



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

Chair: K. Theoharides

Vice-Chair: J. Carroll

Secretary: A. Pappastergion

Board Members:

C. Cook

K. Cotter

P. Flanagan

J. Foti

B. Peña

H. Vitale

J. Walsh

J. Wolowicz

Telephone: (617) 242-6000

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BOARD OF DIRECTORS' MEETING

To be Held Virtually on February 17, 2021

Pursuant to Governor Baker's March 12, 2020 Order
Suspending Certain Provisions of the Open Meeting Law

WebEx Meeting Link for Board Members and Panelists

<https://mwra.webex.com/mwra/onstage/g.php?MTID=e8a0495efab41fd3d301ebfaeac022c1d>

There is no password for Board Members or Panelists

Time:

1:00 p.m.

REVISED AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. ADMINISTRATION, FINANCE & AUDIT

A. Information

1. FY21-FY25 Strategic Business Plan
2. FY2021 Second Quarter Orange Notebook
3. Delegated Authority Report – January 2021
4. FY2021 Mid-Year Capital Project Spending Report
5. FY21 Financial Update and Summary as of January 2021
6. Preliminary FY2022 Water and Sewer Assessments

B. Approvals

1. Transmittal of the FY22 Proposed Current Expense Budget

C. Contract Awards

1. Audit Services: CliftonLarsonAllen LLP, Contract F261
2. Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for the Deer Island Treatment Plant

IV. ADMINISTRATION, FINANCE & AUDIT (Continued)

3. Metropolitan Operations Paving: Sunshine Paving Corporation, Contract OP-421

V. WASTEWATER POLICY AND OVERSIGHT

A. Contract Amendments/Change Orders

1. Deer Island Combined Heat and Power Study: Black & Veatch Corporation, Contract 6963A, Amendment 2

VI. WATER POLICY & OVERSIGHT

A. Information

1. Report on 2020 Water Use Trends and Reservoir Status
2. Analysis of EPA's Revised Lead and Copper Rule
3. Metropolitan Tunnel Redundancy Program Update: Filing of Environmental Notification Form

B. Contract Awards

1. MWRA Boat Storage Facility and Cosgrove Intake Improvements: Poulin Construction Inc., Contract 6650C

VII. PERSONNEL & COMPENSATION

A. Approvals

1. Approval of the 2021 Affirmative Action Plan
2. PCR Amendments – February 2021
3. Appointment of Area Manager, Deer Island

B. Contract Awards

1. Workers' Compensation Legal Services: Tentindo, Kendall, Canniff & Keefe LLP, Contract A627

C. Contract Amendments/Change Orders

1. Extension of Employment Contract - Sr. Lab Technician

VIII. CORRESPONDENCE TO THE BOARD

1. WSCAC Letter: Recertification of DCR Watersheds

IX. OTHER BUSINESS

X. EXECUTIVE SESSION

- i. Approval of January 20, 2021 Executive Session Minutes

X. **EXECUTIVE SESSION (Continued)**

A. **Security**

1. Florida Drinking Water Plant Cybersecurity Incident

XI. **ADJOURNMENT**

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

January 20, 2021

Pursuant to Governor Baker's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law the January 20, 2021 meeting of the Board of Directors of the Massachusetts Water Resources Authority was conducted by remote participation. Chair Theoharides, Vice Chair Carroll and Secretary Pappastergion presided. Present remotely from the Board, in addition to Chair Theoharides, Vice Chair Carroll and Secretary Pappastergion, were Ms. Wolowicz and Messrs., Cotter, Flanagan, Foti, Peña, Vitale and Walsh. Mr. Cook was absent. MWRA staff participants 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 of Administration, Stephen Estes-Smargiassi, Director, Planning and Sustainability, Bethany Card, Director, Environmental and Regulatory Affairs, Brian Rozowsky, Director, Internal Audit, Andrea Murphy, Director of Human Resources, Marty McGowan, Construction Coordinator, David Duest, Director, Deer Island Treatment Plant, Lisa Hamilton, Assistant Director, Engineering, Betsy Reilley, Director, ENQUAL, Valarie Moran, Director, Waterworks, John Gregoire, Program Manager, Water Operations, John Colbert, Chief Engineer, and Assistant Secretaries Ria Convery and Kristin MacDougall. Vandana Rao, EOEEA and Joseph Favaloro, MWRA Advisory Board, also participated. The meeting was called to order at 1:05 pm. All motions were individually made and presented for discussion and deliberation. After any discussion and deliberation, motions for which there were no objections were then consolidated for one omnibus roll call vote.

APPROVAL OF DECEMBER 16, 2020 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors' meeting of December 16, 2020.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote.

REPORT OF THE CHAIR

Chair Theoharides announced that the drought that began in 2020 had been declared ended after a period of 6 months; she also reported on the drought's impacts on Massachusetts' communities, waterbodies, agriculture sector, and seasonal wildfire risks. The Chair thanked MWRA staff for their participation in the Drought Management Task Force and highlighted the Department of Environmental Protection's (DEP) assistance to water suppliers during the COVID-19 pandemic. Next, the Chair noted two

Documents used for this meeting, referenced above, can be found here:

<https://www.mwra.com/monthly/bod/boardmaterials/2021/OS-2021-01-20%20BoardMaterials.pdf>

new community connections to the MWRA water system and reported that the DEP and Massachusetts water suppliers continue to work on implementing PFAS regulations. Finally, Chair Theoharides provided a progress update on Department of Conservation and Recreation Watershed Division staffing.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey thanked Secretary Theoharides and her staff for Watershed Division staffing efforts. Mr. Laskey updated Board Members on MWRA's ongoing efforts to promote staff safety during the COVID-19 pandemic, including on-site testing for employees.

Staff then verbally updated Board Members on MWRA COVID-19 data, the Biobot Wastewater COVID-19 Tracking Program and Lead and Copper Rule changes.

Next, on behalf of the MWRA Board of Directors and MWRA staff, Mr. Laskey thanked and congratulated Brian Rozowski, MWRA Director of Internal Audit, on the occasion of his upcoming retirement.

Finally, Mr. Laskey noted that MWRA continues to engage in short- and long-range planning to ensure safe, efficient and reliable operations as Massachusetts working environments evolve in response to the COVID-19 pandemic.

ANNUAL MEETING OF THE BOARD OF DIRECTORS

Chair Theoharides moved to designate this January 20, 2021 as the Annual Meeting, which, as provided in the Authority's By Laws, will be deemed a special meeting of the Board for the purpose of election of officers; to elect John Carroll as Vice Chairman of the Board; to appoint Andrew Pappastergion as Secretary of the Board and Rose Marie Convery and Kristin MacDougall as Assistant Secretaries; to appoint Matthew Horan as Treasurer and Robert Belkin and Michael Cole as Assistant Treasurers; to appoint Thomas Durkin as MWRA member of the Retirement Board; and to ratify the appointments of Board members to standing Committees, as presented and filed with the records of the meeting as the Board deems appropriate. New Committee Chairs may be appointed approximately every two years.

The motion was seconded.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote. (ref. II.A)

PERSONNEL AND COMPENSATION

APPROVALS

PCR Amendments – January 2021

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

Staff made provided a verbal summary.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote. (ref. IV A.1)

Appointment of Director, Internal Audit

A motion was duly made and seconded to approve the appointment of Claude Cormier to the position of Director, Internal Audit (Non-Union, Grade 16) at an annual salary of \$141,000 commencing on a date to be determined by the Executive Director.

Staff provided a verbal summary.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote. (ref. IV A.2)

Appointment of Manager, Emergency Planning

A motion was duly made and seconded to approve the appointment of Christophe Beaurpere to the position of Manager, Emergency Planning (Unit 6, Grade 13) in the Planning and Sustainability Department at an annual salary of \$124,984.10 commencing on a date to be determined by the Executive Director.

Staff provided a verbal summary.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote. (ref. IV A.3)

Manager, Human Resources Operations

A motion was duly made and seconded to approve the appointment of Ms. Ivana McGrail as Manager, Human Resources Operations (Grade 14, Non-Union) in the Administration Division at an annual salary of \$122,500.00, commencing on a date to be determined by the Executive Director.

Staff provided a verbal summary.

Chair Theoharides called for any discussion or objections. Hearing none, the Chair referred the motion to an omnibus roll call vote. (ref. IV A.4)

ADMINISTRATION, FINANCE AND AUDIT
INFORMATION

Delegated Authority Report – December 2020

Staff provided a verbal summary. There was brief discussion and questions and answers.

Committee Chair Vitale called for any further discussion or objections. Hearing none, the Committee Chair proceeded to the next agenda item. (ref. V A.1)

FY21 Financial Update and Summary as of December 2020

Staff provided a verbal summary.

Committee Chair Vitale called for any discussion or objections. Hearing none, the Committee Chair proceeded to the next agenda item. (ref. V A.2)

CONTRACT AMENDMENTS/CHANGE ORDERSTask Order Appraisal Services: Colliers International Holdings, Inc., Contract 603TA, Amendment 2 and Foster Appraisal & Consulting Co, Inc., Contract 604TA, Amendment 2

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 603TA with Colliers International Holdings, Inc. and Amendment 2 to Contract 604TA with Foster Appraisal & Consulting Company, Inc., for Task Order Appraisal Services to extend the term of each contract by 12 months, from February 20, 2021 to February 19, 2022, with no increase in the contract amounts.

Staff provided a verbal summary. (Chair Theoharides left the meeting after the summary.)

Vice Chair Carroll called for any discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. V B.1)

WASTEWATER POLICY AND OVERSIGHTCONTRACT AMENDMENTS/CHANGE ORDERSChelsea Creek Headworks Upgrade: BHD/BEC JV 2015, A Joint Venture, Contract 7161, Change Order 44

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 44 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture for an amount not to exceed \$308,291, increasing the contract amount from \$83,880,801.06 to \$84,189,092.06, with no increase in contract term.

Further, a motion was made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7161 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

Staff made a presentation. There were questions and answers.

Vice Chair Carroll called for any further discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. VI A.1)

Nut Island Headworks Odor Control and HVAC System Improvements: Walsh Construction Co. II, LLC, Contract 7548, Change Order 3

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 3 for Contract 7548, Nut Island Headworks Odor Control and HVAC Improvements, with Walsh Construction Company II, LLC, for a not to exceed amount of \$380,000, increasing the contract amount from \$57,716,618.61 to \$58,096,618.61, with no increase in contract term.

Further, a motion was made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7548 in an amount not

to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

Staff made a presentation. There were questions and answers.

Vice Chair Carroll called for any further discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. VI A.2)

Gravity Thickener Upgrade, Deer Island Treatment Plant: Walsh Construction Company II, LLC, Contract 7428 Change Order 10

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 10 to Contract 7428, Gravity Thickener Upgrade, Deer Island Treatment Plant, with Walsh Construction Company II, LLC, for a lump sum amount of \$262,041.00, increasing the contract amount from \$19,767,702.23 to \$20,029,743.23, and extending the contract term by 98 calendar days from February 4, 2021 to May 13, 2021.

Further, a motion was made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7428 in an amount not to exceed the aggregate of \$250,000, and 180 days, in accordance with the Management Policies and Procedures of the Board of Directors.

Staff made a presentation.

Vice Chair Carroll called for any further discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. VI A.3)

Deer Island Treatment Plant Maintenance Coating: SOEP Painting Corporation, Contract S583, Change Order 2

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 2 to Contract S583, Deer Island Treatment Plant Maintenance Coating, with SOEP Painting Corporation for a lump sum amount of \$147,599.80, increasing the contract amount from \$2,735,730.00 to \$2,883,329.80, with no increase in contract term.

Further, it was moved and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract S583 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

Staff provided a verbal summary. (Mr. Walsh briefly left and returned to the meeting during the summary.)

Vice Chair Carroll called for any discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. VI A.4)

WATER POLICY AND OVERSIGHT
INFORMATION

Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting, Contract 7155 – Quarterly Update

Staff made a presentation. There were questions and answers.

Committee Chair Peña called for any further discussion or objections. Hearing none, the Committee Chair proceeded to the next agenda item. (ref. VII A.1)

CONTRACT AWARDS

Northern Extra High Pressure Zone Improvements: Black & Veatch Corporation, Contract 7404

A motion was duly made and seconded to approve the recommendation of the Selection Committee to award Contract 7404, Northern Extra High Pressure Zone Improvements, Design, Bidding and Engineering Services During Construction, to Black & Veatch Corporation and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$6,710,053.83 for a contract term of 94 months from the Notice to Proceed.

Staff made a presentation. There were questions and answers.

Vice Chair Carroll called for any further discussion or objections. Hearing none, the Vice Chair referred the motion to an omnibus roll call vote. (ref. VII B.1)

(Vice Chair Carrol temporarily left the meeting and appointed Board Secretary Pappastergion as Acting Chair in his absence.)

Strategies to Minimize Contaminants of Concern in MWRA's Finished Water: UMass Amherst, Contract W331

A motion was duly made and seconded to approve the award of a sole source collaborative research contract with the University of Massachusetts at Amherst titled "Strategies to Minimize Contaminants of Concern in MWRA's Finished Water," MWRA Contract W331, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$300,000 for a contract term of 36 months from the Notice to Proceed.

Staff provided a verbal summary.

Acting Chair Pappastergion called for any discussion or objections. Hearing none, the Acting Chair referred the motion to an omnibus roll call vote. (ref. VII B.2)

River Road Rehabilitation in Clinton, E.T. & L. Corp., Contract 7701

A motion was duly made and seconded to approve the award of Contract 7701, River Road Rehabilitation, to the lowest responsible and eligible bidder, E. T. & L. Corp., and to authorize the Executive Director on behalf of the Authority to execute said contract in the bid amount of \$2,182,000 with a contract term of 270 calendar days from the Notice to Proceed.

Staff made a presentation. There was discussion and questions and answers.

Acting Chair Pappastergion called for any further discussion or objections. Hearing none, the Acting Chair referred the motion to an omnibus roll call vote. (ref. VII B.3)

OMNIBUS ROLL CALL VOTE

Acting Chair Pappastergion 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>
Cotter		
Foti		
Flanagan		
Pappastergion		
Peña		
Vitale		
Walsh		
Wolowicz		

Voted: to approve the minutes of the Board of Directors' meeting of December 16, 2020; (ref. I)

Further, voted: to designate this January 20, 2021 as the Annual Meeting, which, as provided in the Authority's By-Laws, will be deemed a special meeting of the Board for the purpose of election of officers; further, voted: to elect John Carroll as Vice Chairman of the Board; further, voted: to appoint Andrew Pappastergion as Secretary of the Board and Rose Marie Convery and Kristin MacDougall as Assistant Secretaries; further, voted: to appoint Matthew Horan as Treasurer and Robert Belkin and Michael Cole as Assistant Treasurers; further, voted: appoint Thomas Durkin as MWRA member of the Retirement Board; further, voted: to ratify the appointments of Board members to standing Committees, as presented and filed with the records of the meeting as the Board deems appropriate; (Ref. II.A)

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

Further, voted: to approve the appointment of Claude Cormier to the position of Director, Internal Audit (Non-Union, Grade 16) at an annual salary of \$141,000 commencing on a date to be determined by the Executive Director; (ref. IV A.2)

Further, voted: to approve the appointment of Christophe Beurpere to the position of Manager, Emergency Planning (Unit 6, Grade 13) in the Planning and Sustainability Department at an annual salary of \$124,984.10 commencing on a date to be determined by the Executive Director; (ref. IV A.3)

Further, voted: to approve the appointment of Ms. Ivana McGrail as Manager, Human Resources Operations (Grade 14, Non-Union) in the Administration Division at an annual salary of \$122,500.00, commencing on a date to be determined by the Executive Director; (ref. IV A.4)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 603TA with Colliers International Holdings, Inc. and Amendment 2 to Contract 604TA with Foster Appraisal & Consulting Company, Inc., for Task Order Appraisal Services to extend the term of each contract by 12 months, from February 20, 2021 to February 19, 2022, with no increase in the contract amounts; (ref. V B.1)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 44 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture for an amount not to exceed \$308,291, increasing the contract amount from \$83,880,801.06 to \$84,189,092.06, with no increase in contract term; further, voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract 7161 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors; (ref. VI A.1)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 3 for Contract 7548, Nut Island Headworks Odor Control and HVAC Improvements, with Walsh Construction Company II, LLC, for a not to exceed amount of \$380,000, increasing the contract amount from \$57,716,618.61 to \$58,096,618.61, with no increase in contract term; further, voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract 7548 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors; (ref. VI A.2)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 10 to Contract 7428, Gravity Thickener Upgrade, Deer Island Treatment Plant, with Walsh Construction Company II, LLC, for a lump sum amount of \$262,041.00, increasing the contract amount from \$19,767,702.23 to \$20,029,743.23, and extending the contract term by 98 calendar days from February 4, 2021 to May 13, 2021; further, voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract 7428 in an amount not to exceed the aggregate of \$250,000, and 180 days, in accordance with the Management Policies and Procedures of the Board of Directors; (ref. VI A.3)

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 2 to Contract S583, Deer Island Treatment Plant Maintenance Coating, with SOEP Painting Corporation for a lump sum amount of \$147,599.80, increasing the contract amount from \$2,735,730.00 to \$2,883,329.80, with no increase in contract term; further, voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract S583 in an amount not to exceed the

aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors; (ref. VI A.4)

Further, voted: to approve the recommendation of the Selection Committee to award Contract 7404, Northern Extra High Pressure Zone Improvements, Design, Bidding and Engineering Services During Construction, to Black & Veatch Corporation and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$6,710,053.83 for a contract term of 94 months from the Notice to Proceed; (ref. VII B.1)

Further, voted: to approve the award of a sole source collaborative research contract with the University of Massachusetts at Amherst titled "Strategies to Minimize Contaminants of Concern in MWRA's Finished Water," MWRA Contract W331, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$300,000 for a contract term of 36 months from the Notice to Proceed; (ref. VII B.2) and,

Further, voted: to approve the award of Contract 7701, River Road Rehabilitation, to the lowest responsible and eligible bidder, E. T. & L. Corp., and to authorize the Executive Director on behalf of the Authority to execute said contract in the bid amount of \$2,182,000 with a contract term of 270 calendar days from the Notice to Proceed. (ref. VII B.3)

(Vice Chair Carroll returned to the meeting after the omnibus roll call vote.)

EXECUTIVE SESSION

Vice Chair Carroll moved that the Board enter Executive Session to discuss real estate and litigation since discussion in Open Session may have a detrimental effect upon the negotiating and litigating position of the Authority; further, to not return to Open Session and to adjourn the meeting from, and at the conclusion of, Executive Session.

MWRA General Counsel Francisco Murphy announced that under the Open Meeting Law, at the start of an Executive Session, members who are participating remotely must state that no other person is present or able to hear the discussion at their remote locations, and that a response of "yes" to the Roll Call to enter Executive Session when their names are called would be deemed their statements that no other person is present or able to hear the Executive Session discussion at their remote locations.

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>
Carroll		
Cook		
Flanagan		
Foti		
Pappastergion		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Peña		
Vitale		
Walsh		
Wolowicz		

Voted: to enter Executive Session to discuss litigation and real estate; further, voted: to not return to Open Session; and to adjourn the meeting from, and at the conclusion of, Executive Session.

*** EXECUTIVE SESSION ***

The meeting entered Executive Session at 2:18pm and adjourned at 2:50pm.

Approved: February 17, 2021

Attest:

Andrew M. Pappastergion, Secretary

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: FY21-FY25 Strategic Business Plan



COMMITTEE: Administration, Finance and Audit

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Denise Breiteneicher, Program Manager, Energy and
Environmental Management
Preparer/Title



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

In November 2020, staff presented a summary of the accomplishments completed by MWRA in the last year of its FY16-FY20 Business Plan. Attached to this document is the next five-year business plan covering FY21-FY25. The plan describes MWRA's mission, identifies guiding principles, and outlines six key strategic functions and 20 goals, as well as specific initiatives associated with these goals, which provide a framework for MWRA's business initiatives over the next five years. MWRA has been developing and producing a business plan since December 1995.

RECOMMENDATION:

For information only. Staff are presenting the MWRA Five Year Strategic Business Plan for FY21-FY25.

DISCUSSION:

The MWRA's Business Plan is a tool to guide staff in prioritizing projects and programs within the broader framework of Authority goals and mandates, and to evaluate system-wide performance. It also serves as a strategic blueprint that articulates the mission statement, guiding principles, and goals of the agency, as well as specific initiatives associated with these goals to be achieved or evaluated over the next five years, FY21 through FY25. The document serves as a vehicle to communicate these goals and initiatives to all stakeholders, and includes input from the Advisory Board. The plan complements, rather than supplants, other MWRA planning tools including the Water and Wastewater Master Plans, the Capital Improvement Program (CIP), and the annual Current Expense Budget (CEB), among others.

The format for the Business Plan for FY21-FY25 remains consistent with the prior Business Plan: strategic functional areas identifying the major work of the MWRA, guiding principles that provide overarching values for how the work is carried out, and specific initiatives associated with each goal to be achieved or evaluated over the next five years. Under each of six strategic priorities, Drinking Water Quality and System Performance; Wastewater Management and System Performance; Infrastructure Management and Resilience; Finance and Management Systems; Diversity, Equity, Inclusion and Workforce Development; and, Environmental Sustainability, MWRA has identified a series of goals. Within each goal are core and special initiatives that describe the specific projects and direction the MWRA intends to undertake over the next five years to continue to manage to excellence. Core Initiatives address the activities that MWRA must undertake to meet its performance goals, regulatory requirements and financial commitments. Links to associated operating documents, such as the Orange and Yellow Notebooks, are available in the Business Plan. Similarly, Special Initiatives address activities, projects and emerging issues that staff will be assessing or undertaking in order to improve MWRA's performance of its core responsibilities. Staff will continue to provide an annual status report evaluating progress on the Initiatives and identify new issues as they arise. At the end of the five years, any Initiatives completed will be moved off the report and new ones added. Existing reporting mechanisms, such as the Orange and Yellow Notebooks, will continue to be used to track monthly and quarterly performance.

Some new additions include:

- Initiatives highlighting MWRA's work to ensure the organization fosters an inclusive workplace and provides equal opportunities for advancement. Many of these new initiatives are listed under a recently added strategic priority entitled "Diversity, Equity, Inclusion and Workforce Development."
- Initiatives building on work begun in 2020 dealing with the implications of Covid-19, include working with researchers investigating the use of wastewater as an indicator of the presence of the virus, incorporating lessons learned into many MWRA practices such as our comprehensive security and emergency preparedness program, and remote work capabilities.
- Initiatives covering increased cyber and physical security capabilities and redundancies.
- New energy initiatives aimed at the continued decrease of MWRA's carbon footprint and energy costs.

Other findings from the last five years:

- The existing business plan structure provided a user-friendly format with which to inform staff and interested parties about MWRA's overarching goals and near term initiatives. The annual status update is a useful tool not only informing all involved on progress made, but also identifying new initiatives for inclusion off-cycle, and improving those that need to be better defined.

DRAFT



Massachusetts Water Resources Authority
Five-Year Strategic Business Plan
FY 2021–2025





Board of Directors

Kathleen A. Theoharides, Chair
John J. Carroll, Vice-Chair
Andrew M. Pappastergion, Secretary
Christopher Cook
Kevin L. Cotter
Joseph C. Foti
Paul E. Flanagan
Brian Peña
Henry F. Vitale
John J. Walsh
Jennifer L. Wolowicz

Prepared by:

Denise Breiteneicher
Lise Marx



**Dear Reader,**

I am pleased to release the Massachusetts Water Resources Authority's (MWRA) Five Year Strategic Business Plan for fiscal years (FY) 2021-2025. Consistent with MWRA's prior Business Plans, it provides a management tool for identifying and prioritizing the strategic initiatives critical to MWRA's mission. It also provides transparency for our ratepayers and helps to ensure that these initiatives are carried out within the annual capital budget spending limits adopted by the MWRA Board of Directors.

MWRA continues its commitment to the delivery of safe drinking water and environmentally protective wastewater collection and treatment. Many of our strategic priorities are directly derived from these two organizational obligations. Within the 5 years of this Plan, we will make significant progress in pipeline rehabilitation and replacement of both water and wastewater infrastructure as well as the completion of rehabilitation of the outdated water and wastewater facilities. During this period we will also complete preliminary design and begin final design related to the Metropolitan Tunnel Redundancy Project. This project represents a significant capital investment that continues our commitment to the secure provision of water to Boston and other member communities.

The term of the prior Strategic Business Plan ended in June 2020, approximately four months after the arrival of the Covid-19 pandemic to the MWRA service area. The pandemic has served to speed up an inevitable transition to a more digital business model while continuing to highlight the importance of our physical infrastructure and the staff whose physical presence is required to operate and maintain it. As a result, MWRA has incorporated into this plan bold initiatives that were previously incrementally planned and executed, such as a faster adoption of digital management tools, or previously not anticipated, such as the deployment and outfitting of remote employees working from home and the implications of that development for MWRA's office footprint.

Finally, the timing of this Strategic Business Plan renewal also coincides with MWRA's renewed and enhanced commitment to diversity, equity and inclusion in an acknowledgement of the societal level of discrimination. MWRA recognizes that its role as a public entity places it in a position to be a leader and a role model in making sure we carry out our mission in a manner that moves towards a more equitable and just society. To cement an Authority-wide commitment, the Plan includes a new strategic priority, Diversity, Equity, Inclusion and Workforce Development. This strategic priority includes existing activities already underway by the Authority in this area, as well as new goals and initiatives that underscore a core MWRA tenet that our staff are stronger as a team when we include diverse perspectives, experiences and approaches, which fosters continuous improvement and performance as an Authority.

In sum, the Strategic Business Plan for FY2021-2025 provides the framework for MWRA staff to manage and measure progress towards achieving system priorities. We hope that you find this document helpful.

Sincerely,

Executive Director

Introduction

Massachusetts's Water Resources Authority's (MWRA) Five Year Strategic Business Plan for fiscal years (FY) 2021-2025 provides a management tool for identifying and prioritizing the strategic initiatives critical to MWRA's mission. It ensures staff are all working toward the same goals and objectives in an ever changing environment while allowing staff to track progress and identify new issues as they arise. It also provides transparency for our ratepayers and helps to ensure these initiatives are carried out within the annual capital budget spending limits adopted by the MWRA Board of Directors.

MWRA was established 35 years ago to operate and modernize the failing water and wastewater systems serving approximately 3.1 million people as a wholesaler to 61 cities and towns in eastern Massachusetts. The water and wastewater systems have a combined asset replacement value of approximately \$13 billion. While the systems have been significantly upgraded and rehabilitated over the past 35 years, work remains to be done to complete system upgrades and to ensure that facilities are properly maintained on an ongoing basis. This will enable MWRA to meet changing conditions, such as new regulatory requirements and the effects of climate change.

This Business Plan articulates MWRA's goals and initiatives, grouping them by the following strategic priorities:

- I. Drinking Water Quality and System Performance
- II. Wastewater Management and System Performance
- III. Infrastructure Management and Resilience
- IV. Finance and Systems Management
- V. Diversity, Equity, Inclusion and Workforce Development
- VI. Environmental Sustainability

Links throughout this document provide additional context and more detailed information on specific projects, ongoing reporting on routine maintenance initiatives, information on capital budgets and master planning efforts, and compliance with regulatory requirements.

MWRA's partnership with the cities and towns within our service area is critical to ensuring the continued delivery of safe water and the transport of wastewater. MWRA continues to provide financial assistance in the form of grants and loans to assist member communities in maintaining and upgrading their local systems. MWRA employs robust financial management policies, procedures, and systems to ensure both accountability and transparency to our ratepayers and cost effective resource management over the long-term. There are also new initiatives that highlight MWRA's work to ensure that the organization fosters an inclusive workplace and equal opportunities for advancement to the many staff who make it the outstanding organization it is.

The Covid-19 pandemic posed significant unforeseen challenges that required staff to adapt rapidly and develop strategies to complete work with new considerations. Necessity being the mother of invention, changes adopted because of the pandemic have provided opportunities that have been turned into initiatives in this Business Plan. Changes to our practices and planning in response to, and as a result of, the pandemic are included as initiatives scattered throughout the various goals under their related strategic priorities. These new initiatives include, but are not limited to, additions to health and safety protocols, development of new technologies and practices related to working remotely, contributions to research related to the use of wastewater to track to spread and surge of the virus, and incorporation of more robust pandemic planning into the Authority's emergency preparedness and resiliency planning. Covid pandemic inspired initiatives are shaded to identify them.

The Business Plan provides the framework for MWRA staff to manage and measure progress towards achieving system priorities. We hope that you find this document helpful.





Our Mission

MWRA's mission is the provision of reliable, cost-effective, high quality water and wastewater treatment services, that protects the public health, promotes environmental stewardship, maintains customer confidence and supports a vital economy. Recruiting, developing and retaining a high-performance workforce that reflects our service area and underscores our core principles of diversity, equity and inclusion, enables us to achieve our mission, brings value to our staff and makes us better able to serve the ratepayers

Guiding Principles

- 1. Public Accountability & Transparency**
- 2. Cost-Effective Services**
- 3. Collaboration With Internal/External Partners**
- 4. System Resilience**
- 5. Environmental Stewardship**
- 6. Workforce Development**
- 7. Diversity, Equity And Inclusion**

Brief System Overview

MWRA's water system extends from the Quabbin, Ware, and Wachusett watersheds in central Massachusetts to the Boston metropolitan area supplying 200 million gallons per day (MGD) to 51 cities and towns. Assets and facilities include roughly 100 miles of transmission system tunnels and aqueducts, another 284 miles of pipelines, treatment facilities, pump stations, and water storage facilities. The Metro Boston Service Area's water supply, is treated at the John J. Carroll Water Treatment Plant (JCWTP) in Marlborough, using ozone and ultraviolet light to provide disinfection. The Chicopee Valley Aqueduct service area water supply is treated at the William A. Brutsch Water Treatment Facility in Ware, using chlorine and ultraviolet light to provide disinfection of water.

MWRA's Metropolitan Sewerage Service Area system covers 518 square miles in the greater Boston area and serves 43 communities. MWRA's system includes 274 miles of tunnels and interceptors, remote headworks facilities, pump stations and combined sewer overflow (CSO) storage and treatment facilities. The Deer Island Wastewater Treatment Plant has a design average daily flow of 361 million gallons per day (MGD) with a wet weather capacity of 1,270 MGD. MWRA's pelletizing plant ensures beneficial use of

the residuals generated at Deer Island. MWRA also operates the Clinton Wastewater Treatment Plant, serving Clinton and Lancaster, which has an average daily flow of 3.01 MGD and a wet weather capacity of 12 MGD.

Ensuring a safe and reliable source of drinking water to our customers, and wastewater discharges that meet all applicable regulations drives both capital and current expense budget costs.

Strategic Business Plan Approach

Six strategic priorities integral to MWRA's mission have been identified for action during 2021-2025. Under each of these priorities, MWRA has identified goals and initiatives to guide action. The Strategic Business Plan allows MWRA to track progress towards meeting the core (routine, on-going) and special (new, one-time or aspirational) initiatives. Core and/or special initiatives are identified for each Business Priority Area.

Key Strategic Priorities

- I. Drinking Water Quality & System Performance**
- II. Wastewater Management & System Performance**
- III. Infrastructure Management & Resilience**
- IV. Finance & Management Systems**
- V. Diversity, Equity, Inclusion & Workforce Development**
- VI. Environmental Sustainability**



Quabbin Reservoir

I.

Drinking Water Quality & System Performance

Goal	Initiatives
<p>1. Maintain drinking water quality to protect public health, and continue to ensure that MWRA water meets all applicable regulations.¹</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Optimize operation of water treatment facilities to produce high quality, safe drinking water while maximizing water aesthetics (i.e. taste, clarity, and odor). B. Monitor drinking water quality in collaboration with member communities and the Department of Conservation and Recreation (DCR) in order to verify high quality water and provide guidance for operating decisions. C. Ensure reliability of data presented in required regulatory compliance reports. D. Work cooperatively with DCR on various water quality initiatives including chloride, nutrient, algae and disinfection byproduct precursor monitoring programs. Jointly develop operational response plans for nuisance and harmful algal blooms, algal toxin detections, and taste and odor events.^{2 3} E. Continue to encourage DCR to meet its obligations under its Watershed Protection Plan overseen by the Water Supply Protection Trust, and monitor progress toward achieving those obligations. F. Operate the reservoir system to optimize both quality and quantity of water available for water supply purposes and to meet statutory and regulatory requirements for downstream releases. G. Implement database management systems for handling data, and incorporating web-based technologies for reporting near real time water quality metrics and, provide easy access to data to the MWRA community. H. Enhance the security of the water supply and watershed system against accidental or intentional threats and hazards. I. Maintain water quality sampling from treatment to throughout the distribution system, including monitoring for emerging contaminants. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Identify and evaluate the impact of different treatment strategies and scenarios on the mitigation of transportation related contaminants into the source water.

<p>Goal</p>	<p>Initiatives</p>
<p>1. <i>(continued)</i></p>	<ul style="list-style-type: none"> B. Evaluate new water quality monitoring equipment and testing techniques to monitor and maintain high quality water all the way to the ends of the community systems. C. Participate with other water utilities nationwide in Water Research Foundation studies, specifically research opportunities pertaining to algae monitoring and mitigation strategies in source water. D. Collaborate with CVA communities to modify chlorine dosing strategy to minimize the formation of disinfection byproducts. E. Increase water quality monitoring at the Quabbin Reservoir by the installation of a seasonal water quality profiling buoy. Implement routine and automatic data transfers to ensure data are proactively reviewed and managed. F. Evaluate data from UCMR4 2018-2020 monitoring and compare against nationwide occurrence data. G. Advocate for responsible and reasonable new and revised state and federal drinking water regulations, and provide training and technical support to communities for new regulations.
<p>2. Continue to effectively report and communicate water quality information to our customers and public officials.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Distribute the federally required annual water quality report, the Consumer Confidence Report (CCR), to all households. ⁴ B. Maintain and improve water quality and public health information on MWRA's web page, www.MWRA.com, and through widely distributed weekly and monthly reports <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Regularly communicate routine TCR monitoring data to Water Departments and assist with water quality sampling or training, as needed.



<p>Goal</p>	<p>Initiatives</p>
<p>2. <i>(continued)</i></p>	<p>B. Continue to strengthen planning and emergency response documents for Boil Water Order (BWO) events. Create, disseminate and train staff on materials that can be used during a BWO event or at a public information call center.</p>
<p>3. Assist member communities to improve local water distribution systems through ongoing financial, technical and operational support programs to maximize long-term water quality benefits.</p>	<p>Core:</p> <p>A. Provide technical and operational support through training, on-call contracts, and targeted assistance, as needed.</p> <p>B. Promote and manage MWRA’s Local Water System Assistance and Lead Service Line Replacement Programs to help facilitate improvements in local community infrastructure.⁵</p> <p>Special Initiative:</p> <p>A. Enhance outreach and technical assistance within the existing Lead Service Line Replacement program to support communities as they respond to EPA’s revisions to the Lead and Copper Rule.</p> <p>B. Develop the capability to evaluate potential changes to corrosion control treatment using a pipe loop system constructed using “harvested” lead service lines.</p>



MetroWest Water Supply Tunnel



Deer Island Wastewater Treatment Plant

II.

Wastewater Management & System Performance

Goal	Initiatives
<p>4. Meet or surpass environmental compliance standards at both MWRA treatment facilities and throughout the wastewater collection system. ⁶</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Continue to carry out the Pretreatment Program to protect receiving water quality, maximize the beneficial reuse of wastewater residuals, and protect workers and MWRA's wastewater treatment plants and receiving waters. ^{7 8} B. Continue to monitor DITP processes to ensure high quality treated effluent optimizing plant performance to ensure all applicable NPDES permit limits continue to be attained. ⁹ C. Operate the newly installed enhanced phosphorus control systems at the Clinton Wastewater Treatment Plant to ensure compliance with its new NPDES permit.
<p>5. Continue to initiate plans and studies to prepare for regulatory changes, identify opportunities to refine monitoring requirements, and improve effluent quality.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Prepare updated Local Limits Studies for Clinton and Deer Island in accordance with EPA guidelines to confirm appropriate discharge limits from industries. B. Continue to review all Ambient Monitoring Plan questions and conduct evaluations to ensure they address MWRA needs and public concerns. ¹⁰ C. Continue to closely follow developing permit issues such as the impact of changes in bacterial and nutrient water quality standards, effluent loading limits, emerging contaminants and PFAS regulations, stormwater permitting, endangered species designations and phosphorus and PFAS in biosolids. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Develop strategies to address emerging contaminants, (e.g., PFAS and microplastics) as they are identified and frame an approach to respond to the public's concerns about these contaminants.

<p>Goal</p>	<p>Initiatives</p>
<p>5. <i>(continued)</i></p>	<ul style="list-style-type: none"> B. Assess thresholds for annual nitrogen loading, including evaluating the existing thresholds and the environmental impact of nitrogen, as well as, whether these thresholds developed over 20 years ago are valid or should be modified. C. Review new waste treatment technologies as they arise to continuously improve treatment performance and efficiency. D. Continue to work with researchers investigating the use of wastewater as an indicator of the presence of the Covid-19 virus.
<p>6. Move forward with design and construction of major wastewater infrastructure rehabilitation and renewal projects.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Continue to design and implement facility rehabilitation projects for various pump stations, headworks, CSO facilities and the Deer Island Treatment Plant. ¹¹ B. Continue to implement an ongoing program to review, prioritize and accelerate interceptor renewal projects.
<p>7. Complete all CSO milestones by 2021 and demonstrate that the CSO Plan meets its performance objectives.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Implement CSO performance assessment through ongoing contract with AECOM that will culminate in a report to DEP/EPA in December 2021 verifying whether the approved long-term CSO control plan goals are attained. B. Comply with the CSO Variances for the Alewife Brook/Upper Mystic River Basin and Lower Charles River/Charles Basin issued to MWRA and CSO communities for the period Sept 1, 2019 through Aug. 31, 2024. ¹² <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Conduct an evaluation of the CSO treatment processes to determine potential opportunities to better meet permit limits. Confirm or reassess treatment processes as part of CSO facility rehabilitation projects.



Goal	Initiatives
<p>7. <i>(continued)</i></p>	<ul style="list-style-type: none"> B. Implement a subscriber based CSO Public Notification Program. Provide notification of a CSO overflow within 4 hours of the start of the discharge.¹² C. Implement near real-time SSO reporting system to provide public information and ensure reporting timeframes meet regulatory requirements.
<p>8. Assist member communities to improve their wastewater collection systems through ongoing technical, financial, and operational support programs.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Provide technical and operational support including TV inspections, fieldwork assistance, or other targeted assistance, as needed. B. Promote and manage MWRA's Inflow/Infiltration Local Financial Assistance Program to facilitate reduced I/I in local community infrastructure.

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Spot Pond Storage Tank

III.

Infrastructure Management & Resilience

Goal	Initiatives
<p>9. Maintain and enhance water and wastewater system assets over the long term at the lowest possible life cycle cost and acceptable risk, consistent with customer, community, and regulatory support service levels. 13 14 15 16</p>	<p>Core:</p> <p>A. Continue to ensure proper operations and maintenance of the water and wastewater systems and minimize system downtime by performing:</p> <ul style="list-style-type: none"> • Preventative maintenance • Predictive maintenance • Corrective maintenance on equipment and linear assets • Leak surveys of the water system • Water system valve inspections and exercise • Wastewater pipelines, structures, water storage tanks, and inverted siphons inspections, and cleaning. <p>B. Inspect, maintain, and improve the dams, dikes, and other facilities constituting the infrastructure of the watershed system through ongoing maintenance and an adequate multi-year capital improvement program in order to ensure system reliability and limit potential flood hazards.</p> <p>C. Deliver services equitably across a diverse service area.</p> <p>Special Initiatives:</p> <p>A. Continue use of Condition Monitoring for all Water and Wastewater sites. Expand Condition Monitoring techniques to provide earlier indication of asset degradation.</p> <p>B. Conduct an updated benchmarking analysis in order to identify gaps and sustain the goal of maximizing asset protection while potentially identifying new best practices in the industry.</p> <p>C. Update the wastewater metering system and evaluate new technologies to ensure continued accurate flow accounting and to enhance its usefulness for operational and evaluation purposes.</p> <p>D. Continue to research and develop Key Performance Indicators (KPI) to compare our performance internally and against the industry. 13</p> <p>E. Enhance and monitor water pipeline protection to maximize pipeline lifetime.</p>



Goal	Initiatives
<p>9. <i>(Continued.)</i></p>	<p>F. Expand integration between the MWRA's Authority-wide Enterprise Asset Management system Maximo with Lawson, Process Information (PI) and Automated Vehicle Location systems to expand the use of Predictive Management tasks increasing functionality, asset tracking and improved work flow to reduce equipment downtime and control budget spikes. Utilize updated MAXIMO to increase opportunities for more paperless work.</p> <p>G. Continue to upgrade and improve upon the Supervisory Control and Data Acquisition (SCADA) and Process Information and Controls System (PICS) hardware and software to meet the current industry standard and to address cyber security concerns</p>
<p>10. Prepare for catastrophic events and malicious acts that could affect the water and wastewater systems. ^{17 18}</p>	<p>Core:</p> <p>A. Continue to improve and incorporate redundancy and operational flexibility within the water system to ensure uninterrupted service.</p> <p>B. Design and implement projects including those that eliminate or mitigate single points of failure within MWRA's water transmission and distribution system.</p> <p>C. Continue to train staff on various potential emergency scenarios and participate in broader Massachusetts Emergency Management Agency (MEMA) and other training exercises.</p> <p>D. Work with Departments throughout MWRA to continue to implement a comprehensive security and emergency preparedness program including an analysis of lessons learned (ongoing) during the Covid-19 State of Emergency.</p> <p>Special Initiatives:</p> <p>A. Develop and implement an Information Security Plan to increase the resiliency and sustainability of the MWRA's data security practices.</p>

Goal	Initiatives
<p>10. <i>(Continued.)</i></p>	<ul style="list-style-type: none"> B. Redesign Cyber Security Network perimeter defense in-depth strategy to mitigate the new and evolving threats by taking advantage of next generation technologies. C. Develop and implement an updated Physical Security Plan including Crime Prevention Through Design to decrease vulnerabilities and increase capacities so that threats are reduced, thereby reducing risk. D. Assess current communication technology and implement communication redundancies where needed within the security network. E. Complete the Preliminary Design and Environmental Impact Report for the Metropolitan Tunnel Redundancy Program and initiate final design. F. Update MWRA's earthquake preparedness to bring our facilities up to current standards, as they are rehabilitated. G. Move forward with Wastewater Facility Emergency Response Planning to identify potential measures to minimize disruptions from failures of facilities, including development of a comprehensive Emergency Response Plan for each facility. H. Create and implement a predetermined schedule of review for facility risk assessments. I. Participate in Lower Mystic Resiliency Planning as an abutter to the Lower Mystic.



Deer Island Wastewater Treatment Plant Staff

IV. Finance and Management Systems

Goal	Initiatives
<p>11. Ensure Financial Sustainability, Integrity, and Transparency.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Continue the long-term strategic budgeting practice to ensure predictable and reasonable sewer and water assessments to our member communities. B. Continue to implement MWRA's approach to sustainable rate increases while accounting for the pandemic's effects on its communities' revenue. C. Manage debt and investment portfolios to maximize savings/returns in compliance with all applicable rules and regulations. D. Continue diversification strategy to insulate against overexposure and promote resiliency to changing market conditions. E. Maintain a system of internal controls to best protect the organization's resources. F. Continue to employ budget and expense control practices to manage expenses. G. Identify and pursue optimization in all aspects of MWRA financial operations. H. Continue to conduct strategic energy procurements. I. Continue to fund the pension fund at the annual required contribution level and to develop strategies to address the growing other Post-Employment Benefits.
<p>12. Promote Effective Business Operations and Resource Management.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Maintain and expand MWRA-wide recycling efforts. B. Pursue, and administer any Federal and or State infrastructure, stimulus or Covid related grants. C. Evaluate office footprint and needs in light of pandemic lessons learned. Make changes where practical.



Goal	Initiatives
<p>13. Leverage Information Technology to Improve Organizational Effectiveness.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Deliver secure Information Technology (IT) services and solutions efficiently and effectively. B. Provide Information Technology solutions to streamline work processes while ensuring the security and integrity of MWRA data by leveraging the use of existing or emerging technologies. C. Obtain feedback from users on satisfaction levels and desired new services and implement changes accordingly. D. Maintain current technology hardware, software, and network infrastructure. E. Enhance Information Technology workforce capabilities through new certification and license requirements. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Implement an Application Improvement Program that will continue MWRA's efforts to update and enhance the multitude of applications used in the MWRA to improve efficiencies of business processes, mobile devices, and effectiveness of staff. B. Implement an archive and purge system that will provide an automated and integrated solution for archiving electronic content that will allow the Authority to intelligently store, manage and discover email and all critical business information sources, while providing easy and intuitive access for end users. C. Execute a Technology Infrastructure Improvement Program that will assess and implement consolidated and optimized versions of MWRA's core IT infrastructure elements and improve data management practices. D. Upgrade and enhance MWRA's Enterprise Resource Planning system leveraging out of the box functionality while striving to eliminate customizations and adoption of technology standards.

Goal	Initiatives
13. <i>(Continued.)</i>	<ul style="list-style-type: none"><li>E. Implement Enterprise Content Management for e-Construction, e-Engineering and Records Management.<li>F. Implement a unified communication collaboration platform to improve business processes, team communication and collaboration and distributed work force.<li>G. Move towards the use of AI and Machine Learning technology to address computational and process problems.



Building 39, Charlestown Navy Yard

V.

Diversity, Equity, Inclusion & Workforce Development

Goal	Initiatives
<p>14. Foster and Sustain an Excellent Workforce.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Prioritize Succession Planning in anticipation of critical retirements over the next five years. B. Provide effective training necessary for employees to obtain and maintain required licenses and certifications to ensure a highly skilled workforce. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Continue MWRA's in-house Job Shadowing, career development training programs and explore a pilot program for job rotation of certain titles. B. Continue to improve MWRA's teleworking capabilities and productivity incorporating lessons learned during the Covid-19 pandemic. C. Institute programs with a focus on professional and leadership development. D. Expand intern initiative.
<p>15. Foster a diverse and inclusive workplace.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Cultivate a safe work environment for all employees that is free from harassment and encourages respect. B. Provide training to all employees on diversity, inclusion, equity, respect, and harassment prevention in the workplace. C. Continue MWRA's efforts to develop new recruitment and retention strategies to foster diversity, including traditionally underrepresented categories, people with disabilities, and veterans. D. Pursue an inclusive leadership approach that considers innovation and diverse points of view to respond to the evolving needs of the Authority. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Create and maintain a work group whose mission is to improve diversity, inclusion, equity and respect in the workplace. B. Implement workgroup recommendations with measurable goals.



Goal	Initiatives
<p>16. Ensure a safe and healthful work place for all employees, contractors and visitors free of recognized hazards</p>	<ul style="list-style-type: none">A. Continue to identify hazards and assess associated risks. Provide training on programs and procedures to prevent or control incidents and ensure employee safety.B. Continue to review and implement best safety practices during the Covid-19 pandemic to protect the safety of all employees and ensure continuity of critical services.C. Maintain compliance with Massachusetts' Occupational Safety and Health For State Workers regulation (454 CMR 25.00) by meeting the requirements set forth under the Occupational Safety and Health Act (OSHA) of 1970.D. Maintain records concerning occupational injuries, illnesses, deaths, and exposure to toxic materials in compliance with regulations.



Working through the COVID-19 pandemic



Charlestown Wind Turbine

VI.

Environmental Sustainability

Goal	Initiatives
<p>17. Continue to maximize energy efficiency of MWRA operations, renewable energy production, and revenue generation opportunities using MWRA's energy assets. ^{19 20}</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Assist the Commonwealth in meeting its Greenhouse Reduction Goals set forth in the Global Warming Solutions Act. B. Continue to conduct energy audits at all facilities as needed. C. Optimize processes to save energy. D. Continue to incorporate cost-effective energy efficiency, non-fossil fuel heating, and renewable energy projects into new construction, rehabilitation projects, and equipment replacement. E. Continue to invest in new stand-alone renewable energy projects at MWRA facilities. F. Continue to maximize revenue from generation assets, including additional Demand Response opportunities. G. Take full advantage of utility energy efficiency rebate opportunities. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Incorporate employee education on energy efficiency in MWRA training outlets, e.g. tool box talks. B. Design new gas turbine combined heat and power equipment to take advantage of the higher power and thermal efficiencies of new equipment, maximizing the production of additional electric power for on-site use at Deer Island as well as cost savings while reducing maintenance spending on aging equipment. C. Evaluate and implement where feasible combined heat and power technology in plant operations to improve energy efficiency (e.g. pellet plant, Clinton) D. Continue to develop the battery storage projects and work with the utility and its contractor to optimize demand savings. Evaluate opportunities for future battery storage projects.



<p>Goal</p>	<p>Initiatives</p>
<p>17. <i>(Continued)</i></p>	<ul style="list-style-type: none"> E. Explore community solar opportunities that will stimulate large-scale remote solar installations and save money on our electric bills. F. Expand our fleet of electric vehicles and charging stations. G. Explore a new MWRA-wide building/plant information management system that includes a comprehensive energy management system.
<p>18. Continue to monitor climate change research and move forward with plans to reduce impacts of projected sea level rise and storm surge events on MWRA infrastructure.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Continue to incorporate design modifications into facility renovations and maintenance activities to address sea level rise and storm surge. B. Plan and install flood protection barriers at water and wastewater sites which fall below expected elevations of flood waters under condition of a FEMA 100 year storm plus 2 ½ feet to minimize damage and still provide service. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Work with State and regional organizations and academic institutions to identify how MWRA's existing long-term environmental data sets can be used to help assess and project impacts of climate change.
<p>19. Advance reasonable water system expansion.</p>	<p>Core:</p> <ul style="list-style-type: none"> A. Continue to provide assistance to communities seeking admission to the MWRA's water system or seeking emergency withdrawals. B. Work with prospective communities to inform them of the benefits of admission. <p>Special Initiatives:</p> <ul style="list-style-type: none"> A. Work with MWRA's Advisory Board on legislative initiatives to pursue funding for connection assistance for new communities connecting to the water system.

Goal	Initiatives
<p>20. Continue to recognize the environmental, cultural, historical, and recreational importance of the watershed lands, the aqueduct system, and the unique location on Boston Harbor of the Deer Island Treatment Plant and Nut Island Headworks, to the citizens of the Commonwealth.</p>	<p>Core:</p> <ul style="list-style-type: none">A. Continue to work cooperatively with DCR and cities and towns to ensure that these lands are available for appropriate public access.B. Continue to work with cities and towns to implement the Public Access Initiative on the Wachusett, Weston, Sudbury, and Cochituate Aqueducts. ²¹C. Continue to provide public access to Boston Harbor at Deer and Nut Islands, while ensuring appropriate security for MWRA's operations. ²²

Glossary

Ambient Monitoring Plan: MWRA monitors water quality at the outfall location in Massachusetts Bay where treated sewage, or effluent, is discharged. This sampling program is termed “ambient monitoring”, because sampling is focused on the ambient, or surrounding waters at the outfall, as well as more distant locations. The program is detailed in the Ambient Monitoring Plan which is overseen by state and federal regulators, as well as by the Outfall Monitoring Science Advisory Panel

Asset Management: Defined by the EPA as “managing infrastructure capital assets to minimize the total cost of owning and operating them, while delivering the service levels customers desire.”

Benchmarking: The process of comparing one’s business processes and performance metrics to industry bests or best practices from other companies. One example of an industry metric MWRA uses to benchmark its performance is the American Water Works Association’s “Distribution Systems Operations and Management Standard”.

Co-digestion: For the purpose of MWRA discussions, Co-digestion has been focused on the potential addition of organic food waste to the digesters at DITP to address the state ban on the disposal of commercial and industrial food wastes in landfills by taking advantage of excess digester capacity to increase self-generation.

Combined Heat and Power: CHP, also known as cogeneration, is the simultaneous production of electricity and heat from a single fuel source. Fuels can include fuel oil, natural gas or biogas from anaerobic digestion as generated/used by Deer Island

Combined Sewer Overflow: Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies, with some treatment.

Community Confidence Report (CCR): The Community Confidence Report is MWRA’s annual report on drinking water test results which describes how we treat, test and deliver tap water to the homes and businesses in our service area. The MWRA and local water departments test up to 500 samples each week, and test for over 120 contaminants each year. This report is required under the federal Safe Drinking Water Act.

Condition Monitoring: Condition monitoring technologies based on vibration, acoustic ultrasonic, infrared thermography, electrical testing, and oil analysis are used to proactively track and trend equipment operating condition. By closely monitoring equipment health, catastrophic failures can be avoided, *repairs can be made*, and asset life can be extended. Component failure can be approximated, replacement parts ordered and replacements scheduled prior to failure and/or total loss of equipment availability.

Headworks: MWRA has four headworks whose function is to screen sand, gravel, and large objects out of the sewage prior to it reaching the sewage treatment plant.

Inflow and Infiltration: Inflow is surface water that enters the wastewater system from yard, roof and footing drains, from cross-connections with storm drains, downspouts, and through holes in manhole covers. Inflow occurs as a result of storm events such as rainfall, snowfall, springs or snow melt. Infiltration is groundwater, or groundwater that is influenced by surface or sea water, which enters sewer pipes (interceptors, collectors, manholes (MH), or side sewers) through holes, breaks, joint failures, and other openings.

Glossary

Local Limits Study: Local limits are standards that are set by the local Publicly Owned Treatment Works (POTW) that establish the concentration of pollutants that may be discharged into the sewer system by industry. Local limits supplement, and in some cases, strengthen Federal Standards. As required under the EPA's Pretreatment Regulations, 40 CFR Part 403, POTWs such as the MWRA's Deer Island are required to conduct periodic analysis of the existing local discharge limits to ensure that they are adequate to prevent pollutants from entering the treatment system that will interfere with the operation of the treatment plant, degrade the quality of biosolids, or pass untreated through the treatment plant to contaminate the receiving water.

Local Water Assistance Program: MWRA's Local Water System Assistance Program (LWSAP) provides interest-free loans to member water communities to perform water system improvement projects. The program's goal is to improve local water system pipeline conditions to help maintain high water quality from MWRA's treatment plant through local pipelines to customers' taps. Community loans will be repaid to MWRA over a 10-year period. Currently, loan funds are approved for distribution from fiscal year 2011 through fiscal year 2020.

MWRA Advisory Board: The MWRA Advisory Board was created by the Massachusetts Legislature to represent the interests of MWRA service area communities in the 1984 Enabling Act ²³ that established the MWRA. Its members include the chief elected official and a designee from each of the 60 cities and towns, a member of the Metropolitan Area Planning Council, and six gubernatorial appointees representing various interests. The Advisory Board reviews and comments on MWRA capital and current expense budgets, as well as MWRA practices and policies. For more information on the MWRA's Advisory Board ²⁴

MWRA Board of Directors: MWRA is governed by an 11-member Board of Directors who are appointed by the Governor or directly or indirectly by elected officials in MWRA customer communities. The make-up of the MWRA Board of Directors was established in the MWRA enabling act, ²⁵ (Chapter 372 of the Acts of 1984), and amended in August, 2010. ²⁶ For more information on MWRA's Board of Directors. ²⁷

NPDES Permit: The National Pollutant Discharge Elimination System Permit Program, administered by the U.S. Environmental Protection Agency, controls water pollution by regulating point sources that discharge pollutants into waters of the United States. All wastewater treatment plants that discharge effluent to Waters of the United States, have an NPDES permit to ensure that their discharges meet all environmental regulatory requirements.

Orange Notebook: A quarterly report outlining MWRA's performance on key indicators.

Predictive Maintenance: Predictive maintenance are techniques used to determine the condition of assets. Some techniques include vibration, acoustic ultrasonic, ultrasonic thickness and oil analysis. The predictive maintenance results in proactive maintenance activities such as alignments, oil changes or filtering, or balancing rotating equipment that prevent failures and extend equipment life. These predictive maintenance activities are schedules based upon the type of equipment, frequency of use and service conditions.

Pretreatment Program: As defined in Federal Regulations 40 CFR 403.3, "pretreatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. To reduce toxic discharges at their source, MWRA's Toxic Reduction and Control Department administers MWRA's Industrial Pretreatment Program under the Federal Clean Water Act. ²⁸ TRAC regulates industrial dischargers in accordance with its Sewer Rules and Regulations (360 CMR 10.00) ²⁹ and works with industries to encourage voluntary reductions in their toxic chemical use.

Glossary

Process Control: An engineering function (as well as a staff unit) devoted to aiding operations in establishing control limits, monitoring performance and ensuring compliance with treatment plant goals and objectives.

Reliability Centered Maintenance: Reliability Centered Maintenance, or RCM, rigorously reviews systems' design, operating context, current maintenance strategies and identifies safety and design improvements. By reviewing systems in their specific operating context, staff's maintenance efforts can be focused where the greatest value is added. Often, the result is a Preventive Maintenance Program that is less costly and more effective in maintaining system availability and long-term asset protection.

Residuals: The solids that are left behind after the wastewater has been treated at a wastewater treatment plant, such as MWRA's Deer Island Plant, are called the residuals.

Supervisory Control and Data Acquisition (SCADA): These systems provide a means of monitoring and controlling facilities and equipment from a remote, centralized location, as well as providing a continuous record of facility operations.

Index of Links

1 The Water System

<http://www.mwra.com/04water/html/wat.htm>

2 Watershed Protection

<http://www.mwra.state.ma.us/04water/html/watshed.htm>

3 Water Supply Protection Trust

<http://www.mass.gov/eea/agencies/dcr/water-res-protection/watershed-mgmt/water-supply-protection-trust.html>

4 Annual Drinking Water Test Results

<http://www.mwra.com/water/html/awqr.htm>

5 Local Water System Assistance Program (LWSAP) For Member Communities

<http://www.mwra.com/comsupport/lwsap/lwsaprogram.html>

6 MWRA's Harbor and Outfall Monitoring 2013 Results

http://www.mwra.com/harbor/pdf/outfall_overview_2013.pdf

7 (Discharge) Regulations

<http://www.mwra.com/03sewer/html/trac.htm#regulations>

8 Pretreatment Program and Federal Clean Water Act

<http://www.mwra.com/03sewer/html/trac.htm#pretreatment>

9 NPDES Permit

<http://www.mwra.state.ma.us/harbor/html/npdes.htm>

10 Ambient Monitoring Plan

<http://www.mwra.state.ma.us/harbor/html/ambient.htm>

11 Combined Sewer Overflows (CSOs)

<http://www.mwra.state.ma.us/03sewer/html/sewco.htm>

12 Operations & Maintenance

<http://www.mwra.com/harbor/html/operations.htm>

13 Orange Notebook

<http://www.mwra.com/quarterly/orangenotebook/orangenotebook.htm>

14 Wastewater System Master Plan

<https://www.mwra.com/publications/masterplan/2018/mp-wastewater.pdf>

15 Water System Master Plan

<https://www.mwra.com/publications/masterplan/2018/mp-water.pdf>

16 CIP Program Proposed Fiscal Year

<https://www.mwra.com/finance/cip.htm>

Index of Links

17 Wastewater System Master Plan

<https://www.mwra.com/publications/masterplan/2018/mp-wastewater.pdf>

18 Capital Improvement Program (CIP)

<http://www.mwra.state.ma.us/finance/cip.htm>

19 Orange Notebook

<http://www.mwra.com/quarterly/orangenotebook/orangenotebook.htm>

20 MWRA Renewable Energy Program

<http://www.mwra.state.ma.us/05energy/2011/102611-renewableslides/slides.html>

21 Policy on Using MWRA Aqueduct Lands for Trails

<http://www.mwra.com/projects/access/aqueducts/aqueducts.html>

22 Deer Island Public Access Area

http://www.mwra.com/03sewer/html/sewdi_access.htm

23 1984 Enabling Act

<https://archives.lib.state.ma.us/handle/2452/6873>

24 MWRA Advisory Board

<http://www.mwraadvisoryboard.com/>

25 1984 Chapter 0372

<http://archives.lib.state.ma.us/handle/2452/6873>

26 Acts 2010 Chapter 274

<http://www.malegislature.gov/Laws/SessionLaws/Acts/2010/Chapter274>

27 MWRA Board of Directors

<http://www.mwra.state.ma.us/02org/html/boardofdirectors.htm>

28 Pretreatment Program and Federal Clean Water Act

<http://www.mwra.com/03sewer/html/ppnfcwa.htm>

29 360 CMR 10.000

<http://www.mwra.com/trac/regulations/2009/360-cmr-10.pdf>

DRAFT

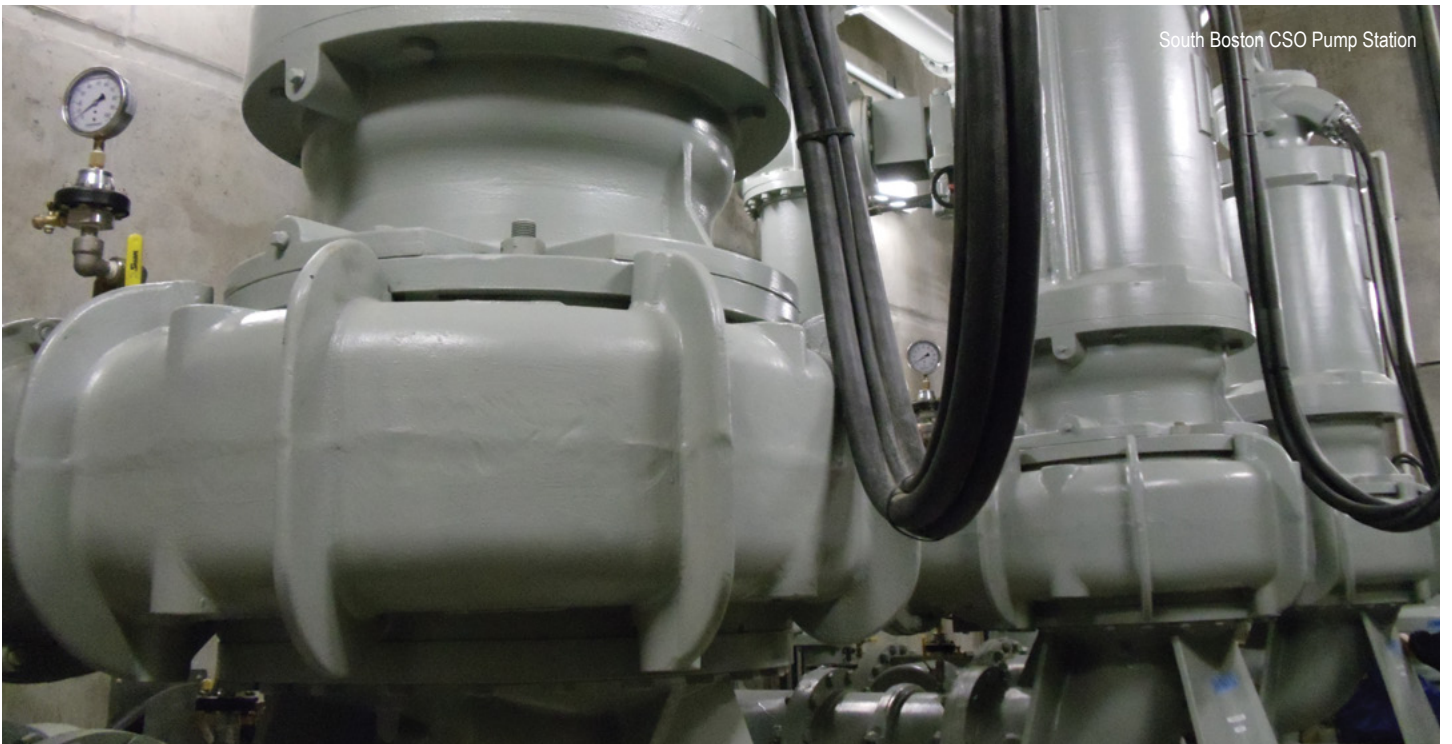


Ultraviolet disinfection units at the John J. Carroll Water Treatment Plant



Massachusetts Water Resources Authority | 100 First Ave. Boston, Massachusetts 02129 | (617) 242-6000

South Boston CSO Pump Station



STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: FY21 Second Quarter Orange Notebook



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning & Sustainability
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.

The effects of the pandemic and MWRA's response to protect staff and slow its spread continue to be present on a number of performance indicators. With the return to full field staffing in late June, most measures continue to show substantial progress during this quarter toward normal levels, despite the need for social distancing and the effects of proactively quarantining potentially exposed staff.

Maintenance

There has been movement toward returning to the level of performance on preventive and predictive maintenance metrics that MWRA has routinely achieved at the Deer Island Wastewater Treatment Plant. (See page 5) However, the maintenance backlog remains above industry best practices, due in part to COVID related issues. (See page 5)

Similarly, within field operations, while the backlog remains above industry best practice, maintenance metrics have returned to being close to or at this fiscal year's goals. (See page 9)

Some field crew performance metrics continue to lag due to staffing impacts, including leak detection completion (See page 6) and wastewater pipeline inspection and maintenance. (See page 8)

Wastewater Residuals

Staff reported in last quarter's Orange Notebook that molybdenum levels in the sludge fertilizer pellets had risen to just over Massachusetts limits for unrestricted distribution (while remaining well below the federal limits). Levels decreased over the fall, and were below the Massachusetts standard for unrestricted distribution in November and December. Staff continue to investigate potential causes for increases, and ways to reduce levels. (See page 4)

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

Second Quarter FY2021

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 17, 2021

Board of Directors Report on Key Indicators of MWRA Performance

2nd Quarter FY21

Table of Contents

Operations and Maintenance

DITP Operations-	1
Total Power Use/Self-Generation	
Plant Flow & Precipitation	
Total Cost of Electricity/Pricing	
DITP Operations-	2
DI Sodium Hypochlorite Use	
Disinfection Dosage	
Secondary Blending Events	
DI Operations & Maintenance Report	3
Residuals Processing	4
Sludge Detention Time in Digesters & Total Solids Destruction	
Digester Gas Production & % Utilized	
Sludge Pumped from Deer Island	
Monthly Average % Capture of Processed Sludge	
Molybdenum in Sludge Fertilizer Pellets	
DITP Maintenance	5
Operations Division–Metering & Leak Detection	6
Water Distribution System–Valves	7
Wastewater Pipeline/Structures	8
FOD Metro Facility & Equipment Maintenance	9
Renewable Electricity Generation-1	10
Renewable Electricity Generation-2	11
Toxic Reduction and Control	12
Field Operations– Narrative Topics	13
Laboratory Services	15

Construction Programs

Projects in Construction	16
CSO Control Update	18
CIP Expenditures	19

Drinking Water Quality and Supply

Source Water – Microbial Results	20
Source Water – Turbidity, pH and Alkalinity	21
Treated Water – Disinfection Effectiveness	22
Source Water – Algae, Complaints	23
Bacteria and Chlorine Residual Results	24
Disinfection By-Products, UV 254	25
Water Supply/Source Water Management	26

Wastewater Quality

NPDES Permit Compliance	
-Deer Island TP	27
-Clinton TP	28

Community Flows and Programs

Total Water Use Core Communities	29
Community Wastewater Flows	30
Community Support Programs	
-Infiltration/Inflow Local Financial Assist. Progr.	31
-Water-Local Pipeline & System Assist. Progr.	32
-Lead Service Line Replacement Loan Progr.	33
-Community Water System Leak Detection and Conservation Outreach	34

Business Services

Procurement	35
Materials Management	36
MIS Program	37
Legal Matters	38
Internal and Contract Audits	41

Other Management

Workforce Management	42
Workplace Safety Program	43
Job Group Representation	44
MBE/WBE Expenditures	45
CEB Expenses	46
Cost of Debt	47
Investment Income	48

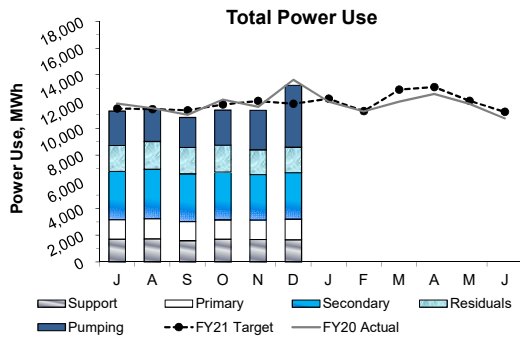
This quarterly report is prepared by MWRA staff to track a variety of MWRA performance measures for routine review by MWRA's board of directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for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

Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 17, 2021

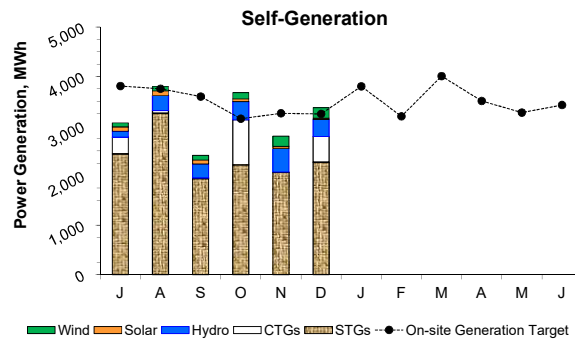
OPERATIONS AND MAINTENANCE

Deer Island Operations

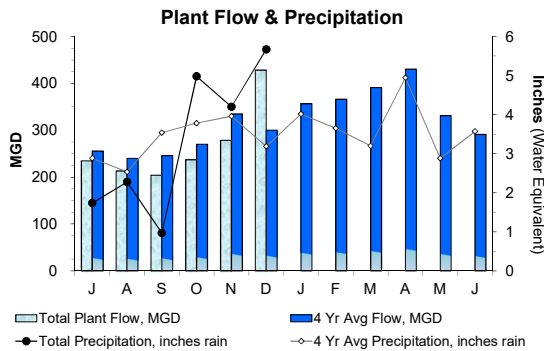
2nd Quarter - FY21



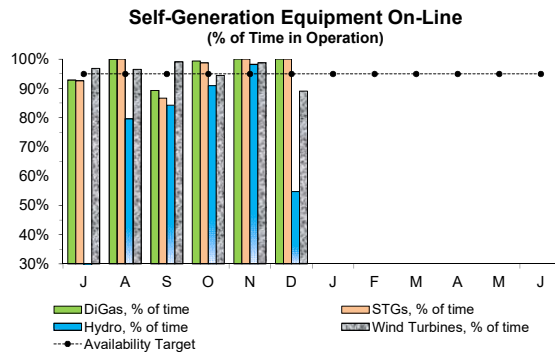
Total power usage in the 2nd Quarter was on target (+0.7%) even as plant flow for this period was 4.3% above target with historical data (4 year average) used to generate the electricity model. While power usage was near or below target for most plant processes, power usage for raw wastewater pumping was 6.6% above target due to increased pumping during high flow rain events.



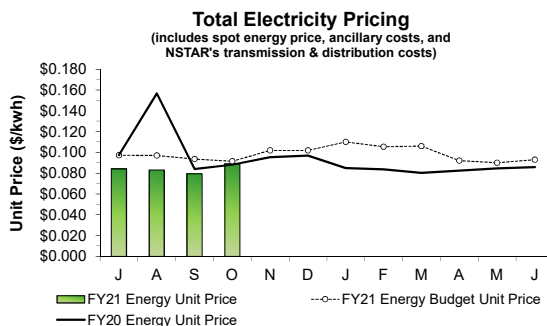
Power generated on-site during the 2nd Quarter was within 2.0% of target. CTG generation was above target by 45.8%, mainly due to continuous CTG operation for 82 hours in October during a required cross-harbor power cable inspection outage by Eversource and operation for nearly 40 hours in December during a nor'easter storm event with high flows and wind to prevent service disruptions (period with high potential for power outages). STGs generation was 6.6% below target as digester gas production was 9.9% lower-than-expected and Hydro Turbine generation was 25.3% above target. Generation from the Solar Panels was 9.5% below target and Wind Turbine generation was 4.7% below target, due in part to turbulence from wind blowing through the digesters on a number of days, causing the turbine to trip out of service.



Total Plant Flow for the 2nd Quarter was 4.3% above target with the budgeted 4 year average plant flow (314.6 MGD actual vs. 301.7 MGD expected) as precipitation was 36.0% above target (14.85 inches actual vs. 10.92 inches expected). The FY21 monthly average plant flow did not exceed target until December even though precipitation was above target each month in the 2nd Quarter. This delay in seeing the increase in plant flow in comparison to precipitation was due to a prolonged period of severe drought conditions that had persisted through the 1st Quarter of FY21.

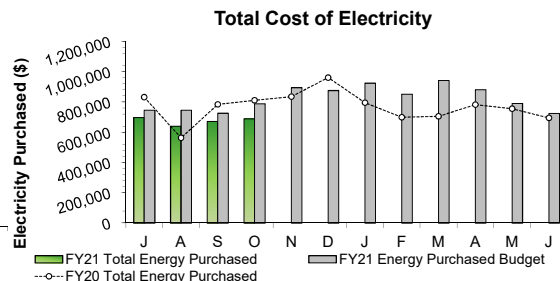


The availability of the DiGas system and STGs both met their 95% availability target, while Hydro Turbine and Wind Turbine availability fell below target during the 2nd Quarter. An unanticipated plant-wide power outage on October 19 caused Hydro Turbine #1 to trip and the unit was kept off line until DITP was reconnected to utility power on October 22. Additionally, Hydro Turbine #1 was intermittently offline in December for an inspection and due to mechanical issues (54.7% availability for the month) while Turbine #2 remained offline pending repair of the runner blade assembly. Wind Turbine availability fell slightly below target primarily due to wind turbulence on a number of days causing the turbines to trip offline.



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 October (the most current invoice available) was 2.6% below target with budgetary estimates. The actual total energy unit prices in November and December 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.



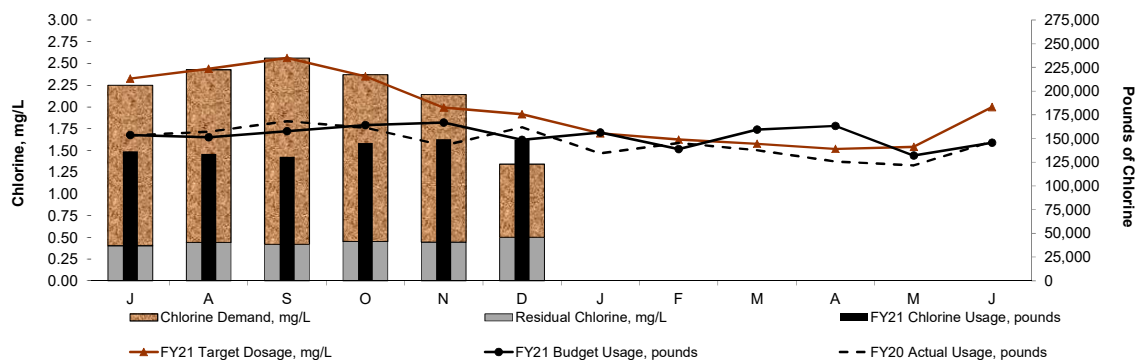
The Electricity cost data for Electricity Purchased in November and December are not yet available. Year-to-date Total Cost of Electricity is \$306,127 (10.2%) lower than budgeted through October as the Total Energy Unit Price was 11.5% lower than target while the Total Electricity Purchased was only 1.5% 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

2nd Quarter - FY21

Deer Island Sodium Hypochlorite Use



The disinfection dosing rate in the 2nd Quarter was 6.0% below target with budgetary estimates. Actual sodium hypochlorite usage in pounds of chlorine was 7.7% lower than expected even though the 4 year average plant flow used for estimating the hypochlorite usage target was 4.3% higher-than-expected. DITP maintained an average disinfection chlorine residual of 0.47 mg/L this quarter with an average dosing rate of 1.95 mg/L (as chlorine demand was 1.49 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	0	0	0	100.0%	0.00
A	1	1	0	99.97%	1.17
S	0	0	0	100.0%	0.00
O	2	1	1	99.9%	2.62
N	3	3	0	99.0%	13.63
D	3	3	0	97.4%	41.94
J					
F					
M					
A					
M					
J					
Total	9	8	1	99.12%	59.36

98.5% of all flows were treated at full secondary during the 2nd Quarter. There were seven (7) secondary blending events due to high plant flows resulting from heavy rain and one (1) brief 13 minute (0.21 hours) secondary blending event that occurred on October 19 during the plant's recovery from an unanticipated plant-wide power loss event. These blending events resulted in a total of 58.19 hours of blending and 431.43 MGal of primary-only treated effluent with secondary effluent. The Maximum Secondary Capacity during the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 2nd Quarter of FY21.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 1,203.1 MGD mid-day on December 25. This peak flow occurred during a storm event that brought 1.49 inches of precipitation to the metropolitan Boston area, and significant snowmelt also contributed to the high plant flow during this storm event. Overall, Total Plant Flow in the 2nd Quarter was 4.3% above target with the 4 year average plant flow estimate for the quarter.

Two (2) low plant flow records were set in October; the daily Total Plant Flow of 177.78 MGD on October 11 and the daily North System Influent Flow of 120.66 MGD on the same day, set new records for all-time lowest daily average flows since the plant began receiving influent flows from both the north and the south systems (July 1998). The previous daily Total Plant Flow record of 186.03 MGD was just recently set on September 6, 2020. The previous daily North System Influent Flow record of 121.90 MGD was set back in July 22, 2015 on a day when all North System Influent flows were suspended for eight (8) hours for trial #4 of a series of North Main Pump Station (NMPS) shutdowns in preparation for the NMPS valve replacement project.

Work on the Winthrop Terminal Facility (WTF) VFD (Variable Frequency Drive) and Synchronous Motor Replacement project was started by the contractor in 2018 and entails the demolition of existing older obsolete equipment (electrical systems, motors and VFDs on each of the six (6) raw wastewater pumps). The pumps are currently powered by 600 volts service and will be changed to 4,160 volts, consistent with other major pumps in both the South System Pump Station (SSPS) and the North Main Pump Station (NMPS). The contractor completed the upgrade on WTF Pump #3. The pump successfully completed its 30 day performance test on December 9 and was turned over to Operations. To date, work has been completed on five (5) of the six (6) pumps (#6, #2, #5, #4, and #3). The last pump pending upgrade will be turned over to the contractor in January 2021.

Secondary Treatment:

Staff replaced a leaking 16 inch isolation valve on the Secondary Battery C waste sludge line on October 23. The sludge wasting in Secondary Battery C was temporarily suspended starting at 4:30 a.m. to allow the line to be drained and flushed in preparation for the valve replacement. As such, staff increased the sludge wasting in advance of the shutdown and increased the wasting after the repairs were completed to ensure a quicker recovery to normal activated sludge biomass levels. Secondary Battery C sludge wasting was resumed by 1:00 p.m.

Deer Island Operations

2nd Quarter - FY21

Deer Island Operations & Maintenance Report (continued)

Secondary Treatment (continued):

Annual turnaround maintenance was performed on Train #1 in the Cryogenic Oxygen Facility in November. This turnaround maintenance is performed on roughly half of the components and systems in the Cryogenic Oxygen Facility. During this turnaround maintenance, the contractor calibrated all the instrumentation on Cold Box unit #1 as well as, a number of other components of the oxygen plant. The same turnaround maintenance was completed on Train #2 in July (delayed because the contractor had suspended all non-essential work activities and travel due to the nation-wide shutdown response to the COVID-19 pandemic).

Odor Control:

In October, Carbon adsorber (CAD) units #1 and #7 in the East Odor Control (EOC) Facility and unit #1 in the Residuals Odor Control (ROC) Facility were emptied and refilled with new carbon media as part of routine maintenance to replace spent activated carbon. The recoating of units #6 in the EOC Facility and #3 in the ROC Facility were completed and these units were also refilled with new regenerated carbon media.

On December 17, staff observed the vibration damper located near the top of the East Odor Control emissions stack was off-center and the stack was swaying during a storm when the extreme wind gusts were in excess of 55 mph. The vibration damper serves to stabilize the stack and to prevent the stack from oscillating during high wind conditions. This damper assembly is an eight (8) foot diameter steel ring with several stainless steel springs and their supports attached to the stack. Inspections indicated a failure to one of the springs had caused the steel support to break away from the stack. This entire assembly weighs approximately 700 pounds and was scheduled for repair as quickly as possible to prevent catastrophic damage to the stack and to ensure safety to personnel. On December 31, the contractor repaired a six (6) inch hole in the stack caused when the damper supports broke away, welded a new support to the damper, replaced all the springs, and reinstalled the damper ring.

Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 27.4% of Deer Island's total power use for Quarter 2. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 23.4% of Deer Island's total electrical power use for the quarter.

DITP experienced a brief plant-wide loss of power at 9:57 p.m. on October 19 when CTG-1A tripped due to a fuel valve failure while DITP was disconnected from utility power. The cross-harbor power cable was de-energized October 19 -22 to allow Eversource to perform a required 1 year inspection on the new power cable. Electricity to the plant was restored within two (2) minutes when the backup CTG-2B was placed into operation and flow to the plant resumed at 10:10 p.m. when the first raw wastewater pump was restarted. All flows were contained within the MWRA collection system. No untreated wastewater was released, and there were no NPDES permit violations as a result of this power outage.

A start air compressor for CTG-2B was replaced in early October. There are two (2) compressors, one (1) for each CTG unit, but each compressor can be used to start up either one of the CTG units. The CTG-1A start air compressor was replaced at the end of September after it had failed during a test operation. The CTG-2B start air compressor was therefore also replaced given the unit is the same age as the start air compressor on CTG-1A that had failed.

The quarterly Continuous Emissions Monitoring System (CEMS) cylinder gas audits, along with the quarterly Continuous Opacity Monitoring System (COMS) audits for the two (2) boilers in the Thermal Power Plant were successfully completed by the contractor on November 10. The CEMS measures the nitrogen oxides (NOx) emissions, the oxygen, carbon monoxide, and sulfur dioxide concentrations in the boiler flue gas. The cylinder gas audit measures each gas analyzer in the CEMS against known cylinder gas concentrations. The opacity audits measure the performance of the COMS through a number of required testing protocols specified in the regulations. DITP received passing results on all the audit tests that were performed and a final report was submitted to the MaDEP. The next round of audit tests will take place in February or early March 2021.

Routine non-invasive annual maintenance and inspections were conducted on CTG-2B during the week of November 30. CTG-1A remained available for operation during this work. The maintenance included non-invasive inspections, instrument calibrations and system checks. After the maintenance work was completed, CTG-2B was successfully test operated on December 4. The same scope of work was conducted on CTG-1A during the week of December 7, and the unit was successfully test operated on the morning of December 11. CTG-2B was available for operation during the work on CTG-1A.

CTG-2B was operated for approximately two (2) hours on December 18 for an ISO-New England declared Demand Response winter audit event.

DITP took delivery of 350,000 gallons of #2 fuel oil, a total of 35 oil tanker trucks, without incident from November 9 through November 17. 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.

Public Access Area:

With the support of the MWRA, the Department of Fish and Game has been constructing a fish pier at Deer Island to promote and improve programs and opportunities for saltwater fishing with the intent that those programs will increase public access to marine recreational facilities. On November 24, contractors completed their work on the new Deer Island fish pier and parking lot and both were opened for public access. The pier is accessible to the public year-around, from sunrise to sunset. Funding for the fish pier project came from the Marine Recreational Fisheries Development Fund, administered by the Division of Marine Fisheries, which finances recreational fishing improvement programs and includes the fees from the sale of saltwater fishing licenses. The MWRA installed lighting, security cameras and emergency call boxes to enhance public safety in the area of the new pier. A ceremonial grand opening of the fish pier will likely be held in the Spring of 2021.

Clinton Operations & Maintenance Report

Dewatering Building

Maintenance replaced doctor blades on belt filter press #1. They also re-piped the polymer system that feeds the belt filter press. Operations staff washed down gravity thickener #2. Facility specialist rust proofed and painted polymer system skid base. Maintenance staff checked plant equipment for lubrication and proper operation.

Chemical Building

Maintenance staff replaced drive belt, cleaned auger and impeller then replaced a 2" and 3" valve on the soda ash system. Staff cleaned soda ash mixing tank and jetted #2 upper soda ash line. Maintenance repaired the hypochlorite tank #1 fill line.

Aeration Basins

Maintenance replaced 2 belts on intermediate lift pump #2. Operations staff also cleaned pH and DO probes.

Phosphorus Building

Operations staff rebuilt #1 and #2 polymer pump that feeds the disk filters. Staff acid washed all three disk filters, cleaned troughs and inspected all nozzles. Phosphorus process is now off line for the season.

Headworks

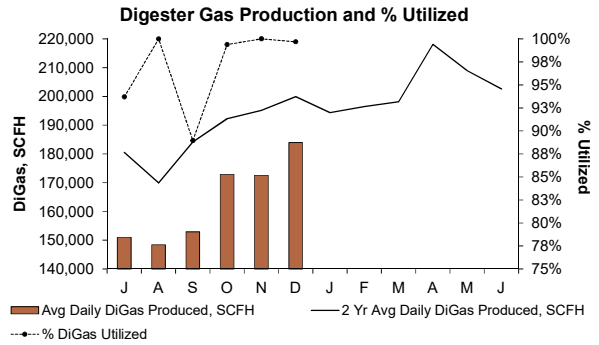
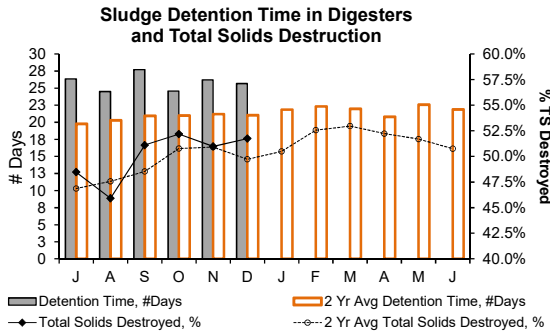
Maintenance cleaned debris off of influent manual bar rack, greased upper and lower mechanical bar rack. They also installed an eye bolt to help in removal of bucket elevator chains.

Digester Building

Maintenance staff greased all pumps and the mixer. They also replaced all drive belts on #1, 2 and 3 recirculation pumps. Staff epoxy painted digester floor.

Deer Island Operations and Residuals

2nd Quarter - FY21



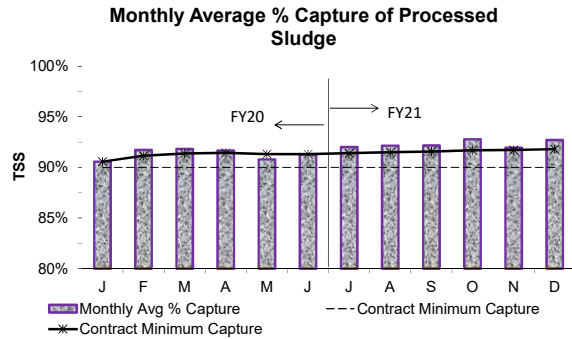
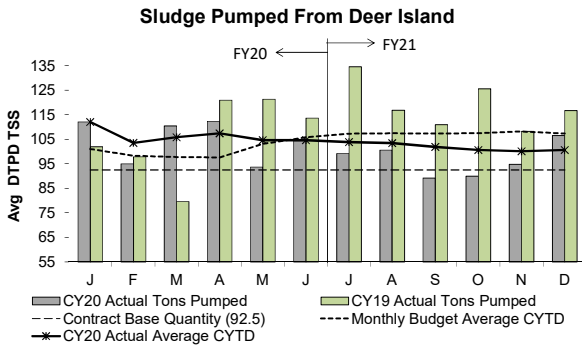
Total solids (TS) destruction following anaerobic sludge digestion averaged 51.6% during the 2nd Quarter, 2.3% above the 2 year average of 50.5%. Sludge detention time in the digesters was 25.5 days, 20.9% above target, as DI operated with an average of 8.0 digesters. The higher detention time is attributed to lower-than-expected sludge production due to much lower-than-expected plant flows in October and November.

The Avg Daily DiGas Production in the 2nd Quarter was 9.9% below target with the 2 Year Avg Daily DiGas Production due to much lower-than-expected primary sludge production which breaks down more readily during anaerobic sludge digestion, and due to overall lower total sludge production. On average, 99.7% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant (TPP).

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.

Residuals Pellet Plant

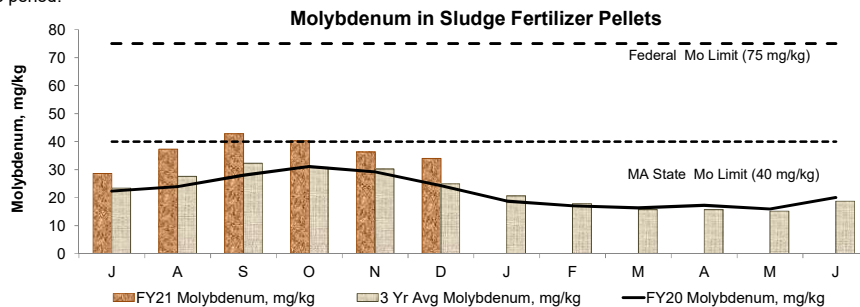
New England Fertilizer Company (NEFCO) operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 92.5 DTPD/TSS as an annual average. The monthly invoice is based on 92.5 DTPD/TSS (Dry Tons Per Day/Total Suspended 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 92.5 DTPD/TSS each year (FY20's budget is 107.4 DTPD/TSS and FY21's budget is 107.9 DTPD/TSS).



The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 2nd Quarter was 97.1 TSS Dry Tons Per Day (DTPD) - 9.6% below target with the FY21 budget of 107.3 TSS DTPD for the same period. Sludge delivered to the BPF was lower than expected during the quarter mainly due to lower-than-expected overall sludge production.

The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 2nd Quarter was 92.5% and the CY20 average capture is 91.8%.

The CY20 average quantity of sludge pumped through December is 100.7 DTPD - 6.2% below target compared with the CY20 average budget of 107.4 DTPD during the same time period.



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 2nd Quarter averaged 36.9 mg/kg, 29% above the 3 year average, 8% below the MA State Limit, and 51% below the Federal Limit. However, the average October Mo level was 1% above the MA State Limit, thus causing the sales of the pellets to be restricted to a smaller market where the product is still able to be utilized.

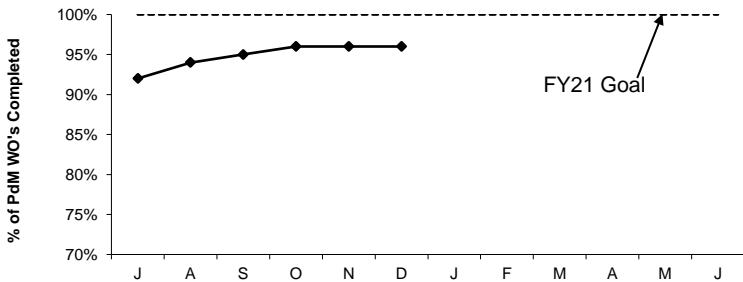
Deer Island Maintenance

2nd Quarter - FY21

Productivity Initiatives

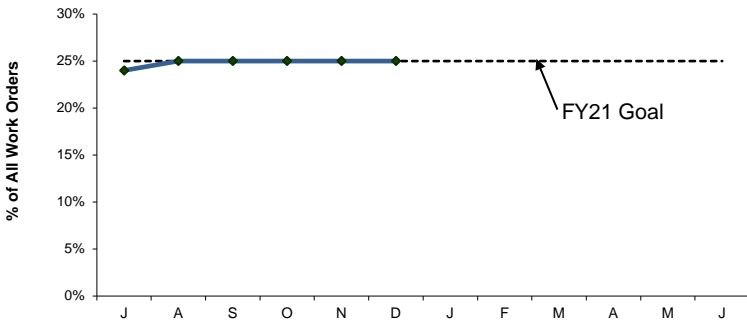
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

Predictive Maintenance Compliance



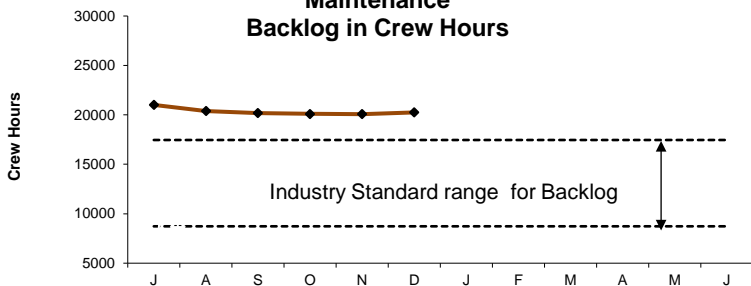
Deer Island's FY21 predictive maintenance goal is 100%. DITP completed 96% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program. Due to COVID-19 and limited staffing prior to June 22, 2020, our percentage is below our goal of 100%, we anticipate meeting our goal within the next few months.

Predictive Maintenance



Deer Island's increased FY21 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

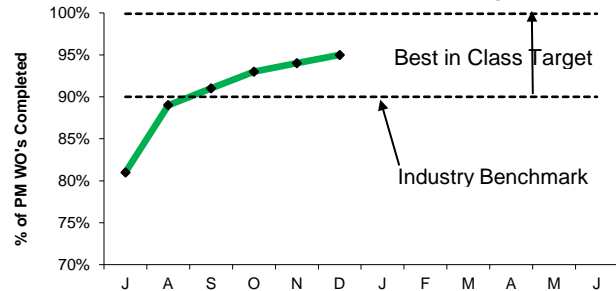


DITP's maintenance backlog at Deer Island is 20,142 hours this quarter. DITP is at the upper end of the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by five vacancies; (1) HVAC Tech, (1) I&C Tech and (3) Electricians. Management continues to monitor backlog and to ensure all critical systems and equipment are available. While our Backlog is over Industry Standards, maintenance staff has returned to regular hours and the Backlog is slowly moving towards Industry Standards.

Proactive Initiatives

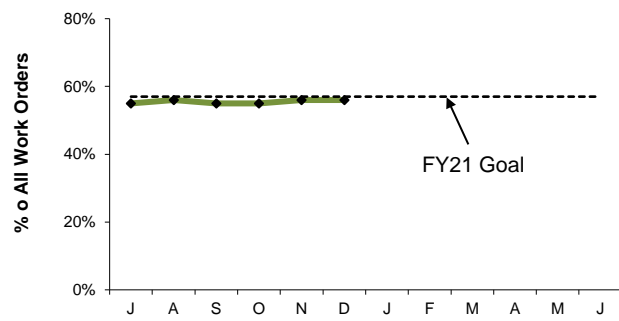
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

Preventive Maintenance Compliance



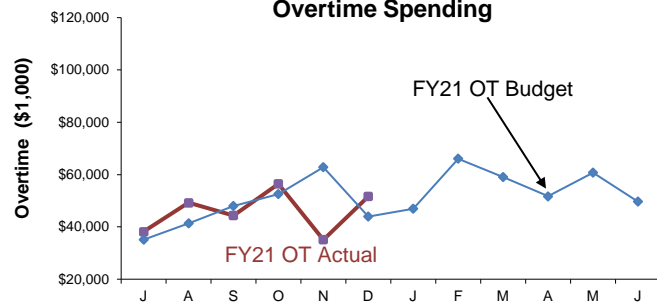
Deer Island's FY21 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 94% of all PM work orders this quarter. Due to COVID-19 and limited staffing prior to June 22, 2020, our percentage is below our goal of 100%, we anticipate reaching our goal within the next few months.

Maintenance Kitting



Deer Island's increased FY21 maintenance kitting goal is 57% of all work orders to be kitted. 56% 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.

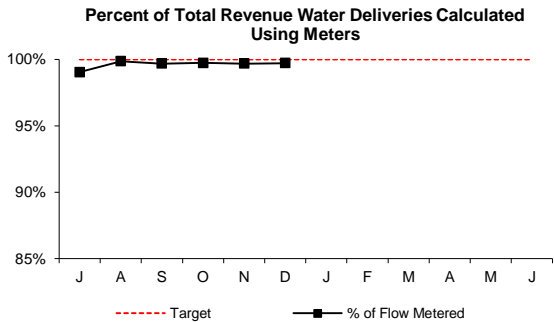
Overtime Spending



Maintenance overtime was under budget by \$16k this quarter and \$9k 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, Grinder and Pump Clogging Issues, CTG Startup/Shutdown Testing, HVAC Winterization Preparations, Coil Replacement BD:SA.AHU-2 and Grit Screw Replacement on AD:GR.CLSF-16.

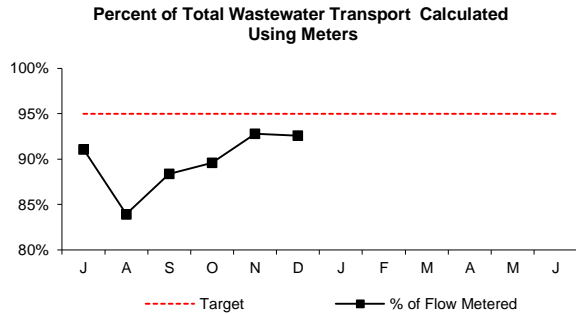
Operations Division Metering & Reliability 2nd Quarter - FY21

WATER METERS



The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During Q2 of FY21 0.29% of the billed water flow was estimated. 99.71% was based on meter actuals. The entirety of this value was from instrumentation failure.

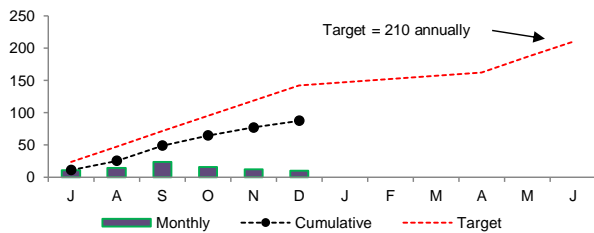
WASTEWATER METERS



The target for revenue wastewater transport calculated using meters is 95%. The data capture rate in Q2 of FY21 was 91.7%. Nearly 50% of the estimated flow during that time could be attributed to the failure of two styles of meters, ADFM and ADS Flowshark, both of which are obsolete technologies for which the Meter maintenance team can no longer procure replacement parts. We will be replacing these meters as part of the Wastewater Meter Replacement project scheduled to begin in January 2021.

WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During 2nd Quarter of FY21, 38.53 miles of water mains were inspected. The total inspected for the fiscal year to date is 87.39.

Leak Backlog Summary													
Month	J	A	S	O	N	D	J	F	M	A	M	J	Totals
Leaks Detected	2	2	5	3	1	1							14
Leaks Repaired	2	1	3	2	2	3							13
Backlog	6	7	9	10	9	7							n/a

During the 2nd Quarter of FY21 five new leaks were detected, and seven were repaired. Refer to FY21 Leak Report below for details. Also, community service ranging from individual leak location to hydrant surveys were conducted for: Arlington, Boston, Malden, Medford, Newton, Revere, Somerville & Swampscott.

2nd Quarter - FY21 Leak Report

Date Detected	Location of Leaks	Repaired
07/05/20	Riverside Ave. @ Commercial St. Medford	07/08/20
07/28/20	Harvard Pilgrim Health, Wellesley	07/30/20
08/03/20	#93 Worcester Street, Wellesley	08/05/20
09/03/20	Felton St. @ Water St., Waltham	09/22/20
09/12/20	#56 Forbes Hill Rd., Quincy. Sec-22	09/12/20
09/24/20	Frontage Rd. @ Venner Rd., Arlington	09/25/20
09/24/20	#93 Worcester St., Wellesley. Sec-80	10/07/20
10/16/20	Morton St. @ Blue Hill Ave. Boston	10/23/20
10/20/20	Lee St. @ Boylston St. Brookline	11/12/20
10/30/20	#263 Brdwy. RT-1 Southbound-Saugus	11/05/20
09/02/20	Mt Vernon Ave @ E. Albion St., Somerville	12/04/20
11/06/20	#109 Broadway @ Spring St., Saugus	12/10/20
12/01/20	Second St. @ Carter St., Chelsea	12/09/20

Date Detected	Location of Leaks/Unrepaired
06/08/15	Allandale Rd. @ Grove St., Brookline, Sect 78, located acoustically. Not surfacing. No redundancy.
06/17/15	Washington St. at East St., Dedham; Sect 77, located acoustically. Not surfacing. Need redundant SEH pipeline to enable isolation.
07/01/16	241 Forest St. Winchester, Sect 89, leaking blow off valve. Not surfacing. Need redundant NIH pipeline to enable isolation.
12/04/16	1025 W Roxbury Pkwy, Brookline, Sect 95, located acoustically. Not surfacing. Leaking blow off valve. No redundancy.
12/04/16	710 Ashland St/Summer St. Lynn, Sect 91. Not surfacing. Leaking emergency connection valve between MWRA and LWSC systems. LWSC has difficulty isolating 16" main.
07/20/17	Mystic Valley Parkway, Medford. Not surfacing.
08/27/20	Hyde Park Ave. @ River St., Hyde Park. BWSC is in process of isolating their water main first.

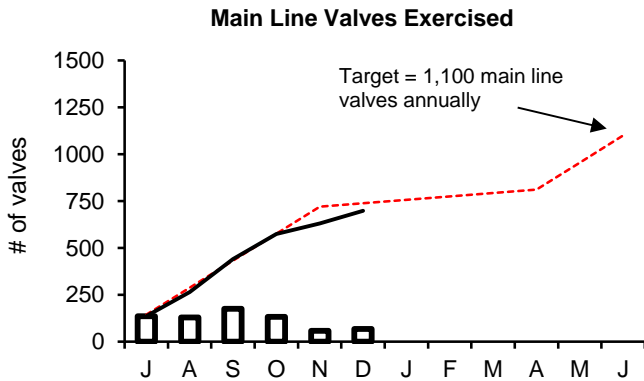
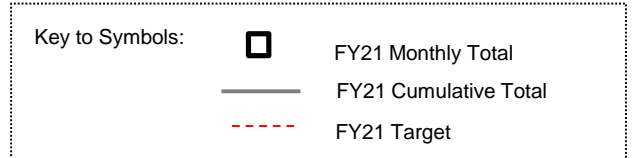
Water Distribution System Valves

2nd Quarter - FY21

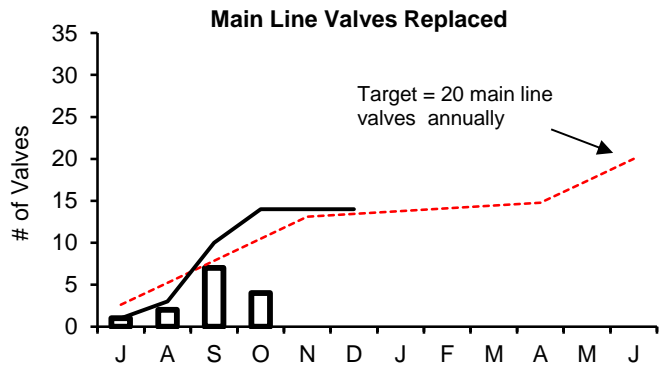
Background

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.

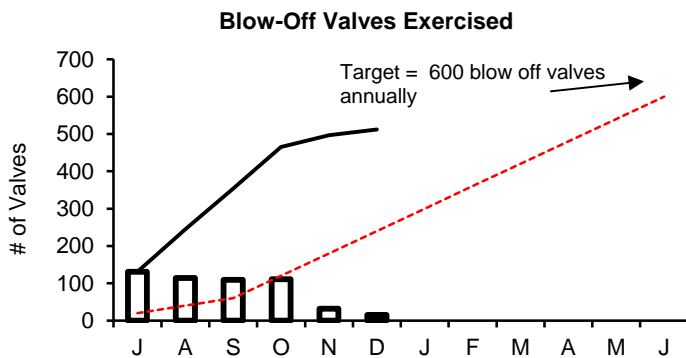
Type of Valve	Inventory #	Operable Percentage	
		FY21 to Date	FY21 Targets
Main Line Valves	2,159	97.3%	95%
Blow-Off Valves	1,317	98.6%	95%
Air Release Valves	1,380	95.2%	95%
Control Valves	49	100.0%	95%



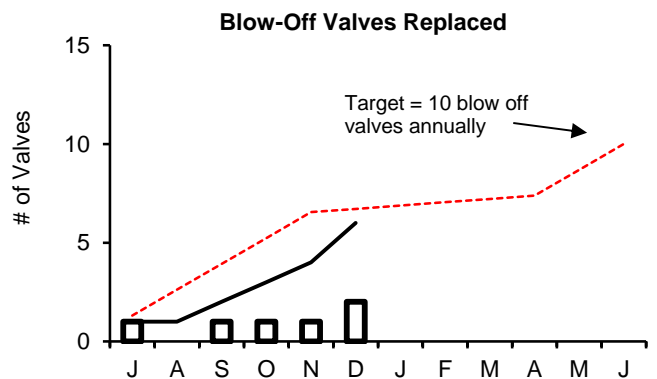
During the 2nd Quarter of FY21, 257 main line valves were exercised. The total exercised for the fiscal year to date is 698.



During the 2nd Quarter of FY21, there were four main line valves replaced. The total replaced for the fiscal year to date is 14.



During the 2nd Quarter of FY21, 158 blow off valves were exercised. The total exercised for the fiscal year to date is 512.



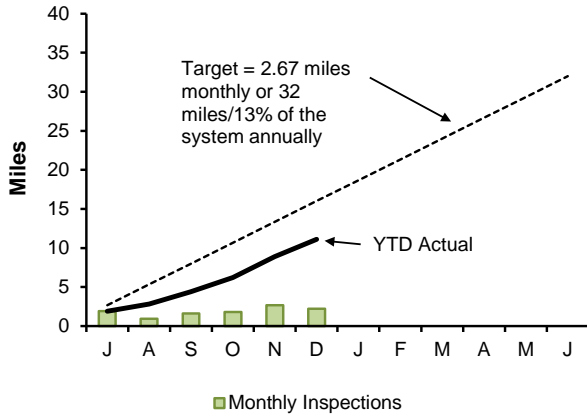
During the 2nd Quarter of FY21, there were four blow off valves replaced. The total replaced for the fiscal year to date is six.

Wastewater Pipeline and Structure Inspections and Maintenance

2nd Quarter - FY21

Inspections

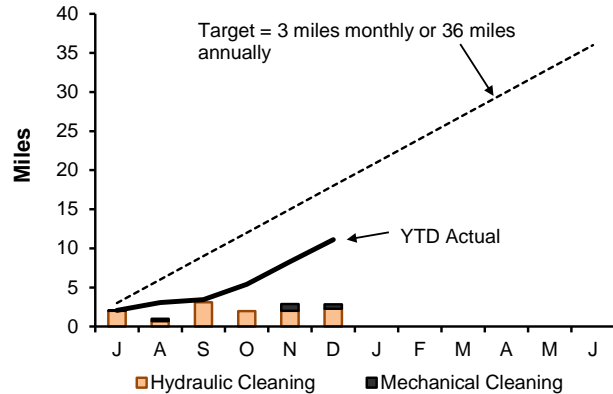
Pipeline Inspections



Staff internally inspected 6.69 miles of MWRA sewer pipe during this quarter. The year to date total is 11.11 miles. No Community Assistance was provided. Shortcomings for the quarter were a direct result of staffing availability, and equipment issues.

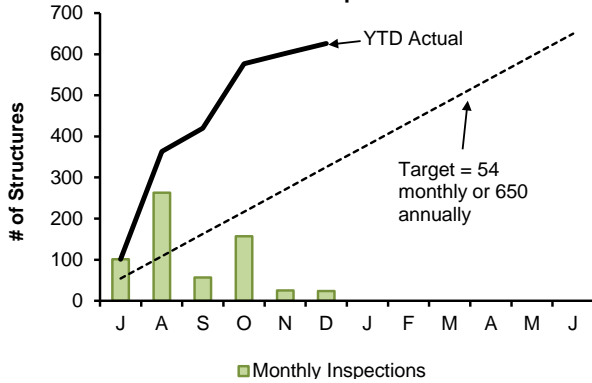
Maintenance

Pipeline Cleaning



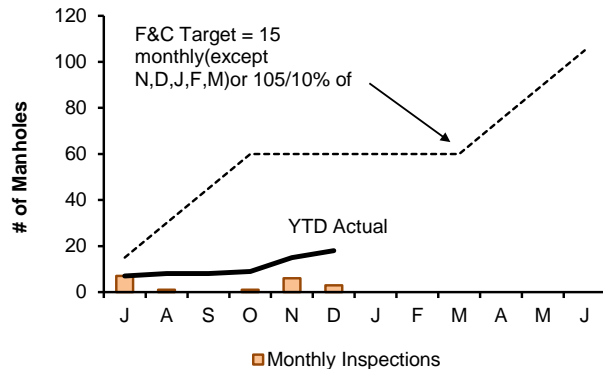
Staff cleaned 7.69 miles of MWRA sewer pipe, and removed 41.5 yards of grit. The year to date total is 11.11 miles. No Community Assistance was provided. Shortcomings for the quarter were a direct result assisting E&C with inspections, as part of MWRA Siphon Rehabilitation 6224 and staffing availability.

Structure Inspections



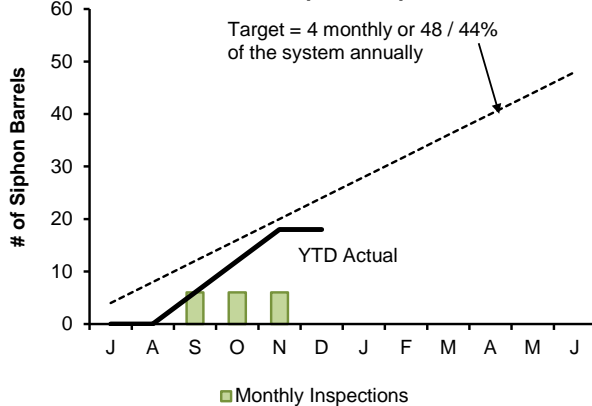
Staff inspected the 36 CSO structures and performed 170 other additional manhole/structure inspections during this quarter. The year to date total is 626 inspections.

Manhole Rehabilitation



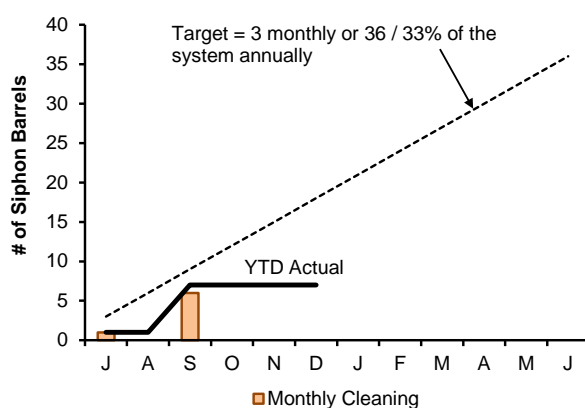
Staff replaced 10 frame and cover replacement this quarter. The year to date total is 18. Shortcomings for the month were a direct results of staffing availability.

Inverted Siphon Inspections



Staff performed 12 siphon barrel inspections this quarter. The year total is 18 inspections.

Inverted Siphon Cleaning

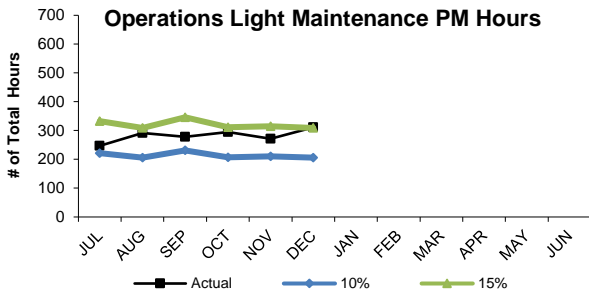


Staff did not clean any siphon barrel this quarter. Shortcomings for the month were a direct results of staffing availability.

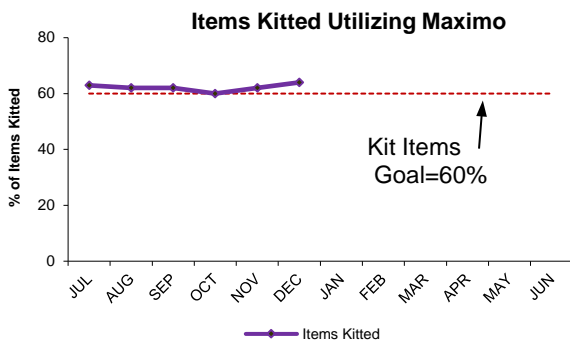
Field Operations' Metropolitan Equipment & Facility Maintenance

2nd Quarter - FY21

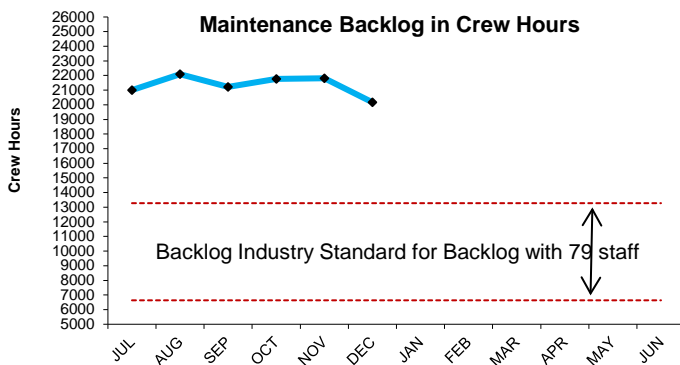
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



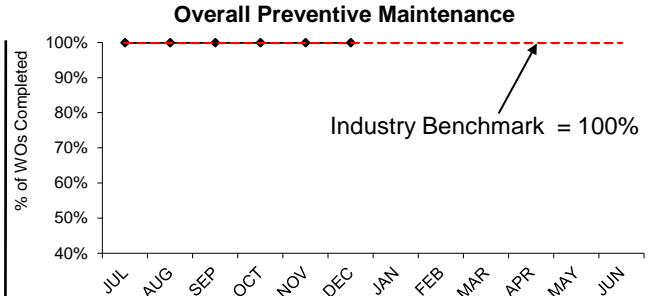
Operations staff averaged 272 hours per month of preventive maintenance during the 2nd Quarter, an average of 12% of the total PM hours for the 2nd Quarter, which is within the industry benchmark of 10% to 15%.



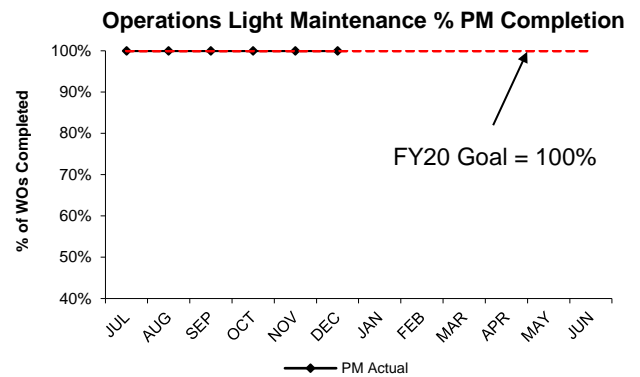
Operations' FY21 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 1st Quarter, 62% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



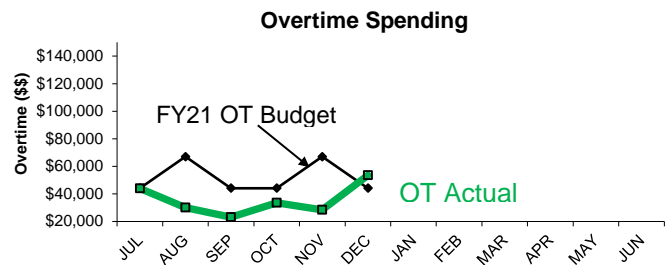
The 2nd Quarter backlog average is 21,440 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6,636 to 13,275 hours. The increase is due to reduced staffing levels due to COVID19.



The Field Operations Department (FOD) preventive maintenance goal for FY21 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 2nd Quarter.



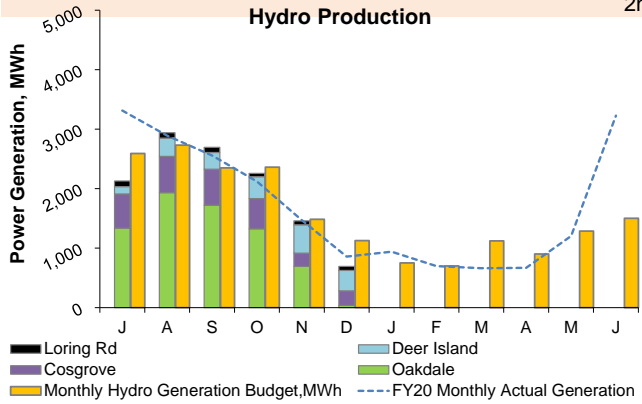
Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY21 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work



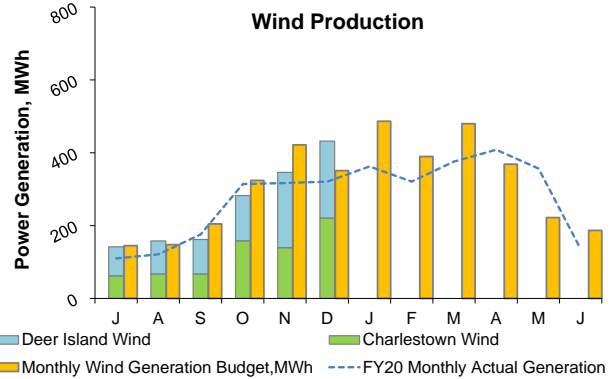
Maintenance overtime was \$13k under budget on average, per month, for the 2nd Quarter. Overtime was used for critical maintenance repairs and wet weather events. The overtime budget for FY21 is \$310k and is \$98k under budget for the fiscal year.

Renewable Electricity Generation: Savings and Revenue

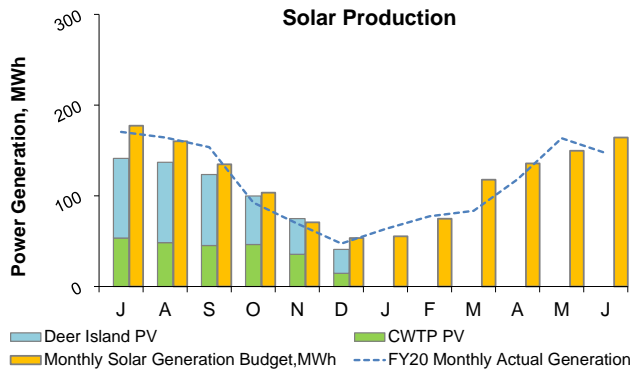
2nd Qtr - FY21



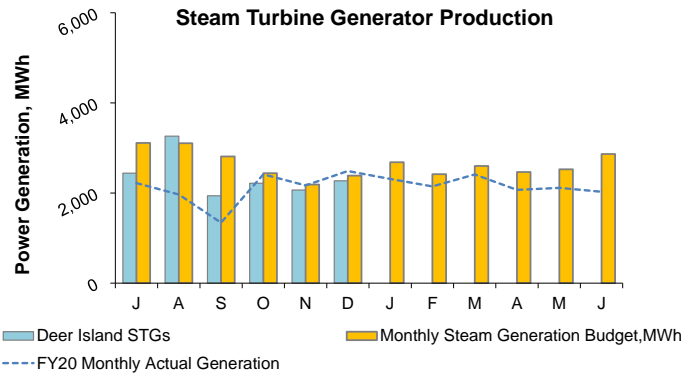
In the 2nd Quarter of FY21, the renewable energy produced from all hydro turbines totaled 4529 MWh; 12% above budget³. The total savings and revenue² to date in FY21 (actuals through October¹) is \$1,335,631 ; 17% above budget³. The savings and revenue value does not include RPS REC revenue (see next page).



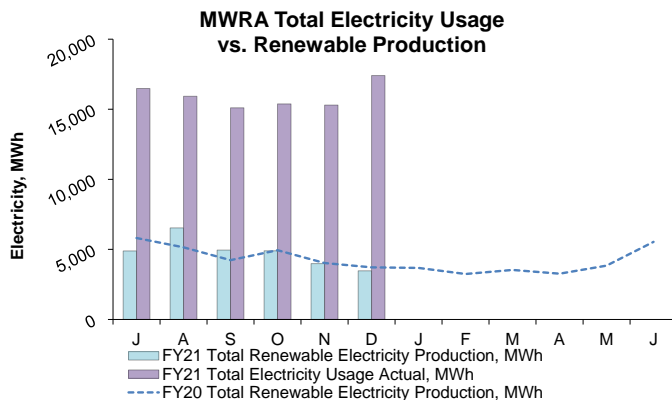
In the 2nd Quarter of FY21, the renewable energy produced from all wind turbines totaled \$1,061 MWh; 3% below budget³. The total savings and revenue² to date in FY21 (actuals through October) is \$105,426 , 14% below budget³. The savings and revenue value does not include RPS REC revenue (see next page).



In the 2nd Quarter of FY21, the renewable energy produced from all solar PV systems totaled 216 MWh; 5% below budget³. The total savings and revenue² to date in FY21 (actuals through October¹) is \$58,695 , 21% below budget³. The savings and revenue value does not include RPS REC revenue (see next page).

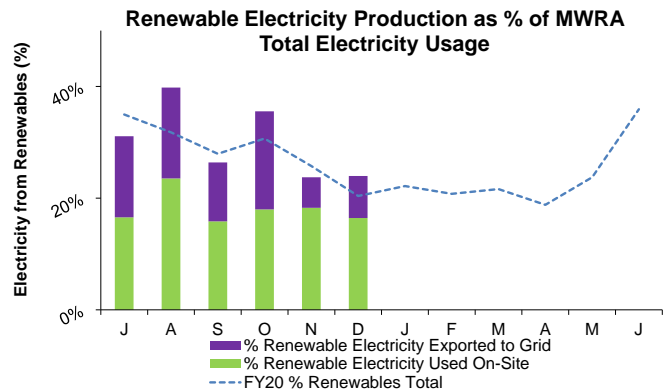


In 2nd Quarter of FY21, the renewable energy produced from all steam turbine generators totaled 6,554 MWh; 7% below budget³. The total savings and revenue² to date in FY21 (actuals through October¹) is \$826,449 , 24% below budget³. The savings and revenue value does not include RPS REC revenue (see next page).



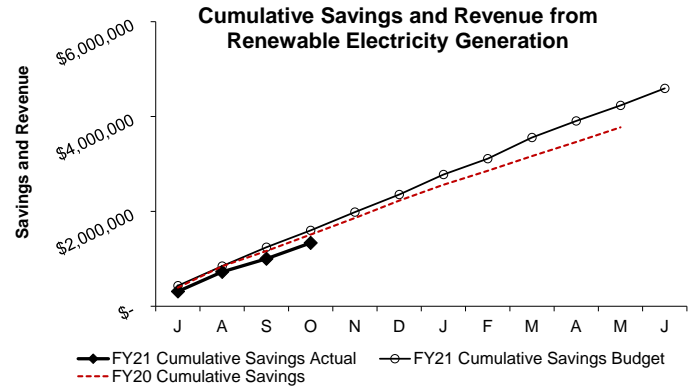
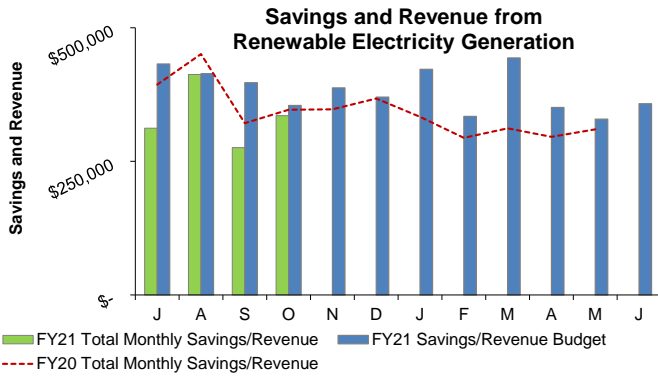
In the 2nd Quarter of FY21, MWRA's electricity generation by renewable resources totaled 12,359 MWh. MWRA's total electricity usage was approximately 48,080 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site 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.



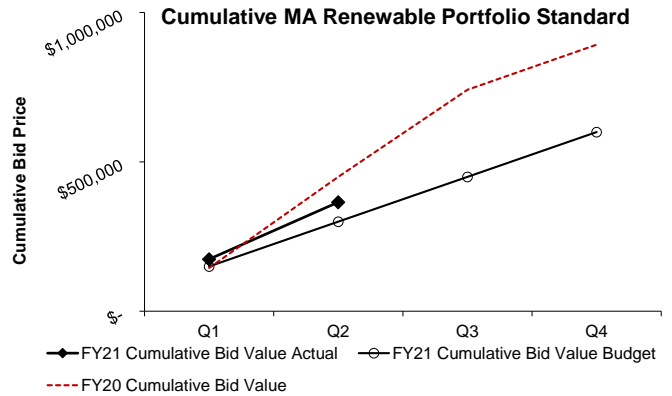
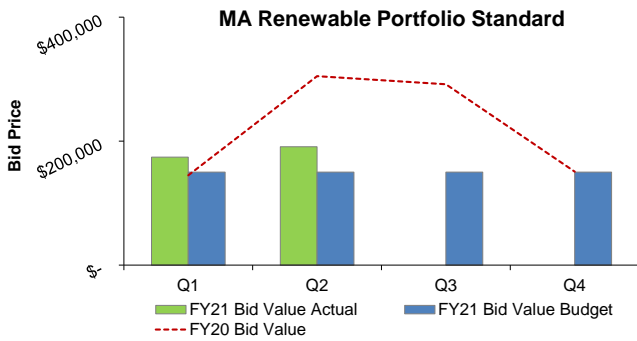
Renewable Electricity Generation: Savings and Revenue

2nd Qtr - FY21

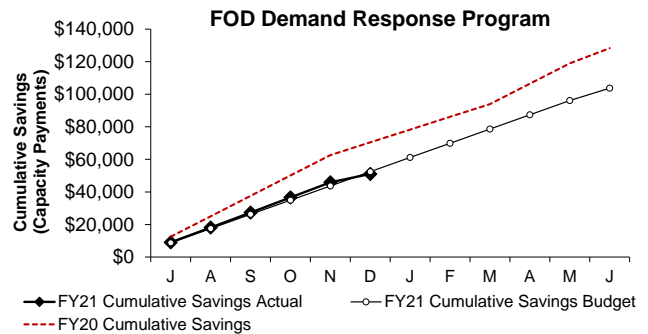
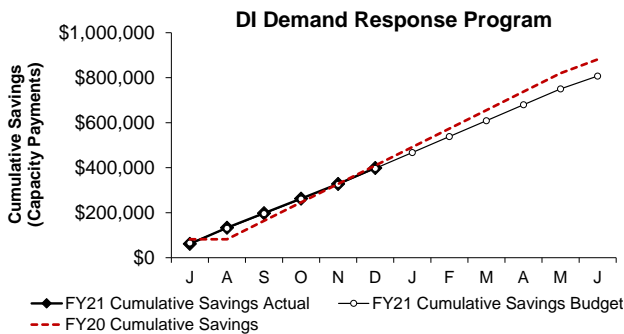


Savings and revenue from MWRA renewable electricity generation in the first four months of FY21 (actuals only through October) is \$1,335,631 which is 17% below the budget³.

Savings and revenue² 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 2nd Quarter¹ from MWRA's renewable energy assets; 3,291 Q2 CY2020 Class I Renewable Energy Certificates (RECs), 2,232 Class II RECs, and 90 Q2 CY2020 Solar RECs were sold for a total value of \$190,871 RPS revenue; which is 27% above budget³ 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.

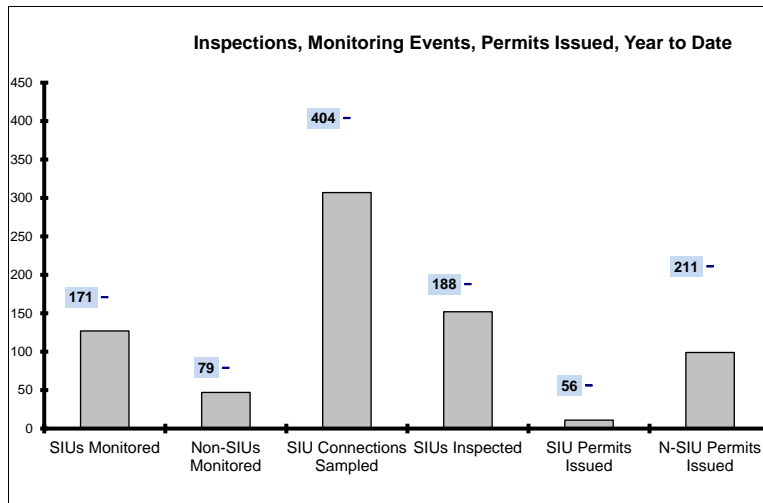


Currently Deer Island, JCWTP, Loring Rd, and Brutsch participate in the ISO-New England Demand Response Programs⁴. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. FY21 Cumulative savings (Capacity Payments only) through December¹ total \$399,006 for DI and \$51,049 for FOD through December¹.

- 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

2nd Quarter - FY21



EPA Required SIU Monitoring Events for FY20: 171
YTD : 127

Required Non-SIU Monitoring Events for FY20: 79
YTD : 47

SIU Connections to be Sampled For FY20: 404
YTD: 307

EPA Required SIU Inspections for FY20: 188
YTD: 152

SIU Permits due to Expire In FY20: 56
YTD: 11

Non-SIU Permits due to Expire for FY20: 211
YTD: 99

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.

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; 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, increased inspections leading to permit category changes requiring additional monitoring events.

SIU and Non-SIU permits are issued with durations of two to five years, depending on the category of industry, varying the number of permits that expire in a given year.

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	4	0	4	0	3	1	11
Aug	2	15	0	1	0	1	2	17
Sep	1	20	0	3	0	1	1	24
Oct	2	15	0	1	0	2	2	18
Nov	2	17	0	1	0	1	2	19
Dec	3	9	0	0	0	1	3	10
Jan							0	0
Feb							0	0
Mar							0	0
Apr							0	0
May							0	0
Jun							0	0

% YTD	100%	81%	0%	10%	0%	9%	11	99
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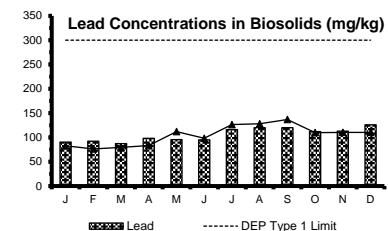
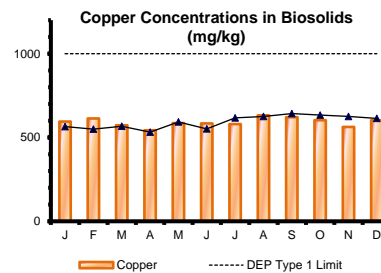
EPA requires MWRA to issue or renew 90 percent of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10 percent of SIU permits to be issued within 180 days.

So far, in this fiscal year, 11 SIU permits have been issued with a 100% rate of issuances within 120 days.

In the second quarter of FY21, 54 permits were issued, seven of which were SIUs. All of the SIU permits were issued within the 120-day timeframe.

Six of the non-SIU permits were issued after the 120-day timeframe with four of them issued after the 180-day timeframe. Those six included hotel operations, new start-ups, septage hauling and construction dewatering - industries with operations that were most impacted by the COVID-19 pandemic. Late payment of the relevant permit charges was the primary reason for these late permit issuances.

For the Clinton Sewer Service area, no SIU permit was issued in this, the second quarter of the fiscal year.



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

2nd Quarter – FY21

Each quarter, staff summarize monthly activities to provide a snapshot of work by teams across Operations and to highlight noteworthy actions.

Due to COVID-19 restrictions, Operations staff maintained physical and social distance from each other throughout the quarter. Due to COVID-19 restrictions, there was a decrease in field activity.

Western Water Operations and Maintenance

- Carroll Water Treatment Plant: Staff completed half plant shutdown maintenance and cleaning activities on the B side treatment process and met with DEP for the annual filtration waiver inspection
- Metro West Tunnel: Staff completed a valve replacement at the Edgell Road Pump Station connection in Framingham. Replacing this 24-inch butterfly valve required the tunnel to be dewatered and refilled at a specific flow rate after the valve was replaced. Staff replaced valve as well as coordinated dewatering and filling process.
- Loneragan Intake Facility, Quabbin Shaft 8: Staff operated the intake siphon facility to transfer water from the Ware River to the Quabbin reservoir. A sanitary survey was completed before the facility was activated, and water parameters checked. Water was transferred for one day with a total of 65 million gallons transferred.

Metro Water Operations and Maintenance

- Community Assistance: Valve Staff supported the Town of Reading with the disinfection of their Bear Hill Storage Tank. Pipeline and Valve Staff supported BWSC with by-pass pumping during their construction work in the Orient Heights area.

Operations Engineering

- Staff continued community assistance as needed:
 - Winthrop supply issues/reactivation of tank
 - Troubleshooting Revere water main breaks
 - Milton hydraulic modeling

SCADA

- Staff completed migration of SCADA fiber communication at Hyde Park PS and completed updating security of the Human Machine Interface (HMI) account. Staff completed HMI and database modifications on generator and fuel tank display at Lexington St PS and troubleshoot and repaired heat exchanger system at WAPS. Staff assisted Electrical Engineering Maintenance in troubleshooting of the main switchgear and the solar power system at

JCWTP and worked on design support for Fuel Tank Replacement Projects for Weston, Southborough, Barre and Gillis. Staff continued to work on building SCADA Engineering office test bed at Marlboro

Maintenance facility and continued work on configuration and hardening of SCADA Windows operating system upgrades. Staff continued work on development of network firewall and continued on support for Comm. Ave. PS Improvement project and the PRV improvement project. Staff continued on-going technical support for JCWTP PLC replacement project.

Wastewater Operations & Maintenance

- Braintree-Weymouth incident: A mechanical failure at the Braintree-Weymouth Pump Station prompted the facility to be put on a backup generator on November 13th. The fuel system of the generator needed to be rebuilt with new injectors and pumps. This work was completed by the contractor ASNE and returned to service on December 23rd.

Metro Equipment and Facility Maintenance

- Staff purchased two 600 HP VFDs and fabricated mounting frames on palletized bases making them portable. These are to be used temporarily in situations where permanently installed facility VFDs have failed and replacement parts and/or systems are not immediately available due to supply chain interruptions because of COVID. The two VFD units will be powered, charged and stored at the Gillis facility until needed to be put into service.

Metering

- Meter Data continued tracking how the Commonwealth COVID response recommendations have affected the demand in the fully supplied water communities. The state shutdown began on March 18, 2020 and continued into FY21. In general, most residential communities saw demand increases as the stay at home order was in effect, with some communities seeing a 20+% increase over the summer. Each community experienced an overall increase or very slight decrease in demand in 2020 with the exception of Boston which saw a significantly lower demand.
- Metering staff reached out to the following communities in the 2nd quarter of FY21 to alert them to observed flow changes in their monthly usage as compared to their historical usage: Melrose, Chelsea, Lexington, Framingham, Southborough, Reading, and Rutland-Holden Sewer district.

Field Operations Highlights

2nd Quarter – FY21

- CSO Public Notification: Metering staff continues to meet to support the CSO public notifications team. Metering has identified the equipment needed to maintain the meter sites currently monitored by the Authority's subcontractor ADS. The CSO monitoring database for non-revenue meters went live in August to power the CSO Notification tool.
- Verizon 4G Upgrade: The shutdown of Verizon's 3G network was scheduled for January 1, 2021. As of December 31, 2020, 399 of 400 total sites have been moved over to the Verizon 4G network. The one remaining site is a wastewater meter that is currently out of service. It has been pulled out of an active construction site for the duration of construction. This site will be fitted with a 4G modem prior to return to the field.

TRAC

- TRAC finalized the 36th Annual Industrial Waste Report. The report was transmitted to EPA and MassDEP on October 28, 2020 and is posted on MWRA's website.
- The Fiscal Year 2021 Annual Permitting and Monitoring Charge invoices were issued for all permits except the new group Dental Discharges permits. Those invoices will be issued in the Spring of 2021.

Environmental Quality-Water

- MWRA's algae monitoring season is complete. DCR continued to collect occasional algae samples on Wachusett Reservoir. Staff performed algal toxin and taste and/or odor compound sampling at treated water taps in October and November; this sampling coincided with UCMR4 community entry-point cyanotoxin monitoring.
- Community Support: Staff delivered virtual presentations to community DPW drinking water sampling staff on proper coliform sampling technique and chlorine residual measurement. Throughout the quarter, staff also notified several communities of low chlorine residuals.
- In October, staff assisted Reading with sampling of their Bear Hill Tank. In November, staff assisted Waltham with sampling of their Prospect Hill Tanks. Both tanks were drained, disinfected, and refilled to improve water quality. All test results were typical. On December 11, staff visited Winthrop to perform investigatory sampling at TCR sample sites.
- On December 3, staff provided support, along with MassDEP, during a PRV failure within the Winthrop public water system. MassDEP required a full round of sampling the following day. All samples were absent for total coliform and E. coli. Following the

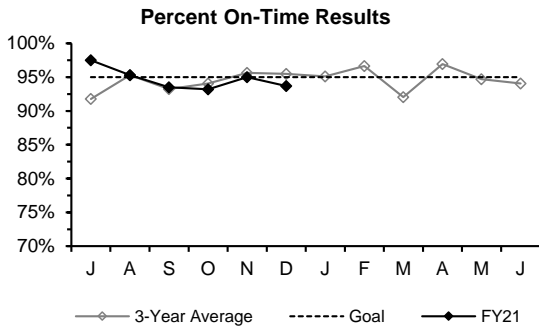
incident, Enqual and Operations assisted Winthrop with the submission of their Emergency After Action Report to MADEP.

- Staff had a virtual meeting with New York DEP staff to review water quality profiling buoy options for under ice reservoir monitoring and discuss winter weather challenges with buoy retrieval, as future buoy deployment extends into the winter season

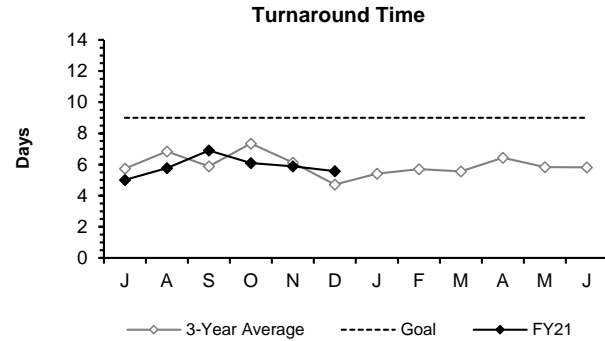
Environmental Quality-Wastewater

- Ambient Monitoring Field work for 2020 was completed in November. Sample/image analysis from 2020 water column and sediment surveys is largely complete. Staff submitted the annual "Outfall Monitoring Overview" as required by the NPDES permit; and formally requested changes to monitoring program that were already approved and implemented on an interim basis.
- Permitting and Compliance Reporting: Staff submitted required monthly and quarterly discharge monitoring reports, and the annual operations & maintenance report/status sheets required by the DITP permit. Staff made as-needed notifications of maintenance on electrical systems at DITP and of power outage/brief diversion around secondary treatment on October 19.
- Internal Coordination: Staff continued to work with Engineering & Construction and the DCOO on the receiving water quality analysis portion of the CSO Post-Construction Monitoring & Performance Assessment project. Staff participated in community CSO coordination meetings with Cambridge, Somerville, Chelsea, and BWSC, and received final receiving water model calibration report. Together with Operations Engineering, staff continued to refine documentation of procedures for determining CSO activations and volumes.

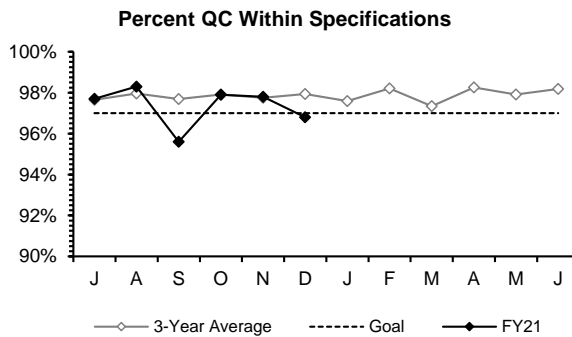
Laboratory Services 2nd Quarter - FY21



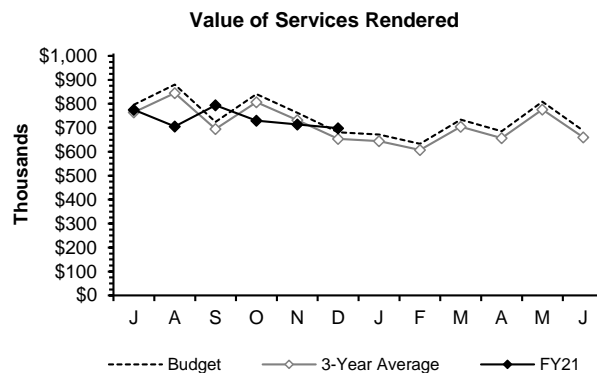
The Percent On-Time measurement is slightly below the 95% goal YTD.



Turnaround Time meets the 9-day goal.



Percent of QC tests meeting specifications meets the 97% goal YTD.



Value of Services Rendered is running slightly below the annual budget projection.

Highlights:

Performance: Year to date average Turnaround Time, Percent on time and Percent QC within Specification all met targets. Value of Services Rendered is running slightly below the three year average.

School Lead Program: During the 2nd quarter of FY21, MWRA's lab completed 393 tests from 27 schools and childcare facilities in 12 communities. Since 2016, MWRA's Laboratory has conducted over 38,000 tests from 506 schools and daycares in 44 communities.

COVID-19 Testing: The wastewater pilot project continued throughout the 2nd quarter. Sample results are posted on MWRA.com as they are received.

CONSTRUCTION PROGRAMS

Projects In Construction

2nd Quarter– FY21

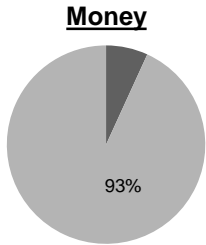
Southern Extra High Pipeline Section 111

Project Summary: This project consists of 6,800 linear feet of 36-inch water main in Dedham and Westwood and includes pipe jackings at the Dedham Corporate MBTA Station and at the MassDOT Route 95 East Street Rotary.

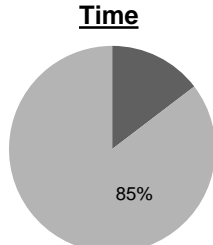
Contract Amount: \$20,943,992.77 **Contract Duration:** 1,025 Days

Notice to Proceed: 10-Aug-2018 **Contract Completion:** 31-May-2021

Status and Issues: As of December, Crew 1 installed 29 LF of 36" DI pipe including two 36"X6" Tee's, a 36" butterfly valve, two 36" solid sleeves and a transition coupler to connect 36" DI pipe to Section 77 for isolation valve work on East St. Dedham. Crew 3 installed 32 LF of 36" DI pipe including, two 36" butterfly valves and solid sleeves and a transition coupler to connect to Section 77 in Harvard St. Dedham.



■ Amount Remaining
■ Billed to Date



■ Days Remaining
■ Days Expended

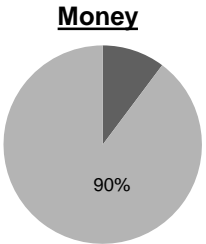
Chelsea Creek Headworks Upgrade

Project Summary: This project involves a major upgrade to the entire facility including: automation of screening collection & solids conveyance, replacement of the odor control, HVAC and electrical systems.

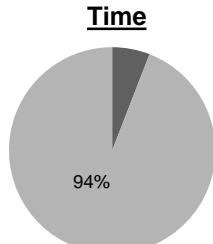
Contract Amount: \$83,880,801.06 **Contract Duration:** 1,594 Days

Notice to Proceed: 22-Nov-2016 **Contract Completion:** 4-Apr-2021

Status and Issues: As of December, the Contractor worked on removing the inflatable plug from the influent piping in Channel 4, removed the temporary grit piping system west of the headworks, and performed leak tests for the Channel 4 influent and effluent sluice gates and stop logs.



■ Amount Remaining
■ Billed to Date



■ Days Remaining
■ Days Expended

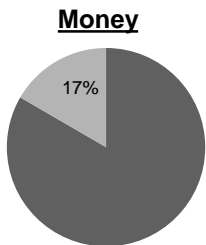
Dorchester Interceptor Sewer

Project Summary: MWRA's Dorchester Interceptor conveys flows to MWRA's Columbus Park Connection and Headworks in South Boston

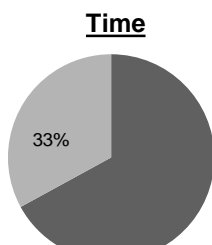
Contract Amount: \$4,707,485 **Contract Duration:** 540 Days

Notice to Proceed: 6-Jul-2020 **Contract Completion:** 28-Dec-2021

Status and Issues: As of December, the Contractor installed and tested the bypass system. They completed the CIPP installation #1 Sta. 193+71 – 191+61 & 191+61 – 189+55. Completed CIPP installation #2 Sta. 189+55 – 184+43. The installation between 191+61 – 189+55 has a soft area of approximately 130' and will have a repair done.



■ Amount Remaining
■ Billed to Date



■ Days Remaining
■ Days Expended

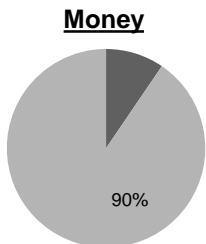
Commonwealth Ave Pump Station Improvements

Project Summary: This project will provide a new connection to the station from two low service pipelines in Commonwealth Avenue and add low service pumps so that the City of Newton can be supplied in the event of a City Tunnel failure.

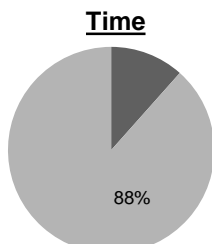
Contract Amount: \$7,669,408.18 **Contract Duration:** 760 Days

Notice to Proceed: 28-Feb-2019 **Contract Completion:** 29-Mar-2021

Status and Issues: As of December, the Contractor installed WASM 2 60" east and west spool pieces, insulated restraint couplings, and restraint rods to join new and existing piping. They filled the WASM 2 pipe and performed a visual leak test with no observable leaks detected. They flushed the pipe in preparation for chlorination after which the pipe was chlorinated, de-chlorinated and flushed. The contractor has since demobilized from the site including the small frac tank.



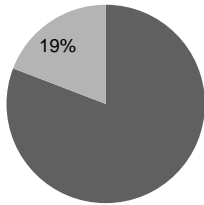
■ Amount Remaining
■ Billed to Date



■ Days Remaining
■ Days Expended

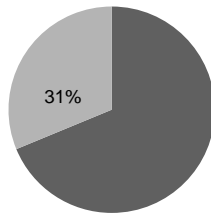
Projects In Construction 2nd Quarter– FY21

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

Nut Island Odor Control and HVAC

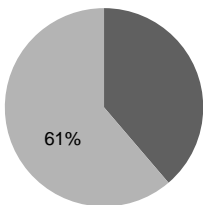
Project Summary: This project will provide upgrades to the odor control system, heating, ventilation and air conditioning system and other equipment.

Contract Amount: \$57,590,394.58 **Contract Duration:** 1,034 Days

Notice to Proceed: 12-Feb-2020 **Contract Completion:** 12-Dec-2022

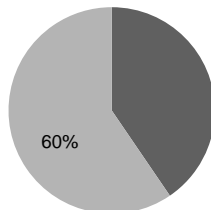
Status and Issues: As of December, the Contractor installed dowels and reinforcing steel for temporary concrete curb at Odor Control Room roof. They installed reinforcing steel and formwork for new sodium hydroxide containment walls and placed concrete for same and continued to install HVAC ductwork in Grit Room.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

Chemical Tank Relining & Pipe Replacement

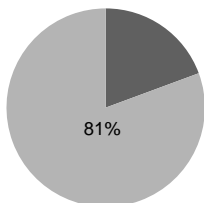
Project Summary: This project involves replacing the chlorobutyl rubber linings in 3 sodium hypochlorite and 2 sodium bisulfite storage tanks and assorted gravity thickener overflow piping at Deer Island.

Contract Amount: \$8,570,041 **Contract Duration:** 850 Days

Notice to Proceed: 13-Aug-19 **Contract Completion:** 10-Dec-21

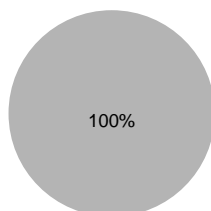
Status and Issues: As of December, the Contractor completed lining of Sodium Hypochlorite Storage Tank No. 1, and commenced with leak testing. They completed leak testing of Sodium Bisulfite Storage Tank No. 1, and turned tank the over to Operations. Work on the Gravity Thickener Overflow piping is on-going.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

Winthrop Terminal VFD and Motor

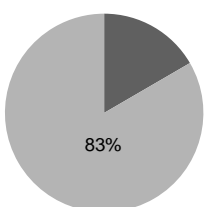
Project Summary: This project involves the replacement of 6, 600-HP motors, VFDs and associated electrical components in the Winthrop Terminal Facility.

Contract Amount: \$11,950,754 **Contract Duration:** 1,549 Days

Notice to Proceed: 16-Jun-2016 **Contract Completion:** 12-Sep-2020

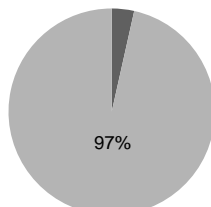
Status and Issues: As of December, the VFD/Motor No 3. completed the 30 day test period.

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: \$19,767,702.23 **Contract Duration:** 1,000 Days

Notice to Proceed: 11-May-2018 **Contract Completion:** 4-Feb-2021

Status and Issues: As of December, CT-6 was put on-line. The Contractor completed the concrete access drives and began demolition of GT-5. The insertion valve on Digested Sludge and Storage Tank 1 was installed and they installed the scaffolding in Digested Sludge and Storage Tank 2.

CSO CONTROL PROGRAM

2nd Quarter – FY21

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 is conducting a multi-year CSO post-construction monitoring program and performance assessment that will culminate in a report to EPA and DEP in December 2021 verifying whether the court-ordered LTCP levels of CSO control are attained. **Of the \$912.5 million budget in the FY21 CIP for the CSO Control Program, approximately \$6.7 million remain to be spent, as described below.**

Project/Item	Status as of December 31, 2020
BWSC Dorchester Interceptor Inflow Removal	<p>The CSO MOU/FAA with BWSC included \$5.4 million for additional inflow removal from BWSC's Dorchester Interceptor system as part of the South Dorchester Bay Sewer Separation project, of which MWRA transferred \$1.7 million to the BWSC CSO account and \$1.6 million of that was withdrawn by BWSC to fund related design and construction work. On May 17, 2017, MWRA's Board of Directors authorized removing the remaining \$3.76 million from the MOU/FAA (which ended on June 30, 2017) and including this funding amount in a separate, 4-year financial assistance agreement with BWSC effective July 1, 2017. The new agreement limits MWRA financial assistance to reimbursement of the eligible costs of BWSC construction work reviewed and approved by MWRA, up to \$3.76 million.</p> <p>BWSC submitted construction plans and a related cost estimate and estimated I/I removal quantity to MWRA on May 27, 2020. MWRA sent a letter to BWSC on July 21, 2020, approving the eligibility of the construction contract. BWSC awarded the contract to National Water Main in the amount of \$1,581,387, and expects the contract to be complete by June 30, 2021. BWSC continues to evaluate additional I/I removal work it may pursue within the term of the agreement. The agreement is in effect through June 30, 2021.</p>
City of Cambridge Memorandum of Understanding and Financial Assistance Agreement	<p>The City of Cambridge attained substantial completion of its last project, CAM004 Sewer Separation, in December 2015 in compliance with Schedule Seven. MWRA made a final transfer of funds to the Cambridge CSO account in December 2017, in the amount of \$1,254,551, to cover eligible costs, including surface restoration costs, through June 30, 2018, when the 22 year-old, \$100.2 million MOU/FAA ended. Cambridge continues to support ongoing MWRA review of the construction contracts Cambridge managed under the CSO MOU. Staff expect to complete the review and issue a final eligibility certification by January 31, 2020.</p>
City of Somerville Financial Assistance Agreement	<p>By this agreement, MWRA will provide up to \$1.4 million for 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. Somerville is in design and expects to award the construction contract in the fall of 2021.</p>
MWRA 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. Amendment 2 was executed on May 13, 2020, mainly to include additional site-specific control evaluations, increasing the contract amount by \$1,431,700 to the current contract amount of \$5,284,405.</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 4 hours of the start of discharge at each location using meter readings. MWRA also reports estimated discharge volumes on its CSO notification web page. Cambridge and Somerville, also parties to the variances, have implemented notification systems for their own outfalls.</p> <ul style="list-style-type: none"> • AECOM updated the hydraulic model to mid-2020 system conditions and continued to utilize CSO meter data to quantify CSO discharges and compare them to model predicted discharges for storms in the period Jan 1 - Jun 30, 2020, which was reported in Semiannual Progress Report No. 5 on October 30, 2020. • AECOM submitted a final report on the development and calibration of the Charles River Basin and Alewife Brook/Upper Mystic River models. MWRA sent links to the final report to EPA, DEP, the CSO communities, the Charles River Watershed Association and the Mystic River Watershed Association on December 23, 2020. • AECOM continues to make progress with Amendment 2 work that includes 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. Recently implemented CSO mitigation includes: Chelsea raised the overflow weir at Outfall CHE004, Cambridge removed heavy sediments in the Outfall CAM401A system, and MWRA is designing a replacement for the interceptor connection at Outfall CHE008 - all expected to bring these outfalls into attainment with their LTCP discharge goals. In addition, Cambridge completed the trial partial sewer separation improvements that reduce discharges from the Cottage Farm facility. To reduce discharges from the Somerville-Marginal CSO Facility to the Mystic River, albeit slightly, MWRA is designing the replacement of the leaky tide gate on the outfall and has modified the operational protocol for closing the facility's influent gates at the end of each storm.

CIP Expenditures

2nd Quarter – FY21

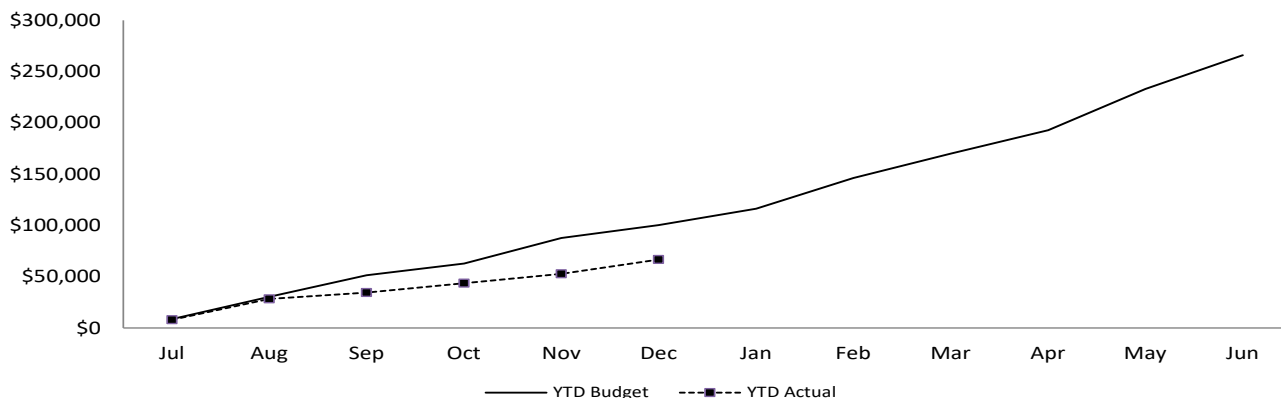
FY21 Capital Improvement Program Expenditure Variances through December by Program (\$ in thousands)				
Program	FY21 Budget Through December	FY21 Actual Through December	Variance Amount	Variance Percent
Wastewater	55,552	44,581	(10,971)	-20%
Waterworks	38,043	20,809	(17,234)	-45%
Business and Operations Support	6,618	1,408	(5,210)	-79%
Total	\$100,214	\$66,798	(\$33,416)	-33%

Project underspending within Wastewater was due to Channel 4 work behind schedule for the Chelsea Creek Headworks Upgrades, delays in equipment delivery and Covid-19 shutdown for Nut Island Odor Control & HVAC Construction, timing of community repayments due to less than anticipated communities deferring their loan repayments, updated schedule for the Dorchester I/I Removal work, work anticipated in FY21 that was completed in FY20 for the Pellet Pipe Relocation and the Residuals Mechanical/Electrical/Dryer Drum Replacements, This underspending was partially offset by contractor progress for the DI Chemical Tank and Digester Pipe and Gas Protection System Replacement Phase 1 contracts. Project underspending in Waterworks was due to timing of community repayments due to less than anticipated communities deferring their loan repayments, delay in award for CP-1 Shafts 6, 8, and 9A,, updated schedule for CP-3 Sections 23, 24, and 47 Rehab, Weston Aqueduct Sluice Gate, Section 89 & 29 Replacement, and timing of consultant work for the Tunnel Preliminary Design & MEPA Review, This underspending was partially offset by contractor progress for WASM 3 CP-1, SEH Section 111 Construction 2 and 3, Commonwealth Avenue Pumping Station Rehab, and work anticipated in FY20 that was completed in FY21 for the Cosgrove Intake Roof Repair.

Budget vs. Actual CIP Expenditures

(\$ in thousands)

Total FY21 CIP Budget of \$265,774



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 12/26/20	\$279.0 million
Unused capacity under the debt cap:	\$1.63 billion
Estimated date for exhausting construction fund without new borrowing:	Aug-21
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$128 million
Commercial paper capacity / Revolving Loan	\$350 million
Budgeted FY21 Cash Flow Expectancy*:	\$203 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

2nd Quarter – FY21

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 FY21 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.

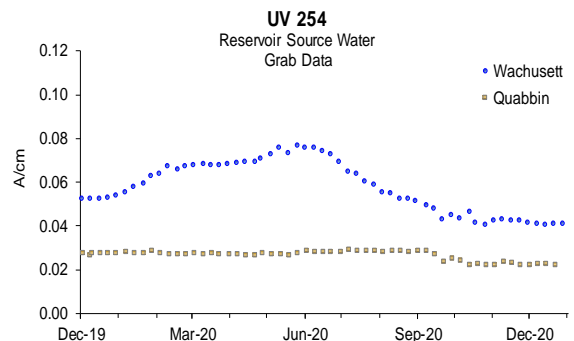
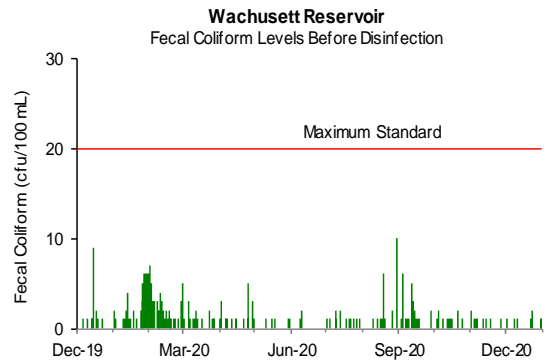
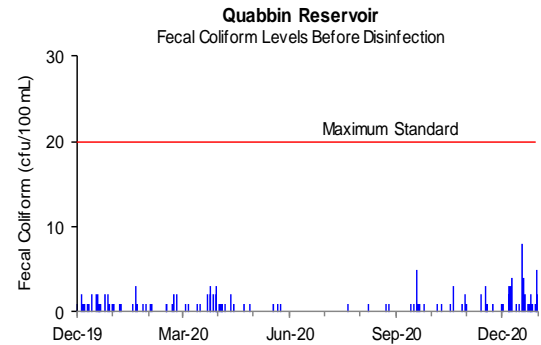
All samples collected during the 2nd Quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

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 0.022 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.042 A/cm for the quarter.



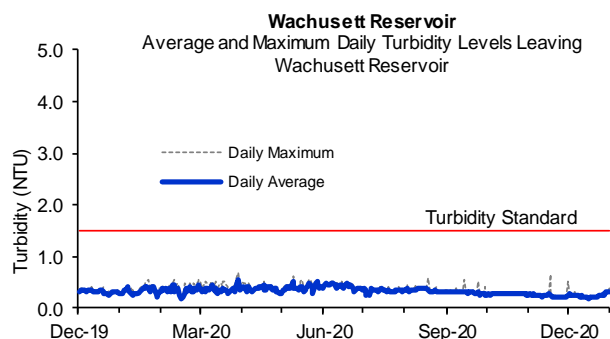
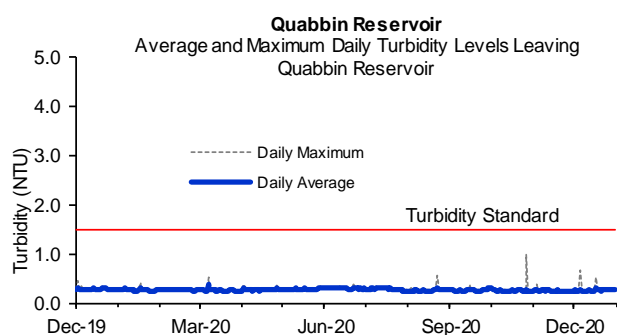
Source Water – Turbidity

2nd Quarter – FY21

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.

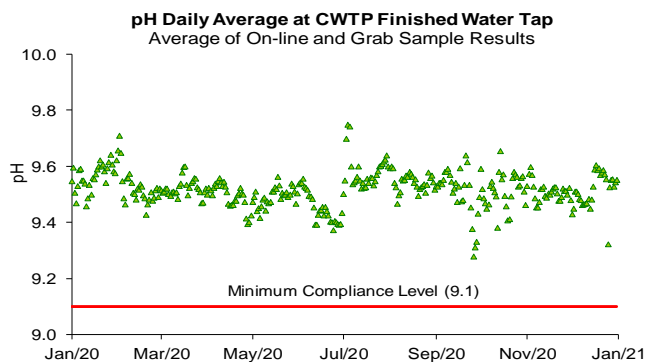
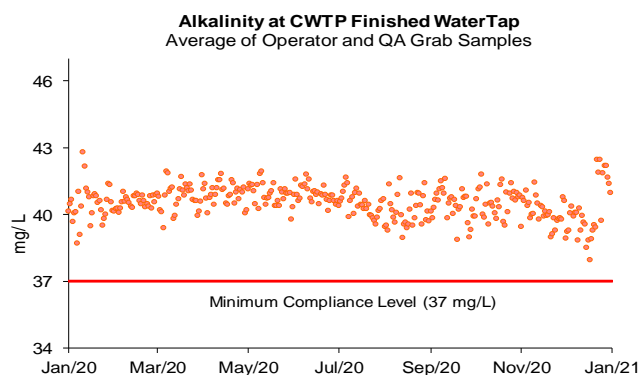


Treated Water – pH and Alkalinity Compliance

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.

Quarterly distribution system samples were collected over a course of two weeks in November. Distribution system sample pH ranged from 9.2 to 9.6 and alkalinity ranged from 37 to 40 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

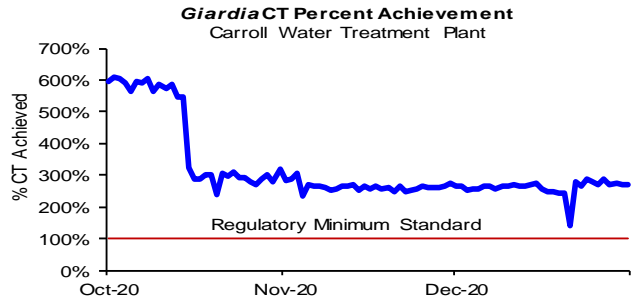
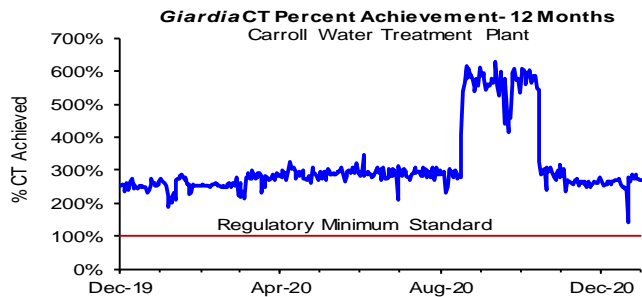
2nd Quarter – FY21

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.

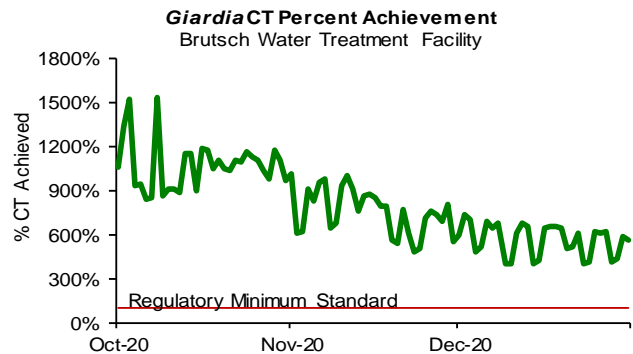
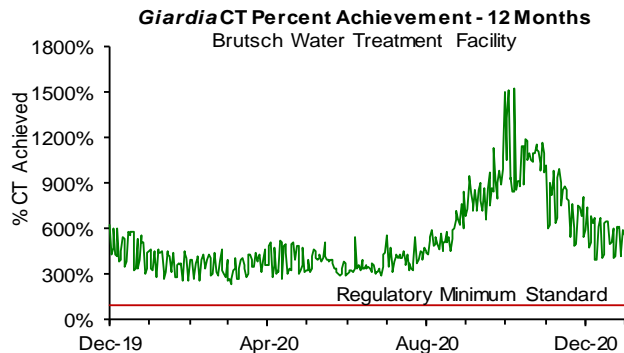
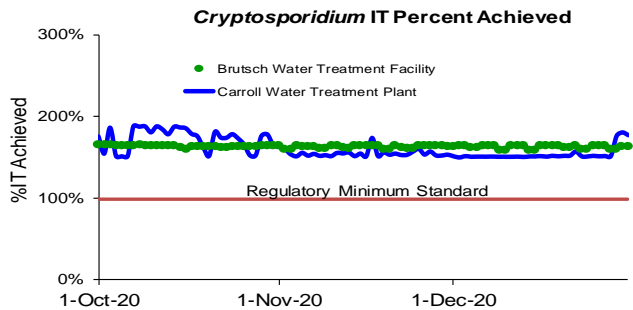
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 1.3 to 2.2 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.
- The ozone dose was proactively raised mid-August 2020 in response to elevated reservoir total coliform levels. This is visible in the top left graph.
- The slight decrease on December 21 was due to Train B returning to service after undergoing winter maintenance. *Giardia* CT Achievement was met this day. This is visible in the top two graphs.



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 1.3 to 1.8 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.



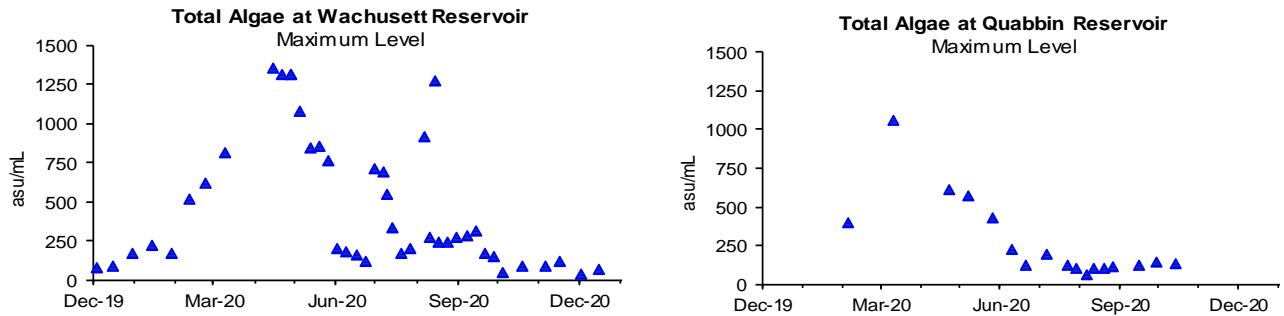
Source Water - Algae

2nd Quarter – FY21

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 2nd quarter, no taste and odor complaints which may be related to algae were reported from the local water departments.

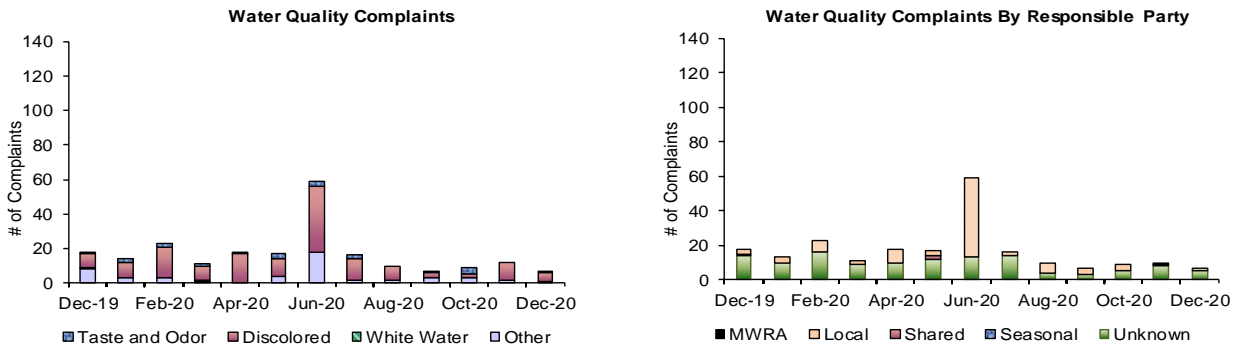


Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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 28 complaints during the quarter compared to 43 complaints from 2nd Quarter of FY20. Of these complaints, 17 were for "discolored water", 5 were for "taste and odor", and 6 were for "other". Of these complaints, 7 were local community issues, 2 were MWRA related, 1 was seasonal in nature, and 18 were unknown in origin.



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

2nd Quarter – FY21

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 141 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.

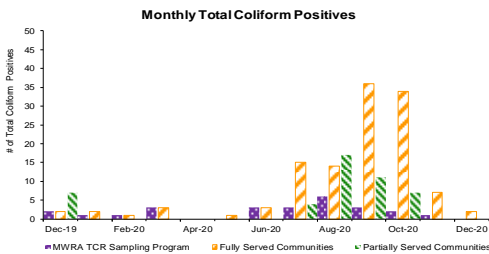
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

In the 2nd Quarter, fifty-two of the 6,270 samples (0.83% system-wide) submitted to MWRA labs for analysis tested positive (Boston, Peabody, Quincy, Somerville, Southborough, Stoneham, Waltham, Winthrop - October; Boston, Waltham, Winthrop - November; Belmont, Boston - December). Three of the 1913 MWRA locations or Community/MWRA Shared samples (0.16%) tested positive for total coliform. Waltham had greater than 5.0% of their samples that were total coliform positive in October and, therefore, is required to conduct a Level 1 Assessment. In October and November, Winthrop had greater than 5.0% of their samples that were total coliform positive and, therefore, is required to conduct a Level 2 Assessment since this is the second occurrence within a rolling 12-month period. Wakefield had greater than 5.0% of their samples that were total coliform positive in October and, therefore, is required to conduct a Level 2 Assessment since this is the second occurrence within a rolling 12-month period. No samples tested positive for *E.coli*. Only 1.0% 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>	# Assessment	
		# Samples (b)	# (%) Positive	Positive	Required	
MWRA	a	MWRA Locations	345	0 (0%)	0	
		Shared Community/MWRA sites	1568	3 (0.19%)	0	
		Total: MWRA	1913	3 (0.16%)	0	No
Fully Served		ARLINGTON	156	0 (0%)	0	
		BELMONT	107	1 (0.93%)	0	No
		BOSTON	804	3 (0.37%)	0	No
		BROOKLINE	224	0 (0%)	0	
		CHELSEA	169	0 (0%)	0	
		DEER ISLAND	52	0 (0%)	0	
		EVERETT	169	0 (0%)	0	
		FRAMINGHAM	234	1 (0.42%)	0	No
		LEYERTON	117	1 (0.85%)	0	No
		LYNNFIELD	18	0 (0%)	0	
		MALDEN	233	0 (0%)	0	
		MARBLEHEAD	72	0 (0%)	0	
		MARLBOROUGH	126	0 (0%)	0	
		MEDFORD	192	0 (0%)	0	
		MELROSE	117	0 (0%)	0	
		MILTON	102	0 (0%)	0	
		NAHANT	29	0 (0%)	0	
		NEWTON	276	0 (0%)	0	
		NORTHBOROUGH	48	0 (0%)	0	
		NORWOOD	99	0 (0%)	0	
		QUINCY	315	1 (0.32%)	0	No
		READING	130	0 (0%)	0	
		REVERE	195	0 (0%)	0	
		SAUGUS	104	0 (0%)	0	
	SOMERVILLE	259	2 (0.77%)	0	No	
	SOUTHBOROUGH	33	1 (3.03%)	0	No	
	STONEHAM	101	1 (0.99%)	0	No	
	SWAMPSCOTT	57	0 (0%)	0		
	WALTHAM	229	6 (2.62%)	0	Yes	
	WATERTOWN	130	0 (0%)	0		
	WESTON	45	0 (0%)	0		
	WINTHROP	114	28 (24.56%)	0	Yes	
	Total: Fully Served	5056	45 (0.89%)	0		
Partially Served		BEDFORD	55	0 (0%)	0	
		CANTON	90	0 (0%)	0	
		NEEDHAM	123	0 (0%)	0	
		PEABODY	210	0 (0%)	0	
		WAKEFIELD	149	7 (4.70%)	0	Yes
		WELLESLEY	114	0 (0%)	0	
		WILMINGTON	87	0 (0%)	0	
		WINCHESTER	90	0 (0%)	0	
		WOBJURN	195	0 (0%)	0	
		CHICOPEE	61	0 (0%)	0	
CVA		SOUTH HADLEY FD1	30	0 (0%)	0	
		WILBRAHAM	15	0 (0%)	0	
		Total: CVA & Partially Served	1219	7 (0.57%)	0	
		Total: Community Samples	6275	52 (0.83%)		

Chlorine Residuals in Fully Served Communities

	2019		2020											
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
% <0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.3	0.1	
% <0.2	1.5	0.4	0.2	0.2	0.2	0.3	0.4	0.5	0.4	1.0	1.1	1.4	0.4	
% <0.5	4.1	2.0	1.5	1.1	1.6	1.3	1.5	2.2	2.9	4.1	5.1	3.7	2.5	
% <1.0	7.3	3.9	2.9	3.5	4.6	4.0	4.3	6.5	8.4	10.7	12.2	9.3	5.3	
% ≥1.0	92.7	96.1	97.2	96.5	95.4	96.0	95.7	93.6	91.6	89.4	87.8	90.7	94.7	

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

2nd Quarter – FY21

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.

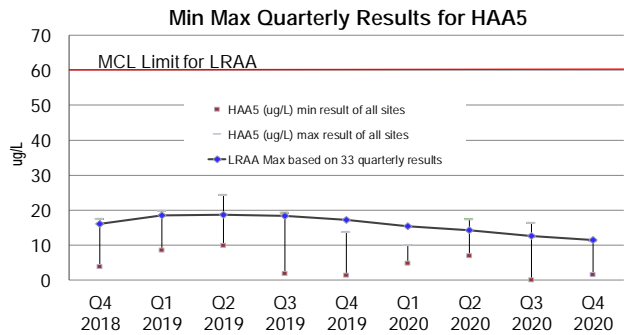
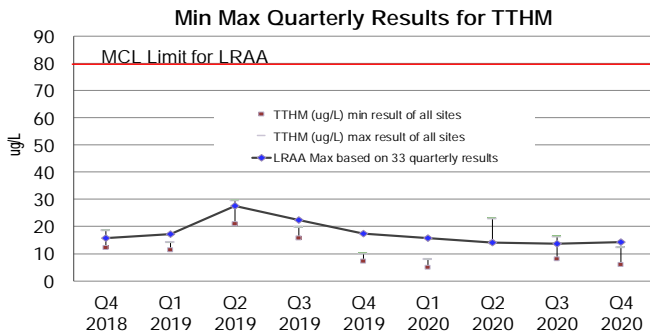
The locational running annual average calculated quarterly at each individual sampling location must be below the Total HAA5 or Total TTHM MCL standard. The charts below show the highest and lowest single values for all sites, and the LRAA of the highest location each quarter.

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.

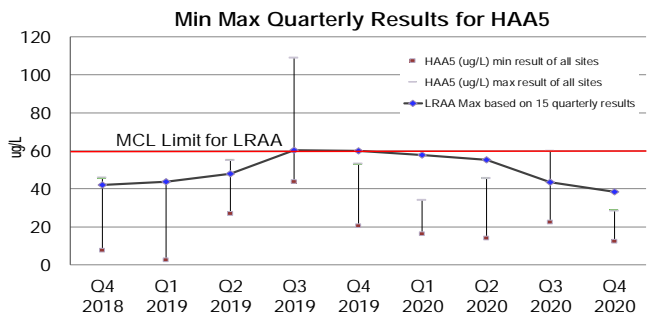
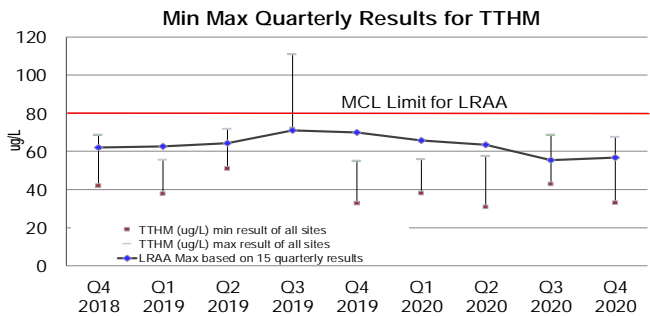
Bromate is tested monthly as required for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA's RAA MCL standard for bromate is 10 µg/L.

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 = 14.3 µg/L; HAA5s = 11.5 µg/L. The current RAA for Bromate = 0.0 µg/L. During the Q4 2019 sampling, one CVA location exceeded an HAA5 Operational Evaluation Level. While this does not result in a violation this requires an analysis and review of their water system and a report to MADEP. No LRAA exceedances or violations occurred this quarter for any of the CVA communities. MWRA and the CVA communities continue to closely monitor and manage the disinfection process to minimize DBP production. 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

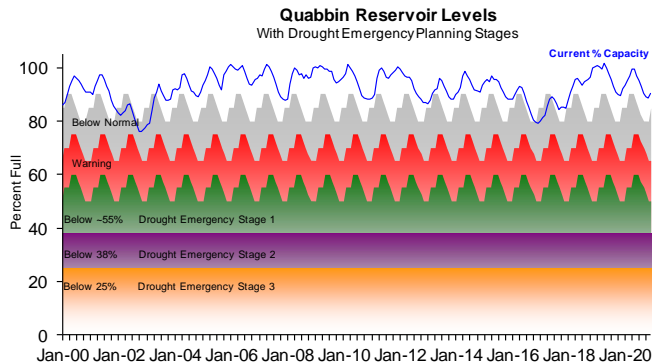
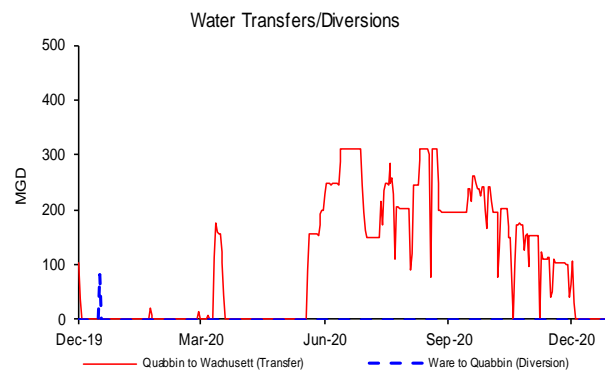
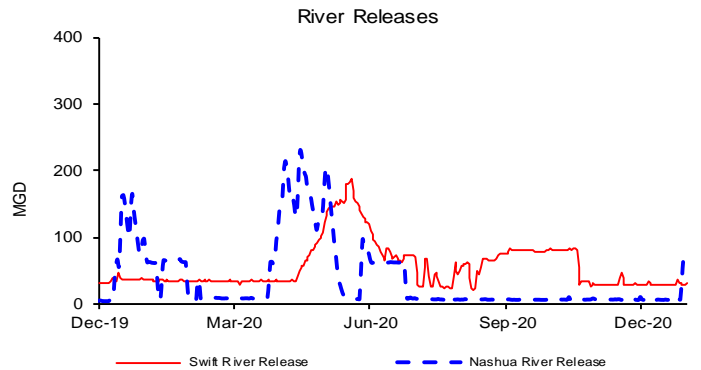
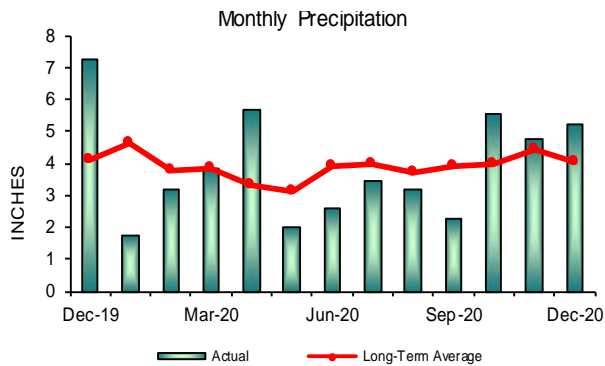
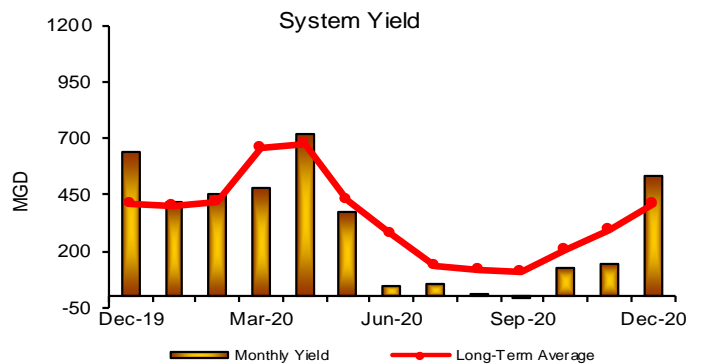
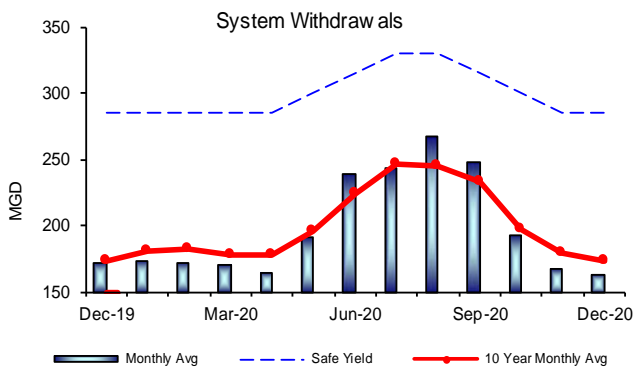
2nd Quarter – FY21

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 90.6% as of December 31, 2020; a 0.4 % increase for the quarter, which represents a gain of 1.73 billion gallons of storage and an increase in elevation of 0.23' for the quarter. System Withdrawal and Yield were below their respective long term quarterly averages. Precipitation was above its long term quarterly average. System stage remains in Normal Operating Range.



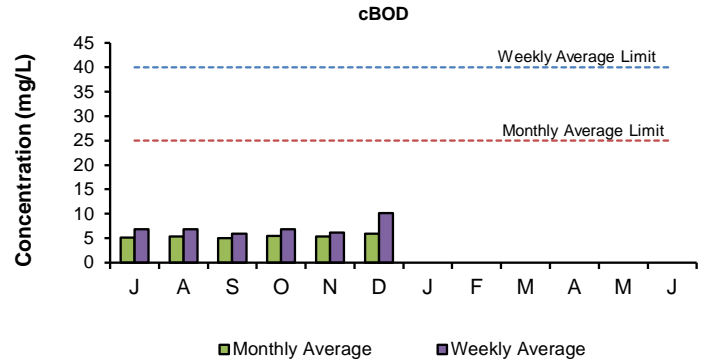
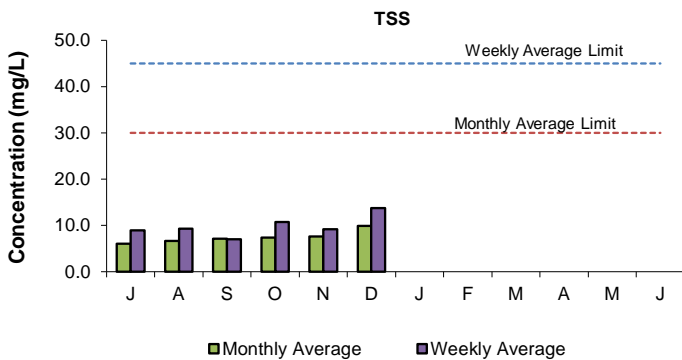
WASTEWATER QUALITY

NPDES Permit Compliance: Deer Island Treatment Plant 2nd Quarter - FY21

NPDES Permit Limits

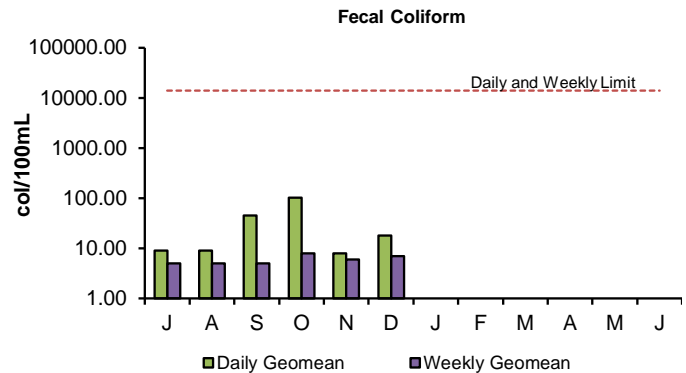
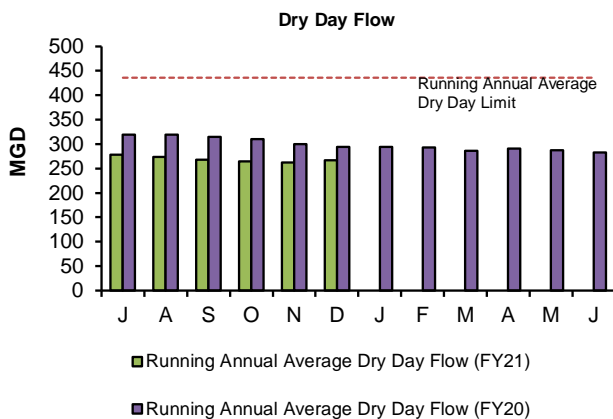
Effluent Characteristics	Units	Limits	October	November	December	2nd Quarter Violations	FY21 YTD Violations	
Dry Day Flow (365 Day Average):	mgd	436	264.8	262.8	267.3	0	0	
cBOD:	Monthly Average	mg/L	5.5	5.4	5.9	0	0	
	Weekly Average	mg/L	6.8	6.2	10.2	0	0	
TSS:	Monthly Average	mg/L	7.4	7.6	9.9	0	0	
	Weekly Average	mg/L	45	10.8	9.2	13.8	0	0
TCR:	Monthly Average	ug/L	456	0.0	0.0	1.1	0	0
	Daily Maximum	ug/L	631	0.0	0.0	33.3	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	102.0	8.0	18.0	0	0
	Weekly Geometric Mean	col/100mL	14000	8.0	6.0	7.0	0	0
	% of Samples >14000	%	10	1.1	0.0	0.0	0	0
	Consecutive Samples >14000	#	3	1.0	0.0	0.0	0	0
pH:	SU	6.0-9.0	6.4-7.1	6.5-6.9	6.4-6.9	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	50	6.3	100	0	0

There have been no permit violations in FY21 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 2nd 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 2nd 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 2nd 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 2nd Quarter, all permit conditions for fecal coliform were met.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant
2nd Quarter - FY21

NPDES Permit Limits

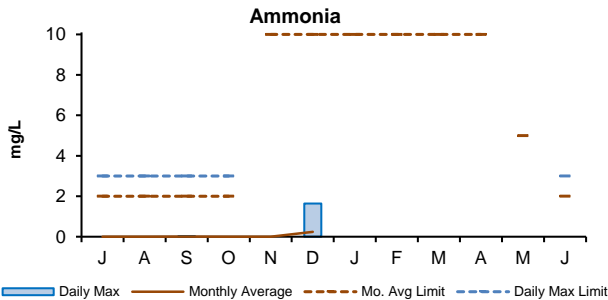
Effluent Characteristics		Units	Limits	October	November	December	2nd Quarter Violations	FY21 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	2.34	2.34	2.35	0	0
BOD:	Monthly Average:	mg/L	20	1.70	1.70	2.50	0	0
	Weekly Average:	mg/L	20	1.90	2.20	2.40	0	0
TSS:	Monthly Average:	mg/L	20	1.10	2.20	5.50	0	0
	Weekly Average:	mg/L	20	2.10	3.40	5.90	0	0
pH:		SU	6.5-8.3	7.2-7.6	7.4-7.8	7.1-7.6	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	8.70	9.30	9.20	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	5	5	6	0	0
	Daily Geometric Mean:	cfu/100mL	409	5	9	16	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	11.10	9.85	7.31	0	0
	Daily Maximum:	ug/L	14.0	11.10	9.85	8.21	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	10.0	0.00	0.00	0.24	0	0
	Daily Maximum:	mg/L	35.2	0.00	0.00	1.64	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	ug/L	1000	72	392	201	0	0
	Daily Maximum:	ug/L	RPT	115	567	281	0	0
Acute Toxicity*:	Daily Minimum:	%	≥100	N/A	N/A	>100	0	0
Chronic Toxicity*:	Daily Minimum:	%	≥62.5	N/A	N/A	100	0	1

There has been one permit violation in FY21 at the Clinton Treatment Plant.

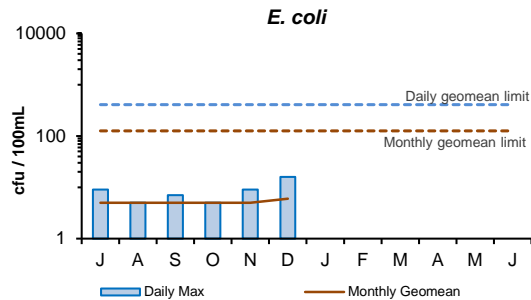
1st Quarter: There was one permit violation in the first quarter. The quarterly chronic toxicity result of 25% was below the minimum permit limit of 62.5%.

2nd Quarter: There were no permit violations in the 2nd Quarter.

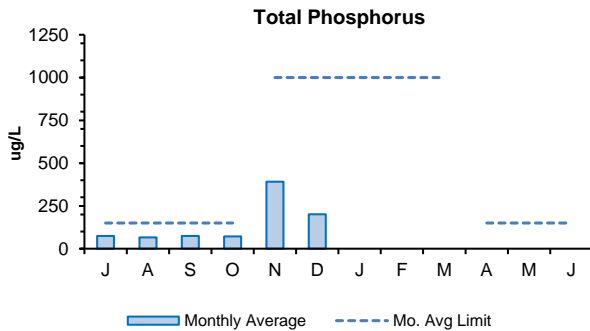
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



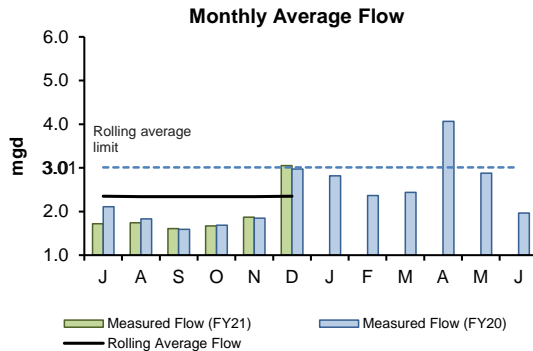
The 2nd Quarter's monthly average and daily maximum concentrations of ammonia were below the permit limits. The monthly average and daily maximum limits for the 2nd Quarter are 2.0 and 3.0 mg/L respectively. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.



E. coli is an indicator for the possible presence of pathogens. There were no violations of permit limits in the 2nd 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 2nd Quarter's monthly average concentrations for total phosphorus were below permit limits.

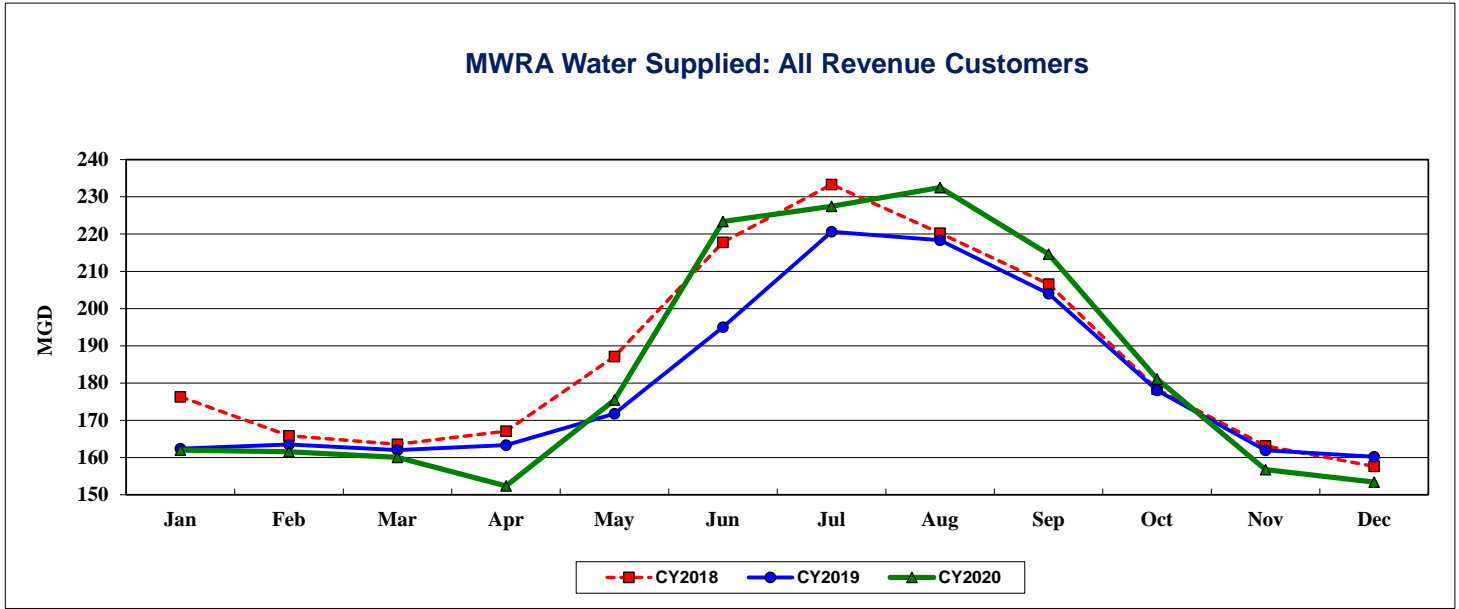


The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 2nd Quarter were below the permit limit.

COMMUNITY FLOWS AND PROGRAMS

Customer Water Use

2nd Quarter - FY21



MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2018	176.29	165.84	163.54	167.06	187.15	217.78	233.32	220.27	206.59	178.34	163.12	157.61	186.55	186.55
CY2019	162.37	163.49	161.98	163.35	171.77	195.02	220.62	218.38	204.00	178.00	161.94	160.21	180.22	180.22
CY2020	162.02	161.55	160.02	152.37	175.43	223.40	227.45	232.50	214.62	181.11	156.73	153.37	183.46	183.46

The December 2020 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 2020 water use will be used to allocate the FY2022 water utility rate revenue requirement.

MWRA customers used an average of 163.8 mgd in the 2nd quarter of FY2021 (Oct-Dec). This is a decrease of 3.0 mgd or 1.8% compared to the 2nd quarter of FY2020.

Community Wastewater Flow

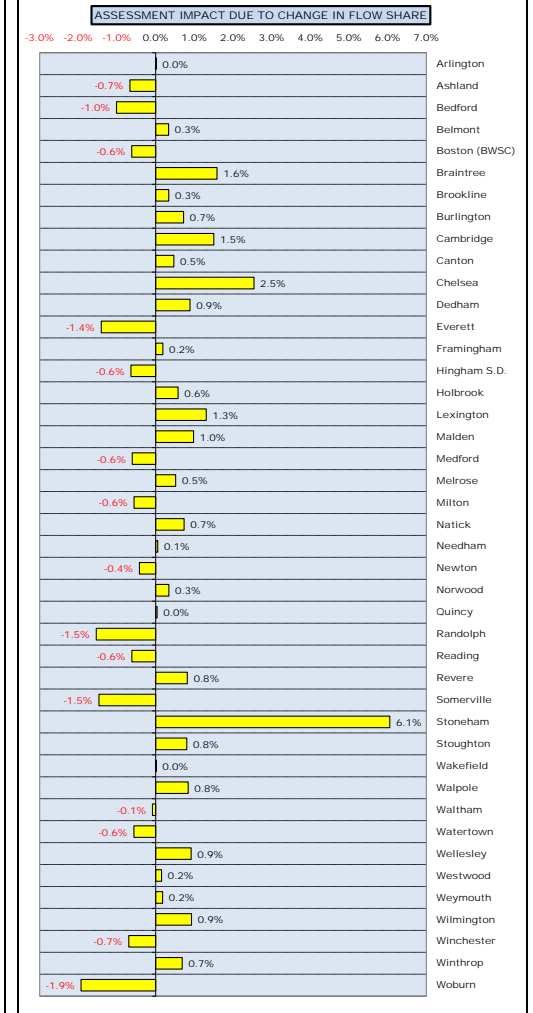
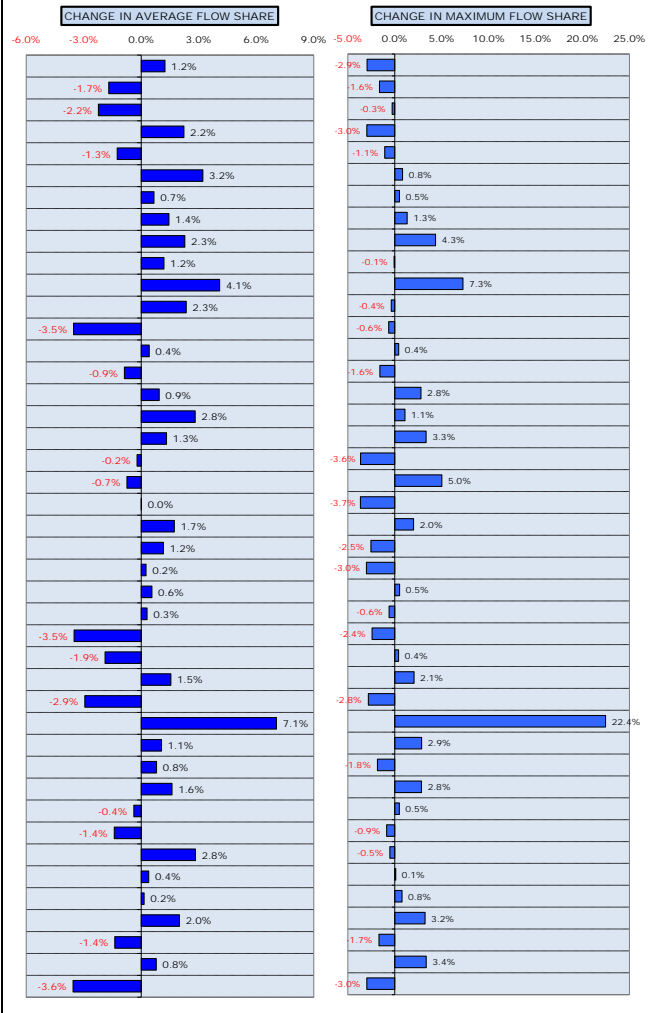
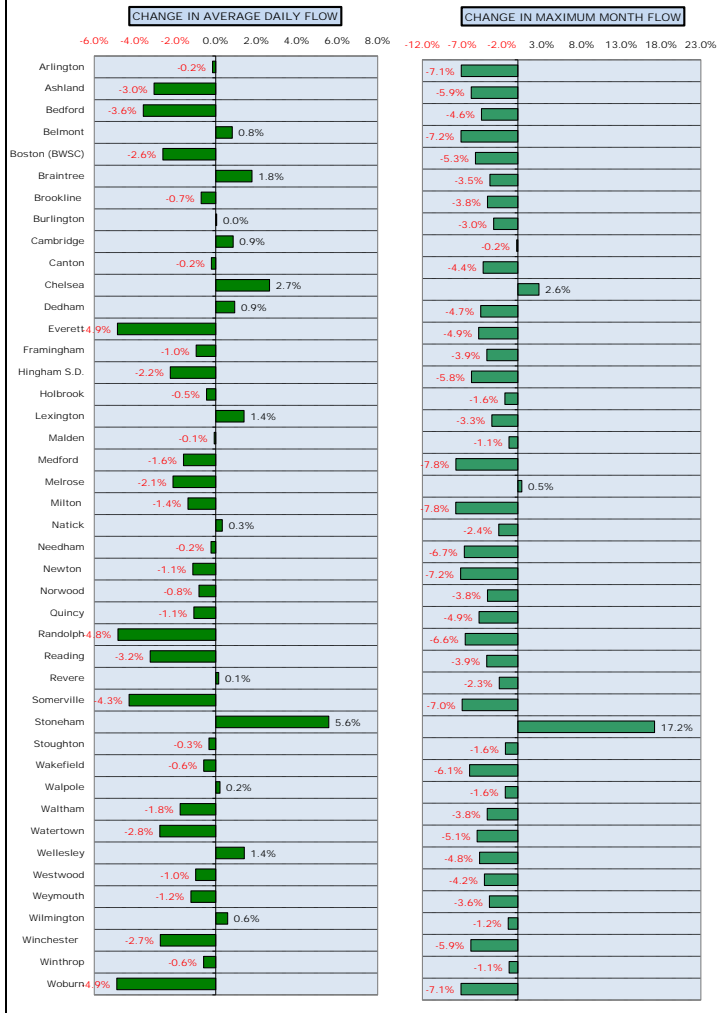
2nd Quarter - FY21

How Projected CY2020 Community Wastewater Flows Could Effect FY2022 Sewer Assessments ^{1,2,3}

The flow components of FY2022 sewer assessments will be calculated using a 3-year average of CY2018 to CY2020 wastewater flows compared to FY2021 assessments that used a 3-year average of CY2017 to CY2019 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 CY2018 to CY2020 flow share compared to CY2017 to CY2019 flow share, compared to all other communities in the system.

The chart below illustrates the change in the **TOTAL BASE** assessment due to **FLOW SHARE CHANGES**. ⁴



¹ MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.
² Based on actual flows for 2017 to 2019, and January to March, and June to December 2020 (as of 02/02/21). April & May 2020 based on the average of three prior years, adjusted for 2020 water use.
³ Flow data is preliminary and subject to change pending additional MWRA and community review.
⁴ Represents **ONLY** the impact on the total BASE assessment resulting from the changes in average and maximum wastewater **FLOW SHARES**.

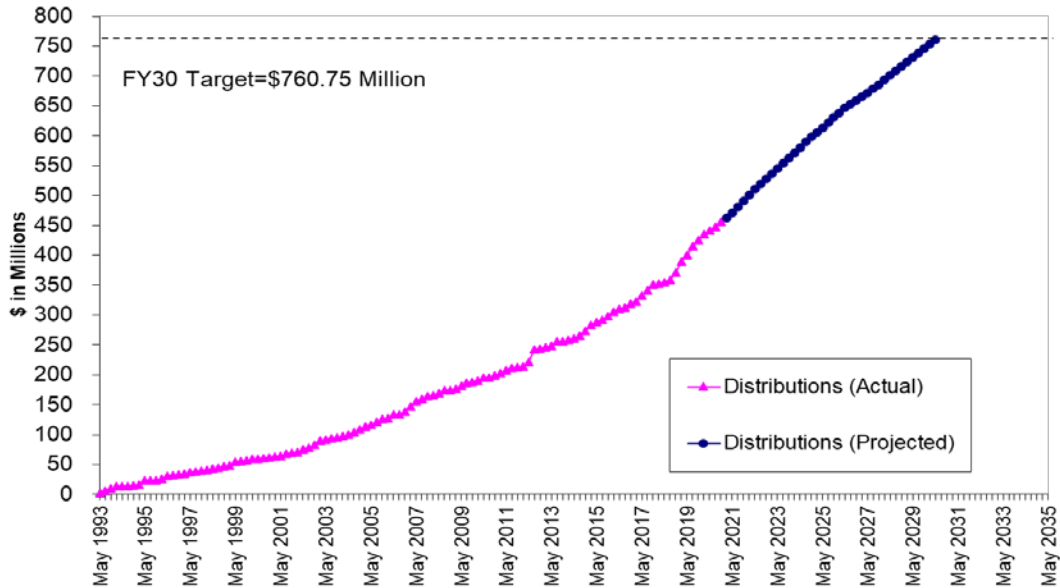
Community Support Programs

2nd Quarter – FY21

Infiltration/Inflow Local Financial Assistance Program

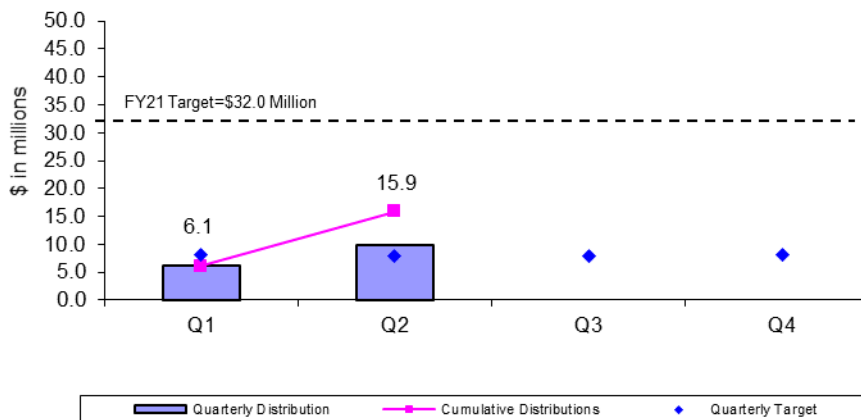
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$760.75 million in grants and interest-free loans (average of about \$20 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned 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 2nd Quarter of FY21, \$9.8 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Belmont, Burlington, Newton, Quincy, Stoughton, and Weymouth. Total grant/loan distribution for FY21 is \$15.9 million. From FY93 through the 2nd Quarter of FY21, all 43 member sewer communities have participated in the program and \$457 million has been distributed to fund 616 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.

FY21 Quarterly Distributions of Sewer Grant/Loans



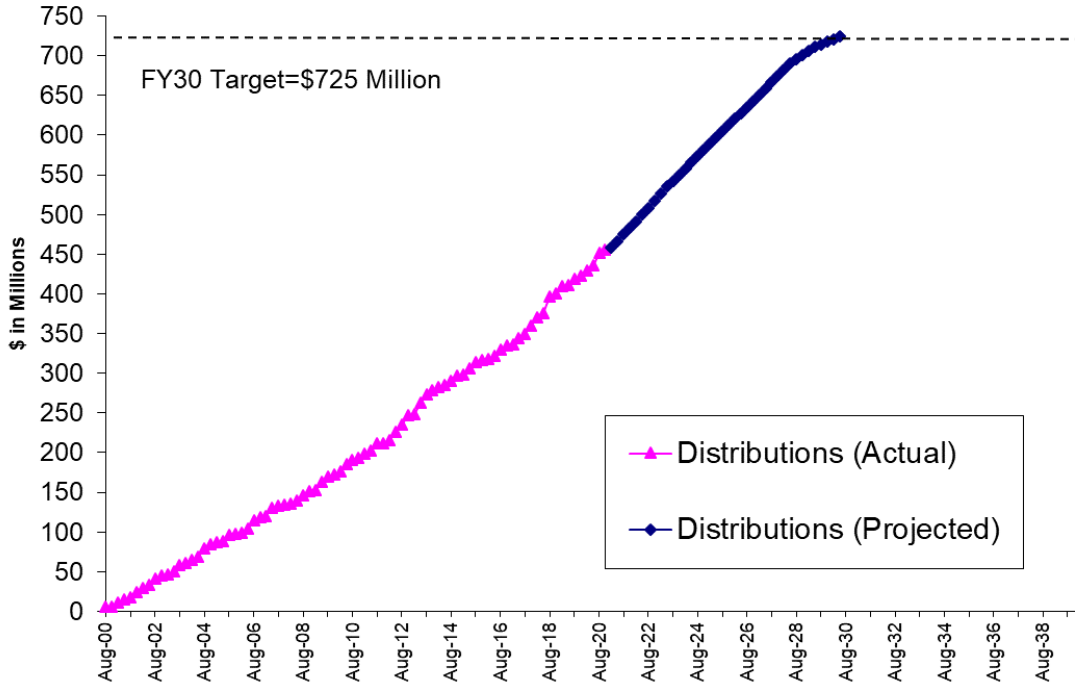
Community Support Programs

2nd Quarter – FY21

Local Water System Assistance Program

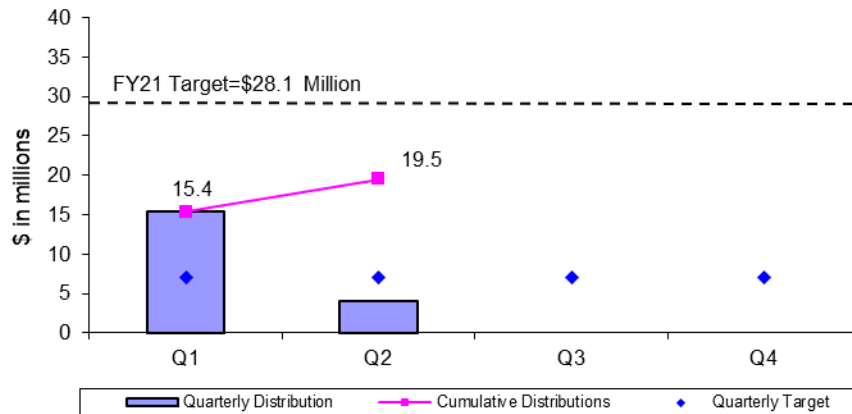
MWRA's Local Water System Assistance Programs (LWSAP) provides \$724 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There 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 2nd Quarter of FY21, \$4.1 million in interest-free loans was distributed to fund local water projects in Malden, Melrose, and Swampscott. Total loan distribution for FY21 is \$19.5 million. From FY01 through the 2nd Quarter of FY21, \$456 million has been distributed to fund 478 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.

FY21 Quarterly Distributions of Water Loans



Community Support Programs

2nd Quarter – FY21

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.

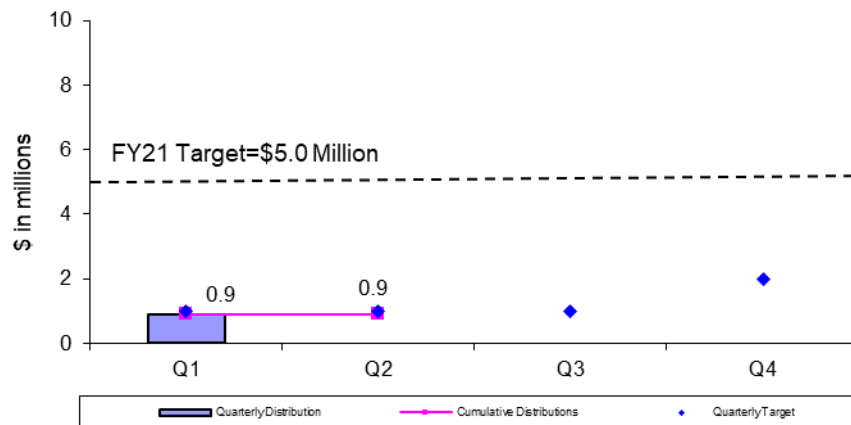
FY20 was the fourth year of the Lead Loan Program - MWRA made eight Lead Loans.

FY21 is the fifth year of the Lead Loan Program – Two Lead Loans were made in Q1 and none in the 2nd quarter.

Summary of Lead Loans:

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
Winthrop in FY18	\$0.3 Million
Marlborough in FY18	\$1.0 Million
Newton in FY17	\$4.0 Million
Quincy in FY17	\$1.5 Million
Winchester in FY17	\$0.5 Million
TOTAL	\$17.6 Million

FY21 Quarterly Distributions of Lead Service Line Replacement Loans

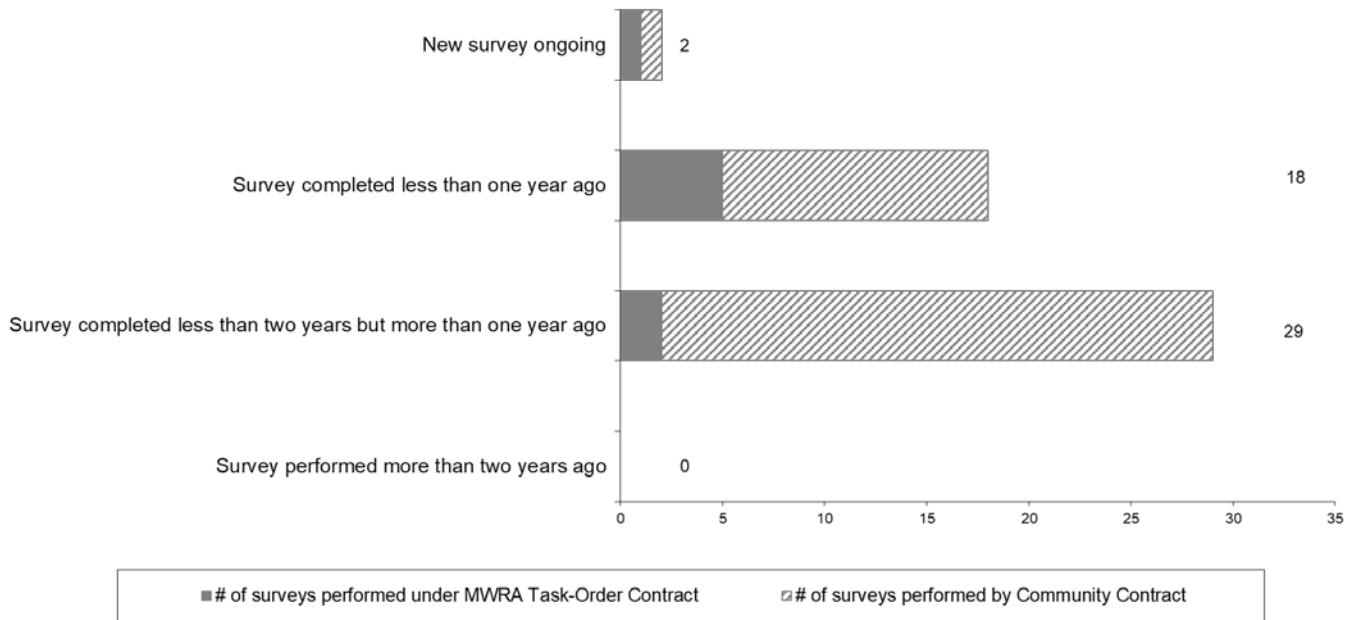


Community Support Programs

2nd Quarter – FY21

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 2nd Quarter of FY21, 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, toilet leak detection dye tabs, and instructions), 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	50,616	18,526			69,142
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	416	576			992
Toilet Leak Detection Dye Tablets	_____	864	279			1,143

BUSINESS SERVICES

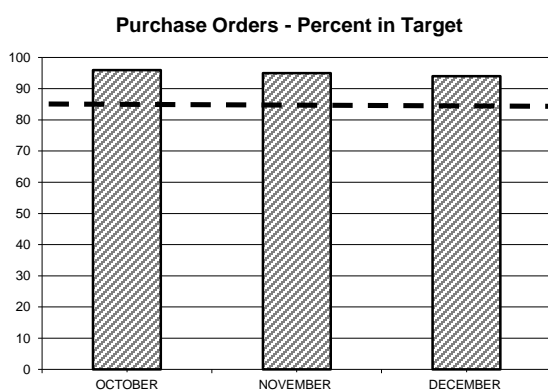
Procurement: Purchasing and Contracts

2nd Quarter - FY21

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

Outcome: Processed 94% of purchase orders within target; Average Processing Time was 4.30 days vs. 4.42 days in Qtr 2 of FY20. Processed 59% (10 of 17) of contracts within target timeframes; Average Processing Time was 183 days vs. 116 days in Qtr 2 of FY20.

Purchasing



	No.	TARGET	PERCENT IN TARGET
\$0 - \$500	678	3 DAYS	92.1%
\$500 - \$2K	678	7 DAYS	97.0%
\$2K - \$5K	433	10 DAYS	96.9%
\$5K - \$10K	65	25 DAYS	83.0%
\$10K - \$25K	47	30 DAYS	81.2%
\$25K - \$50K	11	60 DAYS	81.8%
Over \$50K	21	90 DAYS	90.4%

The Purchasing Unit processed 1933 purchase orders, 31 more than the 1902 processed in Qtr 2 of FY20 for a total value of \$10,379,019 versus a dollar value of \$10,770,038 in Qtr 2 of FY20.

The purchase order processing target was not met for the \$5K-\$10K category due to sourcing requirements and end user evaluations; the \$10K-\$25K category due to end user evaluations and the \$25K-\$50K due to end user evaluations and staff summary requirements.

Contracts, Change Orders and Amendments

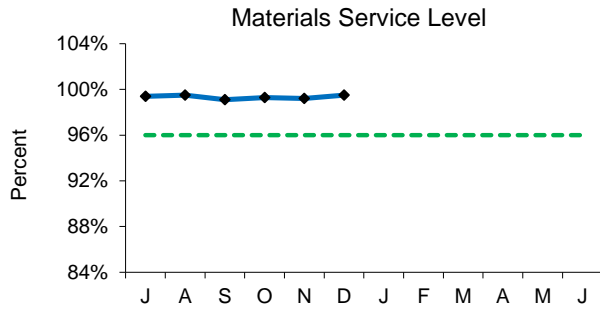
Procurement processed seventeen contracts with a value of \$46,987,732 and seven amendments with a value of \$453,365. Twenty five change orders were executed during the period. The dollar value of all non-credit change orders during Qtr 2 was \$32,396,667 and the value of credit change orders was (\$1,597,165).

Seven contracts were not processed within the target timeframes. One contract was delayed due to delays in finalizing the scope and delays in obtaining signatures from the consultant for E-tables. Another contract was delayed due to changes in the scope resulting in new specifications being added to the bid document for additional work as well as to account for new Covid-19 health and safety standards and guidelines. Several contracts were delayed due to revisions to specifications to account for new Covid-19 health and safety standards and guidelines. A fifth contract was delayed due to the need to add a Covid-19 related allowance, in addition to clarifying the Covid-19 health and safety specifications. This resulted in the need to re-bid the project. Another contract was delayed due to COVID-19 closures and the transition from a paper based procurement process to the Supplier Portal. The final contract was delayed due to the need to obtain corrected compensation tables in addition to delays due to the prioritization of staff assignments.

Staff reviewed 53 proposed change orders and 34 draft change orders.

Materials Management

2nd Quarter - FY21



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 8,647 (99.3%) of the 8,708 items requested in Q2 from the inventory locations for a total dollar value of \$1,601,726.

Inventory Value - All Sites

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 FY21 goal is to reduce consumable inventory from the July '20 base level (\$8.8 million) by 2.0% (approximately \$176,369), to \$8.6 million by June 30, 2021 (see chart below).

Items added to inventory this quarter include:

- Deer Island – pressure switches, flowmeters, solenoid valves, air regulators, gaskets and filter elements for I&C; LED wall mount fixtures, sheaves, butterfly valves, sump pump, brackets and starter motors for Maintenance; air filters, fuel additive and snow blow edges for Fleet Services; chemical gloves for Safety; disinfecting wipes and masks for Pandemic.
- Chelsea – circuit breakers and lugs for Electrical; face masks and sanitizer for Pandemic; expandable bars and support braces for Metering; toner cartridges for Security; air cabin filters and disinfectant for Fleet Service; air filters for HVAC.
- Southboro – disinfectant wipes for Pandemic; gas probes probe repair kits for Safety; sump pumps for Mechanical.

Property Pass Program:

- Seven audits were conducted during Q2.
- Scrap revenue received for Q2 amounted to \$18,756. Year to date revenue received amounted to \$30,247.
- Revenue received from online auctions held during Q1 amounted to \$79,046. Year to date revenue received amounted to \$145,463.

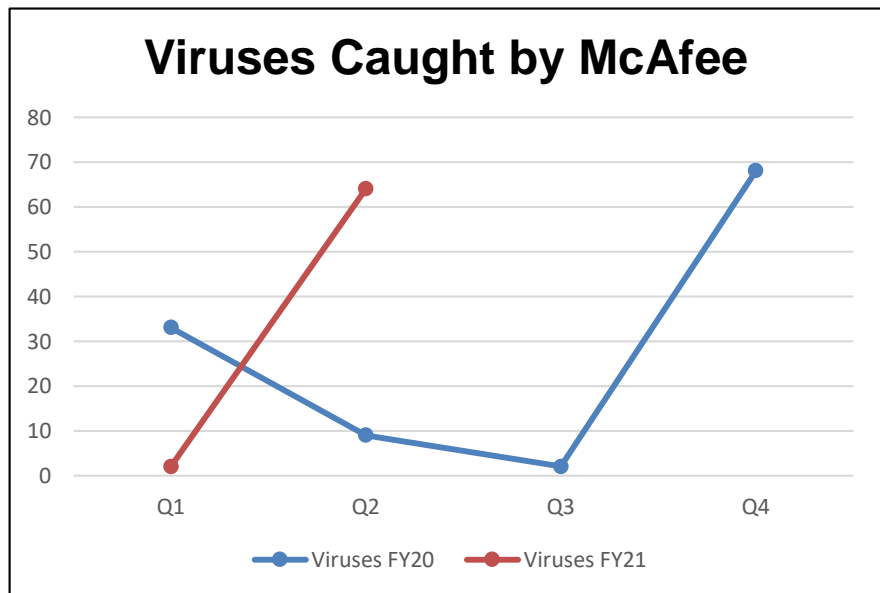
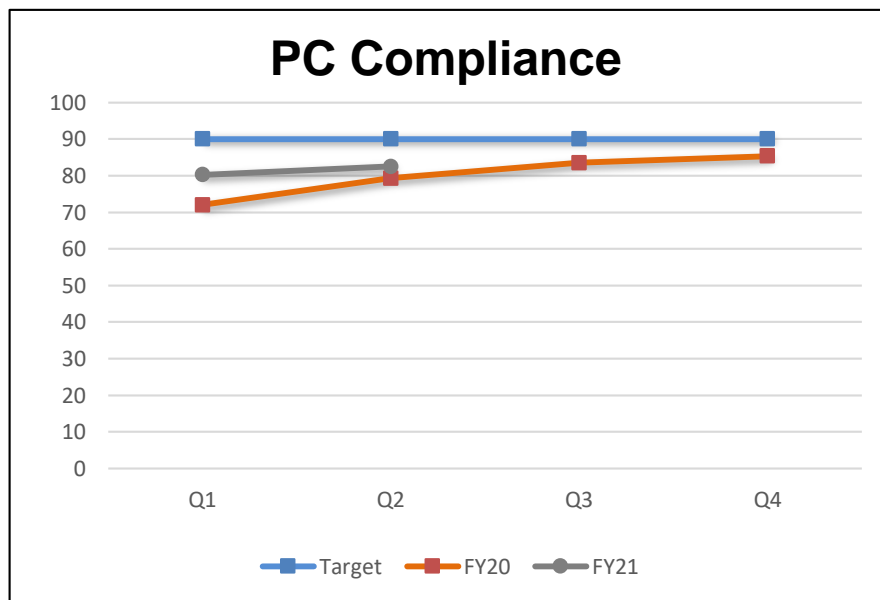
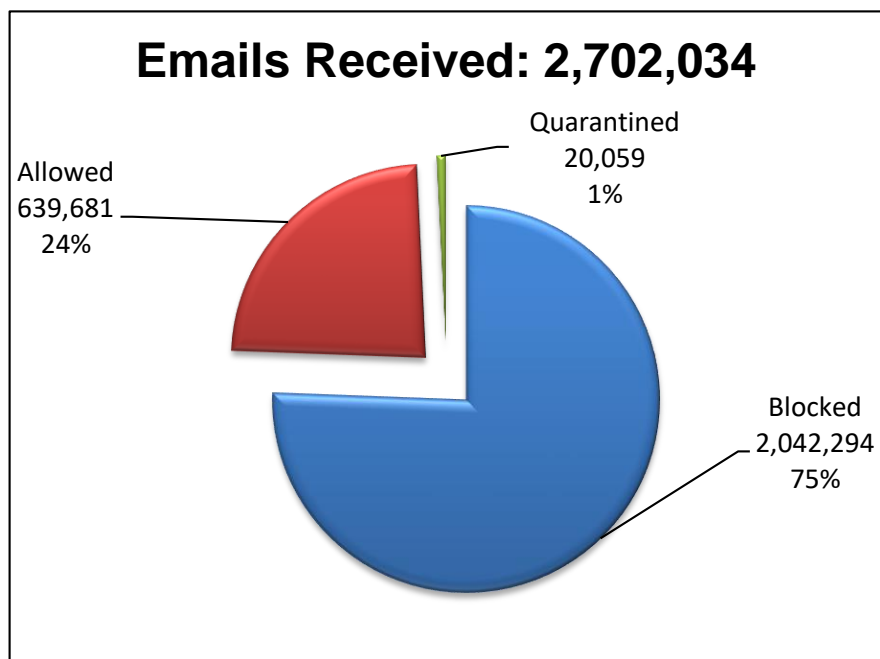
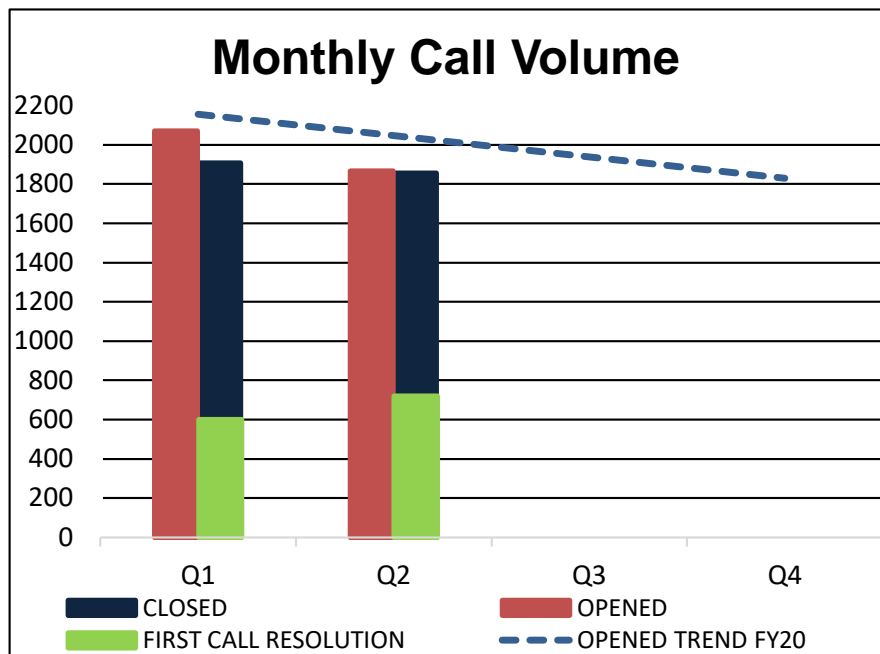
Items	Base Value July-20	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	8,818,459	8,862,865	44,406
Spare Parts Inventory Value	8,797,946	9,394,946	597,000
Total Inventory Value	17,616,405	18,257,811	641,406

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

Second Quarter – FY21

Numbers & Statistics



Project Updates

Infrastructure & Security

AWIA Risk and Resiliency Assessment: Remediation work continued this quarter to resolve any identified vulnerabilities from the AWIA RRA; at the end of the quarter, 60% of the identified tasks were "Completed"; 19% were "In Progress"; and 21% were identified as longer term projects.

Audio Visual Upgrades: Completed all upgrades.

PBX (Telephone System) Upgrade: Scope of work and required services for the project continue to be refined and rewritten for reposting

Cyber Security: The following was completed in Q2:

- Final testing of the security improvements for passwords was completed, implementation scheduled for Q3.
- Rollout of multi-factor authentication (MFA) to teleworkers continued on schedule, to be completed in Q3.
- Cyber Security raining began in Dec. with a new provider, Proofpoint. At the end of the quarter 25% of 900+ employees had started or completed their assignments.

Maximo, Lawson & PI

Infor Lawson Upgrade: Upgrade to Infor v11 and associated modules only available as a SaaS option. MIS is in the process rewriting the SOW to include these new requirements.

Maximo-PI Interface: Interface testing was successful. Source code ready for production.

PI – Buoy 5: Vendor DLL is working on resolution of identified issues regarding the successful processing of PI Buoy5 data.

Other Software & Custom Applications

ECM/Electronic Document Management: Completed final bidder demonstrations and selection committee scoring. Staff Summary completed and received Board of Directors approval in December meeting.

COVID Self-Certification: Refined a prototype of a COVID Self Certification web form based on the MWRAs paper form. Explored phone call-in service options as a partial solution for staff without smartphones or external web access. Began User Acceptance testing of the prototype and procurement of the phone system

Visitor Management Application: Server built, technical and business requirements identified and documented. Anticipated installation in February.

Learning Management System (LMS): Set up accounts in Test, Dev, and Training environments. Statement of Work (SOW) draft under review.

Discoverer to SAP-BO: MWRA met with vendor to provide feedback on 2 of 5 reports that have been completed.

Library, Record Center, & Training

Library: Supported 120 support requests for research assistance and resources including books, articles, and standards. Research topics included: Wachusett Dam Promenade historical data, grant funding for infrastructure projects, historic standards for internal audit, digital access for employees working from home (periodicals, books, etc.), and international wastewater utilities management of natural disasters.

Record Center (RC): Completed its relocation of all boxes and drawings, to our new location in Walpole MA. Ongoing services included adding 66 new boxes and analyzed or transferred 120 total boxes. The RC manager attended 2 virtual RCB meetings. The RC shredded on site, Nine - 65gallon bins of confidential documentation.

Training: In Q2, 10 online IT lessons were taken (17 YTD), by 6 employees (12 YTD), spanning 22 hours (33 YTD). Online Training LinkedIn Learning licenses were upgrade for enterprise-wide access for all classes. Created job aids on the following topics: how to add users to Linked In, How to switch from a free Webex account to a paid one, and how to download and install Webex Teams.

Legal Matters

2nd Quarter - FY21

PROJECT ASSISTANCE

Real Estate, Contract, Environmental and Other Support:

- **8(m) Permits:** Reviewed eighty-eight (88) 8(m) permits.
- **Real Property:** Reviewed City of Boston and Commonwealth water takings and deeds for properties adjacent to a portion of the Sudbury Aqueduct property interest that runs behind 701 Beacon Street, 693 Beacon Street, and 251 Grant Avenue in Newton between Grant Avenue and Dalton Road and reviewed and revised notification letter notifying abutters of MWRA's survey work in that portion of the Sudbury Aqueduct. Reviewed and revised permit template for the installation, operation, and maintenance of wireless equipment by public entities at MWRA's Turkey Hill water tank facility in Arlington and reviewed changes to AT&T's permit for the placement of wireless equipment on MWRA's Walnut Hill water tank facility in Lexington. Prepared four draft notice of offers related to the acquisition of proposed temporary easements for MWRA Contract 7540/7541 – Water Sections 50/57 Rehabilitation - Medford. Reviewed property rights for sewer section 6 in Winthrop and sewer section 7 in East Boston near Belle Isle related to the Mary Ellen Welch Greenway Extension. Reviewed MWRA's property rights for Deer Island. Revised documents related to Alta Langwood's release of easements and reduction of easement burdening MWRA's Spot Pond Covered Storage Parcel in Stoneham, MA. Reviewed and revised denial of 8(m) permit application for 251 Grant Avenue seeking to perform construction in Sudbury Aqueduct property interest and denial of JKB Inc.'s (Auto Bright car wash in Framingham) request for reduction of its fee for 8(m) permit 2185. Revised draft legislation for the release of certain easements burdening 777 Dedham Street in Canton. Summarized MWRA's right of first refusal in the Chelsea lease. Recorded Certificate of Compliance for Order of Conditions 297-0383 at Middlesex South Registry of Deeds related to MWRA Contract No. 7067 in Stoneham.
- **Sewer Connection Agreement:** Reviewed sewer connection agreement between MWRA and Parrish Family, LLC/Crescent Ridge Dairy, Inc., which is located in the Town of Sharon, allowing for Parrish Family, LLC/Crescent Ridge Dairy, Inc.'s sewer connection to the Town of Stoughton's sewer system.
- **Environmental:** Advised on blending notification letter to regulators and DOJ related to a dry weather-blending event on October 19, 2020. Drafted memoranda related to two (2) separate U.S. First Circuit Court of Appeals' decisions relative to appeals of nitrogen limits in NPDES permits issued in Massachusetts.
- **Legislation:** Reviewed and drafted memoranda on sections 46, 47, 68, 75, 76, 77, 78, 79 and 92 of Governor Baker's revised budget.
- **Public Records Requests:** During the second quarter of FY 2021, MWRA received and responded to one hundred thirty seven (137) public records requests.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

One demand for arbitration was filed.

A charge was filed at the Massachusetts Commission Against Discrimination alleging that the MWRA discriminated against an employee on the basis of his age and retaliation when he was not selected for a position.

Matters Concluded

The Massachusetts Department of Labor Relations dismissed a charge of prohibited practice alleging the MWRA violated Chapter 150E when it unilaterally began deductions for paid medical and family leave under Chapter 175M without bargaining to impasse. (MWRA and MOSES: SUP-20-8101 - Paid Medical Family Leave Act)

Decision in favor of former employee who did not timely renew her employment authorization card in an appeal of the denial of unemployment benefits at the Department of Unemployment Assistance. (DUA – Mate)

LITIGATION/CLAIMS

New lawsuits/claims: There are no new lawsuits or claims to report.

Significant

Developments

MWRA v. NEL Corp., Dewberry, et al., C.A. No. 18-CV-01156-BLS1

The parties continue to take the depositions of various witnesses involved in the dispute.

MWRA v. Bharat Bhushan, et al., C.A. No. 19-CV-03586

On November 4, 2020, the defendants filed their answer to MWRA's complaint.

(Former Employee) v. MWRA, C.A. No. 19-CV-01847:

The Court extended tracking order deadlines.

Closed Cases:

J. D'Amico, Inc. v. MWRA v. Green International Assoc. Inc., C.A. No. 17-CV-04097

A Stipulation of Dismissal was filed with the Suffolk Superior Court on November 25, 2020.

Closed Claims:

There are no closed claims to report.

Subpoenas

During the Second Quarter of FY 2021, no subpoenas were received and no subpoenas were pending at the end of the Second Quarter FY 2021.

**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 Dec 2020	As of Sept 2020	As of June 2020
Construction/Contract/Bid Protest (other than BHP)	1	2	2
Tort/Labor/Employment	3	3	3
Environmental/Regulatory/Other	2	2	2
Eminent Domain/Real Estate	0	0	0
Total	6	7	7
Other Litigation matters (restraining orders, etc.)	2	2	2
Total – all pending lawsuits	8	9	9
Claims not in suit:	0	0	0
Bankruptcy	1	1	1
Wage Garnishment	2	2	2
TRAC/Adjudicatory Appeals	0	0	0
Subpoenas	0	0	0
TOTAL – ALL LITIGATION MATTERS	11	12	12

TRAC/MISC.

New Appeals: There are no new appeals in the 2nd Quarter FY 2021.

Settlement by Agreement of Parties There are no Settlement by Agreement of Parties in the 2nd Quarter FY 2021.

Stipulation of Dismissal No Joint Stipulation of Dismissals filed.

**Notice of Dismissal
Fine paid in full** No Notices of Dismissal, Fine Paid in Full.

Tentative Decision There are no Tentative Decisions issued in the 2nd Quarter FY 2021.

Final Decisions There are no Final Decisions issued in the 2nd Quarter FY 2021.

INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES
2nd Quarter - FY21

Highlights

During the 2nd quarter FY21, Internal Audit (IA) completed the review of costs incurred on the new cross-harbor cable and the proposed revenue requirements with Harbor Electric Energy Company (HEEC), following various adjustments to costs and the revenue requirements. A review was conducted on the revenues earned by the Operator of the railroad and the share of revenues paid to Fore River Railroad Corporation, as well as verifying maintenance expenses. Support was provide for the pricing for the pellet plant contract extension and the amendment has been executed.

IA also completed preliminary reviews of 3 professional service contracts and 3 preliminary labor burden reviews. Support to staff continues on the Return to Work Guidance and internal reviews of overhead crane inspections and safety training is progressing.

Status of Recommendations

During FY21, 8 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
Fleet Services Process Review (6/30/18)	1	4	5
Fuel Use & Mileage Tracking (12/31/18)	3	5	8
Asset Tracking – Fleet Data Verification (8/21/19)	2	14	16
Fleet Services Non-Plated Equipment Inspections (3/30/20)	9	6	15
Total Recommendations	15	29	44

Cost Savings

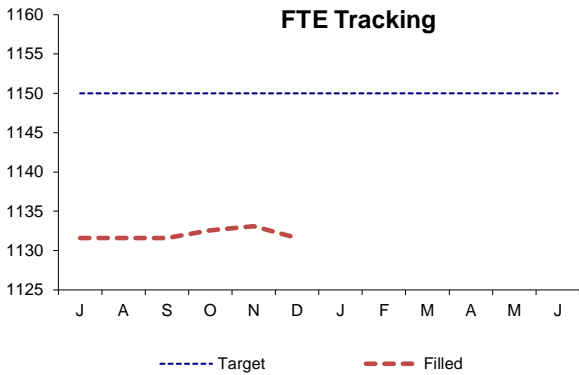
IA's target is to achieve at least \$1,000,000 in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of prior years' audits.

Cost Savings	FY17	FY18	FY19	FY20	FY21 Q2	TOTALS
Consultants	\$272,431	\$118,782	\$262,384	\$643,845	\$200,255	\$1,497,697
Contractors & Vendors	\$3,037,712	\$1,323,156	\$3,152,884	\$2,097,729	\$1,441,495	\$11,052,976
Internal Audits	\$224,178	\$204,202	\$210,063	\$212,517	\$105,884	\$956,844
Total	\$3,534,321	\$1,646,140	\$3,625,331	\$2,954,091	\$1,747,634	\$13,507,517

OTHER MANAGEMENT

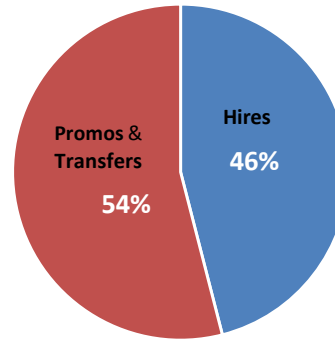
Workforce Management

2nd Quarter - FY21

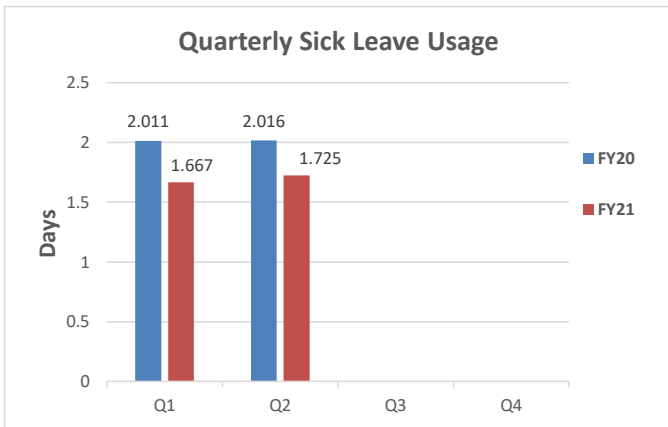


FY21 Target for FTE's = 1150
 FTE's as of December 2020 = 1131.6
 Tunnel Redundancy as of Dec 2020 = 7.0

Position Filled by Hires/Promos & Transfer for YTD



	Pr/Trns	Hires	Total
FY19	112 (60%)	76 (40%)	188
FY20	84 (59%)	58 (41%)	142
FY21	37 (54%)	32 (46%)	69

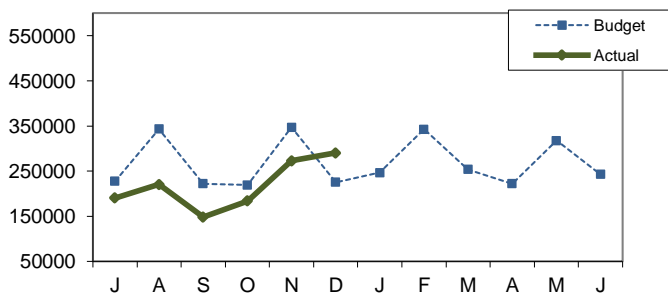


Sick leave usage in 2nd Quarter of FY21 is lower than usage in the 2nd Quarter of FY20.

	Number of Employees	YTD (usage to date)	Annualized Total	Annual FMLA %	FY20
Admin	138	2.43	4.87	20.7%	6.48
Aff. Action	6	1.97	3.94	0.0%	6.42
Executive	4	1.30	2.60	0.0%	1.81
Finance	34	1.78	3.56	0.0%	4.09
Internal Audit	6	0.23	0.47	0.0%	5.08
Law	14	3.09	6.18	16.7%	6.71
OEP	4	0.50	1.00	0.0%	1.00
Operations	926	3.70	7.40	24.8%	7.27
Tunnel Redundancy	7	0.94	1.88	0.0%	4.93
Public Affairs	11	0.54	1.08	0.0%	7.96
MWRA Avg	1150	3.39	6.78	23.8%	6.94

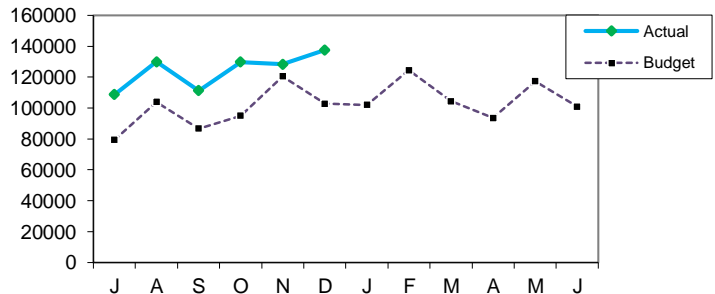
Percent of sick leave usage for FY21 attributable to Family and Medical Leave Act (FMLA) is 23.8%

Field Operations Current Month Overtime \$



Total Overtime for Field Operations for the second quarter of FY21 was \$779k which is (\$45k) under budget. Emergency overtime was \$351k, which is (\$59k) under budget. Rain events totaled \$240k, Emergency Maintenance was \$40k and Snow Removal was \$28k. Coverage overtime was \$157k which is \$17k over budget, reflecting the month's shift coverage requirements. Planned overtime was \$225k or (\$4k) under budget with combined spending of \$103k for Maintenance, \$50k for Half Plant and \$48k for Planned Ops.

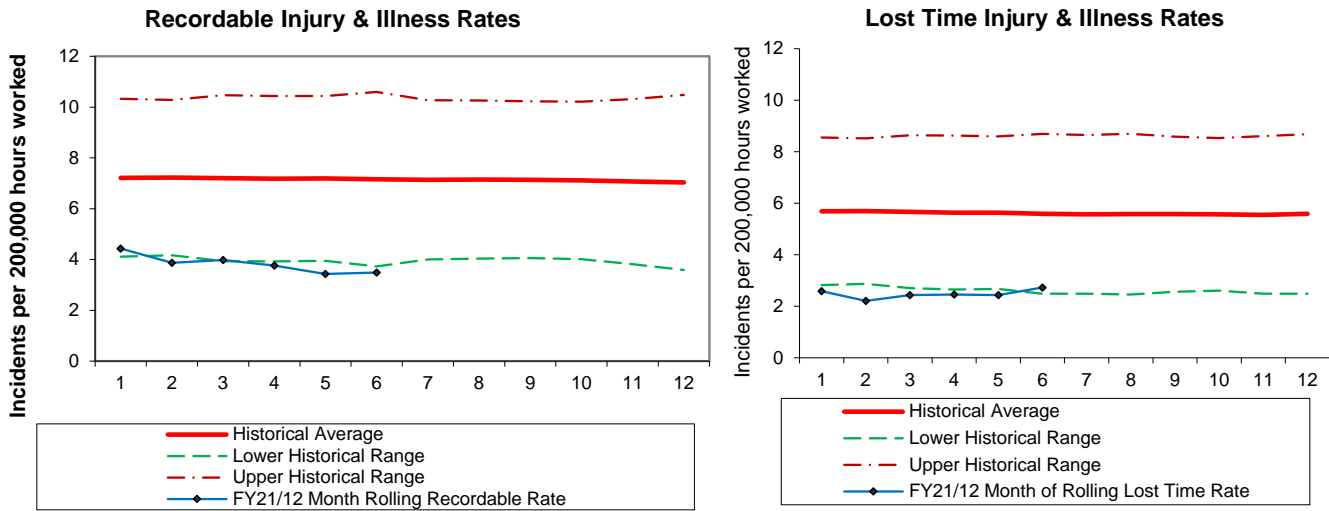
Deer Island Treatment Plant Current Month Overtime \$



Deer Island's total overtime expenditure second quarter was \$396K, which was \$77k or 24.3% over budget. In the second quarter, Deer Island experienced higher than anticipated storm coverage of \$32k, shift coverage of \$23k and planned/unplanned overtime of \$23k. YTD Deer Island's overtime spending is \$746K, which is \$157k or 26.7% over budget due to higher than anticipated shift coverage of \$92k, planned/unplanned overtime of \$37k, and storm coverage of \$28k. During October, Eversource conducted 4 days of annual maintenance on the HEEC cable which accounted for \$27k of the overspending for the year. COVID-19 OT has accounted for \$17k for the year.

Workplace Safety

2nd Quarter - FY21



- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.
- 2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness. Each month this rate is calculated using the previous 12 months of injury data.
- 3 The "Historical Average" is computed using the actual MWRA monthly incident rates for FY99 through FY21. The "Upper" and "Lower Historical Ranges" are computed using these same data – adding and subtracting two standard deviations respectively.
- 4 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

	2nd Quarter Information		Open Claims
	New	Closed	
Lost Time	8	7	56
Medical Only	14	11	20
Report Only	17	17	
	QYTD		FYTD
Regular Duty Returns	3		7
Light Duty Returns	0		0
Indemnity payments as of Decembe 31 2020 included in open claims listed			21

COMMENTS:

Regular Duty Returns

OCT	1	Employees returned to full duty/no restrictions
NOV	0	Employees returned to full duty/no restrictions
DEC	2	Employees returned to full duty/no restrictions

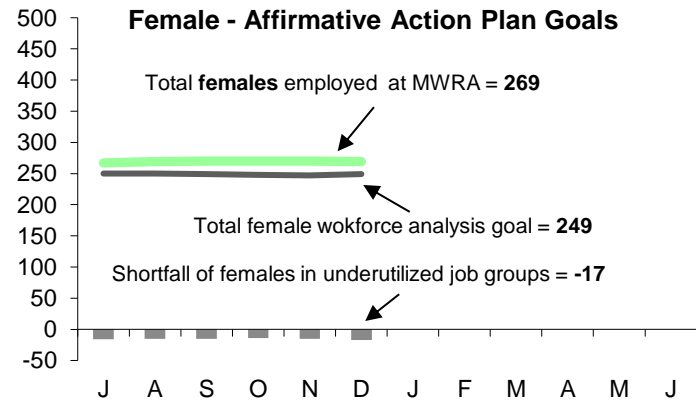
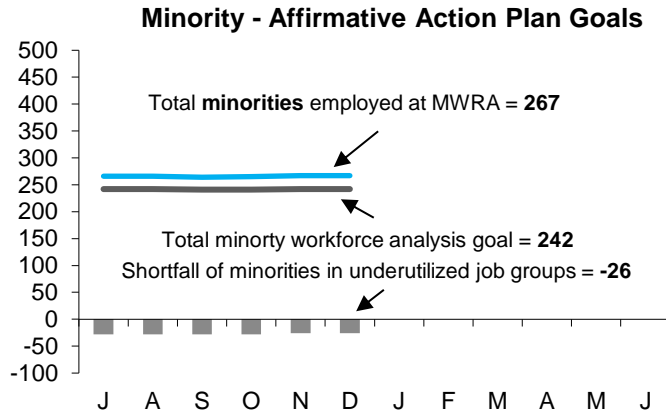
Light Duty Returns

OCT-NOV-DEC-->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.

MWRA Job Group Representation 2nd Quarter - FY21



Highlights:

At the end of Q2 FY21, 6 job groups or a total of 26 positions are underutilized by minorities as compared to 6 job groups for a total of 32 positions at the end of Q2 FY20; for females 6 job groups or a total of 17 positions are underutilized by females as compared to 7 job groups or a total of 25 positions at the end of Q2 FY20. During Q2, 5 minority and 2 females were hired. During this same period 1

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 12/31/2020	Minorities as of 12/31/2020	Achievement Level	Minority Over or Under Underutilized	Females As of 12/31/2020	Achievement Level	Female Over or Under Underutilized
Administrator A	23	3	3	0	12	6	6
Administrator B	22	0	6	-6	6	6	0
Clerical A	30	11	6	5	27	22	5
Clerical B	24	8	7	1	4	7	-3
Engineer A	85	24	19	5	20	19	1
Engineer B	61	21	16	5	14	10	4
Craft A	114	15	23	-8	0	4	-4
Craft B	143	23	24	-1	3	5	-2
Laborer	73	22	17	5	5	3	2
Management A	93	22	23	-1	33	32	1
Management B	41	10	5	5	9	9	0
Operator A	64	4	13	-9	2	4	-2
Operator B	71	21	11	10	3	1	2
Professional A	31	4	5	-1	21	13	8
Professional B	167	48	41	7	81	74	7
Para Professional	48	15	12	3	22	27	-5
Technical A	55	14	10	4	7	6	1
Technical B	5	2	1	1	0	1	-1
Total	1150	267	242	51/-26	269	249	37/-17

AACU Candidate Referrals for Underutilized Positions

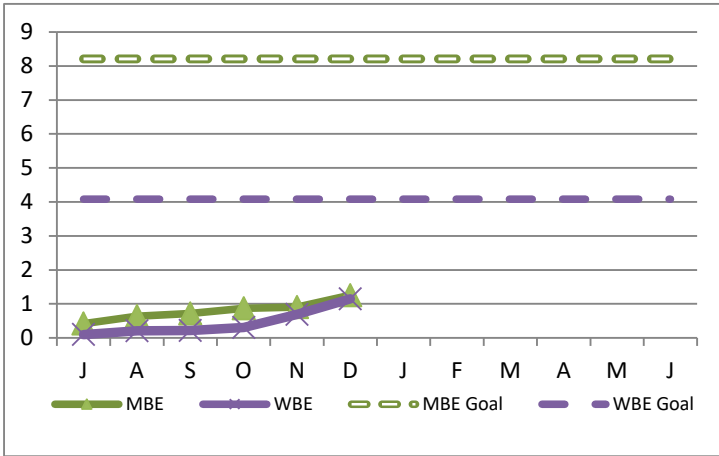
Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/Transfers	AACU Ref. External	Position Status
Engineer A	Sr. Civil Engineer	1	Int/Ext	1	0	Promo = WM
Engineer A	District Supervisor	1	Int.	1	0	Promo = WM
Engineer A	Program Manager, Ops Engineering	1	Int.	1	0	Promo = WM
Engineer A	Environmental Manager	1	Int/Ext	0	0	NH = WM
Engineer A	Manager, Western Maintenance	1	Int/Ext	0	0	NH = WM
Craft A	Electrical Operations Supervisor	1	Int.	1	0	Promo = WM
Craft A	Unit Supervisor, Mech Cert	1	Int.	1	0	Promo = WM
Craft A	M & O Specialist	3	Int/Ext	1	0	NH = (1WM) (1HM) Promo = WM
Craft B	Electrician	1	Ext.	0	0	NH = BM
Management B	Area Manager	1	Int.	1	0	Promo = WM
Management B	Shift Operations Manager	1	Int.	1	0	Promo = BM
ParaProfessional	Planning/Scheduling Coord.	1	Int.	1	0	Promo = WM
Professional A	Sr. Contract Administrator	2	Int.	2	0	Promo = (1TF) (1WF)
Professional A	Sr. Staff Counsel	1	Ext.	0	0	NH = WF
Technical B	Field Inspector, Water/Wastewater	1	Int.	1	0	Promo = WM

MBE/WBE Expenditures 2nd Quarter - FY21

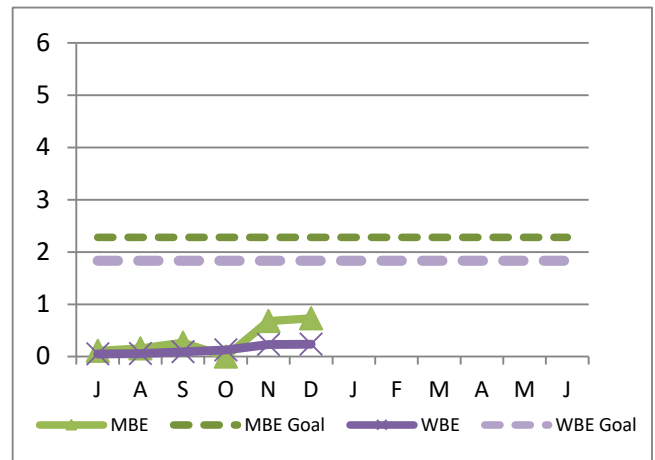
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY21 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they 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 December.

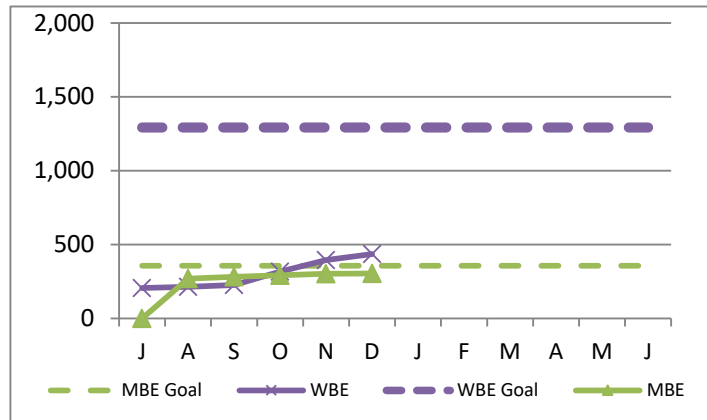
Construction



Professional Services



Goods/Services



FY21 spending and percentage of goals achieved, as well as FY20 performance are as follows:

MBE					WBE			
FY21 YTD		FY20			FY21 YTD		FY20	
Amount	Percent	Amount	Percent		Amount	Percent	Amount	Percent
1,256,111	15.3%	3,641,145	45.6%	Construction	1,148,908	28.1%	2,446,388	61.7%
730,769	32.1%	2,322,007	111.9%	Prof Svcs	234,697	12.8%	942,850	56.6%
304,315	85.3%	340,656	94.1%	Goods/Svcs	435,872	33.7%	993,375	81.3%
2,291,195	21.1%	6,303,808	60.5%	Totals	1,819,477	25.2%	4,382,613	63.9%

FY21 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

MWRA FY21 CEB Expenses 2nd Quarter – FY21

As of December 2020, total expenses are \$365.8 million, \$5.5 million or 1.5% lower than budget, and total revenue is \$396.9 million, \$311k over budget, for a net variance of \$5.8 million.

Expenses –

Direct Expenses are \$115.7 million, \$6.8 million or 5.5% under budget.

- **Wages & Salaries** are under budget by \$2.1 million or 3.9%. Regular pay is also \$2.1 million under budget, due to lower head count, and timing of backfilling positions. YTD through December, the average Full Time Equivalent (FTE) positions was 1,139, twenty-four fewer than the 1,163 FTE's budgeted.
- **Other Services** expenses are \$1.4 million under budget or 10.8%, primarily due to under spending for Sludge Pelletization of \$809k due to lower YTD quantities, Membership/Dues of \$441k, Telecommunication expenses of \$126k, and Grit Screen Removal of \$107k due to lower YTD quantities.
- **Professional Services** expenses are \$1.3 million under budget or 27.7%, primarily due to under spending for Computer Systems Consultants of \$999k due to timing of several MIS projects, Engineering services of \$357k, and Other services of \$171k, partially offset by overspending on Lab Testing and Analysis of \$394k due to the Biobot engagement.
- **Utilities** expenses are \$717k under budget or 6.4%, primarily due to under spending for Electricity of \$676k of which \$346k is from Deer Island and \$206k is from Water Operations, both due to favorable pricing and lower demand. Lower flows at Deer Island contributed to lower electricity demand. Water Operations is under budget primarily due to lower rates and quantity.
- **Fridge Benefits** expenses are \$495k under budget or 4.5%, primarily due to lower headcount.
- **Workers Compensation** expenses are \$252k under budget or 20.3%, primarily due to under spending for Compensation Payments of \$108k and Medical Payments of \$96k. Lower payments reflect fewer accidents and reduced severity of those accidents.
- **Overtime** expenses are \$212k under budget or 8.6%, primarily due to reduced maintenance that require overtime at Metro Maintenance.

Indirect Expenses are \$27.8 million, \$1.3 million over budget or 4.8%, as revised costs for the new HECC Cable associated with FY20 were recognized in November. The HECC cable costs totaled \$6.7 million through December, \$3.1 million above budget. The HECC adjustment was partially offset by Pension Expense which was \$1.0 million under budget and Watershed Reimbursements which were \$908k under budget reflecting lower operating costs. The pension contribution requirement was revised in response to the most recent actuarial valuation report's funding schedule which reduced pension expense by \$1.0 million for FY21.

Debt Service Expenses totaled \$222.3 million, matching budget after the transfer of \$5.6 million to the Defeasance account, driven by lower than budgeted variable interest expense of \$4.4 million due to lower interest rates and lower SRF spending of \$1.5 million as a result of timing offset by higher senior debt costs.

Revenue and Income –

Total Revenue and Income is \$396.9 million, or \$311k over budget. Other Revenue of \$5.1 million was over budget by \$704k, reflecting higher energy revenue of \$397k, miscellaneous revenue of \$141k, and gains on disposal of equipment of \$134k. This revenue gain was reduced by lower investment income. Investment income totaled \$2.0 million, \$467k under budget due to lower than budgeted interest rates (0.49% vs 0.73%) partially offset by higher than budgeted average balances.

	Dec 2020 Year-to-Date			
	Period 6 YTD Budget	Period 6 YTD Actual	Period 6 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	\$ 53,107,118	\$ 51,040,469	\$ (2,066,649)	-3.9%
OVERTIME	2,471,356	2,259,223	(212,133)	-8.6%
FRINGE BENEFITS	10,989,455	10,494,543	(494,912)	-4.5%
WORKERS' COMPENSATION	1,238,328	986,384	(251,944)	-20.3%
CHEMICALS	6,522,577	6,429,737	(92,840)	-1.4%
ENERGY AND UTILITIES	11,166,128	10,449,156	(716,972)	-6.4%
MAINTENANCE	16,837,460	16,791,999	(45,461)	-0.3%
TRAINING AND MEETINGS	187,537	54,399	(133,138)	-71.0%
PROFESSIONAL SERVICES	4,653,955	3,366,464	(1,287,491)	-27.7%
OTHER MATERIALS	2,514,579	2,439,916	(74,663)	-3.0%
OTHER SERVICES	12,810,536	11,426,460	(1,384,076)	-10.8%
TOTAL DIRECT EXPENSES	\$ 122,499,029	\$ 115,738,750	\$ (6,760,277)	-5.5%
INSURANCE	\$ 1,529,609	\$ 1,621,631	\$ 92,022	6.0%
WATERSHED/PILOT	8,633,052	7,725,035	(908,017)	-10.5%
HECC PAYMENT	3,607,600	6,707,587	3,099,987	85.9%
MITIGATION	846,172	826,029	(20,143)	-2.4%
ADDITIONS TO RESERVES	907,539	907,539	-	0.0%
RETIREMENT FUND	11,000,000	10,000,000	(1,000,000)	-9.1%
POST EMPLOYEE BENEFITS	-	-	-	---
TOTAL INDIRECT EXPENSES	\$ 26,523,972	\$ 27,787,821	\$ 1,263,849	4.8%
STATE REVOLVING FUND	\$ 45,479,580	\$ 44,023,509	\$ (1,456,071)	-3.2%
SENIOR DEBT	125,843,307	126,119,680	276,373	0.2%
DEBT SERVICE ASSISTANCE	-	-	-	---
CURRENT REVENUE/CAPITAL	-	-	-	---
SUBORDINATE MWRA DEBT	49,366,018	49,366,018	-	0.0%
LOCAL WATER PIPELINE CP	-	-	-	---
CAPITAL LEASE	1,608,530	1,608,530	-	0.0%
VARIABLE DEBT	-	(4,444,119)	(4,444,119)	---
DEFEASANCE ACCOUNT	-	5,623,817	5,623,817	---
DEBT PREPAYMENT	-	-	-	---
TOTAL DEBT SERVICE	\$ 222,297,436	\$ 222,297,436	\$ -	0.0%
TOTAL EXPENSES	\$ 371,320,437	\$ 365,824,007	\$ (5,496,428)	-1.5%
REVENUE & INCOME				
RATE REVENUE	\$ 384,692,500	\$ 384,692,500	\$ -	0.0%
OTHER USER CHARGES	4,289,930	4,362,778	72,848	1.7%
OTHER REVENUE	4,374,380	5,078,802	704,422	16.1%
RATE STABILIZATION	750,000	750,000	-	0.0%
INVESTMENT INCOME	2,492,027	2,025,454	(466,573)	-18.7%
TOTAL REVENUE & INCOME	\$ 396,598,837	\$ 396,909,534	\$ 310,697	0.1%

Cost of Debt 2nd Quarter – FY21

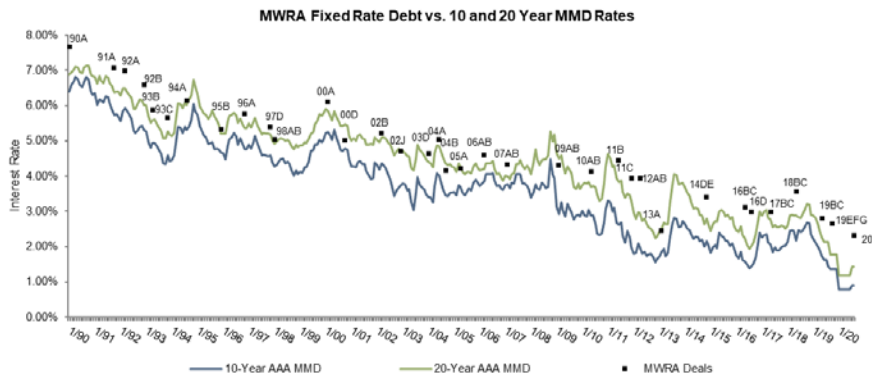
MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

Average Cost of MWRA Debt FYTD

Fixed Debt (\$3.44 billion)	3.38%
Variable Debt (\$330.7million)	0.52%
SRF Debt (\$852.2 million)	1.57%
Weighted Average Debt Cost (\$4.63 billion)	2.84%

Most Recent Senior Fixed Debt Issue August 2020

2020 Series B (\$160.0 million) 2.33 %

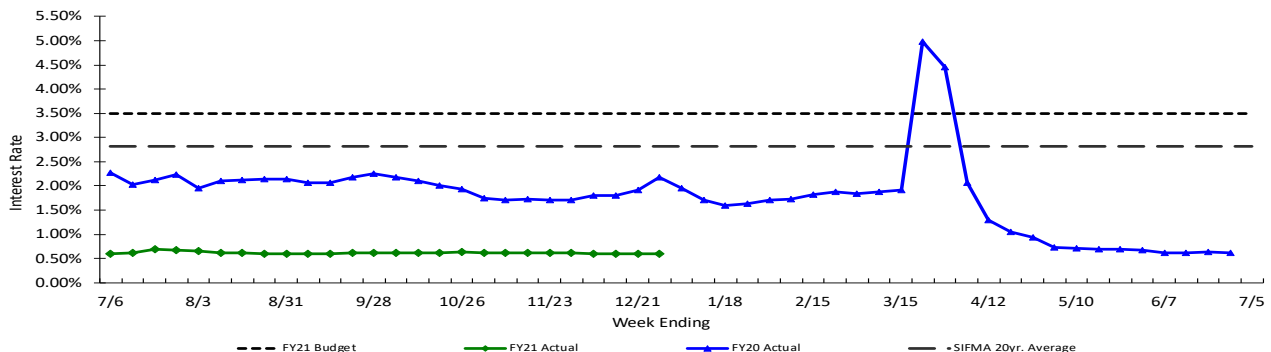


Bond Deal	1995B	1996A	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB
Rate	5.34%	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%
Avg Life	20.5 yrs	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs

Bond Deal	2009AB	2010AB	2011B	2011C	2012AB	2013A	2014D-F	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B
Rate	4.32%	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%
Avg Life	15.4 yrs	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

Weekly Average Variable Interest Rates vs. Budget

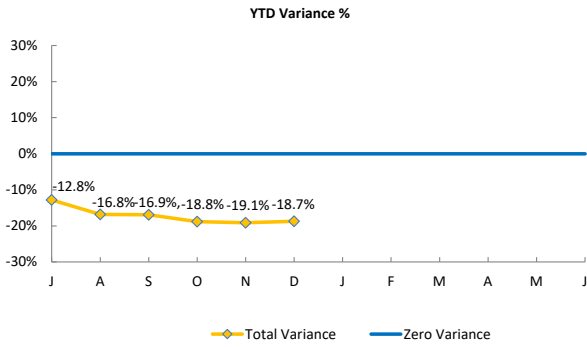
MWRA currently has ten variable rate debt issues with \$596.6 million outstanding, excluding commercial paper. Of the ten outstanding series, four have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In December, SIFMA rate ranged from a high of 0.10% to a low of 0.09% 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

2nd Quarter – FY21

Year To Date



	YTD BUDGET VARIANCE				
	(\$'000)				
	BALANCES IMPACT	RATES	IMPACT	TOTAL	%
Combined Reserves	\$1		(\$190)	(189)	-46.4%
Construction	\$126		(\$26)	99	51.3%
Debt Service	\$30		\$8	38	22.1%
Debt Service Reserves	(\$3)		(\$285)	(288)	-23.6%
Operating	\$6		(\$31)	(25)	-14.2%
Revenue	\$20		(\$28)	(9)	-5.9%
Redemption	\$1		(\$93)	(93)	-53.6%
Total Variance	\$180		(\$646)	(\$467)	-18.7%

YTD Average Balances Budgeted vs. Actual



YTD Average Interest Rate Budgeted vs. Actual

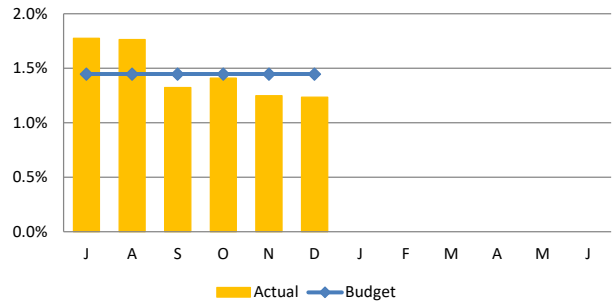


Monthly

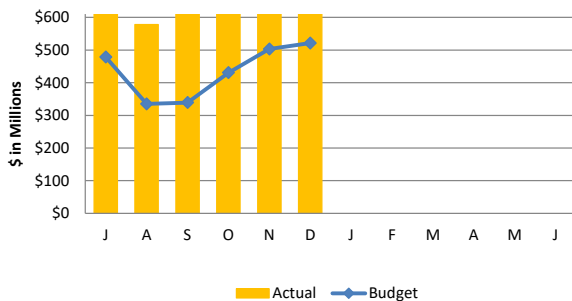
Short -Term Interest Rates



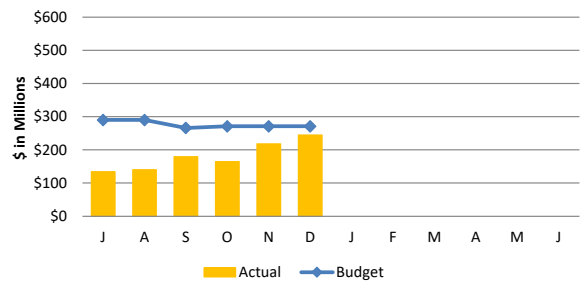
Long -Term Interest Rates



Short-Term Average Balances



Long-Term Average Balances



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: Delegated Authority Report – January 2021



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Linda Grasso, Admin. Systems Coordinator
Barbara Aylward, Administrator A & F
Preparer/Title



Michele S. Gillen
Director, Administration



Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period January 1 – 31, 2021.

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 21, 2018, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$1 million if the award is to the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$250,000, 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 \$100,000 and one year with a firm; or up to \$50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to \$250,000 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 \$1 million if the award is to the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$250,000, 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 JANUARY 1 - 31, 2020

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	01/06/21	DIVERSITY, EQUITY, INCLUSION AND RESPECT IN THE WORKPLACE TRAINING AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER TO PROVIDE DIVERSITY, EQUITY, INCLUSION AND RESPECT IN THE WORKPLACE TRAINING FOR THE TERM OF FEBRUARY 8, 2021 THROUGH DECEMBER 31, 2021.	A624	AWARD	MORGAN LEWIS & BOCKIUS, LLP	\$99,550.00
C-2.	01/11/21	JOHN J. CARROLL WATER TREATMENT PLANT SCADA SYSTEM UPGRADE, DESIGN, ESDC/RE SERVICES INCREASE ADDITIONAL ADMINISTRATIVE AND MANAGEMENT SERVICES; EXTEND CONTRACT TERM BY 6 MONTHS FROM MAY 15, 2023 TO NOVEMBER 15, 2023.	7581	1	ARCADIS U.S., INC.	\$75,000.00
C-3.	01/15/21	WACHUSETT RESERVOIR NORTH DIKE AND SOUTH DIKE INSTRUMENTATION AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR WACHUSETT RESERVOIR NORTH AND SOUTH DIKES INSTRUMENTATION FOR A TERM OF 120 CALENDAR DAYS.	W327	AWARD	NEW HAMPSHIRE BORING, INC.	\$219,297.50
C-4.	01/22/21	SECURITY EQUIPMENT MAINTENANCE AND REPAIR SERVICES FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: SCHEDULE PREVENTIVE MAINTENANCE, NON-EMERGENCY AND EMERGENCY ON-CALL MAINTENANCE REPAIR AND MISCELLANEOUS WORK, INTEGRATION AND PROGRAMMING, SCHEDULED INFORMATION TECHNOLOGY SYSTEM OPERATION AND MAINTENANCE SERVICES, NON-EMERGENCY ON-CALL TECHNOLOGY SYSTEM OPERATION AND MAINTENANCE SERVICES, NON-EMERGENCY ON-CALL TECHNOLOGY SYSTEM OPERATION, MAINTENANCE AND REPAIR SERVICES AND OTHER MISCELLANEOUS WORK, SPARE PARTS AND MARK-UP.	EXE-038	2	VISCOM SYSTEMS, INC.	(\$288,406.32)
C-5.	01/28/21	WACHUSETT DAM LOWER GATEHOUSE BRIDGE CRANE DEMOLITION AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE WACHUSETT DAM LOWER GATEHOUSE BRIDGE CRANE DEMOLITION FOR A TERM OF 120 CALENDAR DAYS.	7780	AWARD	COSTELLO DISMANTLING CO., INC.	\$315,200.00
C-6.	01/28/21	PUMP STATION DUCT CLEANING AND REPAIRS, QUINCY AND HINGHAM AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE PUMP STATION DUCT CLEANING AND REPAIRS IN QUINCY AND HINGHAM, MA, FOR A TERM OF 240 CALENDAR DAYS.	OP-413	AWARD	COOLING & HEATING SPECIALISTS, INC.	\$475,485.00


PURCHASING DELEGATED AUTHORITY ITEMS JANUARY 1 - 31, 2021

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	01/06/21	PURCHASE OF FOUR HYDROGEN PEROXIDE CHEMICAL FEED PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR FOUR HYDROGEN PEROXIDE CHEMICAL FEED PUMPS.	WRA-4901Q		MARTELL ASSOCIATES	\$29,352.00
P-2	01/06/21	MAINTENANCE AND SUPPORT OF 28 ARCHITECTURE, ENTINEERING AND CONSTRUCTION NETWORK LICENSES AWARD OF A ONE-YEAR PURHCASE ORDER CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR MAINTENANCE AND SUPPORT OF 28 AUTODESK ARCHITECTURE, ENGINEERING AND CONSTRUCTION COLLECTION NETWORK LICENSES.	WRA-4920Q		INSIGHT PUBLIC SECTOR, INC.	\$32,038.72
P-3	01/06/21	PURCHASE OF 72 CARBON EXTRACTION FILTERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 72 CARBON EXTRACTION FILTERS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4921Q		FILTER SALES AND SERVICE, INC.	\$46,656.00
P-4	01/06/21	MAINTENANCE AND SUPPORT OF CITRIX NETCALER APPIANCES, AND WORKSPACE SUITE AND XENBOLILE LICENSES AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ITC47, CATEGORY 6 TO THE LOWEST RESPONSIVE BIDDER FOR MAINTENANCE AND SUPPORT OF CITRIX NETSCALER APPLIANCES, AND WORKSPACE SUITE AND XENMOBILE LICENSES FOR THE TIME PERIOD FEBRUARY 2, 2021 THROUGH FEBRUARY 1, 2022.	WRA-4918Q		INTRASYSTEMS, INC.	\$118,086.00
P-5	01/06/21	PURCHASE OF 17 ELECTRIC BURDEN CARRIERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 17 ELECTRIC BURDEN CARRIERS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4916		NORTHLAND INDUSTRIAL TRUCK COMPANY, INC.	\$164,066.30
P-6	01/12/21	PURCHASE OF A STANDBY GENERATOR AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONISIE BIDDER FOR THE RETROFIT OF A STANDBY GENERATOR FOR THE FIELD OPERATIONS DEPARTMENT.	WRA-4872		SOUTHWORTH-MILTON, INC.	\$78,780.00
P-7	01/12/21	JANITORIAL SERVICES AWARD OF A THREE-YEAR PURCHASE ORDER UNDER STATE CONTRACT FAC81 TO THE LOWEST RESPONSIVE BIDDER FOR JANITORIAL SERVICES AT THE CLINTON WASTEWATER TREATMENT PLANT.	WRA-4917		COMPASS FACILITY SERVICES, INC.	\$82,432.00
P-8	01/15/21	PURCHASE OF COMPONENTS TO UPGRADE TWO ALLEN BRADLEY VARIABLE FREQUENCY DRIVES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR COMPONENTS TO UPGRADE TWO ALLEN BRADLEY VARIABLE FREQUENCY DRIVES FOR THE JOHN J. CARROLL WATER TREATMENT PLANT.			NorthEast Electrical Distributors, Inc.	\$43,420.00
P-9	01/15/21	PURCHASE OF ONE NEW WOOD CHIPPER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE NEW WOOD CHIPPER AT THE WESTERN GROUNDS MAIINTENANCE.	WRA-4911Q		Cleaves Company, Inc.	\$56,916.25
P-10	1/15/2021	PURCHASE ORDER FOR ONE NEW TELEHANDLER AND ONE NEW ARTICULATING BOOM LIFT AWARD OF TWO SEPARATE PURCHASE ORDERS TO THE LOWEST RESPONSIVE BIDDERS FOR ONE NEW TELEHANDLER AND ONE NEW ARTICULATING BOOM LIFT FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4908		SUNBELT RENTALS, INC. BRODIE, INC.	\$145,883.00 \$135,563.00
P-11	01/28/21	JANITORIAL SERVICES AMENDMENT OF A PURCHASE ORDER UNDER STATE CONTRACT FAC81 TO PROVIDE JANITORIAL SERVICES AT MWRA WESTERN FACILITIES.	WRA-4855	1	FACILITIES MANAGEMENT AND MAINTENANCE, INC.	\$38,804.00

POSITION CONTROL REGISTER (PCR) LOCATION CHANGES January 2021

<u>DATE OF CHANGE</u>	<u>POSITION TITLE</u>	<u>CURRENT PCR#</u>	<u>CURRENT COST CENTER</u>	<u>NEW PCR #</u>	<u>NEW COST CENTER</u>	<u>REASON FOR CHANGE</u>
1/9/2021	Senior Financial Analyst	5210074	Operations Admin	5910045	Policy & Admin	To better meet staffing needs.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Fiscal Year 2021 Mid-Year Capital Improvement Program Spending Report

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

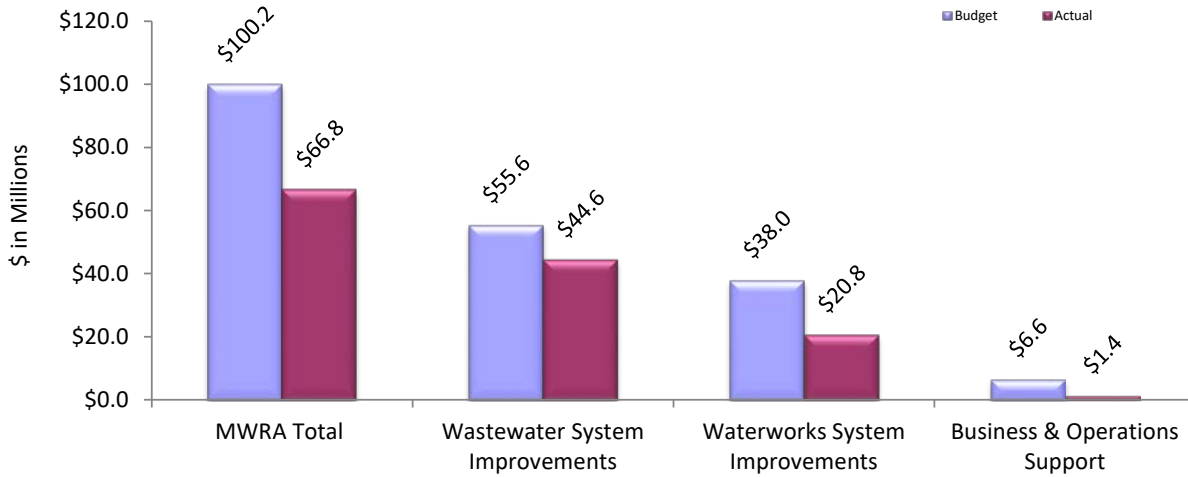
For information only. The Fiscal Year 2021 Mid-Year Capital Improvement Program Spending Report highlights major capital program accomplishments and provides explanations for spending variances and schedule changes versus the budget.

DISCUSSION:

Actual spending for the first half of FY21 is \$66.8 million, which is \$33.4 million or 33.3% 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 \$47.3 million, \$15.4 million or 24.5% under budget. The projected spending for FY21, based on the FY22 Proposed CIP, is estimated at \$184.8 million versus the budget of \$266.2 million which is \$81.4 million or 30.6% less than budget as compared to the historical 18% variance below budget spending pattern. After accounting for programs which are not directly under MWRA's control, the projected spending for FY21 is estimated at \$146.5 million versus the budget of \$197.2 million which is \$50.7 million or 25.7% less than budget as compared with a historical 23% variance below budget spending pattern.

Projected spending may decline due to some major projects that have not yet been awarded. These include the Deer Island Primary and Secondary Clarifier Rehabilitation Phase 2 Construction, Prison Point Rehabilitation Construction, Carroll Water Treatment Plant SCADA Upgrade, NIH Sections 89 & 29 Replacement, and New Connecting Mains CP-3 Sections 23, 24, and 47 Rehabilitation. Staff are meeting monthly to discuss planned projects and issues that need to be resolved to ensure timely award of contracts.

**FY21 CIP Spending
Year-To-Date
December**



Projects that were completed or reached substantial completion in the first half of FY21 included:

- Residuals Asset Protection Electrical/Mechanical/Drum Dryer Replacements
 - FY21 Budget: \$10.6 million
 - Completion Date: December 2020
 - Total Project Duration: 1.5 years

- Residuals Asset Protection Pellet Pipe Relocation
 - FY21 Budget: \$4.5 million
 - Completion Date: December 2020
 - Total Project Duration: 1.3 years

- Sections 191 & 192 Rehabilitation
 - FY21 Budget: \$1.6 million
 - Completion Date: July 2020
 - Total Project Duration: 0.5 years

- Deer Island Radio Repeater System Upgrade Phase 1
 - FY21 Budget: \$0.2 million
 - Completion Date: November 2020
 - Total Project Duration: 2.1 years

- As-Needed Design Contract 16
 - FY21 Budget: \$2.4 million
 - Completion Date: December 2020
 - Total Project Duration: 2.5 years

- Carroll Water Treatment Plant Technical Assistance 9
 - FY21 Budget: \$0.7 million
 - Completion Date: December 2020
 - Total Project Duration: 2.4 years

- Carroll Water Treatment Plant Technical Assistance 10
 - FY21 Budget: \$0.8 million
 - Completion Date: December 2020
 - Total Project Duration: 2.4 years

MWRA also has a number of projects currently in design or under construction. Expenditures for some of the larger active contracts are:

Wastewater System Improvements

Project	FY21 Budget (\$s in millions)	Expenditures Thru December 2020	% Complete
Facility Asset Protection - Chelsea Creek Upgrades - Construction	\$83.4	\$75.0	90.0%
Corrosion & Odor Control - Nut Island Odor Control HVAC Improvement Construction Phase 2	57.6	10.7	18.5%
Deer Island Treatment Plant Asset Protection - Gravity Thickener Rehab	19.9	16.7	83.9%
Deer Island Treatment Plant Asset Protection - Winthrop Terminal Facility (WTF) VFD Replacement - Construction	12.0	9.7	80.7%
Facility Asset Protection - Chelsea Creek Upgrades - Design/Construction Admin	10.3	9.9	95.8%
Deer Island Treatment Plant Asset Protection - Chemical Tank and Digester Pipe	8.5	5.3	61.9%
Corrosion & Odor Control - Nut Island Odor Control & HVAC Design/Construction Admin/Resident Engineer Inspection	7.3	4.4	60.2%
Combined Sewer Overflow (CSO) Support - CSO Performance Assessment	5.3	3.8	72.4%
Facility Asset Protection - Interceptor Renewal 3, Dorchester Interceptor Sewer - Construction	4.7	1.2	25.6%

Waterworks System Improvements

Project	FY21 Budget (\$s in millions)	Expenditures Thru December 2020	% Complete
SEH Redundancy & Storage - Redundancy Pipeline Section 111 - Construction 3	\$20.4	\$19.2	94.3%
Metropolitan Tunnel Redundancy - Program Support Services	17.5	2.7	15.2%
Metropolitan Tunnel Redundancy - Preliminary Design & Massachusetts Environmental Protection Act Review	15.7	0.5	3.5%
Metropolitan Redundancy Interim Improvements - WASM 3 - Massachusetts Environmental Protection Act/Design/Construction Admin/Resident Inspection	15.5	3.7	24.0%
Metropolitan Redundancy Interim Improvements - WASM 3 CP-1	13.0	1.6	12.3%
SEH Redundancy & Storage - Redundancy Pipeline Phase 1 Design/Construction Admin/Resident Inspection	7.7	6.8	88.3%
Metro Redundancy Interim Improvements - Commonwealth Ave Pump Station Improvement Construction	7.5	6.9	92.0%
New Connect Mains-Shaft 7 - Replace Sect 25, 75, 59 & 60 Design Construction Admin	6.5	1.0	15.1%
Northern Low Service Rehab Section 8 - Section 50 & 57 Water Design/Engineering Services During Construction	6.0	3.2	54.1%
NHS - Revere & Malden Pipeline - Section 53 and 99 Connection -Design Construction Admin	5.0	0.5	9.4%
Central Monitoring System - Carroll Water Treatment Plant SCADA Upgrade Design Program Resident Engineering	4.7	1.7	35.5%

Community Financial Assistance

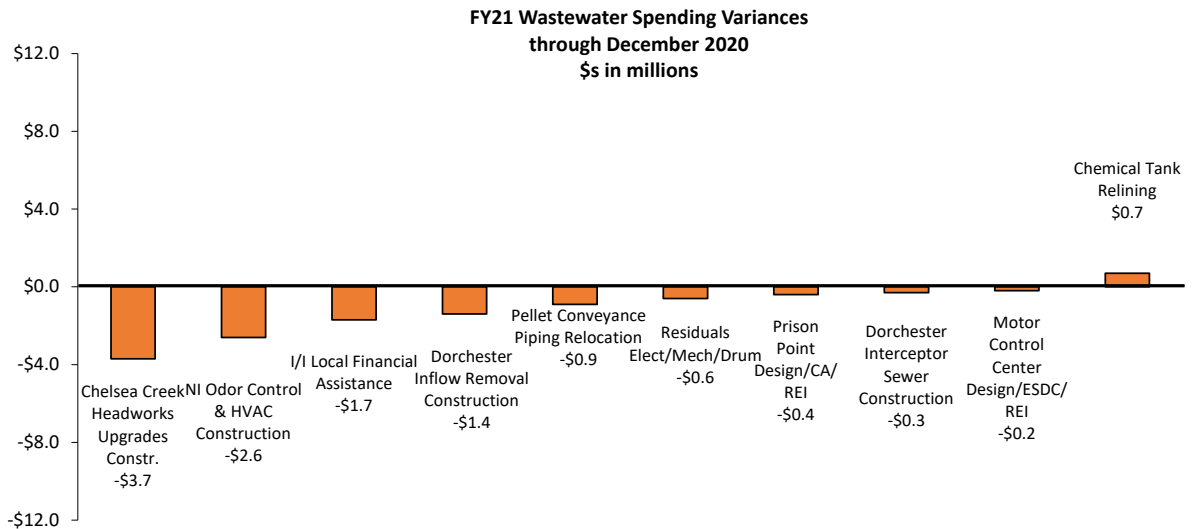
In the first half of FY21, MWRA continued support for the community financial assistance programs by providing funding distributions totaling \$19.5 million made up of wastewater infiltration and inflow (I/I) (\$12.9 million) and water pipeline improvements (\$6.6 million, including \$0.9 million for lead service replacement).

Major Variances to FY21 Budget

FY21 Capital Improvement Program Spending Through December 2020 (\$000s)					
Program	Budgeted Spending	Actual Spending	Variance to Budget		% of Total YTD Actual Spending
			\$	%	
Total Wastewater System	\$55,552	\$44,581	(\$10,971)	-20%	67%
Interception & Pumping	\$27,452	\$20,375	(\$7,077)	-26%	31%
Treatment	\$8,662	\$9,239	\$577	7%	14%
Residuals	\$2,840	\$1,358	(\$1,481)	-52%	2%
Combined Sewer Overflow	\$2,021	\$727	(\$1,294)	-64%	1%
Other Wastewater Programs	\$14,577	\$12,882	(\$1,695)	-12%	19%
Total Waterworks System	\$38,043	\$20,809	(\$17,234)	-45%	31%
Drinking Water Quality Improvements	\$812	\$517	(\$295)	-36%	1%
Transmission	\$7,061	\$5,440	(\$1,621)	-23%	8%
Distribution and Pumping	\$7,984	\$7,587	(\$397)	-5%	11%
Other Waterworks Programs	\$22,186	\$7,265	(\$14,921)	-67%	11%
Business & Operations Support	\$6,618	\$1,408	(\$5,210)	-79%	2%
Total MWRA (without Contingency)	\$100,214	\$66,798	(\$33,416)	-33%	100%

Wastewater System Improvements

Wastewater year-to-date spending was \$44.6 million, \$11.0 million or 19.7% below budget. The graph below reflects a selection of contract variances.



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

Interception & Pumping: Net underspending of \$7.1 million

- \$3.7 million for Chelsea Creek Upgrade Construction and Resident Engineering Inspection due to Channel 4 work behind schedule and time extension.
- \$2.6 million for Nut Island Odor Control and HVAC Construction due to delays in equipment delivery and Covid-19 shut down.
- \$0.4 million for Prison Point Design/CA/REI due to delay in construction award.
- \$0.3 million for Dorchester Interceptor Sewer Construction due to delay in Notice to Proceed and bypass pumping system.
- \$0.3 million for Wastewater Metering Planning/Design due to time extension through the construction installation and warranty period, and \$0.2 million for Construction due to delay in award.
- This underspending was partially offset by overspending of \$0.2 million for Siphon Structure Rehabilitation Design due to consultant progress.

Other Wastewater: Net underspending of \$1.7 million

- \$1.7 million for Community I/I Financial Assistance due to timing of community repayments as a result of less than anticipated communities deferring their loan repayments.

Residuals: Net underspending of \$1.5 million

- \$0.9 million for Pellet Conveyance Piping Relocation and \$0.6 million for Residuals Mechanical/Electrical/Dryer Drum Replacements due to work anticipated in FY21 completed in FY20.

Combined Sewer Overflow: Net underspending of \$1.3 million

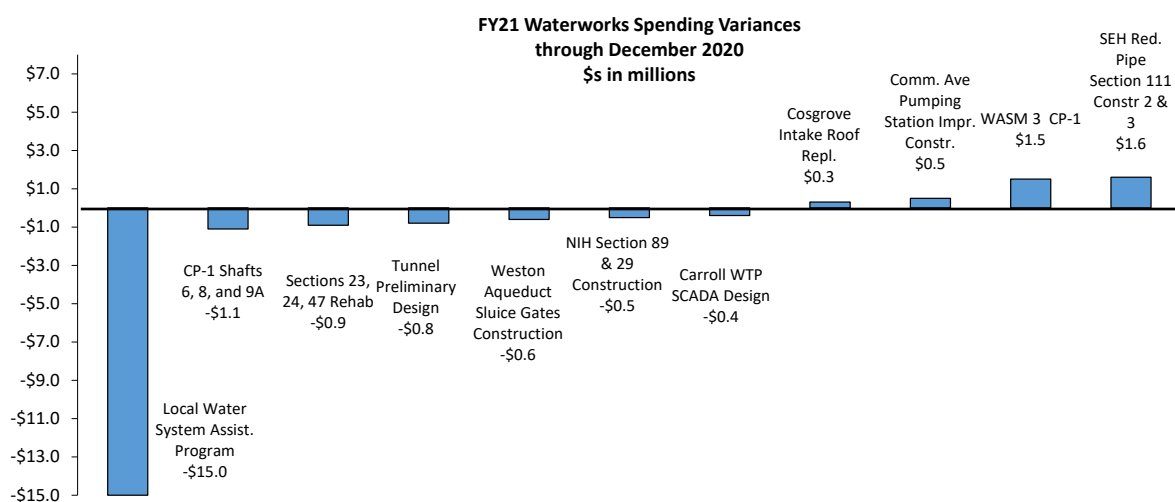
- \$1.4 million for Dorchester Inflow Removal Construction due to updated schedules partially offset by \$0.1 million for CSO Performance Assessment due to greater than anticipated consultant progress.

Wastewater Treatment: Net overspending of \$0.6 million

- \$0.7 million for Deer Island Chemical Tank Relining and Digester Pipe Construction and \$0.3 million for Gas Protection System Replacement Phase 1, and \$0.2 million for Gravity Thickener Rehabilitation due to contractor progress.
- \$0.1 million for Radio Repeater System Upgrade Phase 1 due to work anticipated in FY20 that was completed in FY21.
- This overspending was partially offset by underspending of \$0.7 million for less than anticipated as-needed task order work

Waterworks System Improvements

Waterworks actual spending was \$20.8 million, \$17.2 million or 45.3% less than budget. The graph below reflects a selection of contract variances.



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

Other Waterworks: Net underspending of \$14.9 million

- \$15.0 million for Local Financial Assistance due to timing of community repayments due to less than anticipated communities deferring their loan repayments.
- \$0.4 million for Carroll Water Treatment Plant SCADA Design due to updated schedule for the SCADA Construction
- This underspending was partially offset by overspending of \$0.3 million for Cosgrove Intake Roof Replacement, \$0.2 million for Bellevue 2/Turkey Hill Tanks Painting, and \$0.1 million for Gillis Pumping Station/Cottage Farm CSO Roof Replacement due to FY20 planned work that was completed in FY21.

Waterworks Transmission: Net underspending of \$1.6 million

- \$1.1 million for CP-1 Shafts 6, 8, and 9A due to delay in award of contract.
- \$0.8 million for Tunnel Preliminary Design & MEPA Review and \$0.1 million for Program Support Services due to timing of consultant work.
- \$0.6 million for Weston Aqueduct Sluice Gates Construction due to updated schedule.
- \$0.1 million for Weston Aqueduct Supply Mains/Spot Pond Supply Mains Design/CA due to delays in final design.

- This underspending was partially offset by overspending of \$1.5 million for WASM 3 Rehabilitation, CP-1 due to contractor initiating work sooner than anticipated, and \$0.5 million for Commonwealth Avenue Pumping Station Construction due to contractor progress.

Water Distribution and Pumping: Net underspending of \$0.4 million

- \$0.9 million for Sections 23, 24, 47 Rehabilitation, and \$0.5 million for Section 89/29 Replacement - Construction due to schedule changes.
- \$0.3 million for Sections 25, 75, 59, and 60 Design/CA due to delay in getting field testing started.
- \$0.2 million for Sections 50/57 Water due to contract scope reduction.
- \$0.1 million for NIH Section 89 and 29 Design/CA/RI due to less than anticipated contract administration/resident inspection budgeted spending.
- This underspending was partially offset by overspending of \$1.6 million for Southern Extra High Section 111 Construction 2 and 3 due to contractor progress, \$0.3 million for Section 56 Replacement/Saugus River - Design/CA due to consultant progress, and \$0.1 million for NIH Section 89 & 29 Redundancy due to final work completed.

Drinking Water Quality Improvements: Net underspending of \$0.3 million

- \$0.2 for Carroll Water Treatment Plant Technical Assistance due to less than anticipated as-needed technical assistance, and \$0.2 million for updated schedule for CP-7 Existing Facilities Modifications.

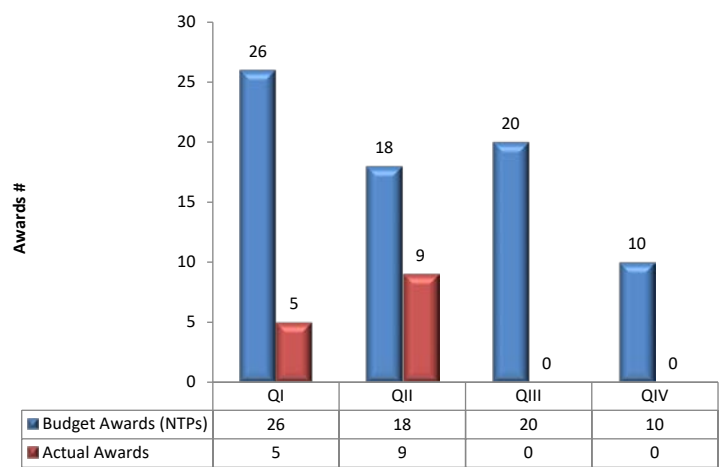
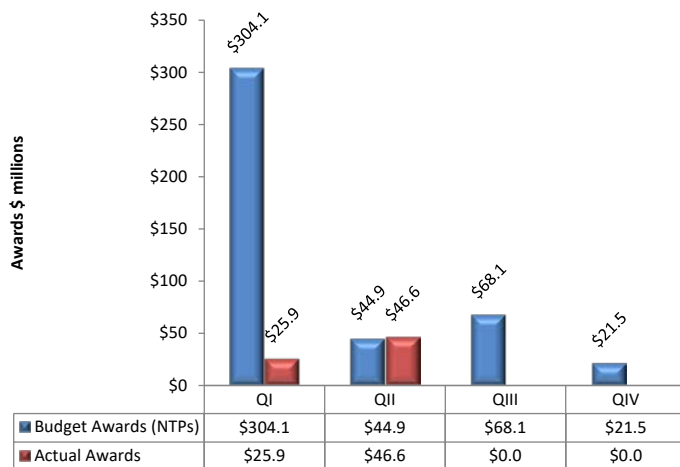
Business & Operations Support: Net underspending of \$5.2 million

- \$2.0 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work, \$0.9 million for Lawson Upgrade and \$0.8 million for Enterprise Content Management due to schedule changes, \$0.5 million for Vehicle Purchases due to timing, and \$0.4 million for Security Equipment & Installation due to timing of physical security initiatives.

Please refer to Attachment A for detailed FY21 CIP variance explanations.

Status of Contract Awards Planned for FY21

MWRA's FY21 CIP projected 74 contracts to be awarded with a value of \$439.1 million. Through December, 44 awards with a value of \$349.0 were planned. Through mid-year, MWRA has awarded 14 contracts with a value of \$72.5 million or 20.8% of plan. The two largest contract awards total \$48.4 million and includes the Ward Street and Columbus Park Headworks Design Contract Administration for \$28.9 million and WASM 3 CP-1 for \$19.5 million. Clarifier Rehabilitation Phase 2 Construction at Deer Island, with an estimated award value of \$137.2 million, was expected to commence this past September, but has been delayed until late FY21 in light of bid complications.



As part of the FY22 CIP development and monthly CIP coordination meetings, staff have reviewed planned contract awards for FY21 and have updated assumptions based on new information. By the end of FY21, staff expect to award 25 additional planned contracts valued at \$290.6 million for a total of 39 contracts valued at \$363.1 million (\$137.2 million of which is the Clarifier Rehabilitation contract expected to be awarded by the end of FY21).

The primary reasons for not expecting to award all contracts in FY21 are:

- Three projects have been delayed due to changes in scope that have required additional work;
- Twenty-two projects were delayed due to a change in priorities;
- Nine projects have been deleted or are being either combined with another project, are on hold or will be handled through as-needed technical assistance;
- One project with Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review; and
- Four projects were delayed due to permitting.

The table below summarizes the total number of capital contract awards planned for FY21 and highlights the number planned for award during the second half of FY21.

Please refer to Attachment B for contract award status for all FY21 budgeted contracts.

Recap of Planned FY21 Contract Awards

	# of Awards	\$ Awards
Total planned Awards per FY21 CIP	74	\$439.1
Actual Planned Awards in First Half of FY21	10	\$65.8
Actual Unplanned Awards in First Half of FY21	4	\$6.6
Planned Awards in Second Half of FY21	25	\$290.6
Subtotal	39	\$363.0
Shifted Beyond FY21 - Scope/Priority Change/Issues/Permits	30	\$79.8
Deleted/Transferred from CIP/Project on hold	9	\$16.2
Total Projects Planned to be awarded in FY21	39	\$363.0

The following contracts were awarded in the first half of FY21:

- Ward Street and Columbus Park Headworks Design/CA - \$28.9 million
- WASM 3 CP-1 - \$19.5 million
- Wastewater Meter Asset Protection Equipment Purchase - \$3.3 million
- Steel Tank Improvement Design/CA - \$2.8 million
- As Needed Contract Design 18 - \$2.5 million
- As Needed Contract Design 19 - \$2.5 million
- Top of Shafts Rehab Shafts 7,8,9A - \$2.4 million
- Weston Aqueduct Sluice Gates – Construction - \$2.3 million
- Enterprise Content Management - \$2.3 million
- Hayes Pump Station Rehab Design - \$2.1 million
- CWTP Hypochlorite System Modifications - \$1.4 million
- Technical Assistance 11 - \$1.0 million
- Technical Assistance 12 - \$1.0 million
- Valve & Pipe Replacement – \$0.5 million

Major Awards Planned for the 2nd Half of FY21

Looking ahead to the second half of FY21, the MWRA anticipates awarding several major construction contracts. The largest of these projects are listed below:

Major Planned Construction Awards for the Second Half of FY21		
Project	Contract	FY21 Budget in Millions
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$137.2
Facility Asset Protection	Prison Point Rehab - Construction	41.8
Deer Island Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	28.8
Northern Intermediate High (NIH) Redundancy & Storage	Section 89 & 29 Replacement - Construction	21.3
Deer Island Treatment Plant Asset Protection	Motor Control Center & Switchgear Replacement Construction	11.2
Metropolitan Redundancy Interim Improvement	WASM/Spot Pond Supply Mains West Pressure Reducing Valves Construction	7.1
Deer Island Treatment Plant Asset Protection	Gas Protect System Replacent Phase 2	2.5
Clinton Wastewater Treatment Plant	Screw Pump Replacement	2.0
Winsor Station Pipeline	Shaft 2 Construction	1.1
	Total	\$252.9

MWRA also anticipates awarding several significant professional services contracts. The largest contracts are listed below:

Major Planned Professional Services Awards for the Second Half of FY21		
Project	Contract	FY21 Budget in Millions
Northern Extra High Service New	NEH Improvements Design Engineering Services	\$6.8
Application Improvement Program	Lawson Upgrade	5.0
Deer Island Treatment Plant Asset	South System Pump Station VFD Replacement	4.5
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Resident Engineer Inspection	3.0
Deer Island Treatment Plant Asset Protection	HVAC Design/Engineering Services During Construction	2.1
Deer Island Treatment Plant Asset Protection	Fire System Replacement - Resident Engineer Inspection	2.1
NIH Redundancy & Storage	Sect 89 & 29 Replacement Resident Engineer/Resident Inspection Services	2.0
Metropolitan Redundancy Interim Improvement	WASM/Spot Pond Supply Mains Resident Engineer Inspection	1.0
	Total	\$26.5

In the second half of the FY21, MWRA also anticipates substantial completion on major contracts including Chelsea Headworks Upgrades Construction, SEH Redundancy Pipeline Section 111 Construction 3, Deer Island Gravity Thickener Rehabilitation, Deer Island Winthrop Terminal Facility VFD & Motors, Commonwealth Avenue Pumping Station Construction, and Carroll Water Treatment Plant Sodium Hypochlorite Modifications.

ATTACHMENTS:

- A. FY21 CIP Variance Explanations through December 2020
- B. FY21 CIP Contract Award Update

ATTACHMENT A
FY21 CIP Year-to-Date Variance Report (\$000's)

	FY21 Budget YTD December	FY21 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$27,452	\$20,375	(\$7,077)	-25.8%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$3.7M (delay in work on Channel 4, and time extension) Nut Island Odor Control & HVAC Improvements Phase 2 - Construction: \$2.6M (delays in equipment delivery and Covid-19 shut down) Interceptor Renewal No. 3, Dorchester Interceptor Sewer - Construction: \$293k (delay in notice-to-proceed and bypass pumping system) Prison Point Rehabilitation - Design/CA/RI: \$388k (delay in construction award) Wastewater Meter System Planning/Study/Design: \$333k (pending time extension through construction installation and warranty period) Wastewater Meter System Equipment Replacement: \$202k (delay in award) <u>Offset Overspending</u> Siphon Structure Rehabilitation Design: \$163k (consultant progress)
Treatment	\$8,662	\$9,239	\$577	6.7%	<u>Overspending</u> Chemical Tank and Digester Pipe: \$721k (contractor progress) Gas Protection System Replacement - Phase 1: \$335k, and Gravity Thickener Rehabilitation: \$210k (contractor progress) Radio Repeater System Upgrade - Phase 1: \$138k (work anticipated in FY20 completed in FY21) <u>Offset Underspending</u> As-Needed Design: \$678k (less than anticipated task order work)
Residuals	\$2,840	\$1,358	(\$1,481)	-52.2%	<u>Underspending</u> Pellet Conveyance Relocation: \$885k, and Residuals Mechanical/Electrical/Dryer Drum Replacements: \$596k (work anticipated in FY21 completed in FY20)
CSO	\$2,021	\$727	(\$1,294)	-64.0%	<u>Underspending</u> Dorchester Inflow Removal Construction: \$1.4M (updated schedules) <u>Offset Overspending</u> CSO Performance Assessment: \$126k (consultant progress)
Other Wastewater	\$14,577	\$12,882	(\$1,695)	-11.6%	<u>Underspending</u> I/I Local Financial Assistance: \$1.7M (timing of community repayments as a result of less than anticipated communities deferring loan repayments)
Total Wastewater	\$55,552	\$44,581	(\$10,971)	-19.7%	

ATTACHMENT A
FY21 CIP Year-to-Date Variance Report (\$000's)

	FY21 Budget YTD December	FY21 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$812	\$517	(\$295)	-36.4%	<u>Underspending</u> CP-7 Existing Facilities Modifications: \$225k (updated schedule) Carroll Water Treatment Plant Technical Assistance 9 & 10: \$151k (timing of task order work)
Transmission	\$7,061	\$5,440	(\$1,621)	-23.0%	<u>Underspending</u> CP-1 Shafts 6, 8, and 9A: \$1.1M (delay in award of contract) Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review: \$799k, and Program Support Services: \$113k (timing of consultant work) Weston Aqueduct Sluice Gates - Construction: \$638k, and River Road Improvements-Wachusett: \$202k (updated schedules) Watershed Land: \$308k (timing of purchases) Weston Aqueduct Supply Mains/Spot Pond Supply Mains - Design/CA: \$126k (delays in final design) <u>Offset Overspending</u> WASM 3 Rehabilitation, CP-1: \$1.5M (contractor initiated work sooner than anticipated) Commonwealth Ave Pump Station Improvements - Construction: \$524k, (contractor progress)
Distribution & Pumping	\$7,984	\$7,587	(\$397)	-5.0%	<u>Underspending</u> CP3-Sections 23, 24, 47 Rehabilitation: \$949k, and Section 89/29 Replacement - Construction: \$507k (schedule changes) Sections 25, 75, 59 & 60 Replacement - Design/CA: \$272k (delay in commencement of field testing) Sections 50 & 57 Water Rehabilitation - Design/ESDC; \$154k (contract scope reduction) Section 89/29 Redundancy -Design/CA/RI: \$80k (Construction Administration and Resident Inspection services less than anticipated budgeted spending) <u>Offset Overspending</u> SEH Redundancy Pipeline Section 111 - Construction Phase 2 & 3: \$1.6M (contractor progress) Section 56 Replacement/Saugus River - Design/CA: \$285K (consultant progress) Section 89/29 Redundancy Construction Phase 2: \$87k (final work completed)

**ATTACHMENT A
FY21 CIP Year-to-Date Variance Report (\$000's)**

	FY21 Budget YTD December	FY21 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Other Waterworks	\$22,186	\$7,265	(\$14,921)	-67.3%	<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$15.0M (timing of community repayments due to less than anticipated communities deferring their loan repayments) CWTP SCADA Upgrades - Design Programming RE: \$404k (updated schedule for SCADA Construction) <u>Offset Overspending</u> Cosgrove Intake Roof Replacement: \$266k, Bellevue 2/Turkey Hill Tanks Painting: \$177k, and Gillis Pump Station/Cottage Farm CSO Roof Replacements: \$141k (FY20 planned work completed in FY21)
Total Waterworks	\$38,043	\$20,809	(\$17,234)	-45.3%	
Business & Operations Support					
Total Business & Operations Support	\$6,618	\$1,408	(\$5,210)	-78.7%	<u>Underspending</u> As-Needed Technical Assistance and CS/REI Services: \$2.0M (lower than projected task order work) Lawson Upgrade: \$879k, Enterprise Content Management: \$799k, and Instrumentation & Controls IT: \$198k (schedule changes) FY19-23 Vehicle Purchases: \$483k (due to timing) Security Equipment & Installation: \$421k, (timing of physical security initiatives)
Total MWRA	\$100,214	\$66,798	(\$33,416)	-33.3%	

**ATTACHMENT B
FY21 Planned Contract Awards (\$ in Millions)**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$ in millions)	Award Amount (\$ in millions)	Vendor	Schedule Change Reason Code *
Facility Asset Protection	7429	Ward St & Columbus Park Headworks Design/Construction Admin	Jul-20	Jan-21	\$22.0	\$28.9	CDM Smith	1
Northern Intermediate High (NIH) Redundancy & Storage	7117	Section 89 & 29 Replacement - Construction	Jul-20	May-21	\$21.3			3
Metropolitan Redundancy Interim Improvements	6544	WASM 3 CP-1	Jul-20	Oct-20	\$13.0	\$19.5	Albanese D & S	1
Waterworks Facility Asset Protection	6832	Steel Tank Improvement Design/Construction Admin	Jul-20	Dec-20	\$3.6	\$2.8	Hazen & Sawyer	1
Capital Maintenance Planning	7691	As-Needed Design Contract 18	Jul-20	Dec-20	\$2.1	\$2.5	Hazen & Sawyer	1
Capital Maintenance Planning	7692	As-Needed Design Contract 19	Jul-20	Nov-20	\$2.1	\$2.5	CDM Smith	1
Clinton Wastewater Treatment Plant	7704	Screw Pump Replacement	Jul-20	Apr-21	\$2.0			3
Northern Intermediate High (NIH) Redundancy & Storage	7633	Section 89 & 29 Replacement Resident Engineering/Resident Inspection Services	Jul-20	May-21	\$2.0			3
Application Improvement Program	7286	Lawson Upgrade	Jul-20	Jun-21	\$5.0			3
IT Infrastructure Program	7662	Edge Switches	Jul-20	Mar-21	\$0.7			3
Application Improvement Program	7649	MAXIMO Interface Enhancements	Jul-20	Mar-21	\$0.7			3
IT Infrastructure Program	7661	Core Switches	Jul-20	Nov-23	\$0.5			6
Wastewater Meter System-Equipment	7191	Wastewater Metering Asset Protect/Equipment Purchase	Aug-20	Dec-20	\$3.6	\$3.3	ADS, LLC	1
Deer Island Treatment Plant Asset Protection	7395	Clarifier Rehab Phase 2 - Construction	Sep-20	Apr-21	\$137.2			3
Facility Asset Protection	7462	Prison Point Rehab - Construction	Sep-20	Jun-21	\$41.8			3
New Connect Mains-Shaft 7 to WASM 3	6392	CP3-Section 23,24,47, Rehab	Sep-20	Jul-22	\$14.7			4
Deer Island Treatment Plant Asset Protection	7420	Motor Control Center & Switchgear Replacement Construction	Sep-20	Apr-21	\$11.2			3
Deer Island Treatment Plant Asset Protection	7126	South System Pump Station VFD Replace Design/Engineering Services During Construction/Resident Engineering Inspection	Sep-20	Apr-21	\$4.5			3
Watershed Division Capital Improvement	7701	River Road Improvements -Wachusett	Sep-20	Feb-21	\$3.0			3 - Awarded in January 2021
Deer Island Treatment Plant Asset Protection	7397	Clarifier Rehab Phase 2 - Resident Engineer Inspection	Sep-20	Apr-21	\$3.0			3
Facility Asset Protection	7162	Hayes Pump Station Rehab Design	Sep-20	Nov-20	\$2.5	\$2.1	Hazen & Sawyer	1
Facility Asset Protection	7550	Remote Headwork Shaft Access Improvements - Construction	Sep-20	On Hold	\$2.5			2
Deer Island Treatment Plant Asset Protection	7110	HVAC Design/Engineering Services During Construction	Sep-20	Jun-21	\$2.1			3
Sudbury/Weston Aqueduct Repairs	7369	Weston Aqueduct Sluice Gates - Construction	Sep-20	Sep-20	\$1.9	\$2.3	WES Construction	1
Metropolitan Redundancy Interim Improvements	7599	Shafts 5 Improvement Design/Construction Admin	Sep-20	May-21	\$0.8			3
Application Improvement Program	7652	Hyperion	Sep-20	Sep-21	\$0.4			6
Clinton Wastewater Treatment Plant	7648	Digester Cover Replacement	Oct-20	Apr-21	\$0.6			3
Deer Island Treatment Plant Asset Protection	7125	Miscellaneous Variable Frequency Drive Replacements FY19-FY23	Oct-20	Jun-21	\$4.5			3
Waterworks Facility Asset Protection	7711	Masonry/Structural Rep Design/Engineering Services During Construction	Oct-20	Jul-21	\$1.6			6
Dam Projects	7615	Sudbury/Foss Dam Construction	Oct-20	Oct-21	\$1.6			6
Distribution Systems Facility Map	7613	Water System Hydraulic Model	Oct-20	May-21	\$0.5			3
Watershed Divion Capital Improvement	7569	Quabbin Admin Building Concept Design Report	Oct-20	On Hold	\$0.3			2

**ATTACHMENT B
FY21 Planned Contract Awards (\$ in Millions)**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$ in millions)	Award Amount (\$ in millions)	Vendor	Schedule Change Reason Code *
Metropolitan Redundancy Interim Improvement	7563	WASM/Spot Pond Supply Mains West Pressure Reducing Valves Construction	Nov-20	May-21	\$7.1			3
Northern Extra High Service New Pipelines	7404	NEH Improvements Design Engineering Services During Construction	Nov-20	Feb-21	\$6.8			3 - Awarded in January 2021
Deer Island Treatment Plant Asset Protection	7135	Deer Island Dystor Membrane Replacements	Nov-20	Aug-21	\$4.0			2
Metropolitan Redundancy Interim Improvement	7674	WASM/Spot Pond Supply Mains Resident Engineer Inspection	Nov-20	May-21	\$1.0			3
Central Monitoring System	7582	Carrol Water Treatment Plant SCADA Upgrade Construction	Dec-20	Aug-21	\$13.0			7
Carroll Water Treatment Plant Asset Protection	7755	Carroll Water Treatment Plant Parapet Wall Repairs	Dec-20	Jan-23	\$0.4			6
Clinton Wastewater Treatment Plant	7693	Equipment Storage Building	Dec-20	Oct-21	\$0.3			2
Clinton Wastewater Treatment Plant	7754	Landfill Cell #1 Closure	Dec-20	Dec-21	\$1.0			4
Waterworks Facility Asset Protection	7542	Water Meter/Vault Manhole Design/Construction Admin Phase 1	Dec-20	In-house Design	\$1.0			2
Application Improvement Program	7650	MAXIMO Upgrade	Dec-20	Dec-21	\$0.6			6
Facility Asset Protection	7360	System Relief & Contingency Planning	Dec-20	Jul-22	\$0.5			6
Facility Asset Protection	7781	Remote Headworks Shaft Access Improvements Engineering Services During Construction/Resident Engineer Inspection	Dec-20	On Hold	\$0.3			6
Deer Island Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Jan-21	Jun-21	\$28.8			3
Quabbin Transmission System	7380	Wachusett Lower Gatehouse Pipe Replacement Construction	Jan-21	Oct-21	\$4.1			6
Deer Island Treatment Plant Asset Protection	7426	Fire System Replacement - Resident Engineer Inspection	Jan-21	Jun-21	\$2.1			3
Carroll Water Treatment Plant	7713	Technical Assistance 11	Jan-21	Jan-21	\$0.8	\$1.0	Hazen & Sawyer	1
Carroll Water Treatment Plant	7714	Technical Assistance 12	Jan-21	Jan-21	\$0.8	\$1.0	Stantec	1
Cathodic Protection Of Distribution Mains	7611	Cathodic Protection Metropolitan System Design/Construction Admin	Jan-21	Dec-21	\$9.2			6
Metropolitan Redundancy Interim Improvement	7547	Waltham Water Pipeline Design/Construction Admin	Jan-21	Design by Task Order	\$3.0			2
Deer Island Treatment Plant Asset Protection	7734	DITP Roofing Replacement	Jan-21	Oct-21	\$2.0			5
IT Infrastructure Program	7663	Disaster Recovery	Jan-21	Sep-21	\$1.0			6
Clinton Wastewater Treatment Plant	7735	Clinton Fire Alarm Replacement	Jan-21	Oct-21	\$0.9			4
Quabbin Transmission System	7717	Wachusett Lower Gate House Pipe Replacement Resident Engineering Inspection	Jan-21	Nov-21	\$0.3			6
Watershed Division Capital Improvement	7752	Quabbin Water Supply Design/Construction Admin/Resdent Inspection	Jan-21	On Hold	\$0.3			2
Winsor Station Pipeline	7198	Shaft 2 Construction	Feb-21	Mar-21	\$1.1			3
Quabbin Transmission System	7780	Wachusett Dam Bridge Crane Removal	Feb-21	Jan-21	\$0.4			3 - Awarded in January
Deer Island Treatment Plant Asset Protection	7088	Odor Control Rehab - Design/Engineering Services During Construction	Mar-21	Jul-21	\$4.5			5
Deer Island Treatment Plant Asset Protection	7139	Cryogenics Plant Equipment Replacement -Design	Mar-21	Jul-21	\$3.3			6
Carroll Water Treatment Plant Asset Protection	7598	Soda Ash & Ammonia Equipment Replacement	Mar-21	Aug-21	\$2.7			6
Quabbin Transmission System	7698	Wachusett Lower Gate House Building Rehab Construction	Mar-21	Oct-21	\$2.2			5
Carroll Water Treatment Plant Asset Protection	7737	Corrosion Control Pipe Loop Study	Mar-21	Oct-21	\$0.5			6
Quabbin Transmission System	6940	Oakdale High Line Replacement Construction	Mar-21	Mar-22	\$0.5			6

**ATTACHMENT B
FY21 Planned Contract Awards (\$ in Millions)**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$ in millions)	Award Amount (\$ in millions)	Vendor	Schedule Change Reason Code *
Information Security Program (ISP)	7658	Managed Security Services Provider/Security Information and Event Management	Apr-21	Nov-21	\$2.6			6
Deer Island Treatment Plant Asset Protection	7169	Gas Protect System Replacment Phase 2	Apr-21	Apr-21	\$2.5			3
Deer Island Treatment Plant Asset Protection	7134	Radio Repeater System Upgrade 2	May-21	Sep-21	\$2.5			4
Facility Asset Protection	7555	Fuel Oil Tank Replacement Construction Phase 2	May-21	Aug-21	\$2.3			6
Residuals Asset Protection	7145	Residuals Facility Upgrades - Design	May-21	May-22	\$1.2			6
Waterworks Facility Asset	7708	Water Meter/Vault Manhole Phase 2 Design	May-21	In-house Design	\$1.0			2
MWRA Facilities Management	6983	Deer Island Old Admin Building Demolition Design/Engineering Services	May-21	May-22	\$0.7			6
Deer Island Treatment Plant Asset Protection	7052	Digester & Storage Tank Rehab Design/Engineering Services During Construction	Jun-21	Jul-21	\$4.1			6
Watershed Division Capital Improvement	7577	Maintenance Garage/Wash Bay/Storage Buiilding Construction	Jun-21	On Hold	\$3.9			2
Waterworks Facility Asset	7729	Beacon Street Line Design/Engineering Services During Construction	Jun-21	Jun-22	\$0.9			6

FY21 74 Anticipated Contract Awards 10 Planned Contract Awards through December 2020

\$439.1

\$65.8

Unplanned Awards

Clinton Wastewater Treatment Plant	7372	Valves and Pipe Replacement	May-20		\$0.5	\$0.5	Harding & Smith	
Carroll Water Treatment Plant	7085H	Carroll Water Treatment Plant Hypochlorite System Modifications	Sep-20		\$0.9	\$1.4	Harding & Smith	
Metro Redundancy Interim Improvements	7561	Tops of Shafts Rehab Shafts 7,8,9A	Apr-20		\$4.2	\$2.4	National Water Main Cleaning	
Applications Improvements Program	7438	Enterprise Content Management	May-20		\$3.0	\$2.3	Cadence Solutions Inc.,	

4 Unplanned Awards Through December 2020.

\$8.5

\$6.6


14 Total Awards Through December 2020.

\$72.5

*** Reason Codes:**

1. NTP issued in first half of FY21
2. Project/Phase eliminated or being performed in-house; combined with another project, or phase completed but on hold.
3. NTP expected January 2021 - June 2021.
4. Schedule change due to permitting.
5. Scope changes.
6. Changes in priorities.
7. Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review

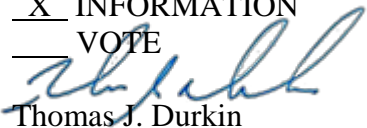
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: FY21 Financial Update and Summary Through January 2021

COMMITTEE: Administration, Finance & Audit

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

X INFORMATION
VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides financial results and variance highlights for Fiscal Year 2021 through January 2021, comparing actual spending to the budget.

DISCUSSION:

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of using 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 January the year-to-date debt related savings of \$7.3 million was transferred to the Defeasance Account. This is the result of the lower than budgeted variable interest rates, timing of the SRF transaction, partially offset by higher than anticipated Senior Debt.

The total Year-to-Date variance for the FY21 CEB is \$6.3 million, due to lower direct expenses of \$7.5 million, partially offset by higher indirect expenses of \$1.5 million; and higher revenue of \$0.2 million. The year-end favorable variance is projected at \$23.9 million, of which \$16.0 million is related to debt service. Beyond debt service savings, staff project a surplus of approximately \$8.0 million at year-end of which \$9.4 million would be from lower direct expenses, offset by higher indirect expenses of \$1.0 million and lower than budgeted revenues of \$0.4 million. Please note, these amounts may not add due to rounding.

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.

FY21 Current Expense Budget

The CEB expense variances through January 2021 by major budget category were:

- Lower Direct Expenses of \$7.5 million or 5.3% under budget. Spending was lower for Wages & Salaries, Professional Services, Utilities, Other Services, Maintenance, Fringe Benefits, Overtime, Worker's Compensation, Training and Meetings, and Chemicals. Spending was higher than budget for Other Materials.

- Higher Indirect Expenses of \$1.5 million or 5.0% over budget due primarily to the updated HEEC capacity and service charge, partially offset by lower Pension expense and Watershed reimbursements.

**FY21 Budget and FY21 Actual Variance by Expenditure Category
(in millions)**

	FY21 Budget YTD	FY21 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$142.1	\$134.6	-\$7.5	-5.3%
Indirect Expenses	\$29.2	\$30.6	\$1.5	5.0%
Capital Financing	\$257.2	\$257.2	\$0.0	0.0%
Total	\$428.5	\$422.4	-\$6.1	-1.4%

Totals may not add due to rounding

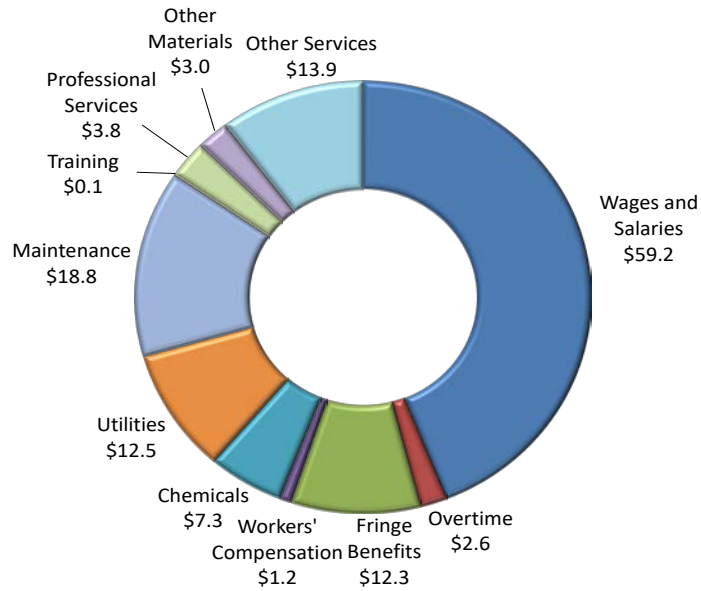
Total Revenues of \$458.6 million were \$0.2 million or 0.1% higher than budget due to higher Other Revenue, partially offset by lower Investment Income.

Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY21.

Direct Expenses

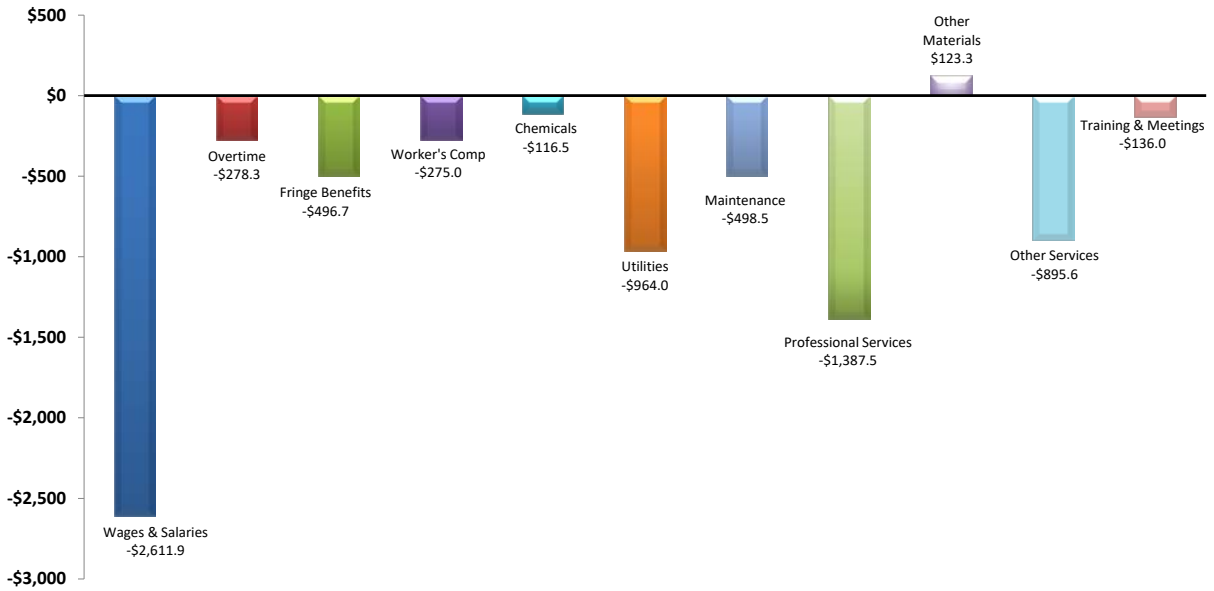
FY21 direct expenses through January totaled \$134.6 million, which was \$7.5 million or 5.3% less than budgeted.

**FY21 Direct Expenses
(in millions)**



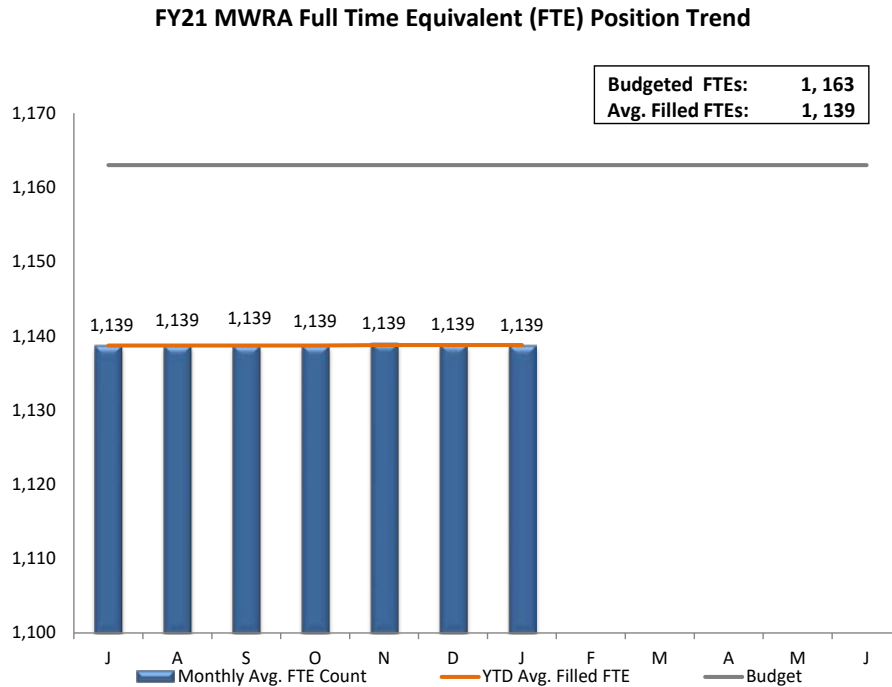
The budget variance is due to lower spending for Wages & Salaries, Professional Services, Utilities, Other Services, Maintenance, Fringe Benefits, Overtime, Worker’s Compensation, Training and Meetings, and Chemicals. Spending was higher than budget for Other Materials.

**FY21 Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries are under budget by \$2.6 million or 4.2%. Through January, there were 24 fewer average FTEs (1,139 versus 1,163 budget) or 2.1% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.



Professional Services

Professional Services were lower than budget by \$1.4 million or 26.7%. The overall underspending is due to lower than budgeted spending in Computer Systems Consultant of \$1.0 million in MIS primarily due to timing delays of projects including Website Redesign, PIMS Power Builder, Landesk, and Crystal Report Writer; Engineering of \$321,000 primarily in Field Operations; Other Professional Services of \$225,000 in Administration and Law; and Legal Services of \$166,000 in Law and Administration. This is partially offset by Lab and Testing Analysis of \$386,000 in Operations due to the Biobot contract.

Utilities

Utilities were less than budget by \$1.0 million or 7.2%. The budget variance is due to underspending in Electricity of \$850,000 primarily at Deer Island (\$554,000) driven primarily by power demand charges being less than budgeted based on flows, new pricing, and real time market prices for the non-block purchases under the Direct Energy contract; and Water Operations of \$218,000 due to lower rates and quantity.

Other Services

Other Services were lower than budget by \$0.9 million or 6.1%. The budget variance is due to lower than budgeted spending for Sludge Pelletization of \$728,000 due to lower year-to-date quantities, Memberships/Dues/Subscriptions of \$103,000 primarily in Operations, Grit and Screening Removal of \$99,000 due to lower quantities, and Telecommunications of \$64,000 primarily in MIS. This is partially offset by greater than budgeted spending in Other Services of \$172,000 primarily in Water Operations due to the Brookline water pipeline break.

Maintenance

Maintenance was lower than budget by \$0.5 million or 2.6%, largely driven by the timing of projects. Maintenance Materials which are under budget by (\$740,000), driven by HVAC Materials (\$338,000), Plant and Machinery Materials (\$327,000), and Electrical Materials (\$193,000). Maintenance Services are over budget by \$242,000 driven by Plant and Machinery Services (\$1.1 million) due to the timing of work on several contracts including the Deer Island painting and coatings project, partially offset by Building and Grounds Services (\$568,000) and Special Equipment Services (\$180,000).

Fringe Benefits

Fringe Benefit spending was lower than budget by \$0.5 million or 3.9%. This is primarily driven by lower Health Insurance costs of \$466,000, 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 that are less expensive.

Overtime

Overtime expenses were lower than budget by \$0.3 million or 9.7% primarily in Field Operations (\$346,000) mainly for emergency and planned overtime, with lower spending on emergency maintenance, CSO activation, planned off-hours maintenance, training and community assistance; TRAC (\$20,000) due to fewer responses to rain events and limited 8M permit inspections; and Engineering & Construction (\$68,000). This was partially offset by higher spending for Deer Island (\$168,000) for shift coverage including Covid-19 coverage and unplanned maintenance including HEEC maintenance.

Worker's Compensation

Worker's Compensation expenses were lower than budget by \$0.3 million or 19.2%. The lower expenses were primarily due to favorable variances in compensation payments (\$158,000), medical payments (\$82,000), and administrative expenses (\$34,000). This reflects fewer accidents and reduced severity of those accidents. Due to the uncertainties of when spending will happen, the budget is spread evenly throughout the year.

Training & Meetings

Training & Meetings expenses were lower than budget by \$0.1 million or 69.7% driven by the timing of spending as well as conferences that were postponed or canceled due to the pandemic.

Chemicals

Chemicals were lower than budget by \$0.1 million or 1.6%. Lower than budgeted spending on Soda Ash of \$107,000 is driven by Water Operations due to source water showing fluctuations in alkalinity which affects the dose and Clinton Wastewater Treatment Plant of \$44,000 due to the timing of deliveries; Sodium Hypochlorite of \$69,000 is driven by Field Operations due to lower dosing at the Carroll Water Treatment; Polymer of \$69,000 driven by Deer Island due to less usage for centrifuge operations; and Sodium Bisulfite of \$62,000 driven by Wastewater Treatment. This is offset by higher than budgeted spending on Carbon Dioxide of \$110,000 driven by Water Operations due to the force majeure surcharge and higher dose to meet pH target; Hydrogen Peroxide of \$88,000 driven by Deer Island due to higher Hydrogen Sulfide gas levels; and Ferric Chloride of \$84,000 driven by Deer Island to keep the orthophosphate levels in the digesters at the desired target level. Through January, Deer Island flows are 3.2% lower than the budget and Carroll flows are 0.02% higher than the budget. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns and timing.

Other Materials

Other Materials were higher than budget by \$0.1 million or 4.2% driven by higher than budgeted spending of \$302,000 for Computer Hardware in MIS and Health/Safety Materials of \$105,000, both of which are driven by the Covid-19 pandemic, as well as Vehicle Purchases/Replacements of \$182,000 which is due to timing. This is partially offset by under spending of \$172,000 for Other Materials and \$134,000 for Vehicle Expenses primarily due to less driving and lower fuel prices.

Indirect Expenses

Indirect Expenses totaled \$30.6 million, which is \$1.5 million or 5.0% greater than budget. The variance is primarily driven by the cost for the new HEEC cable (\$3.1 million). Based on the latest information from HEEC, MWRA will owe HEEC additional costs related to FY20, and we expect to make that payment by June 2021. Because we are now aware of this liability, we accrued for it starting in November. This is partially offset by lower Pension expense (\$1.0 million). After approval of the FY21 Current Expense Budget, the retirement system received a new Public Employee Retirement Administration Commission approved required contribution. The required contribution was reduced from \$11.0 million to \$10.0 million.

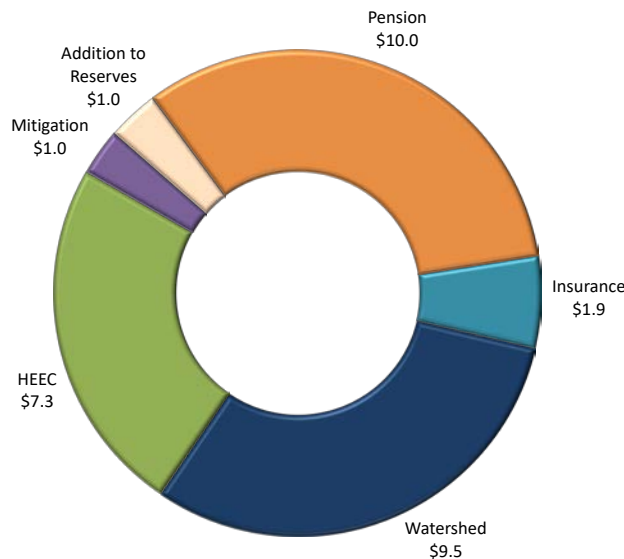
Lastly, Watershed costs are lower than budget by \$771,000 due to lower costs associated with Maintenance, Wages and Salaries, Equipment, Professional Services, and Fringe Benefits. This is partially offset by a prior period adjustment.

FY21 Watershed Protection Variance

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	10.9	9.0	-1.9	-17.4%
PILOT	0.0	0.0	0.0	0.0%
Subtotal	10.9	9.0	-1.9	-17.4%
Revenue offset	0.7	0.5	-0.2	-24.7%
Current Fiscal Year Net Total Budget	10.2	8.5	-1.7	-16.9%
DCR Balance Forward (FY20 4th quarter accrual true-up)	0.0	1.0	1.0	
Total Budget	10.2	9.5	-0.8	-7.5%

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment quarterly in arrears. Accruals are being made monthly based on estimated expenses provided by DCR and true-up quarterly based on the quarterly 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 January was 134 (and 132.1 on a year-to-date basis) vs. a budget of 150.

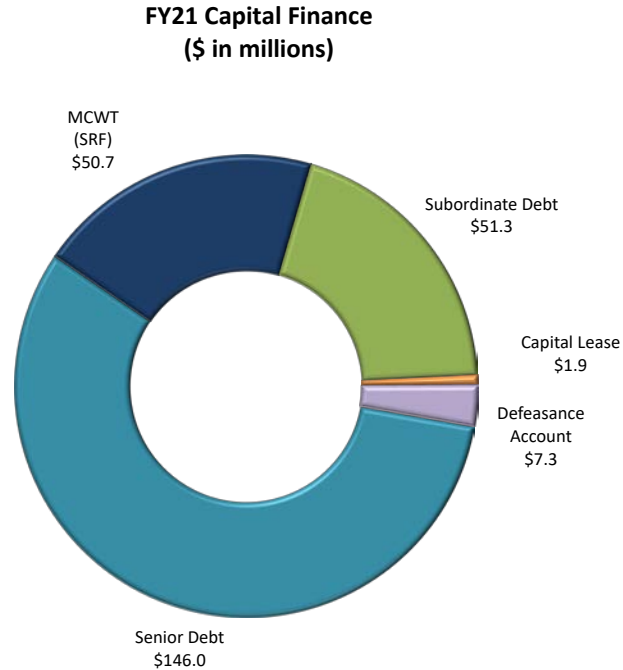
FY21 Indirect Expenses (in millions)



Capital Financing

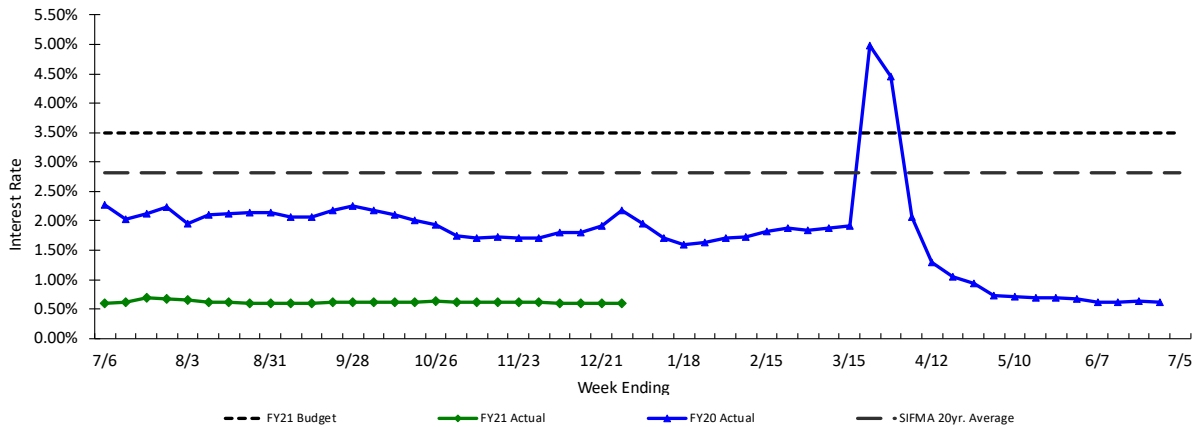
Capital Financing expenses include the principal and interest payments for fixed senior debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, Optional Debt Prepayment,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

Year-to-date Capital Financing expenses for FY21 totaled \$257.2 million, which is right on budget. In January, the year-to-date debt related savings of \$7.3 million was transferred to the Defeasance Account. This is the result of the lower than budgeted variable interest rates, timing of the SRF transaction, partially offset by higher than anticipated Senior Debt.



The graph below reflects the FY21 actual variable rate trend by week against the FY21 Budget.

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



Revenue & Income

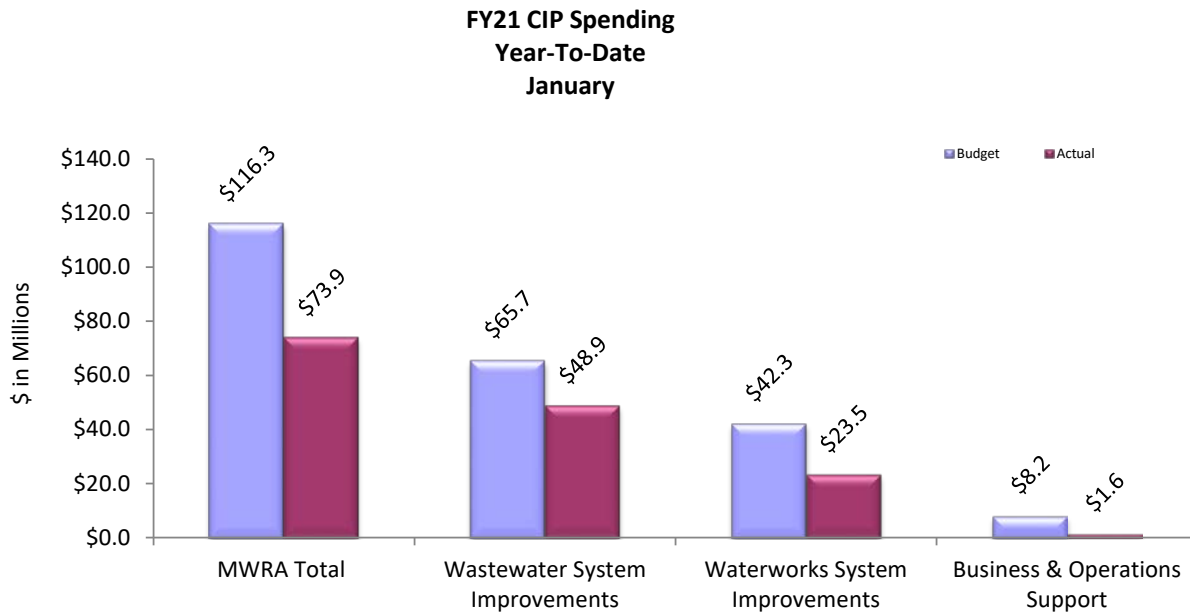
Revenues of \$458.6 million were \$239,000 or 0.1% over budget. Other Revenue was \$723,000 or 15.6% over budget due to Energy Revenue (\$372,000), Disposal of surplus materials of \$169,000, Miscellaneous Revenue of (\$152,000) primarily associated with worker's compensation reimbursement for older claims; \$68,000 in grant money; and \$42,000 for emergency water

surcharges. In addition, Other User Charges were over the budget by \$42,000 primarily due to the entrance fee payments from the Rivers School in Weston and Crescent Ridge Dairy in Sharon. This was partially offset by lower Investment Income of \$526,000 or 18.2% due to lower than budgeted interest rates (0.49% vs. 0.71%) partially offset by higher than budgeted average balances.

FY21 Capital Improvement Program

Capital expenditures in Fiscal Year 2021 through January total \$73.9 million, \$42.3 million or 36.4% 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 \$54.2 million, \$24.2 million or 30.9% under budget.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$16.8 million), Waterworks (\$18.9 million) and Business and Operations Support (\$6.6 million). Major variances in Wastewater are primarily due to Channel 4 work being behind schedule for the Chelsea Headworks Upgrades Construction and time extension, delay in equipment delivery and Covid-19 shutdown for Nut Island Odor Control and HVAC Improvements, updated schedules for Prison Point Rehabilitation and the Dorchester Infiltration/Inflow Removal, timing of community repayments for the I/I Local Financial Assistance Program due to less than anticipated communities deferring their loan repayments, work anticipated in FY21 that was completed in FY20 for the Pellet Conveyance Piping project, and delay in NTP and bypass pumping system for the Dorchester Interceptor Sewer. This was partially offset by timing of work for Deer Island Chemical Tank and Digester Pipe, and contractor progress for the Gas Protection System Replacement Phase 1 and Gravity Thickener Rehabilitation.

Waterworks variances are primarily due to less than anticipated communities deferring their loan repayments for the Water Loan Program, delay in award of CP-1 Shafts 6, 8 and 9A, timing of consultant work for the Tunnel Preliminary Design and MEPA Review and Program Support Services contracts. This was partially offset by contractor progress on both the Southern Extra

High Section 111 Construction 2 and 3, and Commonwealth Avenue Pumping Station Construction.

**FY21 Budget and FY21 Actual Variance by Program
(in millions)**

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	35.5	23.2	(12.3)	-34.7%
Treatment	10.1	10.4	0.3	3.0%
Residuals	3.1	1.4	(1.8)	-56.6%
CSO	2.4	0.8	(1.6)	-66.9%
Other	14.6	13.2	(1.4)	-9.8%
Total Wastewater System Improvements	\$65.7	\$48.9	(\$16.8)	-25.6%
Waterworks System Improvements				
Drinking Water Quality Improvements	1.1	0.8	(0.2)	-22.9%
Transmission	8.8	7.2	(1.6)	-18.0%
Distribution & Pumping	10.1	8.2	(1.9)	-18.9%
Other	22.4	7.3	(15.1)	-67.5%
Total Waterworks System Improvements	\$42.3	\$23.5	(\$18.9)	-44.5%
Business & Operations Support	\$8.2	\$1.6	(\$6.6)	-80.9%
Total MWRA	\$116.3	\$73.9	(\$42.3)	-36.4%

Totals may not add due to rounding

FY21 Spending by Program:

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

Other Waterworks: Net underspending of \$15.1 million

- \$15.0 million for Local Financial Assistance due to timing of community repayments due to less than anticipated communities deferring their loan repayments.
- \$0.5 million for Carroll Water Treatment Plant SCADA Design due to updated schedule for the SCADA Construction
- This underspending was partially offset by overspending of \$0.3 million for Cosgrove Intake Roof Replacement, \$0.2 million for Bellevue 2/Turkey Hill Tanks Painting, and \$0.1 million for Gillis Pumping Station/Cottage Farm CSO Roof Replacement due to FY20 planned work that was completed in FY21.

Interception & Pumping: Net underspending of \$12.3 million

- \$5.7 million for Chelsea Creek Upgrade Construction and Resident Engineering Inspection due to Channel 4 work behind schedule and time extension.
- \$2.6 million for Prison Point Rehabilitation Construction due to updated schedule.
- \$2.0 million for Nut Island Odor Control and HVAC Construction due to delays in equipment delivery and Covid-19 shut down.
- \$1.1 million for Dorchester Interceptor Sewer Construction and CA/RI due to delay in Notice to Proceed and bypass pumping system.

- \$0.8 million for Wastewater Metering Construction due to delay in award, and \$0.4 million for Wastewater Metering Planning/Design due to time extension through the construction installation and warranty period
- \$0.3 million for Prison Point Design/CA/REI due to delay in construction award.
- This underspending was partially offset by overspending of \$0.2 million for Siphon Structure Rehabilitation Design due to consultant progress.

Business & Operations Support: Net underspending of \$6.6 million

- \$2.2 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work, \$1.1 million for Lawson Upgrade and \$0.9 million for Enterprise Content Management due to schedule changes, \$0.4 million for Vehicle Purchases due to timing, and \$0.4 million for Security Equipment and Installation due to timing of physical security initiatives.

Water Distribution and Pumping: Net underspending of \$1.9 million

- \$1.6 million for Sections 23, 24, 47 Rehabilitation, and \$1.0 million for Section 89/29 Replacement - Construction due to schedule changes.
- \$0.3 million for Sections 25, 75, 59, and 60 Design/CA due to delay in getting field testing started.
- \$0.2 million for Sections 50/57 Water due to contract scope reduction.
- \$0.2 million for NIH Section 89 and 29 Design/CA/RI due to less than anticipated contract administration/resident inspection budgeted spending.
- This underspending was partially offset by overspending of \$1.5 million for Southern Extra High Section 111 Construction 2 and 3 due to contractor progress, \$0.4 million for Section 56 Replacement/Saugus River - Design/CA due to consultant progress.

Residuals: Net underspending of \$1.8 million

- \$1.2 million for Pellet Conveyance Piping Relocation and \$0.6 million for Residuals Mechanical/Electrical/Dryer Drum Replacements due to work anticipated in FY21 completed in FY20.

Waterworks Transmission: Net underspending of \$1.6 million

- \$1.3 million for CP-1 Shafts 6, 8, and 9A due to delay in award of contract.
- \$0.9 million for Tunnel Preliminary Design & MEPA Review and \$0.2 million for Program Support Services due to timing of consultant work.
- \$0.8 million for Weston Aqueduct Sluice Gates Construction, and \$0.4 million for River Road Improvements due to updated schedules.
- \$0.1 million for Weston Aqueduct Supply Mains/Spot Pond Supply Mains Design/CA due to delays in final design.
- This underspending was partially offset by overspending of \$2.5 million for WASM 3 Rehabilitation, CP-1 due to contractor initiating work sooner than anticipated, and \$0.4 million for Commonwealth Avenue Pumping Station Construction due to contractor progress.

Combined Sewer Overflow: Net underspending of \$1.6 million

- \$1.7 million for Dorchester Inflow Removal Construction due to updated schedules partially offset by \$0.1 million for CSO Performance Assessment due to greater than anticipated consultant progress.

Other Wastewater: Net underspending of \$1.4 million

- \$1.4 million for Community I/I Financial Assistance due to timing of community repayments as a result of less than anticipated communities deferring their loan repayments.

Wastewater Treatment: Net overspending of \$0.3 million

- \$0.6 million for Gravity Thickener Rehabilitation, \$0.4 million for Chemical Tank Relining and Digester Pipe Construction, and \$0.3 million for Gas Protection System Replacement Phase 1 due to contractor progress.
- \$0.1 million for Radio Repeater System Upgrade Phase 1 due to work anticipated in FY20 that was completed in FY21.
- This overspending was partially offset by underspending of \$0.7 million for less than anticipated as-needed task order work

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

- \$0.3 million for updated schedule for CP-7 Existing Facilities Modifications.

Construction Fund Balance

The construction fund balance was \$271.8 million as of the end of January. Commercial Paper/Revolving Loan available capacity was \$222 million.

ATTACHMENTS:

Attachment 1 – Variance Summary January 2021

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY21 Actuals vs. FY21 Budget

	Jan 2021 Year-to-Date				
	Period 7 YTD Budget	Period 7 YTD Actual	Period 7 YTD Variance	%	FY21 Approved
EXPENSES					
WAGES AND SALARIES	\$ 61,856,163	\$ 59,244,219	\$ (2,611,944)	-4.2%	\$ 112,919,298
OVERTIME	2,864,979	2,586,726	(278,253)	-9.7%	5,019,295
FRINGE BENEFITS	12,783,238	12,286,537	(496,701)	-3.9%	22,402,224
WORKERS' COMPENSATION	1,428,839	1,153,857	(274,982)	-19.2%	2,476,655
CHEMICALS	7,385,718	7,269,255	(116,463)	-1.6%	12,091,255
ENERGY AND UTILITIES	13,421,342	12,457,349	(963,993)	-7.2%	24,200,847
MAINTENANCE	19,328,734	18,830,241	(498,493)	-2.6%	32,618,569
TRAINING AND MEETINGS	195,080	59,124	(135,956)	-69.7%	405,264
PROFESSIONAL SERVICES	5,199,893	3,812,372	(1,387,521)	-26.7%	8,377,283
OTHER MATERIALS	2,918,986	3,042,258	123,272	4.2%	6,706,916
OTHER SERVICES	14,747,086	13,851,522	(895,564)	-6.1%	24,983,777
TOTAL DIRECT EXPENSES	\$ 142,130,058	\$ 134,593,461	\$ (7,536,597)	-5.3%	\$ 252,201,383
INSURANCE	\$ 1,764,933	\$ 1,893,466	\$ 128,533	7.3%	\$ 3,059,218
WATERSHED/PILOT	10,221,119	9,450,033	(771,086)	-7.5%	26,422,138
HEEC PAYMENT	4,162,615	7,279,408	3,116,793	74.9%	7,215,200
MITIGATION	976,352	953,111	(23,241)	-2.4%	1,692,344
ADDITIONS TO RESERVES	1,047,160	1,047,160	-	0.0%	1,815,077
RETIREMENT FUND	11,000,000	10,000,000	(1,000,000)	-9.1%	11,000,000
POST EMPLOYEE BENEFITS	-	-	-	---	6,065,490
TOTAL INDIRECT EXPENSES	\$ 29,172,179	\$ 30,623,178	\$ 1,450,999	5.0%	\$ 57,269,467
STATE REVOLVING FUND	\$ 52,766,824	\$ 50,663,610	\$ (2,103,214)	-4.0%	\$ 97,811,162
SENIOR DEBT	145,614,226	146,013,431	399,205	0.3%	258,730,904
DEBT SERVICE ASSISTANCE	-	-	-	---	-
CURRENT REVENUE/CAPITAL	-	-	-	---	16,200,000
SUBORDINATE MWRA DEBT	56,949,016	56,949,016	-	0.0%	96,339,598
LOCAL WATER PIPELINE CP	-	-	-	---	5,686,864
CAPITAL LEASE	1,855,996	1,855,996	-	0.0%	3,217,060
VARIABLE DEBT	-	(5,627,029)	(5,627,029)	---	-
DEFEASANCE ACCOUNT	-	7,331,037	7,331,037	---	3,900,000
DEBT PREPAYMENT	-	-	-	---	-
TOTAL DEBT SERVICE	\$ 257,186,062	\$ 257,186,062	\$ -	0.0%	\$ 481,885,588
TOTAL EXPENSES	\$ 428,488,299	\$ 422,402,701	\$ (6,085,598)	-1.4%	\$ 791,356,438
REVENUE & INCOME					
RATE REVENUE	\$ 443,875,962	\$ 443,875,962	\$ -	0.0%	\$ 769,385,000
OTHER USER CHARGES	6,136,251	6,178,033	41,782	0.7%	9,208,367
OTHER REVENUE	4,635,587	5,358,807	723,220	15.6%	6,095,403
RATE STABILIZATION	865,385	865,385	-	0.0%	1,500,000
INVESTMENT INCOME	2,883,489	2,357,298	(526,191)	-18.2%	5,167,668
TOTAL REVENUE & INCOME	\$ 458,396,674	\$ 458,635,485	\$ 238,811	0.1%	\$ 791,356,438

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD January	FY21 Actuals January	FY21 YTD Actual vs. FY21 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	61,856,163	59,244,219	(2,611,944)	-4.2%	Wages and Salaries are under budget by \$2.6 million. Year to date, there have been 24 fewer average FTEs (1,139 versus 1,163 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	2,864,979	2,586,726	(278,253)	-9.7%	Lower spending mainly in Field Operations (\$346,000) primarily in emergency and planned overtime with lower spending on emergency maintenance, CSO activation, planned off-hours maintenance, training and community assistance. TRAC (\$20,000) due to fewer responses to rain events and limited 8M permit inspections, and. Engineering & Construction (\$79,000), offset by higher spending for Deer Island (\$168,000) for shift coverage including Covid-19 coverage and unplanned maintenance including HECC maintenance.
Fringe Benefits	12,783,238	12,286,537	(496,701)	-3.9%	Lower than budget in Health Insurance of \$466,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive. In addition, Medicare was under budget by \$39,000, partially offset by Unemployment Insurance which is over budget by \$46,000.due to unemployment fraud charges that are being disputed..
Worker's Compensation	1,428,839	1,153,857	(274,982)	-19.2%	The lower expenses were due to favorable variances in Compensation Payments of \$158,000, Medical Payments of \$82,000, and Administrative Expenses of \$34,000. These lower payments reflect fewer accidents to date. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	7,385,718	7,269,255	(116,463)	-1.6%	Lower than budget spending on Soda Ash of \$107,000 driven by Water Operations due to source water showing fluctuations in alkalinity, affecting the dose and Clinton Wastewater Treatment Plant of \$44,000 due to timing of deliveries; Sodium Hypochlorite of \$69,000 driven by Field Operations due to lower dosing at JCWTP; Polymer of \$69,000 driven by DITP due to less usage for centrifuge operations; and Sodium Bisulfite of \$62,000 driven by Wastewater Treatment. This is offset by higher than budget spending on Carbon Dioxide of \$110,000 driven by Water Operations due to the force majeure surcharge and higher dose to meet pH target; Hydrogen Peroxide of \$88,000 driven by DITP due to higher H2S gas levels; and Ferric Chloride of \$84,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level. DITP flows are 3.2% lower than the budget and CWTP flows are 0.02% higher than the budget through January.. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD January	FY21 Actuals January	FY21 YTD Actual vs. FY21 Budget		Explanations
			\$	%	
Utilities	13,421,342	12,457,349	(963,993)	-7.2%	Underspending in Electricity of \$0.9 million primarily at DITP (\$0.6 million) driven primarily by lower pricing partially offset by usage, and real time energy and ancillary pricing has been lower under the Direct Energy contract.. Also, Water Operations (\$0.2 million) is under budget primarily due to lower rates and quantity.
Maintenance	19,328,734	18,830,241	(498,493)	-2.6%	Underspending in Ongoing Maintenance by \$498,000 is largely driven by the timing of projects. Maintenance Materials which are under budget by (\$0.7 million), driven by HVAC Materials (\$0.3 million), Plant & Machinery Materials (\$0.3 million), Electrical Materials (\$0.2 million), and Special Equipment Materials (\$0.2 million), partially offset by Warehouse inventory (\$0.3 million) and Automotive Materials (\$0.1 million). Also, <i>Maintenance Services</i> are over budget by \$0.2 million driven by Plant and Machinery Services (\$1.1 million) driven by timing of work for several contracts including DITP painting and coatings and Computer Software Licenses (\$0.1 million), partially offset by Building & Grounds Services (\$0.6 million) and Special Equipment Services (\$0.2 million)..
Training & Meetings	195,080	59,124	(135,956)	-69.7%	Lower than budget spending on Training & Meetings by \$136,000 is driven by MIS (\$49,000), Field Operations (\$27,000), DI (\$17,000), Engineering & Construction (\$9,000), and Procurement (\$8,000) primarily due to timing and conferences that were postponed or canceled.
Professional Services	5,199,893	3,812,372	(1,387,521)	-26.7%	Lower than budget spending in Computer Systems Consultant of \$1.0 million in MIS primarily due to timing delays of projects including Website Redesign, PIMS Power Builder, Landesk, and Crystal Report Writer; Engineering of \$321,000 primarily in Field Operations; Other Professional Services of \$225,000 in Administration and Law; Legal Services of \$166,000 in Law and Administration; partially offset by Lab and Testing Analysis of \$386,000 in Operations due to the Biobot contract.
Other Materials	2,918,986	3,042,259	123,273	4.2%	Driven by higher than budgeted spending of \$302,000 for Computer Hardware in MIS and \$105,000 for Health/Safety Materials both driven by purchases due to Covid-19, and Vehicle Purchases/Replacements of \$182,000 due to timing, partially offset by \$172,000 for Other Materials , and \$134,000 for Vehicle Expense primarily due to less driving and lower fuel prices.
Other Services	14,747,086	13,851,522	(895,564)	-6.1%	Lower than budgeted spending for Sludge Pelletization of \$728,000 due to lower year-to-date quantities; Memberships/Dues/Subscriptions of \$103,000 primarily in Operations; Grit & Screening Removal of \$99,000 due to lower quantities, and Telecommunication Services of \$64,000 primarily in MIS, partially offset by higher than budgeted spending for Other Services of \$172,000 primarily in Water Operations due to the Brookline water pipeline break.
Total Direct Expenses	142,130,058	134,593,461	(7,536,597)	-5.3%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD January	FY21 Actuals January	FY21 YTD Actual vs. FY21 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,764,933	1,893,466	128,533	7.3%	Higher premiums received for property and excess general liability (\$214,000) offset by Lower Payments/Claims costs (\$85,000).
Watershed/PILOT	10,221,119	9,450,033	(771,086)	-7.5%	Watershed costs are lower than budget by \$771,000 due to lower costs associated with Maintenance, Wages and Salaries, Equipment, Professional Services, Fringe, and Utilities, and partially offset by a prior period adjustment.
HEEC Payment	4,162,615	7,279,408	3,116,793	74.9%	Increase is due to updated cost for HEEC capacity and service charge.
Mitigation	976,352	953,111	(23,241)	-2.4%	
Addition to Reserves	1,047,160	1,047,160	-	0.0%	
Pension Expense	11,000,000	10,000,000	(1,000,000)	-9.1%	After approval of the FY21 CEB, the retirement system received a new PERAC approved required contribution. The required deposit was reduced from \$11.0 million to \$10.0 million.
Post Employee Benefits	-	-	-		
Total Indirect Expenses	29,172,179	30,623,178	1,450,999	5.0%	
Debt Service					
Debt Service	257,186,062	257,186,062	-	0.0%	\$7.3 million was transferred to the defeasance account reflecting lower than budgeted interest expenses of \$5.6 million due to lower interest rates and lower SRF spending of \$2.1 million as a result of timing, and higher than anticipated Senior Debt of \$0.4 million.
Debt Service Assistance	-	-	-		
Total Debt Service Expenses	257,186,062	257,186,062	-	0.0%	
Total Expenses					
Total Expenses	428,488,299	422,402,701	(6,085,598)	-1.4%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD January	FY21 Actuals January	FY21 YTD Actual vs. FY21 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	443,875,962	443,875,962	-	0.0%	
Other User Charges	6,136,251	6,178,033	41,782	0.7%	Rivers School in Weston entrance fee of \$42,000 and Crescent Ridge Dairy in Sharon of \$34,000, partially offset by other user charges of (\$34,000).
Other Revenue	4,635,587	5,358,807	723,220	15.6%	Energy Revenue (\$372,000); Disposal of surplus materials of \$169,000; Miscellaneous Revenue of (\$152,000) primarily associated with worker's compensation reimbursement for older claims; (\$68,000) in grant money, and \$42,000 for emergency water supply surcharge.
Rate Stabilization	865,385	865,385	-	0.0%	HEEC Reserve.
Investment Income	2,883,489	2,357,298	(526,191)	-18.2%	Investment Income is under budget due to lower than budgeted interest rates (0.49% actual vs. 0.71% budget) partially offset by higher than budgeted average balances.
Total Revenue	458,396,674	458,635,485	238,811	0.05%	
Net Revenue in Excess of Expenses	29,908,375	36,232,784	6,324,409		

**ATTACHMENT 3
FY21 CIP Year-to-Date Variance Report (\$000's)**

	FY21 Budget YTD January	FY21 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$35,507	\$23,198	(\$12,310)	-34.7%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$5.7M (delay in work on Channel 4, and time extension) Prison Point Rehabilitation - Construction; \$2.6M (updated schedule) Nut Island Odor Control & HVAC Improvements Phase 2 - Construction: \$2.0M (delays in equipment delivery and Covid-19 shut down) Interceptor Renewal No. 3, Dorchester Interceptor Sewer - Construction and CA/RI: \$1.1M (delay in notice-to-proceed and bypass pumping system) Wastewater Meter System Equipment Replacement: \$774k (delay in award) Wastewater Meter System Planning/Study/Design: \$405k (pending time extension through construction installation and warranty period) Prison Point Rehabilitation - Design/CA/RI: \$343k (delay in construction award) <u>Offset Underspending</u> Siphon Structure Rehabilitation Design: \$178k (consultant progress)
Treatment	\$10,079	\$10,377	\$297	3.0%	<u>Overspending</u> Gravity Thickener Rehabilitation: \$587k, and Gas Protection System Replacement - Phase 1: \$344k (contractor progress) Chemical Tank and Digester Pipe: \$430k (timing of work) Radio Repeater System Upgrade - Phase 1: \$138k (work anticipated in FY20 completed in FY21) <u>Offset Underspending</u> As-Needed Design: \$746k (less than anticipated task order work)
Residuals	\$3,130	\$1,358	(\$1,772)	-56.6%	<u>Underspending</u> Pellet Conveyance Relocation: \$1.2M, and Residuals Mechanical/Electrical/Dryer Drum Replacements: \$596k (work anticipated in FY21 completed in FY20)
CSO	\$2,437	\$806	(\$1,631)	-66.9%	<u>Underspending</u> Dorchester Inflow Removal Construction: \$1.7M (updated schedules) Offset Overspending CSO Performance Assessment: \$104k (consultant progress)
Other Wastewater	\$14,577	\$13,154	(\$1,423)	-9.8%	<u>Underspending</u> I/I Local Financial Assistance: \$1.4M (timing of community repayments as a result of less than anticipated communities deferring loan repayments)
Total Wastewater	\$65,731	\$48,893	(\$16,838)	-25.6%	

**ATTACHMENT 3
FY21 CIP Year-to-Date Variance Report (\$000's)**

	FY21 Budget YTD January	FY21 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$1,066	\$822	(\$245)	-22.9%	<u>Underspending</u> CP-7 Existing Facilities Modifications: \$300k (updated schedule) Carroll Water Treatment Plant Technical Assistance 9 & 10: \$66k (timing of task order work)
Transmission	\$8,763	\$7,182	(\$1,581)	-18.0%	<u>Underspending</u> CP-1 Shafts 6, 8, and 9A: \$1.3M (delay in award of contract) Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review: \$900k, and Program Support Services: \$164k (timing of consultant work) Weston Aqueduct Sluice Gates - Construction: \$766k, and River Road Improvements-Wachusett: \$404k (updated schedules) Watershed Land: \$308k (timing of purchases) Weston Aqueduct Supply Mains/Spot Pond Supply Mains - Design/CA: \$122k (delays in final design) <u>Offset Overspending</u> WASM 3 Rehabilitation, CP-1: \$2.5M (contractor initiated work sooner than anticipated) Commonwealth Ave Pump Station Improvements - Construction: \$439k, (contractor progress)
Distribution & Pumping	\$10,105	\$8,199	(\$1,906)	-18.9%	<u>Underspending</u> CP3-Sections 23, 24, 47 Rehabilitation and CA/RI: \$1.6M, and Section 89/29 Replacement - Construction: \$1.0M (schedule changes) Sections 25, 75, 59 & 60 Replacement - Design/CA: \$289k (delay in commencement of field testing) Sections 50 & 57 Water Rehabilitation - Design/ESDC; \$209k (contract scope reduction) NEH Improvements Design & ESDC: \$143k (updated schedule) Section 89/29 Redundancy -Design/CA/RI: \$165k (Construction Administration and Resident Inspection services less than anticipated budgeted spending) <u>Offset Overspending</u> SEH Redundancy Pipeline Section 111 - Construction Phase 2 & 3: \$1.5M (contractor progress) Section 56 Replacement/Saugus River - Design/CA: \$395K (consultant progress) Section 89/29 Redundancy Construction Phase 2: \$87k (final work completed)

**ATTACHMENT 3
FY21 CIP Year-to-Date Variance Report (\$000's)**

	FY21 Budget YTD January	FY21 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
Other Waterworks	\$22,403	\$7,281	(\$15,121)	-67.5%	<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$15.0M (timing of community repayments due to less than anticipated communities deferring their loan repayments) CWTP SCADA Upgrades - Design Programming RE: \$471k (updated schedule for SCADA Construction) <u>Offset Overspending</u> Cosgrove Intake Roof Replacement: \$266k, Bellevue 2/Turkey Hill Tanks Painting: \$177k, and Gillis Pump Station/Cottage Farm CSO Roof Replacements: \$141k (FY20 planned work completed in FY21)
Total Waterworks	\$42,337	\$23,484	(\$18,853)	-44.5%	
Business & Operations Support					
Total Business & Operations Support	\$8,204	\$1,564	(\$6,640)	-80.9%	<u>Underspending</u> As-Needed Technical Assistance and CS/REI Services: \$2.2M (lower than projected task order work) Lawson Upgrade: \$1.1M, Enterprise Content Management: \$898k, Telephone System Upgrade: \$298k, MAXIMO Interface Enhancements: \$246k, and Instrumentation & Controls IT: \$198k (schedule changes) Security Equipment & Installation: \$441k (timing of physical security initiatives) FY19-23 Vehicle Purchases: \$374k (due to timing)
Total MWRA	\$116,272	\$73,941	(\$42,331)	-36.4%	


Attachment 4
FY21 Budget vs. FY21 Projection

TOTAL MWRA	FY21 Budget	FY21 Projection	Change FY21 Budget vs FY21 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 112,919,297	\$ 108,224,204	\$ (4,695,093)	-4.2%
OVERTIME	5,019,296	4,948,638	(70,658)	-1.4%
FRINGE BENEFITS	22,402,224	21,536,592	(865,632)	-3.9%
WORKERS' COMPENSATION	2,476,655	2,000,018	(476,637)	-19.2%
CHEMICALS	12,091,255	12,069,541	(21,714)	-0.2%
ENERGY AND UTILITIES	24,200,846	23,246,152	(954,694)	-3.9%
MAINTENANCE	32,618,569	32,927,928	309,358	0.9%
TRAINING AND MEETINGS	405,264	189,676	(215,588)	-53.2%
PROFESSIONAL SERVICES	8,377,283	6,539,644	(1,837,639)	-21.9%
OTHER MATERIALS	6,706,916	6,870,184	163,268	2.4%
OTHER SERVICES	24,983,777	24,245,984	(737,793)	-3.0%
TOTAL DIRECT EXPENSES	\$ 252,201,383	\$ 242,798,562	\$ (9,402,821)	-3.7%
INSURANCE	\$ 3,059,218	\$ 3,224,058	164,840	5.4%
WATERSHED/PILOT	26,422,138	25,108,346	(1,313,792)	-5.0%
HEEC PAYMENT	7,215,200	10,431,993	3,216,793	44.6%
MITIGATION	1,692,344	1,652,058	(40,286)	-2.4%
ADDITIONS TO RESERVES	1,815,077	1,815,077	-	0.0%
RETIREMENT FUND	11,000,000	10,000,000	(1,000,000)	-9.1%
POSTEMPLOYMENT BENEFITS	6,065,490	6,065,490	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 57,269,467	\$ 58,297,022	\$ 1,027,555	1.8%
STATE REVOLVING FUND	\$ 97,811,162	\$ 97,811,162	-	0.0%
SENIOR DEBT	258,730,904	255,429,061	(3,301,843)	-1.3%
SUBORDINATE DEBT	96,339,599	86,657,940	(9,681,659)	-10.0%
LOCAL WATER PIPELINE CP	5,686,864	2,680,950	(3,005,914)	-52.9%
CURRENT REVENUE/CAPITAL	16,200,000	16,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	3,900,000	3,900,000	-	0.0%
TOTAL DEBT SERVICE	\$ 481,885,588	\$ 465,896,172	\$ (15,989,416)	-3.3%
TOTAL EXPENSES	\$ 791,356,438	\$ 766,991,756	\$ (24,364,682)	-3.1%
REVENUE & INCOME				
RATE REVENUE	\$ 769,385,000	\$ 769,385,000	-	0.00%
OTHER USER CHARGES	9,208,367	9,250,367	42,000	0.5%
OTHER REVENUE	6,095,403	6,461,127	365,724	6.0%
RATE STABILIZATION	1,500,000	1,500,000	-	0.0%
INVESTMENT INCOME	5,167,668	4,341,478	(826,190)	-16.0%
TOTAL REVENUE & INCOME	\$ 791,356,438	\$ 790,937,972	\$ (418,466)	-0.1%

VARIANCE:

\$ (23,946,216) \$ (23,946,216)


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Preliminary FY22 Water and Sewer Assessments

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Michael Cole, Budget Director
Leo Norton, Asst. Mgr, Rates, Revenue and Finance
 Preparer/Title


Thomas J. Durkin
 Director of Finance

Consistent with the Proposed FY22 Current Expense Budget (CEB), preliminary FY22 water and sewer assessments are based on a Rate Revenue Requirement of \$796,891,000, a 3.6% increase over the FY21 Rate Revenue Requirement. This includes a 3.9% increase for water assessments, and a 3.4% increase for sewer assessments.

The preliminary FY22 Rate Revenue Requirement will be allocated to MWRA communities based on their respective shares of CY20 MWRA water use, the average of CY18-CY20 wastewater flows, corresponding strength of flows, and population.

RECOMMENDATION:

For information only. This staff summary provides information on preliminary FY22 wholesale water and sewer assessments. Staff plan to transmit preliminary FY22 assessments to MWRA communities on or before Thursday, February 18, 2021.

DISCUSSION:

The Proposed FY22 CEB recommends a Rate Revenue Requirement of \$796,891,000, an increase of 3.6% over the final FY21 requirement.

	FY22 Preliminary	FY21 Approved	\$ Change from FY21	% Change from FY21
Water	\$278,612,227	\$268,071,397	\$10,540,830	3.9%
Sewer	\$518,278,773	\$501,313,603	\$16,965,170	3.4%
Total	\$796,891,000	\$769,385,000	\$27,506,000	3.6%

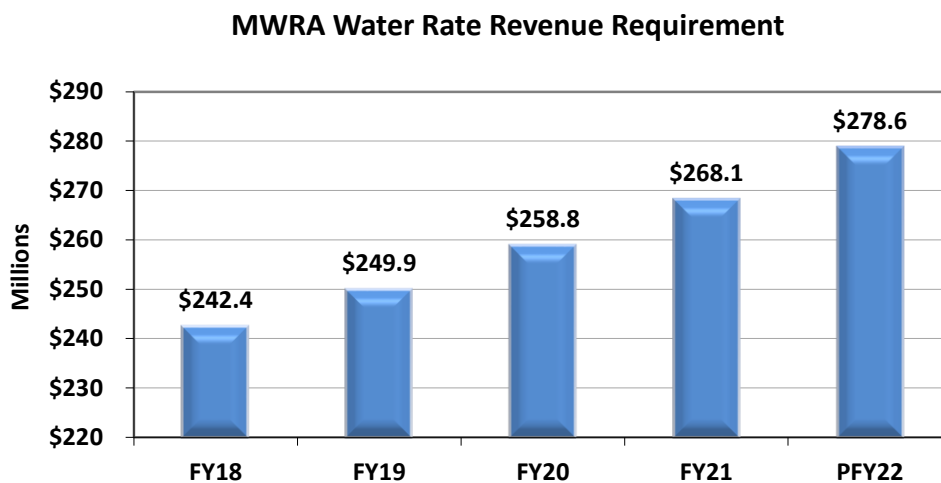
Attachment 1 summarizes preliminary FY22 wholesale water and sewer charges for each MWRA community.

The estimated annual impact of the preliminary FY22 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is approximately \$19.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community's share of total water use for the most recent calendar year. Preliminary FY22 assessments are based on each community's share of CY20 water use of 63.228 billion gallons, a 1.9% increase compared to CY19 water use of 62.045 billion gallons. Changes in FY22 water assessments for customer communities compared to FY21 assessments will vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY20 compared to CY19. This is particularly true for communities that receive only part of their water from MWRA.

The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY21 to PFY22 are primarily the result of increased debt service related to water system rehabilitation and improvements.

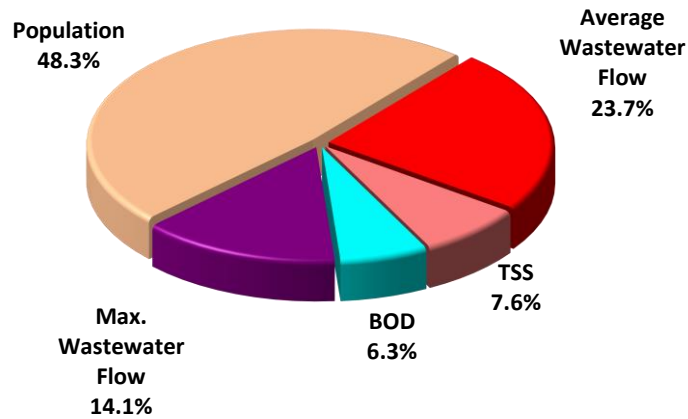


Sewer Assessments

MWRA allocates sewer assessments based on each community's share of the following allocation parameters: three-year average of annual wastewater flow, maximum month flow, strength of flow, census population, and sewered population.

On average, approximately 52% of a community's preliminary FY22 sewer assessment is based on each community's share of wastewater flow and strength of flow (total suspended solids or TSS and biochemical oxygen demand or BOD), and approximately 48% is based on population as illustrated in the next graph.

Allocation of MWRA Sewer Utility Assessment

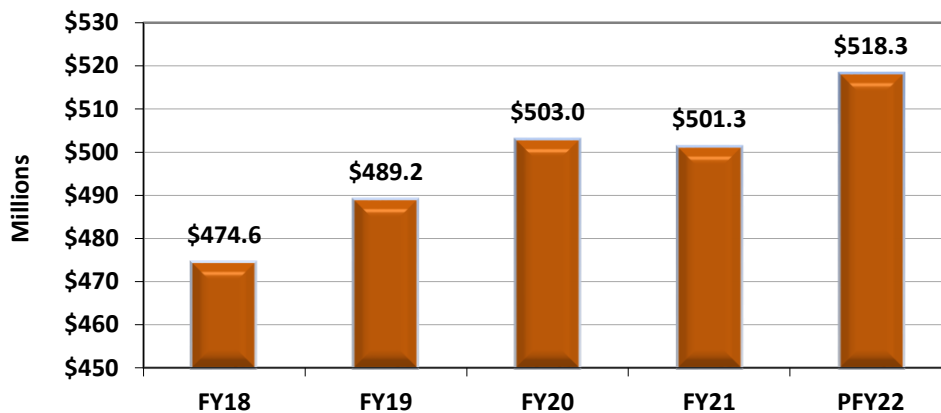


Both the preliminary and final FY22 assessments for population will be calculated using the most recent (July 2019) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service reported by each MWRA community.

Preliminary FY22 assessments have also been calculated using the average of CY18, CY19 and CY20 wastewater flows. Ongoing review of meter data may result in revised flows prior to issuing final assessments in June.

The graph below illustrates the sewer Rate Revenue Requirement for the past 5 years. As with the water utility, the annual changes continue to be primarily the result of increased debt service related to sewer system rehabilitation and improvements.

MWRA Sewer Rate Revenue Requirement



Clinton and Lancaster Sewer Assessments

Proposed FY22 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$4,483,858, a decrease of 4.1% from FY21. This includes a 10.2% decrease in operating costs, and an 11.3% increase in capital expenses.

In accordance with the agreement that allows the City of Worcester to take water from the Wachusett watershed, Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. Proposed FY22 direct operating expenses for the plant total \$2,419,118, resulting in a preliminary FY22 charge of \$191,376 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton Plant. Based on proposed FY22 expenses and CY20 wastewater flows, Lancaster's preliminary FY22 charge is \$459,960, an increase of 6.0% from the final FY21 charge of \$433,771.

The preliminary FY22 charge for the Town of Clinton is \$3,856,170. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs.

Attachment 2 details the expenses and corresponding charges for the Clinton Sewer Service Area.

CVA Water Assessments

Based on the Proposed FY22 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the preliminary FY22 system assessment is \$5,275,144, a decrease of 0.1% from FY21 assessments.

MWRA's CVA water assessment methodology allocates CVA assessments to the three communities served by the CVA system based on their share of prior calendar year water use. Based on CY20 water use, preliminary FY22 assessments are as follows:

- City of Chicopee: \$3,604,714 (-2.8%)
- South Hadley Fire District #1: \$ 797,869 (+4.1%)
- Town of Wilbraham: \$ 872,561 (+7.9%)

As with the metropolitan water system, changes in preliminary FY22 water assessments for each CVA community compared to FY21 assessments vary depending on their water use and how that use factors into their share of the CVA water system in CY20 compared to CY19.

Attachment 3 details the expenses and corresponding assessments for the CVA Water Service Area.

Wholesale Water Rate

MWRA's wholesale water rate per million gallons is applied to customers purchasing MWRA water on a pay-as-you-go basis (including customers with emergency agreements). The preliminary wholesale water rate for FY22 is \$4,406.47 per million gallons. The proposed FY22 CEB includes revenue of \$150,178 from these customers.

Retail Sewer Rate

MWRA provides direct retail sewer service to Regis College in Weston and the New England Center for Children in Southborough. In accordance with MWRA Policy #OP.11, "Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area", both entities are charged a modified per million gallon "retail" rate that captures both sanitary and non-sanitary flows. Based on preliminary FY22 sewer assessments, the FY22 retail sewer rate will be \$7,832.04 per million gallons. The Proposed FY22 CEB includes revenue of \$44,387 from these customers.

ATTACHMENTS:

1. Preliminary FY22 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant Sewer User Charge Determination
3. Chicopee Valley Aqueduct System Assessment

MWRA Fully Served Water and Sewer Customers	Final FY21 Water Assessment	Preliminary FY22 Water Assessment	Percent Change from FY21	Final FY21 Sewer Assessment	Preliminary FY22 Sewer Assessment	Percent Change from FY21	Final FY21 Combined Assessment	Preliminary FY22 Combined Assessment	Dollar Change from FY21	Percent Change from FY21
ARLINGTON	5,627,090	5,984,120	6.3%	8,872,540	9,193,053	3.6%	\$14,499,630	\$15,177,173	\$677,543	4.7%
BELMONT	3,040,437	3,336,201	9.7%	5,332,639	5,522,932	3.6%	8,373,076	8,859,133	486,057	5.8%
BOSTON (BWSC)	97,981,545	94,373,408	-3.7%	145,976,286	149,921,742	2.7%	243,957,831	244,295,150	337,319	0.1%
BROOKLINE	7,543,434	8,046,192	6.7%	13,249,272	13,755,473	3.8%	20,792,706	21,801,665	1,008,959	4.9%
CHELSEA	5,158,804	5,484,113	6.3%	8,585,318	9,047,714	5.4%	13,744,122	14,531,827	787,705	5.7%
EVERETT	5,958,067	6,300,086	5.7%	9,529,946	9,687,451	1.7%	15,488,013	15,987,537	499,524	3.2%
FRAMINGHAM	8,834,401	9,328,304	5.6%	13,209,393	13,870,891	5.0%	22,043,794	23,199,195	1,155,401	5.2%
LEXINGTON	8,006,399	8,782,170	9.7%	7,922,359	8,232,301	3.9%	15,928,758	17,014,471	1,085,713	6.8%
MALDEN	7,980,333	8,414,812	5.4%	13,376,032	13,914,521	4.0%	21,356,365	22,329,333	972,968	4.6%
MEDFORD	6,872,249	7,392,273	7.6%	12,312,099	12,627,546	2.6%	19,184,348	20,019,819	835,471	4.4%
MELROSE	3,105,038	3,526,693	13.6%	6,642,072	6,889,551	3.7%	9,747,110	10,416,244	669,134	6.9%
MILTON	3,524,251	3,885,233	10.2%	5,780,577	5,953,017	3.0%	9,304,828	9,838,250	533,422	5.7%
NEWTON	13,532,097	13,777,627	1.8%	21,895,848	22,492,759	2.7%	35,427,945	36,270,386	842,441	2.4%
NORWOOD	4,246,016	4,428,418	4.3%	8,188,530	8,534,690	4.2%	12,434,546	12,963,108	528,562	4.3%
QUINCY	12,401,474	13,499,643	8.9%	20,972,691	21,620,948	3.1%	33,374,165	35,120,591	1,746,426	5.2%
READING	2,399,752	2,843,676	18.5%	5,250,778	5,415,803	3.1%	7,650,530	8,259,479	608,949	8.0%
REVERE	5,591,863	5,781,193	3.4%	10,748,405	11,145,798	3.7%	16,340,268	16,926,991	586,723	3.6%
SOMERVILLE	8,711,112	9,012,516	3.5%	16,822,763	17,143,800	1.9%	25,533,875	26,156,316	622,441	2.4%
STONEHAM	2,870,605	3,576,978	24.6%	4,988,619	5,624,810	12.8%	7,859,224	9,201,788	1,342,564	17.1%
WALTHAM	10,046,663	10,383,579	3.4%	13,972,854	14,397,848	3.0%	24,019,517	24,781,427	761,910	3.2%
WATERTOWN	3,935,832	4,184,354	6.3%	6,648,177	6,859,624	3.2%	10,584,009	11,043,978	459,969	4.3%
WINTHROP	1,958,437	2,083,241	6.4%	3,714,891	3,859,283	3.9%	5,673,328	5,942,524	269,196	4.7%
TOTAL	\$229,325,899	\$234,424,830	2.2%	\$363,992,089	\$375,711,555	3.2%	\$593,317,988	\$610,136,385	\$16,818,397	2.8%

MWRA Sewer and Partial Water Customers	Final FY21 Water Assessment	Preliminary FY22 Water Assessment	Percent Change from FY21	Final FY21 Sewer Assessment	Preliminary FY22 Sewer Assessment	Percent Change from FY21	Final FY21 Combined Assessment	Preliminary FY22 Combined Assessment	Dollar Change from FY21	Percent Change from FY21
CANTON	1,626,637	1,513,980	-6.9%	4,599,635	4,797,554	4.3%	\$6,226,272	\$6,311,534	\$85,262	1.4%
NEEDHAM	1,122,902	1,677,742	49.4%	6,399,895	6,662,310	4.1%	7,522,797	8,340,052	817,255	10.9%
STOUGHTON	141,002	168,213	19.3%	5,226,978	5,473,699	4.7%	5,367,980	5,641,912	273,932	5.1%
WAKEFIELD	2,874,557	2,837,491	-1.3%	6,577,299	6,793,284	3.3%	9,451,856	9,630,775	178,919	1.9%
WELLESLEY	1,835,381	2,311,780	26.0%	5,955,781	6,126,433	2.9%	7,791,162	8,438,213	647,051	8.3%
WILMINGTON	599,456	1,103,479	84.1%	2,953,524	3,033,983	2.7%	3,552,980	4,137,462	584,482	16.5%
WINCHESTER	1,835,487	2,102,441	14.5%	4,440,715	4,569,952	2.9%	6,276,202	6,672,393	396,191	6.3%
WOBURN	4,199,480	4,957,716	18.1%	9,434,265	9,553,873	1.3%	13,633,745	14,511,589	877,844	6.4%
TOTAL	\$14,234,902	\$16,672,842	17.1%	\$45,588,092	47,011,088	3.1%	\$59,822,994	\$63,683,930	\$3,860,936	6.5%

MWRA Sewer-only Customers	Final FY21 Water Assessment	Preliminary FY22 Water Assessment	Percent Change from FY21	Final FY21 Sewer Assessment	Preliminary FY22 Sewer Assessment	Percent Change from FY21	Final FY21 Combined Assessment	Preliminary FY22 Combined Assessment	Dollar Change from FY21	Percent Change from FY21
ASHLAND				2,675,100	2,774,667	3.7%	\$2,675,100	\$2,774,667	\$99,567	3.7%
BEDFORD				3,563,964	3,640,475	2.1%	3,563,964	3,640,475	76,511	2.1%
BRAINTREE				10,046,123	10,527,612	4.8%	10,046,123	10,527,612	481,489	4.8%
BURLINGTON				5,969,600	6,212,321	4.1%	5,969,600	6,212,321	242,721	4.1%
CAMBRIDGE				26,630,300	27,943,480	4.9%	26,630,300	27,943,480	1,313,180	4.9%
DEDHAM				5,877,037	6,117,518	4.1%	5,877,037	6,117,518	240,481	4.1%
HINGHAM SEWER DISTRICT				2,005,219	2,075,210	3.5%	2,005,219	2,075,210	69,991	3.5%
HOLBROOK				1,816,238	1,898,064	4.5%	1,816,238	1,898,064	81,826	4.5%
NATICK				5,916,657	6,175,580	4.4%	5,916,657	6,175,580	258,923	4.4%
RANDOLPH				6,743,289	6,881,958	2.1%	6,743,289	6,881,958	138,669	2.1%
WALPOLE				4,125,676	4,313,987	4.6%	4,125,676	4,313,987	188,311	4.6%
WESTWOOD				3,121,245	3,271,442	4.8%	3,121,245	3,271,442	150,197	4.8%
WEYMOUTH				13,242,974	13,723,816	3.6%	13,242,974	13,723,816	480,842	3.6%
TOTAL				\$91,733,422	\$95,556,130	4.2%	\$91,733,422	\$95,556,130	\$3,822,708	4.2%

MWRA Water-only Customers	Final FY21 Water Assessment	Preliminary FY22 Water Assessment	Percent Change from FY21	Final FY21 Sewer Assessment	Preliminary FY22 Sewer Assessment	Percent Change from FY21	Final FY21 Combined Assessment	Preliminary FY22 Combined Assessment	Dollar Change from FY21	Percent Change from FY21
LYNNFIELD WATER DISTRICT	764,867	865,761	13.2%				\$764,867	\$865,761	\$100,894	13.2%
MARBLEHEAD	2,664,131	3,106,420	16.6%				2,664,131	3,106,420	442,289	16.6%
NAHANT	514,383	535,673	4.1%				514,383	535,673	21,290	4.1%
SAUGUS	4,465,635	4,882,255	9.3%				4,465,635	4,882,255	416,620	9.3%
SOUTHBOROUGH	1,003,016	1,238,325	23.5%				1,003,016	1,238,325	235,309	23.5%
SWAMPSCOTT	2,342,440	2,592,611	10.7%				2,342,440	2,592,611	250,171	10.7%
WESTON	2,395,031	2,849,956	19.0%				2,395,031	2,849,956	454,925	19.0%
TOTAL	\$14,149,503	\$16,071,001	13.6%				\$14,149,503	\$16,071,001	\$1,921,498	13.6%

MWRA Partial Water-only Customers	Final FY21 Water Assessment	Preliminary FY22 Water Assessment	Percent Change from FY21	Final FY21 Sewer Assessment	Preliminary FY22 Sewer Assessment	Percent Change from FY21	Final FY21 Combined Assessment	Preliminary FY22 Combined Assessment	Dollar Change from FY21	Percent Change from FY21
DEDHAM-WESTWOOD WATER DISTRICT	1,037,861.00	622,737.00	-40.0%				\$1,037,861	\$622,737	(\$415,124)	-40.0%
LYNN (LWSC)	396,099	126,238	-68.1%				396,099	126,238	(269,861)	-68.1%
MARLBOROUGH	6,194,747	6,618,827	6.8%				6,194,747	6,618,827	424,080	6.8%
NORTHBOROUGH	1,422,346	1,767,929	24.3%				1,422,346	1,767,929	345,583	24.3%
PEABODY	1,310,040	2,307,823	76.2%				1,310,040	2,307,823	997,783	76.2%
TOTAL	\$10,361,093	\$11,443,554	10.4%				\$10,361,093	\$11,443,554	\$1,082,461	10.4%
SYSTEMS TOTAL	\$268,071,397	\$278,612,227	3.9%	\$501,313,603	\$518,278,773	3.4%	\$769,385,000	\$796,891,000	\$27,506,000	3.6%

Massachusetts Water Resources Authority
Clinton Wastewater Treatment Plant
Sewer User Charge Determination

BUDGETED EXPENSES: Preliminary FY22	
Clinton Direct Operating Expenses:	\$2,419,118
MWRA Support Allocation:	600,852
Subtotal O&M Expenses:	\$3,019,970
Total Debt Service Expenses:	\$1,463,888
Total Clinton Service Area Expenses	\$4,483,858
Less Revenue (City of Worcester Payment)	-191,376
Clinton WWTP Rate Revenue Requirement:	\$4,292,482

WASTEWATER FLOW and FLOW SHARES:	CY2020		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.103	0.238	2.340
Average Flow (MG/YR)	767.413	86.830	854.243
Proportional Share of Flow	89.84%	10.16%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$3,019,970
Less Revenue (City of Worcester Payment)	-191,376
O&M Expenses to be Recovered	\$2,828,594
Clinton's Share of Flow	89.84%
Clinton's Share of O&M Costs	\$2,541,079
Total Clinton O&M Charge	\$2,541,079

LANCASTER SEWER DISTRICT	
O&M Expenses	\$3,019,970
Less Revenue (City of Worcester Payment)	-191,376
O&M Expenses to be Recovered	\$2,828,594
Lancaster's Share of Flow	10.16%
Lancaster's Share of O&M Costs	\$287,514
Total Lancaster Sewer District O&M Charge	\$287,514

Debt Service Costs to be Recovered	\$1,463,888
Clinton's Share of Wastewater Flow	89.84%

Debt Service Costs to be Recovered	\$1,463,888
Lancaster's Share of Wastewater Flow	10.16%

Total Clinton Debt Service Charge	\$1,315,091
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Total Lancaster Sewer District Debt Service Charge	\$148,798
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Total Clinton O&M and Debt Service Charge	\$3,856,170
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Total Lancaster O&M and Debt Service Charge	\$436,312
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Less MWRA Water Ratepayer Subsidy -3,356,170

Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000
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Billable Charge to Lancaster Sewer District	\$436,312
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Clinton WWTP Charges and Payment Schedule

Sewer Customer	Billable Charges	Change from Prior Year	
		Amount	Percentage
Town of Clinton (billable)	\$500,000	\$0	0.0%
Lancaster Sewer District (before adj.)	\$436,312		
Lancaster Sewer District (prior yr. adj.)	\$23,648		
Lancaster Sewer District (billable)	\$459,960	\$26,189	6.0%
Total Billable Sewer Use Charges	\$959,960		
City of Worcester	\$191,376	\$214,711	-10.9%

Payment 1 on or before Sept 15, 2021	Payment 2 on or before Nov 15, 2021	Payment 3 on or before Feb 15, 2022	Payment 4 on or before May 15, 2022
\$125,000	\$125,000	\$125,000	\$125,000
\$114,990	\$114,990	\$114,990	\$114,990
\$239,990	\$239,990	\$239,990	\$239,990
\$0	\$0	\$191,376	\$0

Massachusetts Water Resources Authority

Chicopee Valley Aqueduct Water System Assessment

Proposed FY2022 Budget and Assessments

CVA Operating Budget	FY21	PFY22	Change from Prior Year	
			Dollars	Percent
CVA Cost Center Expenses	\$965,147	\$955,678	-\$9,469	-1.0%
Allocated Waterworks Expenses	152,731	155,627	2,896	1.9%
Allocated Watershed/PILOT	482,312	468,998	-13,314	-2.8%
Allocated Watershed Land Acquisition	29,675	28,545	-1,130	-3.8%
Allocated MWRA Indirect Expenses	650,516	637,738	-12,778	-2.0%
SUBTOTAL OPERATING BUDGET	\$2,280,381	\$2,246,586	-\$33,795	-1.5%

CVA Capital Budget	FY21	PFY22	Change from Prior Year	
			Dollars	Percent
Capital Expenses	\$3,099,516	\$3,028,558	-\$70,958	-2.3%
TOTAL CVA BUDGET	\$5,379,897	\$5,275,144	-\$104,753	-1.9%

BASE COMMUNITY ASSESSMENT	FY21 ¹	PFY22 ²	Change from Prior Year	
			Dollars	Percent
Chicopee	\$3,776,791	\$3,604,714	-\$172,077	-4.6%
South Hadley Fire District #1	780,962	797,869	16,907	2.2%
Wilbraham	822,145	872,561	50,416	6.1%
CVA BASE SYSTEM ASSESSMENT	\$5,379,897	\$5,275,144	-\$104,753	-1.9%

PRIOR PERIOD ADJUSTMENTS	FY21 ³	PFY22 ³	Change from Prior Year	
			Dollars	Percent
Chicopee	-\$69,385	\$0	\$69,385	-100.0%
South Hadley Fire District #1	-14,354	0	14,354	-100.0%
Wilbraham	-13,802	0	13,802	-100.0%
TOTAL ADJUSTMENTS	-\$97,540	\$0	\$97,540	-100.0%


ADJUSTED ASSESSMENT	FY21	PFY22	Change from Prior Year	
			Dollars	Percent
Chicopee	\$3,707,406	\$3,604,714	-\$102,692	-2.8%
South Hadley Fire District #1	766,608	797,869	31,261	4.1%
Wilbraham	808,343	872,561	64,218	7.9%
ADJUSTED ASSESSMENT	\$5,282,357	\$5,275,144	-\$7,213	-0.14%

¹ Based on CY2019 water use and before prior period adjustments.

² Based on CY2020 water use and before prior period adjustments.

³ Prior period adjustment to account for budget to actual expenses.

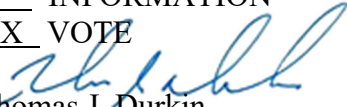
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Transmittal of the FY22 Proposed Current Expense Budget

COMMITTEE Administration, Finance & Audit

 INFORMATION
 X VOTE

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


Thomas J. Durkin
Director, Finance

MWRA's long-term goal has been to provide sustainable and predictable assessments to its member communities. In the past few years, the Advisory Board challenged MWRA to limit the assessment increases at a level less than 4%. MWRA has continuously been successful in achieving this goal by utilizing a multi-year rates management strategy, which includes controlled spending, the use of historical variable rate assumptions, and the practice of targeted debt defeasance.

To ensure that the MWRA's long-term goals will continue to be met in future years, staff recommend continuing conservative, fiscally responsible budgeting practices while addressing all outstanding long-term liabilities.

The FY22 Proposed Budget puts forth a 3.6% combined assessment increase and less than 4.0% projected average assessment increases for the next four years.

The FY22 Proposed Budget reflects the benefits of a planned \$15.0 million defeasance to be executed in FY21 with targeted savings during FY22-26. Besides the planned defeasances, the Authority is continuing to address the Pension and the Other Post Employment Benefits (OPEB) obligations, which are the largest long-term liabilities after the debt payments.

RECOMMENDATION:

To approve transmittal of the FY22 Proposed Current Expense Budget to the MWRA Advisory Board for its 60 day review and comment period.

DISCUSSION:

This staff summary presents an overview of the FY22 Proposed Current Expense Budget (CEB) and projects the Rate Revenue Requirement for the next five years.

Summary

The FY22 Proposed Budget recommends a combined increase in rates and charges of 3.6%. Capital Financing costs remain the largest component of the CEB and account for 61.3% of total expenses. Total expenses are \$818.4 million, an increase of \$27.0 million or 3.4% over the FY21 Budget. There are no offsets from Debt Service Assistance (DSA) assumed for FY22 or in any future years.

Total expenses include \$501.6 million for Capital Financing costs and \$316.7 million for operating expenses, of which \$260.0 million is for Direct Expenses and \$56.7 million is for Indirect Expenses. The total expense increase over FY21 was driven by the following:

- Higher Capital Financing costs of \$19.8 million due to the structure of the existing debt and the projected issuance.
- Higher Direct Expenses of \$7.8 million mainly due to Wages & Salaries which includes three additional positions for the Tunnel Redundancy Department and one for Occupational Health and Safety, Maintenance due to increased spending in MIS and Operations, and Fringe Benefits due to increased Health Insurance premiums.
- Lower Indirect Expenses of \$0.6 million mainly due to lower scheduled Postemployment Benefit contributions.

The FY22 Proposed Budget revenues, excluding rate revenue, totals \$21.5 million, a decrease of \$0.5 million or 2.3% from the FY21 Budget. The FY22 Proposed Budget non-rate revenue budget includes \$15.7 million in Other User Charges and Other Revenue, \$3.8 million for Investment Income, and \$2.0 million in Rate Stabilization.

The FY22 Proposed Rate Revenue Requirement is \$796.9 million, an increase of \$27.5 million or 3.6% over the FY21 Budget.

Table 1 on the following page provides a comparison of the FY22 Proposed CEB and FY21 Budget by major categories. Additional detail by line item and by Division is provided in Attachments A and B.

Table 1					
MWRA Current Expense Budget					
FY22 Proposed versus FY21 Approved Budget					
(\$ in Millions)	FY21 Approved Budget	FY22 Proposed Budget	\$ Change	%	Change
Directs	\$ 252.2	\$ 260.0	\$ 7.8		3.1%
Indirects	57.3	56.7	(0.5)		-0.9%
Sub-Total Operating Expenses	\$ 309.5	\$ 316.7	\$ 7.3		2.3%
Capital Financing (before Offsets)	481.9	501.6	19.8		4.1%
<i>Offsets: Bond Redemption¹</i>	-	-	-		0.0%
Variable Debt Savings	-	-	-		0.0%
Debt Service Assistance	-	-	-		0.0%
Sub-Total Capital Financing	\$ 481.9	\$ 501.6	\$ 19.8		4.1%
Total Expenses	\$ 791.4	\$ 818.4	\$ 27.0		3.4%
Investment Income	\$ 5.2	\$ 3.8	\$ (1.4)		-27.2%
Non-Rate Revenue	15.3	15.7	0.4		2.6%
Rate Stabilization ¹	1.5	2.0	0.5		33.3%
Sub-Total Non-Rate Revenue	\$ 22.0	\$ 21.5	\$ (0.5)		-2.3%
Rate Revenue	769.4	796.9	27.5		3.6%
Total Revenue & Income	\$ 791.4	\$ 818.4	\$ 27.0		3.4%
FY22 Rate Revenue Increase					3.6%
Combined Use of Reserves	\$ 1.5	\$ 2.0			

¹ MWRA has two reserve funds (Bond Redemption and Rate Stabilization) which can be used at the discretion of the Authority to manage the rate revenue requirement. Use of the Bond Redemption Fund reduces total expenses and Rate Stabilization Fund increases total revenue. Under the terms of the General Bond Resolution the annual use of Rate Stabilization funds cannot exceed 10% of the year's senior debt service. Bond Redemption funds can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year; however, the use is tied to the bonds' maturity dates and it is utility specific.

EXPENSES:

Direct Expenses

FY22 Direct Expenses total \$260.0 million, an increase of \$7.8 million, or 3.1%, from the FY21 Budget.

FY21 DRAT FINAL CURRENT EXPENSE BUDGET				
MWRA DIRECT EXPENSES BY LINE ITEM				
LINE ITEM	FY21 Approved Budget	FY22 Draft Final Budget	Change	
			FY22 vs FY21	
WAGES AND SALARIES	\$ 112,919,297	\$ 117,613,852	\$ 4,694,555	4.2%
OVERTIME	5,019,296	5,218,335	199,039	4.0%
FRINGE BENEFITS	22,402,224	23,388,645	986,421	4.4%
WORKERS' COMPENSATION	2,476,655	2,242,524	(234,131)	-9.5%
CHEMICALS	12,091,255	12,103,438	12,183	0.1%
ENERGY AND UTILITIES	24,200,846	23,902,322	(298,524)	-1.2%
MAINTENANCE	32,618,569	33,913,280	1,294,711	4.0%
TRAINING AND MEETINGS	405,264	498,394	93,130	23.0%
PROFESSIONAL SERVICES	8,377,283	9,019,258	641,975	7.7%
OTHER MATERIALS	6,706,916	6,629,774	(77,142)	-1.2%
OTHER SERVICES	24,983,777	25,461,720	477,943	1.9%
TOTAL	\$ 252,201,383	\$ 259,991,541	\$ 7,790,159	3.1%

- *Wages and Salaries* – The budget includes \$117.6 million for Wages and Salaries as compared to \$112.9 million in the FY21 Budget, an increase of \$4.7 million or 4.2%. Regular Pay which is 98.7% of total Wages and Salaries, increased by \$4.0 million due to bargaining unit step increases, increases to the leave balance accrual and other payroll reserves, and the hiring of additional staff. The FY22 Proposed Budget includes 1,167 FTEs, four more than the FY21 Budget. Three of the additional FTEs represent the fourth year of hiring to support the Metropolitan Tunnel Redundancy capital project, bringing that staff to a total of 16, and the addition of one position to Occupational Health and Safety.
- *Overtime* – The budget includes \$5.2 million for Overtime, an increase of \$199,000 or 4.0% over the FY21 Budget. Overtime was increased to reflect wage increases and recent trends in planned overtime for off-hours maintenance, emergency, and planned projects that include construction.
- *Fringe Benefits* – The budget includes \$23.4 million for Fringe Benefits, an increase of \$986,000 or 4.4% over the FY21 Budget. Health Insurance premiums total \$20.0 million, an increase of \$971,000 or 5.1% from the FY21 Budget largely due to an anticipated 6% increase in rate structure offset by a change to the number and mix of plans based on FY21 enrollment changes.

- *Workers' Compensation* – The budget includes \$2.2 million for Workers' Compensation. This is \$234,000 or 9.5% less than the prior year's level and is based on historical average spending and reserve adjustments for Worker's Compensation.
- *Chemicals* – The budget includes \$12.1 million for Chemicals, an increase of \$12,000 or 0.1% over the FY21 Budget. Higher prices drove the budget increase, partially offset by lower volumes. Carbon Dioxide increased by \$112,000 or 50.1% due to a force majeure surcharge that is due to the uncertainty surrounding the opening of the vendor's chemical plant. This is partially offset by Activated Carbon which was reduced by \$64,000 or 12.4% from the FY21 Budget due to lower quantity. In addition, Sodium Hypochlorite was reduced by \$45,000 or 1.4% from the FY21 Budget due to the net impact of reduced quantity and increased price. The FY22 Budget does not include any funding for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit, which is projected to have more stringent requirements for enterococcus treatment compliance.
- *Utilities* – The budget includes \$23.9 million for Utilities, which is a decrease of \$299,000 or 1.2% from the FY21 Budget. The budget funds \$17.9 million for Electricity, a decrease of \$328,000 or 1.8% from the FY21 budget primarily due to lower pricing. The Diesel Fuel budget of \$2.6 million is \$105,000 or 4.0% lower than the FY21 Budget due to the dual fuel heating system installed at the Chelsea Creek Headworks which reduced quantity, partially offset by an increase in price.
- *Maintenance* – The budget includes \$33.9 million for Maintenance projects, an increase of \$1.3 million or 4.0% over the FY21 budget. The increase is driven by Computer Software and License Upgrades in MIS of \$770,000 or 26.7% due to Autocad and Windows 10 Enterprise Software Assurance, which are budgeted at \$360,000 and \$314,000 respectively. The Operations Division had an overall increase of \$417,000 or 1.5% over FY21. The increase is driven by Building and Grounds Services of \$1.1 million or 26.8% due to the Deer Island roofing contract, Electrical Services of \$291,000 or 20.0% due to diesel generator maintenance and rehab at the John Carroll Water Treatment Plant, and Special Equipment Services of \$274,000 or 11.9% driven by increases for the anticipated system monitoring and maintenance cost associated with the phone system upgrade and wastewater meter verification. These are partially offset by a reduction to Plant and Machine Services of \$1.3 million driven by the Deer Island painting and coatings project being completed early in spring of FY21.
- *Training and Meetings* – The budget includes \$498,000 for Training and Meetings, an increase of \$93,000 or 23.0% over the FY21 Budget. The increase is mainly due to Information Learning Management and Linked Learning Solutions in MIS, for \$37,000 and \$32,000 respectively.
- *Professional Services* – The budget includes \$9.0 million for Professional Services, an increase of \$642,000 or 7.7% over the FY21 Budget. The increase is driven by \$600,000 budgeted for the Biobot engagement within Lab and Testing and Analysis.

- *Other Materials* – The budget includes \$6.6 million for Other Materials, a decrease of \$77,000 or 1.2% from the FY21 Budget. The decrease reflects \$160,000 in Other Materials due to a reduction in quantity and price for the Clinton landfill gravel and Equipment and Furniture of \$141,000 based on expected needs. This is partially offset by Vehicle Purchases of \$350,000 above the prior year’s level based on assessed needs.
- *Other Services* – The budget includes \$25.5 million for Other Services, an increase of \$478,000 or 1.9% over the FY21 Budget. The increase reflects \$495,000 for Sludge Pelletization due mainly to the projected cost increase of the NEFCo contract extension, partially offset by reduced sludge quantities based on historical trends.

Indirect Expenses

Indirect Expenses for FY21 total \$56.7 million, a decrease of \$537,000 or 0.9% from the FY21 Budget. Below are the highlights of major changes:

- The budget includes \$3.5 million for Insurance, an increase of \$484,000 or 15.8% over the FY21 Budget. This reflects anticipated premium increases based on current market conditions. Claim payments are based on a 5-year average.
- The budget includes \$27.3 million for the Watershed Management budget, an increase of \$845,000 or 3.2% above the FY21 Budget. The budget includes \$18.7 million for reimbursement of operating expenses net of revenues, and \$8.6 million for Payment in Lieu of Taxes (PILOT). The budget increase is driven by contractual increases and healthcare costs. Consistent with FY21, a vacancy adjustment has been applied to reflect the actual timing of hiring. The PILOT payments increased by \$80,000 or 0.9% over FY21.
- The budget includes \$7.0 million for the Harbor Energy Electric Company (HEEC), a decrease of \$239,000 or 3.3% from the FY21 Budget. The budget reflects the latest cost estimates, but the final costs will be determined by the Department of Public Utilities (DPU) once they have completed their review of the project.
- The budget includes \$1.7 million for Mitigation payments to the City of Quincy and Town of Winthrop in accordance with mitigation agreements, which expire in FY25.
- Funding for the Operating Reserve for FY22 is \$1.4 million. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY22 Proposed Budget, the required balance is \$47.3 million versus the \$45.9 million required in FY21.
- The budget includes \$11.2 million for the Retirement Fund which is level to planning estimates, but an increase of \$205,000 or 1.9% over the FY21 budget. The increase reflects the impact of lower than forecasted investment returns in 2018 and the

reduction of the projected rate of return of the Fund from 7.25% to 7.10%. MWRA's pension fund is at the 86.6% funding level and projected to be fully funded by June 30, 2030.

- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established with Board approval and funding started on April 23, 2015. The OPEB Trust balance was \$50.2 million as of December 31, 2020. Starting in FY18, GASB 75 is the governing regulation for employee OPEB contributions. The proposed \$4.7 million budget is based on 50% of the contribution determined in the January 1, 2020 actuarial report.

Capital Financing

As a result of the Authority's Capital Improvement Program, capital financing as a percent of total expenses (before offsets) has increased steadily from 36% in 1990 to 61.3% in the FY22 Proposed Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project, the Integrated Water Supply Improvement Program, and the Combined Sewer Overflow (CSO) projects. MWRA's capital spending, from its inception, has been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for ~72% of capital spending to date. Going forward, the majority of spending will be focused on asset protection and water redundancy initiatives.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. MWRA also uses tax exempt commercial paper to minimize the financing cost of construction in process.

The FY22 Proposed Budget capital financing costs total \$501.6 million and remains the largest portion of the MWRA's budget.

The FY22 Proposed Budget includes a planned defeasance of \$15.0 million in late FY21 which will reduce debt service by approximately \$626,000 in FY22, \$5.7 million in FY23, \$1.3 million in FY24, \$611,000 in FY25, and \$6.7 million in FY26.

The FY22 Budget assumes a 3.50% interest rate for variable rate debt which is the same as the FY21 rate. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series; liquidity fees for the Standby Bond Purchase Agreement, Letter of Credit, and Direct Purchase providers; and remarketing fees. While MWRA continues to experience low interest rates, they are not reflective of historical averages and there

is some uncertainty as to which direction interest rates are heading in light of current market conditions.

The FY22 Proposed Budget capital financing costs increased by \$19.8 million or 4.1% compared to the FY21 Budget. This increase in the MWRA's debt service is the result of projected FY22 borrowings and the structure of the existing debt, partially offset by the impact of the projected defeasance.

The FY22 capital financing budget includes:

- \$246.7 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$8.5 million to support issuances of \$130.0 million in May 2021 and \$3.0 million to support issuances of \$100.0 million of new money in June 2022;
- \$125.0 million in principal and interest payments on subordinate bonds;
- \$97.1 million in principal and interest payments on SRF loans. This amount includes \$10.5 million to support issuances of \$55.0 million of loans during 2021 and \$55.0 million 2022;
- \$17.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$6.2 million in debt prepayment;
- \$6.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and,
- \$3.2 million for the Chelsea Lease.

Revenue

FY22 non-rate revenue totals \$21.5 million, which is a decrease of \$502,000 or 2.3% versus the FY21 Budget. The FY22 non-rate revenue budget includes:

- \$9.2 million in Other User Charges, including \$5.3 million for the Chicopee Valley Aqueduct (CVA) communities, \$2.0 million for Deer Island water usage, \$208,000 for entrance fees from member communities, and \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses. Other User Charges are \$41,000 or 0.4% higher than the FY21 Budget.
- \$6.5 million in Other Revenue, an increase of \$361,000 from the FY21 Budget. Other Revenue includes \$2.3 million from the sale of the Authority's Renewable Portfolio Credits, revenue from participating in load response programs, and the sale of generated power to the grid. Energy related revenue decreased \$293,000 reflecting decreased power sales revenue and reduced pricing for Renewable Portfolio Credits. The balance of Other

Revenue includes \$2.6 million in permit fees and penalties, an increase of \$259,000 over the FY21 Budget.

- \$3.8 million in Investment Income, a decrease of \$1.4 million or 27.2% from the FY21 Budget. The lower assumption reflects lower long and short-term interest rate assumptions as a result of market conditions.

The Rate Revenue Requirement for FY22 is \$796.9 million, an increase \$27.5 million or 3.6% over the FY21 Budget. The Rate Revenue Requirement is the difference between total expenses of \$818.4 million and non-rate revenue of \$21.5 million.

Planning Estimates and Future Rate Projections

MWRA’s planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis. Historically, the planning estimates were based on conservative financial assumptions. Conservative projections of future rate increases benefit the MWRA by providing assurance to all stakeholders, including the rating agencies that MWRA anticipates raising revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue requirements enable member communities to adequately plan and budget for future payments to MWRA.

Table 3 below presents the combined estimated future rate increases and household charges based on the Proposed FY22 Budget. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth or use of Bond Redemption reserves through FY26. It does, however, assume the use of Rate Stabilization (HEEC reserve) through FY24.

Table 3

Rates & Budget Projections						
Proposed FY22 CEB	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026
Total Rate Revenue (\$000)	\$ 769,385	\$ 796,891	\$ 825,539	\$ 854,344	\$ 883,179	\$ 912,393
Rate Revenue Change from Prior Year (\$000)	\$ 7,618	\$ 27,506	\$ 28,648	\$ 28,805	\$ 28,835	\$ 29,214
Rate Revenue Increase	1.0%	3.6%	3.6%	3.5%	3.4%	3.3%
Use of Reserves (\$000)	\$ 1,500	\$ 2,000	\$ 2,000	\$ 200	\$ -	\$ -

Estimated Household Bill						
Based on annual water usage of 61,000 gallon	\$1,206	\$1,259	\$1,315	\$1,373	\$1,433	\$1,495
Based on annual water usage of 90,000 gallon	\$1,779	\$1,858	\$1,940	\$2,026	\$2,114	\$2,206

CEB Review and Adoption Process

The Advisory Board has a minimum of 60 days from the transmittal of the FY22 Proposed Budget to review the budget and prepare comments and recommendations. During the review period, Advisory Board and MWRA staff will continue to meet and evaluate the impact of changing circumstances as they arise. Following the receipt of the Advisory Board's comments and recommendations, MWRA presents its official responses to the Board of Directors at budget hearings. Staff will present the final budget and the final assessments and for Fiscal Year 2022 to the Board for approval in June 2021.

ATTACHMENTS:

Attachment A	FY22 Proposed Current Expense Budget compared to FY21 Budget
Attachment B	FY22 Proposed Current Expense Budget by Division vs. FY21 Budget
Attachment C	FY22 Proposed Current Expense Budget compared to FY21 Projection

ATTACHMENT A

FY22 Proposed Budget vs. FY21 Approved Budget

TOTAL MWRA	FY20 Actuals	FY21 Approved Budget	FY22 Proposed Budget	Change FY22 Proposed Budget vs FY21 Approved Budget	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 107,776,260	\$ 112,919,297	\$ 117,613,852	\$ 4,694,555	4.2%
OVERTIME	4,484,053	5,019,296	5,218,335	199,039	4.0%
FRINGE BENEFITS	20,846,345	22,402,224	23,388,645	986,421	4.4%
WORKERS' COMPENSATION	1,862,942	2,476,655	2,242,524	(234,131)	-9.5%
CHEMICALS	10,998,340	12,091,255	12,103,438	12,183	0.1%
ENERGY AND UTILITIES	23,151,712	24,200,846	23,902,322	(298,524)	-1.2%
MAINTENANCE	29,737,299	32,618,569	33,913,280	1,294,711	4.0%
TRAINING AND MEETINGS	288,046	405,264	498,394	93,130	23.0%
PROFESSIONAL SERVICES	6,588,621	8,377,283	9,019,258	641,975	7.7%
OTHER MATERIALS	5,697,623	6,706,916	6,629,774	(77,142)	-1.2%
OTHER SERVICES	24,306,369	24,983,777	25,461,720	477,943	1.9%
TOTAL DIRECT EXPENSES	\$ 235,737,610	\$ 252,201,383	\$ 259,991,541	\$ 7,790,159	3.1%
INSURANCE	\$ 2,615,588	\$ 3,059,218	\$ 3,543,600	\$ 484,382	15.8%
WATERSHED/PILOT/DEBT	22,075,059	26,422,138	27,267,370	845,232	3.2%
HEEC PAYMENT	4,429,316	7,215,200	6,976,041	(239,159)	-3.3%
MITIGATION	1,651,068	1,692,344	1,693,359	1,015	0.1%
ADDITIONS TO RESERVES	2,094,284	1,815,077	1,373,566	(441,511)	-24.3%
RETIREMENT FUND	7,315,000	11,000,000	11,205,000	205,000	1.9%
POSTEMPLOYMENT BENEFITS	5,962,457	6,065,490	4,673,624	(1,391,866)	-22.9%
TOTAL INDIRECT EXPENSES	\$ 46,142,772	\$ 57,269,467	\$ 56,732,561	\$ (536,906)	-0.9%
STATE REVOLVING FUND	\$ 88,126,851	\$ 97,811,162	\$ 97,143,496	\$ (667,666)	-0.7%
SENIOR DEBT	233,457,154	258,730,904	246,694,483	(12,036,421)	-4.7%
SUBORDINATE DEBT	146,194,843	96,339,599	125,046,217	28,706,619	29.8%
LOCAL WATER PIPELINE CP	2,117,483	5,686,864	6,120,127	433,263	7.6%
CURRENT REVENUE/CAPITAL	15,200,000	16,200,000	17,200,000	1,000,000	6.2%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	5,000,000	3,900,000	6,215,000	2,315,000	59.4%
DEBT SERVICE ASSISTANCE	(890,235)	-	-	-	0.0%
TOTAL DEBT SERVICE	\$ 492,423,156	\$ 481,885,588	\$ 501,636,383	\$ 19,750,796	4.1%
TOTAL EXPENSES	\$ 774,303,538	\$ 791,356,437	\$ 818,360,485	\$ 27,004,048	3.4%
REVENUE & INCOME					
RATE REVENUE	\$ 760,875,467	\$ 769,385,000	\$ 796,891,000	\$ 27,506,001	3.6%
OTHER USER CHARGES	9,941,799	9,208,367	9,249,066	40,699	0.4%
OTHER REVENUE	8,399,901	6,095,403	6,456,202	360,798	5.9%
RATE STABILIZATION	-	1,500,000	2,000,000	500,000	0.0%
INVESTMENT INCOME	12,985,470	5,167,668	3,764,218	(1,403,450)	-27.2%
TOTAL REVENUE & INCOME	\$ 792,202,637	\$ 791,356,438	\$ 818,360,485	\$ 27,004,048	3.4%
Rate Revenue Increase over FY21			3.6%		

ATTACHMENT B

FY22 Proposed Direct Expense Budget by Division

Division	FY21 Approved Budget	FY22 Proposed Budget	Change FY22 Proposed Budget vs. FY21 Final Approved Budget	
			\$	%
Executive	\$1,514,888	\$1,544,663	\$29,775	2.0%
Emergency Preparedness	2,884,515	3,110,941	\$226,426	7.8%
Administration	53,222,021	55,338,637	\$2,116,616	4.0%
Finance	4,386,943	4,653,176	\$266,233	6.1%
Law	2,209,372	1,943,086	-\$266,286	-12.1%
Affirmative Action	704,901	713,749	\$8,848	1.3%
Internal Audit	730,622	756,794	\$26,172	3.6%
Public Affairs	1,119,525	1,231,269	\$111,744	10.0%
Operations/Planning	185,428,595	190,699,224	\$5,270,629	2.8%
Total Authority	\$252,201,383	\$259,991,541	\$7,790,159	3.1%

**Attachment C
FY22 Proposed vs. FY21 Projection**

TOTAL MWRA	FY21 Budget	FY21 Projection	FY22 Proposed	Change	
				FY22 Proposed Budget vs FY21 Projection	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 112,919,297	\$ 108,224,204	\$ 117,613,852	\$ 9,389,648	8.7%
OVERTIME	5,019,296	4,948,638	5,218,335	269,697	5.4%
FRINGE BENEFITS	22,402,224	21,536,592	23,388,645	1,852,053	8.6%
WORKERS' COMPENSATION	2,476,655	2,000,018	2,242,524	242,506	12.1%
CHEMICALS	12,091,255	12,069,541	12,103,438	33,897	0.3%
ENERGY AND UTILITIES	24,200,846	23,246,152	23,902,322	656,170	2.8%
MAINTENANCE	32,618,569	32,927,928	33,913,280	985,352	3.0%
TRAINING AND MEETINGS	405,264	189,676	498,394	308,718	162.8%
PROFESSIONAL SERVICES	8,377,283	6,539,644	9,019,258	2,479,614	37.9%
OTHER MATERIALS	6,706,916	6,870,184	6,629,774	(240,410)	-3.5%
OTHER SERVICES	24,983,777	24,245,984	25,461,720	1,215,736	5.0%
TOTAL DIRECT EXPENSES	\$ 252,201,383	\$ 242,798,562	\$ 259,991,541	\$ 17,192,980	7.1%
INSURANCE	\$ 3,059,218	\$ 3,224,058	\$ 3,543,600	319,542	9.9%
WATERSHED/PILOT	26,422,138	25,108,346	27,267,370	2,159,024	8.6%
HEEC PAYMENT	7,215,200	10,431,993	6,976,041	(3,455,952)	-33.1%
MITIGATION	1,692,344	1,652,058	1,693,359	41,301	2.5%
ADDITIONS TO RESERVES	1,815,077	1,815,077	1,373,566	(441,511)	-24.3%
RETIREMENT FUND	11,000,000	10,000,000	11,205,000	1,205,000	12.1%
POSTEMPLOYMENT BENEFITS	6,065,490	6,065,490	4,673,624	(1,391,866)	-22.9%
TOTAL INDIRECT EXPENSES	\$ 57,269,467	\$ 58,297,022	\$ 56,732,561	\$ (1,564,461)	-2.7%
STATE REVOLVING FUND	\$ 97,811,162	\$ 97,811,162	\$ 97,143,496	(667,666)	-0.7%
SENIOR DEBT	258,730,904	255,429,061	246,694,483	(8,734,578)	-3.4%
SUBORDINATE DEBT	96,339,599	86,657,940	125,046,217	38,388,278	44.3%
LOCAL WATER PIPELINE CP	5,686,864	2,680,950	6,120,127	3,439,177	128.3%
CURRENT REVENUE/CAPITAL	16,200,000	16,200,000	17,200,000	1,000,000	6.2%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	3,900,000	3,900,000	6,215,000	2,315,000	59.4%
DEBT SERVICE ASSISTANCE	-	-	-	-	
TOTAL DEBT SERVICE	\$ 481,885,588	\$ 465,896,172	\$ 501,636,383	\$ 35,740,211	7.7%
TOTAL EXPENSES	\$ 791,356,437	\$ 766,991,756	\$ 818,360,485	\$ 51,368,730	6.7%
REVENUE & INCOME					
RATE REVENUE	\$ 769,385,000	\$ 769,385,000	\$ 796,891,000	27,506,001	3.6%
OTHER USER CHARGES	9,208,367	9,250,367	9,249,066	(1,301)	0.0%
OTHER REVENUE	6,095,403	6,461,127	6,456,202	(4,926)	-0.1%
RATE STABILIZATION	1,500,000	1,500,000	2,000,000	500,000	0.0%
INVESTMENT INCOME	5,167,668	4,341,478	3,764,218	(577,260)	-13.3%
TOTAL REVENUE & INCOME	\$ 791,356,438	\$ 790,937,972	\$ 818,360,485	\$ 27,422,514	3.5%
VARIANCE:		\$ (23,946,216)		\$ (23,946,216)	


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: Audit Services
CliftonLarsonAllen LLP
Contract F261




COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE


Michele S. Gillen
Director, Administration

Robert Belkin, Controller
Preparer/Title


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract F261, Audit Services, to CliftonLarsonAllen LLP and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$527,000 for a term of four years, from April 1, 2021 to March 31, 2025.

DISCUSSION:

The MWRA Enabling Act requires that the Authority's financial statements be audited annually by an independent certified public accounting firm. The MWRA Amended and Restated General Revenue Bond Resolution (the Resolution) and certain loan agreements, by reference, specify that the audit be conducted by independent accountants of nationally recognized standing and be satisfactory to the Trustee.

The selected independent certified public accounting firm will provide recurring services to the Authority, including an annual audit of the MWRA's financial statements, financial and internal control reviews, certifications and periodic advice, including an annual letter of comments and recommendations for improvements to the Authority's system of internal controls. The selected firm will also provide an annual certification as to the MWRA's compliance with certain financial requirements of the Resolution.

These services require the firm selected to have significant experience in the public sector and the utility industry, including expertise with significant debt issuance engagements and related involvement with ratings agencies and the investment market.

The Authority also requires that audit procedures be performed in accordance with Uniform Guidance (formerly OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*), with respect to the Authority's major federal programs, primarily passed through the State Revolving Fund (SRF).

Contract F261 encompasses the independent audit of the Authority’s financial statements for Fiscal Years 2021 through 2024, including an audit of the Authority’s Irrevocable OPEB Trust for each of these years.

Procurement Process

The procurement process to select an Audit Services consultant utilized a one-step evaluative Request for Qualifications/Proposals (RFQ/P) that was issued and advertised on December 12, 2020. Additionally, seven firms were directly solicited. Three firms, CliftonLarsonAllen LLP , Marcum LLP and RSM US LLP submitted proposals. The Consultant Selection Committee met on January 26, 2021, evaluated and ranked the proposals based on the criteria contained in the RFQ/P (Cost – 30 pts.; Experience and Past Performance - 30 pts.; Qualifications and Key Personnel – 25 pts.; and Capacity, Organization Management and Technical Approach – 15 pts.).

The proposals were ranked as follows:

Firm	Overall Rank	Total Points	Order of Preference Total Score*	Cost	Partner Single Hourly Rate
CliftonLarsonAllen LLP	1	436	5	\$527,000	\$295
RSM US LLP	2	402	11	\$499,000	\$290
Marcum LLP	3	353	14	\$457,000	\$199

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

The Consultant Selection Committee unanimously ranked CliftonLarsonAllen LLP (CLA) first. CLA provided a comprehensive, well-prepared proposal, emphasizing the firm’s current and past experience serving multiple state and local government clients, including many in Massachusetts. CLA is the incumbent, and also performs the audit of the MWRA Retirement System. Key personnel from the previous years’ audit are committed to this engagement. The proposed audit partner demonstrated a hands-on approach that resonated with the Committee. References included entities of significant size and complexity and were extremely satisfied with CLA’s performance. The cost for each year of this proposal is within approximately 5.5% of the cost of the existing contract, indicating to the Committee a desire to be price sensitive and competitive.

The second ranked firm, RSM US LLP, did not propose a cohesive team. The Consultant Selection Committee expressed concern about the experience level of certain key personnel and noted that no Senior Associate was identified as a team member. While the firm appears to be building its government sector practice, it has limited public utility experience. RSM also took exception to several of MWRA’s standard contract terms and conditions, while the other two proposers took no exception.

Similarly, significant concerns about the experience level of key personnel for Marcum LLP were noted, reducing its overall ranking. No clients were listed in the proposal, other than those listed as references, and it did not appear that the firm focuses on government sector clients. The Committee also expressed

concern about the engagement partner's proposed level of effort in the audit. Finally, the high number of hours noted in the proposal, specifically for substantive procedures, brought into question the effectiveness and efficiency of the technical approach.

The RFQ/P cost criteria included a firm fixed price/lump sum for each of four years for the annual audit (total of four years shown above), as well as for an audit in compliance with Uniform Guidance (Single Audit if the Authority is the recipient of federal funds); and single hourly rates for any additional work activated by task order. The Consultant Selection Committee evaluated all of those elements and determined that CLA provided the best overall value.

Staff agree with this determination and recommend CliftonLarsonAllen LLP for award of this contract.


BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY2021 Current Expense Budget to cover this contract. Sufficient funds will be included in the FY2022, 2023 and 2024 Current Expense Budgets, as well.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for the Deer Island Treatment Plant

COMMITTEE: Administration, Finance, & Audit

 INFORMATION

 X VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Robert Huang, Program Manager, Energy
Preparer/Title


Michele S. Gillen

Director of Administration


David W. Coppes, P.E.

Chief Operating Officer

MWRA has competitively procured electricity supply since 2001. MWRA's largest supply contract, for Deer Island, is set to expire at the end of October 2021. In the competitive bid process, the challenge is to determine the level of risk/certainty that MWRA is willing to assume, and to estimate the potential budget impacts for a variety of options.

With electricity prices typically at their highest and most volatile in the summer and winter, staff will solicit bids in March or April to take advantage of the lower prices and stability of spring season energy markets. In a commodity market where prices change within very short time periods, MWRA must be prepared to award a contract almost immediately after bids are received to lock in pricing. Therefore, on the day bids are received, staff will evaluate the bids based on market conditions and pricing received. To ensure that MWRA is prepared to execute a replacement electricity supply contract if the pricing received is favorable, staff recommend that the Board authorize the Executive Director to award a contract to the successful bidder. Staff will report to the Board the bid results and any contract execution for electric power supply for the Deer Island account.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract for the supply of electric power to the Deer Island Treatment Plant with the lowest responsive and responsible bidder for the period and pricing structure determined by staff to be in MWRA's best interest, and for a contract supply term not to exceed 36 months for the Deer Island account. This delegation of authority is necessary because MWRA will be required to notify the selected bidder of the award within a few hours of the bid submission to lock in the bid prices in a constantly changing market.

DISCUSSION:

Based on MWRA account load profiles and prior consults with energy advisors, MWRA has established three distinct electricity supply contracts. The largest contract is the Deer Island account, which represents approximately 66% of MWRA's total purchased electricity load. The Interval accounts, which include larger facilities (e.g., Carroll Water Treatment Plant, headworks, Clinton Treatment Plant, and large pump stations), represent approximately 30% of MWRA's total purchased load. The Profile accounts, which include smaller facilities (e.g., CSOs, small pump stations, and Charlestown Navy Yard), represent the remaining 4% of MWRA's total purchased load.

In FY2020, Deer Island self-generated approximately 29% of its total plant electrical demand from a combination of on-site resources, including approximately 18% from methane digester gas, 5% from diesel combustion turbine generators, and 6% from other renewables (hydro, wind and solar). (Note that FY2020 recorded a higher value from the generators due to installation of the cross-harbor Eversource cable in August 2019).

The existing supply contract for Deer Island, which expires in October 2021, is for the purchase of 10 MegaWatt (MW) block during on-peak¹ hours and a 3 MW block during off-peak hours at fixed prices with the balance of the load purchased from the variable-rate spot market.² The current contract structure covers approximately 50% of Deer Island's load with a fixed block pricing structure and 50% via variable pricing in the ISO-NE Real Time Market. Locking in fixed pricing does carry a premium, but it balances the risk taken when purchasing a commodity from a sometimes-volatile market. Specifically, the on-peak fixed-price block protects MWRA from potential price spikes in the winter (due to natural gas supply constraints) and summer (due to increased air conditioning demand). The off-peak fixed-price block, significantly lower than the on-peak block, allows MWRA to potentially realize more savings in the off-peak hours when variable-rate spot market prices are typically lower and less volatile.

In preparation for the receipt of bids, staff will review Deer Island's historical energy load profile and estimated future load profile. In addition, staff will examine market conditions and electricity price forecasts to obtain a sense of what premium may be included in the fixed energy bid prices, based on potential anticipated volatility in the market, as well as other factors. This helps staff quantify price impacts of the various contract structures, important for determining the ideal structure to execute at that time.

Staff recommend that MWRA continue to procure electric power supply for the Deer Island account separate from the other two accounts. There are no apparent economies of scale savings if the loads are combined with MWRA's Profile and Interval accounts. There may also be a price increase to the administrative fee to purchase the variable load electricity due to the additional administrative responsibilities with multiple Interval accounts, if the accounts were to be combined. In addition, staff recommend that the other two contracts remain separate to minimize

¹ On-peak hours are 7 a.m. to 11 p.m. on non-holiday weekdays.

² For example, if Deer Island draws on average 12MW during an on-peak hour, 10MWhr would be charged at the 10MW block fixed-price (\$65/MWhr) and 2MWhr would be charged at the variable-rate spot market price. If Deer Island draws on average 12MW during an off-peak hour, 3MWhr would be charged at the 3MW block fixed-price (\$65/MWhr) and 9MWhr would be charged at the variable-rate spot market price.

the risk of having the majority of MWRA's load bid at the same time during potential future high-price market conditions. The electricity supply contract for MWRA's smaller Profile accounts are also procured separately because these accounts are based on an all-in pricing structure and typically have higher administrative contract management costs, which make them less attractive to prospective bidders.

Bids for the Deer Island account will be accepted with three different pricing structures: 1) an all-in, firm 100% fixed price contract that includes all services and products necessary to provide firm delivery of energy to the Deer Island account; 2) a 100% variable-rate spot market price contract that provides fixed-fee adder per MWhr charge to purchase variable-rate spot market electricity; and 3) a "blended" contract that provides a base block of power at a fixed-price per MWhr (for on-peak and off-peak hours) and a fixed-fee adder per MWhr charge to purchase and supply electricity above the base block at variable-rate spot market prices. All ancillary and any congestion charges would be passed through to MWRA at cost.

As required by the Massachusetts Renewable Portfolio Standard (RPS), a minimum percentage of electricity supply (27% in 2021) offered by bidders must be from renewable resources. As part of MWRA's evolving sustainability efforts, for the first time staff will also ask for another set of bid prices for supply with a higher percentage from renewable resources.

Staff intend to target April or May for solicitation of bids in order to take advantage of lower prices and stability of energy markets during the spring season. The Deer Island contract start date will be the first meter read date for enrollment on or after November 1, 2021 and bids will be sought for 12, 24 and 36 month terms.

To ensure that MWRA is prepared to execute the replacement power contract if the bid pricing received is favorable, staff recommend that the Board authorize the Executive Director to award the contract to the successful bidder. If pricing is unfavorable, MWRA can re-bid the accounts at a later date, such as in the fall.

BUDGET/FISCAL IMPACTS:

Deer Island's total electricity budget for FY21 is \$9.9 million. This amount includes approximately \$6.9 million for electricity supply and \$3.0 million for the transmission and distribution costs. The authorization staff are recommending today is for purchasing the Deer Island Wastewater Treatment Plant electricity supply, which represents approximately 66% of MWRA's total purchased electricity. Staff will assess the impact of the bids taken in comparison with the budgeted amounts and update the Board accordingly.

MBE/WBE PARTICIPATION:

There will be no MBE or WBE participation requirements established for this procurement due to limited opportunities for subcontracting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: Metropolitan Operations Paving
Sunshine Paving Corporation
Contract OP-421



COMMITTEE: Administration, Finance and Audit

INFORMATION

VOTE



Michele S. Gillen

Director of Administration

Kristen M. Hall, Program Manager
Valerie Moran, P.E., Director, Waterworks
Preparer/Title



David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract OP-421, Metropolitan Operations Paving, to the lowest responsible and eligible bidder, Sunshine Paving Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,060,836.50 for a contract term of 1,000 days from the Notice to Proceed.

DISCUSSION:

Contract OP-421 is a replacement paving services contract to provide permanent paving on an as-needed basis at locations where roadways have been excavated and temporarily patched due to maintenance, repair, or new construction work performed by MWRA staff. Typically, these projects include valve replacement, leak repair, blow-off retrofit, sewer pipe repair and water and wastewater facility pavement repair. As locations requiring permanent paving are identified, the contractor will complete the work within 20 calendar days after the original notification from MWRA.

All paving performed under this contract will comply with MWRA's mitigation policy concerning paving. Paving shall be limited to areas that have been excavated or otherwise damaged by MWRA operation, maintenance, repair and new construction work. Contract OP-421 is the ninth consecutive Metropolitan Operations paving contract to be awarded since fiscal year 2004.

Procurement Process

Contract OP-421 was publically advertised in the Boston Herald, Banner Publications, El Mundo, the Central Register, and COMMBUYS and bid in accordance with Chapter 30 of the Massachusetts General Laws. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 4495). A remote pre-bid meeting was held on December 17, 2020. Bids were opened on January 12, 2021 and the results are presented below.

BIDDERS	BID AMOUNT
Sunshine Paving Corporation	\$1,060,836.50
E.J. Paving Company	\$1,248,200.00
Newport Construction Corporation	\$1,574,029.00
<i>Engineer's Estimate</i>	<i>\$1,583,770.00</i>
P. J. Keating Company	\$1,658,575.00
R. M. Pacella, Inc.	\$1,733,925.00
J. H. Lynch and Sons, Inc.	\$2,230,590.00

The Engineer's Estimate was developed based upon pricing from previous paving contracts, actual paving quantities used under previous contracts and adjusted quantities based on anticipated work. This is consistent with contracts from previous years. Sunshine Paving's bid is 30.2% lower than the Engineer's Estimate and 15% lower than that of the second lowest bidder. Sunshine Paving held the most recent paving contract, OP-354, from FY18 to FY21 for the contract amount of \$1,294,543.50. Staff were satisfied with the services provided.

Staff spoke with representatives of Sunshine Paving about its bid compared to the Engineer's Estimate. They explained that they aggressively bid projects in January to guarantee work for the upcoming construction season. Sunshine Paving is familiar with MWRA contracts and procedures, and its staff are confident that they can perform the work at the bid price.

After reviewing the bids, staff determined Sunshine Paving's bid price is reasonable, complete and includes the payment of prevailing wages, as required. References were checked and found to be favorable. Staff are of the opinion that Sunshine Paving possesses the skill, ability and integrity necessary to perform the work under this contract, and is qualified to do so. Therefore, staff recommend the award of this contract to Sunshine Paving Corporation as the lowest responsible and eligible bidder.


BUDGET/FISCAL IMPACTS:

Funding for the first portion of this contract is included in the approved FY21 Current Expense Budget. Appropriate funding will also be included in subsequent proposed Current Expense Budget requests for the remaining term of the contract.

MBE/WBE PARTICIPATION:

There were no MBE or 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: February 17, 2021
SUBJECT: Deer Island Treatment Plant – Combined Heat and Power Study
Black & Veatch Corporation
Contract 6963A, Amendment 2

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

David F. Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Brian Driscoll, P.E., Senior Program Manager
Preparer/Title


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 6963A, Deer Island Treatment Plant – Combined Heat and Power Study, with Black & Veatch Corporation, to extend the contract term by seven months from March 7, 2021 to October 7, 2021 with no increase in contract amount.

DISCUSSION:

The scope of this contract consists of evaluating the existing energy infrastructure of Deer Island and performing a comprehensive evaluation of multiple long-term energy supply and on-site generation alternatives to meet the energy demands in a cost effective manner, while also satisfying the regulatory requirement for an independent standby power system. The study includes evaluation of 13 energy system alternatives, which range from an in-kind replacement of Deer Island's existing power assets at the end of their useful lives to a new combined heat and power (CHP) system sized to meet all of Deer Island's heat and power needs.

The Consultant will prepare a report detailing the evaluation of each alternative. The Consultant will also make recommendations for the alternative that most reliably and economically meets Deer Island's long-term energy needs and goals to maximize on-site generation and reduce the purchase of electricity. The CHP technologies evaluated under this contract will focus on maximizing green energy generation (currently ranging from 55-60% of plant energy needs), while reducing Deer Island's consumption of fossil fuels, reduce the MWRA's reliance on the electrical grid and reduce greenhouse gas emissions. New CHP options could increase energy generation at Deer Island to 75-85% of plant energy needs. The Consultant will also explore available grant and financial incentive opportunities to reduce potential capital costs associated with the project.

This information will be used by staff to develop future capital projects for Deer Island's combined heat and power systems.

Amendment 1, which increased the contract term by six months, was necessary to ensure the performance and economics of Deer Island's existing heat and power systems were realistically defined so that an accurate comparison to the new energy system alternatives could be made. The extension was also needed to recover lost time due to the transition to remote work in the early stages of the pandemic.

This Amendment

Amendment 2 consists of a seven month extension to the contract term. The need to extend the contract term is the result of a longer than anticipated duration to evaluate multiple CHP technologies and assess their applicability for implementation at Deer Island. This evaluation, which is considered one of the most critical components of the project, contemplated numerous criteria including:

- Maturity of technology
- Number of available manufacturers
- Fuel oil requirements
- Thermal and electrical efficiency
- Total and Part load efficiency
- Emissions
- Capital, maintenance and operating costs

The following issues caused the need for the time extension. First, the complexity and criticality of the evaluation process required numerous reviews, discussions and clarifications in order to reach a point where a recommended CHP technology could be made. Second, the Consultant recommended the use of spark-ignited reciprocating engines as the CHP technology, which best meets the evaluation criteria. MWRA accepted this recommendation and directed the Consultant in late-December to proceed with the remaining scope of services using spark-ignited reciprocating engines as the selected CHP technology. This important early decision, which provides a significant basis for the final analysis, took approximately 2.5 months longer than previously anticipated.

With the accepted recommendation, the Consultant commenced evaluation of multiple energy system alternatives using various combinations of existing power assets and new CHP equipment. The evaluation performed for each alternative consists of a conceptual design to confirm engineering viability, a performance simulation to predict system operation, and an economic analysis to determine economic benefits, including a payback period for comparison between each alternative. Based on the need for additional time for thorough review and revisions at the prior stage of the project, the Consultant requested an additional 2.5 months for the evaluation and recommendation tasks to ensure that the CHP equipment is sized appropriately to match the process and heating demands of the facility while also meeting the project's green energy objectives. Additional time at this stage is critical to ensure a good quality product, which will form the basis for this important energy initiative and subsequent future projects.

With this time extension to complete these tasks, the final report is projected to be submitted in mid-July. Further, staff anticipate a final recommendation would be made to the Board of Directors at the September meeting, necessitating an additional two months of contract time.

Therefore, Amendment 2 will extend the contract term by seven months and establish an end date of October 7, 2021. However, the total contract price will not increase under this Amendment.

CONTRACT SUMMARY:

	<u>AMOUNT</u>	<u>TIME</u>	<u>DATED</u>
Original Contract:	\$1,149,500.00	15 Months	6/7/2019
AMENDMENTS:			
Amendment 1	\$0.00	6 Months	2/2/2021
Amendment 2	<u>\$0.00</u>	<u>7 Months</u>	Pending
Total Amendments	\$0.00	13 Months	
Adjusted Contract:	\$1,149,500.00	28 Months	


BUDGET/FISCAL IMPACTS:

The Final FY21 CIP includes \$1,149,500 for Contract 6963A, the Combined Heat and Power Study project.

MBE/WBE PARTICIPATION:

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

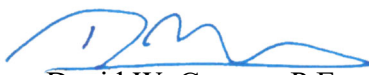
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Report on 2020 Water Use Trends and Reservoir Status

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Carolyn Fiore, Deputy Chief Operating Officer
Daniel Nvule, Senior Program Manager
Stephen Estes-Smargiassi, Director, Planning
Preparer/Title


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

The year 2020 was an unusual water year. The pandemic caused shifts in the patterns of use across the service area, with decreasing use in Boston and increases elsewhere, resulting in a substantial shift in the shares of use. The drought increased seasonal use, use by partial users and slightly increased total use. However, watershed yields exceeded total reservoir withdrawals, keeping the Quabbin Reservoir in its normal operating range for the entire year.

RECOMMENDATION:

For information only. At the beginning of each year, staff provide the Board with a review of the previous year's water use data and discuss trends.

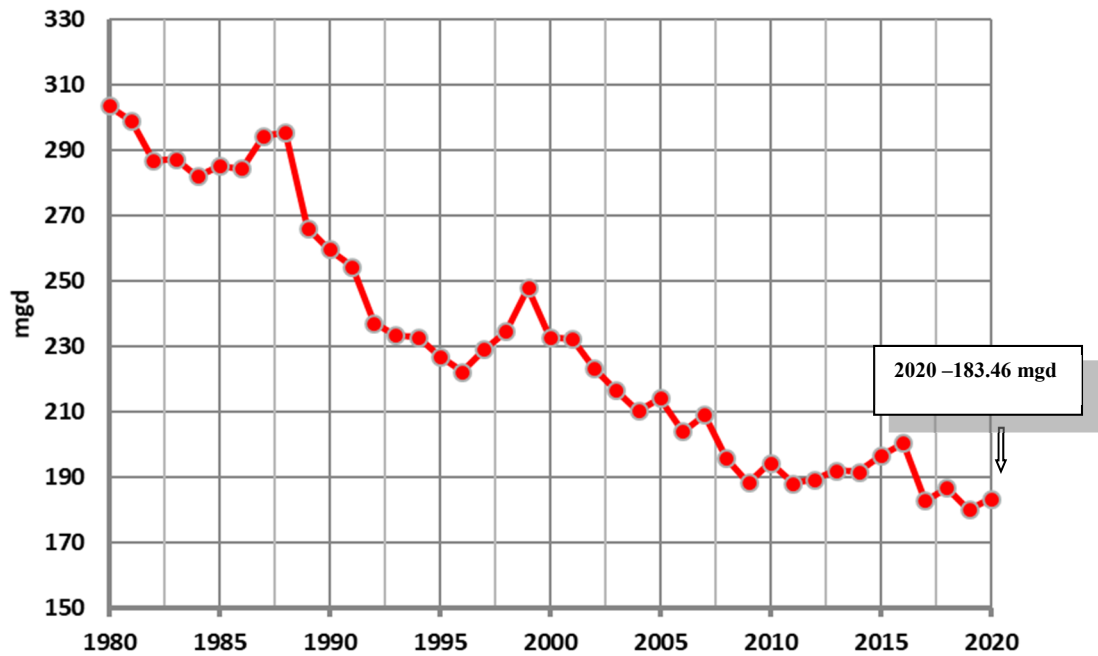
DISCUSSION:

This staff summary provides an overview of water consumption by communities, base and seasonal water use trends; use by MWRA's partial and emergency customers, and reservoir withdrawals and reservoir status.

Water Consumption by MWRA Communities

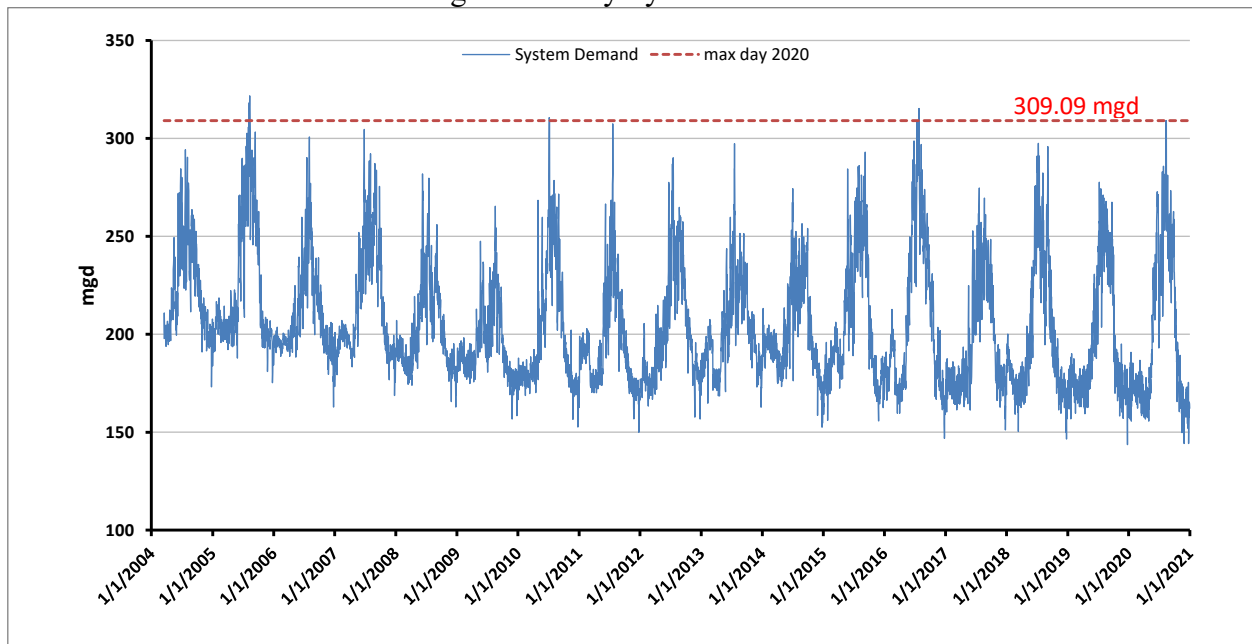
Calendar Year 2020 water consumption by all MWRA communities of 183.46 million gallons per day (mgd) was about 3.24 mgd (1.8 percent) higher than 2019, as shown on Figure 1 on the next page.

Figure 1 – Total Consumption by MWRA Communities (1980 to 2020)



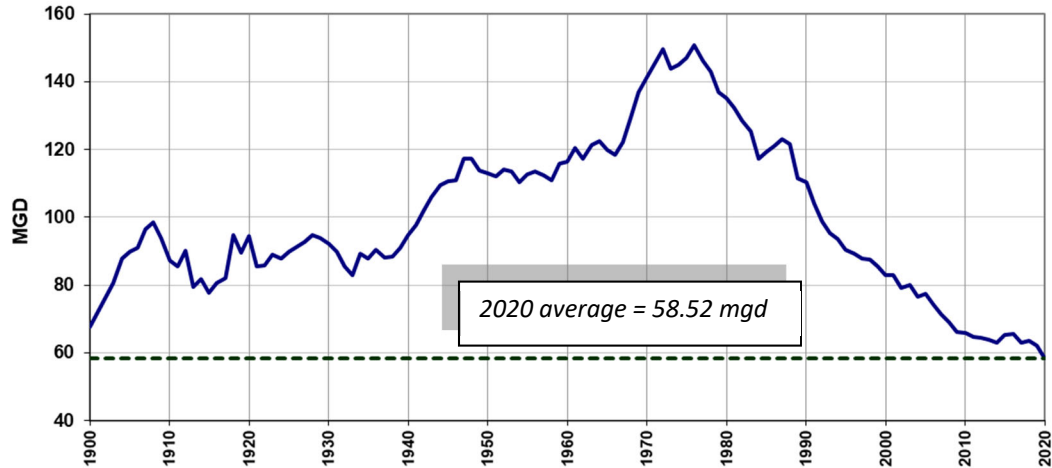
System wide, 2020 had a maximum day demand of 309.09 mgd on August 12th (11.3 percent higher than 2019, but slightly lower than the peak during the 2016 drought). At the opposite extreme, Thanksgiving Day at 144.18 mgd and Christmas at 144.19 mgd were among the lowest seen since MWRA’s creation, but slightly higher than last year’s Christmas. Figure 2 below shows daily system demand since 2004.

Figure 2: Daily System Demand



Demand from MWRA’s largest customer, the Boston Water and Sewer Commission, was 58.52 mgd, which was lower than last year by 3.61 mgd (5.82 percent). Staff attribute this reduction to the impact of the pandemic as remote work arrangements kept workers away from their workplaces. Current Boston demand continues to be lower than demand before 1900 as shown on Figure 3 below.

Figure 3: Boston Water Use (1900-2020)



Pandemic Impact

While the pandemic did not have a substantial impact on overall system demand, it did create demand share shifts within communities. In the first few weeks of the lockdown in March, total demand was down slightly from the prior year, with Boston’s demand down substantially. As shown in Figure 4 below, over the course of the second quarter, Boston’s demand was down from 2019 by 7.8 percent, while the rest of the metro area demand increased by 9.2 percent. Total demand increased more with the dry summer and fall conditions, while Boston’s use was below the prior year in every quarter. Over the course of the year, Boston’s share of total demand continued to be lower than in previous years.

Figure 4 – MetroBoston Quarterly Water Use Comparison (mgd)

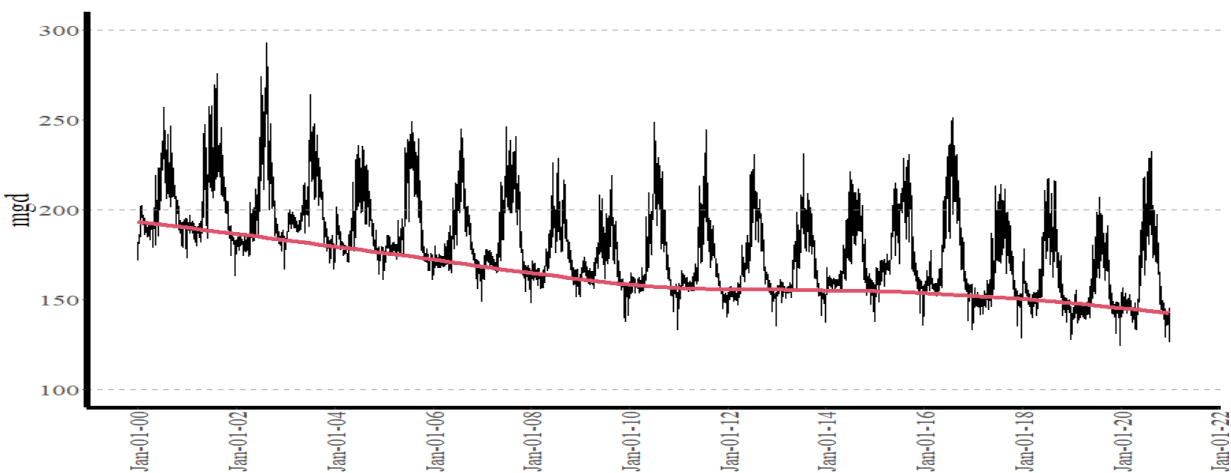
Quarter	Metro Boston Total			Boston			Non-Boston		
	2020	2019	% change	2020	2019	% change	2020	2019	% change
Q-1	147.8	148.7	-0.6	57.6	58.6	-1.7	90.2	90.1	0.1
Q-2	163.0	158.7	2.7	56.2	61.0	-7.8	106.8	97.7	9.2
Q-3	194.4	188.6	3.1	65.7	69.0	-4.8	128.7	119.6	7.6
Q-4	147.7	151.7	-2.6	54.5	59.9	-9.0	93.2	91.8	1.5

The community’s previous year’s share of the overall demand determines the percentage of the total water assessment that will be allocated to that particular community. The Community Water Use Table, on the last page, shows the community share shifts. Boston’s share of metro Boston water use was down 7.3 percent, which results in the remaining communities share increasing by 4.2 percent.

Base or Indoor Demand

Over time, there have been substantial water use reductions in both base (or indoor) use, defined as water use from November to March, and outdoor use (or seasonal use), defined as the increase over the base demand during the irrigation season from May to September. Base or indoor water use, shown as the red line on Figure 5 below, has dropped substantially over the past several decades due to the improvements in the efficiency of water use in homes and businesses as water-saving technologies continue to increase market share, and consumers react to price increases. Water use reductions also reflects the success of the leak reduction program with reduced pipeline leaks. Countervailing pressures include population increases and the strong economy since the end of the recession.

Figure 5: Fully-Supplied Communities Demand (1999 to 2020)¹



Seasonal or Outdoor Demand

Seasonal water use is more variable than indoor demand and driven in large part by weather during the irrigation season. Factors influencing seasonal use include the total irrigation season precipitation, the number of dry days between rainfall events, temperature, and the total amount of sunshine. During drought conditions, mandatory restrictions or general media exposure will reduce outdoor use over what it would have been, but dry years still tend to have higher demand. Over time, the price of water also influences seasonal use.

Figures 6 and 7 below show the variation in seasonal water use over time, and both the relatively small impact that seasonal demand has on total water use and the longer-term decline in both base and total use. Figure 6 shows that 2020 seasonal use was greater than the past several years on both a percentage and gallons basis, but lower than the previous drought years of 2015 and 2016. Seasonal use in 2020 of 20.2 mgd was the fourth highest in the past 21 years on a volume basis. On a percentage use basis, it was the third highest at 12.4%. While the dry conditions are likely a

¹ Certain analyses can only be done on fully-supplied communities where MWRA has information on their daily use available from MWRA's revenue meters. MWRA receives data on monthly total use for partially-supplied communities, but not until they provide that data to DEP in their Annual Statistical Reports in March. Fully-supplied communities represent almost 90% of the total annual demand.

major part of the explanation, anecdotally, increases in gardening and landscaping by families stuck at home during the pandemic may have also contributed to this increase.

Figure 6: Fully-Supplied Communities Annual Base and Seasonal Demand

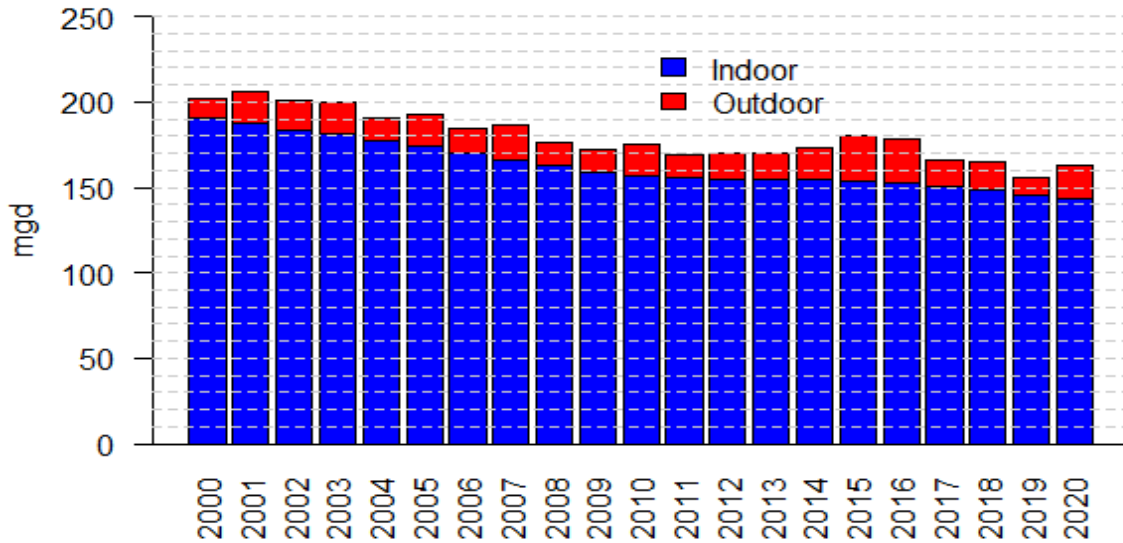
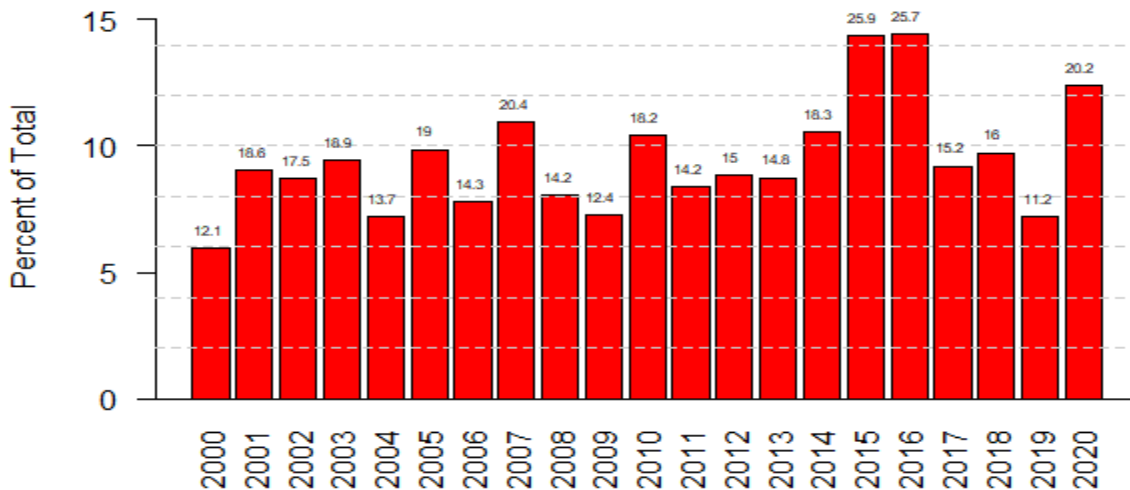


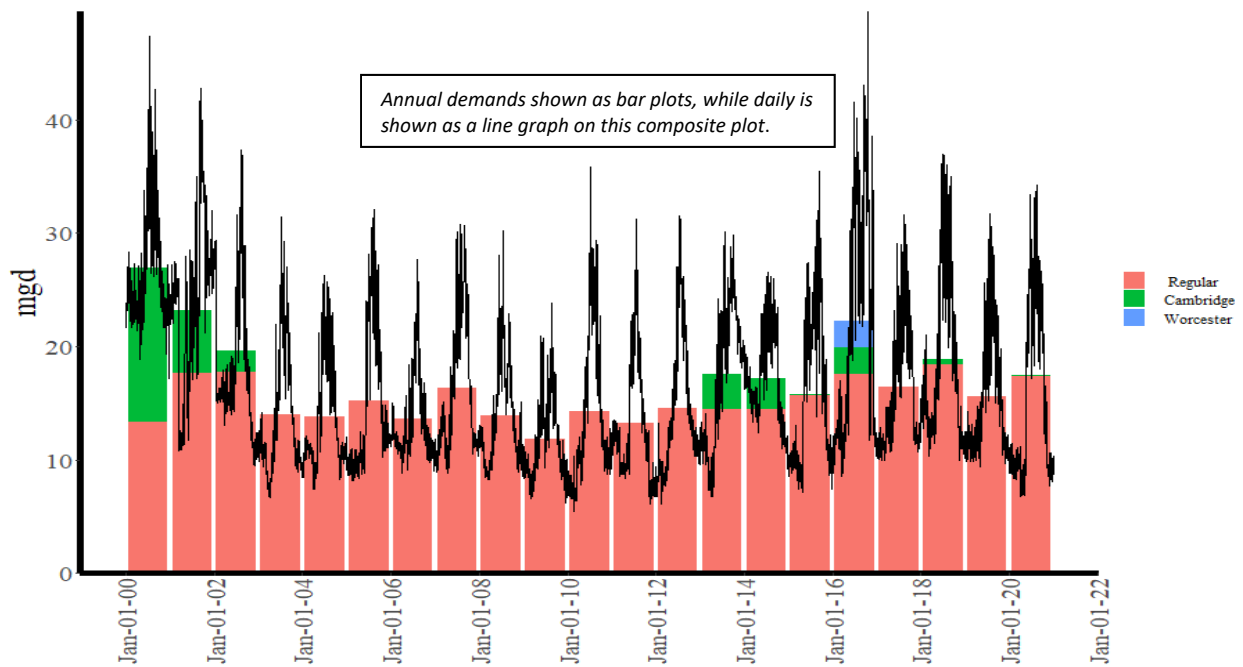
Figure 7: Fully Supplied Communities' Annual Seasonal Demand (Labels show demand in mgd)



Partially Supplied Communities

Demand for the partially supplied communities, shown on Figure 8 on the next page, was up by 1.84 mgd (11.8%) when compared to 2019.

Figure 8: Partially Supplied Communities – MWRA Supplied Demand (Daily and Annual)



Cambridge used 19.39 million gallons over three separate days in August and September. Burlington used 5.53 million gallons between July and December 9th, 2020 under their 8th emergency use agreement with MWRA. The water was provided via an emergency connection with Lexington. Burlington is now officially a partially supplied member community.

Reservoir Withdrawals and Releases

Reservoir withdrawals are the metric used to compare to the 300 mgd safe yield of the watershed/reservoir system². Withdrawals include water sold to MWRA communities, as well as other non-revenue generating uses in the watershed and MWRA system. Total MWRA water withdrawals increased by 1.42 percent in 2020, from 196.6 mgd in 2019 to 199.43 mgd.

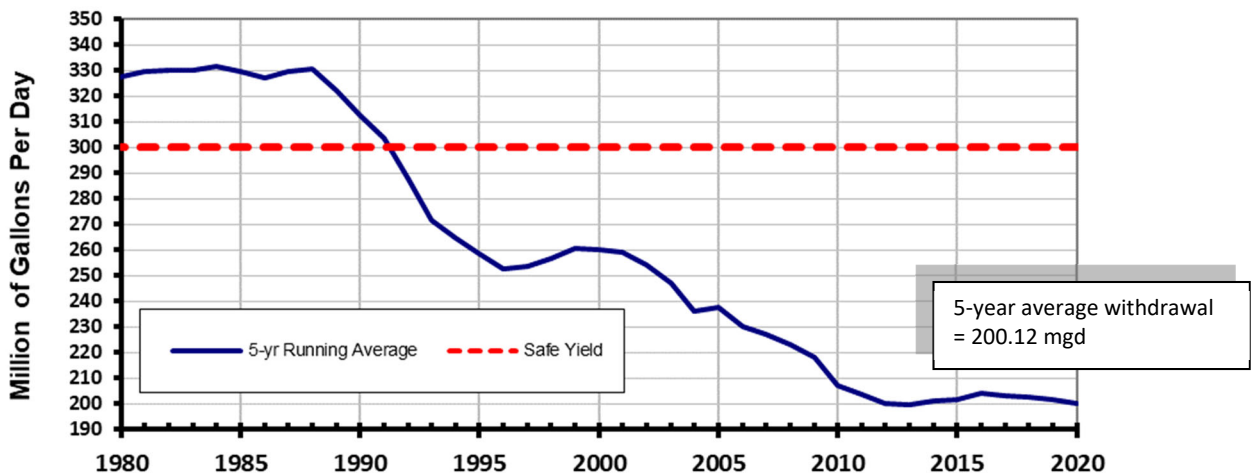
The pipeline supplying the McLaughlin Fish Hatchery in Belchertown was in service for the entire year, with an average withdrawal of 6.17 mgd. Without that withdrawal, total reservoir withdrawals in 2019 would have been 193.21 mgd. MWRA began serving the hatchery through the dedicated hydroelectric station and pipeline in December 2016.

Figure 9, on the next page, shows five-year averages of withdrawals from 1980 to present. The five-year averaging reduces the effects of year-to-year variability due to weather, and provides a good indication of longer-term trends. The average shows a slight decrease from 2019, although the trend line is essentially flat for most of the past decade. It is worth noting that since MWRA was created, MWRA has added demand from six additional communities and the hatchery, as well

² The 300-mgd safe yield is based on the drought of the 1960s. Use of a less conservative 20-year recurrence drought, as allowed by DEP, would result in a safe yield as high as 350 mgd. MWRA’s Water Management Act registration is for 312 mgd.

as the added demand from the growth in population and employment within the original service area.

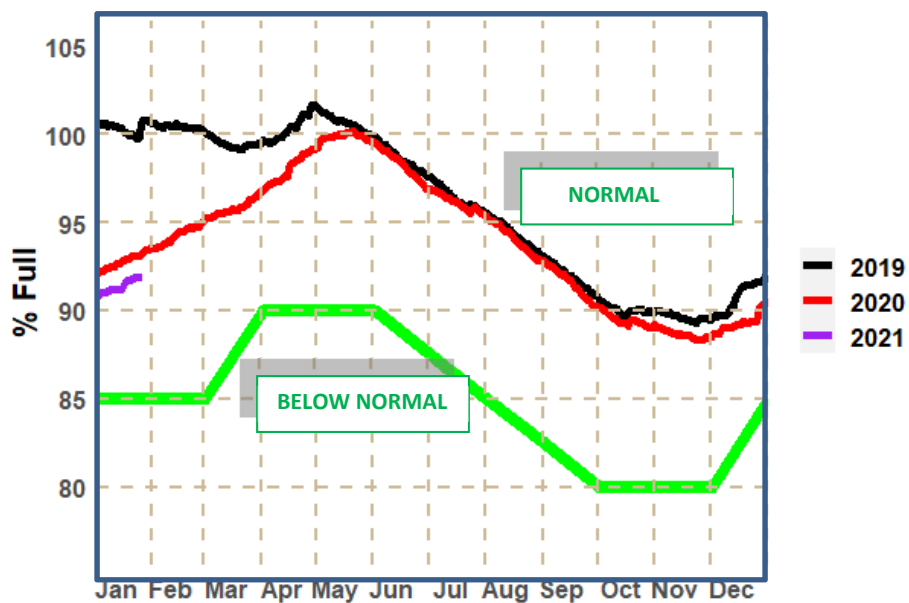
Figure 9: Total Reservoir Withdrawals – Five-Year Running Average 1980 to 2020



Reservoir Status

There were drought concerns during 2020 across the state with drought conditions persisting from June 2020 thru January 2021. Given Quabbin Reservoir’s large storage coupled with demands that were below safe yield, Quabbin Reservoir levels were well within the normal operating band and followed typical seasonal variation patterns. Figure 10 below shows a comparison of Quabbin volume levels between 2019 and 2020. The green line on the Figure shows the seasonal monthly benchmarks for the operating band. Levels above the line are considered ‘normal’ and below the line are considered ‘below normal’. Further operating bands for varying degrees of drought status are significantly lower still.

Figure 10: Quabbin Reservoir Volumes for 2018 to 2020




Quabbin Reservoir spilled to the Swift River for 73 days for a total of 4.49 billion gallons. In order to maintain water quality, 38.84 billion gallons of the higher quality Quabbin water was transferred to Wachusett Reservoir during 2020. The transfer was equivalent to about 59 percent of Wachusett's capacity. To maintain Wachusett Reservoir in its normal narrow operating band, MWRA released 11.4 billion gallons to the Nashua River through controlled releases.

ATTACHMENT:

Community Water Use Data


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Update on EPA's Revised Lead and Copper Rule

COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning
Preparer/Title


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

RECOMMENDATION:

For information only.

DISCUSSION:

On January 15, 2021, the Environmental Protection Agency (EPA) finally published the long awaited revisions to the Lead and Copper Rule (LCR) after almost 16 years of work. Staff are in the process of carefully reviewing the changes while awaiting guidance documents from EPA. Staff are planning on holding a community forum or training session in March to help communities prepare for the changes, similar to the ones held in 2016 after the Flint, Michigan situation.

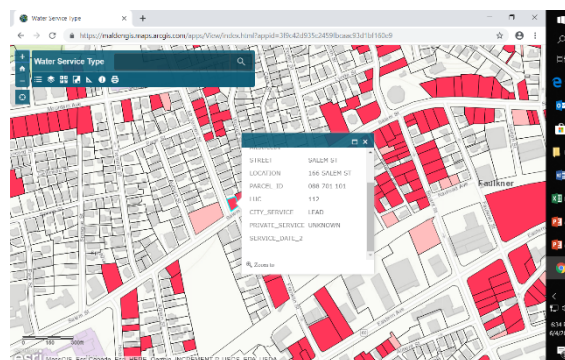
There are a number of significant changes in the rule that will require substantial effort by community water systems, along with changes that will make it more likely that MWRA will be required to make changes to its corrosion control treatment. Several of the changes require work to be completed and submitted to the state within the first three years, even as the state will be in the process of developing its own implementing regulations. This staff summary provides a high-level overview of the new requirements; it does not detail every regulatory change or the nuance of the changes it does describe.

Most of the significant changes in the rule will directly affect communities. These include requirements that the communities:

- develop and submit complete inventories of all their service lines;
- develop and submit detailed plans for lead service line replacement and annual notifications to occupants;
- provide risk mitigation efforts, including the provision of filters after many activities that disturb the service line;
- provide 24-hour notification of an exceedance of the 15 ppb Action Level;
- change where and how they conduct the required sampling;
- conduct “find and fix” activities at any home where the LCR sample is over the Action Level; and
- conduct mandatory sampling in 20 percent of all schools and childcare facilities annually.

The regulatory changes will also affect MWRA primarily by potentially mandating a review of MWRA's corrosion control treatment if the system is over the new Trigger Level of 10 ppb or the existing Action Level of 15 ppb¹. Staff do anticipate a greater volume of samples and a higher level of requested technical assistance to communities, especially during the first several years of implementation. The revisions will require more communities to replace lead services, increasing demands to the MWRA loan program.

Service Line Inventories: Each water system must develop a complete inventory of all of its service connections within the next three years, and submit it to the MassDEP by January 2024. The inventory must include information about both the portion of the service line in the public way and the portion on private property, regardless of ownership. Both portions of each service line must be identified as made of lead, made of galvanized iron downstream of a lead service line (called *galvanized requiring replacement* in the regulations), lead status unknown, or non-lead. The standards of proof for these identifications will hopefully be made clearer by EPA guidance materials before too long. The inventories must be publicly available, with systems serving over 50,000 persons required to have it online. While several MWRA communities already have publicly available inventories, each will require additional information to meet the new requirements, and it is likely all communities will need substantial additional work to complete their inventories to these new standards.



Malden Service Line Map

Annual Service Line Notices: Water systems will be required to provide an annual notice with information about the risks of lead and other required information to the residents of every home with a lead service line, a galvanized service line requiring replacement (called *galvanized* for the rest of this staff summary) or a service line with lead status unknown (called *unknown* for the rest of this staff summary). These annual notices are expected to encourage some homeowners to request removal of their lead service lines. The first notices are due 30 days after the inventories are submitted.

Lead Service Line Replacement Program: Also in the first three years, each community must develop and submit a plan to MassDEP for replacing lead and galvanized service lines. This plan must include an agreed-upon rate of replacement that would be put into action if they exceed a newly created Trigger Level of 10 ppb. If the system exceeds the existing Action Level of 15 ppb, they must replace three percent of the sum of lead, galvanized and unknown services per year for at least two years. Only full replacement, where all the lead from the main to the building inlet is removed, counts as replacement. The changes in sampling described below will likely increase the number of communities that exceed one of these two triggers for lead service line replacement.

The lead replacement plan must also include the system's plan for developing better information about their unknown services, providing notices and risk mitigation information to the building

¹ While the current consecutive system arrangement that MassDEP and EPA have approved uses the system-wide 90th percentile results as the trigger for a system-wide treatment review, it is possible that MassDEP could take the position that any individual community being over the Trigger or Action Levels would require that MWRA conduct a corrosion control study.

occupants whenever a service line is disturbed or replaced, and providing pitcher filters (along with six months of replacement filters) to the building occupants if the service line is fully or partially replaced or for certain types of disturbances. For any multi-family buildings, these notices must be provided to all the residents, not just the owner or customer.

In many communities, the portion of the service line on private property is not owned by the water system, but still must be replaced to be counted as a replacement. The replacement plan must include funding strategies considering how to accommodate customers that are unable to pay to replace the portion they own.

Public Notification Changes: Perhaps the most significant change from the public's perspective will be the new requirement for a Tier 1 24-hour notice if a water system exceeds the lead Action Level. This is similar to what is currently required for a confirmed *E. coli* detection. Under the current rule, systems have 60 days to complete a public education effort after an Action Level exceedance. Requiring an immediate 24-hour notice is likely to significantly complicate risk communication, especially if communities have not done advance preparation before each sampling round. This is because the risk is not uniform; homes with lead service lines may have higher risk than those without, but the notice will be broadcast to all users in the community. Unlike the current public education requirement that provides a longer message with more context, the immediate notice will provide less context, and will likely be interpreted as an emergency, rather than an opportunity to understand existing risks. In addition, unlike most other notices, the resolution is not a couple of days of special sampling and an "all clear." MWRA staff will be recommending that communities prepare in advance for this possibility, especially for the initial rounds of sampling under the new sampling requirements.

Changes in Sampling: There are two important changes to how sampling is required to be done that will affect most MWRA communities. While actual lead levels will not change, these changes will increase reported lead levels. Systems with any lead services must collect all of their samples from those homes. Systems with no lead service lines or not enough to fill out their sampling pool will be required to sample in homes with galvanized service lines if there are any. Based on both MWRA and national data, these changes are likely to increase the reported lead levels. In addition, any sample taken from a home with a lead service line will be required to sample using a new technique designed to capture water from the service line. Five one-liter bottles will be filled sequentially and the fifth one analyzed for lead. The available national data indicates that this is also likely to result in higher reported lead levels. MWRA staff will be working with communities over the next few sampling rounds to collect additional samples to better understand how these changes may affect results.

Find and Fix: The new rule will require a number of specific activities by the local water department and MWRA after any LCR sample is over the Action Level, even if the system 90th percentile is below the Action Level. These include additional investigatory sampling at the home to determine if a cause of the elevated levels can be found, sampling nearby to determine if local distribution system issues influenced the high results and potentially a review of treatment effectiveness if no local cause is identified. MWRA and the community will need to work in collaboration to accomplish this in the relatively short timeframe allowed under the rule.

Of note is the requirement that the resident be notified of the elevated value within three calendar days. While the current rule requires 30 days, MWRA's practice has been to provide immediate notice to the local water department in these cases and urge immediate notice to the resident.

School and Childcare Facility Sampling: The new rule now requires that each system develop a complete list of all public and private schools and all licensed childcare facilities by 2024, and then provide information about the risk of lead in tap water annually. Over the next five years, each system must sample 20 percent of all elementary schools (five taps each) and 20 percent of the childcare facilities (two taps each) each year. In addition, during that five-year period, and then thereafter, they will be required to sample any school or childcare facility upon request. It is not clear whether any of the extensive school sampling that has already occurred will be “grandfathered,” reducing the burden on communities and MWRA.


Potential Corrosion Control Treatment Changes: Staff anticipate that the addition of the new 10 ppb Trigger Level and changes to sampling will make it more likely that MWRA will need to reevaluate its corrosion control treatment. Staff are already working proactively to be ready to do that review in a thorough and thoughtful way.

The rule revisions require that specific treatment alternatives be evaluated, including the addition of a phosphate-based corrosion inhibitor. Corrosion control studies for systems with lead services must include the use of harvested lead service lines. Staff have constructed a series of pipe loop test racks with lead pipe from an MWRA community, and are in the process of acclimating and stabilizing those pipes with system water. Beginning this process now will allow for a more extensive stabilization time before MWRA is required to begin evaluating alternatives, improving the accuracy and usefulness of the pipe loop study.



Within the next several months, staff anticipate holding the first of a series of virtual meetings with key local stakeholders and outside corrosion experts. The group would help staff identify and confirm the feasible and appropriate alternatives to be evaluated for our specific system and to identify the critical research questions that need to be answered to assure that any recommended alternatives are implementable without adverse, unintended consequences to water quality, public health or the environment.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Metropolitan Tunnel Redundancy Program Update
Filing of Environmental Notification Form

COMMITTEE: Water Policy and Oversight

X INFORMATION
 VOTE

Beth Card, Director, Environmental and Regulatory Affairs
Frederick O. Brandon, P.E., Director, Design and Construction
Preparer/Title


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

RECOMMENDATION:

For information only.

DISCUSSION:

This staff summary provides an update on the proposed filing of an Environmental Notification Form (ENF) to the Massachusetts Environmental Policy Act (MEPA) office for the Metropolitan Tunnel Redundancy Program.

Staff will provide future updates to the Board at key milestones during the Preliminary Design phase of the Program, such as: recommendation of the proposed tunnel alignment and shaft sites; completion of the Draft Environmental Impact Report; and completion of the Preliminary Design Report and Program cost estimate and schedule.

On February 15, 2017, the Board approved staff's preferred alternative of construction of northern and southern deep rock tunnels from the Hultman Aqueduct and MetroWest Water Supply Tunnel to the Weston Aqueduct Supply Main No. 3 (WASM 3) and to the Southern Spine water mains for the purpose of providing redundancy for the Metropolitan Tunnel System (City Tunnel, City Tunnel Extension and Dorchester Tunnel) and directed staff to proceed with preliminary design, geotechnical investigations and Massachusetts Environmental Policy Act review of the project. The MEPA review process is designed to provide meaningful opportunities for public review of potential environmental impacts of certain projects for which certain actions by state agencies are required. The ultimate goal is to use all feasible measures to avoid, minimize, and mitigate damage to the environment.

On May 27, 2020, the Board approved the award of Contract 7159, Metropolitan Tunnel Redundancy Program Preliminary Design, Geotechnical Investigation and Environmental Impact Report to CDM Smith, Inc. This contract includes preliminary geotechnical investigation (deep rock borings), evaluation of preliminary tunnel alignment and shaft site alternatives, preliminary design, preliminary contract packaging, preparation of the required MEPA filings and development of a comprehensive list of the environmental permits needed. The first step of the preliminary design/MEPA review effort is preparing and submitting an ENF for the program.

Environmental Notification Form

Staff plan to submit an ENF to the MEPA office in March 2021. Per MEPA regulations and guidelines, the ENF submittal should clearly identify the MEPA review thresholds that the project meets or exceeds and any agency actions, such as permits, that it may require. The ENF should also include a supporting project narrative with a detailed project description, an alternatives analysis, evaluation of potential environmental impacts, and a description of mitigation measures. Lastly, the ENF must address consistency with relevant Executive Orders and Commonwealth environmental policies, as applicable. Such orders and policies will require emphasis on Environmental Justice and Climate Change in the Authority's ENF and subsequent MEPA filings.

This is the first step in the environmental review process for the proposed Metropolitan Water Tunnel Program. The ENF will present the need for tunnel redundancy, the proposed two-tunnel concept and will propose a study area for identifying and evaluating potential tunnel shaft sites and tunnel alignment alternatives (see Figure 1). The proposed study area for the tunnel alignment includes portions of the following communities: Belmont, Boston, Brookline, Dedham, Needham, Newton, Waltham, Watertown, Wellesley and Weston. The ENF will also include an Alternatives Screening Report that documents the comparison and selection of the preferred two-tunnel concept to other surface pipe and tunnel alternatives.

Staff anticipate that the Secretary of Energy and Environmental Affairs will issue a certificate on the ENF that will require Draft and Final Environmental Impact Reports, which will identify the proposed locations of tunnel shaft sites and tunnel alignments and describe environmental impacts of constructing the proposed tunnel. Over the next year, staff will be identifying potential shaft sites giving priority to undeveloped publically owned land where there would be minimal environmental impacts, although any site that may be potentially viable could be considered.

Community, Stakeholder and Regulatory Outreach

As the MEPA process commences, MWRA will simultaneously implement its communication plan to ensure that all communities and stakeholders are informed as to the importance of this effort and what can be expected in the years ahead. Staff have already made contact with all ten communities within the Program Study Area to inform them of the Tunnel Program, and have offered to meet with them (and have already met with some) to provide more information and answer any questions. Staff proposed to form a working group, which will include representatives of each of the ten communities within the Study Area who will participate in regular meetings with the Program Team, be kept informed on Program progress, and provide input on certain elements of the Program. The goals of the working group meetings are to provide a collaborative and transparent process for evaluating alternatives, and yield more informed comments during the MEPA process. Other members of the Working Group include the MWRA Advisory Board and the Metropolitan Area Planning Council.

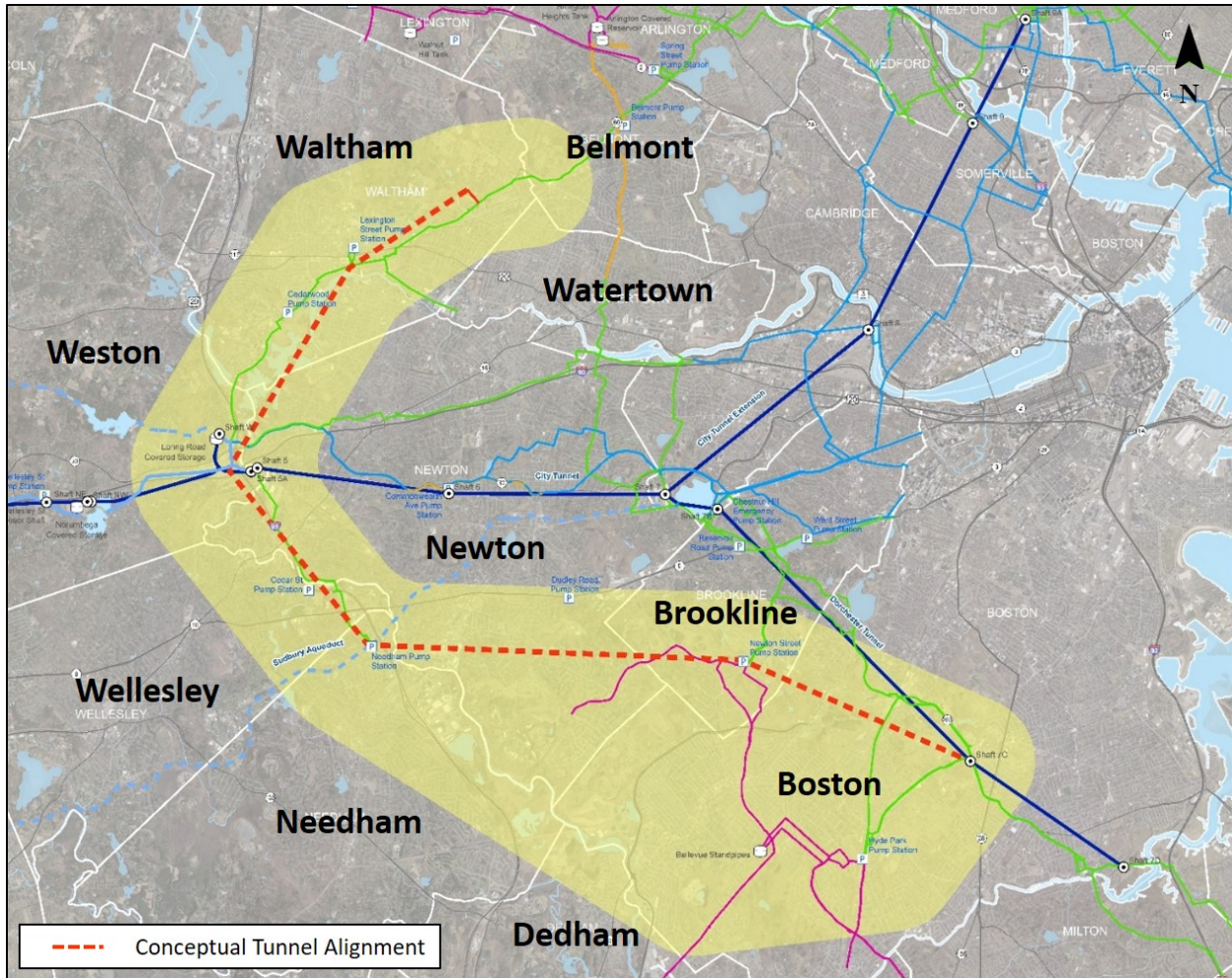


Figure 1. Metropolitan Water Tunnel Proposed Two-Tunnel Concept and Study Area.

In addition to reaching out to communities, staff will also work to schedule a briefing for MWRA’s Legislative Caucus. Staff have also begun to meet with other stakeholders that may be approached for permits, easements and/or land acquisition to support the Program. The state agencies include Mass Department of Transportation, the Department of Conservation and Recreation and the Division of Capital Asset Management and Maintenance. In the near future, MWRA will reach out to environmental advocacy groups and environmental justice representatives.

The development of the preliminary design and environmental impact reports will require substantial amounts of coordination with environmental regulatory agencies in order to ensure the data and documentation generated result in a robust alternatives analysis in the MEPA process. Staff have already met several times with members of the Department of Environmental Protection and MEPA to present the proposed Tunnel Program, and discuss the regulatory process. This early interaction with regulators will give MWRA staff the opportunity to address comments and concerns raised by agencies in the earlier MEPA phases.

BUDGET/FISCAL IMPACTS:

The FY21 CIP includes \$1.5 billion for the Metropolitan Tunnel Redundancy Program. This budget will be refined at the completion of Preliminary Design.

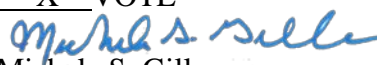
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: MWRA Boat Storage Facility and Cosgrove Intake Improvements
Poulin Construction Inc.
Contract 6650C


COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen
Director of Administration

Nitin Choksi, Senior Program Manager
John P. Colbert, P.E., Chief Engineer
Preparer/Title


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

RECOMMENDATION:

To approve the award of Contract 6650C, MWRA Boat Storage Facility and Cosgrove Intake Improvements, to the lowest responsible and eligible bidder, Poulin Construction Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,319,700 for a contract term of 365 calendar days from the Notice to Proceed.

DISCUSSION:

The existing MWRA Cosgrove Disinfection Facility, shown on the right, is a one-story, 2700 square-foot structure that was built in 1997. This facility, located near the Cosgrove Intake Facility in Clinton (Figure 1), was used for water treatment during construction of the John J. Carroll Water Treatment Plant, but is no longer needed for this purpose, allowing it to be converted to support other MWRA operations and maintenance functions. This contract will modify the building for storage of MWRA boats as well as associated equipment and supplies to perform in-reservoir algae treatment.



Cosgrove Disinfection Facility

The scope of this construction contract includes demolition of process equipment, generator and a propane tank, replacement and/or upgrade of building systems such as electrical, HVAC, plumbing, and lightning protection. New floors and doors will be installed to accommodate new building functions and to comply with the current building code.

This project also includes improvements at the Cosgrove Intake Building. The work includes new piping for exterior deck drainage, which is necessary to prevent the drainage from the deck entering the intake to the facility. The drainage piping will be rerouted to dry wells. Electrical improvements include replacement of an obsolete DC panel and replacement of the existing high bay lighting fixtures in the truck bay with energy saving LED fixtures.

Procurement Process

Contract 6650C was publicly advertised in the Boston Herald, Banner Publications, El Mundo, Central Register, COMMBUYS, the Metro West Daily and bid in accordance with Chapter 149 of the Massachusetts General Laws. In addition, bids were made available for public downloading on MWRA’s e-procurement system (Event #4494). Two site visits were held on September 24, 2020 and November 24, 2020 respectively. Bids were received and opened on January 7, 2021 from five contractors as follows:

Bidders	Bid Amount
Poulin Construction Inc	\$1,319,700
TRAC Builders, Inc.	\$1,544,340
<i>Engineer’s Estimate</i>	<i>\$1,800,000</i>
R. Zoppo Corp.	\$1,855,840
City Enterprise, Inc.	\$1,963,619
WES Construction Corp.	\$2,055,840

Poulin Construction Inc.’s bid is 14.5 % lower than next low bidder, and 26.6% lower than the Engineer’s Estimate. Staff spoke with representatives of Poulin Construction about how its bid compared to the Engineer’s Estimate. Poulin Construction indicated that most of its staff are from the Clinton region, which will allow reduced travel time and personnel costs. They also stated that their non-filed-subcontractors, including those for demolition and concrete work, are located in the Clinton region. Built into Poulin’s bid is a plan to employ means and methods in the new drainage installation that will improve work flow, equipment deployment, and costs. Poulin is also an authorized dealer for many metal building manufacturers and their components, and their work on metal buildings is done customarily by their own employees trained in those manufacturers’ building systems. Poulin also noted that they maintain a smaller staff in their home office, which allows them to have relatively low overhead costs.

In addition, this contract includes three filed subbids, that were estimated to be \$600,000 of the total work. The subbidder costs came in lower than the Engineer’s Estimate by \$242,000. Most of the difference was determined to be caused by errors in the estimate that included the general condition costs and inclusion of a generator which had been removed from the final design. The remaining lower costs are attributed to competitive market conditions.

Staff reviewed Poulin Construction Inc.’s bid and conducted further discussions with the Contractor. Following those discussions, staff are of the opinion that the Contractor fully understands the scope of work and that the bid contains all elements of the work. Poulin Construction Inc. has demonstrated its ability to successfully complete comparable projects.

DCAMM ratings were checked and found to be favorable. Staff contacted references for Poulin Construction Inc. and found the Contractor’s experience and performance to be acceptable. The

references report that the Contractor's performance on these projects was very good and projects were completed on schedule. The Contractor has no OSHA workplace violations in the last five years.

After reviewing the bid and interviewing the Contractor, staff have concluded that Poulin Construction Inc. possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Staff have further determined that the bid price is reasonable, complete, and includes payment of prevailing wages as required. Therefore, staff recommend that Contract 6650C be awarded to Poulin Construction Inc. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY21 CIP includes \$1,800,000 for Contract 6650C, The award amount is \$1,319,700.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract have been established at 7.24% and 3.6 %, respectively.

ATTACHMENTS:

Figure 1 – Map of Contract 6650C Boat Storage Facility and Cosgrove Intake Improvements

Figure 1 – Map of Contract 6650C Boat Storage Facility and Cosgrove Intake Improvements



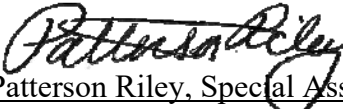
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STAFF SUMMARY

TO: Board of Directors
FROM: Patterson Riley, Special Assistant, Affirmative Action & Compliance Unit
DATE: February 17, 2021
SUBJECT: Approval of the 2021 Affirmative Action Plan

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE


Patterson Riley, Special Assistant, AACU
Preparer/Title

RECOMMENDATION:

That the Board of Directors approve the Massachusetts Water Resources Authority's Affirmative Action Plan effective for a one-year period from January 1, 2021 through December 31, 2021.

DISCUSSION:

The Affirmative Action Plan sets out the basic parameters of MWRA's commitment to Equal Opportunity in the areas of Employment (EEO) and Minority/Women Business Enterprise (M/WBE) participation in MWRA procurements and contracted services. The Plan has been prepared pursuant to Section 7(g) of the Authority's Enabling Act, which states:

“The Authority shall develop policies and plans for affirmative action in employment, procurement, and contracting in accordance with laws and consistent with general policies and plans for the Commonwealth.”

MWRA updates its Affirmative Action Plan annually and provides information on the development, implementation and monitoring of the various plan elements in accordance with guidelines of the U.S. Department of Labor, Office of Federal Contract Compliance Programs (OFCCP). Since 2002, MWRA has utilized Affirmity, a nationally known computer software package to produce the required workforce staffing summary reports for each Affirmative Action Plan. Affirmative Action and Compliance Unit staff works with staff from the MIS and Human Resources Departments to convert personnel transaction data from the MWRA's Human Resources Information System and to validate the proposed workforce goals for CY2021.

The text of the plan is attached (Attachment A). Copies of the full plan, including appendices is available by request. Attachment B, “MWRA Job Group Representation,” shows the actual number of minority and female employees currently, along with the numbers of over-and under-utilized job groups. The underutilized job groups denote areas for AACU recruitment focus if positions become available. This report is included in the MWRA Orange Notebook, presented to the Board on a quarterly basis.

During the 2020 Affirmative Action Plan year, MWRA hired a total of 51 new employees, including 11 (22%) females and 13 (25%) minorities. There were 44 employees promoted during this period, including 8 (16%) females and 11 (25%) minorities. MWRA is in full compliance with all aspects and requirements of its federally approved affirmative action program and in following those strict guidelines with its Affirmative Action Plan, a promotion only occurs when the individual employee moves from a position within one job group to a new position within a different job group. For Affirmative Action Plan reporting purposes, 35 of these promotions reflect employee promotions where there has been a change in Job Group as described under “Availability Analysis.” Of this total, 8 (23%) females and 10 (29%) minorities were promoted. However, as an employer, the MWRA considers an employee to be promoted at such time that the individual moves into a new position within the same job group, with an increase in pay, grade, different and new job duties. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 10 such promotions during the 2020 Affirmative Action Plan year and of these, 3 (30%) were minorities and 2 (20%) were females.

A total of 35 terminations occurred during CY 2020. Of the total number of terminations, 3 (9%) were females and 9 (26%) were minorities. Of the total number of terminations, 97% left voluntarily, 69% were employees who retired, and 26% were employees who resigned.

In comparison, during the 2019 Affirmative Action Program year, a total of 78 terminations occurred, including 20 (25%) females and 17 (22%) minorities. Of the total number of terminations, 35% were employees who resigned and 55% were employees who retired. A review of the total number of termination statistics for calendar years 2018, 2019 and 2020 is included in Table A below.

Table A

Termination Statistics	Employee Count	Minority		Female	
Total Terminations CY2018	87	12	14%	23	26%
Total Terminations CY2019	78	17	22%	20	26%
Total Terminations CY2020	35	9	26%	3	9%

The race/sex composition of the workforce did not change significantly during the 2020 Affirmative Action Plan year, particularly as compared to Plan years 2018 and 2019.

The current race/sex composition of the workforce for minorities of 23.2% greater than the overall 2020 MWRA workforce staffing goal of 21.1%; and the current sex composition of the workforce for females of 23.5% is greater than the overall 2020 workforce staffing goal of 21.7%.

A review of MWRA workforce staffing statistics for calendar years 2017, 2018, and 2019 is included in Table B below:

Table B

Calendar Year	Minority	Female
12/31/18	22.1%	22.8%
12/31/19	23.2%	23.0%
12/31/20	23.2%	23.5%

The 2021 Affirmative Action Plan documents include detailed workforce data for the reporting period December 1, 2019 through November 30, 2020. The data indicates that the number of underutilized job groups for females has decreased. In calendar year 2020, there were 6 job groups underutilized by women and this number has decreased to 4 job groups for 2021. In calendar year 2020, the data indicate that the number of underutilized job groups for minorities has decreased. In calendar year 2020, there were 6 job groups underutilized by minorities and this number has decreased to 5 job groups for 2021.

MWRA will continue its good faith efforts to maintain minority and female workforce staffing representation and to further reduce the number of job groups underutilized by women and minorities. There may be opportunities to fill critical positions through promotions of qualified internal candidates, including women and minority employees. The Affirmative Action and Compliance Unit will continue to focus its efforts to assist senior management to fill vacancies through the promotion of qualified women and minorities in the Management, Skilled Crafts, Operator, and Professional job groups. In addition, where external recruitment efforts are necessitated by the absence of qualified internal candidates, and senior management deem that the need exists to fill critical position vacancies, AACU will work with MWRA hiring managers and Human Resources to recruit qualified minority and female candidates.

It is the policy of the MWRA to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) in the award of all contracts including contracts for construction, goods/non-professional services and professional services. As required by the Massachusetts Department of Environmental Protection via the Environmental Protection Agency, the program will also include Disadvantaged Business Enterprises (DBEs) which means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. Department of Transportation eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the Massachusetts Supplier Diversity Office. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE.

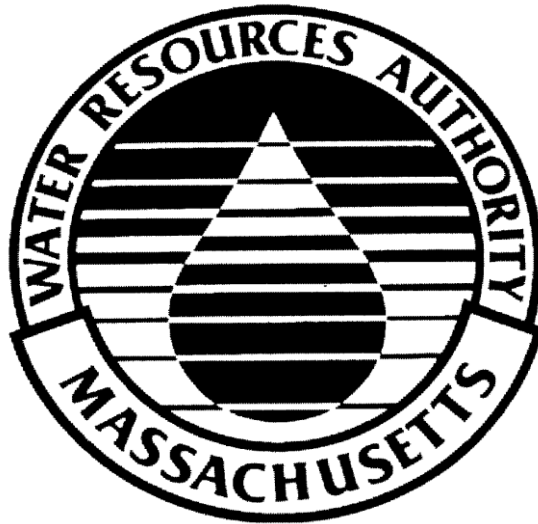
The Plan also includes information on the MBE/WBE/DBE Procurement Program. The MWRA spent \$6.3 million and \$4.3 million, respectively, with minority-and women-owned businesses in the last fiscal year. These amounts were 60.5% and 63.9% of the respective MBE and WBE targets, which reflect the achievements of the last fiscal year.

ATTACHMENT:

Affirmative Action Plan

Attachment A

MASSACHUSETTS WATER RESOURCES AUTHORITY



AFFIRMATIVE ACTION PROGRAM

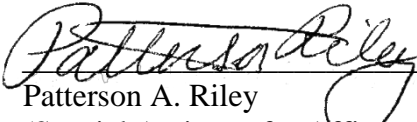
JANUARY 1, 2021 - DECEMBER 31, 2021

Frederick A. Laskey
Executive Director

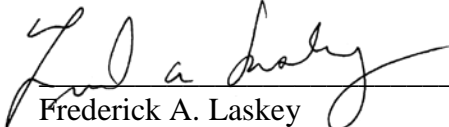
Patterson A. Riley
Special Assistant
Affirmative Action & Compliance Unit

Affirmative Action Program

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

AAP Completed by:  February 12, 2021
Patterson A. Riley Date
(Special Assistant for Affirmative Action)

Telephone Number: (617) 788-4070

Approved by:  February 12, 2021
Frederick A. Laskey Date
(Executive Director)

Inclusive Dates of the AAP: January 1, 2020 - December 31, 2020

**Massachusetts Water Resources Authority
Affirmative Action Plan**

Table of Contents

Section		Page
	<u>Introduction</u>	1
I	Legal Sections	
	Description of Organization	2
II	<u>Policy Statement</u>	
	Executive Director's Statement	3
	Board of Directors' Statement	4
III	<u>Responsibility for Implementation</u>	5
IV	<u>Equal Employment Opportunity</u>	
	Dissemination of the Plan	7
	Internal	
	External	
	<u>Development and Execution of the Plan</u>	8
	Development: Workforce Analysis	
	Employment Activities 12/1 -11/30	9
	Availability Analysis	
	Action-Oriented Program	
	Identification of Areas for Special Attention/Goals	
	Execution: Recruitment and Advertising	12
	Training/Career Development	13
	Consideration of Minorities and Females not Currently in the Workforce	
	Support of Community Action Programs	14
	<u>Sex Discrimination Guidelines</u>	15
	<u>Religion and National Origin Discrimination Guidelines</u>	17
	<u>Affirmative Action Program For Individuals With Disabilities</u>	18
	<u>Affirmative Action Program for Protected Veterans</u>	21
	<u>Internal Audit and Reporting Systems</u>	23
	Internal Complaint Procedure	
V	<u>MBE/WBE/DBE Program</u>	26

INTRODUCTION

The Affirmative Action Plan for the Massachusetts Water Resources Authority (the “MWRA” or “Authority”), is prepared and adopted under Section 7(g) of the Enabling Act, which states:

“The Authority shall develop policies and programs for Affirmative Action in employment, procurement and contracting in accordance with law and consistent with general policies and programs of the Commonwealth.”

The AA Plan was developed to be consistent with federal and state laws and regulations:

Federal Executive Order 11246, as amended.

41 CFR Parts 60-1, 60-2, 60-20, 60-50, 60-250, 60-300, 60-741; Office of Federal Contract Compliance Programs (OFCCP): Affirmative Action Requirements.

The Rehabilitation Act of 1973, as amended.

The Vietnam-era Veterans’ Readjustment Assistance Act of 1974, as amended.

In addition, MWRA’s policies and personnel practices adhere to the nondiscrimination provisions of all applicable federal and state laws, as amended, including the following:

- Title VII of the Civil Rights Act of 1964.
- Civil Rights Act of 1991.
- Age Discrimination in Employment Act of 1967.
- Equal Pay Act of 1963.
- Americans with Disabilities Act of 1990, as amended.
- Massachusetts General Laws, Chapter 151B.
- Massachusetts Comparable Pay Act.

The AA Plan has been developed by the Affirmative Action and Compliance Unit (AACU) to cover the time period January 1, 2021 through December 31, 2021. The Plan includes a results-oriented set of procedures designed to achieve the full utilization of minorities and women in all levels of the MWRA’s workforce and to promote job opportunities for individuals with disabilities and covered veterans. The Plan has been reviewed by the MWRA Board of Directors, voted on and approved for full implementation.

The Massachusetts Legislature created the MWRA in December 1984 to manage water and sewer services for 3.0 million people and 5,500 businesses in 61 communities. While the Boston Harbor Clean-up is the best known of its projects, MWRA has also completed a modernization of the drinking water system. MWRA also maintains 400 miles of water pipes, aqueducts, and tunnels and 228 miles of sewers. Also, nearly completed are projects to control combined sewer overflows, provide adequate water delivery and meet all federal, state and local water and wastewater standards.

II. POLICY STATEMENT

Executive Director's Statement

Our agency serves citizens in every neighborhood, economic class and cultural group in our service area. MWRA will be in harmony with its social role only when our work environment reflects our broader social aspirations for equal opportunity, justice, personal dignity and cross-cultural respect. To that end, we must take personal responsibility for diversity in our organization and in our community.

All of us at the MWRA recognize that we must take affirmative action to prevent and to remedy any discriminatory effects of business or employment practices based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

On behalf of the MWRA, its managers and employees, I am committed to taking those steps which ensure equitable participation in our employment opportunities by the members of any protected class group without regard to race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran status and marital status. We are committed to achieving equal opportunity for all through fair and effective implementation of our affirmative action plan.

Frederick A. Laskey
Executive Director

Board of Directors' Statement

We, the Board of Directors of the MWRA, take great pride in our diverse and talented workforce. We recognize that our continued success depends largely on the collective strengths of our employees. Developing the right mix of skills, ideas and individuals requires an unwavering commitment to Equal Employment Opportunity and Affirmative Action. Accordingly, it is our policy to recruit, hire, and advance individuals without regard to their race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

Our commitment to the principles of Affirmative Action and Equal Employment Opportunity is reflected in all of our policies and procedures from recruitment and hiring to training, compensation, benefits, transfers and promotions. This commitment is based on sound management and business practices, as well as legal requirements.

In keeping with fair employment practices, we will maintain a positive and productive work environment which calls for the highest standard of personal conduct. In accordance with this standard, any type of harassment or discrimination directed toward any employee or applicant for employment on the basis of race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status will not be tolerated.

MWRA is committed to Equal Employment Opportunity and Affirmative Action. We expect each employee to be an active partner in this effort by supporting, in word and deed, the spirit and principles of Equal Employment Opportunity and Affirmative Action. Further, we expect that these values will govern the relationships we establish with communities we serve and others with whom we do business. Working together, we can build upon this commitment and create an environment that reflects diversity in its fullest and truest sense.

The Special Assistant, Affirmative Action and Compliance Unit, has responsibility for implementing and monitoring the Authority's Affirmative Action and Compliance Plan. Employees are encouraged to contact the Affirmative Action & Compliance Unit directly in order to obtain a copy of the Authority's Policy on Equal Employment Opportunity and Affirmative Action.

III. RESPONSIBILITY FOR IMPLEMENTATION

Senior Management Responsibilities

The responsibility for achieving affirmative action goals and objectives rests with the Executive Director, the Special Assistant of Affirmative Action and Compliance Unit, the Director of Human Resources, Division/Department Directors and other managers and supervisors.

Affirmative Action and Compliance Staff

The Special Assistant, AACU is provided with sufficient authority, senior management support, and staff to execute these responsibilities, and is identified in all internal and external communications regarding the AAP. The Special Assistant may propose additional programs and activities to strengthen the MWRA's commitment to equal employment opportunity and affirmative action and to effectively address AAP/EEO matters.

The Special Assistant, AACU in conjunction with the appropriate staff, is responsible for:

- Implementing affirmative action programs.
- Developing policy statements.
- Designing and conducting audit and reporting systems to monitor protected class status for the following:
 - Recruiting
 - Hiring
 - Promotions
 - Transfers
 - Terminations
 - Demotions
- Periodically reviewing, with the Chairman of the Board of Directors and the Executive Director, the progress of senior managers in furthering the achievement of the Authority's goals.
- Serving as a liaison between MWRA and enforcement agencies.
- Acting as a liaison between MWRA and minority organizations, women's organizations and community action groups concerned with employment opportunities of minorities and women.
- Reviewing the MWRA's AAP with managers and supervisors to ensure the policy is understood and followed.

The MBE/WBE Program Manager in conjunction with the appropriate staff is responsible for:

- Administration and monitoring of the MWRA's MBE/WBE/DBE Plan.

- Assisting divisions in the implementation of the MWRA's MBE/WBE/DBE Program.
- Ensuring that the program is consistent with the MWRA's Supplementary Provision for Equal Employment Opportunity, Anti-Discrimination, and Affirmative Action.

Line Management Responsibilities

Managers and supervisors will implement the program in the following ways:

- Assist in identifying problem areas, establishing goals, and developing time lines.
- Maintain open door policy for employees to discuss issues of equal opportunity and affirmative action.
- Meet with other managers, supervisors, and employees to adhere to MWRA EEO/AA policies.
- Assist in the performance of internal audits to determine compliance.
- Evaluate the performance of subordinate managers and supervisors in achieving affirmative action plan objectives.

Other Key Staff

The Director, Human Resources, has developed and implemented appropriate mechanisms to ensure equal employment opportunity for all applicants and employees.

The General Counsel and the Associate General Counsel for Labor & Employment provide legal advice regarding equal employment opportunity and affirmative action as they affect the Authority.

IV. EQUAL EMPLOYMENT OPPORTUNITY

Dissemination of the Plan

MWRA will communicate its equal employment opportunity policies and affirmative action programs to all relevant audiences in the following manner:

Internally

Communicate to employees the existence of the Affirmative Action Plan and make it available for inspection. Prominently display EEO/AA posters throughout all business locations identifying appropriate staff to contact.

Conduct special meetings with managers, supervisors and employees to explain the intent of the equal employment opportunity policies, discuss individual responsibility for implementation and make clear the Executive Director's support of the policies.

Discuss the policies in employee orientation sessions and reference it in management training sessions.

Include the policies in the Policies and Procedures Manual.

Publicize the policy on the MWRA's internal and external websites, reports and other media.

Publish articles covering EEO programs, updates, and promotions in newsletters and other publications.

Include non-discrimination clauses in union agreements, and work to eliminate contract provisions that may have discriminating effects.

Externally

Communicate to applicants for employment the existence of the Affirmative Action Plan, and make it available for review if requested.

Incorporate the EEO clause in all purchase orders, leases and contracts.

Ensure that both minority and non-minority men and women, Veterans, and persons with disabilities are represented in recruitment advertisements.

Communicate to all recruitment sources the existence of the Affirmative Action Plan.

Development and Execution of the Plan

Development

Workforce Analysis

As of November 30, 2020, MWRA employed 1,151 people. The MWRA divides its workforce into 31 organizational units in Executive, Administration, Finance, Law, and Operations as follows:

Board of Directors

Executive - Office of the Executive
Director

Executive - Affirmative Action

Executive - Office of Emergency
Preparedness Services

Executive - Internal Audit

Executive - Public Affairs

Executive - Tunnel Redundancy
Department

Administration - MIS

Administration - Facilities

Administration - Fleet Services

Administration - Human Resources

Administration - Procurement

Administration - Real Property &
Environmental

Finance - Director's Office

Finance - Rates & Budget

Finance - Treasury

Finance - Controller

Finance - Risk Management

Law

Operations - Administration

Operations - ENQUAL

Operations - Facilities Management

Operations - Laboratory Services

Operations - Planning

Operations - Toxic Reduction &
Control

Operations - Engineering &
Construction

Operations - Wastewater
Operations

Operations - Water Distribution &
Pumping

Operations - Water & Wastewater O&M

Operations - Water Treatment &
Transmission

Operations - Operation Support

The Office of Federal Contract Compliance Programs requires that non-construction contracts maintain an organizational profile or a workforce analysis to depict staffing patterns. It is a method to determine whether barriers to equal opportunity exist within an organization.

Pursuant to 41 C.F.R. § 60-2.11(a), the Workforce Analysis Report (Appendix A) lists each job title as it appears in the applicable collective bargaining agreements or payroll records, ranked from the highest paid to the lowest paid within each of the 31 organizational units.

The reports display within each organizational unit for each job title, the total number of incumbents, the total number of male and female incumbents, and the total number of male and female incumbents who are White, Black, Hispanic, Asian, American Indian, Native Hawaiian and Other, and Two or More Races. Finally, the reports also supply a wage rate code for each job title.

Employment Activities December, 2019 - November, 2020

From December 1, 2019 through November 30, 2020, there were a total of 51 new hires at the MWRA, including 11 (22%) females and 13 (25%) minorities. The current race/sex composition of the workforce for minorities of 23.2% is greater than the overall 2020 MWRA workforce staffing goal of 21.1%; and the current race/sex composition of the workforce for females of 23.5% is greater than the overall 2020 workforce staffing goal of 21.7%.

A total of 44 promotions occurred during this reporting period, including 8 (16%) females and 11 (25%) minorities. For Affirmative Action Plan reporting purposes 35 of these promotions reflect employee promotions where there has been a change in Job Group as described under "Availability Analysis." Of this total, 8 (23%) females and 10 (29%) minorities were promoted. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 10 such promotions during the 2020 Affirmative Action Plan Year and of these 3 (30%) were females and 2 (20%) were minorities.

A total of 35 terminations occurred within the period, and of these, 3 (9%) were females and 9 (26%) were minorities. Of the total number of terminations, 97% left voluntarily, and of those, 69% were employees who retired and 26% were employees who resigned.

Availability Analysis

Pursuant to 41 C.F. R. 60-2.11(b), an analysis of all major Job Groups is included in the Plan (see Appendix B Job Group Analysis Report). Those jobs having similar content, wage rates and opportunities had been grouped together into 18 Job Groups:

Administrator A	Management A
Administrator B	Management B
Clerical A	Operator A
Clerical B	Operator B
Engineers A	ParaProfessional
Engineers B	Professional A
Craft A	Professional B
Craft B	Technical A
Laborers	Technical B

Moreover, the 18 Job Groups have been kept sufficiently large enough to make for meaningful statistical analyses. The grouping avoids placing job titles from different EEO-4 categories within the same Job Group, wherever possible. Alternative job groupings were reflected because they do not make substantial differences and do not mask any potential underutilization of minorities or women. This analysis of the major Job Groups on the Availability Analysis forms is shown in Appendix C.

Action-Oriented Program for Affirmative Employment Opportunities

MWRA is committed to a strong policy of equal employment opportunity and affirmative action and this commitment is clearly expressed in its Affirmative Action Plan, which covers all aspects of the employment process from recruiting and hiring to training and promotion.

MWRA takes affirmative action to ensure that applicants for employment and employees are treated fairly during employment, without regard to their race, color, religion, sex, national origin and other protected groups. MWRA also takes affirmative action steps and make good faith efforts to develop and implement action-oriented programs designed to remove any employment barriers, expand employment opportunities and strive to achieve established workforce staffing goals and objectives.

During the 2021 Affirmative Action Plan year and continuing, MWRA will make good faith efforts to continue to develop and implement an action-oriented program designed to increase employment opportunities, while tailoring the size of its workforce to meet its future mission and maintain organizational efficiency.

The Special Assistant of the Affirmative Action and Compliance Unit, working in conjunction with MWRA Division Directors, will take affirmative steps to establish the following joint accountability good faith efforts to direct their attention toward employee development programs and career counseling initiatives to prepare all interested employees including individuals in targeted EEO groups for consideration of future promotional opportunities, as follows:

- Assist Divisions in efforts to promote qualified employees including minorities and females to fill current or unanticipated vacancies, particularly those positions in underutilized job groups.
- Review the appropriate education, experience and skill requirements for successful job performance.
- Participate in programs, which may impact protected group members, especially in the areas of the development of training and recruitment.
- Schedule confidential meetings with employees who request information on MWRA affirmative action policies, including promotion and training.
- Encourage current employees to take advantage of the above listed training and developmental opportunities, as well as opportunities for promotion.
- Monitor and review, where appropriate, the qualifications of all employees to assure that protected group members are given full opportunities for training and promotion.
- Implement strategic recruitment strategies for underutilized positions likely to require external recruitment.
- Ensure that all promotional opportunities are posted.

Identification of Areas for Special Attention/Goals

Underutilization exists in the following job groups: Administrator B, Clerical B, Engineer A, Craft A, Craft B, Management A, Operator A, Professional A, Technical A and Technical B. Special attention is required to increase the representation of minority and/or females in these job groups by the following:

- Identify any applicable barriers to equal employment opportunity.
- Conduct training/awareness sessions with managers and continue to make them aware of the Affirmative Action Plan elements designed to ensure that the Authority policy and affirmative action program objectives are being followed.

During this affirmative action plan period, there may be 190 opportunities to fill vacant positions. These positions may be filled by new hires, promotions or transfers. For unanticipated position vacancies that occur in other job groups, good faith efforts will be made to attain the established goals for women and minorities. Based on the two-factor availability analysis, the following goals have been set. The chart listed below identifies the goals for those projected vacancies.

Goals for Projected Vacancies							
JOB GROUP ADMINISTRATIVE B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	3	30.11	20.01	0.00	27.27	1	
JOB GROUP ENGINEER A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	5	22.26	23.78	35.71	18.57		1
JOB GROUP CRAFT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	10	18.48	3.93	13.04	0.00	1	1
JOB GROUP CRAFT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	14	13.72	2.35	15.07	2.05	1	1
JOB GROUP MANAGEMENT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	9	20.20	30.79	22.73	32.73	1	
JOB GROUP OPERATOR A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	8	13.41	3.38	6.15	3.08	2	
JOB GROUP PROFESSIONAL A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	4	23.59	46.24	10.00	66.67	1	
JOB GROUP TECHNICAL A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	5	18.07	11.06	26.92	13.46		1

Execution

Advertising and Recruitment

- The Special Assistant, AACU, annually submits an ad specifically targeted at a publication that has a high minority and female readership.
- The Director, Human Resources ensures that reasonable recruiting and advertising dollars are being targeted to reach minority and female candidates and conducts an analysis to determine the effectiveness of the employment advertisements.
- Recruiters send vacancy announcements to over 30 public and private recruitment sources. The sources included state employment offices, community organizations, interest groups, and other sources.
- Recruiters distribute literature, attend career fairs, and maintain contact with referral sources to assure a steady flow of qualified protected class applicants.

Selection

- Human Resources and Affirmative Action staff review existing promotion, transfer, training and selection procedures to ensure equal opportunity.
- Human Resources, Affirmative Action, and Division staff develop selection criteria that do not discriminate or tend to screen out women, minorities, covered veterans and/or individuals with disabilities.
- Human Resources and Affirmative Action staff monitor the selection process to ensure equal opportunity and the absence of adverse impact on protected class applicants.
- Human Resources and Affirmative Action staff review application forms to ensure non-discrimination.
- Managers and Supervisors ensure that employees in protected classes receive equal consideration in all selections.

Promotion, Transfer, Layoff and Recall

Promotions and transfer policies are designed to provide equal opportunity to all employees regardless of race, color, religion, sex, sexual orientation, gender identity and expression, national origin, age, ancestry, citizenship, disability, veteran and marital status. All employees who demonstrate management potential are encouraged to seek advancement into supervisory or other managerial positions. All employees are encouraged to take advantage of the benefits and financial support provided to them for professional development and continuing education, which may enhance their promotional opportunities.

Compensation

The principle of equal pay for equal work for all employees is a reality. All employees, including females and minorities, receive compensation in accordance with the same standards. Opportunities for overtime work or otherwise earning increased compensation, when available, is afforded to qualified employees without discrimination based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status. MWRA does not reduce the amount of compensation offered because of any disability income, pension or other benefit the applicant or employee receives from another source.

Facilities

MWRA maintains all of its facilities on a non-segregated basis. MWRA maintains appropriate facilities for both sexes and handicapped individuals unless the construction of such facilities would create an undue burden on the Authority, its facilities or its operations.

Training/Career Development

MWRA assures that training programs and seminars are offered to all employees, including members of protected classes on the basis of appropriate and realistic need. All eligible employees are encouraged to participate in the Authority's tuition reimbursement and tuition remission benefit for continued education, career development and job advancement. Training programs are monitored to assure equal opportunity for protected class employees in all training opportunities.

Training needs are re-evaluated annually to determine the areas of highest priority. Emphasis is on programs to increase productivity and meet job requirements.

Human Resources and Division staff have conducted cross-functional training, to facilitate promotional opportunities and reassignments. This training often requires new skills, licenses and/or certifications.

During calendar year 2021, the Authority will continue to offer, as needed, a series of 6 classes which make up the training component of the Unit 2 and Unit 3 Productivity Improvement Program (PIP) and a series of 12 classes which make up the Unit 1 Administrative Certificate Program (ACP). In calendar year 2021, MWRA will continue to provide wastewater and water license preparatory courses to enhance new skills and development, as well as appropriate licenses and certifications to staff. While PIP and ACP classes are required for employees in designated job titles, classes are available for general enrollment by individuals developing their qualifications for future job openings.

Consideration of Minorities and Females not Currently in the Workforce

MWRA recruits minorities and women, not currently in our workforce, who have the qualifications and requisite skill for employment. All employees engaged in recruiting are committed to the development of sources of minorities and females from organizations, institutions, community agencies, training schools and colleges.

Support for Community Action Programs

School Education Program

The MWRA offers School Education Program presentations for grades K-12. The MWRA School Education Program has provided meaningful educational experiences to a number of students of the MWRA service community, including those in the urban communities of the metropolitan area.

Subjects range from the Quabbin Reservoir and the water distribution system to Deer Island and the transformation of wastewater into effluent. One of the School Education Program's goals and objectives is to increase outreach to the schools in the communities that reflect the diverse population of the MWRA service area. The School Education Program has been instrumental in informing students, and by extension, the general public of these communities, of the operation and work of the MWRA.

Sex Discrimination Guidelines

MWRA does not discriminate against any applicant or employee on the basis of sex in hiring, recruiting, promoting, transferring, layoff, termination, compensation or in selecting employees for training or other related programs.

Recruiting and Advertising

Job advertisements placed by the MWRA in newspapers and other online media for employment do not express a sex preference.

Job Policies and Practices

- Written personnel policies for affirmative action expressly indicate that there shall be no discrimination against employees on account of sex.
- Employees of both sexes have equal opportunity to any available position which the individuals are qualified to perform.
- MWRA does not make any distinction based upon sex in employment contributions, wages, hours or other conditions of employment. MWRA contribution for insurance, pension, welfare programs and other fringe benefits is the same for men and women, resulting in equal benefits.
- MWRA does not support distinctions between married and unmarried persons of one sex that are not made between married and unmarried persons of the other sex.
- MWRA provides appropriate and comparable physical facilities to both sexes.
- MWRA does not deny a female employee the right to any job which she is qualified to perform.
- MWRA does not penalize women in their conditions of employment because they require time away from work on account of child bearing.
- MWRA does not specify differences for male or female employees on the basis of sex in either involuntary or optional retirement age.

Wages

- MWRA's wage schedules do not relate to and are not based on the sex of its employees.
- MWRA does not discriminatorily restrict one sex to certain job classifications.

Sexual Harassment

Acts of harassment by employees are prohibited employment practices under Title VII of the Civil Rights Act of 1964, Massachusetts General Laws, Chapter 151(B) and MWRA policy and are subject to sanctions and disciplinary measures.

It is the goal of the MWRA to promote a workplace that is free from sexual harassment. Sexual harassment means sexual advances, requests for sexual favors, and verbal or physical conduct of a sexual nature when:

- Submission to or rejection of such advances, requests or conduct is made explicitly or implicitly a term or condition of employment or as a basis for employment decisions; or
- Such advances, requests or conduct have the purpose or effect of unreasonably interfering with an individual's work performance by creating an intimidating, hostile, humiliating or sexually offensive work environment.

MWRA's Harassment Prevention Policy, policy HR.21, updated January 3, 2019, sets forth procedures for employees to follow and notify management of any sexual harassment violations. All MWRA employees received harassment training in 2019.

MWRA personnel investigate complaints of sexual harassment in a prompt, thorough and confidential manner, and recommend appropriate discipline up to and including termination for offenders. Employees should feel confident that retaliation against an individual who has complained about sexual harassment and retaliation against individuals for cooperating with an investigation of a sexual harassment complaint is unlawful and will not be tolerated by this organization.

Religion and National Origin Discrimination Guidelines

MWRA's affirmative action policy prohibits discrimination against employees or applicants for employment on the basis of religion or national origin.

MWRA makes every effort to accommodate the religious observances and practices of employees and prospective employees who regularly observe Friday evening or some other day of the week as their day of religious observance, and/or who observe certain religious holidays during the year and who are conscientiously opposed to performing work or engaging in similar activity on such days when such accommodations can be made without undue hardship on the operation of the Authority's business.

In determining the extent of its obligations under this section, MWRA considers the following factors:

- Business necessity;
- Financial cost and expenses; and
- Resultant personnel problems.

To assure non-discrimination based on religion or national origin, MWRA is engaged in the following activities:

- Internal communications;
- Development of internal procedures described previously;
- Regular notification to employees of EEO policy regarding religion or national origin;
- Utilization of external recruitment sources, including those educational institutions with substantial enrollments of students from various religious and ethnic groups;
- Utilization of religious and ethnic media for institutional and employment advertising.

Affirmative Action Program for Individuals with Disabilities

Policy Statement

The MWRA is committed to take affirmative action to assure equal employment opportunity for qualified individuals with disabilities.

Definition of Qualified Individual with Disability

A “qualified individual with a disability” is a person who:

- Has a physical or mental impairment that substantially limits a “major life activity”,
- Has a record of such an impairment, or
- Is regarded as having such an impairment and
- Is capable of performing the essential functions of the job with or without reasonable accommodation to his or her disability.

Pregnancy and Childbirth

Disabilities caused or contributed to by pregnancy, childbirth or other related medical conditions, will be treated the same as disabilities caused or contributed to by other medical conditions.

Definition of Reasonable Accommodation

A “reasonable accommodation” for a qualified individual with a disability may include, but is not limited to,

- Making existing facilities readily accessible;
- Job restructuring; part-time or modified work schedules; reassignment to a vacant position; modification of equipment or devices; or other similar accommodations.

Note: An accommodation must be reasonable and is not required if it would impose an “undue hardship” on the MWRA.

Request for Reasonable Accommodations

MWRA commits to making reasonable accommodations to the limitations of qualified individuals with disabilities and qualified disabled veterans, unless such an accommodation would impose on undue hardship on the MWRA’s business.

An employee with a disability may make a request for reasonable accommodations at any time to their supervisor or directly to the Affirmative Action and Compliance Unit or the Director of Human Resources. The Special Assistant of Affirmative Action & Compliance or his or her designee shall be notified of all reasonable accommodation requests by supervisors or managers and shall ensure that reasonable accommodation records are kept separate from individual employee files.

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the MWRA's policy statement concerning employment of qualified individuals with disabilities.
- Where the MWRA conducts employment activities, posters will be prominently displayed setting forth such information regarding the employment of individuals with disabilities as may be required by government agencies.
- The MWRA will ensure that a list of schools, private and state placement agencies and community and social service organizations receive job listings which are externally posted and advertised by the Authority and that the list is reviewed annually.
- The MWRA will continue to notify relevant organizations as well as appropriate public employment agencies and unions, of MWRA's commitment to equal employment opportunity and affirmative action for individuals with disabilities, including veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for individuals with disabilities will continue to be included in contracts and purchase orders of \$2,500 or more.
- The MWRA will continue to notify labor unions and (sub) contractors of the commitment to equal employment opportunity and affirmative action for individuals with disabilities and will seek their cooperation and assistance.

Voluntary Disclosure

An individual may voluntarily self-identify himself/herself as an individual with disabilities by completing the Affirmative Action Data Form, at any time.

Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of individuals with disabilities, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if the individual has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of disabled applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons have been considered. Should any known disabled person be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person on the job. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

Affirmative Action Program for Protected Veterans

Policy Statement

The Authority is committed to take affirmative action to assure equal employment opportunity in every respect for disabled veterans, Armed Forces service medal veterans, recently separated veterans, or other veterans who served during a war, or in a campaign or expedition for which a badge has been authorized (“protected veterans”).

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the Authority’s policy statement concerning employment of qualified protected veterans.
- The MWRA will ensure that a list of established veteran’s organizations and public and private recruitment services, included in Appendix D of this Plan, including the appropriate local employment service offices, will receive copies of all positions, which are externally posted and advertised by the MWRA, and that this list will be reviewed annually and MWRA will continue to notify veteran’s service organizations as well as appropriate public employment agencies of the commitment to equal employment opportunity and affirmative action for protected veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for protected veterans will continue to be included in contracts and purchase orders of \$10,000 or more.
- The MWRA will continue to notify labor unions and contractors of the commitment to equal employment opportunity and affirmative action for protected veterans and will seek their cooperation and assistance.
- The MWRA will use the outreach measures it uses for others covered by MWRA’s Affirmative Action Program to recruit and employ veterans also covered by this program.
- The MWRA will submit to the Office of the Assistant Secretary of Veterans Employment and Training no later than March 31st of each year, a form titled Federal Contract Veterans Employment Report, which shall contain a list of new employees, and those individuals who have self-identified as protected veterans hired during the period covered by the Report.

Voluntary Disclosure

- Subsequent to making a job offer, but prior to commencing duties, a prospective employee will be offered the opportunity to self-identify as a special disabled veteran, disabled veteran, a veteran of the Vietnam Era or other protected veteran. The MWRA will consider only that portion of the veteran's military record that is relevant to the job for which the veteran is being considered. After beginning employment, an employee may voluntarily self-identify him/herself at any time as a protected veteran.
- Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of disabled veterans, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if a veteran has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of protected veteran applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

In determining the qualifications of a covered veteran, MWRA will consider only that portion of the military record, including discharge papers, relevant to the specific job qualifications for which the veteran is being considered.

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons and protected veterans have been considered. Should any known disabled person or protected veteran be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person or veteran on the job, that is not an undue hardship. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

- MWRA has established a hiring benchmark for veterans of 8% for the 2021 Affirmative Action Plan year.
- The MWRA will not reduce the amount of compensation to veterans by the amount the veteran receives from disability income, pension or other benefits related to his or her status as a veteran.

Internal Auditing and Reporting Systems

Internal auditing and reporting for Affirmative Action is managed through the use of monthly, quarterly, and annual reports generated by AACU and shared with management. Reports reflecting workforce compensation, promotions, transfers and terminations are reviewed to ensure that the policy of non-discrimination and equal employment opportunity is carried out. State and local governments information reports (EEO-4) are prepared and submitted in accordance with regulation and written instructions.

Internal Complaint Procedure

The internal complaint procedure provides the opportunity for any individual (employee or applicant) who believes that she or he has been harassed, discriminated against or unfairly treated by the MWRA to file a complaint using the procedures set forth below.

Filing a Complaint

- The individual alleging discrimination should file a written and signed complaint with the Special Assistant of Affirmative Action and Compliance Unit (form available in AACU), or the Director of Human Resources. Detailed and specific allegations should be provided along with an indication of the action(s) or resolution the individual is seeking.
- The complaint must be filed in as timely a fashion as possible.

No Retaliation

Employees and applicants shall not be subject to harassment, intimidation, threats, coercion or discrimination because they have engaged in or may engage in the following activities:

- Filing a complaint;
- Assisting or participating in an investigation, compliance evaluation, hearing, or any other activity related to the administration of the affirmative action provisions of the Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans;
- Opposing any act or practice made unlawful by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans; or

- Exercising any other right protected by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans.

Procedure

- The Special Assistant of Affirmative Action and Compliance Unit and/or Director of Human Resources, will be responsible for accepting complaints of discrimination in writing.
- Upon receiving a complaint of discrimination, a complaint investigator will be assigned, who shall attempt to determine through preliminary fact finding if a formal investigation is warranted.
- Upon determination that an investigation is warranted, a date will be scheduled for an in-depth interview with the complainant and other relevant parties. The complaint investigator shall attempt to bring about a satisfactory resolution with the complainant and appropriate management and make recommendations accordingly.
- Any agreement or resolution may be in writing and if in writing, copies provided to all appropriate parties.
- The complaint resolution process shall be concluded in an expeditious manner. It is the MWRA's intention to resolve all complaints internally and every effort will be made to maintain confidentiality to the extent practicable.
- The complaint investigator will advise the complainant of his or her administrative rights and the right to file a formal charge with a state or federal agency and the time limits imposed on the exercise of these rights.

Rejection or Cancellation of the Complaint

The MWRA will indicate when a complaint has been rejected for further processing.

In the event an individual files an external complaint, the MWRA's legal counsel will handle all communications. All investigations shall be conducted in a confidential manner to the extent practicable.

In addition to the above, you may file a formal complaint with the government agencies listed below. Using MWRA's complaint process does not prohibit you from filing a complaint with these agencies.

Massachusetts Commission Against
Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02108

Massachusetts Office of Diversity and Equal
Opportunity
One Ashburton Place - Rm. 213
Boston, MA 02108

Springfield Office
MCAD
436 Dwight Street - Rm. 220
Springfield, MA 01103

U.S. Equal Employment Opportunity
Commission
JFK Federal Building
475 Government Center
Boston, MA 02203

Worcester Office
MCAD
455 Main Street - Rm. 101
Worcester, MA 01608

U.S. Department of Labor
Office of Federal Contract
Compliance Programs
JFK Federal Building - Rm. E235
Boston, MA 02203

New Bedford Office
MCAD
800 Purchase Street - Rm. 501
New Bedford, MA 02740

V. MBE/WBE/DBE Program

Policy Statement

It is the policy of the Massachusetts Water Resources Authority (Authority) to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) and Disadvantaged Business Enterprise (DBEs) in the award of all contracts including contracts for construction, goods/non-professional services (supplies and equipment) and professional services (design selection and consultants).

Definitions

- Minority Business Enterprise (MBE) means an ongoing and independent business enterprise which is owned and controlled by one or more minority persons and meets the Massachusetts Supplier Diversity Office (SDO) criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Women Business Enterprise (WBE) means an ongoing and independent business enterprise which is owned and controlled by one or more women and meets SDO certification criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Disadvantaged Business Enterprise (DBE) means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. DOT eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the SDO.

Outreach

The Authority communicates with appropriate advocacy groups and representatives such as SDO, Massachusetts Minority Contractors, and National Association of Minority and Women Owned Law Firms, as well as others, to develop new sources of supply, discuss the M/W/DBE Program and develop initiatives designed to enhance the Plan's effectiveness.

Monitoring and Reporting

The Affirmative Action and Compliance Unit will maintain such records, data and information as may be required to document compliance with Authority policies and procedures, and applicable federal, state and local laws and regulations.

MassDEP Procurement Goals

MassDEP has undertaken an Availability Analysis with Clean Water Trust in 2016 and the first half of 2017 to develop new DBE goals. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE.

Procurement Categories		
	Construction Goals	Professional Goals
D/MBE	4.2%	4.5%
D/WBE	4.2%	4.5%

In FY20, EPA-assisted contracts totaled 1.5% for construction, with the balance related to engineering, environmental consulting and other services. On this basis, MassDEP has utilized the above goals for both construction and professional services. The specific sub-industries such as water and wastewater engineering, etc. accounted for some of the dollars of these prime contracts and subcontracts.

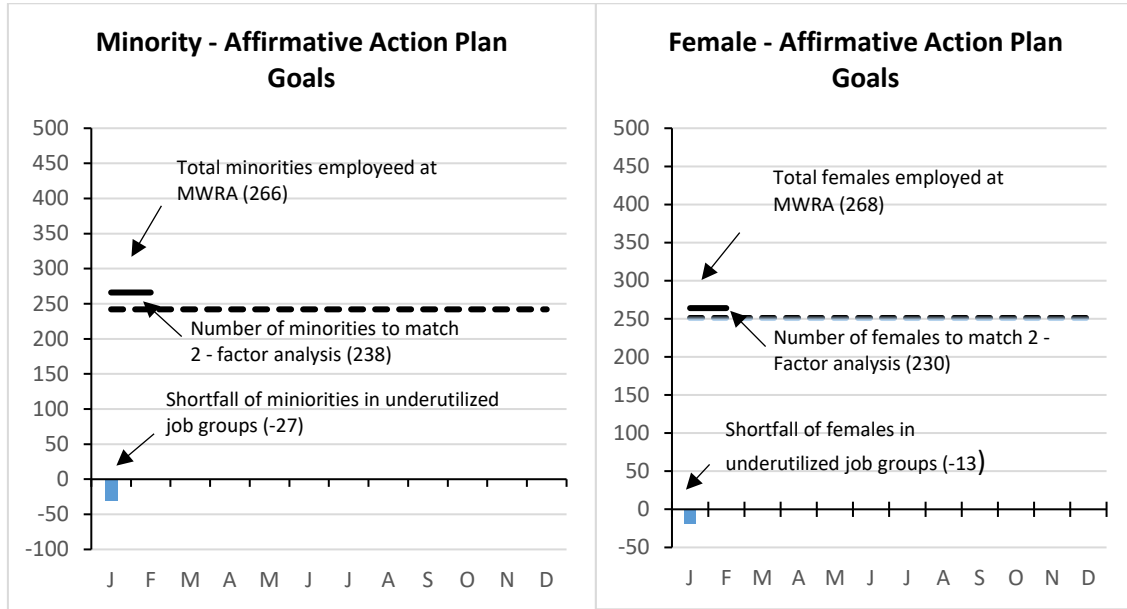
MWRA Procurement Goals

Based upon the Authority's 2002 Availability Study, the MBE and WBE procurement goals are as follows:

Procurement Categories			
	Construction Goals	Professional Goals	NonProfessional Goals
MBE	7.24%	7.18%	5.61%
WBE	3.60%	5.77%	4.88%

For FY20 the MWRA spent \$6.3 million and \$4.3 million respectively with minority and women owned business. These amounts were 60.5% and 63.9% of the respective MBE and WBE targets.

Attachment B
MWRA Job Group Representation
CY21



Underutilized Job Groups – Workforce Representation

Job Group	Total Employees as of 1/1/2021	Actual Minorities as of 1/1/2021	Achievement Level	Minority Over or Under utilized	Actual Females As of 1/1/2021	Achievement Level	Female Over or Under utilized
Administrative A	23	3	1	2	12	6	6
Administrative B	22	0	7	-7	6	4	2
Clerical A	29	10	5	5	26	22	4
Clerical B	24	8	7	1	4	7	-3
Engineer A	85	24	19	5	20	20	0
Engineer B	61	21	17	4	14	9	5
Craft A	114	15	21	-6	0	4	-4
Craft B	142	22	19	3	3	3	0
Laborers	73	22	17	5	5	3	2
Management A	93	22	29	-7	33	19	14
Management B	41	10	8	2	9	9	0
Operators A	63	4	8	-4	2	2	0
Operators B	71	21	9	12	3	2	1
Professional A	31	4	7	-3	21	14	7
Professional B	167	48	40	8	81	71	10
Para Professional	48	15	10	5	22	22	0
Technical A	56	15	13	2	7	12	-5
Technical B	4	2	1	1	0	1	-1
Total	1147	266	238	55/-27	268	230	51/-13

STAFF SUMMARY

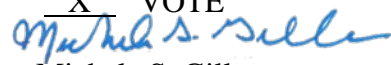
TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: PCR Amendment – February 2021



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Andrea Murphy, Director of Human Resources
Preparer/Title



Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve an amendment 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.

February PCR Amendment

There is one PCR Amendment this month.

Organizational Changes:

1. Title and grade change to one vacant position in the Operations Division, Operations Administration department from Administrative Systems Coordinator Unit 1 Grade 20 to Contract Support Specialist, Unit 1, Grade 22 to reflect responsibilities of the role.

BUDGET/FISCAL IMPACT:

The annualized budget impact of this PCR amendment will be a maximum cost of \$8,281. Staff will ensure that the cost increase associated with this PCR amendment will not result in spending over the approved FY21 Wages and Salaries budget.

ATTACHMENTS:

New Job Description
Old Job Description

MASSACHUSETTS WATER RESOURCES AUTHORITY
 POSITION CONTROL REGISTER AMENDMENTS
 FISCAL YEAR 2021

PCR AMENDMENTS REQUIRING BOARD APPROVAL - February 17, 2021																	
Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary		Estimated Annual		Reason		
													\$ Impact		For Amendment		
B28	Operations Administration Department Operations Division 5210047	V	T, G	Administrative Systems Coordinator	1	20	Contract Support Specialist	1	22	\$80,799	\$66,246	-	\$89,080	-\$14,553	-	\$8,281	Title and grade change to reflect responsibilities of the role.
BOARD TOTAL=					1						TOTAL:		-\$14,553	-	\$8,281		

**MWRA
POSITION DESCRIPTION**



POSITION: Administrative Systems Coordinator

DIVISION: Operations, Law, Administration, and Finance

DEPARTMENT: Deer Island, Operations Administration, Administration, Lab Services, Public Affairs, Real Property and Management, Law, MIS

BASIC PURPOSE:

Assists in labor relations matters, administrative tasks, inventory control, recordkeeping, development and implementation of various computer software programs. Provides a range of possible duties, but will not necessarily perform all the duties listed below.

SUPERVISION RECEIVED:

Works under the general supervision of the location Director, Deputy Director, or Manager.

SUPERVISION EXERCISED:

Exercises supervision over assigned entry-level and clerical employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages all administrative activities such as payroll, accounting, inventory control and purchasing of items including equipment, supplies, and materials.
- Assists in the dissemination, direction and implementation of administration policies and procedures.
- Assists in yearly budget requests and manages databases for current expense budget for accounts and to-date reporting or expenditures. Answers quarterly variance questions and all other related budgetary questions.
- Coordinates the implementation of and manages the efficient use of the computerized programs in accordance with Authority policies and procedures.
- Under the supervision of the supervisor, reviews professional services invoices to verify the accuracy of data submitted and cross references data against contract documents. Assists in setting up detailed spreadsheets used to track contract data such as overhead rates, contract hourly rates, fees and salaries. Enters and updates spreadsheet data as necessary to maintain the accuracy of contract invoice details.

- Reviews assigned employee performance in accordance with Authority Policies and Procedures.
- Coordinates the preparation of documents, reports, etc. for all administrative, human resources, payroll, and inventory functions.
- Performs all secretarial duties such as correspondence, telephones, files, calendar, conferences etc.
- Develops and implements computer generated work order systems and coordinates some with material requirements.

SECONDARY DUTIES:

- Coordinates special projects as needed.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A two (2) year undergraduate degree, bachelor of arts or bachelor of science or related field; and
- (B) Organizational and administrative skills as attained through four (4) to seven (7) years experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft Office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Familiarity of database and HRIS software
- (C) Demonstrated experience in planning, organizing, and supervising projects.
- (D) Excellent analytical, interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

Must have successfully completed the MIS and professional development-related ACP requirements for this position. If no qualified ACP certified applicant applies for the position, the selected candidate will have 6 months to complete the ACP program.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

December 2014

**MWRA
POSITION DESCRIPTION**



POSITION: Contract Support Specialist

DIVISION: Operations

DEPARTMENT: Operations Administration

BASIC PURPOSE:

Performs administrative functions including reviewing contract invoices, coordinating accounts payable, and maintaining accurate contract information using databases and spreadsheets.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager of Finance and Special Projects.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Reviews professional services, technical assistance, service contract and construction invoices to verify accuracy and consistency against data in information in contract documents.
- Assists with Internal Audit's performance audits of consultants by providing information as requested.
- Implements policies and procedures for the procurement, tracking, administration and management of professional, design and construction contracts.
- Assists with development and maintenance of data systems for contract procurement logs, contract reporting, account payable and progress reporting. Develops and maintains detailed spreadsheets to track contract data such as overhead rates, contract hourly rates, fees and salaries. Enters and updates spreadsheet data as necessary to maintain the accuracy of contract invoice details.
- Assists with preparation and dissemination of management reports regarding contracts.
- Assists in preparation and development of department-level yearly budget requests and manages databases for current expense budget for accounts and year-to-date reporting of expenditures. Answers quarterly variance questions and all other related budgetary questions.

- Collaborates with Accounts Payable and Procurement to ensure invoices are accurate and processed on a timely basis. Troubleshoots and resolves problems with procurement/account payable issues
- Reviews non-PO invoices for completeness and accuracy.
- Processes and monitors purchasing requests for equipment, supplies, and other items.
- Coordinates administrative projects and special projects, as directed by Manager.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Analytical and writing skills as normally attained through an Associate's degree in finance, accounting, business, or a related field; and
- (B) Organizational and administrative skills as attained through four (4) to seven (7) years' experience in a financial or procurement function; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency in the use of personal computers and software packages including Excel, Word, Outlook and Lawson.
- (B) Familiarity with database software.
- (C) Familiarity with MWRA business functions: contract administration, payables, purchasing, accounting, and budget functions desired.
- (D) Demonstrated experience in planning, organizing, and coordinating projects.
- (E) Strong analytical, interpersonal, oral and written communication skills.
- (F) Ability to work independently.
- (G) Ability to work effectively with internal and external customers at all levels of the organization.

SPECIAL REQUIREMENTS:

None

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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


WORK ENVIRONMENT:

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

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

February 2021
U1 Gr. 22


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Appointment of Area Manager, Maintenance
Operations Division

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Andrea Murphy, Director, Human Resources
David F. Duest, Director, Deer Island WWTP
Stephen D. Cullen, Director, Wastewater
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Mr. Hugeton Francis to the position of Area Manager, Maintenance (Unit 6, Grade 12), at an annual salary of \$97,705.78 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Area Manager position became vacant in October 2020 upon the retirement of the incumbent. This position is responsible for the pumping area maintenance programs for the Deer Island Treatment Plant, which includes managing the three large pump stations and the Thermal/Power Plant. The Area Manager oversees 16 staff across multiple trade groups (electrical, instrumentation, mechanic, and plumbers). The position is responsible for implementing industry best maintenance practices to increase staff productivity, monitor asset performance indicators, and implement programs to maximize asset life while reducing equipment downtime. This requires extensive coordination and communication with internal staff and external agencies. The systems in this process area involve continuous on-going improvements, repairs and functional testing to ensure operability and reliability. The Area Manager position reports to the Maintenance Manager, Deer Island Treatment Plant.

Selection Process

The position was posted internally. Eight candidates applied. The Deer Island Deputy Director, Maintenance, the Assets Manager, and the Associate Special Assistant for Affirmative Action interviewed all of the candidates. Mr. Hugeton Francis was determined to be the best candidate for the position based on the combination of his knowledge of Deer Island's complex assets, his experience supervising staff from multiple trades, his past maintenance experience, and his understanding of the position's duties and areas of responsibilities.

Mr. Francis has been at the MWRA for over 28 years in maintenance positions of increasing levels of responsibility. He started as a Skilled Laborer, became a Maintenance & Operations Specialist in 1997, and then was promoted to a Unit Supervisor position in 2013, responsible for supervising a multidisciplinary trades group of Maintenance & Operations Specialists, Instrumentation Specialists, Plumbers, and Electricians. He has also acted in the Area Manager role during a vacancy and performed well with project management and staff assignments. He has experience coordinating startup and shutdowns of process equipment to support maintenance activities. Mr. Francis has been a key leader in implementing best practices to increase productivity and in monitoring performance indicators to maximize asset life. He is a natural leader in motivating and coaching staff. He has been an Acting Captain of the Emergency Response Team, illustrating his strong understanding and commitment to safety. He also has been trained as a first responder.

Mr. Francis is working toward an Associate's Degree at Eastern Gateway College. He is a certified Maintenance Technician by the International Maintenance Institute and was part of the MWRA Mechanical Apprenticeship Program. He studied Automotive Mechanics Technology at Tad Technical Institute. He holds a Collections certificate. He also holds safety certifications such as CPR, tower climbing, and first responder medical training. These qualifications provide him with extensive knowledge of plant equipment and a thorough understanding of safety practices used at a large wastewater plant. He has worked closely with wastewater maintenance, operations, and management staff throughout his tenure at MWRA and is well respected by both management and staff.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY21 Current Expense Budget.

ATTACHMENTS:

Resume of Hugeton Francis
Position Description
Organization Chart

HUGETON FRANCIS

PROFILE Certified, motivated maintenance professional with a successful 28-year track record of increasing responsibility over wastewater treatment. Demonstrated history of efficient and effective workload management that result in meeting stringent regulatory guidelines. Diplomatic and tactful with management and trades people alike. Effective at multitasking and handling sensitive and confidential information.

SKILLS SUMMARY	▪ Problem Resolution	▪ Negotiations	▪ Reporting
	▪ Personnel Management	▪ Emergency Response	▪ Training & Development
	▪ Change Management	▪ Risk Assessment	▪ Inventory Control
	▪ Microsoft Office	▪ MAXIMO	▪ Maintenance Process Optimization

EXPERIENCE MASSACHUSETTS WATER RESOURCE AUTHORITY, DEER ISLAND, MA

MAINTENANCE SUPERVISOR, 2013 - PRESENT

Direct and supervise 10-12 mechanics, plumbers, instrumentation technicians and electricians to complete preventative, predictive and corrective maintenance on DITP systems and equipment. Manage maintenance labor, material and service activities and monitor performance against operational needs.

Establish work order priorities to maximize productivity. Monitor staff activity, resolving roadblocks to ensure work progresses according to plan. Continue to manage maintenance backlog by requesting assistance from other areas and strategic execution of daily and overtime work.

Actively involved in drafting Standard Operating Procedures for various maintenance projects to promote a safe environment on the job.

Foster supportive working relationships with Planning & Scheduling, Condition Monitoring and Training departments to facilitate organizational objectives.

Assist in annual budget by outlining maintenance equipment needs for the upcoming year. Coordinate dispatch plan with area planner to ensure equipment needs are met.

Review equipment for improvements, consulting with Operations and Engineering to identify solutions and creating Project Identification Forms to request formal evaluations.

Conduct daily staff meetings to communicate workload, preventative maintenance goals, corrective maintenance compliance gaps, changes in company policy, set expectation for work performance and bring awareness of Human Resources updates.

Review and approve leave requests and provide to maintenance Secretary. Assist staff in preparing injury and illness reports and reviewing for completeness and accuracy.

Actively involved with the hiring process for the Unit Supervisor position.

AFSCME LOCAL 1242, TRUSTEE, 2010 – 2015, RECORDING SECRETARY, 2015 - PRESENT

Maintain correspondence between union and management. Document meeting minutes to evidence union executives and members discussions. Maintain membership records and verify membership quorum during the voting process. Complete purchases of office supplies, equipment and furniture.

Oversee employee relation issues within the maintenance discipline, working with management and Human Resources to negotiate disciplinary actions.

Successfully negotiate and ratify contracts for union members. Work directly with Labor Relations and Human Resources to resolve collective bargaining agreement disputes.

Maintain labor and management harmonious relations through proper application of collective bargaining agreement provisions and established personnel policies.

EMERGENCY RESPONSE TEAM ACTING CAPTAIN, 2016 - PRESENT

Conducts medical, personal protective equipment and spill prevention trainings. Assists in designing most probable drill scenarios for maintenance-based emergencies.

Primary contact working with the Deer Island Safety Department (DISD) to lead Emergency Response Team members through assigned tasks. Assists the DISD in managing public safety during events held within or outside the facility.

Responds to all emergencies including medical situations on Deer Island and chemical, petroleum, gas or other hazardous events at any location within the authority.

ACTING MANAGER, 2016

Approved and monitored department spending, assessed and justified budget variances, and provided supporting documentation to senior management. Actively participated in weekly Maintenance Priority List (MPL) meetings, communicating work concerns and recommending solutions to remove impeding obstacles.

Performed project management duties involving contractors to include supporting the bidding process, assigning work orders, identifying solutions to unanticipated concerns and ensuring projects were completed efficiently, meeting regulatory, safety and quality standards.

Maintained personnel log of attendance and performance issues. Reviewed, monitored and evaluated employee performance, compensation and benefits. Made complete rounds of all areas, noting housing concerns and ensuring plant cleanliness. Communicated service

requests to the facilities manager.

Managed PM and PdM workload to ensure 100% completion goal is met monthly. Reviewed supervisor actual entries for completeness and addressed discrepancies identified.

Completed work order, waste oil, tools and equipment audits, identifying process inefficiencies and recommending areas for improvement.

Coordinated equipment shutdown and start-up in support of maintenance activities.

MAINTENANCE & OPERATIONS SPECIALIST, 1997 - 2013

Worked with the MAXIMO application to conduct work planning, scheduling, inventory maintenance, reporting, time management and utilization tasks.

Execute high-level performance risk assessments, providing the basis for determining the nature, timing and extent of equipment malfunction.

Completed preventative, predictive and corrective maintenance on systems and equipment, to include vibration data collection and laser alignment.

Tracked and monitored tools, parts and materials and maintained accurate inventory records.

Performed mechanical repairs and installations of pumps and process equipment in all areas of the plant.

Worked with Operations supervisors and managers to aid in the shutdown and start-up of systems.

Worked with maintenance staff to improve operation practices and procedures and to coordinate efforts regarding troubleshooting.

SKILLED LABORER, NUT ISLAND 1996 - 1997

Assisted mechanics in maintaining and repairing pumps, boilers, and other waste treatment equipment.

Assisted in securing sewage treatment barges as well as monitored for equipment malfunction in the sewage on-loading process.

EDUCATION Eastern Gateway Community College, Steubenville OH – Associates Degree, 2022 expected
MWRA, Deer Island, MA – Mechanical Apprentice Program, 2000
Northeastern University, Canton, MA – Blueprint Reading, 1998
TAD Technical Institute - Automotive Mechanics Technology, 1992
Charlestown Highschool, Charlestown MA - High School Diploma, 1991

LICENSES &
CERTIFICATIONS

IMI Certified Water / Wastewater Maintenance Technician License

Collections Water License

Commercial Drivers Class B License

Hazardous Waste Site Worker Certificate

Government Procurement Services Specification Writing Certificate

Opt Align Plus Laser Advance Alignment Certificate

Vibration Institute Basic Machinery Vibrations Certificate

V-Belt System Certificate

Basic Electrical Certificate

Lube Oil Certificate

Emergency Response Team, Member

- American Heart Association Certified - Heart-saver First Aid/CPR/AED
- Tower Climbing/Rescue Certified
- EMS and First Responder Medical Training Certified

**MWRA
POSITION DESCRIPTION**

POSITION: Area Manager

DIVISION: Operations

DEPARTMENT:

BASIC PURPOSE:

Manages maintenance activities (labor, materials, services) and monitors performance against operational needs and requests.

SUPERVISION RECEIVED:

Works under general supervision of the Maintenance Manager.

SUPERVISION EXERCISED:

Exercises close supervision of assigned operations/maintenance staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages a group of maintenance personnel who perform tasks related to maintenance and construction.
- Coordinates with other managers, supervisors, work coordination staff and others for optimal functioning of assigned staff.
- Monitors “Work-In-Progress” by coordinating with Maintenance Supervisors, Operations Managers and Planner Schedulers, and also monitors backlog with object of minimization.
- Prepares budget for assigned cost center and monitors performance against approved budget. Approves and tracks spending, justifies variances from budget, and provides support documentation as requested.
- Reviews, monitors, evaluates work performed, and recommends appropriate improvements on equipment, techniques, and procedures.
- Provides project management of outside contract services as assigned.
- Provides technical input for major maintenance projects and reviews new construction proposals to insure maintainability.
- Reviews assigned employee performance according to MWRA procedures as established and maintained by the Human Resources Department.
- Recommends upgrades to plant equipment and facilities to ensure continued optimal operation. Includes tracking major projects and the coordination of outside contractors, as required.

- Promotes the MWRA Safety Policy and Program by participating in and supporting activities as detailed by the Authority Safety Group.
- Acts as liaison between and promotes harmonious relations with other Maintenance Managers, Operations Managers, vendors and MWRA departments.
- Performs supervisory responsibilities of roving field crews and operational personnel located within an operational control center (OCC) as needed.
- Coordinates shutdown and start-up of process equipment in support of maintenance activities.
- 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.
- 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.
- Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
- Inspects and troubleshoots various systems and equipment

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) A four (4) year degree in maintenance management, or any related field; and
- (B) Seven (7) – nine (9) direct experience of principles, procedures, methods, equipment and materials used in the operation, repair and maintenance of a large municipal wastewater or water treatment facility; and
- (C) Two (2) must be in a supervisory capacity; ore
- (D) Any equivalent combination of education and experience.

Page 2 of 3

U6 Gr 12

\\CNY1\Ria_MWRA_Pres\IN PROGRESS\1BoardStaffSummaries\Feb17\Area Manager\SS Job Desc - Area Manager, Maintenance.doc

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) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training program or an approved substitution.
- (C) Extensive knowledge of safety practices and applications in wastewater treatment operations.
- (D) Ability to plan, organize, direct, train and assign duties to subordinates.

SPECIAL REQUIREMENTS:

- A valid Class D Massachusetts Motor Vehicle Operator License.

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.

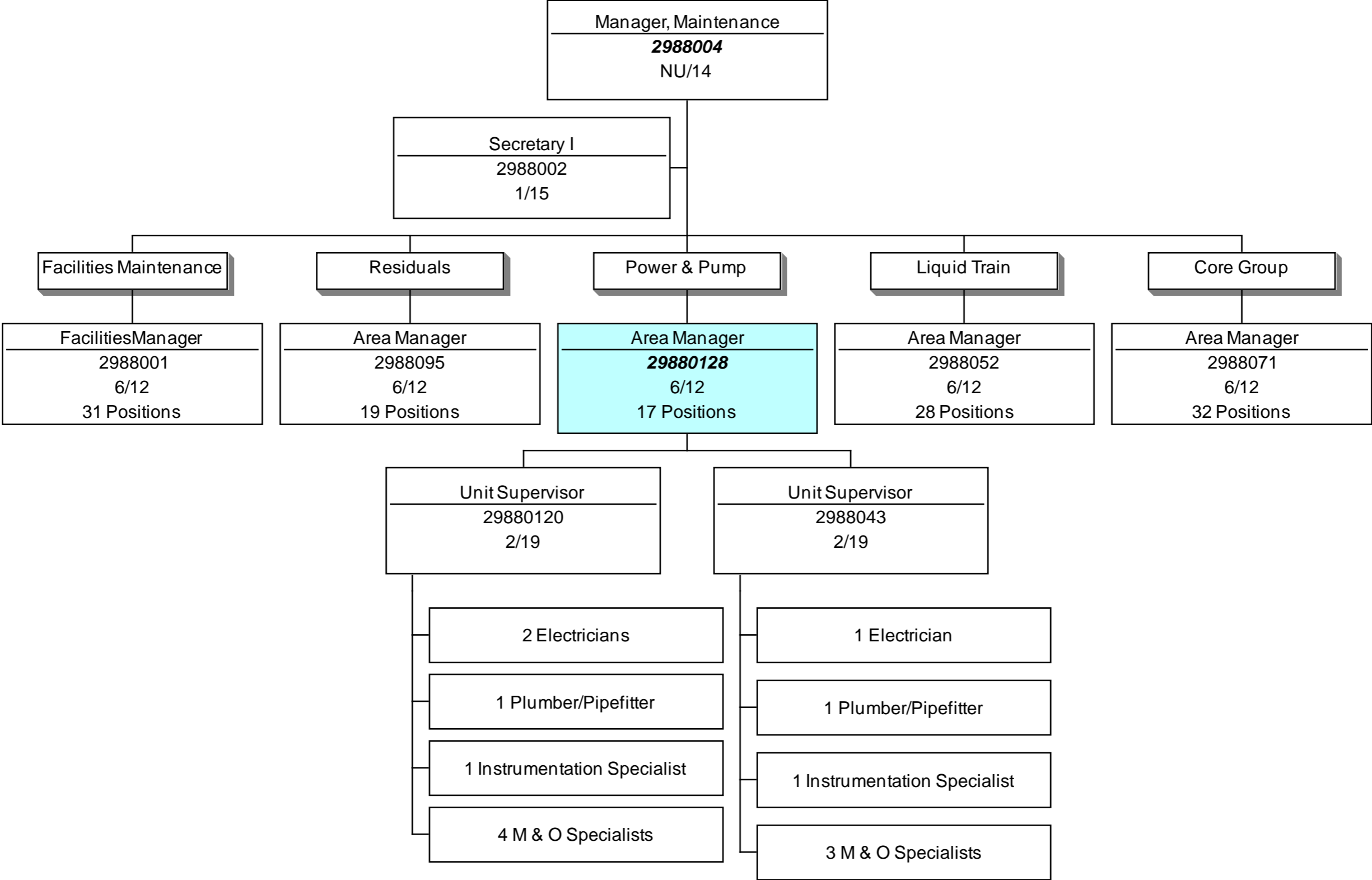
While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanic parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally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

August, 2001

Operations-Wastewater Treatment Deer Island - Trade Maintenance

February 2021



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 17, 2021
SUBJECT: Workers' Compensation Legal Services
Tentindo, Kendall, Canniff & Keefe LLP
Contract A627



COMMITTEE: Administration, Finance and Audit


INFORMATION

VOTE

Andrea Murphy, Director of Human Resources
Steven J. Perry, Manager, Labor Relations and
Workers' Compensation
Ivana McGrail, Manager, HR Operation
Preparer/Title



Douglas J. Rice
Director of Procurement



Michele S. Gillen
Director of Administration

RECOMMENDATION:

To approve the recommendation of the Selection Committee to award Contract A627, Workers' Compensation Legal Services, to Tentindo, Kendall, Canniff & Keefe LLP and execute said contract in the not-to-exceed amount of \$300,000 for a term of three years from the Notice to Proceed.

DISCUSSION:

This contract provides for legal services in connection with workers' compensation claims, including representation before the Massachusetts Department of Industrial Accidents (DIA) and Commonwealth of Massachusetts courts, as necessary in the defense of injury claims by MWRA employees. MWRA is licensed by the Division of Insurance as a self-insured entity for workers' compensation coverage and maintains an excess insurance policy. MWRA is responsible for the first \$500,000 in coverage, and any excess coverage is the responsibility of the insurer. MWRA employs approximately 1,150 employees and at any given time may have approximately eighty open workers' compensation claims, of which 25 to 30 can be litigated at the DIA. Staff aggressively manage litigated claims through the DIA process.

Procurement Process

On November 30, 2020, MWRA issued a one-step Request for Qualification/Proposals that was publicly advertised in Goods and Services, Boston Herald, Banner Publication, El Mundo, and Massachusetts Lawyers Weekly. In addition, staff directly notified 22 law firms of the opportunity. Six firms requested the RFQ/P.

The RFQ/P included the following evaluation criteria: Cost - 25 points; Qualifications and Key Personnel – 25 points; Experience and Past Performance – 20 points; Technical Approach – 15 points; and Capacity/Organization and Management Approach - 15 points.

One firm, Tentindo, Kendall, Canniff & Keefe LLP (TKCK), responded by the deadline of January 8, 2021. Staff requested feedback from the five firms who accessed the RFQ/P but decided not to propose. Two firms responded: One stated that it could provide the services, but did not feel that it had enough experience to be competitive, and the other firm relayed it had requested the documents out of curiosity, but does not provide legal services (it is an insurance broker). The submitted proposal was reviewed in depth by each member of the Selection Committee and scored against the established evaluation criteria. The results are shown below.

Firm	Points	Order of Preference*	Final Ranking	Weighted Hourly Rate
Tentindo, Kendall, Canniff & Keefe	417	5	1	\$122.00

*Order of Preference represents the sum of the individual Selection Committee members’ rankings. Final Ranking is determined where the firm receiving the highest number of points is assigned a “1,” the firm receiving the next highest number of points is a “2,” and so on.

TKCK is the incumbent provider for these services under the existing contract and have performed to the Authority’s satisfaction. Staff determined that the cost is reasonable because TKCK’s rates were the lowest submitted for the procurement of the existing contract, and TKCK did not increase its rates for this contract. TKCK proposed five partners, one associate and one of counsel to handle all MWRA cases, and each with experience representing MWRA claims. The proposed attorneys are well-qualified, and demonstrated they are competent and capable in past engagements for MWRA. This firm represents a variety of large-scale businesses and, most importantly, has highly relevant experience with both public sector agencies and self-insured entities. References for the firm were excellent. MWRA has experienced TKCK’s successful mitigation of numerous claims. TKCK’s attorneys have demonstrated experience with and keep abreast of programs that apply to public sector employees, such as Accidental Disability Retirement.

Given the firm’s qualifications, experience and proven record of accomplishment with MWRA, the Selection Committee recommends the award of this contract to Tentindo, Kendall, Canniff & Keefe LLP, in an amount not to exceed \$300,000.


BUDGET/FISCAL IMPACT:

There are sufficient funds to cover the first portion of contract A627 in the FY21 CEB. Appropriate funding for the remainder of the contract will be included in subsequent CEB requests.

MBE/WBE PARTICIPATION:

Due to the specialized nature of this work, no minimum Minority Business Enterprise (MBE) or Women Business Enterprise (WBE) participation was established for this contract. TKCK is not an MBE or WBE business and did not include any MBE/WBE subcontractor in its Proposal.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 17, 2021
SUBJECT: Extension of Employment Contract
Senior Laboratory Technician, Operations Division

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Andrea Murphy, Director, Human Resources
Steven F. Rhode, Director, Laboratory Services
Carolyn M. Fiore, Deputy Chief Operating Officer
Preparer/Title


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

RECOMMENDATION:

To approve the extension of an employment contract for Mr. Tomas Lopez-Gomez, Contract Senior Laboratory Technician, Department of Laboratory Services, for a period of 12 months from March 6, 2021 to March 5, 2022 at the current hourly rate of \$25.35 per hour for an annual compensation not to exceed \$52,728.00.

DISCUSSION:

The Department of Laboratory Services has used contract staffing at various times over the years when there is uncertainty concerning future staffing needs. Tomas Lopez-Gomez has been working at the Chelsea laboratory in order to provide the coverage needed to perform required daily laboratory testing. Based on forecast staff availability and COVID related coverage issues, staff anticipate this coverage need will to continue in 2021.

Mr. Lopez-Gomez has been a contract employee at MWRA since March 9, 2020, performing routine laboratory testing. He performs prescribed procedures on drinking water samples, including compiling and preparing data, and operating and performing basic maintenance on laboratory equipment. Mr. Lopez-Gomez now has 11 months of directly relevant experience. During that time he has become trained and certified on a variety of microbiology tests, and has become an integral part of the laboratory team. Mr. Lopez-Gomez has a Bachelor of Science degree in Environmental Biology from Salem State University.

BUDGET/FISCAL IMPACTS:

There are sufficient funds in the FY21 Current Expense Budget for this position.