	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	<b>\$15,838</b>	<b>\$3,029</b>	<b>(\$12,809)</b>	<b>-80.9%</b>	<u>Underspending</u> As-Needed Technical Assistance and CS/REI Services: \$2.3M (lower than projected task order work) FY19-23 Vehicle Purchases: \$1.6M (due to timing) Cabling: \$1.8M, Lawson Upgrade: \$1.2M, MSSP/SIEM: \$1.1M, Sans Storage: \$679k, Archiving & Data Management: \$363k, Enterprise Data Management: \$461k, Instrumentation & Controls: \$310k, and Security Equipment & Installation: \$211k (updated schedules and timing of work) Office Space Modifications: \$793k (updated schedule)
<b>Total MWRA</b>	<b>\$152,234</b>	<b>\$102,244</b>	<b>(\$49,989)</b>	<b>-32.8%</b>	



**Attachment 4**  
**FY22 Budget vs. FY22 Projection**

TOTAL MWRA	FY22 Budget	FY22 Projection	Change FY22 Budget vs FY22 Projection	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 116,680,341	\$ 107,378,367	\$ (9,301,974)	-8.0%
OVERTIME	5,156,681	5,030,378	(126,303)	-2.4%
FRINGE BENEFITS	23,253,137	22,209,351	(1,043,786)	-4.5%
WORKERS' COMPENSATION	2,614,159	1,960,619	(653,540)	-25.0%
CHEMICALS	12,202,286	12,255,355	53,069	0.4%
ENERGY AND UTILITIES	24,749,865	28,684,687	3,934,822	15.9%
MAINTENANCE	32,442,381	30,066,732	(2,375,649)	-7.3%
TRAINING AND MEETINGS	473,994	314,875	(159,119)	-33.6%
PROFESSIONAL SERVICES	8,773,258	7,895,932	(877,326)	-10.0%
OTHER MATERIALS	8,334,774	7,501,297	(833,477)	-10.0%
OTHER SERVICES	25,129,236	24,877,944	(251,292)	-1.0%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 259,810,111</b>	<b>\$ 248,175,536</b>	<b>\$ (11,634,575)</b>	<b>-4.5%</b>
INSURANCE	\$ 3,943,600	\$ 3,943,600	-	0.0%
WATERSHED/PILOT	26,731,490	25,450,160	(1,281,330)	-4.8%
HEEC PAYMENT	6,991,953	6,640,819	(351,134)	-5.0%
MITIGATION	1,693,360	1,693,360	-	0.0%
ADDITIONS TO RESERVES	1,412,647	1,412,647	-	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>\$ 56,651,673</b>	<b>\$ 55,019,209</b>	<b>\$ (1,632,464)</b>	<b>-2.9%</b>
STATE REVOLVING FUND	\$ 95,673,399	\$ 89,764,498	(5,908,901)	-6.2%
SENIOR DEBT	244,957,128	227,612,996	(17,344,132)	-7.1%
SUBORDINATE DEBT	125,046,217	125,046,217	(0)	0.0%
LOCAL WATER PIPELINE CP	6,120,127	1,431,079	(4,689,048)	-76.6%
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)	0.0%
DEBT SERVICE ASSISTANCE	(1,287,870)	(1,287,870)	-	0.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 496,535,417</b>	<b>\$ 468,593,335</b>	<b>\$ (27,942,082)</b>	<b>-5.6%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 812,997,202</b>	<b>\$ 771,788,080</b>	<b>\$ (41,209,122)</b>	<b>-5.1%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 792,084,000	\$ 792,084,000	-	0.00%
OTHER USER CHARGES	9,222,884	10,693,360	1,470,477	15.9%
OTHER REVENUE	6,479,202	8,739,663	2,260,462	34.9%
RATE STABILIZATION	1,250,000	1,250,000	-	0.0%
INVESTMENT INCOME	3,961,116	4,100,116	139,000	3.5%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 812,997,202</b>	<b>\$ 816,867,140</b>	<b>\$ 3,869,938</b>	<b>0.5%</b>

**VARIANCE:**

**\$ (45,079,060) \$ (45,079,060)**

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** Bond Defeasance of Future Debt Service



**COMMITTEE:** Administration, Finance & Audit

X VOTE  
     INFORMATION

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

Thomas J. Durkin  
Director of Finance

*Consistent with MWRA's multi-year rates management strategy, MWRA staff are recommending the execution of an approximately \$34.9 million defeasance in June 2022 to reduce future year rate increases. The \$34.9 million in available funds is derived from the use of \$28.3 million of the FY21 surplus, the \$5.6 million Debt Prepayment included in the FY22 CEB and \$1.0 surplus funds from FY21 (including \$761,212 reserved if needed for Watershed salaries in FY22). These funds will be used to prepay debt service coming due in FY23 through FY26 (\$30.7 million in principal and \$4.3 million in interest).*

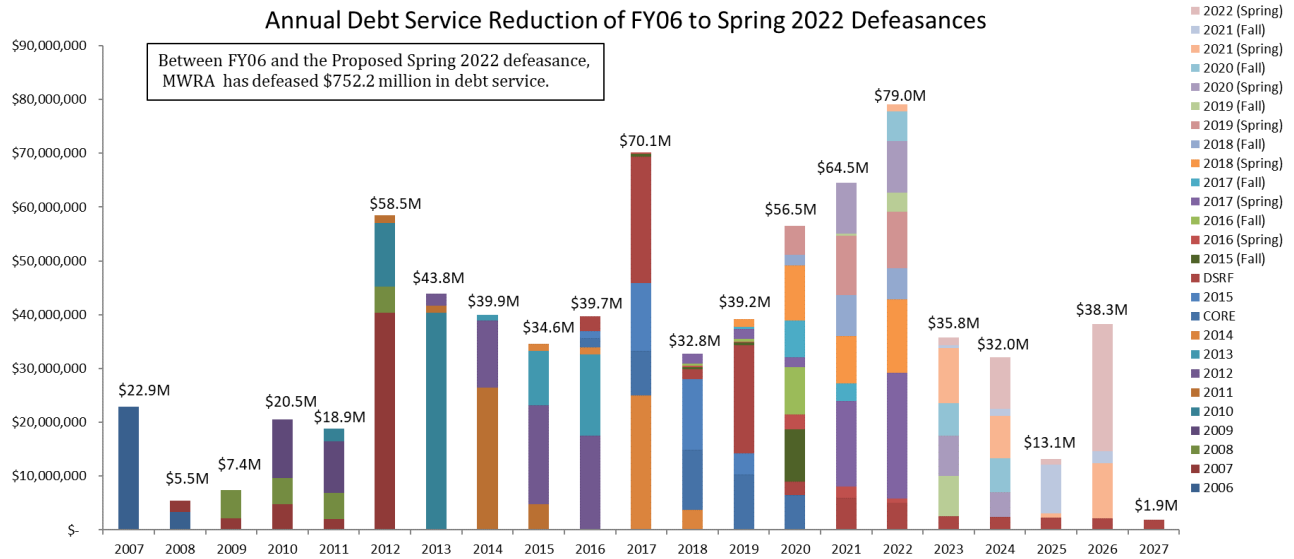
**RECOMMENDATION:**

To authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$30,670,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by \$35,689,000 in the FY23 through FY26 timeframe.

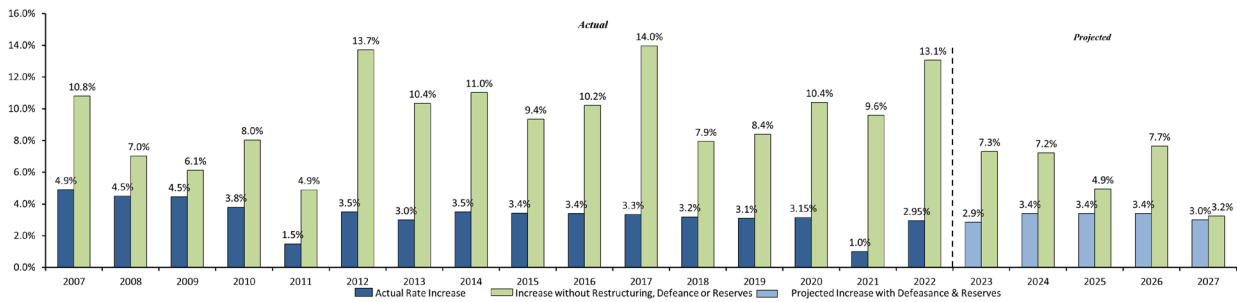
**DISCUSSION:**

Since FY12, the MWRA has utilized the budgetary defeasance account strategy to set aside surplus funds associated with the capital finance budget to defease outstanding debt. In order to mitigate rate increases, staff reflected the impact of a \$15.0 million defeasance in the Proposed FY23 CEB comprised of the projected FY22 surplus as well as the FY22 CEB Debt Prepayment. Now, based on current year-end projections, the proposed defeasance has increased to approximately \$34.9 million, consisting of \$28.3 million from the projected FY22 surplus, \$5.6 million of FY22 Debt Prepayment and \$1.0 million remaining from FY21 for even greater debt service reductions in future years. The remaining FY21 surplus includes \$761,121 in funds that were set aside as a wages and salaries contingency for the Watershed Division in the event its FTE count increased during FY22. Since those funds are not required for the FY22 Watershed Division budget they will be utilized as part of this proposed defeasance.

MWRA’s ongoing use of defeasances has had a significant impact in lowering future debt service payments and limiting annual rate revenue increases. From 2006 through this proposed transaction, MWRA has defeased \$752.2 million in debt service to reduce future year rate revenue requirements. The following chart details the multi-year impact of those defeasances.



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



Staff reviewed all bonds available to be defeased, and have identified the maturities of the bonds in the following table as the most advantageous defeasance candidates.

Series	Maturity	Call Date	Principal	Defeasance Cost <sup>1</sup>
2014F	August 1, 2024	August 1, 2024	\$ 8,100,000	\$ 8,910,000
2014F	August 1, 2026	August 1, 2024	\$ 7,640,000	\$ 8,404,000
2016C	August 1, 2026	August 1, 2026	\$ 7,625,000	\$ 8,845,000
2016C	August 1, 2026	August 1, 2026	\$ 3,510,000	\$ 4,212,000
2016D	August 1, 2026	August 1, 2026	\$ 2,490,000	\$ 2,988,000
2017C	August 1, 2026	August 1, 2026	\$ 1,305,000	\$ 1,566,000
<b>Total</b>			<b>\$ 30,670,000</b>	<b>\$ 34,925,000</b>

(1) Defeasance costs is only anticipated funds from surplus and does not included current year deposits. Assumes no interest earned on escrow

The following table details the annual budget savings by fiscal year for the proposed FY22 spring defeasance.

Budget Reduction by Fiscal Year				Total CEB Savings
2023	2024	2025	2026	
\$ 1,457,250	\$ 9,557,250	\$ 1,052,250	\$ 23,622,250	\$ 35,689,000

The proposed defeasance reduces debt service by a total of \$35.7 million between FY23 and FY26. The total debt service reduction attributable to the defeasance is approximately \$764,000 higher than the defeasance cost because the 2026 maturity of the 2014 Series F bonds is callable prior to its maturity date. The payment of these bonds on the call date will yield interest savings, as a result of paying off the bonds prior to maturity without interest accruing. Since 2006, MWRA has avoided \$37.0 million in interest by defeasing callable bonds.

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

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

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

**BUDGET/FISCAL IMPACT:**

The defeasance of these bonds will decrease the FY23 through FY26 debt service requirement by \$35.7 million. The cost associated with bond counsel and financial advisory services will be paid out of the Treasury Department’s professional services budget.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** May 25, 2022  
**SUBJECT:** MWRA FY2023 Insurance Program Renewal



**COMMITTEE:** Administration, Finance & Audit

         INFORMATION

  X   VOTE

  
Michele S. Gillen

Director of Administration

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

  
Thomas J. Durkin

Director of Finance

*MWRA's Insurance Program is renewed on an annual basis at the beginning of each fiscal year. Annual renewals are required due to the insurance industry's reluctance to provide firm pricing for more than a one-year period. Staff conducted a full competitive bid process for all lines of coverage in an effort to obtain the most competitive pricing. All policies expire on June 30, 2022, except the Treasurer's Bond, which renews in January. Premium increases were received for most coverages reflecting current marketplace conditions; however, the availability of a Membership Credit on our property policy has offset most of these increases resulting in an overall program increase of only 1.8%. The FY23 program renewal totals \$3,640,660.*

**RECOMMENDATION:**

To approve awards to the lowest eligible and responsive proposers for insurance policies, bonds, and related broker services for MWRA's FY2023 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to execute contracts for broker services, for the terms, premiums, and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$3,640,660:

- (1) Workers' Compensation Excess Policy with Chubb Global Casualty, submitted by broker Northeast Series of Lockton Companies, LLC (Lockton), for the period beginning July 1, 2022, through June 30, 2023, with a \$25 million limit and a \$1 million self-insured retention, for a premium of \$233,227;
- (2) Property Policy (including Boiler and Machinery coverage) with Factory Mutual Insurance Co. (FM Global), for the period beginning July 1, 2022, through June 30, 2023, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a FY23 premium of \$1,857,167;
- (3) General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution, and Employment Practice Liability) with Lexington Insurance Company and Berkshire Hathaway Specialty Insurance, submitted by broker, Optisure Risk Partners, LLC d/b/a Richards Robinson Sheppard (Richards

- Robinson Sheppard), for the period beginning July 1, 2022 through June 30, 2023, with a combined \$25 million limit and a \$2.5 million self-insured retention, for a combined premium of \$594,943;
- (4) Excess General Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2022, through June 30, 2023, providing a combined total of \$75 million of excess liability coverage for a total combined premium not to exceed \$754,267;
  - (5) Public Official's Liability Policy with National Union Fire Insurance Company of Pittsburgh, PA (National), submitted by broker Arthur J. Gallagher Risk Management Services Inc. (AJG), for the period beginning July 1, 2022 through June 30, 2023, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$113,578, including broker commission;
  - (6) Fiduciary Liability Policy with Chubb/ACE USA Insurance Co. (Chubb), submitted by broker AJG, for the period beginning July 1, 2022, through June 30, 2023, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$9,357, including broker commission;
  - (7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2022, through June 30, 2023, with a \$1 million limit and a \$25,000 deductible for a premium of \$5,621;
  - (8) Treasurer's Bond with a \$1 million limit with an insurance company to be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2023; and
  - (9) Broker contracts with Richards Robinson Sheppard for an amount of \$50,000, Northeast Series of Lockton Companies, LLC, for an amount of \$20,000, and Arthur J. Gallagher for the commissions included within the policy premiums, from notice of award through June 30, 2023.

## **DISCUSSION:**

MWRA's insurance program consists of various types of coverage including: Excess Workers' Compensation, Property (including Boiler and Machinery coverage), General Liability, Excess Liability, Public Official's Liability, Fiduciary Liability, Public Official's/Crime Bond, and Treasurer's Bond. The Excess Workers' Compensation policy is required by state statute and is a prerequisite for MWRA to operate as a self-insured entity for Workers' Compensation benefits. Insurance coverage required by MWRA's Enabling Act includes Public Official's/Crime Bond and Treasurer's Bond, which serve to protect the Authority against losses due to fraudulent or dishonest acts, failure to perform duties faithfully or improper accounting of monies or property by employees. Other policies are maintained in order to protect MWRA assets and limit MWRA's financial exposure to loss. In addition, policies are maintained to comply with covenants contained within MWRA's General Revenue Bond Resolution. All policies under the current program (except Treasurer's Bond) expire on June 30, 2022, and require renewal.

MWRA's insurance program is renewed on an annual basis due to the reluctance on the part of insurance companies to provide pricing for more than a one-year term. For FY23, staff conducted a full competitive process for all lines of coverage in an effort to obtain the most competitive pricing and coverage available. Staff anticipated moderate increases in rates and premiums on all lines of coverage for FY23 based on current insurance market conditions.

Insurance companies across all lines of coverage have seen increased losses and risk exposures leading to an increased level of uncertainty and risk. "Hard market" conditions continue to persist resulting in limited capacity, restrictive coverage and premium increases. However, MWRA's property insurance carrier, FM Global, a mutual company, has experienced favorable financial conditions in the recent few years and has authorized its Membership Credit program, which provides a premium credit for the FY23 renewal cycle. For MWRA, based on years of membership and favorable loss experience, the credit against the FY23 renewal premium equates to a credit of \$195,160. This credit serves to offset other premium increases and reduce the overall insurance program cost to a modest increase of less than 2% from the expiring FY22 program.

This year, staff again made an effort to attract multi-year policies, but none were received. The insurance marketplace continues to be considered a "Hard Market" with limited offerings, coverage restrictions and increasing premiums. MWRA's Insurance Consultant, KFDA Advisors (KFDA), reports seeing similar trending across its client base. Broker Fees remain stable with flat or small increases. Overall, the cost of the insurance program recommended for FY23, including all policies and broker fees, is \$3,640,660, an increase of 1.8% from the expiring FY22 program.

#### Procurement Process:

In January, staff began the procurement process by advertising a Request for Letters of Interest from insurance brokers and direct writers.<sup>1</sup> In addition, staff sent direct solicitations to 19 entities that are known to staff as having an interest in or participation in previous MWRA insurance procurements. In response to the solicitation, five brokers and one direct writer submitted Letters of Interest listing their requested insurance markets. Staff, with the assistance of KFDA, reviewed all requests and assigned more than 40 insurance companies to the brokers. A Request for Qualifications/Proposals, including technical specifications and rating data, was made available to all participants along with their market assignments. Additional information and responses to questions were provided to proposers during the bid stage. One request for additional time for proposal preparation was received and the due date for proposals was extended. On May 3, 2022, MWRA received six proposals.

Proposals varied with respect to the lines of coverage offered. As shown on the attached table, while multiple proposals/options were received for Excess Workers' Compensation, Property, Fiduciary Liability and Crime Bond, the other policies had only one proposal. This response is similar to previous years and not surprising due to the competitive pricing of MWRA's current program. The proposals were reviewed and ranked by KFDA for adherence to MWRA's technical specifications. The approvals requested herein represent those recommended by KFDA for each line of coverage. The attached table provides a summary of all lines of coverage with the limits, deductibles, and premiums comparing the expiring FY22 premiums with the proposed FY23 premiums. A brief summary of each line of coverage is provided below.

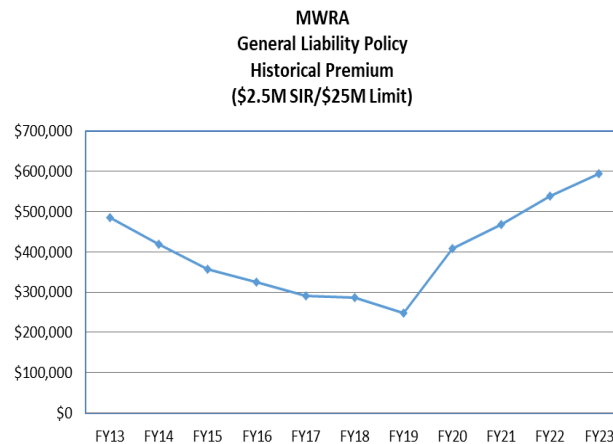
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<sup>1</sup> A direct writer is an insurance company that deals directly with customers and does not require a broker.

**Workers' Compensation Excess** – Two proposals were received for this coverage. The first was from the incumbent broker, Willis Towers Watson Northeast Inc., with a policy from the incumbent insurer, Safety National Casualty Co., with a \$1 million self-retention and a limit of \$25 million for a premium of \$252,263 (not including broker fee). A second proposal was received from broker, Lockton, with a policy from Chubb Global Casualty (Chubb), with a \$1 million self-retention and a limit of \$25 million for a premium of \$233,227 (not including broker fee). KFPA reviewed the coverages afforded and determined the coverages to be equivalent. Therefore, staff recommend the purchase of the policy from Chubb with a \$1 million per occurrence self-insured retention and \$25 million limit through Lockton, for the specified premium of \$233,227, and an associated broker fee of \$20,000.

**Property Insurance (including Boiler and Machinery)** – Three proposals were received for this line of coverage. The first proposal was from direct writer, FM Global, the incumbent provider. FM Global's proposal contained various policy options with a \$2.5 and \$5 million self-retention levels with limits ranging from \$200 million to \$300 million in coverage. Also, FM Global's proposal included reduced limits of coverage for exposures such as flood for certain high-risk MWRA facilities and for damages arising from communicable disease.

The option shown on the attached table and recommended by staff includes a policy limit of \$300 million with a \$2.5 million self-retention for a total premium of \$1,857,167. This premium is based on a fixed rate applied to MWRA's Total Insured Value (TIV = \$4,089,337,508). The fixed rate offered by FM Global increased from 4.87 cents per \$100 TIV to 5.02 cents per \$100 TIV, an increase of approximately 3%. This premium also reflects a membership credit available for MWRA's FY23 policy renewal. The credit represents 10% of the renewal premium and equates to \$195,160. The additional options offered by FM Global are not cost effective because such subject the Authority to an additional \$2.5 million of risk exposure in return for relatively small premium savings that would quickly evaporate with one claim in excess of the \$2.5 million self-retention.



The second proposal received was from Alliance Insurance Services (APIP Program) submitted through broker, USI Services, including coverage limits of \$300 million with \$2.5 million self-retention with a proposed cost, including premium and broker fees, of \$2,100,755. This proposal was not only higher than the FM Global proposal, but it was indefinite with respect to coverage and costs relating to MWRA's DITP turbine generators. A third proposal was received from CNA Insurance, submitted through broker, Lockton, with a limit of \$300 million and a \$2.5 million self-retention for a total cost including broker fees, of \$5,361,617. Accordingly, staff recommend approval of FM Global's proposal for FY23.

**General Liability** – One proposal was received for the General Liability coverage. The incumbent broker, Richards Robinson Sheppard (RRS), submitted a bid from the incumbent carrier, Lexington Insurance Co, with a limit of \$10 million and a self-retention of \$2.5 million. The quote for the \$10 million limit was \$354,640, an increase of 10% above the expiring policy. As the only proposer for this coverage and the apparent successful bidder, staff asked RRS to obtain a quote



for the next \$15 million layer of coverage. RRS obtained and submitted a quote for the next \$15 million layer of coverage from Berkshire Hathaway Specialty Co. for a premium of \$240,303. This combined proposal offered \$25 million in coverage with a \$2.5 self-retention for a combined premium of \$594,943, with an associated broker fee of \$50,000. This reflects an increase of \$56,171 or 10% over the expiring FY22 policies. The chart at right provides Historical Premium costs for this coverage over the past ten years and illustrates the cyclical nature of the insurance marketplace. Consequently, staff recommend the acceptance of the proposal from RRS with an associated broker fee of \$50,000, which also includes services for placement of the Excess General Liability policies outlined below.

**Excess General Liability** – As the recommended broker for the General Liability coverage, RRS will be directed to solicit quotes from various insurance companies for the additional excess layers of liability coverage.<sup>2</sup> The companies and final premium costs for the additional \$75 million of excess liability coverage will not be available in time for this Board meeting. In order to keep all insurance-related items together in one summary, staff recommend a not-to-exceed amount of \$754,267 for this item. This amount was estimated from current pricing on the underlying general liability policy and current market conditions, and represents an increase of 15% over last year’s premium.

**Public Official’s Liability** – One proposal was received for this line of coverage with the specified \$5 million limit and \$1 million self-retention, from National Union Fire Insurance Company of Pittsburgh, PA (National), submitted through Arthur J. Gallagher (AJG), for a premium of \$113,578. This represents an increase of \$4,077 or 4% from the expiring FY22 policy. Therefore, staff recommend the renewal of this coverage with National for the specified premium, which includes a broker’s commission.

**Fiduciary Liability** – Two proposals were received for this line of coverage with the specified \$5 million limit and \$1 million self-retention. The first was from the incumbent, Chubb, submitted through AJG, for a premium of \$9,357. This is \$460 or 5% higher than the expiring FY22 policy. A second proposal with the same limit and self-retention was received from National, submitted through Lockton, for a premium of \$42,000. Following review, KFPA believes the wide discrepancy in premiums is likely due to a corporate minimum premium requirement for National. Accordingly, staff recommend the placement of this coverage with Chubb for the specified premium, which includes a broker’s commission.

**Public Official’s/Crime Bond** – Three proposals were received for this line of coverage with the specified \$1 million limit with a \$25,000 self-retention. The first from incumbent, Great American Insurance Company, submitted through RRS, for a premium of \$5,621. This is \$319 or 6% higher than the existing FY22 policy. The second proposal was from National submitted through AJG, for a premium of \$10,037. A third proposal was received from Hanover Insurance Company, submitted through Lockton, for a premium of \$14,726. All bids included broker commissions. KFPA offered that significant price variations are not unusual for this coverage due to minimum premium requirements, limited profit margins and current market conditions. Consequently, staff recommend the placement of this coverage with Great American for the specified premium.

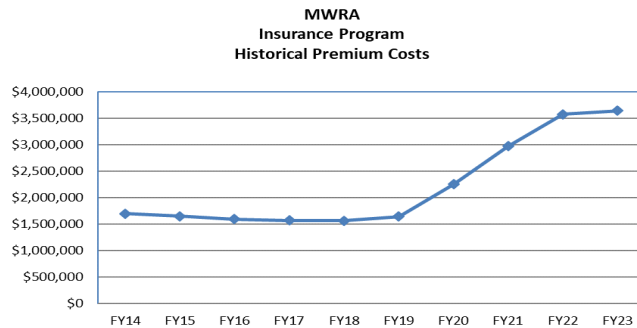
**Treasurer’s Bond** – The Treasurer’s Bond is required by the MWRA Enabling Act and is written in the name of the person holding the position of Treasurer. This bond is off-cycle from the rest of the insurance program and does not expire until January 2023. To keep all insurance program

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<sup>2</sup> Excess Liability policies cannot be purchased until the underlying General Liability policy is first established.

approvals consolidated in one summary, staff included a not-to-exceed amount of \$2,500 for the renewal of this bond upon its expiration. The broker fee associated with renewal of this bond is included in the FY23 broker scope of services.

Staff recommend the renewal of MWRA’s insurance program for FY23, with the various coverages, limits and self-insured retention levels from the brokers and insurance companies identified above and as listed in the attached table. If approved, the FY23 total insurance cost will be \$3,640,660. Further, the chart at right provides MWRA’s Insurance Program Historical Premium Costs for the past 10 fiscal years.



**BUDGET/FISCAL IMPACT:**

The Draft Final FY23 CEB includes \$3.9 million for the total cost of maintaining MWRA’s insurance program, consisting of premiums and fees and for payment of estimated claims and damages in FY23. The budget contains sufficient funds for the renewal of the insurance program outlined above.

**MBE/WBE PARTICIPATION:**

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

**ATTACHMENT:**

FY2023 Insurance Proposals

**MWRA FY23 INSURANCE PROPOSALS**

**EXPIRING FY22 PREMIUMS**

**PROPOSED FY23 PREMIUMS**

Item #	Coverage	Deductible/ Limit	FY22 Final Premium	Current (FY22) Insurance Co. (Broker)	FY23 Bids (See Note 1)	FY23 Insurance Co. (Broker)	Notes		
1	Excess Workers Comp.	\$1M /\$25M  \$1M /\$25M	239,280	Safety National Casualty Corp (Willis)	<b>233,227</b>  252,263	<b>Chubb (Lockton)</b> (Broker Fee not included) Safety National Casualty Corp. (Willis) (Broker Fee not included)	New carrier proposed. Proposed bid is 3% lower than the expiring policy. Associated broker Fee of \$20,000 or 8.6%.		
2	Property Insurance (including Boiler & Machinery)	\$2.5M / \$300M	1,951,604	FM Global (No Broker)	<b>1,857,167</b>  2,100,755 5,361,617	<b>FM Global</b> <b>(Direct Writer- No Broker Fee)</b>  Alliance (APIP) (USI Services) (Includes \$100,000 Broker Fee) CNA (Lockton) (Includes \$250,000 Broker Fee)	FM Global Bid includes \$195,160 Member Credit. Bid includes 3% increase in Rate applied to 2% increase in Total Insured Value (TIV). FM Global options for higher retention (\$5M) and lower limits of coverage(\$200M) not feasible. Alliance Bid includes additional turbine premium and Broker Fee. CNA bid includes Broker Fee.		
3	General Liability (Incl., Auto, Marine, Wharfingers, Limited Pollution and Employment Practice Liability)	\$2.5M/\$25M	538,772	Lexington Insurance Co. and Berkshire Hathaway Specialty Ins. (Richards Robinson Sheppard)	<b>594,943</b>	<b>Lexington Insurance Co. and Berkshire Hathaway Specialty Ins.</b> <b>(Richards Robinson Sheppard)</b>	Premium increase of \$56,171 or 10%. Price increase reflects current market conditions. Premiums include Surplus Lines charge of 4%.		
4	Excess Liability	\$25M/\$75M	655,885	Allied World, Great American, Westchester, Berkshire Hathaway & Crum Forster (Richards Robinson Sheppard)	<b>754,267</b>	<b>To Be Determined.</b> <b>(Richards Robinson Sheppard)</b>	Premium shown is Not-to-Exceed amount. Coverage is based on the General Liability policy above which must be finalized first. Amount shown represents a 15% increase over last year.		
5	Public Official's Liability	\$1M/\$5M	109,501	National Union (AIG) (Arthur J. Gallagher)	<b>113,578</b>	<b>National Union</b> <b>(Arthur J. Gallagher)</b>	Premium increase of \$4,077 (or 4%). No other bids received for this coverage. Bid amount includes broker commission.		
6	Fiduciary Liability	\$1M/\$5M	8,897	Chubb/ACE (Arthur J. Gallagher)	<b>9,357</b>  46,000	<b>Chubb/ACE (Arthur J. Gallagher)</b>  National Union (Lockton)	Premium increase of \$460 (or 5%). Bid amount includes broker commission. Per KFDA - National Union bid most likely a minimum premium situation.		
7	Public Official's/Crime Bond	\$25K/\$1M	5,302	Great American (Richards Robinson Sheppard)	<b>5,621</b>  10,037 14,726	<b>Great American (Richards Robinson Sheppard)</b> National Union (Authur J Gallagher) Hanover Ins. ( Lockton)	Premium increase of \$319 (or 6%). Per KFDA - Significant bid variations not unusual for smaller cost policies as company minimum premium guidelines may apply as well as limited profit margins.		
8	Treasurer's Bond	\$0/\$1M	1,800	Travelers Casualty & Surety (Richards Robinson Sheppard)	<b>2,500</b>	<b>To Be Determined.</b> <b>(Richards Robinson Sheppard)</b>	Renews in January 2023. Amount shown is a Not-to-Exceed amount.		
9	Broker Fees -Various		65,250	Various	<b>70,000</b>	<b>Various - See Note 2</b>	Broker Fees increase of 7%.		
Total Program Cost					\$	<b>3,576,291</b>	\$	<b>3,640,660</b>	Total program increase of \$64,369 or 1.8%

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

Note 2: Broker Fees are \$50,000 for Richards Robinson Sheppard and \$20,000 for Lockton.

Arthur J. Gallagher's commission for Public Official and Fiduciary Policies are included in premiums shown.