Posted 10-09/2020, 11:00am. MEETING MATERIALS

MASSACHUSETTS WATER RESOURCES AUTHORITY
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

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

BOARD OF DIRECTORS' MEETING

To be Held Virtually on October 14, 2020
Pursuant to Governor Baker's March 12, 2020 Order
Suspending Certain Provisions of the Open Meeting Law

WebEx Meeting Link:
https://mwra.webex.com/mwra/onstage/g.php?MTID=eaf350c515bf37ae880c918699d3b2f25

Meeting number (access code): 173 481 2057

Meeting password: 1014

Time:
1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. ADMINISTRATION, FINANCE & AUDIT

A. Information

1. Internal Audit Department Activities Report – FY2020
2. Delegated Authority Report – September 2020
3. FY21 Financial Update and Summary as of September 2020

B. Approvals

1. Award of Letter of Credit and Direct Purchase Agreements

V. WASTEWATER POLICY & OVERSIGHT

A. Information

1. MWRA Industrial Waste Report No. 36: Industrial Pretreatment Program Annual Report to EPA for FY2020
2. 2019 Outfall Monitoring Overview

B. Contract Awards

1. Supply and Delivery of Ferric Chloride for Deer Island: Kemira Water Solutions, Inc., WRA-4881
2. Supply and Delivery of Sodium Hypochlorite for Deer Island: Borden and Remington, WRA- 4882
3. Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant: O'Connor Corporation, Contract S597
4. Agency-Wide Technical Assistance Consulting Services: Hazen and Sawyer, Contract 7691, and CDM Smith, Contract 7692
5. Permanent Metering System Replacement Equipment and Installation: ADS LLC, Contract 7191

C. Contract Amendments/Change Orders

1. Wastewater Metering System Replacement - Evaluation, Planning, Design, Resident Engineering/Inspection Services for Installation of Metering Equipment: RJN Group, Contract 6739, Amendment 1
2. Agreement for Contract Extension, Operations and Maintenance of the Fore River Pelletizing Plant: New England Fertilizer Company, Contract S345, Amendment 3

VI. WATER POLICY & OVERSIGHT

A. Information

1. America's Water Infrastructure Act (AWIA): Risk Assessments and Emergency Response Plans
2. Project Update: Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting: Black & Veatch Corporation, Contract 7155

B. Approvals

1. Emergency Water Supply Agreement with the Town of Burlington

C. Contract Awards

1. Weston Aqueduct Stop Plank Gates: WES Construction Corp., Contract 7369
2. Technical Assistance Consulting Services for the John J. Carroll Water Treatment Plant: Hazen and Sawyer P.C., Contract 7713 and Stantec Consulting Services, Inc., Contract 7714

D. Contract Amendments/Change Orders

1. Commonwealth Avenue Pumping Station Improvements: WES Construction Corp., Contract 7524, Change Order 8
2. Commonwealth Avenue Pumping Station Improvements: Black & Veatch Corp, Contract 7523, Amendment No. 1

VII. PERSONNEL & COMPENSATION

A. Approvals

1. PCR Amendments – October 2020
2. Appointment of Area Manager, Electrical, Deer Island Treatment Plant
3. Appointment Shift Operations Manager, Deer Island Treatment Plant
4. Appointment of Construction Coordinator, Engineering and Construction

VIII. CORRESPONDENCE TO THE BOARD

IX. OTHER BUSINESS

X. EXECUTIVE SESSION

I. Approval of June 24, 2020 Executive Session Minutes

A. Real Estate
MWRA Office Space Needs

Wachusett Watershed Railroad

B. Collective Bargaining

XI. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

September 16, 2020

Pursuant to Governor Baker's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law the September 16, 2020 meeting of the Board of Directors of the Massachusetts Water Resources Authority was conducted by remote participation. Vice Chair Carroll presided. Present remotely from the Board, in addition to Vice Chair Carroll, were Ms. Wolowicz and Messrs. Cotter, Foti, Pappastergion, Peña, Vitale and Walsh. Secretary Theoharides and Messrs. Cook and Flanagan were 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, Douglas Rice, Director of Procurement, Andrea Murphy, Director of Human Resources, Paula Weadick, Director of MIS, Steven Rhode, Director of Laboratory Services, Corrine Barrett, Director of Construction, John Colbert, Chief Engineer and Assistant Secretaries Ria Convery and Kristin MacDougall. The meeting was called to order at 1:01 p.m. 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 JULY 22, 2020 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors' meeting of July 22, 2020.

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

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey noted that the Fourth Quarter FY2020 Orange Notebook reflects the ongoing COVID-19 pandemic's effects on some metrics. Mr. Laskey also updated Board members on seasonal trends in community total coliform counts, MWRA's FY2020 Audited Financial statements, Biobot's work and Massachusetts drought conditions.

PERSONNEL AND COMPENSATION

APPROVALS

PCR Amendments – September 2020

A motion was duly made and seconded to approve the amendments to the Position Control Register as presented, on a date to be determined by the Executive Director.

Staff provided a verbal summary.

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

Appointment of Director of Waterworks

A motion was duly made and seconded to approve the appointment of Ms. Valerie Moran to the position of Director, Waterworks (Non-Union, Grade 16) at an annual salary of $164,000, commencing on a date to be determined by the Executive Director.

Staff provided a verbal 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. IV A.2)

Appointment of Superintendent, Clinton Wastewater Treatment Plant

A motion was duly made and seconded to approve the appointment of Mr. Keith Perrin to the position of Superintendent at the Clinton Advanced Wastewater Treatment Plant (Non-Union, Grade 14) at an annual salary of $132,000, commencing on a date to be determined by the Executive Director.

Staff provided a verbal 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. IV A.3)

Appointment of Environmental Manager, Operations Division

A motion was duly made and seconded to approve the appointment of Mr. Richard Geisler to the position of Environmental Manager (Unit 9, Grade 30) in the Environmental and Regulatory Affairs Department at an annual salary of $134,318.33, commencing on a date to be determined by the Executive Director.

Staff provided a verbal summary. (Mr. Pappastergion joined the meeting.)

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

Appointment of Systems Administrator III, MIS

A motion was duly made and seconded to approve the appointment of Mr. Jason Ayers to the position of Systems Administrator III (Systems) (Unit 6, Grade 12), in the MIS Department, at an annual salary of $103,155.93, commencing on a date to be determined by the Executive Director.

Staff provided a verbal 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. IV A.5)

ADMINISTRATION, FINANCE AND AUDIT
INFORMATION
Delegated Authority Report- July and August 2020

There were questions and answers. (ref. V A.1)

FY20 Fourth Quarter Orange Notebook

There were questions and answers. (ref. V A.2)

FY20 Year-End Financial Update and Summary

Staff provided a verbal summary.

There was discussion and questions and answers. (ref. V A.3)

FY20 Year-End Capital Improvement Program Spending Report

Staff provided a verbal summary. There were 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.4)

APPROVALS
Bond Defeasance of Future Debt Service

A motion was duly made and seconded to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of $16,245,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by $17,889,000 in the FY22 through FY24 timeframe.

Staff provided a verbal summary. There were questions and answers.

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)

CONTRACT AWARDS
Sole Source Purchase Order Contract to Upgrade the PIMS PowerBuilder Application: Inflection Point Solutions, LLC

A motion was duly made and seconded to approve the award of a sole source purchase order contract to upgrade the PIMS PowerBuilder Application to Inflection Point Solutions, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed $268,131 and for a term of 18 months.

Staff provided a verbal 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 C.1)

CONTRACT AMENDMENTS/CHANGE ORDERS

Renewable and Alternative Energy Portfolio Services: Next Grid Markets, LLC, Contract RPS-68, 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 RPS-68, Renewable and Alternative Energy Portfolio Services, with Next Grid Markets, LLC, in accordance with the pricing established under the Massachusetts State Contract FAC109, to increase the contract amount by $27,400 to $105,000 and extend the contract term by 546 days, from October 1, 2020 to March 30, 2022.

Staff provided a verbal 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 D.1)

Managed Security Services: NWN Corporation, Contract 7499, Amendment 2

A motion was duly made and seconded to approve Amendment 2 to Contract 7499, Managed Security Services, with NWN Corporation, increasing the contract by $474,392.49, from a total of $3,185,475.19 to an amount not to exceed $3,659,867.68, and extending the contract term by 12 months, from July 4, 2021 through July 4, 2022, to provide continued cyber security services.

Staff provided a verbal summary. 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. V D.2)

Dental Insurance: Delta Dental of Massachusetts, Contract A613, Amendment 3

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract A613 with Delta Dental of Massachusetts, exercising the third option to renew, increasing the contract amount by $316,000, from $1,064,000 to a total not-to-exceed amount of $1,380,000, and extending the contract term by twelve months, from January 1, 2021 to December 31, 2021, for a total contract term of 48 months.

Staff provided a verbal summary. 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. V D.3)

WASTEWATER POLICY AND OVERSIGHT

CONTRACT AWARDS

Hayes Pump Station Rehabilitation Design and Engineering Services During Construction: Hazen and Sawyer, P.C., Contract 7162

A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to award Contract 7162, Hayes Pump Station Rehabilitation Design and Engineering Services During Construction, to Hazen and Sawyer, P.C., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed $2,100,013, for a contract term of 60 months from the Notice to Proceed.

Staff provided a verbal summary. There was discussion and 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)

CONTRACT AMENDMENTS/CHANGE ORDERS

Early Warning Pilot for the Resurgence of COVID-19: Biobot Analytics, Inc., OP-419, Amendment 1

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to the contract for the Early Warning Pilot for the Resurgence of COVID-19 with Biobot Analytics, Inc., for an amount not to exceed $137,365, increasing the contract amount from $200,000 to $337,365, and extending the contract term by 40 calendar days to February 1, 2021.

Staff made a presentation. There was discussion and 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 B.1)

As-Needed Resident Engineering and Resident Inspection Services: Kleinfelder Northeast, Inc., Contract 7629, Amendment 1 and Award of Task Order No. 4

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7629, As-Needed Resident Engineering and Resident Inspection Services, with Kleinfelder Northeast, Inc. extending the contract term by eight months, from September 7, 2021 to May 7, 2022, with no increase in contract amount, and to approve Task Order No. 4 for Top of Shafts 6, 8 and 9A REI Services in the amount of $356,978.96.

Staff provided a verbal summary. 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 B.2)

WATER POLICY AND OVERSIGHT

CONTRACT AWARDS

Top of Shafts 6, 8 and 9A Interim Improvements: National Water Main Cleaning Co., Contract 7561

A motion was duly made and seconded to approve the award of Contract 7561, Top of Shafts 6, 8 and 9A Interim Improvements, to the lowest responsible and eligible bidder, National Water Main Cleaning Co., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $2,391,500, with a contract term of 548 calendar days from the Notice to Proceed.

Staff made a presentation. There was discussion and 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 A.1)

John J. Carroll Water Treatment Plant Sodium Hypochlorite System Modifications: Harding & Smith, LLC, Contract 7085H

A motion was duly made and seconded to approve the award of Contract 7085H, John J. Carroll Water Treatment Plant Sodium Hypochlorite System Modifications, to the lowest responsible and eligible bidder, Harding & Smith, LLC, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $1,406,830 for a contract term of 235 calendar days from the Notice to Proceed.

Staff made a presentation.

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

Dam Safety Compliance and Consulting Services: GEI, Inc., Contract W328

A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to award Contract W328 to GEI, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed $125,286.61, for a contract term of 36 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 A.3)

Rehabilitation of Weston Aqueduct Supply Main 3, Sections W11/W12/W16/51 (Medford, Somerville and Arlington): Albanese D&S, Inc., Contract 6544

A motion was duly made and seconded to approve the award of Contract 6544, Rehabilitation of WASM 3 Sections W11/W12/W16/51 Water Mains (Medford, Somerville and Arlington), to the lowest responsible and eligible bidder, Albanese D&S, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $19,487,850 for a contract term of 1383 calendar days 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 A.4)

CONTRACT AMENDMENTS/CHANGE ORDERS

Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services: Stantec Consulting Services, Inc., Contract 6539, 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 6539, Weston Aqueduct Supply Main 3, Design, Construction Administration and Resident Engineering Services with Stantec Consulting Services, Inc. to revise the scope of services and schedule with no increase in the contract amount and no increase in the contract term.

Staff provided a verbal 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. VII B.1)

OMNIBUS ROLL CALL VOTE

Vice Chair Carroll 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:

Yes	No	Abstain
Carroll		
Cotter		
Foti		
Pappastergion		
Peña		
Vitale		
Walsh		
Wolowicz		

Voted: to approve the minutes of the July 22, 2020 Board of Directors' meeting as presented and filed with the records of this meeting (ref. I);

Further, voted: to approve the amendments to the Position Control Register as presented, on a date to be determined by the Executive Director (ref. IV A.1);

Further, voted: to approve the appointment of Ms. Valerie Moran to the position of Director, Waterworks (Non-Union, Grade 16) at an annual salary of $164,000, commencing on a date to be determined by the Executive Director (ref. IV A.2);

Further, voted: to approve the appointment of Mr. Keith Perrin to the position of Superintendent at the Clinton Advanced Wastewater Treatment Plant (Non-Union,

Grade 14) at an annual salary of $132,000, commencing on a date to be determined by the Executive Director (ref. IV A.3);

Further, voted: to approve the appointment of Mr. Richard Geisler to the position of Environmental Manager (Unit 9, Grade 30) in the Environmental and Regulatory Affairs Department at an annual salary of $134,318.33, commencing on a date to be determined by the Executive Director (ref. IV A.4);

Further, voted: to approve the appointment of Mr. Jason Ayers to the position of Systems Administrator III (Systems) (Unit 6, Grade 12), in the MIS Department, at an annual salary of $103,155.93, commencing on a date to be determined by the Executive Director (ref. IV A.5);

Further, voted: to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of $16,245,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by $17,889,000 in the FY22 through FY24 timeframe (ref. V.B.1);

Further, voted: to approve the award of a sole source purchase order contract to upgrade the PIMS PowerBuilder Application to Inflection Point Solutions, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed $268,131 and for a term of 18 months (ref. V C.1);

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract RPS-68, Renewable and Alternative Energy Portfolio Services, with Next Grid Markets, LLC, in accordance with the pricing established under the Massachusetts State Contract FAC109, to increase the contract amount by $27,400 to $105,000 and extend the contract term by 546 days, from October 1, 2020 to March 30, 2022 (ref. V D.1);

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 7499, Managed Security Services, with NWN Corporation, increasing the contract by $474,392.49, from a total of $3,185,475.19 to an amount not to exceed $3,659,867.68, and extending the contract term by 12 months, from July 4, 2021 through July 4, 2022, to provide continued cyber security services (ref. V D.2);

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract A613 with Delta Dental of Massachusetts, exercising the third option to renew, increasing the contract amount by $316,000, from $1,064,000 to a total not-to-exceed amount of $1,380,000, and extending the contract term by twelve months, from January 1, 2021 to December 31, 2021, for a total contract term of 48 months (ref. V D.3);

Further, voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7162, Hayes Pump Station Rehabilitation Design and Engineering Services During Construction, to Hazen and Sawyer, P.C., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed $2,100,013, for a contract term of 60 months from the Notice to Proceed (ref. VI A.1);

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to the contract for the Early Warning Pilot for the Resurgence of COVID-19 with Biobot Analytics, Inc., for an amount not to exceed $137,365, increasing the contract amount from $200,000 to $337,365, and extending the contract term by 40 calendar days to February 1, 2021 (ref. VI B.1);

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7629, As-Needed Resident Engineering and Resident Inspection Services, with Kleinfelder Northeast, Inc. extending the contract term by eight months, from September 7, 2021 to May 7, 2022, with no increase in contract amount, and to approve Task Order No. 4 for Top of Shafts 6, 8 and 9A REI Services in the amount of $356,978.96 (ref. VI B.2);

Further, voted: to approve the award of Contract 7561, Top of Shafts 6, 8 and 9A Interim Improvements, to the lowest responsible and eligible bidder, National Water Main Cleaning Co., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $2,391,500, with a contract term of 548 calendar days from the Notice to Proceed (ref. VII A.1);

Further, voted: to approve the award of Contract 7085H, John J. Carroll Water Treatment Plant Sodium Hypochlorite System Modifications, to the lowest responsible and eligible bidder, Harding & Smith, LLC, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $1,406,830 for a contract term of 235 calendar days from the Notice to Proceed (ref. VII A.2);

Further, voted: to approve the recommendation of the Consultant Selection Committee to award Contract W328 to GEI, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed $125,286.61, for a contract term of 36 months from the Notice to Proceed (ref. VII A.3);

Further, voted: to approve the award of Contract 6544, Rehabilitation of WASM 3 Sections W11/W12/W16/51 Water Mains (Medford, Somerville and Arlington), to the lowest responsible and eligible bidder, Albanese D&S, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $19,487,850 for a contract term of 1383 calendar days from the Notice to Proceed (ref. VII A.4); and,

Further, voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract 6539, Weston Aqueduct Supply Main 3, Design, Construction Administration and Resident Engineering Services with Stantec Consulting

Services, Inc. to revise the scope of services and schedule with no increase in the contract amount and no increase in the contract term (ref. VII B.1).

ADJOURNMENT

Upon a motion duly made and seconded, it was
Voted: to adjourn the meeting.

The meeting adjourned at 2:32 p.m.

Approved: October 14, 2020
Attest: _____
Andrew M. Pappastergion, Secretary

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Internal Audit Department Activities Report – FY2020

COMMITTEE: Administration, Finance & Audit

X INFORMATION
VOTE

Brian A. Rozowsky, Director, Internal Audit
Preparer/Title

RECOMMENDATION:

For information only. Internal Audit presents annually to the Board the results of completed assignments and the status of active and planned assignments. Every quarter, Internal Audit utilizes the Orange Notebook to discuss briefly recently issued reports and to report on the status of open audit recommendations and cost savings. This Staff Summary includes a discussion of activities since Internal Audit's last report to the Board in September 2019.

DISCUSSION:

In FY2020, a total dollar savings of $2,954,091 was recognized from 47 assignments, including internal audits, management advisory services, consultant incurred cost audits, consultant preliminary reviews, construction labor burden reviews, the true-up and review of HEEC billings and costs of the new cable, and contract negotiation support.

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

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

Attachment 1 lists assignments completed since Internal Audit's last report to the Board, assignments currently in process and additional assignments planned to commence in FY2021.

INTERNAL AUDITS AND MANAGEMENT ADVISORY SERVICES

Asset Tracking – Fleet Data Verification

MWRA uses the Maximo database to manage and maintain the fleet of plated vehicles, boats and equipment which is the responsibility of the Vehicle Maintenance and Management Department (VMM). The objective of the audit was to perform a physical inventory of all MWRA plated vehicles and equipment and to determine the accuracy of the database.

Recommendations include developing procedures to ensure vehicles obtain annual state inspections in a timely manner, strengthening controls related to AVL tracking devices, and improving internal controls for updating the database when vehicles are sold or decommissioned. Other recommendations include updating the VMM policy and procedures, and improving the information entered into Maximo. Management has accepted the recommendations and, to date, has implemented 11 of the 16 recommendations.

Non-Plated Equipment Inspections

VMM is responsible for monitoring the use and condition of all vehicles and heavy equipment. The objective of the review was to determine the currency of the annual equipment inspections for vehicle lifts, mobile cranes/buckets, forklifts, scissor lifts and aerial lifts and to ensure that these assets are included in the Maximo database to ensure inspections can be scheduled timely to comply with OSHA and industry standards.

Recommendations include establishing written procedures, assigning staff to be responsible for scheduling inspections, both annual and preventive maintenance, and removing any equipment from service if it is overdue for inspection or has deficiencies. Management took immediate action scheduling inspections, locking out equipment with deficiencies, and assigning responsibility for scheduling inspections. Management has accepted the recommendations and, to date, has implemented six of the 15 recommendations.

COVID-19 Cleaning

When the World Health Organization declared COVID-19 virus a pandemic, the CDC, OSHA, and state and local governments and others issued cleaning and disinfecting guidance/recommendations for businesses and employers for mitigating the spread of the virus. Internal Audit reviewed the three cleaning contracts for MWRA facilities to ensure compliance with applicable guidance/recommendations for cleaning and disinfecting. Internal Audit continues to inform staff with any changes and updates as new guidance is being developed and issued.

Unemployment Compensation

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

Internal Audit routinely reviews the monthly claims, on behalf of Human Resources, and checks them for accuracy. MWRA has objected to several claims that might be fraudulent, possible identity thefts, as well as other claims that do not appear to meet eligibility criteria.

City of Cambridge CSO Financial Assistance Agreement

The City of Cambridge entered into a Memorandum of Understanding (MOU) and Financial Assistance Agreement (FAA) with the MWRA to fund Combined Sewer Overflow (CSO) projects required by the Federal Court Order in the Boston Harbor Case. The MOU/FAA terminated on June 30, 2018.

Internal Audit has conducted periodic reviews to validate that the payments to Cambridge were deposited into an account from which withdrawals were made for eligible design and construction costs, and staff time (known as force account charges).

In FY2020, a review was performed of Cambridge's CY2018 (to June 30, 2018) claimed force account charges of $16,696. Eligible design and construction costs claimed in prior years were higher than the amounts determined during final reviews. Since the eligible force account costs approved in previous years were effectively overstated, Internal Audit did not recommend any force account costs for payment. In addition, force account costs withdrawn for the years 2008 through 2016 exceeded the recommended amounts by $325,292, which should be offset against any other amounts that may be due to Cambridge under the MOU/FAA.

Chelsea Lease Agreement

MWRA has a 30-year lease agreement for the Chelsea Facility that expires on May 31, 2032. The lease payment amount is based on a rental plus actual real estate taxes and insurances.

Internal Audit reviewed the lease rental payments for FY2019, and determined they were correctly paid. Amounts for real estate taxes and insurances are deposited into separate escrow accounts to pay the expenses as they come due. The balances in the escrow accounts were sufficient to meet future payment obligations.

Other Management Advisory Services

Annually, Internal Audit provides management advisory services that include calculating MWRA's fringe and indirect cost rates, verifying unemployment benefit calculations, and providing support and review services to the Fore River Railroad Corporation (FRRC). One of Internal Audit's other responsibilities is to maintain the MWRA's Policies and Procedures and Signature Authority forms.

In FY2020, Internal Audit performed numerous other management advisory services that included the Bay State Fertilizer program, CORI and background checks, a prevailing wage review, purchase card activity, impact of the Deer Island electricity rate (WR), inventory control task force follow-up, consultation on real property leases, and an analysis of Board delegated authority levels. Internal Audit also performed numerous vendor financial capability reviews and analyses in support of the Procurement Department.

In FY2020, the annual savings resulting from internal audits and management advisory services totaled $840,997.

Policies and Procedures

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

During FY2020, Internal Audit reviewed and updated nine policies, with a number of other policies in various stages of being updated. A further 11 policies were reviewed and updated in FY2019.

CONTRACT AUDITS AND RELATED REVIEWS

In FY2020, savings of $2,113,094 were recognized from the following contract audits and other related reviews:

Consultant Incurred Cost Audits

An incurred cost audit determines if billed labor costs are supported by the consultant's time reports and project cost records, other direct costs are supported by valid payments, final indirect costs have been calculated in accordance with the contract, and if final indirect cost rates have been properly applied to labor billings. The extent of fieldwork required to complete an assignment is based on a risk assessment that starts with an invoice analysis and a review of the consultant's annual Consultant Disclosure Statement submittal. Internal Audit usually conducts the fieldwork at the consultant's office, but during the COVID-19 period, has perform desk reviews to verify if costs billed are supported.

In FY2020, five incurred cost audits were completed with a total contract value of $17.1 million. These comprise CDM Smith, Dewberry, Stantec, Green International and SAR Engineering. A total of $8,161 was recovered.

Consultant Preliminary Reviews

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

In FY2020, eight consultant preliminary reviews were completed with a total value of $20.8 million. Internal Audit identified a total of $635,684 in unsupported proposed costs for potential reallocation, mainly related to indirect cost rate adjustments.

Consultant Disclosure Statements/ Annual Indirect Cost Rate Reviews

Each professional service consultant is required to submit a Consultant Disclosure Statement annually, including an indirect cost rate for the firm's recently completed fiscal year. Internal Audit reviews and approves provisional indirect cost rates proposed by consultants for billing both new and active contracts. The approved provisional indirect cost rates are reported to Project Managers

and Procurement as a reference source for reviewing invoices and pricing contracts and amendments. During FY2020, 52 annual indirect cost rate reviews were completed and letters sent to consultants.

Construction Labor Burden Rate Reviews

A construction labor burden rate review establishes provisional labor burden rates to be used in the pricing of future change orders. Typical adjustments to contractor proposed rates include applying effective versus statutory Federal and State unemployment tax rates, applying appropriate experience modifications and other adjustments to workers compensation rates, and determining the basis for general liability and umbrella insurances and bond premium.

In FY2020, nine construction labor burden rate reviews were completed for contracts with a total value of $72.9 million. An estimated $304,330 in cost savings may be achieved on future change orders.

Harbor Electric Energy Company (HEEC) 2019 True-Up and Billings – Existing Cable

Internal Audit reviewed the annual payment to HEEC for the use of the cross-harbor cable. The review included verifying the capacity charge calculation and operations and maintenance (O&M) charges billed by HEEC under the terms of the Massachusetts Department of Public Utility (DPU) tariff for CY2019. The DPU tariff is based on a capacity charge calculation that includes O&M charges for labor and materials needed to maintain the cable, and insurance for the cable.

Internal Audit reviewed the O&M charges and the tariff computation prior to HEEC's filing with DPU, which DPU approved. Savings of $37,697 were recognized from disallowed costs included in the proposed O&M charges. In addition, following DPU's approval of the tariff, HEEC will reimburse MWRA $166,044. The final 2019 tariff is lower than the amount paid which was based on the preliminary tariff filing in 2018.

Harbor Electric Energy Company (HEEC) - New Cable

During construction of the new cross-harbor cable, Internal Audit has been periodically reviewing the costs incurred on the project. Certain costs incurred prior to the Memorandum of Understanding (MOU) were initially included by HEEC but are not allowed under the terms of the MOU. In addition, HEEC included certain sales tax costs that it did not actually incur and some costs were duplicated. Total cost adjustments in FY2020 are $251,171.

As contemplated in the MOU, it was agreed that MWRA could pay for its share of the capital costs during construction (prior to project completion) in order to reduce the costs, including those costs associated with Allowance for Funds Used During Construction (AFUDC). As of June 30, 2020, the MWRA has paid $45 million for its share of the capital costs. These payments reduce the AFUDC charge that HEEC is permitted to include in the total costs, resulting in future cost savings estimated at $1.7 million.

Pelletizing Plant - NEFCo

Internal Audit conducted a review of the NEFCo contract for 2019 to determine if the correct pricing was used to compute monthly charges for pelletizing, pricing of quantities in excess of the contracted amount and the fee for capital work. All invoice prices and payments complied with the contract terms.

In addition, a compilation of the financial results of NEFCo's operation of the MWRA pelletizing plant was prepared for MWRA management.

Following a claim for additional costs to be incurred by NEFCo after the collapse of the building to which piping to silos 6 to 9 was attached, Amendment 2 to the contract was executed. Internal Audit assisted staff in the amendment negotiations, validation of the claim and contract amendment.

Prevailing Wage Audit – S.J. Services

Certain MWRA contracts stipulate the prevailing wage rates based on location and nature of work that contractors/vendors are required to pay their employees. Certified payroll reports document the contractor's representation of the prevailing wage rates actually paid. The prevailing wage rates include the actual wages plus health and welfare and pension contributions paid by the contractor.

Internal Audit reviewed the janitorial contract with S.J. Services for the Clinton Wastewater Treatment Plant. In FY2019, the contracts with S.J. Services for Chelsea and various Western Operations facilities were also reviewed. Consistent with the prior review, S.J. Services did not pay certain employees the required prevailing wage rates. S.J. Services was notified to correct the shortfall. In addition, certified payroll reports had not been submitted by the Contractor until commencement of this review.

ATTACHMENT:

Status of Internal Audit Assignments FY2020 and FY2021

Attachment 1

Status of Internal Audit Assignments FY2020 and FY2021

COMPLETED	Date	IN PROCESS & PLANNED TO START IN FY2021
Internal Audit/Management Advisory Services		
Fleet Data Verification	Aug-19	Vendor Master File Review
MWRA & FRRC Overhead Rates	Aug-19	Treasury Controls
Bay State Fertilizer Financial Statement	Nov-19	Large Equipment Verification
Large Equipment Inspections	Mar-20	Office Re-opening Support
Inventory Management Procedures Follow-up	Mar-20	Overhead Crane Inspections
Unemployment Compensation	Jun-20	Required Safety Training
Covid-19 Cleaning Support	Jun-20	Prevailing Wage Review (Contract 7561)
Reviews of Agreements and Contracts		
SJ Services Prevailing Wage review for Clinton	Aug-19	HEEC Cable Costs
Chelsea Lease FY2019	Aug-19	HEEC New Cable Tariff
City of Cambridge CSO FAA	Mar-20	CNY Lease 2019
HEEC 2019 Old Cable Tariff	May-20	Chelsea Lease FY2020
NEFCo Financial Review	Jun-20	
Consultant Incurred Cost Audits		
Green International Affiliates	Sep-19	Kleinfelder
Stantec	Dec-19	Hazen & Sawyer
SAR Engineering	Dec-19	City Point Partners
CDM Smith	Jan-20	JCK Underground
Dewberry	Jan-20	Bryant Associates
		Overland Engineering
		Peer Consultants
		Corrosion Probe
Consultant Preliminary Reviews (Over $1 mill)		
Combined Heat & Power (6963A)	Aug-19	Deer Island Eastern Seawall (6723) $1.2M
Section 22N Facility Plan/EIR (7155)	Nov-19	Clarifier Rehabilitation Phase 2 (7397) $3M
Deer Island As Needed (7644,7645,7646)	Dec-19	Interceptor 7 (7216) $2.6M
Section 56 Saugus (7454)	Dec-19	DI South System VFD Replacement (7126) $4.5M
Section 53 & 99 Connections (7485)	May-20	Steel Tanks Improvements (6832) $3.6M
Siphon Structure (6224)	Jun-20	Waltham Water Pipeline (7547) $3M
		Maintenance Garage, Washbay, Storage (7677) $1M
		Hayes Pump Station Rehab (7162) $2.5M
		Deer Island Fire Alarm (7426) $2.1M
		Ward St & Columbus Park Headworks (7429) $22M
		As Needed Design (7691 & 7692) $4.2M
		Sect 89 & 29 Replacement RE/RI (7633) $2M
		Masonry/Structural Repair (7711) $1.6M
		NEH Improvements (7404) $6.8M
		Cathodic Protection Metro (7611) $9.2M
		DI Odor Control Rehab (7088) $4.5M
		DI Cryogenics Replacement (7139) $3.3M
		Deer Island HVAC (7110) $2.1M
		Metro Tunnel Redundancy (7159) $16M
		Digester & Storage Tank Rehab (7052) $4.1M
Construction Labor Burden Rate Reviews (Over $1 mill)		
Deer Island Chemical Tank & Digester Pipe (7373)	Sep-19	Fuel Oil Tank Replacement Ph 1 (7554) $1.4M

		Attachment 1
Status of Internal Audit Assignments FY2020 and FY2021		
COMPLETED	**Date**	**IN PROCESS & PLANNED TO START IN FY2021**
Maintenance Coating (S583)	Sep-19	JJCWTP SCADA Upgrade (7582) $13M
Residuals Facilities Piping Relocation (7173)	Sep-19	Dorchester Interceptor Sewer (7279) $4.7M
Deer Island Gas Protection Replacement (7167)	Nov-19	Clinton Screw Valves & Pump (7704) $2M
CRV Sewer Rehab (7643)	Mar-20	Deer Island MCC & Switch Gear (7420) $11.2M
Nut Island Odor Control/HVAC (7548)	Apr-20	DI Clarifier Rehabilitation, Phase 2 (7395) $137.2M
		Deer Island Roofing Replacement (7734) $2M
		WASM3 New Connecting Mains CP3 (6392) $14.7M
		Weston Aqueduct Sluice Gate (7369) $1.9M
		WASM/SPSM West PRV (7563) $7.1M
		Prison Point Rehabilitation (7462) $41.8M
		Wachusett Lower Gatehouse Pipe Replace (7380) $4.1M
		Deer Island Dystor Membrane Repl. (7135) $4M
		Sec 89 & 29 Replacement (7117) $21.3M
		Fuel Oil Tank Replacement Ph 2 (7555) $2.3M
		DI Gas Protection System Ph 2 (7169) $2.5M
		Wachusett Lower Gatehouse Building Repl. (7698) $2.2M

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Delegated Authority Report – September 2020

COMMITTEE: Administration, Finance & Audit

X INFORMATION
___ VOTE

Michele S. Gillen
Director, Administration

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

Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period September 1 – 30, 2020.

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.

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.

Purchase or Lease of Equipment, Materials or Supplies:

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

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

Recommendations for delegated authority approval include information on the budget/fiscal impact related to the action. For items funded through the capital budget, dollars are measured against the approved capital budget. If the dollars are in excess of the amount authorized in the budget, the amount will be covered within the five-year CIP spending cap. For items funded through the Current Expense Budget, variances are reported monthly and year-end projections are prepared at least twice per year. Staff review all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

CONSTRUCTION/PROFESSIONAL SERVICES DELEGATED AUTHORITY ITEMS SEPTEMBER 1 - 30, 2020

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	09/16/20	**CAPITAL IMPROVEMENTS AT THE BIOSOLIDS PROCESSING FACILITY** FURNISH AND INSTALL NEW GAS VENT PIPING, VALVES AND PRESSURE GAUGES ON GAS TRAINS NO'S 1, 4, 5 AND 6 STORAGE TANK 3; REMOVE THE EXISTING 30-INCH DIAMETER MANWAY AND FABRICATE AND INSTALL A NEW MANWAY ON THE ROOF OF SODIUM BISULFITE STORAGE TANK 1.	7153	7	IPC LYDON, LLC	$85,296.55
C-2.	09/16/20	**TECHNICAL ASSISTANCE CONSULTING SERVICES - HAZARDOUS MATERIALS** INCREASE LEVEL OF EFFORT TO MEET INCREASED NEEDS FOR THE FOLLOWING SERVICES: ONGOING EPA-REQUIRED ANNUAL SPILL PREVENTION CONTROL AND COUNTERMEASURE, EMERGENCY ACTION PLAN, BEST MANAGEMENT PRACTICES TRAINING FOR FOURTEEN FACILITIES, NEW SPCC PLANS AND PERIODIC EPA-REQUIRED UPDATES TO EXISTING SPCC PLANS, CONTINUED EPA-REQUIRED POST PCB ABATEMENT MONITORING AT ALEWIFE PUMP STATION, HAZARDOUS BUILDING MATERIALS AND UNANTICIPATED HAZARDOUS MATERIALS ISSUES ARISING FROM SPILLS OR OTHER DISCOVERIES OF HAZARDOUS MATERIALS.	605TA	1	GEOSPHERE ENVIRONMENTAL MANAGEMENT, INC.	$112,500.00
C-3.	09/16/20	**TECHNICAL ASSISTANCE CONSULTING SERVICES - HAZARDOUS MATERIALS** INCREASE LEVEL OF EFFORT TO MEET INCREASED NEEDS FOR THE FOLLOWING SERVICES: REMEDIATION AND SEMIANNUAL REPORTING FOR THE FORE RIVER STORAGE AREA BUILDING 9 OIL PLUME AS REQUIRED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, HAZARDOUS BUILDING MATERIALS TESTING, UNANTICIPATED HAZARDOUS MATERIALS ISSUES ARISING FROM SPILLS OR OTHER DISCOVERIES OF HAZARDOUS MATERIALS.	606TA	1	GREEN SEAL ENVIRONMENTAL,	$112,500.00
C-4.	09/24/20	**COMMONWEALTH AVENUE PUMPING STATION IMPROVEMENTS** TEST, REMOVE, HANDLE, TRANSPORT AND DISPOSE OF EXCAVATED MATERIALS; BURY REFRIGERANT LINES FROM WEST BUILDING EXTERIOR WALL TO THE CONCRETE EQUIPMENT PADS AND FURNISH AND INSTALL CARRIER PIPES; FURNISH AND INSTALL CONDUITS AND WIRES TO PROVIDE SIGNAL WIRING BETWEEN ADJUSTABLE FREQUENCY DRIVES, THEIR RESPECTIVE PUMP DIRECTOR PANELS AND THE MAIN PLC PANEL IN THE EAST PUMPING STATION. VENDOR TO MODIFY ON-SITE THE ADJUSTABLE FREQUENCY DRIVES; RELOCATE CONDENSING UNITS TO THE REAR OF THE BUILDING AND REVISE THE ROUTING OF THE REFRIGERANT LINES; EXTEND THE CONTRACT TERM BY 180 CALENDAR DAYS FROM SEPTEMBER 30, 2020 TO MARCH 29, 2021.	7524	7	WES CONSTRUCTION CORP.	$131,601.03

PURCHASING DELEGATED AUTHORITY ITEMS SEPTEMBER 1 - 30, 2020

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	09/11/20	**REPAIR ONE DRESS ROOTS CENTRIFUGAL COMPRESSOR** AMENDMENT OF A PURCHASE ORDER TO REPAIR ONE DRESSER ROOTS CENTRIFUGAL COMPRESSOR AT THE DEER ISLAND TREATMENT PLANT.	WRA-4651	1	HOWDEN ROOTS, LLC	$27,405.00
P-2	09/11/20	**MAINTENANCE AND SUPPORT FOR THE PORTIA INVESTMENT & CASH MANAGEMENT SYSTEM** AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR THE PORTIA INVESTMENT AND CASH MANAGEMENT SYSTEM.			SS&C TECHNOLOGIES INC.	$59,401.68
P-3	09/11/20	**PURCHASE OF ONE COMPLETE SPLIT MECHANICAL SEAL** AWARD OF A SOLE SOURCE PURCHASE ORDER TO FOR ONE COMPLETE SPLIT MECHANICAL SEAL FOR THE DEER ISLAND TREATMENT PLANT.			CORROSION PRODUCTS AND EQUIPMENT, INC.	$133,144.00
P-4	09/11/20	**THREE-YEAR SUBSCRIPTION OF 1,200 LICENSES OF THE INFOR LAWSON LEARNING MANAGEMENT SYSTEM AND ACCOMPANYING IMPLEMENTATION SERVICES** AWARD OF A SOLE SOURCE PURCHASE ORDER CONTRACT FOR THREE-YEAR SUBSCRIPTION OF 1,200 LICENSES OF THE INFOR LAWSON LEARNING MANAGEMENT SYSTEM ALONG WITH ACCOMPANYING IMPLEMENTATION SERVICES.			INFOR, INC.	$147,374.00
P-5	09/15/20	**COVID-19 RELATED DEEP CLEANING SERVICES** AWARD OF A ONE-YEAR TASK ORDER TO THE LOWEST RESPONSIVE BIDDER FOR COVID-19 RELATED DEEP CLEANING SERVICES AT ALL MWRA FACILITIES.	WRA-4865		CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.	$40,450.00
P-6	09/15/20	**PURCHASE OF 114 BATTERIES** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF 114 BATTERIES AT SEVERAL DEER ISLAND LOCATIONS.	WRA-4862		BOMARA ASSOCIATES, INC.	$49,718.04
P-7	09/15/20	**PURCHASE OF TEN BATTERY CHARGERS** AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TEN BATTERY CHARGERS TO SUPPLY BACKUP POWER TO CONTROL EQUIPMENT THROUGH OUT DEER ISLAND IN THE EVENT OF AN UNANTICIPATED LOSS OR INTERRUPTION OF THE NORMAL UTILITY SERVICE.	WRA-4867		SAFT AMERICA, INC.	$91,317.52
P-8	09/17/20	**PURCHASE OF 28 MICROSOFT SURFACE TABLETS** AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT ITC47 TO THE LOWEST RESPONSIVE BIDDER FOR 28 MICROSOFT SURFACE TABLETS.	WRA-4887Q		CDW-G LLC	$51,002.00
P-9	09/24/20	**TECHNICAL CONSULTING SERVICES** AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT ITS63 CAT 2B TO THE LOWEST RESPONSIVE BIDDER FOR TECHNICAL CONSULTANT SERVICES TO CONVERT ORACLE DISCOVERER WORKBOOKS TO THE SAP BUSINESS OBJECTS PLATFORM.	WRA-4879Q		OVERTURE PARTNERS, LLC	$44,556.60
P-10	09/24/20	**1,200 LICENSES FOR LINKEDIN LEARNING ONLINE TRAINING** AWARD OF A THREE-YEAR SOLE SOURCE PURCHASE ORDER FOR 1,200 LICENSES FOR LINKEDIN LEARNING ONLINE TRAINING FOR THE TIME PERIOD SEPTEMBER 30, 2020 THROUGH SEPTEMBER 29, 2023.			CARAHSOFT TECHNOLOGY CORPORATION	$96,654.60
P-11	09/28/20	**MAINTENANCE AND SUPPORT FOR THE LABORATORY INFORMATION MANAGEMENT SYSTEM** AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR THE LABORATORY INFORMATION MANAGEMENT SYSTEM FOR THE PERIOD OF NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2021.			LABWARE, INC.	$67,760.03
P-12	09/28/20	**MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM** AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM FOR THE PERIOD OF NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2021.			INFLECTION POINT SOLUTIONS, LLC	$115,000.00

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: FY21 Financial Update and Summary Through September 2020

COMMITTEE: Administration, Finance & Audit

_X_ INFORMATION
___ VOTE

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

Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2021 through September 2020, comparing actual spending to the budget.

DISCUSSION:

The total Year-to-Date variance for the FY21 CEB is $6.9 million, due to lower direct expenses of $2.9 million, indirect expenses of $1.7 million, and debt service costs of $2.2 million, and higher revenue of $0.1 million.

FY21 Current Expense Budget

The CEB expense variances through September 2020 by major budget category were:

- Lower Direct Expenses of $2.9 million or 4.8% under budget. Spending was lower for Wages & Salaries, Other Services, Professional Services, Worker's Compensation, Utilities, Overtime, Chemicals, Fringe Benefits, and Training and Meetings. Spending was higher than budget for Maintenance and Other Materials.

- Lower Indirect Expenses of $1.7 million or 9.4% under budget due primarily to lower Pension expense and Watershed reimbursements.

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

	FY21 Budget YTD	FY1 Actual YTD	$ Variance	% Variance
Direct Expenses	$59.9	$57.0	-$2.9	-4.8%
Indirect Expenses	$18.5	$16.8	-$1.7	-9.4%
Capital Financing	$110.1	$108.0	-$2.2	-2.0%
Total	**$188.6**	**$181.8**	**-$6.8**	**-3.6%**

Totals may not add due to rounding

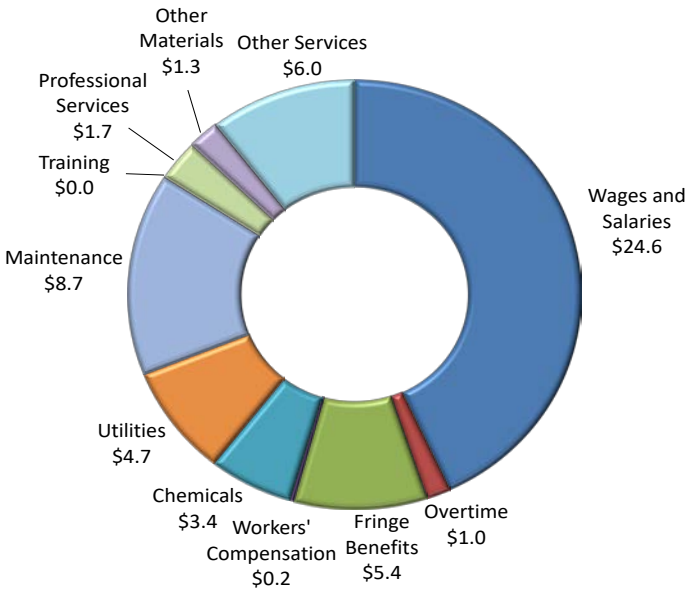
Total Revenues of $197.2 million were $75,000 or 0.01% over budget due to higher Other Revenue and Other User Charges, offset by lower Investment Income.

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

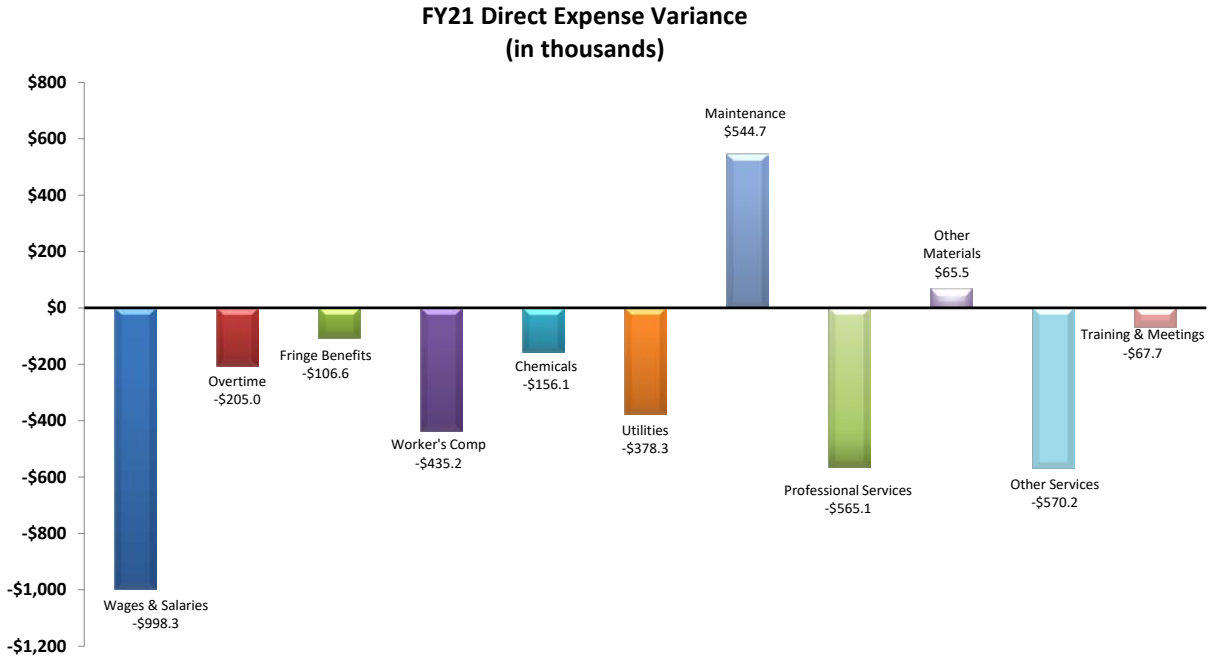
Direct Expenses

FY21 direct expenses through September totaled $57.0 million, which was $2.9 million or 4.8% less than budgeted.

FY21 Direct Expenses
(in millions)

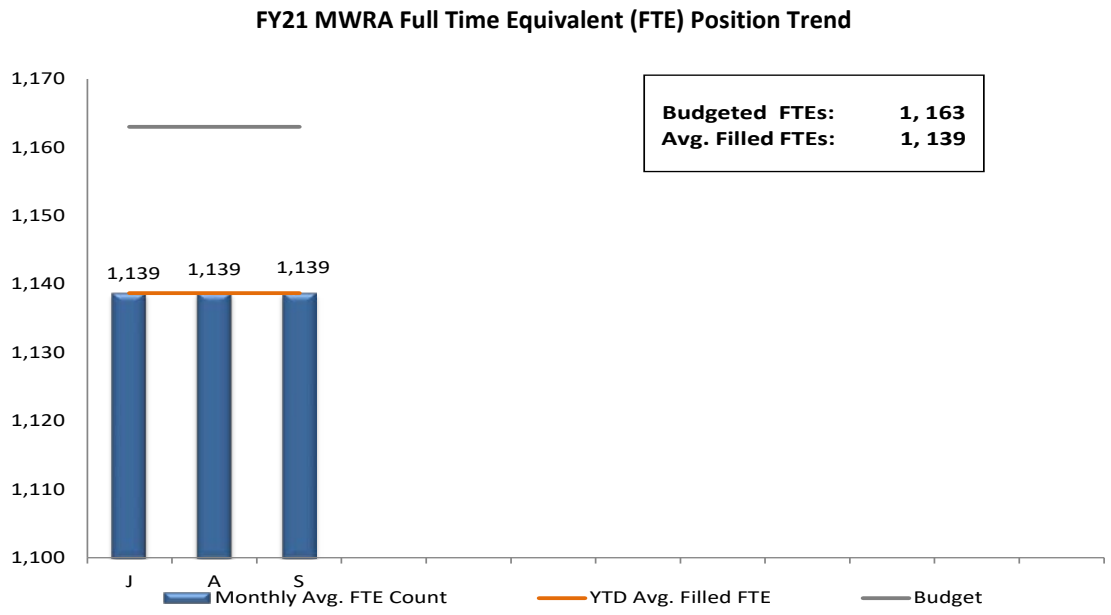


The budget variance is due to lower spending for Wages & Salaries, Other Services, Professional Services, Worker's Compensation, Utilities, Overtime, Chemicals, Fringe Benefits, and Training & Meetings, offset by greater than budgeted spending in Maintenance and Other Materials.



Wages and Salaries

Wages and Salaries are under budget by $1.0 million or 3.9%. Through September, 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.



Other Services

Other Services were lower than budget by $0.6 million or 8.7%. The budget variance is due to lower than budgeted spending for Sludge Pelletization of $340,000 due to lower year-to-date quantities, telecommunication services of $73,000 in MIS and FOD, Memberships/Dues/Subscriptions of $73,000 primarily in Operations, Grit & Screening Removal of $62,000 due to lower quantities, and Police Details of $48,000, partially offset by higher than budgeted spending for Other Services of $37,000.

Professional Services

Professional Services were lower than budget by $0.6 million or 24.5%. The overall underspending is due to lower than budgeted spending in Computer Systems Consultant of $263,000 in MIS, Engineering of $225,000 primarily in Field Operations, Other Professional Services of $92,000 in Administration, Finance, and Law, Legal Services of $81,000 in Law and Administration, partially offset by Lab and Testing Analysis of $171,000 in Operations.

Maintenance

Maintenance was higher than budget by $0.5 million or 6.7%, largely driven by the timing of projects. Some projects that were expected to be completed in FY20 were not completed until Q1 of FY21. Maintenance Services were over budget by $0.5 million driven by Plant and Machine Services ($0.5 million), Computer Software Licenses ($0.3 million), Pipe Services ($0.1 million), Special Equipment Services ($0.1 million), partially offset by Building & Grounds Services ($0.4 million). Also, Maintenance Materials is over budget by ($0.1 million), driven by Plant and Machine Materials ($0.3 million), partially offset by lower spending on Building & Grounds Materials ($0.1 million) and HVAC Materials ($0.1 million).

Worker's Compensation

Worker's Compensation expenses were lower than budget by $0.4 million or 70.3%. The lower expenses were primarily due to favorable variances in compensation payments ($282,000), medical payments ($113,000), and administrative expenses ($41,000). Due to the uncertainties of when spending will happen, the budget is spread evenly throughout the year.

Utilities

Utilities were less than budget by $0.4 million or 7.4%. The budget variance is due to underspending in Electricity of $0.3 million primarily at DITP ($0.2 million) 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. Also, Water Operations ($0.1 million) is under budget primarily due to lower rates and quantity. Diesel Fuel is underspent by $32,000 driven by Field Operations due to timing of deliveries.

Overtime

Overtime expenses were lower than budget by $0.2 million or 17.1% mainly in Metro Maintenance ($103,000), Water Operations & Maintenance ($58,000), Wastewater Operations ($36,000), Engineering & Construction ($31,000), offset by higher spending for Deer Island ($80,000) due to shift coverage and unplanned maintenance.

Chemicals

Chemicals were lower than budget by $0.2 million or 4.4%. Lower than budgeted spending on Polymer of $139,000 driven by DITP for less usage for centrifuge operations; Activated Carbon of $74,000 driven by Wastewater Operations due to replacement on schedule awaiting invoice at NI; and Sodium Hypochlorite of $47,000 driven by Water Operations due to usage. This is offset by higher than budgeted spending on Hydrogen Peroxide of $93,000 driven by DITP, and Ferric Chloride of $80,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level. DITP flows are 11.7% lower than the budget and CWTP flows are 1.3% greater than the budget through September. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

Fringe Benefits

Fringe Benefit spending was lower than budget by $0.1 million or 1.9%. This is primarily driven by lower Health Insurance costs of $80,000, 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.

Training and Meetings

Training and Meetings expenses were lower than budget by $0.1 million or 84.1% driven by the timing of spending as well as conferences that were postponed or cancelled.

Other Materials

Other Materials were greater than budget by $0.1 million or 5.4%, driven by greater than budgeted spending for Computer Hardware of $326,000 in MIS primarily due to timing and necessary purchases due to Covid-19, partially offset by $101,000 for Equipment/Furniture, $86,000 for Other Materials, and $56,000 for Vehicle Expense primarily due to timing.

Indirect Expenses

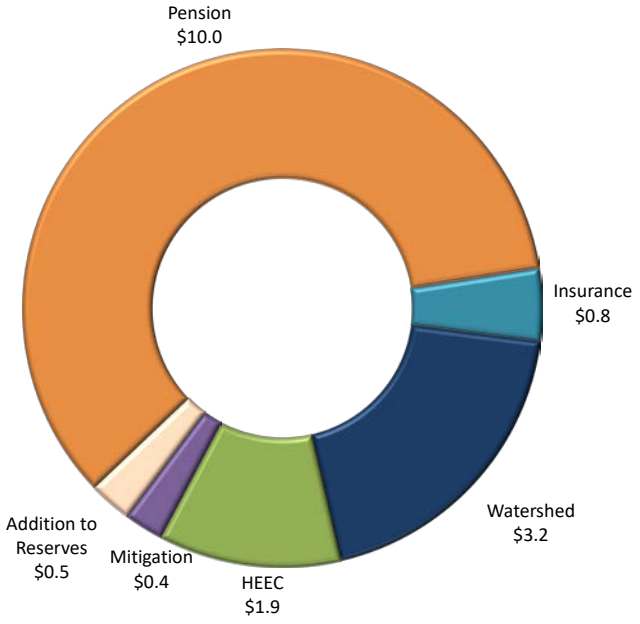
Indirect Expenses totaled $16.8 million, which is $1.7 million or 9.4% lower than budget. The variance is driven by lower Pension expense and Watershed reimbursements. After approval of the FY21 Current Expense Budget, the retirement system received a new Public Employee Retirement Administration Commission approved required contribution. The required contribution was reduced from $11.0 million to $10.0 million. Watershed costs are lower than budget by $0.8 million due to lower costs associated with Fringe Benefits, Maintenance, Equipment, Professional Services, and Utilities/Fuel.

FY21 Watershed Protection Variance

$ in millions	YTD Budget	YTD Actual	YTD $ Variance	YTD % Variance
Operating Expenses	4.3	3.5	-0.8	-19.5%
PILOT	0.0	0.0	0.0	0.0%
Subtotal	*4.3*	*3.5*	*-0.8*	*-18.4%*
Revenue offset	0.3	0.3	0.0	-7.0%
Total FY21 Net Budget	**4.1**	**3.2**	**-0.8**	**-19.2%**

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 arears. Accruals are being made monthly based on estimated expenses provided by DCR and trued-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 September was 132 (and 132.7 on a year-to-date basis) vs. a budget of 150.

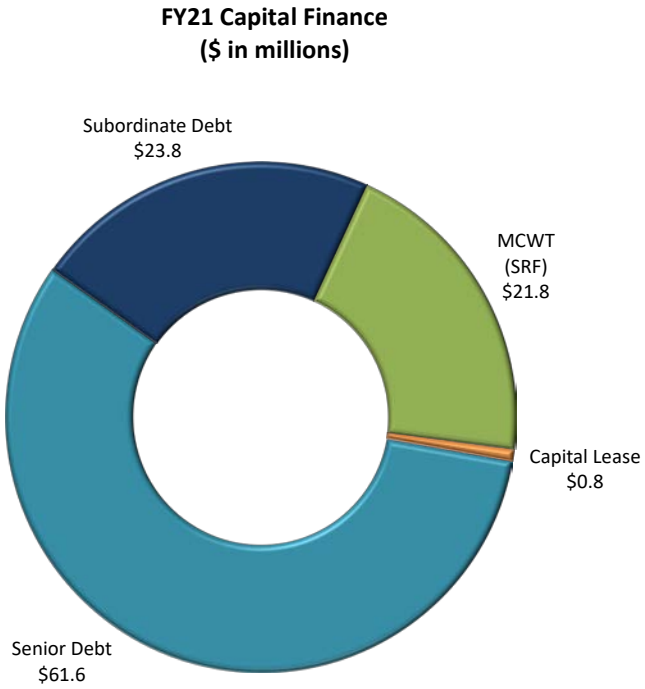
FY20 Indirect Expenses
(in millions)



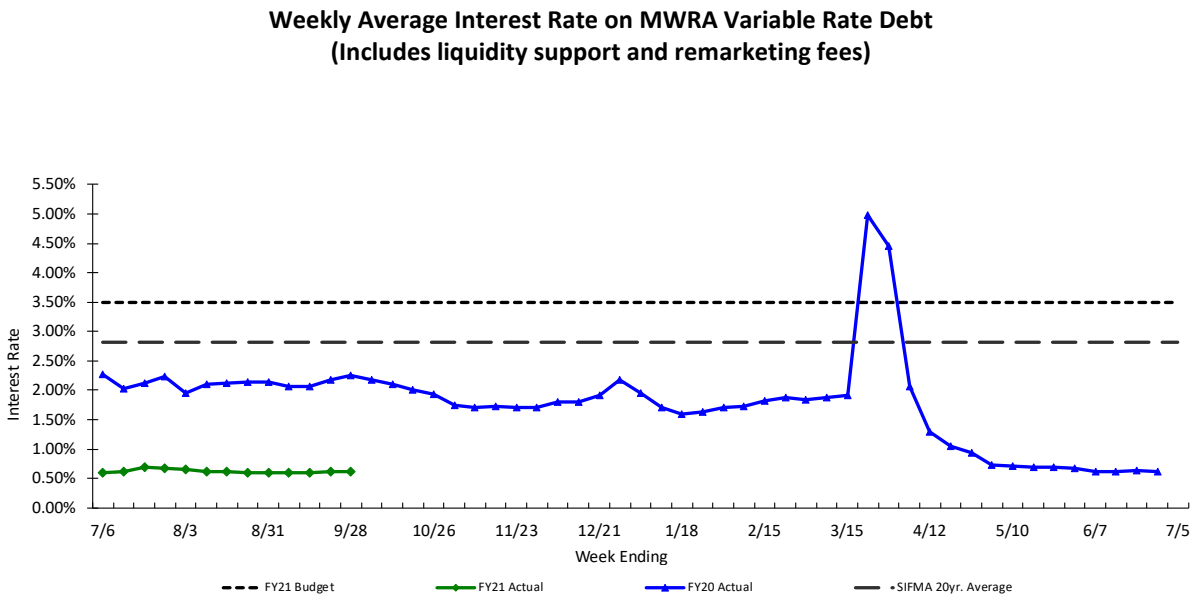
Capital Financing

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

Capital Financing expenses for FY21 through September totaled $108.0 million, which is $2.2 million less than budget. This favorable variance is the result of lower than budgeted variable interest rates.



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



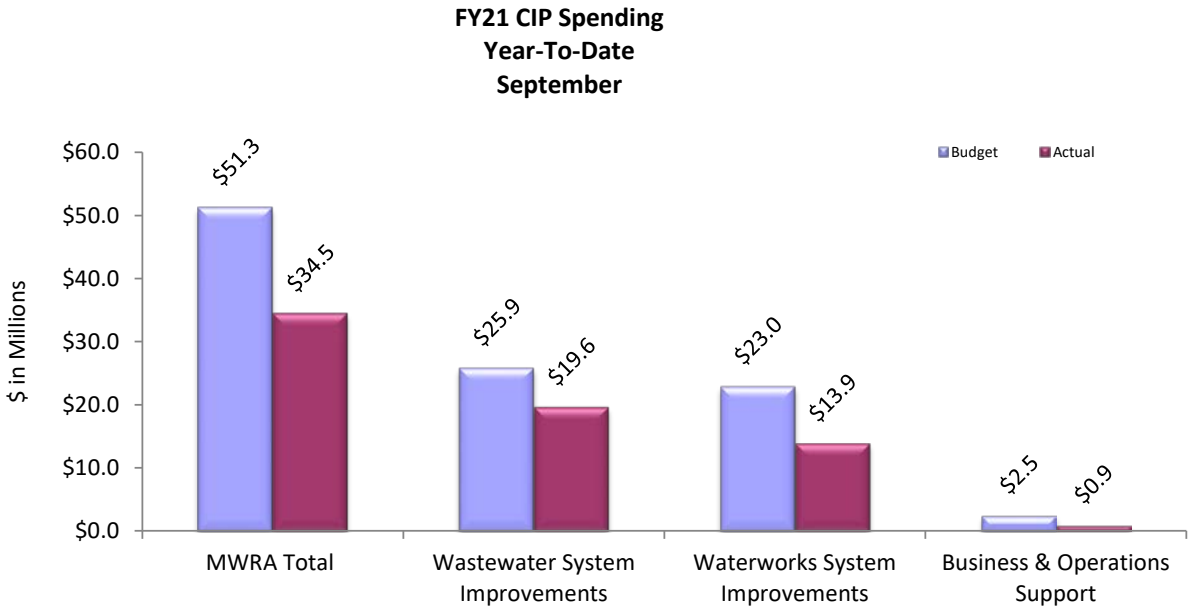
Revenue and Income

Revenues of $197.2 million were $75,000 or 0.04% over budget. Investment Income was $0.2 million or 16.9% under budget because of lower actual short-term interest rates of 0.57% vs. 0.77% and long-term interest rates. This is partially offset by Other Revenue which was favorable to budget by $0.2 million or 29.3% due to Miscellaneous Revenue ($0.1 million), income from the disposal of equipment ($0.1 million), Operating Grants ($0.1 million), and partially offset by Energy Revenue (-$0.1 million). In addition, Other User Charges were over the budgeted estimate by $42,000 due to the entrance fee payment from the Rivers School in Weston.

FY21 Capital Improvement Program

Capital expenditures in Fiscal Year 2020 through September total $34.5 million, $16.9 million or 32.8% under budget.

After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled $21.7 million, $6.8 million or 23.9% under budget.



Overall, CIP spending reflects the underspending in Wastewater Improvements ($6.3 million), Waterworks ($9.1 million) and Business and Operations Support ($1.5 million). Major variances in Wastewater are primarily due to delay in Channel 4 work for the Chelsea Headworks Upgreades Construction, timing of community repayments for the I/I Local Financial Assistance Program delay in equipment delivery for Nut Island Odor Control HVAC Improvements, updated schedule for the Dorchester Infiltration/Inflow Removal, work anticipated in FY21 that was completed in FY20 for the Pellet Conveyance Piping project, and timing of work for the Gravity Thickener Rehabilitation project. 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.

Waterworks variances are primarily due to timing of 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 the Southern Extra High Section 111 Construction 2 and 3, Commonwealth Avenue Pumping Station Construction, and FY20 planned work completed in FY21 for the Cosgrove Intake Roof Replacement.

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

$ in Millions	Budget	Actuals	$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	13.4	9.3	(4.1)	-30.6%
Treatment	4.3	4.0	(0.3)	-6.8%
Residuals	1.4	0.9	(0.5)	-37.8%
CSO	0.8	0.4	(0.3)	-43.3%
Other	6.1	5.1	(1.0)	-16.6%
Total Wastewater System Improvements	**$25.9**	**$19.6**	**($6.3)**	**-24.2%**
Waterworks System Improvements				
Drinking Water Quality Improvements	0.2	0.1	(0.1)	-44.4%
Transmission	2.6	1.4	(1.1)	-43.8%
Distribution & Pumping	3.6	4.2	0.6	17.3%
Other	16.6	8.1	(8.4)	-50.9%
Total Waterworks System Improvements	**$23.0**	**$13.9**	**($9.1)**	**-39.5%**
Business & Operations Support	**$2.5**	**$0.9**	**($1.5)**	**-62.2%**
Total MWRA	**$51.3**	**$34.5**	**($16.9)**	**-32.8%**

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 $8.4 million

- $8.6 million for Local Financial Assistance due to timing of community repayments due to less than anticipated communities deferring their loan repayments.
- $0.3 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 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 $4.1 million

- $2.4 million for Chelsea Creek Upgrade Construction and Resident Engineering Inspection due to delay in work on Channel 4.
- $1.0 million for Nut Island Odor Control and HVAC Construction due to delays in equipment delivery.
- $0.4 million for Dorchester Interceptor Sewer Construction due to delay in Notice to Proceed.
- $0.2 million for Prison Point Design/CA/REI due to delay in construction award.
- $0.1 million for Wastewater Metering Planning/Design due to delay in construction award.
- This underspending was partially offset by overspending of $0.1 million for Siphon Structure Rehabilitation Design due to consultant progress.

Business & Operations Support: Net underspending of $1.5 million

- $0.8 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work, $0.4 million for Vehicle Purchases due to timing, and $0.2 million for Security Equipment & Installation due to timing of security initiatives.

Waterworks Transmission: Net underspending of $1.1 million

- $0.4 million for CP-1 Shafts 6, 8, and 9A due to delay in award of contract.
- $0.3 million for Tunnel Preliminary Design & MEPA Review and $0.2 million for Program Support Services due to timing of consultant work.
- $0.2 million for Weston Aqueduct Supply Mains due to updated schedule.
- $0.1 million for Weston Aqueduct Supply Mains/Spot Pond Supply Mains Design/CA and $0.1 million for Chestnut Hill Emergency Pumping Station Design/CA due to budgeted design tasks being less than anticipated.
- This underspending was partially offset by overspending of $0.2 million for Commonwealth Avenue Pumping Station Construction due to contractor progress.

Other Wastewater: Net underspending of $1.0 million

$1.0 million for Community I/I due to timing of community repayments as a result of less than anticipated communities deferring their loan repayments

Water Distribution and Pumping: Net overspending of $0.6 million

- $0.8 million for Southern Extra High Section 111 Construction 2 and 3 due to contractor progress.
- $0.2 million for NIH Section 89 & 29 Redundancy due to final work completed.
- This overspending was partially offset by underspending of $0.1 million for Sections 25, 75, 59, and 60 Design due to timing of design tasks and $0.1 million for NIH Section 89 and 29 Design/CA/RI due to less than anticipated contract administration/resident inspection budgeted spending.

Residuals: Net underspending of $0.5 million

- $0.5 million for Pellet Conveyance Piping Relocation due to work anticipated in FY21 that was completed in FY20.

Combined Sewer Overflow: Net underspending of $0.3 million

- $0.5 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 underspending of $0.3 million

- $0.4 million for Gravity Thickener Rehabilitation due to contractor being behind schedule.
- $0.3 million for less than anticipated as-needed task order work.
- $0.2 million for Winthrop Terminal Facility VFD and Motors Replacements due to timing of work.

- This underspending was partially offset by overspending of $0.3 million Chemical Tank and Digester Pipe and $0.2 million for Gas Protection System Replacement Phase1 due to contractor progress, and $0.1 million for Radio Repeater System Upgrade Phase 1 for work anticipated in FY20 that was completed in FY21, and $0.1 million for Combined Heat and Power Energy Alternatives Study due to timing of work.

Drinking Water Quality Improvements: Net underspending of $0.1 million

- $0.1 for Carroll Water Treatment Plant Technical Assistance due to less than anticipated as-needed technical assistance.

Construction Fund Balance

The construction fund balance was $313.3 million as of the end of September. Commercial Paper/Revolving Loan available capacity was $222 million.

ATTACHMENTS:

Attachment 1 – Variance Summary September 2020
Attachment 2 – Current Expense Variance Explanations
Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY21 Actuals vs. FY21 Budget

	Sep 2020 Year-to-Date				
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%	FY21 Approved
EXPENSES					
WAGES AND SALARIES	$ 25,567,106	$ 24,568,794	$ (998,312)	-3.9%	$ 112,919,298
OVERTIME	1,201,269	996,272	(204,997)	-17.1%	5,019,295
FRINGE BENEFITS	5,494,586	5,387,951	(106,635)	-1.9%	22,402,224
WORKERS' COMPENSATION	619,164	183,921	(435,243)	-70.3%	2,476,655
CHEMICALS	3,586,113	3,430,040	(156,073)	-4.4%	12,091,255
ENERGY AND UTILITIES	5,107,561	4,729,257	(378,304)	-7.4%	24,200,847
MAINTENANCE	8,166,061	8,710,717	544,656	6.7%	32,618,569
TRAINING AND MEETINGS	80,471	12,774	(67,697)	-84.1%	405,264
PROFESSIONAL SERVICES	2,305,838	1,740,782	(565,056)	-24.5%	8,377,283
OTHER MATERIALS	1,209,102	1,274,616	65,514	5.4%	6,706,916
OTHER SERVICES	6,551,640	5,981,424	(570,216)	-8.7%	24,983,777
TOTAL DIRECT EXPENSES	**$ 59,888,911**	**$ 57,016,548**	**$ (2,872,363)**	**-4.8%**	**$ 252,201,383**
INSURANCE	$ 764,805	$ 761,421	$ (3,384)	-0.4%	$ 3,059,218
WATERSHED/PILOT	4,068,777	3,242,609	(826,168)	-20.3%	26,422,138
HEEC PAYMENT	1,803,800	1,904,227	100,427	5.6%	7,215,200
MITIGATION	423,086	413,015	(10,071)	-2.4%	1,692,344
ADDITIONS TO RESERVES	453,769	453,769	-	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	**$ 18,514,237**	**$ 16,775,041**	**$ (1,739,196)**	**-9.4%**	**$ 57,269,467**
STATE REVOLVING FUND	$ 21,796,040	$ 21,796,040	$ -	0.0%	$ 97,811,162
SENIOR DEBT	61,587,821	61,587,821	-	0.0%	258,730,904
DEBT SERVICE ASSISTANCE	-	-	-	---	-
CURRENT REVENUE/CAPITAL	-	-	-	---	16,200,000
SUBORDINATE MWRA DEBT	25,961,753	25,961,753	-	0.0%	96,339,598
LOCAL WATER PIPELINE CP	-	-	-	---	5,686,864
CAPITAL LEASE	804,265	804,265	-	0.0%	3,217,060
VARIABLE DEBT	-	(2,184,514)	(2,184,514)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	3,900,000
DEBT PREPAYMENT	-	-	-	---	-
TOTAL DEBT SERVICE	**$ 110,149,879**	**$ 107,965,365**	**$ (2,184,514)**	**-2.0%**	**$ 481,885,588**
TOTAL EXPENSES	**$ 188,553,027**	**$ 181,756,954**	**$ (6,796,073)**	**-3.6%**	**$ 791,356,438**
REVENUE & INCOME					
RATE REVENUE	$ 192,346,250	$ 192,346,250	$ -	0.0%	$ 769,385,000
OTHER USER CHARGES	2,332,549	2,374,244	41,695	1.8%	9,208,367
OTHER REVENUE	813,653	1,052,241	238,588	29.3%	6,095,403
RATE STABILIZATION	375,000	375,000	-	0.0%	1,500,000
INVESTMENT INCOME	1,211,972	1,007,155	(204,817)	-16.9%	5,167,668
TOTAL REVENUE & INCOME	**$ 197,079,424**	**$ 197,154,890**	**$ 75,467**	**0.0%**	**$ 791,356,438**

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD September	FY21 Actuals September	FY21 YTD Actual vs. FY21 Budget		Explanations
			$	%	
Direct Expenses					
Wages & Salaries	25,567,106	24,568,794	(998,312)	-3.9%	Wages and Salaries are under budget by $1.0 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	1,201,269	996,272	(204,997)	-17.1%	Lower spending mainly in Metro Maintenance ($103,000), Water Operations & Maintenance ($58,000), Wastewater Operations ($36,000), Engineering & Construction ($31,000), offset by higher spending for Deer Island ($80,000) for shift coverage and unplanned maintenance.
Fringe Benefits	5,494,586	5,387,951	(106,635)	-1.9%	Lower than budget in **Health Insurance** of $80,000, 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 $14,000 and **Unemployment Insurance** was under budget by $13,000.
Worker's Compensation	619,164	183,921	(435,243)	-70.3%	The lower expenses were due to favorable variances in **Compensation Payments** of $282,000, **Medical Payments** of $113,000, and **Administrative Expenses** of $41,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	3,586,113	3,430,040	(156,073)	-4.4%	Lower than budget spending on **Polymer** of $139,000 driven by DITP due to less usage for centrifuge operations; **Activated Carbo**n of $74,000 driven by Wastewater Operations, replacement on schedule with invoice pending at NI; and **Sodium Hypochlorite** of $47,000 driven by Water Operations due to usage. This is offset by higher than budget spending on **Hydrogen Peroxide** of $93,000 driven by DI and **Ferric Chloride** of $80,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level. DITP flows are 11.7% lower than the budget and CWTP flows are 1.3% greater than the budget through September. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	5,107,561	4,729,257	(378,304)	-7.4%	Underspending in **Electricity** of $0.3 million primarily at DITP ($0.2 million) 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. Also, Water Operations ($0.1 million) is under budget primarily due to lower rates and quantity. **Diesel Fuel** is underspent by $32,000 driven by Wastewater Operations of ($25,000) due to timing of deliveries.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD September	FY21 Actuals September	FY21 YTD Actual vs. FY21 Budget		Explanations
			$	%	
Maintenance	8,166,061	8,710,717	544,656	6.7%	Underspending in **Ongoing Maintenance** by $0.5 million is largely driven by the timing of projects. *Maintenance Services* are over budget by $0.5 million driven by **Plant and Machine Services** ($0.5 million), **Computer Software Licenses** ($0.3 million), **Pipe Services** ($0.1 million), **Special Equipment Services** ($0.1 million), partially offset by **Building & Grounds Services** ($0.4 million). Also, *Maintenance Materials* which are over budget by ($0.1 million), driven by **Plant and Machine Materials** ($0.3 million), partially offset by lower spending on **Building & Grounds Materials** ($0.1 million) and **HVAC Materials** ($0.1 million).
Training & Meetings	80,471	12,774	(67,697)	-84.1%	Lower than budget spending on **Training & Meetings** by $68,000 is driven by MIS (32,000) and Field Operations ($16,000).
Professional Services	2,305,838	1,740,782	(565,056)	-24.5%	Lower than budget spending in **Computer Systems Consultant** of $263,000 in MIS; **Engineering** of $225,000 primarily in Field Operations; **Other Professional Services** of $92,000 in Administration, Finance, and Law; **Legal Services** of $81,000 in Law and Administration; partially offset by **Lab and Testing Analysis** of $171,000 in Operations.
Other Materials	1,209,102	1,274,616	65,514	5.4%	Driven by greater than budgeted spending **Computer Hardware** of $326,000 in MIS primarily due to timing and necessary purchases due to Covid, partially offset by $101,000 for **Equipment/Furniture**, $86,000 for **Other Materials**, and $56,000 for **Vehicle Expense** primarily due to timing.
Other Services	6,551,640	5,981,424	(570,216)	-8.7%	Lower than budgeted spending for Sludge Pelletization of $340,000 due to lower year-to-date quantities **Telecommunication Services** of $73,000 in MIS and FOD, **Memberships/Dues/Subscriptions** of $73,000 primarily in Operations, **Grit & Screening Removal** of $62,000 due to lower quantities, and **Police Details** of $48,000, partially offset by higher than budgeted spending for **Other Services** of $37,000.
Total Direct Expenses	**59,888,911**	**57,016,548**	**(2,872,363)**	**-4.8%**	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD September	FY21 Actuals September	FY21 YTD Actual vs. FY21 Budget		Explanations
			$	%	
Indirect Expenses					
Insurance	764,805	761,421	(3,384)	-0.4%	Lower Payments/Claims ($73,000) offset by higher Premiums ($70,000) than budgeted.
Watershed/PILOT	4,068,777	3,242,609	(826,168)	-20.3%	Lower Watershed Reimbursement of $0.8 million favorable variance to budget n driven by lower spending on (1) Fringe Benefits, (2) Maintenance, (3) Equipment, (4), Professional Services, and (5) Utilities/Fuel.
HEEC Payment	1,803,800	1,904,227	100,427	5.6%	Increase is due to the proposed tariff that is being negotiated with HEEC.
Mitigation	423,086	413,015	(10,071)	-2.4%	
Addition to Reserves	453,769	453,769	-	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	**18,514,237**	**16,775,041**	**(1,739,196)**	**-9.4%**	
Debt Service					
Debt Service	110,149,879	107,965,365	(2,184,514)	-2.0%	Debt service is $2.2 million under budget due to lower than budgeted variable interest rates.
Debt Service Assistance	-	-	-		
Total Debt Service Expenses	**110,149,879**	**107,965,365**	**(2,184,514)**	**-2.0%**	
Total Expenses	**188,553,027**	**181,756,954**	**(6,796,073)**	**-3.6%**	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY21 Budget YTD September	FY21 Actuals September	FY21 YTD Actual vs. FY21 Budget		Explanations
			$	%	
Revenue & Income					
Rate Revenue	192,346,250	192,346,250	-	0.0%	
Other User Charges	2,332,549	2,374,244	41,695	1.8%	Rivers School in Weston entrance fee of $42,000.
Other Revenue	813,653	1,052,241	238,588	29.3%	Miscellaneous Revenue of $135,000 primarily associated with worker's compensation reimbursement for older claims; Disposal of surplus materials of $60,000; $68,000 in grant money, and Energy Revenue ($54,000).
Rate Stabilization	375,000	375,000	-	0.0%	HEEC Reserve.
Investment Income	1,211,972	1,007,155	(204,817)	-16.9%	Investment Income is under budget due to lower than budgeted interest rates (0.57% actual vs. 0.77% budget).
Total Revenue	**197,079,424**	**197,154,890**	**75,466**	**0.04%**	
Net Revenue in Excess of Expenses	**8,526,397**	**15,397,936**	**6,871,539**		

ATTACHMENT 3
FY20 CIP Year-to-Date Variance Report ($000's)

	FY21 Budget YTD September	FY21 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			$	%	
Wastewater					
Interception & Pumping (I&P)	$13,362	$9,271	($4,092)	-30.6%	Underspending Chelsea Creek Headworks Upgrades - Construction and REI: $2.4M (delay in work on Channel 4) Nut Island Odor Control & HVAC Improvements Phase 2 - Construction: $992k (delays in equipment delivery) Interceptor Renewal No. 3, Dorchester Interceptor Sewer - Construction: $435k (delay in notice-to-proceed) Prison Point Rehabilitation - Design/CA/RI: $227k (delay in construction award) Wastewater Meter System Planning/Study/Design: $138k (delay in construction award) Offset Overspending Siphon Structure Rehabilitation Design: $87k (consultant progress)
Treatment	$4,259	$3,970	($289)	-6.8%	Underspending Gravity Thickener Rehabilitation: $391k (contractor behind schedule) As-Needed Design: $312k (less than anticipated task order work) Winthrop Terminal Facility VFD and Motors Replacements: $163k (timing of work) Other smaller projects totaling $154k Offset Overspending Chemical Tank and Digester Pipe: $288k, and Gas Protection System Replacement - Phase 1: $172k (contractor progress) Radio Repeater System Upgrade - Phase 1: $138k (work anticipated in FY20 completed in FY21) Combined Heat and Power Energy Alternatives Study: $133k (timing of work)
Residuals	$1,420	$883	($536)	-37.8%	Underspending Pellet Conveyance Relocation: $454k (work anticipated in FY21completed in FY20)
CSO	$776	$439	($336)	-43.3%	Underspending Dorchester Inflow Removal Construction: $460k (updated schedules) Offset Overspending CSO Performance Assessment: $139K (greater than anticipated consultant progress)
Other Wastewater	$6,087	$5,075	($1,012)	-16.6%	Overspending I/I Local Financial Assistance: $1.0M (timing of community repayments as a result of less than anticipated communities deferring their loan repayments)
Total Wastewater	**$25,904**	**$19,638**	**($6,266)**	**-24.2%**	

ATTACHMENT 3
FY20 CIP Year-to-Date Variance Report ($000's)

	FY21 Budget YTD September	FY21 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			$	%	
Waterworks					
Drinking Water Quality Improvements	$232	$129	($103)	-44.4%	Underspending Technical Assistance 9 & 10: $56k (timing of task order work)
Transmission	$2,581	$1,450	($1,131)	-43.8%	Underspending CP-1 Shafts 6, 8, and 9A: $439k (delay in award of contract) Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review: $305k, and Program Support Services: $191k (timing of consultants work) Weston Aqueduct Sluice Gates - Construction: $168k (updated schedule) Weston Aqueduct Supply Mains/Spot Pond Supply Mains West PRV - Design/CA: $90k, and Chestnut Hill Emergency Pump Station Improvements - Design/CA: $78k (budgeted design tasks less than anticipated) Other smaller projects totaling $106k Offset Overspending Commonwealth Ave Pump Station Improvements - Construction: $246k (contractor progress)
Distribution & Pumping	$3,568	$4,186	$618	17.3%	Overspending Section 89/29 Redundancy Construction Phase 2: $192k (final work completed) SEH Redundancy Pipeline Section 111 - Construction Phase 2 & 3: $754k (contractor progress) Offset Underspending Section 89/29 Redundancy -Design/CA/RI: $73k (Construction Administration and Resident Inspection services less than anticipated budgeted spending) Sections 25, 75, 59 & 60 Replacement - Design/CA: $107k (timing of design tasks) Other smaller tasks totaling $148k

ATTACHMENT 3
FY20 CIP Year-to-Date Variance Report ($000's)

	FY21 Budget YTD September	FY21 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			$	%	
Other Waterworks	$16,585	$8,140	($8,444)	-50.9%	Underspending Local Water Pipeline Financial Assistance Program: $8.6M (timing of community repayments due to less than anticipated communities deferring their loan repayments) CWTP SCADA Upgrades - Design Programming RE: $266k (updated schedule for SCADA Construction) Offset Overspending Cosgrove Intake Roof Replacement: $266k, and Gillis Pump Station/Cottage Farm CSO Roof Replacements: $141K (FY20 planned work completed in FY21)
Total Waterworks	**$22,966**	**$13,905**	**($9,061)**	**-39.5%**	

ATTACHMENT 3
FY20 CIP Year-to-Date Variance Report ($000's)

	FY21 Budget YTD September	FY21 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			$	%	
Business & Operations Support					
Total Business & Operations Support	**$2,464**	**$931**	**($1,532)**	**-62.2%**	Underspending As-Needed Technical Assistance and CS/REI Services: $773k (lower than projected task order work) FY19-23 Vehicle Purchases: $350k (due to timing) MIS Projects: $214k (timing of work) Security Equipment & Installation: $180k, (timing of security initiatives)
Total MWRA	**$51,334**	**$34,475**	**($16,859)**	**-32.8%**	

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Award of Letter of Credit and Direct Purchase Agreements

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COMMITTEE: Administration, Finance & Audit

X VOTE
INFORMATION

Michele S. Gillen
Director, Administration

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

Thomas J. Durkin
Director, Finance

RECOMMENDATION:

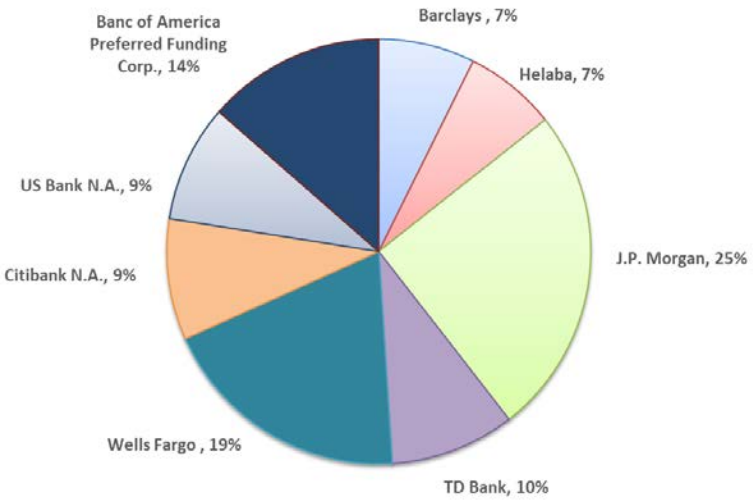
To approve the recommendation of the Selection Committee to enter into a Letter of Credit Agreement, in a principal amount not-to-exceed $42,100,000, with TD Bank, N.A. and a Direct Purchase Agreement, in a principal amount not-to-exceed $8,780,000, with Century Bank and Trust Company, and to authorize any necessary changes, in accordance with the applicable Issuance Resolutions, to the 24th and Part 3 of the 64th Supplemental Resolutions to reflect such agreements.

DISCUSSION:

MWRA has $613.9 million of long-term variable rate debt spread across ten series of bonds. Four series are offered in the public market backed by either a Letter of Credit (LOC) or Standby Bond Purchase Agreement (SBPA) and six are privately placed direct purchases. MWRA also has $350.0 million in short-term variable rate debt in two commercial paper programs backed by LOCs and one direct placement revolving loan. LOCs and SBPAs provide a line of credit that can be used in the event that bondholders no longer wish to hold bonds and the remarketing agent is unable to place them in the market or hold the bonds themselves. In addition to the weekly put risk, a LOC also provides for assurance of the regularly scheduled principal and interest payments. Bonds issued with a SBPA trade on MWRA's subordinate long-term and the bank's short-term credit ratings. Bonds issued with a LOC trade on the issuer or bank's credit rating whichever is higher and the banks short-term credit rating. In the case of a direct purchase, the bondholder is typically a financial institution that agrees to purchase all the bonds at the time of issuance.

At the time of issuance, the LOC or SBPA become an integral component of the bond structure. Similarly, the terms and conditions of a direct purchase also become an integral part of the bond structure. In both cases, the Supplemental and Issuance Resolutions allow for the agreement to be extended for the life of the bonds. At the end of each extension period, the firm or MWRA can opt out of the agreement with prior notice. Typically, extending the existing facility at the current market rates is more cost effective because it avoids certain legal, rating agency, and bond placement fees associated with a new facility.

MWRA continues to actively diversify its variable rate portfolio to limit exposure to any one provider or type of variable rate product, as well as the renewal risk caused by having a large par amount of SBPA or Direct Purchase Agreement bonds reaching the end of their term in any one time period. This diversity is to ensure that potential disruptions caused by any one provider or changes in market conditions at the time of renewal are isolated to a smaller portion of the total portfolio. The following graph shows the current breakdown of the variable rate debt portfolio by provider.



MWRA was not able to extend its LOC with Helaba or to extend its direct purchase with the Wells Fargo. In both cases, the bank was not willing to extend the existing facility. Helaba is a Landesbank and like all of these German banks, has been actively leaving the United States public finance market. This departure is a result of a European Union ruling related to certain guarantees provided by the Landesbank's German State owners which has made the agreements less profitable. Wells Fargo was not willing to extend its direct purchase unless MWRA signed a Qualified Financial Agreement Stay Rule agreement related to an existing Swap. MWRA's bond and disclosure counsels as well as its financial advisor have advised that it was not in Authority's interest to sign the agreement at this time. This advice is also consistent with the State Treasurer's position on this matter. As a result, staff issued a Request for Qualifications Statements/Proposals (RFQ/P) for firms interested in providing a new LOC/SBPA, or purchasing the bonds through a Direct Purchase Agreement. One RFQ/P was used to evaluate pricing and other terms for both categories since many of the providers would likely be able to offer more than one of the products.

Under the replacement LOC/SBPA option, the bonds would be sold with the new liquidity facility. As it does now, the interest rate on the bonds would be reset weekly and each week the bondholders would have the opportunity to give up the bonds. The remarketing agent would then either resell them or, if that was not possible, the SBPA bank would have to buy them at higher interest rates. MWRA received one responsive proposal for LOC/ SBPAs with a fee of 24 basis points for a term of three years. At the end of that period, MWRA would either extend the existing facility or procure a new firm to provide those services.

With the Direct Purchase of the bonds, they would all be purchased by the successful proposer (most likely a bank). Under the terms of agreement with the purchaser, MWRA would pay the institution a market fixed rate tied to Treasury rates or a floating rate tied to either the Securities Industry and Financial Markets Association (SIFMA) rate, which is a tax exempt rate set weekly, or to a percentage of the London Interbank Offered Rate (LIBOR) which is a taxable rate. Since

banks often borrow their own funds based on the taxable LIBOR index or Treasury rates, many prefer to have Direct Purchase Agreements based on these rates with an adjustment for the tax-exemption. The purchaser of the bonds would hold them for the entire term of the agreement and would not have the ability to put them back on a weekly basis. Under this option, any credit changes to the purchaser would not impact the interest rate MWRA paid on the bonds. As detailed below, MWRA received four competitive proposals for Direct Purchase Agreements with terms ranging from one to eight years. The pricing for the fixed fee component of the Direct Purchase Agreements ranged from a low of 36 basis points for three years to a high of 132.5 basis points for eight years. At the end of the selected purchase period, MWRA would either extend the agreement with the existing provider or procure a new firm.

On September 30, 2020, MWRA received six timely proposals from: Bank of America, Century Bank and Trust Company, J.P. Morgan Chase Bank, TD Bank, UBS AG and Webster Bank. Procurement determined the Webster Bank proposal to be non-responsive because the file uploaded to the MWRA's supplier portal was the RFQ/P, not a proposal. Three proposals to provide LOCs/SBPAs were received from J.P. Morgan Chase Bank, TD Bank and UBS AG. After a review of the credit quality of the LOCs/SBPA proposals it was determined that J.P. Morgan and UBS AG did not meet the requirements in MWRA's General Bond Resolution for liquidity and were not reviewed.

The Selection Committee reviewed and ranked the proposals for the two categories described above. Below are the results of the SBPA and Direct Purchase Agreements rankings:

SBPA/LOC Agreements

Rank	Firm	Total Points	Total Ranking Points
1	TD Bank	405	5

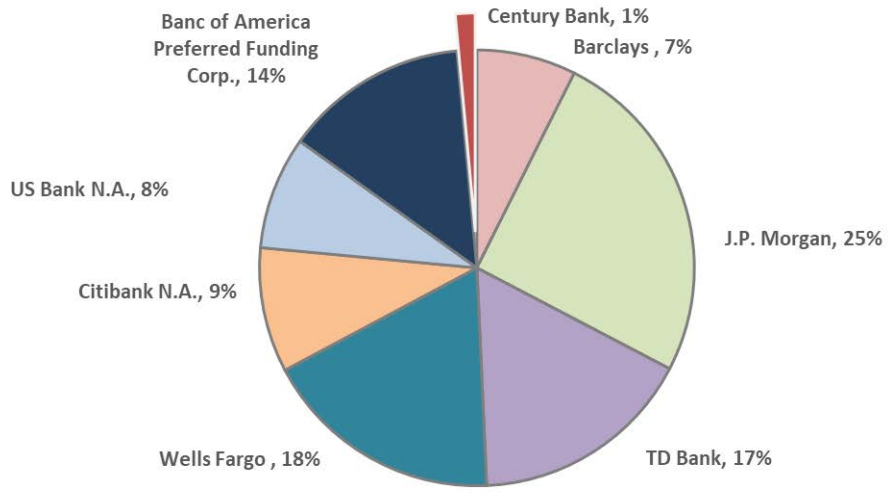
Direct Purchase Agreement

Rank	Firm	Total Points	Total Ranking Points
1	TD Bank	401	7
2	Century Bank	401	8
3	Bank of America	347	15
4	J.P. Morgan	265	20

After review of the LOCs/SBPA and Direct Purchase options available to MWRA, considering the competitive pricing received on the LOC/SPBA and the direct purchases staff are recommending that that 1999 Series B bond remain outstanding with a new LOC and the 2012 Series G bonds remaining with a direct purchases. Consistent with prior procurements and MWRA's goal of diversifying its variable rate counter party risk, staff are recommending award of the 1999 Series B bonds to TD Bank as first ranked and the 2012 Series G bonds to Century Bank as second ranked by the Selection Committee. The following table details the amounts of bonds to be allocated, fixed fee and the term of the agreements by entity.

Bank	Series	Product Type	Allocated Amount	Fee and Term
TD Bank N.A. - 3 years	1999B	Letter of Cedit	$ 42,100,000	24 bps for 3 years
Century Bank - 3 years	2012G	Direct Purchase Agreement	$ 8,780,000	Fix Rate for 3 years
		Total	$ 50,880,000	

The terms offered by TD Bank for the LOC are consistent with MWRA's existing agreements with the bank and at a fee of 24 basis points. The fee of 24 basis points is five basis points lower than the current LOC with Helaba and will be the lowest fee in MWRA's portfolio. The low fee is a result of generally lower fees in the market place and TD Bank's aggressive bidding practices. Century Bank's proposal for a direct purchase included both a floating rate and a fixed rate options. After review of the two interest rate structures, staff are recommending utilizing the fix fee option which is based on 79% of the 3-year U.S. Treasury Rate plus 118 basis points. While this fee is higher than current weekly market rates, staff believe that this is an opportunity to reduce market volatility on a portion of the variable rate portfolio. In addition to reducing volatility, this transaction would introduce a new interest rate product and a new counterparty. These new agreements will allow MWRA to continue its practice of diversifying exposure to any one bank, variable rate product or extension period. All three rating agencies have noted in their credit reports that this diversification of the variable rate portfolio is an important factor in reducing risk and maintaining MWRA's credit ratings. The following graph details the revised concentration of business partners in MWRA's variable rate portfolio after the proposed transactions are completed.



BUDGET/FISCAL IMPACT:

There are sufficient funds in the 21 CEB to pay for the anticipated costs associated with the Direct Purchase Agreements. The debt service on these bonds will be included in future budgets.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: MWRA Industrial Waste Report #36: Industrial Pretreatment Program Annual Report to EPA for FY20

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
_____ VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Rebecca Weidman, Director, TRAC
Preparer/Title

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

RECOMMENDATION:

For information only. MWRA is required by its National Pollutant Discharge Elimination System (NPDES) Permits and U.S. Environmental Protection Agency (EPA) regulations (40 CFR 403.12(i)) to submit an annual report to EPA and the Massachusetts Department of Environmental Protection (DEP) each year that describes the activities and accomplishments of MWRA's Industrial Pretreatment Program. Staff will be submitting the FY20 Annual Report (Industrial Waste Report #36) to EPA and DEP on or before October 31, 2020, the required submittal deadline. The draft report is available for review upon request. This staff summary discusses some of the highlights from the report.

DISCUSSION:

Industrial Waste Report #36 documents MWRA's efforts to control current permitted sewer users during FY20. MWRA's Toxic Reduction and Control (TRAC) Department operates the Industrial Pretreatment Program to control the level of toxic substances discharged into the sanitary sewer system from commercial and industrial sources. Through permits, inspections, sampling and enforcement the program keeps excessive levels of toxics out of the sanitary sewer system to: protect worker health and safety; protect municipal and MWRA infrastructure; prevent interference at the Deer Island and Clinton Wastewater Treatment Plants; prevent the pass-through of pollutants into receiving waters; and enable MWRA to beneficially reuse its residuals for the production of fertilizer.

Staff estimate that approximately 3% of the total flow to the treatment plants comes from permitted facilities, but this flow represents a significantly higher proportion of toxics discharged to the system. TRAC currently oversees approximately 1,950 permitted sewer users. There were 195 facilities that met MWRA's definition of Significant Industrial User (SIU) during FY20. SIUs require substantial oversight due to the nature of the pollutants they discharge and/or the volume of their flows. Some of the highlights included in the report are described below.

Figure 1. Inspection of permitted facility in the summer of 2020

Fiscal year 2020 presented a unique challenge with the Coronavirus Disease (COVID-19) pandemic. On March 20, 2020, MWRA suspended a majority of its field activities, including monitoring and inspections for MWRA's industrial pretreatment program. All TRAC staff began working from home at the end of March. During April, May and June TRAC staff wrote and issued permits, and reviewed permittee compliance with permit requirements. Field activities resumed on June 22, 2020.

TRAC was on the cusp of meeting all inspection and monitoring goals at the end of March 2020. TRAC generally focuses on meeting EPA goals as early in the fiscal year as possible, so the end of the fiscal year can be spent focusing on other projects such as projects include: Combined Sewer Overflow (CSO) sampling; special project sampling, obtaining samples from difficult sampling locations, non-SIU inspections and permit writing. In FY20, all remaining EPA inspection and monitoring requirements were completed during the final weeks of June 2020. Even with the challenging circumstances presented in the last quarter of FY20, TRAC met all of its EPA goals for the Industrial Pretreatment Program.

Significant Industrial Users

As mentioned above, there were 195 industries designated as SIUs in MWRA's sewer service area during FY20. A SIU is a sewer user subject to Federal Categorical standards such as pharmaceutical manufacturer, has a flow equal to or above 25,000 gallons per day, or has a reasonable potential to violate MWRA's regulations. By the end of FY20, the number of SIUs in the District dropped to 188. The number of SIUs can vary during the year as a result of companies going out of business, a change in their pretreatment process, or a new company being added. TRAC met EPA's requirements for inspections and sampling in FY20, inspecting all of the 195 SIUs and sampling 172 SIUs. In FY20, 22 SIUs were not sampled for the following reasons: two discharging SIUs did not discharge during the year; one industry was permitted very late in the fiscal year without adequate time to sample; and nineteen SIUs hold non-discharging SIU permits and, therefore, cannot be sampled by MWRA.

Figure 2. Inspection of a permitted industrial facility

Pursuant to MWRA's Deer Island NPDES permit, EPA requires TRAC to issue 90% of MWRA's SIU permits within 120 days of the industries' current permit expiration dates, or MWRA's receipt of a Sewer Use Discharge Permit Application, whichever is later, and 100% within 180 days. TRAC issued 92% of SIU permits (76 permits) within 120 days and 98% of permits (81 permits) within 180 days. Typically, there are some SIU permits that exceed the 180-day time period for issuance for reasons beyond MWRA's control,

such as failure to pay permit charges and late submittals of information. The Clinton NPDES permit, effective March 1, 2017, requires staff to issue all permits in the Clinton Sewer Service Area within 90 days of their application received dates or previous expiration dates, whichever is later. Two permits were issued to industries in the Clinton area, one permit was issued outside of the 90-day timeframe as a result of the industry's failure to pay its permit charges.

Inspections and Monitoring Programs

Figure 3. Autosamplers at the Clinton Wastewater Treatment Plant

In addition to close regulation of the SIUs, staff are responsible for permitting, inspecting, and monitoring a variety of other types of facilities to minimize the discharge of toxics to the sewer and assist other MWRA programs. In FY20, TRAC staff conducted 195 annual SIU inspections, an additional 787 industrial/commercial facility inspections of other regulated industries, 107 inspections associated with the septage program, including inspections of haulers and septage receiving sites, and 681 inspections of oil/water separators. There are ten septage receiving sites and more than 4,500 gas/oil separators within MWRA's service area.

TRAC's monitoring staff conducted 1,227 sampling events to characterize wastewater flow from SIU and non-SIU permitted facilities. In addition, TRAC's monitoring staff conducted an additional 1,230 monitoring events to support MWRA's NPDES permits, support MWRA's local limits program, other MWRA projects, and to evaluate discharges to the sewer in response to emergencies.

Enforcement Program

This year, the total number of SIUs in Significant Noncompliance (SNC)[1] was 32, a decrease from the 38 SIUS in SNC in FY19. MWRA continues to hold annual educational meetings with SIUs to review and reinforce methods for maintaining compliance. The FY20 meetings were held on October 24 and October 29 at MWRA's Deer Island Treatment Plant. Credits for attending the seminar were DEP-approved for Operator License training. Last year, a total of 90 people from 50 of MWRA's SIUs attended the meetings over two days. The FY21 SIU meetings have been postponed due to the COVID-19 pandemic; TRAC will assess the need to host virtual FY21 meetings in the spring of 2021.

In FY20, TRAC issued a total of 195 early enforcement actions (Notices of Violations and Traps Warning Letters) to industrial and commercial facilities, compared to 343 in FY19. A total of 56 higher-level enforcement actions (Orders, Penalty Assessment Notices, and Notices of Proposed

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

Permit Suspension) were issued in FY20 in response to a variety of persistent discharge and reporting violations, up from 46 higher-level enforcement actions in FY19. The number of enforcement actions TRAC issues varies from year to year. FY20 was a distinctive year because of the COVID-19 pandemic. Many industries in MWRA's service area ceased discharging during the fourth quarter. In addition, TRAC did not conduct any Traps inspections in the fourth quarter of FY20; TRAC's Regional Inspectors spent the last weeks in June inspecting septage haulers and septage waste site. Both of these factors contributed to a reduction in early enforcement actions.

TRAC assessed and collected a total of $50,000 in penalties in FY20 against permitted sewer users, compared to $14,000 assessed and collected in FY19. The amount of penalties assessed and collected can vary significantly from year to year as a result of the timing of the penalty issuance, assessment of the penalty, negotiations and collection.

Sewer Use Regulations (360 CMR 10.000)

On September 6, 2019, MWRA promulgated revised Adjudicatory Proceedings (360 CMR 1.00), Enforcement and Administrative Penalties (360 CMR 2.00), and Sewer Use (360 CMR 10.000) regulations. The Sewer Use regulations created a new Dental Discharges group permit, revised the Local Limits for the Clinton Sewerage Service Area, increased the permit and monitoring charges included in MWRA's Incentives and Other Charges Program, and made other minor clarifications of the regulations to facilitate TRAC program implementation.

Program Cost Recovery

MWRA's Incentive and Other Charges Program continues to recover a substantial portion of MWRA's costs of inspecting, monitoring and permitting industrial sewer users. The total adjusted amount billed under the program in FY20 was $2,368,967, an increase from $1,999,222 in FY19. As of September 2020, collections for FY20 bills were at $2,383,295 (compared to $2,146,579 in FY19), an approximate 101% recovery of the adjusted amount invoiced. The additional revenue is the result of payment of interest, payment of outstanding permitting and monitoring charges, and new industries opening in the service area.

Dental Discharges Group Permit

During the last two quarters of FY20, MWRA issued 714 group permits for Dental Discharges. These are five-year permits and require dental facilities to comply with a series of Best Management Practices (BMPs) included in the permit. These new permitted dental facilities represent an increase in MWRA's permitted industrial facilities by approximately 60%.

BUDGET/FISCAL IMPACT:

In FY20, the TRAC Department recovered $2,383,295 or 46 percent of the Department's actual Current Expense Budget (CEB) spending ($5,169,830) through Permit Charges. TRAC penalty collections totaled $50,000 and did not significantly offset direct expense spending. FY20 revenue was up from FY19 ($2,146,579); this rise is due to a four percent increase to the permitting and monitoring charges, and revenue from the new Dental Discharges Group Permit. In FY21, permitting and monitoring charges will increase by another three percent.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: 2019 Deer Island Outfall Monitoring Overview

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
____ VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Betsy Reilley, Ph.D., Director, Environmental Quality
Kenneth E. Keay, Senior Program Manager
Preparer/Title

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

RECOMMENDATION:

For information only.

MWRA monitors the Deer Island Treatment Plant effluent, as well as the water, sediment, and health of fish and shellfish in Massachusetts and Cape Cod Bays. Calendar year 2019 was the 28th consecutive year of monitoring. The Outfall Monitoring Overview summarizes and analyzes the results of MWRA's monitoring for any environmental impacts from Deer Island discharges. As in previous years, no adverse impacts were identified, a finding with which regulators, their science advisory panel, and public interest groups have agreed. Under its current National Pollutant Discharge Elimination System (NPDES) permit for Deer Island, MWRA must submit this report to federal and state regulatory agencies annually by November 15. This staff summary provides the Board of Directors with the highlights of MWRA's Outfall Monitoring Overview for calendar year 2019. Additionally, this staff summary includes an update on efforts underway by the scientific committee that advises regulators on MWRA's monitoring to review the scientific questions on which the monitoring is based. These efforts have resulted in modest modifications to the monitoring that were provisionally approved by EPA in July 2020.Final approval is expected in late 2020 or early 2021.

DISCUSSION:

Monitoring the environment around MWRA's Massachusetts Bay outfall is a requirement in the Deer Island Treatment Plant's NPDES permit. MWRA carefully analyzes data from the monitoring studies to further the understanding of the Massachusetts Bay system and identify what, if any, impacts the outfall may have. Key monitoring results are also compared to 95 thresholds contained in MWRA's Contingency Plan.[1] Required monitoring includes

[1] The Contingency Plan is a requirement of MWRA's NPDES discharge permit for the Deer Island Treatment Plant. It contains a series of 20 effluent thresholds and more than 70 numeric thresholds (for example, annual average chlorophyll levels near the outfall) calculated from MWRA's environmental monitoring data. An exceedance of a threshold requires rapid notification to EPA, DEP, the Science Advisory Panel, and the public. Some exceedances (for example, red tide), can lead to enhanced sampling for further evaluation of the event.

measurements of the Deer Island Treatment Plant's effluent quality, and environmental measurements of water, sediments, and fish and shellfish. Other studies include modeling water quality and continuous monitoring of the water column using instruments on a buoy in Massachusetts Bay.

MWRA has been monitoring baseline conditions in Boston Harbor, Massachusetts Bay, Cape Cod Bay and the outfall area since the early 1990s. Discharge monitoring (Figure 1) began in September 2000 when the outfall came on-line.

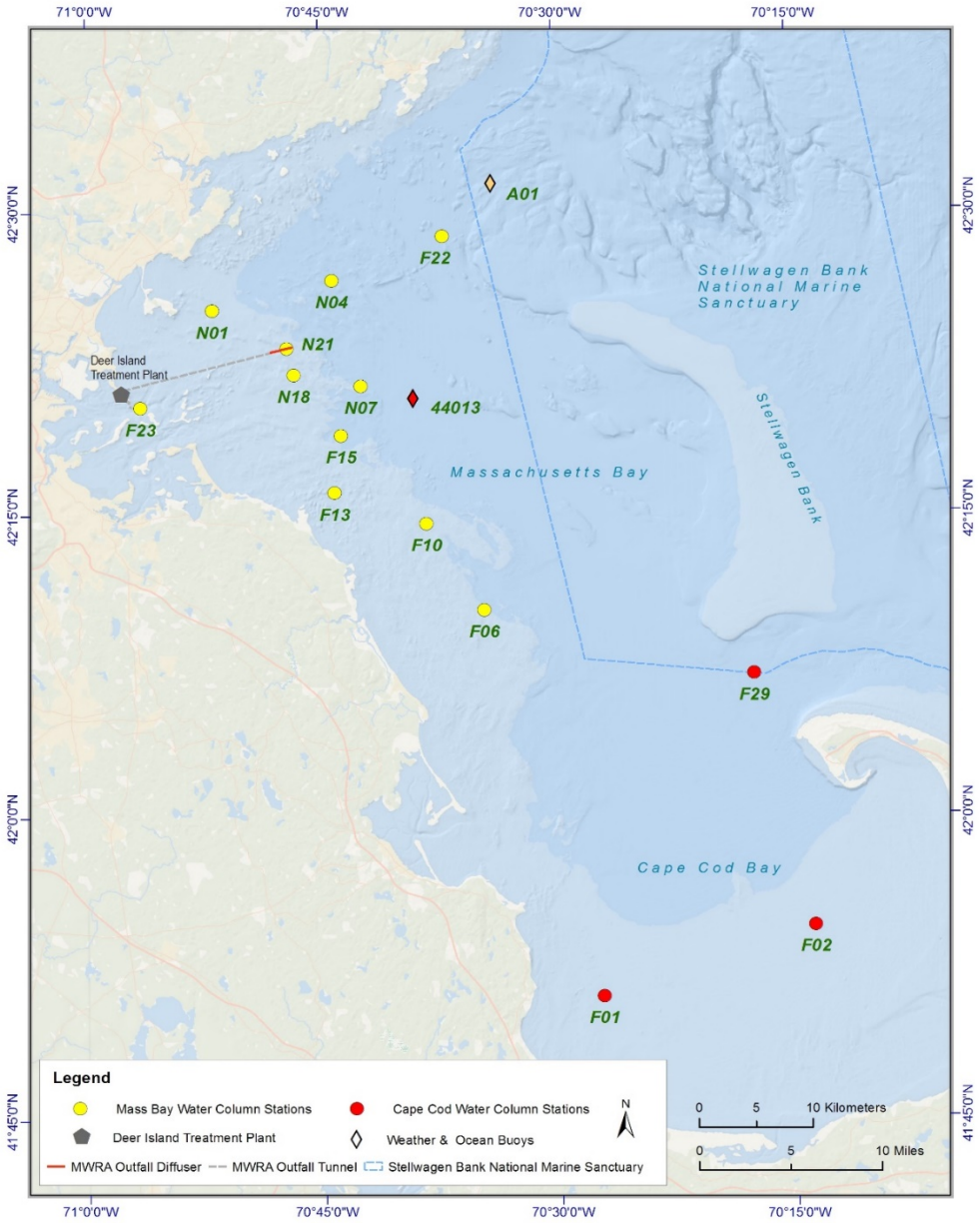


Figure 1. Current MWRA water quality monitoring stations in Massachusetts and Cape Cod Bays.

Calendar year 2019 was the 19th year of monitoring since the outfall came on-line and was yet another year with no adverse effects on the environment from the discharge. Two Contingency Plan thresholds were exceeded in 2019 and are discussed below. For the first time, effluent nitrogen load from Deer Island exceeded its Contingency Plan threshold. This did not represent a NPDES permit violation. In addition, a threshold was exceeded for the abundance of cells of *Alexandrium catenella,* the algae associated with red tide in New England waters during spring and summer 2019.

Summary of Effluent Quality Monitoring in 2019

- The Deer Island Treatment Plant earned a Platinum 13 Peak Performance Award from the National Association of Clean Water Agencies for 13 years of 100% compliance with permit effluent limits.

- The year was somewhat wetter than average, with about 50 inches of rain in the Boston area, slightly less than in 2018. Mean effluent flow from Deer Island in 2019 (333 MGD) was slightly lower than the 357 MGD mean flow Deer Island treated in 2018.

- As is consistently the case at Deer Island, virtually all flow (98%) received full primary and secondary treatment.

- Total Suspended Solids loads from effluent were about 17 tons/day, a fraction of the solids load discharged in the early 1990s (Figure 2).

- Metals loads and organic contaminant loads (*e.g.,* PCBs) in Deer Island effluent also remained low. Contaminant loads in MWRA effluent are much lower than EPA projected in the late 1980s.

- For the first time, total effluent nitrogen load (13,217 metric tons) exceeded the Contingency Plan Caution threshold of 12,500 metric tons/year (Figure 3). Nitrogen load increases in recent years reflect increases in sewered population. It is important to note that in 1995, the Caution threshold was arbitrarily set at 90% of an estimated nitrogen load for the year 2020 (14,000 metric tons/year). Nearly 25 years later, actual loads remain below that estimate. Effluent monitoring results in 2020 indicate that nitrogen loads so far are slightly lower than observed in 2019. The data indicate that MWRA's nitrogen discharge has not had an adverse environmental impact in Massachusetts Bay. Monitoring results show a lack of intense algal blooms along with consistently healthy dissolved oxygen levels; and model projections predict that *even a 50% increase in effluent nitrogen would not result in adverse impacts to the bay's water quality.*

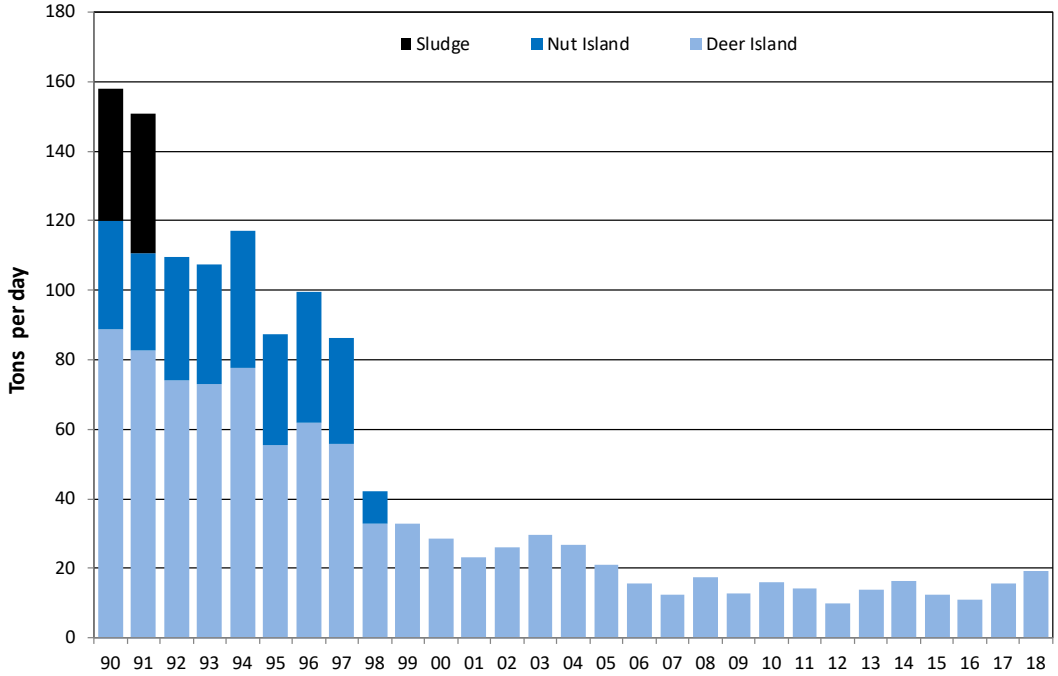


Figure 2. Annual Total Suspended Solids discharges remained extremely low during 2019.

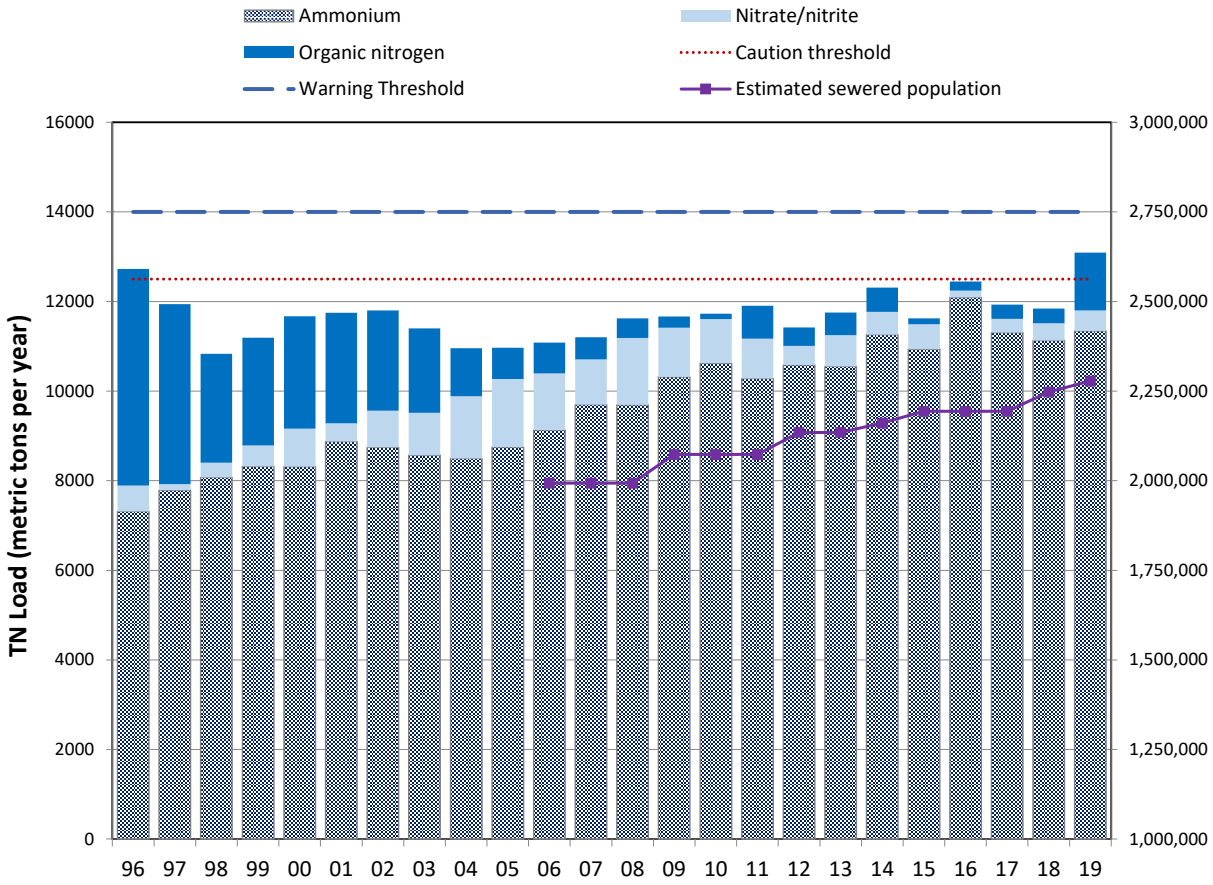


Figure 3. Annual effluent nitrogen load and MWRA sewered population.

Environmental Monitoring Results

Results of 2019 monitoring in Massachusetts Bay found that:

- No adverse impacts of the outfall discharge on environmental quality were identified in Massachusetts or Cape Cod Bays;
- Plankton communities remain diverse and normal;
- The seafloor animal community is healthy and diverse; and
- Flounder liver disease remains low.

Water Quality Monitoring

Nutrients

Water quality sampling (Figure 4) focuses on the potential impact of nitrogen discharged by the outfall because only about 30% of nitrogen is removed during treatment. The monitoring was designed to address concerns about whether effluent nitrogen would increase blooms of harmful algal species, change the types or amount of plankton (adversely impacting the food web), or cause excess algal growth, which could decrease the amount of oxygen in the water.

Plankton

In 2019, plankton communities in the bays were normal, with the exception of a strong late summer and fall bloom of a species (*Karenia mikimotoi*) that has become abundant in recent years in waters from Maine to Massachusetts, and was first observed in MWRA samples in summer 2017. A bloom of the species in Boston Harbor in 2019 was associated with numerous reports of discolored water. It is not known whether the recent appearance of *Karenia* in local waters represents an introduction (*e.g.* from ship ballast waters) or a range expansion.

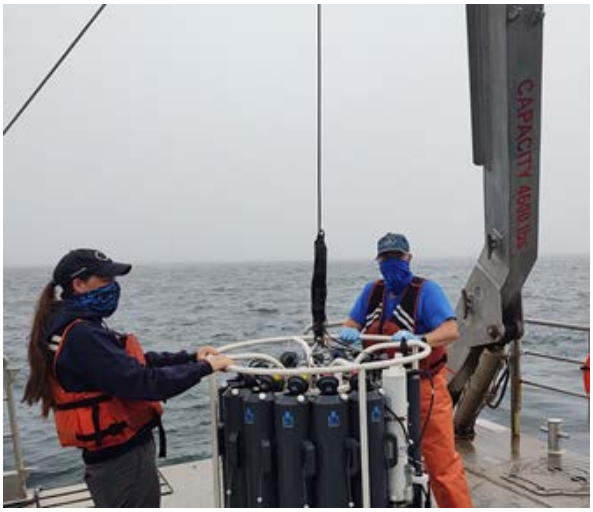


Figure 4. Water column sampling using COVID-19 safety protocols, July 2020.

A substantial bloom of *Alexandrium catenella,* the algae responsible for red tides in New England waters, occurred in 2019, leading to an exceedance of a Contingency Plan Caution level threshold. The bloom persisted from mid-May through mid-July, longer than in previous years. As has been observed in previous years, monitoring results suggest the bloom initiated in Maine waters and was transported into Massachusetts Bay by coastal currents. Strong freshwater runoff from coastal rivers and warmer than usual surface waters may have played a role in the persistence of the bloom.

Dissolved Oxygen

Dissolved oxygen levels in deep water in Massachusetts Bay (Figure 5) were healthy throughout 2019, with similar healthy oxygen levels observed in the vicinity of the outfall, well above the state water quality standard of 6 mg/l. The decrease from winter into summer is normal, and in 2019 ended when storms mixed oxygen into deep waters following the October surveys.

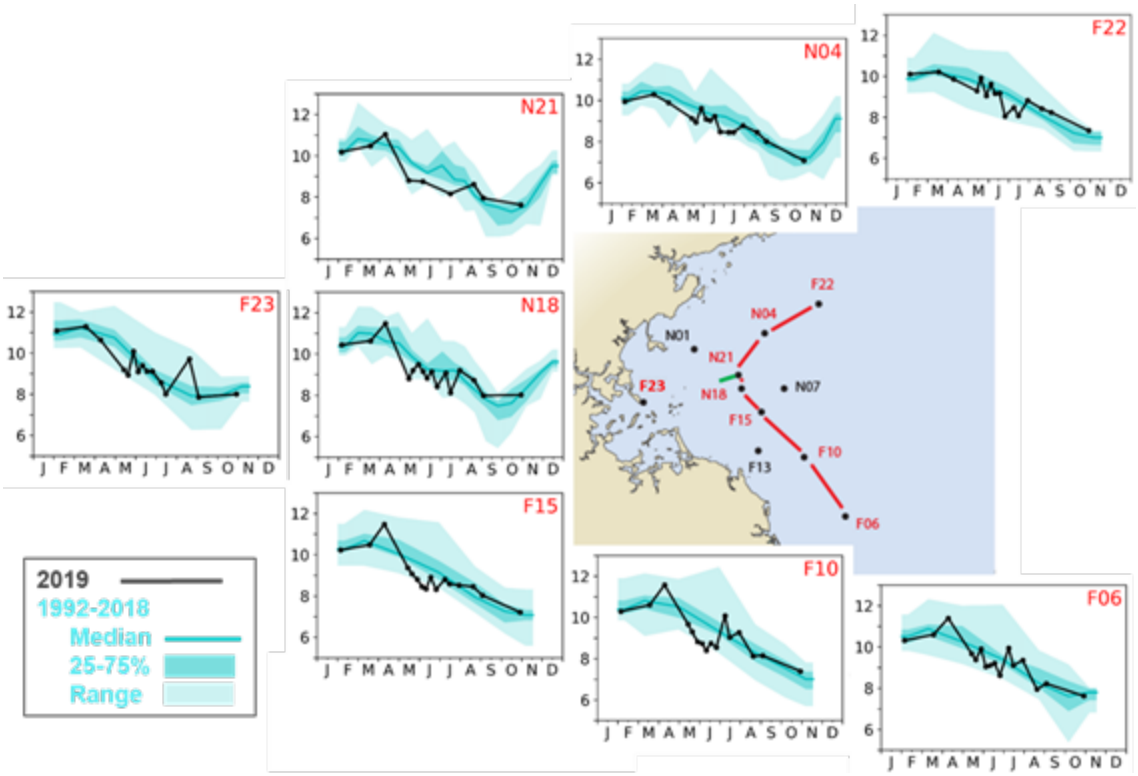


Figure 5. Dissolved oxygen in 2019 in Massachusetts Bay waters near the sea floor The black points and lines are 2019 results; the blue lines and shading summarize previous results: the line is the 50th percentile, dark shading spans the 25–75th percentiles, and the light shading spans the range.

A low oxygen event occurred in Cape Cod Bay in late September and early October 2019. Dissolved oxygen dropped to near zero in inshore waters near Barnstable Harbor, leading to fish and lobster mortality. This event is thought to have been triggered by a strong late summer phytoplankton bloom (suspected to be *Karenia mikimotoi*) that died off, with cells sinking and decaying in the bottom waters, using up the oxygen. Warmer than normal surface water, which can act like a "cap" on the bottom waters and limit aeration, is thought to have contributed to this event. Monitoring data strongly indicate MWRA's discharge has no detectable effects on nutrient levels or phytoplankton blooms in Cape Cod Bay.

Monitoring Sediments near the Outfall

Sea floor habitat (the benthos) is a major component of a healthy marine ecosystem and is of particular interest in studies of pollutant effects because many contaminants ultimately end up in the sediments. MWRA's benthic monitoring assesses the health of animal communities and the concentrations of toxic contaminants in sediments (Figure 6). MWRA's monitoring of the benthos living in mud finds healthy, diverse groups of animals (worms, mollusks, crustaceans) normal to New England. Similar conditions were observed in 2019 monitoring.

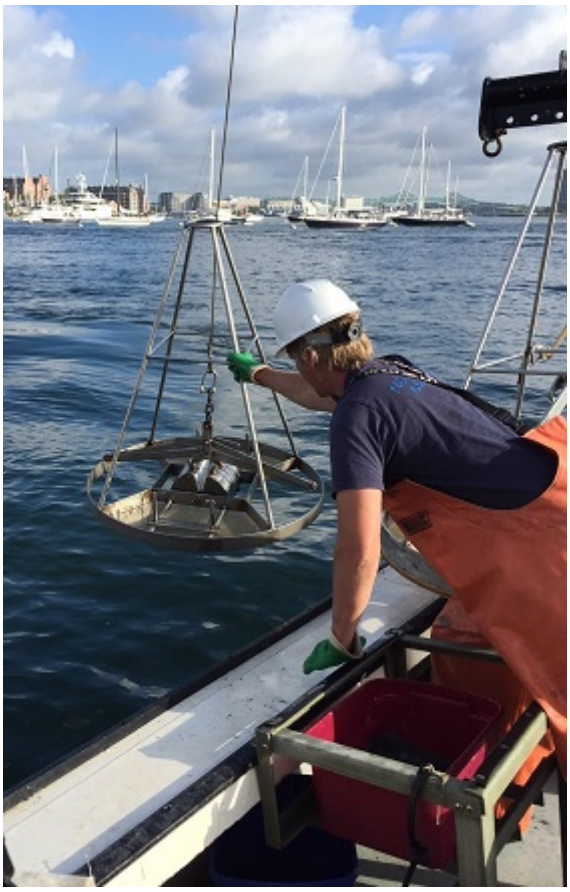


Figure 6. Collecting bottom sediment samples in Boston Harbor.

One environmental concern that was raised before the outfall discharge began in September 2000 was that solids and organic matter in the effluent might settle out in nearby sediments, burying organisms living on and in the sea floor and/or causing increased sediment metabolism, decreasing the availability of dissolved oxygen in the sediments.

MWRA addresses this concern by monitoring the average depth in sediments to which oxygen penetrates, known as the Redox Potential Discontinuity (RPD) depth. As in past years, the RPD depth in sediments near the outfall in 2019 (Figure 7) was deeper than average depths measured before outfall discharge began, indicating a lack of adverse impacts. As will be discussed below, regulators and their science advisory panel have agreed that this study has fully answered all the questions it was designed to address.

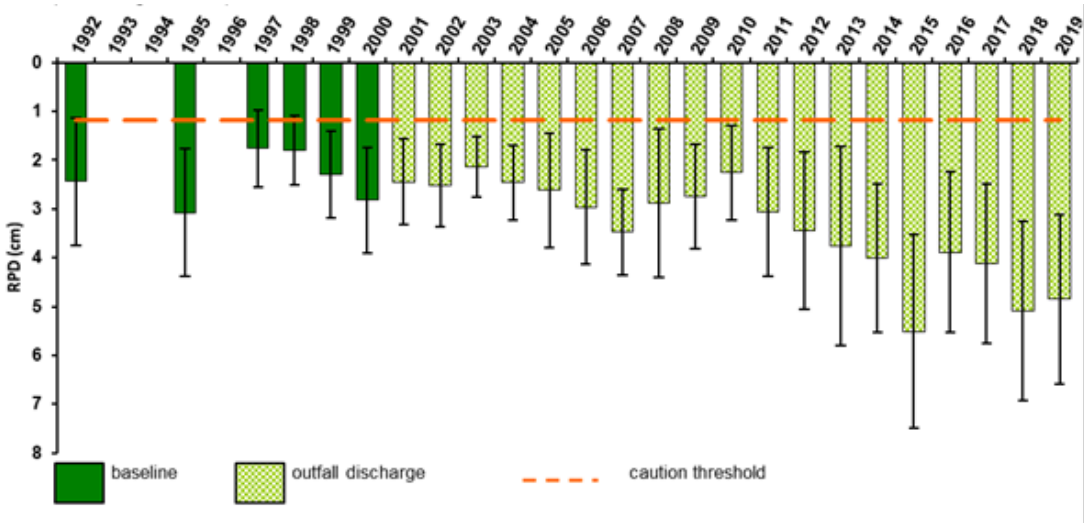


Figure 7. RPD depth in sediments near the outfall, 1992-2019.

Fish and Shellfish Monitoring

Because flounder live in close contact with the bottom sediments, their health, especially rates of liver disease, is an indication of the effects of contaminants in the sea floor. During the 1970s and 1980s, fin rot and liver disease (including liver tumors and milder liver diseases) associated with contaminant exposure were common in winter flounder taken from Boston Harbor. That sampling program has continued as part of MWRA's monitoring since 1991 (Figure 8). The flounder study has documented substantial declines in tumor precursors as the flounder population recovered in Boston Harbor, with no increases observed in fish caught near the Mass Bay outfall (Figure 9).

Figure 8. "Ghost" lobster traps fouling an MWRA flounder trawl.

The percent of flounder containing tumor precursors leveled off in flounder from Deer Island Flats in recent years, while continuing to decrease near the outfall. Even so, the prevalence of the tumor precursors in Harbor fish is much lower than was seen in the 1980s and early 1990s. The reasons are unclear, but given that the Harbor discharge ended in 2000, it is not attributable to the MWRA discharges. Actual liver tumors have not been observed in flounder from Boston Harbor since 2004, and tumors have never been observed in flounder caught near the outfall.

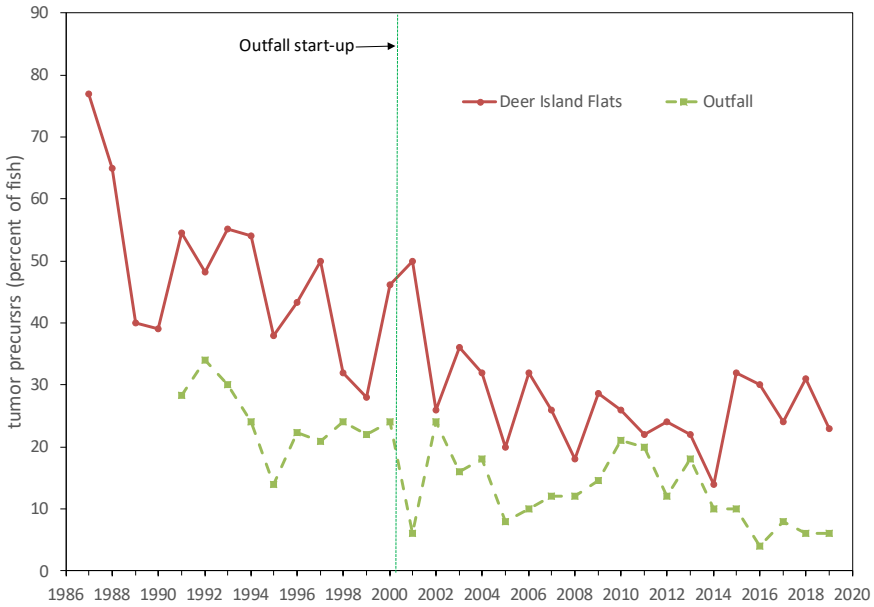


Figure 10. Prevalence of liver tumor precursors 1987-2019 in winter flounder from Deer Island Flats and near MWRA's outfall.

Information Outreach Efforts

MWRA places an emphasis on informing the public, area environmental groups, and colleagues in academia and the wastewater industry about the findings from its monitoring. Recent activities have been curtailed by COVID-19, although staff continue to participate via remote meetings and conferences. Some specific activities in 2019 and early 2020 include:

- Presented beach and river monitoring results at regional watershed association meetings;
- Met periodically with researchers and students from local universities (for example, Woods Hole and UMass Boston) to share results of MWRA's monitoring, learn about current academic research, and discuss emerging issues of environmental concern (for example, microplastics and environmental justice initiatives);
- Participated in advisory and oversight committees for regional monitoring and outreach groups, including the Sea Grant College program, EPA, the Massachusetts Bays National Estuaries Program, and the Northeast Regional Association of Coastal Ocean Observing Systems. Staff promote outreach and information gathering on issues important to MWRA;
- Presented papers at environmental conferences documenting that MWRA's long-term monitoring results include evidence of climate change consistent with findings of other researchers; and
- When completed and submitted to regulators, the 2019 *Outfall Monitoring Overview* will be posted on MWRA's website and a press release will be issued.

Contaminants of Concern and Ambient Monitoring Plan Review

MWRA's NPDES permit for the Deer Island Treatment Plant and outfall chartered an Outfall Monitoring Science Advisory Panel (OMSAP) to advise EPA and DEP on technical topics related to Ambient Monitoring. OMSAP itself is advised on public response to environmental issues related to the outfall by the Public Interest Advisory Committee, chaired by Save the Harbor/Save the Bay.

In 2019, OMSAP conducted a series of discussions with OMSAP members, regulators, MWRA staff and the public, with OMSAP subcommittee meetings on July 9 and September 10, 2019, as well as a full OMSAP meeting on October 3, 2019. These meetings had a two-fold purpose; to explore and review issues of contaminants of emerging concern (CECs) and to identify individual monitoring studies that have answered all relevant monitoring questions. Such studies could be reduced or eliminated.

Contaminants of emerging concern. These discussions focused on per- and polyfluoroalkyl substances (PFAS), pharmaceutical and personal care products (PPCPs), and microplastics. OMSAP members identified a need to understand sources, as well as potential effects. While recognizing that contaminants of emerging concern will require regional and national collaborative initiatives beyond the responsibilities of MWRA's discharge monitoring, meeting participants suggested that new special studies may help to better define the current issues. OMSAP is in the process of preparing a series of white papers on these issues, and hopes to release them by late 2020 or early 2021.

MWRA is also playing an active role working with other agencies and institutions in researching these regional CEC concerns. For example, MWRA participated in the planning of a multi-agency pilot study investigating PFAS and pharmaceuticals in Deer Island effluent and in Massachusetts

Bay. Participants include the representatives from the Stellwagen Bank National Marine Sanctuary, EPA Region I and the University of Rhode Island. Sampling on this study occurred in fall and winter, 2019-2020, with sampling and analysis occurring at no cost to ratepayers. Sample and data analysis under this pilot project have been delayed by lab shutdowns associated with COVID-19, but are expected to be completed in coming months. Other cooperative initiatives target PFASs (*e.g.* Water Research Foundation projects) and microplastic particles.

Monitoring plan reductions. During the OMSAP subcommittee meetings, MWRA identified monitoring studies that had fully answered the concerns they were designed to address. OMSAP members asked to review additional data and data evaluations, which MWRA provided. Committee members agreed that two monitoring studies could be ended and that the monitoring effort could be reduced on a third. At its October 3, 2019 meeting, OMSAP voted to endorse the following changes:

- End the monitoring, scheduled for every third year (including August 2020), of contaminants in sediments, including metals, polycyclic aromatic hydrocarbons, pesticides and PCBs;
- End the annual Redox Potential Discontinuity monitoring (including August 2020) of sediments in western Massachusetts Bay using sediment profile imaging; and
- Delete two reference stations (off Nantasket Beach and in eastern Cape Cod Bay) from the winter flounder monitoring, while continuing to monitor fish on Deer Island Flats (Boston Harbor) and near the outfall site.

In June 2020, MWRA proposed these changes to regulatory agencies, with the sediment study changes to take effect in summer 2020 and the flounder study reduction in April 2021. EPA approved these changes on an interim basis. Under the terms of the Deer Island Treatment Plant permit, permanent changes will be proposed to the regulators by November 15 2020, with permanent approval expected by early 2021.

BUDGET/FISCAL IMPACT:

The FY21 Current Expense Budget for required harbor and outfall monitoring, including the water column, sediment, fish and shellfish, and instrumented buoys, is $1.3 million. If the expected regulatory approval for monitoring changes is received, FY21 spending will be reduced by approximately $60,000.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant
Kemira Water Solutions, Inc.
Bid WRA-4881

COMMITTEE: Wastewater Policy & Oversight

_____ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

David F. Duest, Director, DIWWTP
Douglas J. Rice, Director of Procurement
Preparer/Title

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

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4881 for the supply and delivery of ferric chloride to the Deer Island Treatment Plant to the lowest responsive bidder, Kemira Water Solutions, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed $1,974,000 for a period of one year, from December 1, 2020 through November 30, 2021.

DISCUSSION:

The operational performance of Deer Island Treatment Plant's digesters has been hampered in the past by the buildup of struvite in the overflow piping, which results in constricted flow (as shown in the picture to the right). Struvite, a by-product of anaerobic sludge digestion, is a crystalized compound that coats the interior surfaces of pipelines and valves if dissolved concentrations of its component parts are not properly controlled.

To address this problem, staff implemented an aggressive prevention program using iron salts, ferric chloride or ferrous chloride, to control dissolved phosphorus concentrations in the sludge digestate and a mitigation program using ongoing specialized cleaning services to remove struvite if it does form.

Staff investigated alternate chemicals and methods of treatment for use in the struvite prevention program, but have found no other viable alternatives that work either as effectively or as reliably. Staff have been using either ferrous chloride or ferric chloride (both a form of iron) to prevent struvite formation in the digested sludge since 1998, and have competitively bid contracts for both chemicals. Staff determined either chemical works equally as well in the prevention and treatment of struvite.

Currently, between four and eight truckloads of ferrous chloride per week are used at the Deer Island Treatment Plant as part of the struvite prevention program. Staff estimate approximately 2,000,000 pounds of iron product will be needed during the one-year contract period.

Procurement Process

Bid WRA-4881 was advertised in the following publications: the Boston Herald, the Central Register, the Goods & Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 4386) and six potential bidders were solicited through the e-Portal.

On August 25, 2020, Event 4386 closed with the following results:

Kemira Water Solutions, Inc.	Estimated dry pounds of iron	Chemical	Unit Price per dry pound of iron	Extended Bid Price
	2,000,000	**Ferric Chloride**	**$0.987**	**$1,974,000**
	2,000,000	Ferrous Chloride	$1.18	$2,360,000
PVS Technologies, Inc.	Estimated dry pounds of iron	Chemical	Unit Price per dry pound of Iron	Extended Bid Price
	2,000,000	Ferric Chloride	$1.31	$2,620,000
	2,000,000	Ferrous Chloride	No Bid	No Bid

Bid WRA-4881 was structured as a one-year contract similar to the existing contract, also with Kemira Water Solutions, Inc., which expires on November 30, 2020. Under the current contract, MWRA is paying a fixed unit price of $0.97 per dry pound of iron for ferric chloride for an annual cost of $1,940,000. Compared to the existing contract, the cost has increased by 1.75 percent, or $0.017 per dry pound of iron.

This year's slight price increase reflects a current stabilization of raw materials and transportation costs. This is in comparison to the five percent increase incurred in the 2019-2020 contract.

Staff reviewed Kemira Water Solutions, Inc.'s bid and determined it meets all of the requirements of the bid specifications. Therefore, staff recommend the award of this one-year purchase order contract to Kemira Water Solutions, Inc. as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for the first portion of this contract in the approved FY21 Current Expense Budget. Appropriate funding will be included in the Proposed FY22 Current Expense Budget request for the remaining term of the contract**.**

MBE/WBE PARTICIPATION:

Kemira Water Solutions, Inc. is not a certified Minority- or Women-owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant
Borden & Remington Corporation
Bid WRA-4882

COMMITTEE: Wastewater Policy & Oversight

_____ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

David Duest, Director, DIWWTP
Douglas J. Rice, Director of Procurement
Preparer/Title

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

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4882 for the supply and delivery of sodium hypochlorite to the Deer Island Treatment Plant to the lowest responsive bidder, Borden & Remington Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed $1,673,715.30 for a period of one year, from November 17, 2020 through November 16, 2021.

DISCUSSION:

MWRA uses sodium hypochlorite, which is a combination of chlorine and caustic soda, at the Deer Island Treatment Plant primarily for NPDES permit compliance for pathogen control to disinfect the plant's effluent. It is also used for air permit compliance for emissions control in the plant's odor control systems to treat for hydrogen sulfide.

Sodium hypochlorite is stored in three above ground tanks, each 30 feet high and 40 feet in diameter (shown at right), with a capacity to hold 250,000 gallons per tank.

Sodium hypochlorite is generally manufactured in different strengths:

15%, 19%, and 20% solution. The differing strengths do not affect the Deer Island treatment processes in any way; the only differences between them are unit cost, availability and the amount of material delivered. The most common and widely available strength is the 15% grade solution, but this requires the largest delivered volume. In previous contracts, MWRA has purchased both 15% and 19% solution. Under the existing contract, also with Borden & Remington Corporation, MWRA is purchasing solely a 19% grade solution. Although the unit price for 19% is slightly higher, the total cost is less because less volume is delivered to the treatment plant. Upon delivery and no matter the delivered strength, staff dilute the delivered product to an end use strength of 10-12%. When comparing actual total chlorine purchased, the 19% has proven to be more cost effective, and results in 22% fewer trucks being driven to Deer Island as compared to the 15% strength product.

Procurement Process

Bid WRA-4882 was advertised in the following publications: the Boston Herald, the Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 4387), and four potential bidders were solicited through the e-Portal.

On August 25, 2020, Event 4387 closed, with the following results:

Borden & Remington Corporation	Estimated Gallons	Percentage Solution	Unit Price Per Gallon	Extended Bid Price
	2,200,000	15% Solution	$0.76780	$1,689,160.00
	1,750,199	**19% Solution**	**$0.95630**	**$1,673,715.30**
	1,650,000	20% Solution	No Bid	No Bid
Univar Solutions USA Inc.	Estimated Gallons	Percentage Solution	Unit Price Per Gallon	Extended Bid Price
	2,200,000	15% Solution	$0.90000	$1,980,000.00
	1,750,199	19% Solution	No Bid	No Bid
	1,650,000	20% Solution	No Bid	No Bid
Kuehne Chemical Corporation	Estimated Gallons	Percentage Solution	Unit Price Per Gallon	Extended Bid Price
	2,200,000	15% Solution	$1.50	$3,300,000.00
	1,750,199	19% Solution	$1.90	$3,325,378.10
	1,650,000	20% Solution	$2.00	$3,300,000.00

Vendors were given the option to provide a unit bid price for any number of the three available grades of sodium hypochlorite. Under the current contract with Borden & Remington Corporation, which expires on November 16, 2020, MWRA is paying a fixed price of $0.93960 per gallon for 19% solution for an annual cost of $1,644,486.98. Compared to the existing contract, the cost per gallon has increased by 1.78% or $0.0167 per gallon. The not-to-exceed amount of the contract is not a firm commitment of cost or a guarantee of purchase to the vendor. Rather, MWRA will pay only for product ordered and received.

Sodium hypochlorite is manufactured from two different products in approximately equal parts, chlorine and caustic soda. The caustic soda market has historically been very volatile. During the past year, the global market demand for caustic soda has increased slightly, accounting for the increase in this year's bid price.

The large discrepancy in bid prices between the vendors can be attributed to a more aggressive bidding approach taken by Borden & Remington compared to Kuehne Chemical Corporation and Univar Solutions USA, Inc. Also, shipping costs were a factor in the price discrepancy.Borden & Remington has lower shipping costs due to originating deliveries from Fall River, Massachusetts. Whereas, Kuehne ships from New Jersey and would incur higher shipping costs.

Staff reviewed Borden & Remington Corporation's bid and determined that it meets all of the requirements of the bid specifications. Therefore, staff recommend the award of this one-year purchase order contract to Borden & Remington Corporation, as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for the first portion of this contract in the approved FY21 Current Expense Budget. Appropriate funding will be included in the Proposed FY22 Current Expense Budget request for the remaining term of the contract.

MBE/WBE/PARTICIPATION:

Borden & Remington Corporation is not a certified Minority- or Women-owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Thermal and Hydro Power Plant Maintenance
Contract S597
O'Connor Corporation

COMMITTEE: Wastewater Policy & Oversight

____ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

David Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Paul J. Pisano, Program Manager
Preparer/Title

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

RECOMMENDATION:

To approve the award of Contract S597, Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant, to the lowest responsible and eligible bidder, O'Connor Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $5,243,893 for a contract term of 1095 calendar days from the Notice to Proceed.

DISCUSSION:

This contract includes furnishing all labor, Factory Authorized Representative services, materials, equipment and incidentals necessary to repair, maintain and replace as necessary all equipment related to steam generation and heating systems at the Deer Island Thermal/Power Plant and the hydroelectric turbines at the Deer Island Treatment Plant, the Loring Road Covered Storage Facility in Weston, the Cosgrove Intake Facility in Clinton, and the Oakdale Power Station in West Boylston.

The Thermal/Power Plant on Deer Island, which has been in service since 1998, contains two high-pressure boilers that generate steam energy, which is used for facility heating, process heating, and electrical generation. Both boilers can be fired with digester gas (methane), No. 2 diesel fuel oil, or a combination of both. The high-pressure steam from the boilers is directed to the main 18-megawatt steam turbine generator and a 1.2-megawatt backpressure steam turbine generator to generate electricity. The electric power generated by the steam turbines varies in relation to the plant's heating demand and digester gas production. The low-pressure exhaust steam from the steam turbines provides facility and process heating through Deer Island's hot water heat loop.

The two Deer Island hydro turbines have been in service since 2001. They use treated plant effluent to generate electricity as the effluent falls into the outfall tunnel. The electric power generated by the hydro turbines varies in relation to total plant flow and ocean tide levels.

Figure 1: Two High - Pressure Steam Boilers at Deer Island

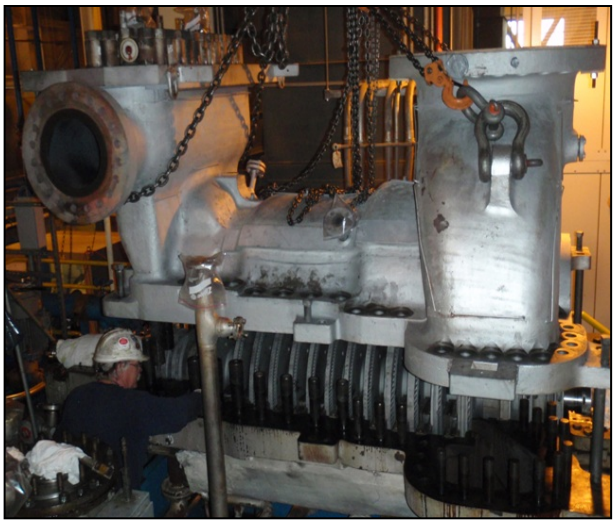


Figure 2: 18 MW Steam Turbine Generator at Deer Island

The Loring Road Covered Storage Facility contains a 200kW Leffel hydro turbine with a Marelli generator that was installed in 2011. The Cosgrove Intake Facility has two 1.2 MW Kaplan Style controllable pitch, Leffell turbines accompanied by 4160 Volt G.E generators that were installed in the 1960s. The Oakdale Power Station contains a three MW Francis Morgan Smith turbine, circa 1940. These units operate in our drinking water facilities.

Figure 1: Cosgrove Intake Facility - Two 1.2 MW Kaplan Turbines

The total annual economic benefit realized by MWRA (electric and thermal) from the steam turbine and hydroelectric turbines located on Deer Island is approximately $18 million; economic benefit from the hydroelectric turbines located at the other facilities included in this contract is approximately $623,000; for a total economic benefit of over $18.6 million from the equipment maintained under this contract. This contract will provide the required maintenance services to ensure the overall reliability and operation of the equipment.

In addition, state regulations require that steam boilers and appurtenances be thoroughly inspected externally and internally at least once a year in accordance with the National Board Inspection Code. These required inspections, along with preventive maintenance of the boilers, steam turbine generators, hydro turbine generators and associated equipment, are essential to ensuring the continued safe and reliable operation of these critical systems, and their optimum performance.

The Contractor will provide scheduled annual inspection and maintenance services, emergency and non-emergency repair services, replacement parts and factory authorized vendor services at each of the facilities.

The contract also includes several allowance items and unit price items that will be drawn down on an as-needed basis: emergency labor $85,000 and non-emergency labor $535,000; replacement parts $775,000; authorized factory representative services $380,000; and fire department detail services $30,000, which are required when repairs are made that require welding. The maintenance scope and allowance items were developed based on reasonable assumptions and past usage from previous maintenance contracts for these systems.

The previous Thermal and Hydro Power Plant Maintenance Contract (S579) was awarded in October 2018 in the amount of $7.9 million for a term of 730 days. The Contract included a major overhaul to the 18 MW Steam Turbine Generator. The major overhaul accounted for approximately $2,200,000 of the contract total and another overhaul will not be required for another 12 to 13 years.

Procurement Process

Contract S597 was publically advertised in the Boston Herald, Banner Publications, El Mundo, Central Register, COMMBUYS, 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 #4361-3). A remote pre-bid meeting was held on August 14, 2020. Bids were opened on September 16, 2020 with the following results:

BIDDERS	**BID PRICE**
O'Connor Corporation	**$5,243,893.00**
Engineer's Estimate	*$5,403,720.00*
IPC Lydon, LLC	$5,979,797.00

MWRA received two general bids as summarized above. O'Connor Corporation's bid was $159,827.00 lower than the Engineer's Estimate. References for O'Connor were checked and found to be favorable. Staff have determined that the bid price is reasonable, complete and includes the payment of prevailing wages.

Staff have determined that O'Connor Corporation 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 O'Connor Corporation as the lowest, responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

Funding of $1,500,000 is included in FY21 Current Expense Budget for the first year of this contract. Appropriate funding will be included in subsequent Proposed CEB requests for the remaining term of the contract. The FY21 CEB could realize an economic benefit of over $18 million for the energy produced by this equipment.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Agency-Wide Technical Assistance Consulting Services
Hazen and Sawyer, P.C., Contract 7691
CDM Smith Inc., Contract 7692

COMMITTEE: Wastewater Policy & Oversight

___ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

John P. Colbert, P.E., Chief Engineer
Meredith R. Norton, Program Manager
Preparer/Title

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

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award two separate contracts to provide agency-wide technical consulting services and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7691 with Hazen and Sawyer, P.C., and Contract 7692 with CDM Smith Inc., each in an amount not to exceed $2,500,000 for a contract term of twenty-four months from the Notice to Proceed.

DISCUSSION:

The purpose of technical assistance contracts is to make available, on a continuing, as-needed basis, the services of qualified, professional engineering firms to assist MWRA staff on engineering study and/or design initiatives through issuance of individual task orders. These agency-wide contracts include several engineering disciplines, such as civil, structural, environmental and sanitary, mechanical and process engineering, and related disciplines including architecture, geotechnical, surveying, fire protection, electrical, control systems, chemical, corrosion and odor control, permitting, and security. These technical assistance contracts are used on high-priority and unanticipated projects, or projects which are not large enough to warrant a full procurement process, including engineering consultants' efforts to develop qualifications and cost proposals.

These contracts also provide expertise on short-term assignments requiring specialized disciplines that are not cost effective for MWRA to maintain in-house staff to provide. The contracts are written to ensure that adequate resources are available to quickly and comprehensively respond to MWRA's needs, particularly when emergency or unanticipated situations arise. MWRA awards similar technical assistance contracts for the Deer Island Treatment Plant and the John J. Carroll Water Treatment Plant. Staff are also presenting a recommendation to award two similar technical assistance contracts for the John J. Carroll Water Treatment Plant at this Board meeting.

Approval is required from the Chief Engineer for all task orders up to and including $25,000; from the Deputy Chief Operating Officer for task orders greater than $25,000 and up to and including $50,000; and from the Chief Operating Officer on any task order greater than $50,000 and up to and including $100,000. In the event that a Task Order greater than $100,000 is needed, the Chief Operating Officer will confer with the Executive Director prior to approval.

Under previous agency-wide technical assistance contracts, MWRA has issued task orders for a variety of both design and assessment initiatives including design of:

- Top of Shafts 6, 8 and 9A Upgrades;
- Demolition of Water Main Section 56 on General Edwards Bridge;
- Weston Aqueduct Stop Plank Gates Replacement;
- Gillis, Lexington, and Hayes Pump Stations Fuel Storage Tank Replacement;
- River Road Slope and Drainage Stability;
- Lonergan Intake Lower Gatehouse and Southborough Facilities Fuel Storage Tank Replacement;
- Shaft E and L Cathodic Protection Replacement;
- Shaft N and W Cathodic Protection Replacement;
- Top of Shaft 5 Upgrades; and
- Belmont, Spring Street, and Lexington Street Roof Replacements.

Shaft 6 Upgrades

Removal of Water Main Section 56 General Edwards Bridge

Hayes Pump Station Tank Replacement

River Road at Station 6+85

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

- Charlestown Pump Station Demolition;
- Belle Isle Siphon Structural Stability Improvements;
- Nine Pump Stations Back Up Controller Systems Upgrades; and
- Lonergan Intake Well Replacement.

Procurement Process

On July 28, 2020, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publicly advertised in the Central Register, Boston Herald, Banner Publications and El Mundo. After the advertisement was published, a copy was emailed to a list of firms that had expressed interest in technical assistance contracts. In addition, 137 firms received notice of the RFQ/P through the MWRA Supplier Portal. Forty-five firms requested the RFQ/P and were added to the plan holders list. On August 25, 2020, MWRA received proposals from the following firms: Arcadis U.S., Inc., CDM Smith Inc., Hazen and Sawyer, P.C., Kleinfelder Northeast, Inc., and Weston & Sampson Engineers, Inc. The RFQ/P included the following evaluation criteria and points: Cost - 25 points; Qualifications/Key Personnel - 25 points; Experience/Past Performance on Similar Projects and Past Performance on MWRA Projects - 25 points; Capacity/Organization and Technical/Management Approach - 22 points; and Minority and Women-Owned Business Enterprise Participation - 3 points.

Since the exact scope and estimated labor hours that will ultimately be required under the contract are unknown, as staff have done on prior technical assistance contract procurements, a sample cost exercise was developed, designed to compare the costs of the proposers. MWRA provided an approximate total number of hours that may be expended based on the average annual distribution of hours from prior technical assistance contracts and required the proposers to provide average chargeable hourly rates per labor category, including multipliers incorporating indirect costs and profit. Proposers submitted rates and calculated a proposed price for the cost exercise. The results are as follows:

PROPOSER	SAMPLE COST EXERCISE ESTIMATE
CDM Smith Inc.	**$1,860,727.00***
Hazen and Sawyer, P.C.	**$1,899,406.64**
Weston & Sampson Engineers, Inc.	$1,907,883.62
Engineer's Estimate	*$1,916,262.00*
Kleinfelder Northeast, Inc.	$1,988,410.32*
Arcadis U.S., Inc.	$2,026,870.42*

*Reflects corrections made due to mathematical errors/rounding.

The proposers' sample cost exercise estimates above are within -2.9% to 5.8% of the Engineer's Estimate. The five voting members on the Selection Committee reviewed, scored and ranked the proposals as follows:

PROPOSER	TOTAL POINTS	ORDER OF PREFERENCE TOTAL SCORE*	FINAL RANKING
Hazen and Sawyer, P.C.	**435.75**	**5**	**1**
CDM Smith Inc.	**405.40**	**10**	**2**
Kleinfelder Northeast, Inc.	379.75	17	3
Weston & Sampson Engineers, Inc.	361.67	18	4
Arcadis U.S., Inc.	266.42	25	5

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

Hazen and Sawyer was ranked first by all Selection Committee members and received the highest number of points in most of the evaluation categories. The Selection Committee was in agreement that Hazen and Sawyer's proposal was excellent. It included the second lowest price in the cost exercise with capped Principal and Project Manager direct labor rates, no waivers for direct labor rates greater than $75 per hour and appropriate average comprehensive hourly rates, as well as key personnel with excellent qualifications and experience, and a very strong technical approach. Hazen and Sawyer's cost exercise was approximately 1% less than the Engineer's Estimate. The proposed project team has extensive relevant experience, including working for the MWRA on several previous and current technical assistance contracts and Nut Island Headworks Odor Control evaluation and design projects. Hazen and Sawyer also proposed numerous multidisciplinary key personnel and specialty subconsultants. Hazen and Sawyer holds one of the two current Agency-Wide Technical Assistance Consulting Services contracts (Contract 7498), which expires on December 29, 2020 and has proposed many of the same key personnel. Hazen and Sawyers's performance on the current and past technical assistance contracts has been excellent, and its references rated the firm very highly on its other MWRA and non-MWRA projects as well. Hazen and Sawyer's Capacity was rated very high, with significant bench depth in listed disciplines. The firm also was rated highly in its Organization, Management and Technical Approach: it demonstrated a clear understanding of the process, including an evaluation of alternatives, emphasis on communication and efficiency, the importance of quality assurance/quality control and management and execution of short notice assignments.

CDM Smith was ranked second by all Selection Committee members and received the second highest number of points in most evaluation criteria. It included the lowest price in the cost exercise with capped direct labor rates for the Principal at $75 per hour and the two Electrical Senior Engineers at $65 per hour, one waiver for direct labor rates greater than $75 per hour and other appropriate comprehensive hourly rates. CDM's cost proposal was 2.9% less than the Engineer's Estimate. All key personnel had the required PE licenses and years of experience. The Principal has considerable relevant experience and the Project Manager is a Certified Project Management Professional. CDM has successfully performed on-call services for many New England communities (Brockton, Cambridge, and New Bedford) for over 30 years and its MWRA and external references were very good to excellent. CDM Smith is a large, international firm with headquarters in Boston, including 500 professionals in Boston and hundreds more in the nearby New England offices, providing the firm the depth to quickly support as-needed assignments. Several experienced and knowledgeable subconsultants were identified who would also be part of its project team. The technical approach included a very good On-Call Assignment Process Flow Chart, which demonstrated that the firm has successfully performed this type of work. Several

Committee members commented on the excellent breadth of knowledge and experience of the CDM Quality Control Team.

Kleinfelder, Weston & Sampson, and Arcadis were ranked third, fourth and fifth, respectively, by the Selection Committee. Kleinfelder had the second highest total cost for the cost exercise with the highest hourly direct labor rate for the Project Manager and one direct labor waiver request. Kleinfelder's cost exercise was approximately 3.8% higher than the Engineer's Estimate. Although Kleinfelder's proposal showed more than adequate capacity to meet MWRA's needs and an organization and management approach that has proven to be effective under the current MWRA technical assistance contract (Contract 7604), the firm's cost, proposed personnel and proposed MBE/WBE participation were not scored as highly as the selected firms.

Weston & Sampson had an average total cost for the cost exercise with the lowest Principal and Project Engineer average comprehensive hourly rates, but one of the highest annual escalation rates. The Principal and Project Manager direct labor rates were capped at $75 per hour with no direct labor waiver requests. Weston & Sampson's cost exercise was approximately 0.4% lower than the Engineer's Estimate. While Weston & Sampson presented very good key personnel and references, the team management approach involved two firms (Weston & Sampson and subconsultant Stantec), which appeared complicated and time consuming; and the technical approach did not indicate a clear understanding of the MWRA task order process.

Arcadis proposed the highest cost for the cost exercise with the highest Principal, Senior Engineer and Project Engineer average comprehensive direct hourly rates. Although not allowed contractually, Arcadis proposed a 5% markup on all subcontractors with the exception of one. Arcadis' cost exercise was approximately 5.8% higher than the Engineer's Estimate. While most of the key personnel appear to meet the RFQ/P requirements, Arcadis did not score as favorably as the chosen firms in this category. External references were very good, but were mostly from outside of the New England region with many staff being different than the staff that were proposed. While Arcadis appears to have sufficient capacity to meet the contract requirements, and the technical approach was very well presented and thought out, its management approach did not appear to be as efficient as that of the the selected firms. .

Based on final rankings, and for the reasons set forth above, the Selection Committee recommends the award of Contract 7691 to Hazen and Sawyer, P.C. and Contract 7692 to CDM Smith Inc., each in an amount not to exceed $2,500,000 and for a contract term of 24 months from the Notice to Proceed.

BUDGET/FISCAL IMPACT:

The FY21 Capital Improvement Program includes a budget of $2,125,000 each for Agency-Wide Technical Assistance Service contracts 7691 and 7692. Any difference will be absorbed within the five-year CIP spending Cap.

MBE/WBE PARTICIPATION:

The Affirmative Action and Compliance Unit established a MBE/WBE participation requirement for this project of 0%. However, Hazen and Sawyer P.C's proposal identified its commitment of 1.5% MBE and 1.5% WBE participation while CDM Smith Inc. identified its commitment of 10% MBE participation, each of which becomes a requirement for this contract.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Permanent Metering System Replacement Equipment Purchase and Installation
ADS, LLC
Contract 7191

COMMITTEE: Wastewater Policy & Oversight

_____ INFORMATION
__X__ VOTE

Michele S. Gillen
Director of Administration

Rodrigo Pineros, Program Manager, Meter Engineering
Stephen Estes-Smargiassi, Dir of Planning and Sustainability
Michael Greeley, Manager of Meter & Monitoring
Preparer/Title

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

RECOMMENDATION:

To approve the award of Contract 7191, Permanent Metering System Replacement Equipment Purchase and Installation, to the lowest responsible and eligible bidder, ADS, LLC, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $3,286,114, for a contract term of 450 calendar days from the Notice to Proceed.

DISCUSSION:

The current metering system was initially installed in 2004 with a life expectancy of ten years and after 16 years, shows signs of wear and an increased reliance on corrective maintenance site visits. MWRA metering and billing staff have a stated goal of using 95 percent metered data for billing each month with a 5 percent estimate, but has struggled to meet this goal, with actual metered data averaging 91.5 percent and ranging from 84-95 percent over the past year[1].

Currently, the wastewater metering system consists of 212 metering sites located throughout the 43 wastewater member communities. Thirty-eight newer wastewater meters installed within the past two years will remain in service; all other existing meters will be replaced. The existing metering system transmits data to MWRA's host database through Trimble-Telog telemetry equipment. MWRA staff have already replaced all of the older telemetry equipment with new 4G-ready Trimble-Telog RU-35 equipment to be compatible with new wastewater meters. This was done to meet Verizon's scheduled 3G network shutoff date of January 1, 2021.

[1] Excludes May and June 2020, when COVID staffing limitations led to the suspension of maintenance activities and battery replacements. Actual data capture rate during those months fell to less than 50.

Contract 7191 was designed under MWRA Contract 6739 - Wastewater Metering System Replacement Evaluation, Planning Design Resident Engineering/ Inspection Services for Installation of Metering Equipment. A separate staff summary requesting approval of Amendment 1 to Contract 6739 is also being presented to the Board of Directors at this meeting.

This Contract

Contract 7191 consists of the replacement or new installation of 174 flow meters in sewer manholes sites as shown in Attachment A. Meters that have been replaced within the past two years will not be replaced under this contract. The contract will require two sensor configurations: 62 sites require non-contact depth and velocity sensor configurations and 91 sites require submerged velocity sensor configurations.

TELEDYNE-ISCO

The bid specifications for this contract also include the requirement for a proprietary non-contact meter, Teledyne-ISCO 2160 Laser Flow, at 21 of the highest flow meter sites with large pipe diameters. This specialty meter provides accurate flow measurements in this difficult environment with substantially varying flow depths. For all other sites, prospective bidders could propose meters from four different manufacturers.

ADS has proposed that in addition to the Teledyne-ISCO, all other sites will be the ADS Triton+ flow meters, a proven technology used in recent meter replacements in MWRA's sewer system. The contract requires removal and proper disposal of existing metering equipment at 101 permanent meter sites. At sites with recently installed 4G Telog equipment, the contractor will be responsible for connecting the new metering equipment to the Telog data loggers already at the site. The contract will also provide 57 new Telog data loggers for 37 new meter locations and for 20 meter relocation sites.

The contractor will also be responsible for installation of the equipment, verifying that the meter and sensors are operating correctly, and verifying connectivity and data transmission from the Telog data loggers to MWRA's Telog Enterprise Client host database. During a 14-day settle-in period following each meter installation, the contractor is required to maintain the meter and to take four independent confirmation measurements to verify meter data integrity. Final acceptance for each meter site will be issued after the settle-in period and submittal of all the required documents.

Overall system acceptance and substantial completion will be issued after installation of all the equipment and final acceptance of the last site, completion of all training (software, field maintenance, bench technician) for MWRA staff, and provision of the spare parts equipment and batteries. All installed meter equipment will be warrantied for the duration of the contract term and for an additional one-year period beginning from the date of substantial completion.

The new wastewater metering system will increase the total amount of billed flow that is captured by a meter to 94.5 percent and reduce the unmetered area estimates (based on meter flow) required each month. Additionally, the new metering system will be more accurate and calibrations will be performed more uniformly across the entire system.

Staff worked with the MWRA Advisory Board to eliminate bias between the new and old systems while new meters are being installed and agreed on a transition plan. Starting the first month of installations, the billed flow of the entire system each month will be estimated using a three-year rolling average. This protocol will continue until the date that the contract reaches substantial completion. The Contractor will be required to complete all meter installations in CY2021, so wastewater billing will return to actual metered flow no later than January 2022.

Procurement Process

Contract 7191 was advertised in the Central Register, the Boston Herald, El Mundo, Banner Publications, COMMBUYS and the MWRA Supplier portal, and was bid in accordance with Chapter 30 of Massachusetts General Laws. One bid was received and opened on September 2, 2020, as follows:

Bidders	Bid Amount
Engineer's Estimate	*$3,508,074*
ADS, LLC	$3,286,114

MWRA's Engineer had technical discussions with four of the potential meter suppliers during the design process. There were 32 plan holders, ten of whom attended the pre-bid conference. Based on the plan holder's list and the pre-bid conference attendance (19), staff anticipated that there would be three viable bidders (ADS, LLC; JWB/Hach Company; and CSL Services).

The two firms that were expected to bid and did not were contacted to obtain feedback as to why they did not bid on the project. Concerns raised by the firms included the unpredictability of COVID-19 impacting the project schedule and the possibility of incurring liquidated damages, unfamiliarity with the proprietary equipment specified for certain sites and the rigor of the approval process for acceptance of meter accuracy.

The ADS bid is 6.24 percent lower than the Engineer's Estimate. The design consultant, RJN, interviewed representatives from ADS and reviewed its bid in detail, and has determined that the bid is complete, reasonable, and includes the payment of prevailing wages as required. References for ADS were checked and found to be favorable.

Based on discussions with ADS and input from the design consultant, MWRA staff believe that ADS understands the full nature and scope of this project, has the skill, ability and integrity necessary to complete the work, and is qualified to do so. Therefore, staff recommend the award of this contract to ADS, LLC as a responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY21 CIP includes a budget of $3,633,370 for Contract 7191. The contract award amount is $3,286,114 or $347,256 under budget.

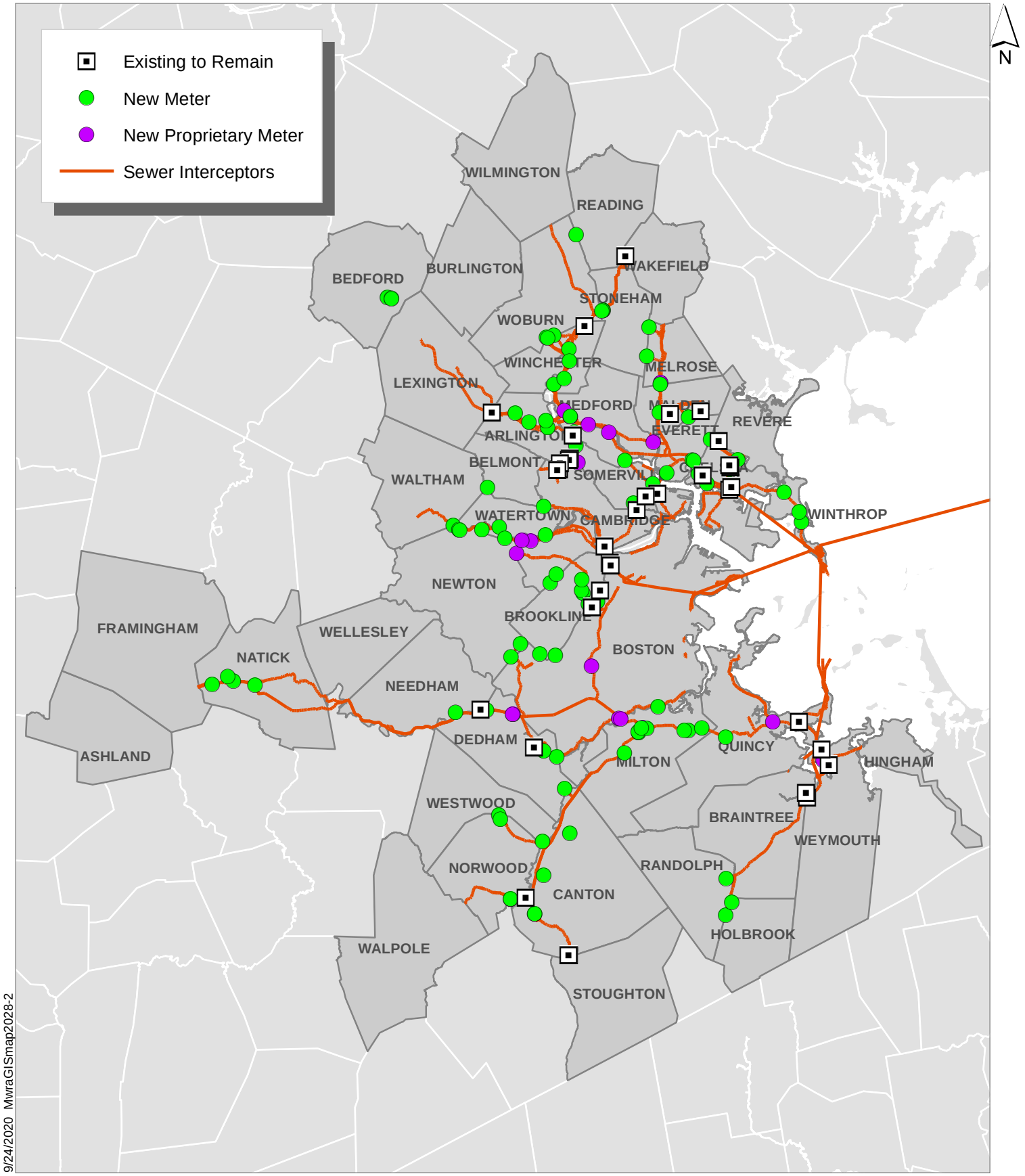
MBE/WBE PARTICIPATION:

This contract is subject to a 7.24% MBE and a 3.6% WBE participation requirement. The Affirmative Action and Compliance Unit has reviewed the bid and has determined that ADS, LLC's bid is responsive to these requirements.

ATTACHMENTS:

Attachment A: Map of Upgraded Wastewater Metering System

Upgraded Wastewater Metering System



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Wastewater Metering System Replacement Evaluation, Planning, Design Resident Engineering/ Inspection Services for Installation of Metering Equipment RJN Group, Inc.
Contract 6739, Amendment 1

COMMITTEE: Wastewater Policy & Oversight

_____ INFORMATION
__X__ VOTE

Rodrigo Pineros, Program Manager, Meter Engineering
Stephen Estes-Smargiassi, Director of Planning and Sustainability
Michael Greeley, Manager of Meter & Monitoring
Preparer/Title

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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 6739, Wastewater Metering System Replacement Evaluation, Planning, Design, and Resident Engineering/Inspection Services for Purchase and Installation of Metering Equipment, with RJN Group, Inc., to increase the contract term by 449 calendar days from December 7, 2021 to March 1, 2023 with no increase in contract amount.

DISCUSSION:

The current wastewater metering system was installed in 2004. Its primary purpose has been to quantify wastewater flow from each of the 43 MWRA wastewater member communities for use in the formulation of flow-based sewer charges. The regional sewer system was not originally designed to be metered and designing a cost effective metering system required a number of different strategies with a goal of metering at least 85 percent of a community's flow, and confidently estimating any unmetered flow using temporary metering and flow being extrapolated based on the metered portion. The current average metered flow is approximately 93 percent of the total flow, with the range for individual communities from 77 to 100 percent.

Contract 6739 was awarded to RJN Group, Inc. in June 2017 to provide engineering services to evaluate the wastewater metering system, conduct temporary metering services to inspect and measure the 638 unmetered sewer areas, plan, design the new metering system, and provide resident engineering and inspection services during installation.

This project consists of two phases. Phase One included the evaluation, planning and design of the wastewater metering system of 225 permanent meter sites. A goal of Phase One was to determine the most appropriate type of meter for each location by evaluating state-of-the-art technologies in wastewater metering communication and data management. Phase One work ended with the final design submission of plans and specifications and the consultant bidding services for Contract

7191, Permanent Metering System Replacement Equipment Purchase and Installation, the award of which is the subject of a separate staff summary at this Board meeting.

Phase Two consists of overseeing the metering system replacement installation, including Resident Engineering and Resident Inspection Services, and any necessary services during the one-year warranty period.

This Amendment

Amendment 1 will increase the contract term by 449 days, from December 7, 2021 to March 1, 2023, through completion of meter installation and the warranty period. The additional contract time is necessary because Phase One took longer than anticipated and required significant coordination to conduct preliminary field investigation of the 638 unmetered locations throughout the 43 MWRA wastewater member communities and to determine the best measurement type to quantify unmetered flows. In addition, the QA/QC process to finalize temporary metering data and produce detailed GIS maps (reflecting actual field conditions) of each unmetered sewer area was time consuming and took longer than expected; however, other tasks within Phase One were completed on time and under budget. Unspent funds from Phase One will be transferred to Phase Two, including some unexpended allowances to cover the time extension and associated labor escalation. No increase in the contract amount is required for this Amendment to oversee the installation and final acceptance of meter equipment and the one-year warranty period.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Contract Amount:	$3,858,128.66	1,604 Days	07/17/17
Proposed Amendment 1:	$0	449 Days	Pending
Adjusted Contract:	$3,858,128.66	2,053 Days	

BUDGET/FISCAL IMPACT:

The FY21 CIP includes a budget of $3,858,154. This Amendment 1 is for extension in contract time and has no fiscal impact.

MBE/WBE PARTICIPATION:

There were no minimum MBE and WBE participation requirements established for this contract. However, RJN Group, Inc. committed to five percent WBE participation, which remains unchanged by this Amendment.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2019
SUBJECT: Agreement for Contract Extension, Operations and Maintenance of the Fore River Pelletizing Plant with New England Fertilizer Company
Contract S345, Amendment 3

COMMITTEE: Wastewater Policy & Oversight

_____INFORMATION
__X__VOTE

Michele S. Gillen
Director of Administration

Stephen D. Cullen, Director, Wastewater
David F. Duest, Director, Deer Island WWTP
Carl Pawlowski, Manager, Residuals Operations
Preparer/Title

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

The Pellet Plant Operations and Maintenance contract expires on December 31, 2020. As presented to the Board of Directors on April 17, 2019, staff planned to competitively bid a new 15-year contract late in 2019. Given regulatory uncertainty around per- and polyfluoroalkyl substances (PFAS) in wastewater and its impact on beneficial use of biosolids, staff advised the Board in March 2020 of plans for a short-term extension of the existing Operations and Maintenance Contract, which would be prudent rather than entering into a long-term contract at currently high marketing and disposal rates.

Staff have negotiated favorable terms with New England Fertilizer Company, the current contractor, for a two-year extension with an optional third year and are recommending Board approval.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract S345, Operations and Maintenance of the Fore River Pelletizing Plant, with New England Fertilizer Company in the amount of $30,719,338 plus escalation and adjustments for excess quantities and extending the contract term for two years, from January 1, 2021 through December 31, 2022, with an optional third year subject to further Board approval.

DISCUSSION:

Figure 1: MWRA's Pelletizing Plant

Residuals collected by primary and secondary treatment at Deer Island are processed in the egg-shaped anaerobic digesters. The remaining residuals (liquid sludge), after digestion, are temporarily stored on Deer Island and then pumped seven miles through a pipeline to MWRA's Pelletizing Plant located in the Fore River Staging Area in Quincy (pictured at the right). At this facility, the digested sludge is dewatered in centrifuges and then dried in thermal dryers (as shown in Figures 2 and 3 below). The resulting pellets are beneficially marketed and used as a Class A Exceptional Quality fertilizer and are currently distributed throughout the northeast and eastern United States, with 34% of the product distributed in 2019 within Massachusetts and 69% within New England.

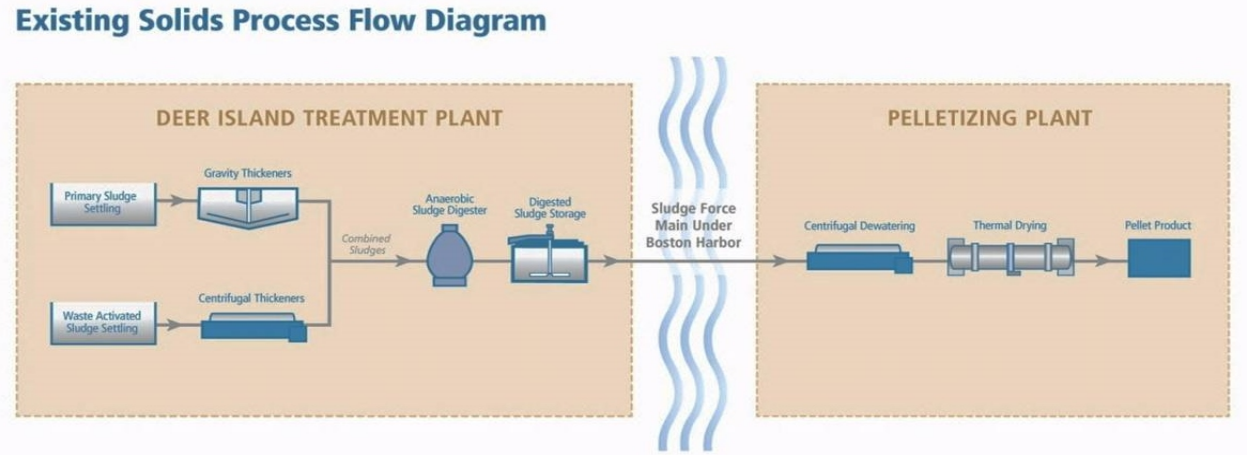
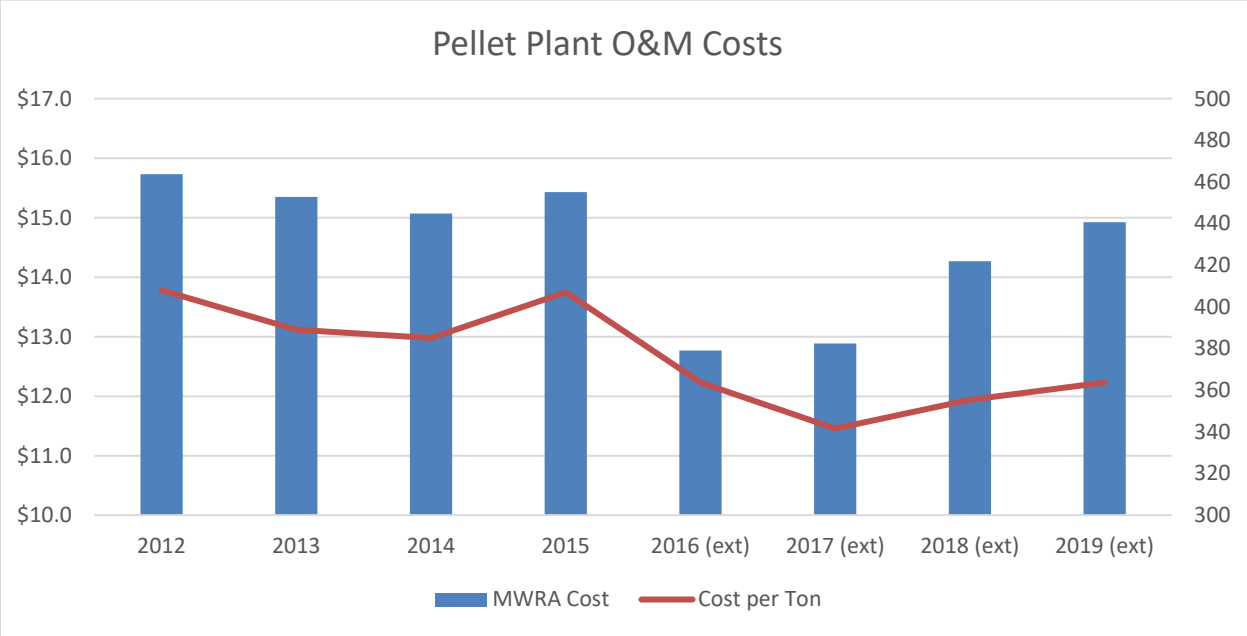


Figure 2: Dewatering Centrifuges

Figure 3: Thermal Dryers

In December 1991, MWRA began operation of the Pelletizing Plant following a competitive procurement process that resulted in the award of the first operations and maintenance contract to the New England Fertilizer Company ("NEFCo"). The successor contract, Contract S345, also competitively bid, was awarded to NEFCo. It began in 2001 and ran through the end of 2015. In March 2015, the Board of Directors approved Amendment 1 to Contract S345, granting a five-year extension with NEFCo at newly negotiated reduced rates. These lower rates have afforded the MWRA with the lowest per ton unit cost at $356 per ton (2016-2019 average) or roughly 10.3% savings over the average of the last four years prior to the extension, according to an Internal Audit report. In January, 2019, the Board of Directors approved Amendment 2 to Contract S345 increasing the contract amount by an amount not to exceed $440,000 for unanticipated costs associated with the loss of the use of the remote silos due to the demolition of an adjacent building. The graph below illustrates the total costs of the contract over the last eight years, including four years at the renegotiated rates of the five-year extension. Recent increases in overall MWRA costs have been the result of increased sludge quantities to the Pellet Plant; however, the cost per ton has remained low.



On average, NEFCo converts approximately 105 dry tons per day of digested sludge to fertilizer pellets. Production rates have varied annually from 96 dry tons per day to 112 dry tons per day over the life of the contract. NEFCo is also responsible for pellet plant maintenance and is required to return a fully operating plant back to MWRA at the close of the Contract. Currently, MWRA is responsible for capital improvements.

Originally, MWRA decided to contract out this operation because it involved the use of a newer treatment technology and involved developing and maintaining national markets for a Class A fertilizer product, tasks unlike anything that existing staff had ever done. In addition, there were only limited U.S. installations of this technology. (The Quincy facility was among the first five built in this country.) While today there are many more "dryer facilities" (approximately 25)

throughout the country, there remains only a few firms such as NEFCo, that specialize in the operation and maintenance of these facilities.

Contract S345 with NEFCo runs through the end of calendar year 2020. Staff have prepared contract documents to competitively bid the next contract. In late 2019, regulatory uncertainty in the area of emerging contaminants, per- and polyfluoroalkyl substances (PFAS), along with a series of articles citing environmental and human health concerns of the contaminant, began to negatively impact the marketing and disposal of wastewater-derived fertilizers.

PFAS consists of a group of emerging contaminants of concern to the environment. These are a class of human-made chemicals typically associated with the manufacturing of non-stick coatings, waterproofing and stain proofing treatments. They have also been associated with certain fire-fighting foams. The EPA has issued health advisories of 70 parts per trillion for two of the perfluorinated compounds in drinking water. In addition, the Massachusetts Department of Environmental Protection (MassDEP) has issued regulations that include a drinking water maximum contaminant level for six PFAS compounds that, when combined, cannot exceed 20 parts per trillion. MassDEP has also developed new soil limits within the Massachusetts Contingency Plan rules.

Over last winter, regulatory and public concern relative to PFAS extended to the land application of biosolids. MassDEP has focused its attention on data gathering through increased monitoring and reporting for any new or renewed permits issued around biosolids. MassDEP plans to use this data to evaluate the issue before any limits are set on these contaminants of concern.

The Maine Department of Environmental Protection (MeDEP) had taken a more conservative position and on March 22, 2019 issued a moratorium on the land application of biosolids within the state. Biosolids generators were ordered to develop monitoring plans and conduct testing, then retest annually. The results of all testing had to be submitted to MeDEP for consideration relative to screening concentrations it has published for three specific PFAS compounds. Land application within Maine could not resume until approved by the department. NEFCo submitted results in May 2019 and was then reauthorized to begin marketing in the state, at slightly reduced application rates. In 2019, 22% of MWRA biosolids were land applied within the state of Maine, slightly down from 25.2% in 2018. NEFCo continues to submit PFAS test data to Maine according to its requirements with no change in status.

MWRA continues to follow these regulations and their impacts on the pelletizing operation; specifically how the regulations may impact the new Operations and Maintenance contract. In the first half of 2020, approximately 30% of end users of MWRA biosolids started to refuse to take the fertilizer, citing concerns around PFAS. While product continues to find an end use, costs have been slowly driven upward as fewer and fewer clients are willing to buy or use the product, requiring more marketing efforts and, in some cases, higher costs to pay customers to take the product or higher payments to ship the product further away.

Staff believe a two to three-year period will allow further development of the science, and give the policy implications more focus. Therefore, staff entered into contract extension negotiations.

Contract Extension Negotiations

MWRA and NEFCo staff have been meeting since March to negotiate acceptable contract terms for MWRA ratepayers. NEFCo has been very forthcoming with information regarding where its cost increases have incurred, and where cost concessions can be made. Staff assumed in the negotiation that all capital work will be handled separately from this contract, and MWRA will pay for all future design, engineering services and capital construction work directly from the MWRA capital budget.

Staff negotiated an agreement in principal, conditioned on Board authorization, with the following changes to the provisions in the existing contract:

1. NEFCo agreed to increase base tonnage from the previous contract value of 92.5 dry tons per day to a new base tonnage of 94 dry tons per day for the same cost as negotiated under Amendment 1 of Contract S345; this equates to an annual savings of approximately $160,000.

2. NEFCo offered concessions on other line items to reduce its overall expenses by a total of $410,736, or a 2.9% drop in expenses, excluding marketing and disposal costs.

3. Due to end-user concerns regarding PFAS, NEFCO assumes reduced marketability of the fertilizer pellets and therefore proposed to increase marketing and disposal costs annually by roughly $844,000. NEFCo has documented $666,000 in cost increases alone from its third party vendor, Casella, ($480,000 in marketing and disposal cost increases and a $186,000 increase in its landfill reservation fee.) The balance of the increases are for their own marketing and disposal costs. Note: the landfill reservation fee provides available landfill space for non-pelletized product for up to 40 days, should a catastrophic event occur at the pellet plant resulting in the inability to pelletize. This fee is payable only for the actual days when material is sent to the landfill.

4. Major regulatory changes that require full-time landfill disposal would be handled as a future amendment, and would be considered outside the parameters of this agreement. This is unchanged from the current agreement.

In summary, MWRA negotiated fair terms for the contract extension resulting in an increase in Pellet Plant Operations and Maintenance costs of 2.9% as compared to 2019 annual costs, or $433,986 annually, assuming 110 dry tons per day of sludge are processed. The anticipated annual operation cost of the contract will be $15,359,669 in 2021 and 2022, subject to index escalation/de-escalation and excess quantity adjustments. The 2019 costs were $14,925,683. At $382 per dry ton, Amendment 3 pricing is still 3.8% lower than the four operating years in the original contract (average of 2012-2015).

This agreement would include an optional, if mutually agreeable, third year at similar base costs for contract year 2023, subject to further Board approval. The decision for that optional year would need to be made in writing by July 1, 2022, six months in advance of the end of the second full year.

Key costs are summarized below:

NEFCo Extension: Cost Comparison - Base year versus New Proposal				
	Amendment 1: 5-Year Extension **Year 4** 2019	**Proposed Amendment 3 - 2+ year Extension Year 1 & 2** Proposed 2021 & 2022	**Increase over base year**	
Base Tonnage, TPD	92.5	94	1.5	1.6%
Base Qty Price less Marketing & Disposal	$12,130,354	$ 11,993,477	$ (136,877)	-1.1%
Base Qty Price M&D	$ 830,278	$ 1,675,000	$ 844,722	101.7%
Base Qty Price Total	$12,960,632	$ 13,668,477	$ 707,845	5.5%
Base Qty Price $/Ton	$ 383.88	$ 398.38	$ 14.51	3.8%
Excess Quantity TPD	20.0 actual	16.0	-4.0	-19.8%
Excess Quantity TPD Price (less M&D)	$ 245.24	$ 240.77	$ (4.47)	-1.8%
Excess Quantity TPD M&D	$ 24.59	$ 48.82	$ 24.23	98.5%
Excess Quantity Ton TPD price	$ 269.83	$ 289.59	$ 19.76	7.3%
Excess Quantity Cost	$ 1,965,051	$ 1,691,192	$ (273,859)	-13.9%
Total Costs less Marketing & Disposal	$14,095,405	$ 13,684,669	$ (410,736)	-2.9%
Total Cost due to Marketing & Disposal	$ 830,278	$ 1,675,000	$ 844,722	101.7%
Total Cost	$14,925,683	$ 15,359,669	$ 433,986	2.9%
Total Cost, $ / Ton	$ 363.64	$ 382.56	$ 18.92	5.2%

BUDGET/FISCAL IMPACT:

The FY21 current expense budget includes $14,465,681 for Contract S345. Any overspending will be absorbed within the Operations Division Budget. MWRA will budget accordingly for future fiscal years to fund the operation of the Pelletizing Plant.

MBE/WBE PARTICIPATION:

There were no MBE/WBE participation requirements for this contract; however, NEFCo promised the following participation: MBE 1% and WBE 12%.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Compliance with America's Water Infrastructure Act

COMMITTEE: Water Policy & Oversight

X INFORMATION
VOTE

Stephen Estes-Smargiassi, Director, Planning and Sustainability
Valerie Moran, Director, Waterworks
Preparer/Title

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

RECOMMENDATION:

For information only.

DISCUSSION:

Congress imposed new requirements for assessing and responding to water system vulnerabilities in the America's Water Infrastructure Act (AWIA) that was signed into law in October 2018. AWIA requires that community drinking water systems develop or update risk assessments and emergency response plans and certify to EPA that they have been completed or updated by specified deadlines. Staff previously updated the Board on AWIA in November 2019.

AWIA required that MWRA certify that it had completed Risk and Resilience Assessments in accordance with the Act's requirements by March 31, 2020, and that it had completed Emergency Response Plans meeting the AWIA requirements by September 31, 2020. MWRA has met both certification deadlines.

Risk and Resilience Assessment: AWIA essentially renamed what were previously called Vulnerability Assessments under Congress' post 9/11 requirements as Risk and Resilience Assessments (RRAs). It expanded the threats and consequences covered to include natural hazards and more explicitly covered cyber security and aspects of the system's financial systems.

Emergency Response Plans: In addition to the Risk and Resilience Assessments, AWIA required that systems certify to EPA that they had developed or updated their Emergency Response Plans (ERPs) no later than six months after submission of their RRAs. These ERPs have a broader definition than that typically used by water systems: they include not just planning for responses after an event has occurred, but also longer term planning and implementation actions to deter or detect an event and to mitigate the effects of an event. For MWRA, this broader scope encompasses Master Planning efforts, the redundancy program, and maintenance of back up supplies and emergency response capabilities.

Neither the RRAs nor the ERPs were required to be submitted to EPA; MWRA only needed to certify that they had been completed. They will be kept securely at MWRA. In addition, under AWIA, systems must now recertify that they have reviewed and updated their RRAs and ERPs every five years. Staff's efforts have included creating the documentation necessary to facilitate that five-year update.

MWRA's Approach to Compliance with AWIA

Immediately after passage of AWIA in 2018, MWRA assembled a team of Operations, Security and Emergency Response, Environmental Quality, SCADA and MIS staff to ensure that MWRA would fully meet all the AWIA requirements. The approach that MWRA took included both internal staff efforts and some external consultant efforts as a means to independently check certain facilities or programs.

Since there have been many staffing changes due to retirements, promotions and reassignments, staff have used this opportunity for succession planning and knowledge transfer. A team of staff reviewed all the relevant EPA and AWWA standards and manuals, previous vulnerability assessments and emergency response plans to identify gaps and needs for updating. The consultant that developed EPA's Vulnerability Self-Assessment Tool[1] was brought in to provide training to a group of experienced and newer staff.

MWRA staff and its consultant conducted detailed assessments of nine newer water facilities, as well as reviewed past assessments of all other water facilities. Staff reassessed the SCADA system using the Department of Homeland Security's Cyber Security Evaluation Tool (CSET). The MIS Department used an outside consultant to do in-depth testing of Internet-facing computing systems and computing systems that interact with finances, and document the results with the CSET Tool.

Key Findings

Overall, the effort to comply with AWIA has shown that MWRA's efforts to build resilience into its water system have resulted in a robust and durable system. These efforts include focus on redundancy, back-up systems, effective water quality and security monitoring, security conscious design and operating practices in MWRA's automated control systems, and planning, preparing and practicing for emergencies.

Major findings by MWRA's consultants were that MWRA's focus on redundancy has greatly reduced the risks of service disruption posed by natural or malevolent acts, and MWRA's implementation of delay, detection and deterrence strategies at critical facilities reduces the risks posed to those facilities. These include MWRA's water quality and security monitoring practices with extensive routine process control and regulatory monitoring processes used by MWRA to manage and report on the water system and water quality, as well as the state-of-the-art contaminant monitoring system and associated processes for collecting information from, and collaborating with, our customer communities and health authorities.

An important observation from the work of conducting, reviewing and updating the risk and resilience assessment is that in some areas MWRA practices are well developed and utilized, but

[1] AWIA does not require the use of any particular tool or program. MWRA used a spreadsheet-based version of the AWWA J100 Standard: Risk and Resilience Management of Water and Wastewater Systems.

documentation of those practices has not kept up with MWRA's progress. For example, the review of security practices and operating procedures pointed to a number of areas where MWRA's efforts were meeting the standard of practice under the AWWA G430 standard, but were not well documented. Substantial effort has occurred over the past six months to better document existing practices.

Review of the two water treatment plants noted that MWRA's design, construction and emergency preparedness efforts provided substantial resilience at each facility, with the potential for adapting disinfection strategies to the loss of key components, and in the case of the Carroll Water Treatment Plant, of using an alternate intake and supply conduit. Emergency response plans for both facilities were updated to include newer processes.

The review also found that MWRA's SCADA system design principles provide robust security with effective separation of the SCADA system from outward facing computer systems, dedicated communication systems, redundant pathways and both physical and software isolation of the one-way communication of operating data to other systems. Provision of, and practice in using, fully functional back-up Operation Control Centers, and physical protection of communication equipment also provides a substantial measure of resilience to both malevolent acts and natural hazards such as flooding.

Similarly, in part due to the defense-in-depth best practice employed by the MWRA, the consultant hired by MIS found the perimeter defenses to be solid and to provide appropriate protections against external malevolent acts.

Updates to Emergency Response Plans

AWIA requires water systems have in place ERPs, based on the findings of the Risk and Resilience Assessments, which improve system resilience, aid in the detection of and lessen the impact of malevolent acts or natural hazards that threaten the system's ability to provide safe drinking water. MWRA already had a culture of preparing for emergencies with dozens of detailed emergency response plans and a robust security and water quality monitoring program in place.

Teams of staff reviewed all of MWRA's existing ERP's, updated them and will be incorporating the changes into the regular training and review sessions that are conducted for each facility.

MIS and SCADA staff continue to review cyber security findings from their assessments for opportunities to enhance the strong cyber security protections within the MWRA computing networks.

Assistance to MWRA Customer Communities

Only a few of the largest customer communities are on the same compliance schedule as MWRA, including BWSC, Cambridge and Worcester. Systems serving 50,000 to 99,999 people must complete and certify their RRAs by December 31, 2020, and systems serving 3,301 to 49,999 people must complete theirs by June 30, 2021. In both cases, ERPs are due six months later.

In November 2019, MWRA hosted EPA's AWIA training session for Region 1 at its Chelsea facility. In addition to staff from MWRA and its communities, attendees participated from throughout New England.

As part of MWRA's regular community ERP training program, conducted to help communities meet annual DEP training requirements, MWRA staff included a module on the AWIA requirements and deadlines in the 2019 and 2020 classes. Staff also reached out through training sessions sponsored by Boston Society of Civil Engineers and New England Waterworks Association, and directly coordinated with BWSC and its consultant. Staff will continue outreach through the fall and over the winter to assist communities in meeting the AWIA requirements and deadlines.

BUDGET/FISCAL IMPACT:

The task order for the facilities related Risk and Resilience Assessment cost was $121,523, and the MIS AWIA contract cost to date was $155,722.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Project Update: Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting
Black & Veatch Corporation; Contract 7155

COMMITTEE: Water Policy & Oversight

_X_ INFORMATION
____ VOTE

John P. Colbert, P.E., Chief Engineer
Paul T. Rullo, P.E., Program Manager
Preparer/Title

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

On July 17, 2019, the Board of Directors voted to award Contract 7155, Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting, to Black & Veatch Corporation in the amount of $2,870,000 for a contract term of 36 months from the Notice to Proceed. At the Board's request following the notice to proceed, MWRA staff are providing quarterly updates of the project status, including pipeline condition activities completed in the last quarter and the planned activities for the next quarter.

RECOMMENDATION:

For information only.

DISCUSSION:

During the last quarter, the focus has been installation of a test pit within the Neponset River Estuary, installation of borings, environmental permitting, alternative route development, and hydraulic modeling. All six Phase 1 test pits and 20 of 29 borings have been completed in order to inspect the condition of the pipeline and identify localized soil conditions. The remaining nine Phase 1 borings on Section 22 will be completed this fall. Documentation of the completed test pits using best management practices within the area of critical environmental concern (ACEC) was provided to state and federal agencies, as required in the Advisory Opinion issued by the Massachusetts Environmental Policy Act (MEPA) office. These agencies included Coastal Zone Management, Department of Conservation and Recreation, Department of Environmental Protection, MEPA office, and the Army Corps of Engineers. As required by the permit issued by the Corps of Engineers, a pre-construction and post construction monitoring report was distributed to the agencies. Reestablishment of native vegetation will be monitored for at least the next three growing seasons and annual reports will be sent to the Corps of Engineers to document restoration. The locations of the test pits are shown on the attached Figure 1.

Based on inspection of the pipe and soil analysis from the six test pits, the condition of the 48-inch diameter steel Section 22 pipeline ranges from fair to good. However, at Test Pit 4, the soils are aggressively corrosive, which resulted in pitting and wall loss on the steel pipeline.

On September 12, 2020, a corrosion leak occurred on Section 22 along Forbes Hill Road in Quincy (see photo). This portion of Section 22 is in the southern part of the project, approximately 8,000 linear feet, which has not had many leaks in the past. Soil borings have been performed in the vicinity of the leak. The preliminary results indicate that soil conditions are only mildly corrosive in the area and, therefore, the leak is likely a localized incident where corrosion was accelerated by the small boulder found on the pipe that damaged the exterior coating.

For all work in the ACEC, an alternatives analysis must be completed for the environmental review process. For this project, alternatives to be considered include determining if the pipeline condition is acceptable to delay rehabilitation to the future, slip lining the existing pipeline, horizontal direction drilling for installation of a replacement pipeline, and alternative pipe routings outside the ACEC. Initial results of hydraulic modeling of traditional slip lining with a 36-inch, or 40-inch, diameter steel liner within the ACEC indicated that the water system is unable to fill Blue Hills Tank to the upper operating limit during extended periods of maximum day demand and when redundant pipeline Section 107 is offline. Therefore, Black & Veatch is reviewing the constructability and hydraulics of a 42-inch diameter steel liner.

Within the Neponset River Estuary, Test Pit 1 was completed in August. The results indicate the pipeline, concrete encasement, and wood pile foundation are in good condition. Based on similar positive test results from Test Pit 2, the piping under the Neponset River will be evaluated to identify any leakage to determine if pipe rehabilitation can be delayed. The section under the Neponset River is fully encased in concrete, supported with a wood pile foundation, and the interior of the pipe is lined with concrete. Staff are working to determine an appropriate method to access the pipeline for installation of internal inspection equipment and are reviewing system hydraulics to create necessary flow velocity to support the inspection equipment. The section of pipeline crossing under the Route 93 Southeast Expressway does not have an exterior concrete encasement, has had a corrosion leak in the past and, due to the sensitive location, will likely be either replaced or rehabilitated.

During the next quarter, the Phase 1 boring program will be completed and then a review of test pits and boring information will be done. Test Pit 4 indicated soils with aggressive corrosivity. Staff recommend additional borings in this area to identify limits of soil corrosivity.

600 Foot Crossing of Neponset River – Boston/Milton (Southeast Expressway in Background)

MWRA intends to perform internal leak detection of the portion of the 52-inch cement-lined steel pipeline of Section 22 under the Neponset River to help determine if pipeline rehabilitation is required or more costly alternatives to replace this pipeline are necessary. In addition, hydraulic modeling will be finalized and ongoing consultation with MEPA staff for review of alternatives analysis will continue to determine if an Environmental Notification Form must be filed.

As of October 1, 2020, 37% of the contract value has been expended.

BUDGET/FISCAL IMPACT:

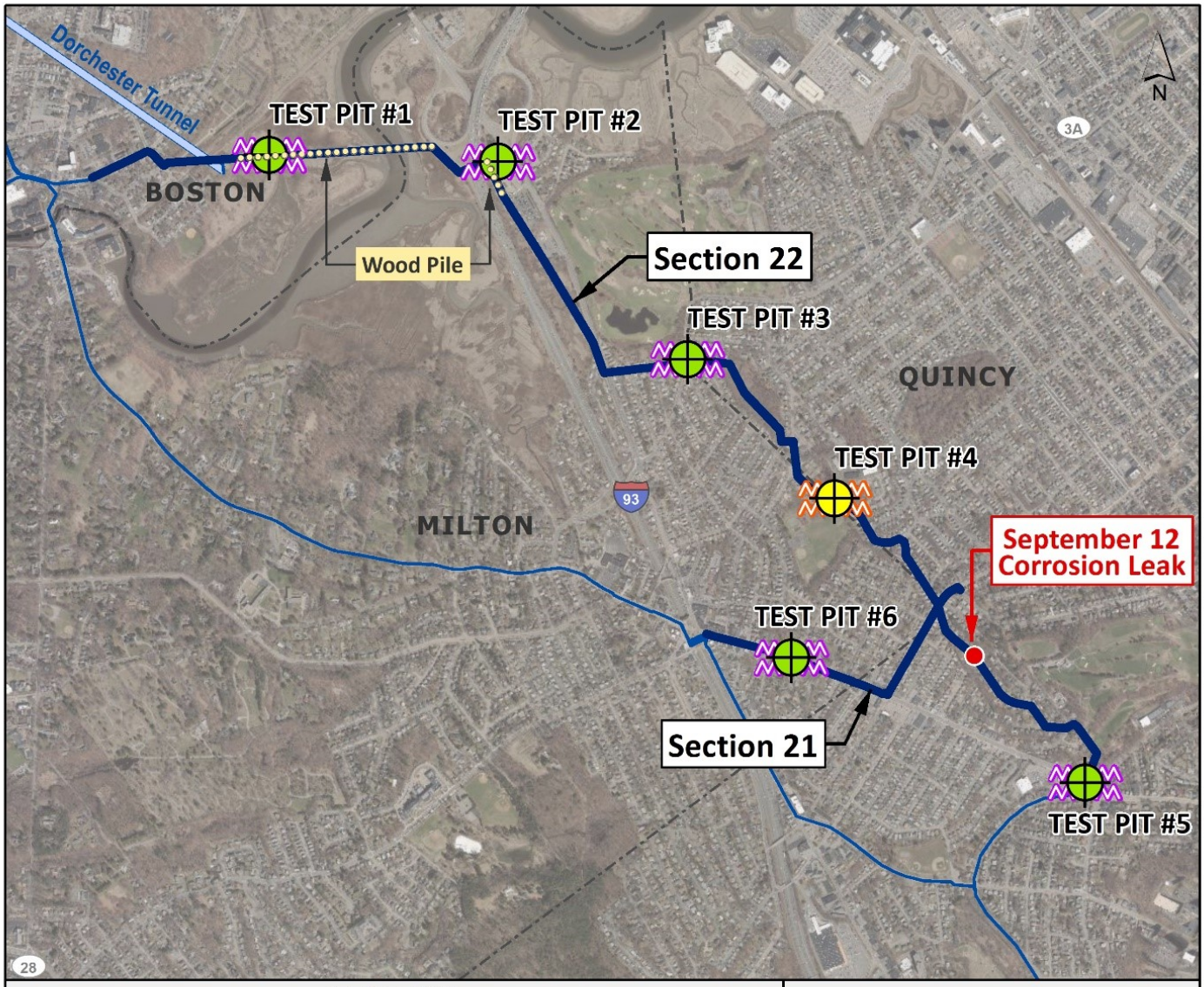
The FY21 CIP includes a budget of $2,870,000 for Contract 7155.

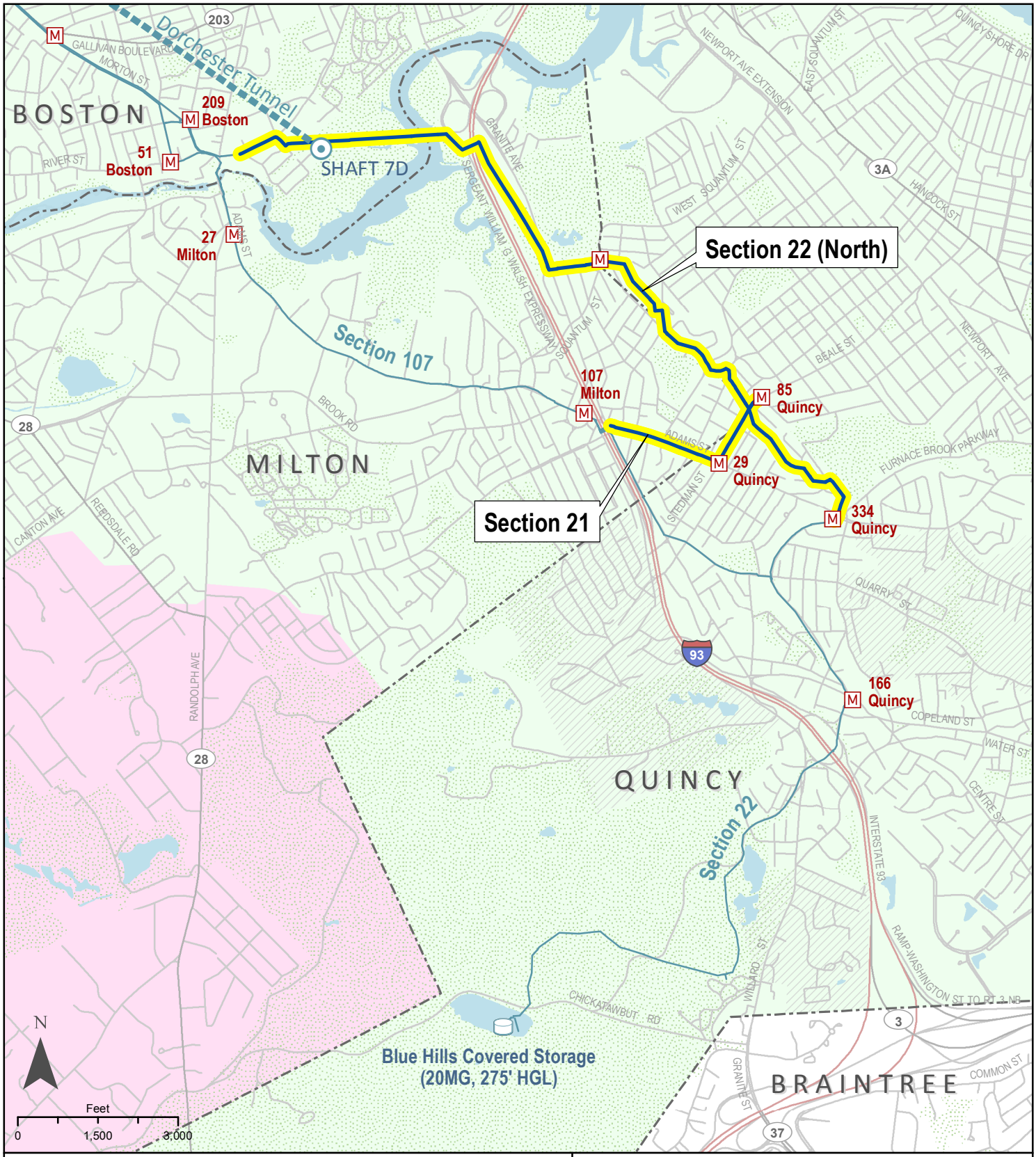
MBE/WBE PARTICIPATION:

The contract with Black & Veatch includes 25.4% MBE and 15.6% WBE participation.

ATTACHMENTS:

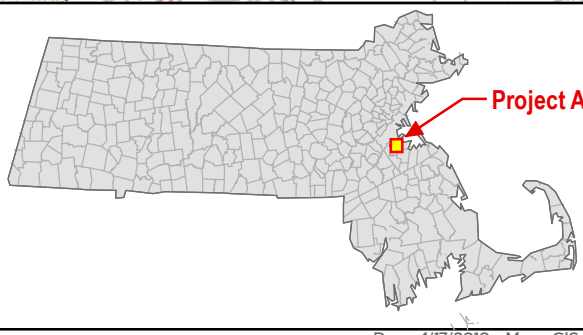
Location of Test Pits
Project Location Schematic


Dorchester Tunnel
TEST PIT #1
TEST PIT #2
BOSTON
Wood Pile
Section 22
TEST PIT #3
QUINCY
TEST PIT #4
93
MILTON
September 12
Corrosion Leak
TEST PIT #6
Section 21
TEST PIT #5
3A
28
N
LEGEND
STATUS
Incomplete
Complete
PIPE CONDITION
Good
Fair
SOIL CONDITION
Mildly Aggressive Corrosivity
Aggressive Corrosivity
FIGURE 1
MWRA Distribution Pipes
Sections 21 & 22
TEST PIT STATUS
9/21/2020 MwraGIS 2027-6



Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting

- Project Location
- Other Distribution Pipes
- MWRA Transmission Lines
- MWRA Transmission Shafts
- MWRA Water Storage
- Meters
- Protected Open Space



Date: 4/17/2019 MwraGIS 1885-2

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Emergency Water Supply Agreement with the Town of Burlington

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COMMITTEE: Water Policy & Oversight

____ INFORMATION
__X__ VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Beth Card, Director, Environmental and Regulatory Affairs
Katie Ronan, Environmental Analyst
Preparer/Title

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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute an Emergency Water Supply Agreement with the Town of Burlington, subject to the approval of the MWRA Advisory Board, for a period of up to six months pursuant to the attached Emergency Water Supply Agreement.

DISCUSSION:

On September 30, 2020, the Burlington Department of Public Works submitted a request to MWRA for emergency withdrawal under MWRA's Operating Policy OP.05 Emergency Water Supply Withdrawals, which applies to communities outside MWRA's Water Service Area that are seeking MWRA water on an emergency basis. MWRA's Executive Director or Chief Operating Officer may approve short-term emergency connections for up to a 30-day period. Emergency connections lasting longer than 30 days and up to six-months require approval from the MWRA Advisory Board and MWRA Board of Directors. Upon approval, long-term emergency connections are subject to the implementation of a six-month Emergency Water Supply Agreement. All emergency connections require a coinciding MassDEP Declaration of Emergency for the community.

The Town of Burlington has had on-going water supply issues and needs to perform maintenance at its Mill Pond surface water treatment facility. This work requires shutting down the facility to remove sludge from the sedimentation basin and other maintenance. Burlington can receive MWRA water on an emergency basis via its existing interconnections with Lexington. The ability of Lexington to supply Burlington, even during periods of high demand, has been established in flow tests and previous emergency connections. It is anticipated that the connection may need to stay open for up to six months in total. On September 30, 2020, DEP issued an Emergency Declaration for Burlington (attached), which extends until March 30, 2021. Pursuant to OP.05, on September 30, 2020, MWRA's Chief Operating Officer approved a short-term emergency connection. Anticipating a longer-term need, MWRA staff are simultaneously seeking approval from the Advisory Board and Board of Directors to extend the connection for up to six months. In

accordance with DEP's Emergency Declaration and OP.05, the Burlington Board of Selectman voted to implement a full water ban effective from September 30, 2020 to March 30, 2021.

Emergency Water Supply Approval Criteria and Requirements

MWRA's emergency water use policy sets forth withdrawal criteria and requirements. The key components of the approval process are as follows:

- The Executive Director or the Chief Operating Officer is authorized to approve the emergency use of MWRA water through an existing or temporary connection to the MWRA or an MWRA water system community by a non-MWRA water system or facility for a period not to exceed 30 calendar days;

- Emergency connections lasting longer than 30 days and up to six months require MWRA Advisory Board and MWRA Board of Directors approval. These long-term emergency connections are subject to an Emergency Water Connection Agreement between the community and MWRA;

- A DEP declaration of water supply emergency in the requesting community, or alternatively, submission by the community of documentation supporting the existence of conditions that could lead to a DEP declaration of water supply emergency per G.L. c. 21G §15, is required for these emergency situations. Approval shall only be granted based on emergencies of non-chronic nature, such as supply and transmission disruptions;

- There must be no negative impact on MWRA's system and member communities;

- A long-term plan to remedy supply deficiencies must be developed;

- The applicant community does not use MWRA water supply as a chronic emergency back-up supply without equitable contribution for the fair asset value of the MWRA waterworks system; and

- The Community must submit a detailed description of water conservation and water accountability programs undertaken.

Contents of Emergency Water Supply Agreement

The Agreement limits water withdrawals to a maximum rate of 0.7 mgd. The proposed long-term emergency connection and emergency water supply agreement will be for the remaining months of the period that begins on October 31, 2020 through March 30, 2021, provided the MWRA Advisory Board approves. Pursuant to the Agreement, all withdrawals must be metered. The Agreement also requires Burlington to adhere to all conditions and requirements contained in the DEP Declaration of Water Supply Emergency. The Agreement reflects MWRA's charges for emergency withdrawals, including a 40% premium charge added to the prevailing rate as well as to the net asset value contribution payment.

Status of Admission Process

Burlington is seeking admission to the MWRA water supply system and is in the final stages of this process. A certificate issued by the Secretary of Energy and Environmental Affairs on April 17, 2020 found that the proposed connection adequately and properly complies with the Massachusetts Environmental Policy Act (MEPA). Burlington has also been working with the Massachusetts Water Resources Commission and its staff throughout 2019 and 2020 to obtain a decision under the Interbasin Transfer Act. The Commission is expected to vote on a Draft Staff Recommendation at its November meeting. Additionally, legislation was authorized on January 1, 2019 adding Burlington to the MWRA Enabling Act. MWRA staff are working closely with Burlington and other agencies to assist and provide information for this environmental review process. The anticipated schedule, following issuance of the interbasin transfer decision is for the MWRA Advisory Board to consider Burlington's application in November 2020. Staff expect to seek approval from the Board of Directors for the connection in December 2020.

The Town of Ashland is also in the process of pursuing admission to the MWRA water system. Ashland has completed the MEPA and interbasin processes. The anticipated schedule for Ashland is likely to be the same as for Burlington, with a plan for the MWRA Advisory Board to consider the application in November 2020. In addition, staff expect to seek approval from the Board of Directors for the Ashland admission application in December 2020.

BUDGET/FISCAL IMPACT:

Pursuant to OP.05, water taken for the eighth emergency withdrawal period is charged at the prevailing rate plus 40% on the water supplied and a net asset value payment plus a 40% premium. MWRA will review actual use information to determine and assess the surcharge amounts. The volume of the emergency withdrawals and, therefore, the amount of revenue MWRA will receive cannot be projected at this time. The net asset value payment (not including premium) will be applied to the entrance fee when Burlington joins MWRA.

ATTACHMENTS:

Draft Burlington Emergency Water Supply Agreement
MassDEP Emergency Declaration

EMERGENCY WATER SUPPLY AGREEMENT – PERIOD EIGHT
BETWEEN
THE MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE TOWN OF BURLINGTON

Parties.

This Emergency Water Supply Agreement ("Agreement") is entered into by and between the Massachusetts Water Resources Authority ("MWRA"), and the Town of Burlington ("Burlington") hereinafter jointly referred to as the "Parties." This Agreement documents the agreement and understanding of the Parties regarding the arrangement whereby MWRA will supply water to Burlington through an interconnection that Burlington has with Lexington, an MWRA served water community and whereby Burlington will purchase a portion of its water supply from the MWRA through Lexington on an as-needed, emergency basis for a period not exceeding six months, as indicated in paragraph 11 hereof.

Recitals.

R.1. The MWRA was created by the Massachusetts legislature in December, 1984 to operate, regulate, finance, and modernize the waterworks and sewerage systems servicing the greater metropolitan Boston area. Operating pursuant to the terms of Section 8(d) of its Enabling Act, chapter 372 of the Acts of 1984 (the "Act"), and pursuant to the Policies and Procedures for Emergency Water Supply Connections of its Board of Directors, the MWRA may enter into arrangements to provide emergency supplies of water to any local body of the Commonwealth, provided certain conditions are met.

R.2. Burlington is a duly constituted municipal corporation of the Commonwealth of Massachusetts ("Commonwealth").

R.3. Lexington is supplied by the MWRA and Burlington has an emergency interconnection through Lexington to the MWRA water supply system.

R.4. Burlington's drinking water sources include both wells in the Vine Brook Aquifer as well as surface water pumped from the Shawsheen River to the Mill Pond Reservoir in Burlington. The ground and surface water sources are served by the Vine Brook Treatment Plant and the Mill Pond Treatment plant, respectively. Water quality factors have required the removal of some of Burlington's wells from service and needed facility repairs have temporarily impacted Burlington's ability to meet water demand with its local sources alone.

R.5. On September 29, 2020, the Town of Burlington Department of Public Works, in an electronic mail communication, notified MWRA there is a need to shut down its Mill Pond Treatment facility in order to remove sludge from the sedimentation basin and other required maintenance. Because of ongoing water supply issues at its Vine Brook Treatment Plant, it had concerns about water levels and an emergency connection was desired.

R.6 On September 30, 2020 the MA Department of Environmental Protection (MassDEP) issued a Declaration of Water Supply Emergency to Burlington, to remain in effect until March 30, 2021 or until such time as MassDEP determines that emergency conditions no longer exist, whichever is sooner. The Declaration of Water Supply Emergency is included as Attachment A to this Agreement.

R.7 The MWRA's Policy for Emergency Water Supply Withdrawals, OP#.05 (the "Policy") includes criteria and a process for approving requests for emergency withdrawals.

R.9. Burlington has applied to the MWRA to use emergency interconnections to the MWRA system through Lexington to supplement Burlington's local water supply sources on an as-needed basis.

R.10. The MWRA has determined that it can supply Burlington with an emergency water supply for a period not exceeding six months under this Agreement without jeopardizing its ability to supply its member communities and without exceeding the safe yield of its water supply system.

R.11. Burlington must comply with all applicable legal and regulatory requirements.

R.12. Pursuant to the MWRA Policy, this Agreement is considered an Emergency Water Supply Agreement Period Eight.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises contained herein and for other good and valuable consideration, the MWRA and Burlington agree as follows:

1. The proposed emergency water supply agreement will extend from October 31, 2020 to March 30, 2021 in accordance with the terms of this Agreement, subject to termination in accordance with numbered paragraph 11 below.

2. Burlington may take water from the emergency interconnection at a maximum rate of 0.7 million gallons per day over the six-month period.

3. The transfer of water from the MWRA through Lexington to Burlington shall not extend beyond a period of six months, unless Burlington submits an application for an additional emergency water supply withdrawal and the MWRA's Board of Directors approves the additional emergency water supply withdrawal. Any withdrawals beyond the DEP Emergency Declaration six-month period will also require an extension of DEP's Water Supply Emergency Declaration. In considering withdrawals beyond six months, the MWRA will consider Burlington's efforts to reduce consumption, to implement its long range plans and comply with DEP orders, and to implement a water conservation program.

4. During the six month term of this Agreement, Burlington shall institute and continue all practicable conservation measures including, but not limited to, a water conservation public education program; 100% metering; leak detection surveys and rehabilitation

programs; conservation pricing for water services; and a local by-law governing outdoor water use with appropriate enforcement measures such as fines and water shut-off for non-compliance. Burlington shall actively administer and enforce such local by-law.

5. Burlington shall submit to MWRA a report on water use, and the status of the emergency.

6. Burlington shall comply with all the conditions of any DEP Declaration of Water Supply Emergency.

7. During the term of this Agreement, the MWRA shall bill Lexington for the total volume of water used by Burlington as metered by Lexington, and will bill Burlington directly for the 40% surcharge over the prevailing rate and an asset value contribution as mandated by the Policy. Lexington shall bill Burlington for water used in accordance with the terms of the agreement between Lexington and Burlington, which is incorporated by reference. Burlington shall remit its payments to Lexington for the total volume of water used. Burlington will remit its payments for the 40% surcharge and an asset value contribution to MWRA directly.

8. The parties agree that the emergency withdrawal authorized under this Agreement is not appropriate for or intended to provide a permanent water supply to Burlington. Any request by Burlington for a permanent partial water supply from MWRA shall require full consideration of all alternatives, including effective water conservation and leak detection, and shall be subject to all approvals required under Section 8 (d) of Chapter 372 of the Acts of 1984, MWRA policies, and under applicable state law and regulations.

9. The MWRA provides potable water in compliance with federal and state drinking water standards at the revenue meters of its waterworks communities. The parties agree that MWRA assumes no liability for the compliance of water delivered pursuant to this Agreement with those state and federal drinking water standards once the water has entered the water distribution system of the Town of Lexington.

10. Any dispute arising between the MWRA and Burlington under the terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 C.M.R. 1.00.

11. The term of this Agreement shall extend from October 31, 2020, the day in which Burlington could begin to take water (“start date”) through and including the six-month anniversary of the Start Date. During the term, MWRA reserves the right to terminate this Agreement at any time due to unforeseen circumstances such as inadequate supply, insufficient hydraulic capacity and other conditions related to the safe supply of existing users and operational requirements of the MWRA’s waterworks system.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on this_____ day of_____, 2020 by their duly authorized representatives.

MASSACHUSETTS WATER
RESOURCES AUTHORITY

By:

_____
Frederick A. Laskey
Executive Director

TOWN OF BURLINGTON

By:

_____
Paul F. Sagarino, Jr.
Town Administrator

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of)
Town of Burlington)
)

Enforcement Number 00010099

EMERGENCY DECLARATION

The Parties

1. The Massachusetts Department of Environmental Protection ("MassDEP") is a duly constituted agency of the Commonwealth of Massachusetts established pursuant to M.G.L. c. 21, § 7. MassDEP has its principal office located at One Winter Street, Boston, Massachusetts 02108, and its Northeast Regional Office located at 205B Lowell Street, Wilmington, Massachusetts 01887.

2. The Town of Burlington (the "Town") is a Municipality within the Commonwealth of Massachusetts having a principal place of business and a mailing address at 29 Center Street, Burlington, MA 01803.

Statement of Facts and Law

3. The Town operates a public water system with MassDEP Registration number 3-15-048.01 and Permit Number 9P-3-15-048.01. The Town, by and through its Water Department, operates and maintains two water treatment facilities. One is the Vine Brook Treatment Facility, which treats groundwater from seven groundwater wells in the Vine Brook aquifer and has a full capacity of 3.2 MGD and the other is the Mill Pond Treatment Facility, which treats surface water that is pumped from the Shawsheen River in Billerica to the Mill Pond Reservoir in Burlington and has a full capacity of 4.5 MGD. To meet the new recommended maximum level for 1,4-dioxane, the Town took Wells 3,

4, and 5 at the Vine Brook Treatment Facility out of operation in 2013. This resulted in the maximum production being limited to 2 MGD.

4. On September 18, 2020, MassDEP received a letter from the Town petitioning for a declaration of a state of water emergency pursuant to M.G.L. c. 21G, § 15 and seeking to open its emergency connection with the Town of Lexington to obtain water from MWRA beginning on September 30, 2020. In the letter, the Town stated that it was seeking the Emergency Declaration "[d]ue to the limited production capacity at the Vine Brook Treatment Plant caused by the 1,4, dioxane contamination of drinking water wells and will allow for needed maintenance, repairs and upgrades at the Mill Pond Treatment Facility." The Town also states that "the Board of Selectmen voted to declare a Full Outdoor Watering Ban effective from September 30, 2020 to March 30, 2021."

5. The Water Management Act, M.G.L. c.21G, § 15, and the Water Management Act Regulations, specifically the provisions of 310 CMR 36.40(1), authorize any water system to petition MassDEP for a Declaration of a State of Water Supply Emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare.

6. Pursuant to M.G.L. c.21G, § 15, and the Water Management Act Regulations at 310 CMR 26.40(2), MassDEP may declare a state of water emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare. Further, in response to a petition for a Declaration of a State of Water Supply Emergency and pursuant to this statutory section, MassDEP may require the water supplier to submit for its review and approval a plan for restraining the use of water by whatever means it deems appropriate and feasible. The statute limits any Declaration of a State of Water Supply Emergency to no more than six months in the aggregate in any twelve-month period, unless MassDEP determines that a longer state of emergency is required to protect the public health.

7. Furthermore, the Water Management Regulations at 310 CMR 36.40(2) provides:

> Upon receiving a petition for a declaration of a state of water supply emergency, the Department may declare an emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare, due to circumstances including, but not limited to:
>
> (a) Demand for water exceeds the availability of water;
> (b) …loss of storage capacity…;
> (c) contamination of the public water supply, ... and inability to meet demand with remaining public water supplies;
> (d) Inadequate source of water, inadequate distribution system capacity, inadequate storage capacity or drought including seasonal water shortages which repeatedly affect the same public water system; or
> (e) necessary repair or maintenance of the public water system.

8. Pursuant to the Water Management Act, M.G.L. c.21G, § 17, MassDEP may issue orders during a state of water emergency declared under M.G.L. c.21G, § 15 to, among other things, establish priorities for the distribution of any water or quantity of water use, to permit any person engaged in the operation of a water supply system to cease the distribution of water, to distribute water to certain users as specified by MassDEP, and to require the implementation of specific water conservation measures.

Determination and Order

9. For the reasons set forth above and pursuant to the Water Management Act, M.G.L. c.21G, § 15, MassDEP hereby determines that a water supply emergency exists and that it endangers the public health, safety or welfare of the citizens of the Town. Unless extended by MassDEP, this Emergency Declaration shall remain in effect until **March 29, 2021** or until such time as MassDEP determines that emergency conditions no longer exist, whichever is sooner.

10. By issuing this Emergency Declaration, MassDEP hereby grants the Town authority to use its emergency connection to the Town of Lexington, subject to the following specific conditions:

    a. The Town shall maintain records of any water pumped from these sources as required under the Regulations during the duration of this Declaration and provide those records to the Department on request.

    b. The Town shall comply with the requirements of the Massachusetts Water Resources Authority ("MWRA") governing emergency use of connections with an MWRA community.

    c. Changes in the use of sources such as the activation of a new interconnection may result in disturbances in the distribution system due to changes in flow volumes, flow patterns, and mechanical disruption. Impacts to the distribution system may include colored water, changes in chlorine demand and residuals, and potential health risks, such as bacterial contamination. A new interconnection may also change hydraulic conditions in the system, impacting the operation of tanks. Additionally, the U.S. Environmental Protection Agency ("EPA") has concluded that distribution maintenance can lead to lead scale disruption, which could cause an increase in drinking water lead concentrations. Given this information, MassDEP hereby requires the Town to conduct a full lead and copper sampling round during the June 1, 2021 -September 30, 2021 monitoring period. Analytical results of said samples shall be reported to MassDEP on or before October 10, 2021.

11. Effective immediately, the Town shall implement a ban on all non-essential outside water use for the duration of this Emergency Declaration. For purposes of this Emergency Declaration, the term "nonessential outside water use" is defined to include those uses that do not have health or safety impacts, are not required by regulation, and are not

needed to meet the core functions of a business or other organization. Burlington shall have the authority to enforce these regulations through the assessment of penalties or the imposition of fines.

12. **On or before December 1, 2020**, the Town shall submit to MassDEP a written report documenting all efforts taken by the Town to implement and enforce the ban on nonessential outside water use required herein, including all actions taken by the Town to inform the public of the ban and to enforce the ban, including the assessment of penalties or imposition of fines. The report shall describe water use trends over the period of the emergency and describe progress and the status of all other conservation programs being implemented by the Town, including any efforts to limit the use of private wells. The Town shall submit copies of all materials and notices prepared to inform the public of the need to conserve water and comply with the ban on nonessential outside water use.

13. The Town shall comply with all the remaining terms and conditions of its MassDEP Registration number 3-15-048.01 and Permit Number 9P-3-15-048.01 that remain unchanged by this Emergency Declaration.

14. If the Town fails to comply with the provisions of this Emergency Declaration, MassDEP may assess a civil administrative penalty as provided in M.G.L. c.21A, § 16 and M.G.L. c.21G, § 14. MassDEP may also seek civil judicial penalties as provided in M.G.L. c.21G, § 14. Each day of continued violation shall constitute a separate offense. In addition, MassDEP may ask the Attorney General to bring an action in the superior court to compel compliance with this Declaration.

Appeal Rights

16. Respondent is hereby notified that it has a right to an adjudicatory hearing on this Order. Pursuant to M.G.L. c. 21G, § 12 and 310 CMR 36.40(1) and effective twenty-one days after the Order is received by the Respondent, Respondent shall be deemed to have waived its right to an adjudicatory hearing on this order unless Respondent files with MassDEP (i.e., MassDEP receives), a written notice of claim for an adjudicatory appeal that clearly and concisely states every point of fact and law Respondent intends to raise as grounds for the appeal, the relief sought, and any additional information required by applicable law. The request must be mailed to:

Commonwealth of Massachusetts
MassDEP-Office of Appeals and Dispute Resolution
One Winter Street
Boston, MA 02211

And a copy sent to:

Heidi M. Zisch, Counsel
MassDEP-Office of General Counsel

Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

The appeal must be accompanied by a valid check made payable to Commonwealth of Massachusetts in the amount of $100.00 for the required filing fee. The filing fee must be mailed to:

Commonwealth of Massachusetts
MassDEP-Office of Appeals and Dispute Resolution
P.O. Box 4062
Boston, MA 02211

The filing fee is not required if the appellant is a city, town, county, or district of the Commonwealth of Massachusetts or a municipal housing authority.

Failure to pay the filing fee as required is grounds for dismissal of the request for hearing.

Waiver of filing fee: Upon a showing of undue financial hardship, MassDEP may waive the adjudicatory hearing filing fee. A person who believes that payment of the $100.00 filing fee would be an undue financial hardship must file, together with the request for adjudicatory hearing as provided above, an affidavit setting forth the facts the appellant believes constitute the undue financial hardship.

Issued by the Department of Environmental Protection this 30th day of September 2020.

By_____
Eric S. Worrall, Regional Director

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Weston Aqueduct Stop Plank Gates
WES Construction Corp.
Contract 7369

COMMITTEE: Water Policy & Oversight

___ INFORMATION
_X_ VOTE

Michele S. Gillen
Director of Administration

Jenna S. Silva, Project 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 7369 Weston Aqueduct Stop Plank Gates to the lowest responsible and eligible bidder, WES Construction Corp., and authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of $2,294,000.00, for a contract term of 270 calendar days from the Notice to Proceed.

DISCUSSION:

This project was initiated to rehabilitate the 104-year-old stop plank gates at the Weston Aqueduct to provide more reliable operation. These gates are necessary to isolate the Weston Reservoir if a break west of Ash Street occurs. If the gates cannot close, significant flooding and damage will occur at the Happy Hollow Siphon and overflow onto Route 126. (See attached.)

Wooden Stop Plank Gates

All four siphon chambers are of identical design, with a 90-inch and a 102-inch diameter siphon installed in each. Wooden gates are in place for each of the siphons at all four chambers. The boards that make up each set of gates are tied together to form a single gate. These boards were replaced between 1997 and 2001 by MWRA maintenance staff.

Gate's Rack and Pinion Lifting System

The gates are raised and lowered with a metal lifting arm using a rack and pinion type lifting system operated by a manual hand crank. The lifting system is 104 years old, is obsolete, past its useful life and in need of replacement.

In addition, the 16-inch diameter blow offs on either side of the Sudbury River (two 16-inch diameter valves at three locations for a total of six) and one air valve at the siphon bridge are 104 years old, past their useful life and in need of replacement.

Inspection, design and bid services were performed by MWRA's technical assistance contract consultant, Hazen and Sawyer. The work in this project includes replacement of two gates and associated guides in Chambers 3 and 4. Initially staff were recommending replacements in all four chambers, but after preliminary cost estimates were developed a decision was made to limit replacement to those critical valves necessary for emergency isolation. Closing valves at Chambers 3 and 4 prevents water from Weston Reservoir flowing back to the other chambers and will protect the downstream siphons from flooding if a break in the Weston Aqueduct occurs. Upgrading the gates in these two chambers provides a means to isolate the Happy Hollow Siphon. In addition, six blow off valves and an air valve that are on the siphons are past their useful life and will be replaced.

Procurement Process

Contract 7369 was advertised in Central Register, the Boston Herald, El Mundo, Banner Publications and COMMBUYS and bid in accordance with Chapter 149 of Massachusetts General Laws.

On July 7, 2020, a pre-bid conference was held via WebEx; on July 9, 2020, a pre-bid site walkthrough was performed. On August 21, 2020, one bid was opened with the following results:

Contractor	Bid Amount
WES Construction Corp.	$2,294,000.00
Engineer's Estimate	*$2,181,000.00*

Two of the contractors that requested bid documents were contacted to determine why they did not bid. The contractors said that this type of work was not the typical utility work that their firms are used to constructing and that the risk outweighed the reward.

WES Construction's bid is 5.18% higher than the Engineer's Estimate prepared by Hazen and Sawyer. Hazen & Sawyer reviewed WES Construction's bid and qualifications, and, along with MWRA staff, spoke with the company's representative. WES Construction has demonstrated a complete and thorough understanding of the project work. Having reviewed the scope of work with

WES Construction, MWRA and Hazen and Sawyer staff are satisfied that the bid includes all elements of work.

WES Construction projects are primarily in the DCAMM work categories for General Building Construction, Pumping Station, Sewage and Water Treatment Plants and Modular Construction/Prefab. The Evaluation and Rating of Contractor Performance sheets for WES supplied by the DCAMM Contractor Certification Office indicated an average project rating of 95 for eight projects evaluated.

WES Construction successfully completed a project for MWRA for the recent Upgrades to the Chelsea Screen House, and is currently working on a project for MWRA at the Commonwealth Avenue Pumping Station in Newton. External and MWRA references for WES Construction were checked and were found to be satisfactory.

Staff have determined WES Construction possesses the skill, ability and integrity necessary to perform the work under this contract and can perform the work for the price bid, which is reasonable and includes the payment of prevailing wages. Therefore, staff recommend the award of Contract 7369 to WES Construction Corp. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY21 CIP includes a budget of $1,946,000 for Contract 7369. The contract award amount is $2,294,000.00, or $348,000 over budget. This amount will be absorbed with the CIP five-year spending Cap.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.24% MBE and 3.6% WBE, respectively. The Affirmative Action and Compliance Unit has reviewed the bid and has determined that it meets these requirements.

ATTACHMENT:

Figure 1 – Overview of Weston Aqueduct Siphon Chambers 1-4, Sudbury River Siphon Bridge, and Happy Hollow Siphon at Rt. 126

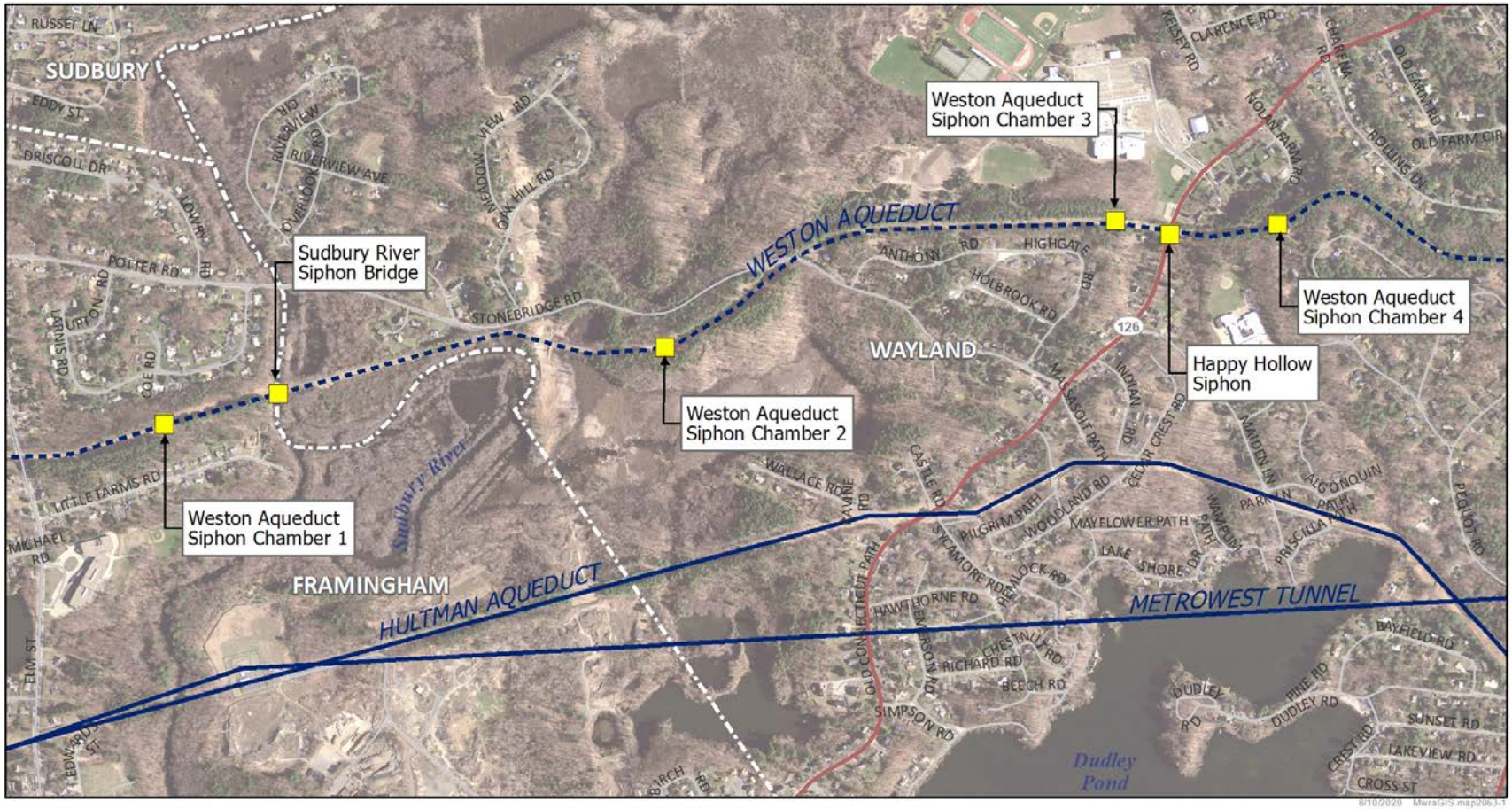


FIGURE 1 – Overview of Weston Aqueduct Siphon Chambers 1-4, Sudbury River Siphon Bridge, and Happy Hollow Siphon at Rt. 126

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Technical Assistance Consulting Services for the John J. Carroll Water Treatment Plant
Hazen and Sawyer P.C., Contract 7713
Stantec Consulting Services Inc., Contract 7714

COMMITTEE: Water Policy & Oversight

____ INFORMATION
__X__ VOTE

Michele S. Gillen
Director of Administration

John P. Colbert, P.E., Chief Engineer
William G. Sullivan, P.E., Sr. Program Manager
Preparer/Title

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

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award two separate contracts to provide Technical Assistance Consulting Services for the John J. Carroll Water Treatment Plant and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7713 with Hazen and Sawyer, P.C. and Contract 7714 with Stantec Consulting Services, Inc., each in an amount not to exceed $1,000,000, with a contract term of 24 months from the Notice to Proceed.

DISCUSSION:

The purpose of these technical assistance contracts is to make available, on a continuing, as-needed basis, the services of qualified, professional engineering firms to assist MWRA staff with engineering and/or design initiatives for the John J. Carroll Water Treatment Plant and other western water transmission facilities. These contracts are primarily used for engineering disciplines, such as civil, structural, environmental and sanitary, mechanical and process engineering, and sometimes for related disciplines including architecture, geotechnical, surveying, fire protection, electrical, control systems, chemical, permitting, and security. The contracts are used on high priority and unanticipated projects, or projects that are not large enough to warrant a full procurement process, including engineering consultants' efforts to develop qualifications and cost proposals. These contracts also provide expertise on short-term assignments requiring specialized disciplines that are not cost effective for MWRA to maintain with in-house staff resources. The contracts are written to ensure that adequate resources are available to quickly and comprehensively respond to MWRA's needs, particularly when emergency or unanticipated situations arise. MWRA awards similar technical assistance contracts for the Deer Island Treatment Plant and for Agency-Wide services. Staff are also presenting a recommendation to

award two similar technical assistance contracts for the Agency-Wide Technical Assistance Consulting Services at this Board meeting.

Staff require approval from the Chief Engineer for all task orders up to and including $25,000; from the Deputy Chief Operating Officer for task orders greater than $25,000 and up to and including $50,000; and from the Chief Operating Officer on any task order greater than $50,000 and up to and including $100,000. In the event that a Task Order greater than $100,000 is needed, the Chief Operating Officer will confer with the Executive Director prior to approval.

Under previous technical assistance contracts, MWRA has issued task orders for a wide variety of work including design of:

- Replacement of the alternator on Emergency Generator No. 1;
- Replacement of the traveling screens in the Winsor Dam Intake;
- Repairs to the top of Shaft 2 of the Quabbin Aqueduct;
- Replacement of pipes in the Wachusett Dam Lower Gatehouse;
- Modifications to the sodium hypochlorite, fluoride and soda ash feed systems; and
- Southborough electrical switchgear upgrade.

Replacement of Winsor Dam traveling screens

Replacement of generator alternator

Potential future technical assistance projects include the design of the following Asset Protection projects:

- Plant HVAC system component replacements;
- Liquid oxygen yard piping and equipment redundancy improvements;
- Improvement of isolation in the plant inlet channel;
- Replacement of plant membrane roofs; and
- Ozone contactor and storage tank joint repairs.

Procurement Process

On July 8, 2020, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publicly advertised in the Central Register, Boston Herald, Banner Publications,

El Mundo, and on the MWRA Supplier Portal. In addition, notice of the RFQ/P was sent directly to 48 firms. On August 19, 2020, MWRA received proposals from the following three firms: Hazen and Sawyer, P.C., Stantec Consulting Services Inc. and Arcadis U.S., Inc. The RFQ/P included the following evaluation criteria and points: Cost - 25 points; Qualifications/Key Personnel - 25 points; Experience/Past Performance - 25 points; Capacity, Organization, Management and Technical Approach - 22 points; and MBE/WBE Participation - 3 points.

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

PROPOSER	SAMPLE COST EXERCISE ESTIMATE
Hazen and Sawyer, P.C.	$944,090.27
Stantec Consulting Services Inc.	$966,872.00
Arcadis U.S., Inc.	$999,566.71
Engineer's Estimate	$1,000,000.00

The five voting members on the Selection Committee reviewed, scored and ranked the proposals as follows:

PROPOSER	TOTAL POINTS	ORDER OF PREFERENCE* TOTAL SCORE	FINAL RANKING
Hazen and Sawyer, P.C.	424	7	1
Stantec Consulting Services Inc.	413	8	2
Arcadis U.S., Inc.	287	15	3

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

Hazen and Sawyer was ranked first by the Selection Committee. The Selection Committee was in agreement that the personnel listed for Hazen and Sawyer are highly qualified for this type of work. Hazen and Sawyer also demonstrated a wide variety of experience including extensive experience with water treatment plants. Hazen and Sawyer is the consultant for one of the current John J. Carroll Water Treatment Plant Technical Assistance contracts and one of the Agency-Wide Technical Assistance contracts. MWRA staff reported that Hazen and Sawyer's performance on the existing and past Technical Assistance contracts has been very good to excellent. They had the lowest cost in the cost exercise.

Stantec was ranked second by the Selection Committee. The Selection Committee was in agreement that Stantec's proposed personnel are highly qualified for this type of work. Stantec also demonstrated a wide variety of experience including good experience with water treatment plants. Stantec (and previously as Fay, Spofford & Thorndike) received very good internal

references for its work under previous Technical Assistance contracts at the John J. Carroll Water Treatment Plant dating back to December 2005. As one of the two incumbent Technical Assistance consultants, Stantec is very familiar with the plant and its team members for this contract are the same as for previous contracts. Furthermore, Stantec had the second lowest cost for services in the exercise.

Arcadis was ranked third by the Selection Committee. The Selection Committee was in agreement that Arcadis' proposed personnel generally met the experience requirements of the RFQ/P; however, the proposed Project Manager has substantially less experience than the Project Managers proposed by the other two firms. Lastly, Arcadis had the highest cost for services in the exercise.

Based on the qualifications of the firms and the cost exercises, the Selection Committee recommends the award of Contract 7713 to Hazen and Sawyer, P.C. and Contract 7714 to Stantec Consulting Services, Inc., each for a not-to-exceed amount of $1,000,000 and a contract term of two years from the notice-to-proceed date.

BUDGET/FISCAL IMPACT:

The FY21 CIP includes $750,000 each for the Carroll Water Treatment Plant Technical Assistance Contracts 7713 and 7714. Any difference will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

Due to the specialized and uncertain nature of this work, no minimum MBE or WBE participation was established for these contracts. However, Hazen and Sawyer's proposal identified its commitment to 0.5% MBE and 3.5% WBE participation. Stantec's proposal identified its commitment to 8% MBE and 6% WBE participation.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Commonwealth Avenue Pumping Station Improvements
WES Construction Corp.
Contract 7524, Change Order 8

COMMITTEE: Water Policy and Oversight

___ INFORMATION
_X_ VOTE

Corinne M. Barrett, Director, Construction
Eleanor Duffy, P.E., Assistant Director, Construction
Preparer/Title

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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 8 to Contract 7524, Commonwealth Avenue Pumping Station Improvements, with WES Construction Corp. for a not to exceed amount of $150,000, increasing the contract amount from $7,508,212.25 to $7,658,212.25, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7524 in an amount not to exceed the aggregate of $250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

The Commonwealth Avenue Pumping Station supplies water to 85 percent of the City of Newton. The pumping station is supplied through a single connection to Shaft 6 of MWRA's High Service City Tunnel and can serve the remaining 15 percent in an emergency. The pumping station is supplied through a single connection to Shaft 6 of MWRA's City Tunnel.

The Commonwealth Avenue Pumping Station was originally placed into service in 1953 and has received a variety of improvements over the years, including a renovation completed in 1999. That renovation upgraded the capacity and reliability of the pumping station and included the construction of the West Building with two additional pumps, a 900kW diesel generator, and rehabilitation of the East Building's piping, valves and two pumps.

This construction contract includes the installation of a new 24-inch diameter suction pipe to the East Building from the Weston Aqueduct Supply Main Low Service 48-inch (WASM 1) and 60-inch (WASM 2) pipes located in the Carriage Lane of Commonwealth Avenue across the street from the pumping station, and the installation of two new pumps (one replacement and one new) capable of pumping from the low service grade lines to provide water supply redundancy. This redundancy will allow the pumping station to operate in the event that Shaft 6 of the City Tunnel

cannot provide suction to the pumping station. The project also includes new Supervisory Control and Data Acquisition (SCADA) instrumentation and controls, new heating, ventilation and air conditioning equipment to replace older equipment that has a history of maintenance issues, painting of the suction and discharge piping, and new suspended ceilings in the office/control rooms and bathrooms.

This Change Order

Change Order 8 consists of the following item:

Increase the Work Performed in Change Order 4 Not to Exceed $150,000

On March 18, 2020, the Board of Directors approved Change Order 4 to furnish and install two 24-inch insertion valves on the existing Shaft 6 suction mains under a time and materials basis for an amount not to exceed $225,000. Change Order 4 resulted from MWRA's inability to isolate the existing Shaft 6 suction mains that feed the East and West Pumping Stations, which prevented the contractor from connecting the new suction pipeline from the WASMs into the East Pumping Station.

The subsequent design of the insertion valves and the required thrust restraint for the existing suction mains resulted in a significant amount of additional work that was not anticipated when Change Order 4 was approved. The thrust restraint was larger and more difficult to install. The support of excavation involved a rented slide rail system that encompassed both suction mains and remained open longer than anticipated. Further, a crane was required to set the valve manholes due

Two insertion valves installed on the existing 24-inch Shaft 6 suctions mains

to restricted site access. While the insertion valves were successfully installed on the evenings of May 19 and 21, the work was not completed until June when the excavation was backfilled and the area restored. Staff were evaluating proceeding with the tie-in work starting in late May, but were concerned that the shut downs could adversely affect water quality due to flow reversals. As this was during the height of the shelter at home period of the pandemic, staff did not want to do anything that would affect customers' confidence in the safety of their water.

Due to high summertime demand restrictions, the contractor was further constrained from connecting the new low service suction pipeline until the fall. This delayed acceptance of the new pumps in the East Pumping Station, which in turn delayed replacement of the SCADA Main Control Panel in the West Pumping Station. These delays resulted in the need for a 180-day time extension to the contract. Negotiations with the contractor were not complete in time for the September Board of Directors' meeting. Therefore, the contract was extended under Delegated Authority in Change Order 7. The allowable other direct costs, such as the cost for the contractor's trailers, associated with Change Order 7 are included in the not-to-exceed amount of this change order, and identified by staff as an unforeseen condition. While staff and the Consultant agreed to an amount not to exceed $150,000, staff anticipate execution of this change order unilaterally as the Contractor is not in agreement with the compensation for the other direct costs associated with the delays and time extension.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	$6,879,500.00	580 Days	02/04/19
Change Orders			
Change Order 1*	$7,261.59	0 Days	12/09/19
Change Order 2*	$146,503.51	0 Days	02/03/20
Change Order 3*	$94,858.02	0 Days	04/30/20
Change Order 4	$225,000.00	0 Days	04/30/20
Change Order 5*	$9,507.29	0 Days	07/09/20
Change Order 6*	$13,980.81	0 Days	08/03/20
Change Order 7*	$131,601.03	180 Days	10/5/20
Change Order 8	$150,000.00	0 Days	Pending
Total Change Orders	$778,712.25	180 Days	
Adjusted Contract:	$7,658,212.25	760 Days	

*Approved under delegated authority

If Change Order 8 is approved, the cumulative total value of all change orders to this contract will be $778,712.25 or 11.3% of the original contract amount. Work on this project is approximately 79% complete.

BUDGET/FISCAL IMPACT:

The FY21 CIP includes a budget of $7,515,137 for Contract 7524. Including this change order for $150,000, the adjusted sub-phase will be $7,658,212.25 or $143,075.25 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The D/MBE and D/WBE participation requirements for this project were established at 4.2% and 4.5%, respectively. The Contractor has been notified that these requirements are still expected to be met.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Commonwealth Avenue Pumping Station Improvements
Design, Engineering Services During Construction and
Resident Engineering/Inspection Services
Black & Veatch Corporation
Contract 7523, Amendment 1

COMMITTEE: Water Policy & Oversight

___ INFORMATION
_X_ VOTE

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

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

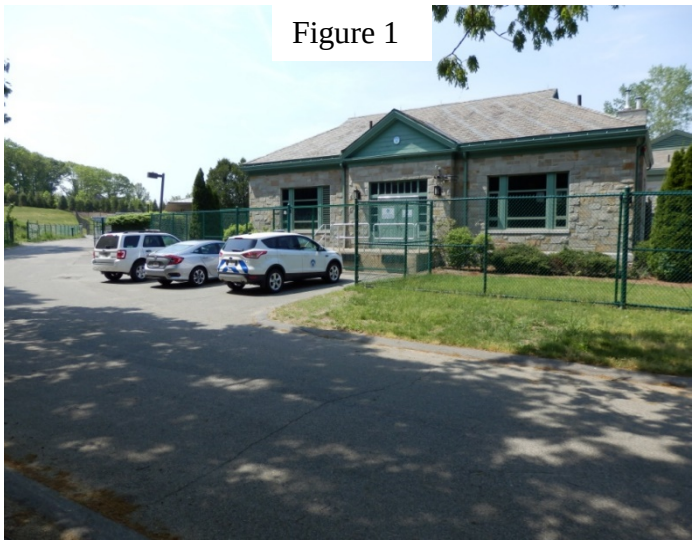
RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7523, Commonwealth Avenue Pumping Station Improvements Design, Engineering Services During Construction and Resident Engineering/Inspection Services, with Black & Veatch Corporation, in the amount of $293,202, increasing the contract amount from $2,765,907 to an amount not-to-exceed $3,059,109 and extending the contract term by nine months, from July 4, 2021 to April 4, 2022.

DISCUSSION:

The Commonwealth Avenue Pumping Station is located at 1160 Commonwealth Avenue in a primarily residential neighborhood in the City of Newton (Figure 1). It supplies water to 85 percent of the City of Newton and can serve the remaining 15 percent in an emergency. The pumping station is supplied through a single connection to Shaft 6 of MWRA's City Tunnel.

Figure 1



The Commonwealth Avenue Pumping Station was originally placed into service in 1953 and has undergone a variety of improvements over the years, including a renovation completed in 1999. That renovation to upgrade the capacity and reliability of the pumping station included

construction of the West Building with two pumps and a 900kW diesel-generator, and rehabilitation of the East Building's piping, valves and two pumps.

As part of the interim improvements identified in the Metropolitan Tunnel Redundancy analysis, the Board of Directors approved the award of Design Contract 7523 for Commonwealth Avenue Pumping Station Improvements to Black & Veatch Corporation on November 16, 2016. The primary purpose of the project is to provide a redundant potable water supply to the pumping station in the event that the City Tunnel fails or needs to be taken out of service.

This Amendment

Construction Contract 7524, Commonwealth Avenue Pumping Station Improvements, was subsequently awarded to WES Construction Corporation on January 16, 2019. This construction contract includes the installation of a new 24-inch diameter suction pipe to the East Building from the Weston Aqueduct Supply Main Low Service 48-inch (WASM 1) and 60-inch (WASM 2) pipes located in the Carriage Lane of Commonwealth Avenue across the street from the pumping station, and the installation of two new pumps (one replacement and one new) capable of pumping from the low service grade line to provide water supply redundancy. The project also includes new Supervisory Control and Data Acquisition (SCADA) instrumentation and controls, new heating, ventilation and air conditioning equipment to replace older equipment that has a history of maintenance issues, painting of the suction and discharge piping, and new suspended ceilings in the office/control rooms and bathrooms.

Amendment 1 will increase the total contract amount by $293,202 from $2,765,907 to a not-to-exceed amount of $3,059,109, and extend the contract term by nine months, from July 4, 2021 to April 4, 2022 for the following items:

<u>Additional Time for Warranty Coverage</u> Nine Months

The contract extension of time is necessary as the result of unforeseen conditions that delayed the contractor from completing the construction as originally planned. The delays were due to:

- MWRA's inability to isolate the existing Shaft 6 suction mains that feed the East and West Pumping Stations. This prevented the contractor from connecting the new low service suction pipeline from the WASMs into the East Pumping Station. On March 18, 2020, the Board of Directors approved Change Order 4 to the construction contract to furnish and install two 24-inch insertion valves on the existing Shaft 6 suction mains under a time and materials basis for an amount not to exceed $225,000. This work was completed in early June (Figure 2).

Figure 2. New Insertion Valves

- Until the new low service suction main is connected, the new pumps and new SCADA Main Control Panel located in the East Pumping Station cannot be tested and accepted. The acceptance of the new pumps in the East Pumping Station is required prior to the contractor removing and replacing the SCADA Main Control Panel in West Pumping Station. Only one pumping station can be taken out of service at a time.

- Connection to the new suction main was postponed until the fall when water supply demands are lower. That work is now underway. The remaining work in the contract will follow.

These delays resulted in a 180-day time extension for the contractor substantial completion date from September 30, 2020 to March 29, 2021.

The existing Black & Veatch contract is set to expire on July 4, 2021, which is three months later than the original construction contract completion. In order to maintain the 12-month warranty period, the Black & Veatch contract will be extended for nine months, from July 4, 2021 to April 4, 2022. The additional time will support completion of construction activities, including project closeout, and provide 12 months of warranty coverage following construction substantial completion.

Additional Resident Engineering and Resident Inspection (RE/RI) Services $137,825

This contract provides for a full time Resident Engineer staffed by Black & Veatch, and a full time Resident Inspector staffed by Green International Associates, a subconsultant to Black & Veatch, to provide RE/RI services for the project. Some Resident Engineer and Resident Inspector Services are required to support the completion of the project.

An additional five months of Resident Engineering Services is required to support both the overall project and completion of all activities in the pumping station. This includes completing the tie-in of the new low service connection to the East Pumping Station, the connection to the 60-inch low service pipe, startup and testing of the two new low service pumps and SCADA system in the East Pumping Station and installation, startup and testing of the SCADA system in the West Pumping Station. The Resident Engineer position was vacant for the months of July and August with Black & Veatch staff providing on-call Resident Engineering Services during those months when required. An additional 778 hours of Resident Engineering Services will be required.

Additional hours are also required for the Resident Inspector for two additional months for oversight and inspection of the remaining water main installation work on the project. Once the new tie-connection to the East Pumping Station is completed, water from the new low service connection will be available for testing of the new pumps. Approximately 85% of the pipeline work is already completed. An additional 360 hours will be added under this amendment for Resident Inspector Services.

Project Administration Services $83,377

To support the project extension by nine months, additional project management time is required for both Black & Veatch and Green International to support the additional project meetings,

monthly reports and invoicing for this project.

Additional Engineering Services during Construction and Out of Scope Work $72,000

This Amendment also includes funding for an additional level of effort for engineering services during construction that were already completed, and for additional services and funding required as construction activities continue on this project. Two new insertion valves and thrust blocks (as previously referenced) needed to be designed and inspected to allow for the isolation of the pumping station so that the tie-in from the new low service connection to the East Pumping Station could be completed this fall. Testing for this work was completed to provide the necessary redundancy for Operations, and was supported by the consultant. The balance of the required testing could not be completed because the tie-in to the low service connection was not completed. As a result, a second round of SCADA testing will be required in the East Pumping Station for the two new low service pumps.

CONTRACT SUMMARY

	Amount	Time	Dated
Contract Award:	$2,765,907.14	54 Months	02/22/17
Proposed Amendment 1:	$ 293,202.00	9 Months	Pending
Adjusted Contract:	$3,059,109.14	63 Months	

BUDGET/FISCAL IMPACT:

The FY21 Capital Improvement Program includes a budget of $3,061,000 for Contract 7523. Including this amendment for $293,201.22, the adjusted contract total will be $3,059,108.36.

MBE/WBE PARTICIPATION:

The minimum MBE and WBE participation requirements for this contract were established at 7.18% and 5.77% respectively. Black & Veatch Corporation has proposed 24.34% MBE and 6.48% WBE participation which become a requirement for this contract

ATTACHMENT:

Figure 1 - Commonwealth Avenue Pumping Station – Remaining Pipeline Work

Figure 1


New WASM 2 Connection
Carriage Rd
Commonwealth Avenue
Section 75
WASM 2
WASM1
New Section 113
Commonwealth Avenue
Comm Ave PS West
Comm Ave PS East
New Low Service Pump Station Tie-in
Vault "B"
New Insertion Valves
S6
S6
City Tunnel
City Tunnel
Shaft 6
LEGEND
Existing
New Work
Remaining work

STAFF SUMMARY

TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: October PCR Amendments

COMMITTEE: Personnel and Compensation

____ INFORMATION
__X__ VOTE

Andrea Murphy, Director of Human Resources
Preparer/Title

Michele S. Gillen
Director, Administration

RECOMMENDATION:

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

DISCUSSION:

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

There are 13 PCR Amendments this month.

Proposed Organizational Changes to the Occupational Health and Safety Department:

The Occupational Health and Safety Department is responsible for the health and safety of MWRA employees as well as visitors to MWRA facilities and contractors and vendors working at MWRA facilities. It is also responsible for compliance with the Massachusetts "Act Relative to Standards of Safety" also referred to as OSHA for Public Sector, the Commonwealth of Massachusetts COVID-19 Re-Opening Plan safety standards as well as industry best practices.

Staff had begun to consider organizational changes, prior to COVID-19, that they believe would better satisfy the compliance and reporting requirements of the Massachusetts Standards of Safety Act. The COVID-19 pandemic and MWRA's response to it further highlighted the critical role this department plays in one of MWRA's top priorities - maintaining a safe and healthy workplace for its employees. COVID-19 also presented many challenges and underscored the need for new and increased safety training, education, and facility hazard assessments and modifications. The lessons learned from the pandemic along with the recent retirement of a key member of the Occupational Health and Safety team (the Manager, Safety and Security) and the

resignation of another staff person, presented a timely opportunity to reassess the department's long-term staffing needs and organizational structure.

Staff are recommending that we utilize the position of the Manager, Safety and Security to create a new role to assess training needs, develop and deliver training, and ensure employees are provided with the appropriate safety training.

Staff are also proposing to add two new, lower-level Safety Technician positions to ensure the availability of safety equipment, conduct training and to perform facility safety audits and workplace hazard assessments at MWRA's multiple facilities.

The Department has a solid internal bench of two O&M Safety Specialists who are capable of assuming a higher level of responsibility. Staff propose to re-assign the duties and responsibilities of the Manager, Safety and Security to the two O&M Specialists and to upgrade those positions to reflect their new roles.

Organizational Changes

1. Title and grade change to one vacant position in the Administration Division, Occupational Health and Safety department from Manager, Safety & Security Unit 9 Grade 30, to Safety Coordinator, Unit 9 Grade 22, to address staffing needs.
2. Title change to one vacant position in the Administration Division, Occupational Health and Safety department from Safety Program Coordinator Unit 9 Grade 25, to Project Manager, Safety, Unit 9 Grade 25 to meet staffing needs.
3. New position created in the Administration Division, Occupational Health and Safety department for Safety Technician, Unit 9 Grade 18, to address staffing needs at various locations.
4. New position created in the Administration Division, Occupational Health and Safety department for Safety Technician, Unit 9 Grade 18, to address staffing needs at various locations.
5. Title and grade change to one filled position in the Administration Division, Occupational Health and Safety from O&M Safety Specialist, Unit 9 Grade 24, to Program Manager, Safety (Security, Construction, and RCRA), Unit 9 Grade 29, to reflect increased responsibilities of the position.
6. Title and grade change to one filled position in the Administration Division, Occupational Health and Safety from O&M Safety Specialist, Unit 9 Grade 24, to Program Manager, Safety (Events, Training, ERT), Unit 9 Grade 29, to reflect increased responsibilities of the position
7. Grade change to one filled position in the Finance Division, Controller department from Senior Accountant Unit 6 Grade 9, to Senior Accountant, Unit 6 Grade 10, to more accurately reflect the responsibilities of the position.
8. Grade change to one filled position in the Finance Division, Controller department from Senior Accountant Unit 6 Grade 9, to Senior Accountant, Unit 6 Grade 10, to more accurately reflect the responsibilities of the position.
9. Grade change to one filled position in the Finance Division, Controller department from Senior Accountant Unit 6 Grade 9, to Senior Accountant, Unit 6 Grade 10, to more accurately reflect the responsibilities of the position.

10. Grade change to one vacant position in the Affirmative Action Division from Workforce Development Coordinator Unit 6 Grade 8, to Workforce Development Coordinator, Unit 6 Grade 9, to more accurately reflect the responsibilities of the position.
11. Title and grade change to one vacant position in the Operations Division, Deer Island Thermal Plant from Senior Program Manager, Energy (Deer Island) Unit 9 Grade 30, to Program Manager, Energy (Deer Island), Unit 9 Grade 29, to more accurately reflect the responsibilities of the position.
12. Title and grade change to one vacant position in the Operations Division, Deer Island Thermal department from Third Class Engineer Unit 3 Grade 18, to Second Class Engineer Unit 3 Grade 20, to meet the staffing needs of the department.
13. Title change to one vacant position in the Operations Division, Deer Island Maintenance department from Trades Foreman Unit 3 Grade 19, to Trades Foreman (Licensed) Unit 3 Grade 21, to meet staffing needs due to complexity of Deer Island maintenance.

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will be a maximum cost of $167,282. Staff will ensure that the cost increase associated with these PCR amendments will not result in spending over the approved FY21 Wages and Salaries budget.

ATTACHMENTS:

PCR Amendment Chart
Old Job Descriptions
New Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2021

PCR AMENDMENTS REQUIRING BOARD APPROVAL - October 14, 2020

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary			Estimated Annual $ Impact			Reason For Amendment
B10	Occupational Health and Safety Administration 8910002	V	T, G	Manager, Safety & Security	9	30	Safety Coordinator	9	22	$134,318	$96,983	-	$96,983	-$37,335	-	-$37,335	Title and grade change to meet staffing needs.
B11	Occupational Health and Safety Administration 8910008	V	T	Safety Program Coordinator	9	25	Project Manager, Safety	9	25	$94,442	$94,442	-	$94,442	$0	-	$0	Title change to meet staffing needs.
B12	Occupational Health and Safety Administration 8910010	N/A	N/A	N/A	N/A	N/A	Safety Technician	9	18	$0	$79,591	-	$79,591	$79,591	-	$79,591	New position to address staffing needs at various locations.
B13	Occupational Health and Safety Administration 8910011	N/A	N/A	N/A	N/A	N/A	Safety Technician	9	18	$0	$79,591	-	$79,591	$79,591	-	$79,591	New position to address staffing needs at various locations.
B14	Occupational Health and Safety Administration 8910003	F	T, G	O&M Safety Specialist	9	24	Program Manager Safety (Security, Construction, RCRA)	9	29	$105,954	$114,682	-	$114,682	$8,728	-	$8,728	Title and grade change to reflect increased responsibilities of the position.
B15	Occupational Health and Safety Administration 8910004	F	T, G	O&M Safety Specialist	9	24	Program Manager Safety (Events, Training, ERT)	9	29	$105,854	$114,682	-	$114,682	$8,828	-	$8,828	Title and grade change to reflect increased responsibilities of the position.
B16	Controller Finance 4310011	F	G	Senior Accountant	6	9	Senior Accountant	6	10	$88,036	$96,898	-	$96,898	$8,862	-	$8,862	Grade change to more accurately reflect the responsibilities of the position.
B17	Controller Finance 4310002	F	G	Senior Accountant	6	9	Senior Accountant	6	10	$75,915	$83,556	-	$83,556	$7,641	-	$7,641	Grade change to more accurately reflect the responsibilities of the position.
B18	Controller Finance 4310004	F	G	Senior Accountant	6	9	Senior Accountant	6	10	$88,036	$96,898	-	$96,898	$8,862	-	$8,862	Grade change to more accurately reflect the responsibilities of the position.
B19	Affirmative Action 8410005	V	G	Workforce Development Coordinator	6	8	Workforce Development Coordinator	6	9	$80,060	$57,534	-	$88,036	-$22,526	-	$7,976	Grade change to more accurately reflect the responsibilities of the position.
B20	Deer Island Maintenance Operations 2931019	V	T, G	Senior Program Manager, Energy (Deer Island)	9	30	Program Manager, Energy (Deer Island)	9	29	$134,318	$92,357	-	$128,959	-$41,961	-	-$5,359	Title and grade change to more accurately reflect the responsibilities of the position.
B21	Deer Island Thermal Operations 2931015	V	T, G	Third Class Engineer	3	18	Second Class Engineer	3	20	$83,409	$64,100	-	$91,396	-$19,309	-	$7,987	Title and grade change to meet staffing needs of the department.
B22	Deer Island Maintenance Operations 2988021	V	T, G	Trades Foreman	3	19	Trades Foreman (Licensed)	3	21	$95,641	$61,156		$87,551	-$34,485	-	-$8,090	Title and grade change to meet staffing needs due to complexity of Deer Island maintenance.

BOARD TOTAL= 13 **TOTAL:** $46,487 - $167,282

MWRA
POSITION DESCRIPTION

OLD

POSITION: Manager, Safety & Security

DIVISION: Operations

DEPARTMENT: Deer Island Operations/Safety/Security

BASIC PURPOSE:

Recommends, develops and administers all security, safety, health and hazard prevention programs for DITP.

SUPERVISION RECEIVED:

Works under the general supervision of the Deer Island Deputy Director of O & M Support.

SUPERVISION EXERCISED:

Supervises a Safety/Security staff of three, as well as DITP's 15 member Emergency Response Team (ERT).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and implements occupational safety and health, environmental policies and programs to promote a safe work environment and ensure compliance with applicable standards and requirements with respect to physical, biological, mechanical and chemical hazards.

- Provide overall management of all DITP's security functions.

- Administers and updates safety and health training programs with department managers and employees, and coordinates with the Training Unit.

- Supervises the staff of three Safety/Security personnel. Oversees the operations of approximately 20 contract security guards on DITP.

- Manages the DITP Emergency Response Team to include supervision of team members, budget, procurement, training and deployment of the team. Serves as an emergency responder.

- Develops and delivers training for the following: contractor orientation, emergency evacuation, plant access, security, emergency medical response, technical rescue, incident command, hazardous materials spills response and environmental training.

- Reviews materials such as Accident/Loss Reports, Injury/Illness reports, security logs and updates, electronic monitoring reports, card and Gate Access logs, video surveillance and Theft/Loss reports. Initiates programs to identify safety and health hazards. Initiates corrective action based on statistical trends.

- Manages safety audit programs. Conducts periodic safety tour inspections to identify safety and health hazards. Initiates corrective action based on statistical trends.

- Oversees the Contractor Safety Program. Conducts periodic safety inspections to identify safety and health hazards to include audit of contractor sites at DITP.

- Manages DITP ID badging and the DITP parking and vehicle database.

- Manages emergency provisions for DITP to include initiating safety orders, overseeing inventories and distributing emergency provisions (e.g., food and water during events which isolate DI from the mainland and from supplies).

- Manages the inventory of DITP communications devices.

- Serves as the Designated Resource Conservation and Recovery Act (RCRA) officer

- Provides staff and resources to the Plant Safety Committees.

- Works with the MWRA Safety Committees as a resource and secures assistance in reducing and eliminating safety and health hazards.

- Provides coordination and direction for assigned occupational safety and health specialists.

- Advises all levels of line supervision on usage, control and disposal of chemicals and hazardous materials to include requirements resulting from DITP's status as a "Large Quantity Generator" of hazardous waste, the development of an Integrated Contingency Plan and the DITP Emergency Response team as a responder to hazardous material incidents.

- Assists managers and supervisors with investigations of accidents and responds as required.

- Reviews safety work order requests, assists with prioritization and makes recommendations for corrective action.

- Works with external environmental and regulatory agencies to solicit and encourage the exchange of information to include law enforcement, fire safety, emergency management and other agencies from the local community.

- Reviews assigned employees performance according to MWRA procedures.

- Administers, updates and maintains Right-to-Know programs, Evacuation Training, Security and ICP awareness.

- Administers the application of collective bargaining provisions and personnel policies in the workplace.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college program in industrial hygiene, engineering, occupational health, safety or related field; and

(B) Knowledge of hazardous materials, industrial safety and environmental health issues and of OHSA, DEP, EPA, and DLI Standards and understanding how to make judgments relating to safety and health hazards, as acquired through six (6) to eight (8) years of relevant experience of which two (2) to three (3) years should be in a supervisory or managerial capacity; or

(C) Any equivalent combination of education and experience.

(D) Necessary Knowledge, Skills and Abilities:

(E) Ability to understand and identify technical and safety related issues and concerns.

(F) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of a supervisory training program or an approved substitution.

(G) Excellent interpersonal, written and oral communications skills required.

SPECIAL REQUIREMENTS:

Certified Safety Professional (CSP), or other relevant certification preferred. American Board of Industrial Hygiene Certification desired.

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, 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 occasionally is required to site, stand and walk. The employee is frequently required to climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

September 2005

MWRA
POSITION DESCRIPTION

NEW

POSITION: Safety Coordinator

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Develops, reviews, and communicates safety policies, procedures, and informational alerts. Develops curriculum for safety courses and maintains records of employee training. Maintains safety documentation. Procures and distributes safety equipment and supplies. Conducts safety audits to ensure compliance with all MWRA safety rules and procedures as well as state and federal laws and regulations.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Occupational Health and Safety. Receives direct supervision by Project Manager, Safety on certain projects.

SUPERVISION EXERCISED:

Functionally supervises staff such as Safety Technicians on specific tasks as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Policies and Communication

- Recommends safety signage and posters for all MWRA sites (mandatory and informational educational signs)
- Drafts revisions to Safety Rules (COVID and other topics). Drafts employee forms, policies, and procedures. Prepares safety information for Intranet site (Pipeline)
- Evaluates work practices for compliance with Federal, State, Local and MWRA regulations and standards (e.g., Massachusetts Department of Labor Standards, OSHA, state building code).

Training coordination & development

- Helps develop and deliver curriculum for Toolbox talks. Maintains attendance records for toolbox talks and other Lawson training.
- Delivers safety related training such as new hire orientation and confined space entry.

- Works closely with Safety Program Coordinator and Human Resources Training Unit on safety course development, scheduling, registration, and updating training records in Lawson.
- Coordinates training programs as required to foster safe employees work practices.
- Assesses training needs in response to new regulations or public health situations such as COVID.

Maintaining safety documentation

- Communicates with the host of visitors on health self-certification forms to ensure the forms are completed before people enter MWRA facilities.
- Maintains inventory list of safety equipment by department.
- Tracks employees who receive safety glasses and those using a respirator (physical exam list).
- Accompanies vendors on periodic inspections of life safety equipment such as fire extinguishers, AEDs, and eye wash stations.

Procurement and distribution of safety and security equipment

- Reviews safety-related purchase requisitions and assists in the preparation of purchase requests for safety equipment.
- Requests quotes for safety equipment. Prepares Lawson order forms.
- Creates purchase orders and track invoices for safety glasses, first aid inspections, fire extinguisher inspections, and AED defibrillator. Reviews invoices.
- Serve as liaison to contracted guard services to ensure they have adequate supplies.

SECONDARY DUTIES:

- Immediately notifies supervisor of any safety hazards or risks and any recordable and reportable incidents or injuries in a timely way.

- Serves on internal safety committees.

- Participates in on-call coverage to support the authority in any Safety matters.

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor's degree in occupational health and safety, industrial hygiene, science, engineering, or another related field; and

(C) At least three (3) to five (5) years of relevant experience in monitoring safety programs, developing and/or delivering safety technical training, ensuring safety compliance, and writing safety policies and procedures; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, industrial hygiene, risk management, and environmental health.

(B) Ability to develop safety training to employees and contractors.

(C) Ability to translate complex safety laws into documents and guidance using layperson's terms.

(D) Proficiency with personal computers and knowledge of MS Office Suite. Experience moderating or hosting safety webinars.

(E) Demonstrated ability in interpreting and applying relevant safety codes, regulations, and procedures.

(F) Demonstrated ability to work effectively as part of a team and also to function independently with minimal supervision.

(F) Excellent interpersonal, oral and written communication skills, and the ability to handle sensitive information with discretion.

SPECIAL REQUIREMENTS:

- A valid Massachusetts Class D Motor Vehicle Operators License.
- Completion of 40 hours OSHA training and annual 8 hour refresher course.
- First Aid and CPR certification within six months of hire.
- Participates in weekend/off-hours on-call coverage to support the Authority in any Safety matters.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to 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 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, 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 regularly works near moving mechanical parts, and is occasionally exposed to risk of radiation and vibration. The employee is occasionally exposed to risk of electrical shock.

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

October 2020

MWRA
POSITION DESCRIPTION

OLD

POSITION: Safety Program Coordinator

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Manages safety programs for the Operations Division (except for Deer Island) and conducts safety audits to ensure that employee safety hazard exposures are minimized and to assure compliance with all relevant laws, standards and procedures, and safety training programs.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Occupational Health and Safety

SUPERVISION EXERCISED:

Supervises staff involved with the implementation of safety programs as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works with all levels of staff to implement safety practices and safe operating procedures.
- Evaluates work practices for compliance with Federal, State, Local and MWRA regulations and standards (e.g., Massachusetts Department of Labor Standards, OSHA, state building code).
- Assists staff in the implementation of the Authority's safety policy by coordinating the development and implementation of specific inspection protocols, standard operating procedures (SOPs) and safety training programs.
- Conducts safety hazard assessment audits in accordance with established procedures. Continuously monitors department procedures and activities to identify safety hazards.
- Immediately notifies supervisor of any safety hazards or risks and any recordable and reportable incidents or injuries in a timely way.

- Coordinates the development and implementation of corrective action plans to eliminate or minimize safety hazards.

- Maintains safety records, including records of tests, inspections, and accidents. Investigates accidents to determine causes and appropriate remedies.

- Conducts and coordinates training programs as required to foster safe employees work practices.

- Ensures that safety equipment is inspected and tested in accordance with SOPs.

- Reviews safety-related purchase requisitions and assists in the preparation of purchase requests for safety equipment.

- Fulfills safety-reporting requirements.

- Accompanies vendors on periodic inspections of life safety equipment such as fire extinguishers, AEDs, and eye wash stations.

- Facilitates special projects as needed.

SECONDARY DUTIES:

- Assists staff in the development and implementation of local safety plans.

- Participates in weekend/off-hours on-call coverage to support the authority in any Safety matters.

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college program, preferably in occupational health and safety, industrial hygiene or related science and/or engineering discipline; and

(B) Project & contract management skills and knowledge of the operations of a large and complex water or wastewater system, acquired through five (5) to seven (7) years of relevant experience; and

(C) Demonstrated abilities, acquired through five (5) to seven (7) years of relevant

experience, in monitoring safety programs, procedures and practices in a production or processing plant environment, in OSHA Compliance, and in identifying and correcting mechanical and physical plant and equipment hazards; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, industrial hygiene, emergency response, risk management, environmental health; experience in incident investigations and implementing corrective actions.

(B) Ability to deliver safety training to employees and contractors.

(C) Proficiency with personal computers and knowledge of MS Office Suite including word processing, spreadsheets, and database applications software.

(D) Demonstrated ability in interpreting and applying relevant codes, regulations, and procedures.

(E) Demonstrated ability to work effectively as part of an Authority-wide team and also to function independently, with minimal supervision.

(F) Excellent interpersonal, oral and written communication skills, and the ability to handle sensitive information with discretion.

SPECIAL REQUIREMENTS:

- A valid Massachusetts Class D Motor Vehicle Operators License.
- Completion of 40 hours OSHA training and annual 8 hour refresher course.
- First Aid and CPR certification within six months of hire.
- Participates in weekend/off-hours on-call coverage to support the Authority in any Safety matters.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to 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 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, 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 regularly works near moving mechanical parts, and is occasionally exposed to risk of radiation and vibration. The employee is occasionally exposed to risk of electrical shock.

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

March 2019

MWRA
POSITION DESCRIPTION

NEW

POSITION: Project Manager, Safety

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Manages safety programs for the Operations Division (except for Deer Island) and conducts safety audits to ensure that employee safety hazard exposures are minimized and to assure compliance with all relevant laws, standards and procedures, and safety training programs.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Occupational Health and Safety

SUPERVISION EXERCISED:

Supervises staff involved with the implementation of safety programs as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works with all levels of staff to implement safety practices and safe operating procedures.
- Evaluates work practices for compliance with Federal, State, Local and MWRA regulations and standards (e.g., Massachusetts Department of Labor Standards, OSHA, state building code).
- Assists staff in the implementation of the Authority's safety policy by coordinating the development and implementation of specific inspection protocols, standard operating procedures (SOPs) and safety training programs.
- Conducts safety hazard assessment audits in accordance with established procedures. Continuously monitors department procedures and activities to identify safety hazards.
- Immediately notifies supervisor of any safety hazards or risks and any recordable and reportable incidents or injuries in a timely way.

- Coordinates the development and implementation of corrective action plans to eliminate or minimize safety hazards.

- Maintains safety records, including records of tests, inspections, and accidents. Investigates accidents to determine causes and appropriate remedies.

- Conducts and coordinates training programs as required to foster safe employees work practices.

- Ensures that safety equipment is inspected and tested in accordance with SOPs.

- Reviews safety-related purchase requisitions and assists in the preparation of purchase requests for safety equipment.

- Fulfills safety-reporting requirements.

- Accompanies vendors on periodic inspections of life safety equipment such as fire extinguishers, AEDs, and eye wash stations.

- Facilitates special projects as needed.

SECONDARY DUTIES:

- Assists staff in the development and implementation of local safety plans.

- Participates in weekend/off-hours on-call coverage to support the authority in any Safety matters.

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college program, preferably in occupational health and safety, industrial hygiene or related science and/or engineering discipline; and

(B) Project & contract management skills and knowledge of the operations of a large and complex water or wastewater system, acquired through five (5) to seven (7) years of relevant experience; and

(C) Demonstrated abilities, acquired through five (5) to seven (7) years of relevant

experience, in monitoring safety programs, procedures and practices in a production or processing plant environment, in OSHA Compliance, and in identifying and correcting mechanical and physical plant and equipment hazards; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, industrial hygiene, emergency response, risk management, environmental health; experience in incident investigations and implementing corrective actions.

(B) Ability to deliver safety training to employees and contractors.

(C) Proficiency with personal computers and knowledge of MS Office Suite including word processing, spreadsheets, and database applications software.

(D) Demonstrated ability in interpreting and applying relevant codes, regulations, and procedures.

(E) Demonstrated ability to work effectively as part of an Authority-wide team and also to function independently, with minimal supervision.

(F) Excellent interpersonal, oral and written communication skills, and the ability to handle sensitive information with discretion.

SPECIAL REQUIREMENTS:

- A valid Massachusetts Class D Motor Vehicle Operators License.
- Completion of 40 hours OSHA training and annual 8 hour refresher course.
- First Aid and CPR certification within six months of hire.
- Participates in weekend/off-hours on-call coverage to support the Authority in any Safety matters.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to 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 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, 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 regularly works near moving mechanical parts, and is occasionally exposed to risk of radiation and vibration. The employee is occasionally exposed to risk of electrical shock.

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

October 2020

MWRA
POSITION DESCRIPTION

NEW

POSITION: Safety Technician

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Serves as an integral part of the Occupational Health and Safety team promoting a safe and healthful work environment free from recognized hazards that may cause serious injury, physical harm or death. Responds to emergencies to mitigate danger and loss. Inspects and distributes equipment to prevent work-related injuries and illnesses. Documents monthly visual inspections in accordance with Massachusetts law requiring public sector agencies to comply with OSHA standards.

SUPERVISION RECEIVED:

Works under the general supervision of Program Manager, Safety or Project Manager, Safety.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Emergency Response Team (ERT) or Emergency Services Unit (ESU):

- May volunteer to serve on an emergency response team or equivalent. Responds to reports of mishaps or safety issues when notified (example – oil leaks from vehicles). Participates in pre-scheduled Saturday emergency drills (when available) that center around different scenarios such as boom deployment, chemical spills, or first aid situations.

Inspection:

- Conducts monthly visual check inspections of facility fire extinguishers, AED Devices first aid stations, emergency eyewash stations, and personal protective equipment (ear-plug) stations. Proper equipment ensures compliance with OSHA standards and limits exposure to corrosive materials, chemicals, or particulates.

U9, Grade 18

- Ensures hand-held gas monitors are fully charged daily and inspected/adjusted on a monthly basis by the calibration lab.

Reports:

- Notifies manager of deficiencies such as leaks, tampering, expired, or otherwise non-operational safety equipment.
- Maintains records of inspection and maintenance on operations safety equipment such as eye wash stations and fire extinguishers and produces reports.
- Maintains and updates the OSHA-required materials safety data sheets (MSDS) in binders located throughout the facility.
- Distributes existing safety procedural guidelines upon request.

Inventory:

- Replenishes and distributes supplies from the safety stock room including fire extinguishers, ear plugs, and first aid supplies (no equipment/supplies for eye wash or AED).
- Identifies and orders needed safety supplies.
- Ensures adequate supply of safety bags (including hard hat and safety glasses) for new hires attending weekly new employee orientation session.

Vendor Management:

- Serve as primary liaison to contract expert safety vendors who perform annual inspection of fire extinguishers (required for OSHA compliance) and AED equipment. Accompanies vendors during annual inspections and initiates work order or contacts vendor during the year if there are issues.

SECONDARY DUTIES:

- May travel between all MWRA locations.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) An Associate degree in a technical or business field; and

(B Knowledge of safety equipment used in an industrial environment as normally acquired through four (4) or more years of relevant experience; or

(C) Any equivalent combination of education and experience.

U9, Grade 18

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of all fire and electrical work practices.

(B) Ability to inspect facilities for equipment and initiate appropriate follow-up.

(C) Demonstrated verbal and written communication skills.

(D) Basic knowledge of OSHA coverage and MWRA protocols on safety reporting.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D Driver's License.

Completion of 40-hour OSHA Hazardous Waste Site Worker Certification.

Annual 8 hour OSHA Refresher course.

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, 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 the job. Reasonable accommodation may be made to enable individuals with disabilities to perform the essential functions.

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

The employee must frequently lift and/or move up to 10 pounds, occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

The noise level in the work environment is moderately quiet.

October 2020

MWRA
POSITION DESCRIPTION

OLD

POSITION: O & M Safety Specialist

DIVISION: Operations

DEPARTMENT: Operations/DI

BASIC PURPOSE:

Implement and administers operations and maintenance safety, security, risk, and environmental programs, and provide support for all Public Access programs in relation to the Deer Island Treatment Plant.

SUPERVISION RECEIVED:

Works under the direct supervision of the DITP Safety Supervisor.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works with staff to implement safety practices and operating procedures.
- Conducts field audits, provides hazard assessments, and evaluates work for compliance with Federal, State, Local, and MWRA regulations and standards (e.g., OSHA, State Building code).
- Assists in the development of emergency response plans.
- Develops and delivers training as required.
- Supports the DITP Workers Compensation Management Program, including completing reports and conducting investigations as required.
- Supports the DITP Hazardous Materials and Waste Management program, including maintaining records and developing reports.
- Supports the DITP Risk Assessment program, including meeting with MWRA risk and

insurance professionals, record keeping, and implementing risk minimization strategies.

- Investigates incidents of theft and vandalism and conducts specialized security activities such as gate access and coordination of VIP transportation for special events.

- Conducts plant tours suitable to the objectives, background and interest of particular visitors groups and provides operational support to a successful on-going Visitor Tour program at the Deer Island Wastewater Treatment Plant. Such support may include gate access, transportation, room set up, equipment set up and any special requirements for visitors with disabilities, including any other safety logistical issues and instruction to visitors on tour safety.

- Closely coordinates with Primary Operations staff to ensure updated tour route information in relation to daily plant operation.

- Develops the content and delivery of MWRA's communications materials in conjunction with the Executive Directors office with regard to the general public and tour groups and other plant visitors and users of MWRA public access areas.

SECONDARY DUTIES:

- Attends safety and work coordination meetings.

- Develops reports, matrices, and other measurement tools as required.

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of occupational safety and health methods and standards, hazardous materials and waste management practices, and related analytical, technical and writing skills as normally attained through a four year (4) year college program in environmental technology.

(B) Demonstrated abilities, as acquired through two (2) or more years of relevant experience administering comprehensive safety and health programs in a production or processing plant environment.

(C) Outstanding verbal and written communication skills, including five (5) or more years experience in public speaking to a wide variety of backgrounds.

(D) Knowledge of principles, procedures, methods, equipment, and materials used in the operation, repair and maintenance of a large municipal wastewater treatment facility as acquired by seven (7) to nine (9) years direct experience.

(E) Must have strong technical background in wastewater treatment operations and ability to communicate information to visitors.

(F) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Ability to train others to identify and evaluate safety hazards or in methods for avoiding or minimizing hazards or exposures.

(B) Strong interpersonal skills including, a proven ability to interact with and direct diverse tour groups. Must be able to effectively communicate to all levels of the organization as well as the public. Ability to lead teams and work collaboratively with staff who are not direct reports.

(C) Computer expertise in Microsoft Office, Powerpoint, and Markware.

SPECIAL REQUIREMENTS:

- A valid Massachusetts grade 7 Wastewater Treatment Plant Operators License and Collections System 4 License.

- A valid Massachusetts Motor Vehicle Class D Operator License.

- Must be able to schedule work activities to meet periodic demand for visitor activities on weekends as well as weekdays and nights.

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 the 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 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.

OCTOBER 2004

MWRA
POSITION DESCRIPTION

NEW

POSITION: Program Manager, Safety (Security, Construction, RCRA) (Deer Island)

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Recommends, develops and administers safety, health, and hazard prevention programs for Deer Island Treatment Plant (DITP). Oversees contractor safety program and safety plans. Advises staff on use, control and disposal of chemicals and hazardous materials and serves as RCRA officer. Supports the access control systems and ensures physical safety of the premises.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Occupational Health and Safety.

SUPERVISION EXERCISED:

Supervises a Safety Technician. Serves as a member of DITP's 15 member Emergency Response Team (ERT) and leads ERT in absence of the other Program Manager, Safety.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and implements occupational safety and health, environmental policies and programs to promote a safe work environment and ensure compliance with applicable standards and requirements with respect to physical, biological, mechanical and chemical hazards.

- Collaborates with Manager, Occupational Health and Safety and Project Manager, Safety to administer and update safety and health training programs with department managers and employees, and coordinates with the Training Unit.

- Collaborates with Manager, Security Services in updating and administering operating/maintenance standards, policies and standard operating procedures (SOP) for security, locks, key control, intrusion, motion detections devices and other systems and activities relating to facility access and physical security.

- Assists in the administration of private security personnel and supports the activities of private security contractors.

- Manages DITP ID badging and the DITP parking and vehicle database.
- Participates in developing an audit program to ensure that DITP meets MWRA security standards and provides a secure working environment.
- Supports the MWRA Physical Security systems and access control procedures to ensure operation continuity and to ensure the safety and security of personnel, property and equipment
- Assists in responding to security related incidents and investigations
- Serve as member of the DITP Emergency Response Team (ERT) and as an emergency responder. In the absence of the other Program Manager, Safety who leads the ERT, supervises team members and handles training and deployment of the team.
- Reviews materials such as Accident/Loss Reports, Injury/Illness reports, Initiates programs to identify safety and health hazards. Initiates corrective action based on statistical trends.
- Reviews and approves Health and Safety Plans submitted to the Authority to ensure that contractors and sub-contractors have a plan to address the hazards of the job including proper training, assigned Safety Technician, and addressed risk through hazard control strategies.
- Manages safety audit programs. Conducts periodic safety tour inspections to identify safety and health hazards. Initiates corrective action based on statistical trends.
- Oversees the Contractor Safety Program. Conducts periodic safety inspections to identify safety and health hazards to include audit of contractor sites at DITP.
- Manages emergency provisions for DITP to include initiating safety orders, overseeing inventories and distributing emergency provisions (e.g., food and water during events which isolate DI from the mainland and from supplies).
- Serves as the Designated Resource Conservation and Recovery Act (RCRA) officer for the federal law governing the disposal of solid waste and hazardous waste.
- Provides staff and resources to the Plant Safety Committees.
- Works with the MWRA Safety Committees as a resource and secures assistance in reducing and eliminating safety and health hazards.
- Provides coordination and direction for a Safety Technician.
- Advises all levels of line supervision on usage, control and disposal of chemicals and hazardous materials to include requirements resulting from DITP's status as a "Large

Quantity Generator" of hazardous waste, the development of an Integrated Contingency Plan and the DITP Emergency Response team as a responder to hazardous material incidents.

- Assists managers and supervisors with investigations of accidents and responds as required.

- Reviews safety work order requests, assists with prioritization and makes recommendations for corrective action.

- Works with external environmental and regulatory agencies to solicit and encourage the exchange of information to include law enforcement, fire safety, emergency management and other agencies from the local community.

- Reviews assigned employees performance according to MWRA procedures.

- Administers, updates and maintains Right-to-Know programs, Evacuation Training, Security and Integrated Contingency Plan (ICP) awareness.

SECONDARY DUTIES:

- Performs related duties as required.

- Covers some responsibilities of Program Manager, Safety (Events, Training, ERT) (Deer Island) in his/her absence.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor's degree in industrial hygiene, engineering, occupational health, safety or related field; and

(B) At least five (5) to seven (7) years of professional safety and environmental health experience; and

(C) Two (2) years' experience in a supervisory or managerial capacity or successful completion of an approved supervisory training program; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of hazardous materials, industrial safety and environmental health issues and of OHSA, DEP, EPA, and Massachusetts Department of Labor Standards and understanding how to make judgments relating to safety and health hazards.

(B) Ability to understand and identify technical and safety related issues and concerns.

(C) Ability to plan, organize, direct, train and assign duties to subordinates.

(D) Excellent interpersonal, written, and oral communications skills.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D Motor Vehicle Operator's license.

Completion of 40 hours OSHA training and annual 8 hour refresher course.

First Aid and CPR certification within six months of hire.

Participates in weekend/off-hours on-call coverage to support the Authority in any Safety matters.

Participates in the Occupational Health and Safety on-call rotation.

Certified Safety Professional (CSP), or other relevant certification preferred. American Board of Industrial Hygiene Certification desired.

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, 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 occasionally is required to site, stand and walk. The employee is frequently required to climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

October 2020

MWRA
POSITION DESCRIPTION

NEW

POSITION: Program Manager, Safety (Events, Training, ERT) (Deer Island)

DIVISION: Administration

DEPARTMENT: Occupational Health and Safety

BASIC PURPOSE:

Recommends, develops, and administers safety, health, and hazard prevention programs for Deer Island Treatment Plant (DITP). Leads the Emergency Response Team (ERT), conducts specialized training, oversees access control and badging, and ensures safety at special events.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Occupational Health and Safety.

SUPERVISION EXERCISED:

Supervises an Administrative Coordinator. Leads DITP's 15 member Emergency Response Team (ERT).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and implements occupational safety and health, environmental policies and programs to promote a safe work environment and ensure compliance with applicable standards and requirements with respect to physical, biological, mechanical and chemical hazards.

- Maintains access control plans for DITP and consults on the implementation of electronic security and key control strategies

- Collaborates with Manager, Occupational Health and Safety and Project Manager, Safety to administer and update safety and health training programs with department managers and employees, and coordinates with the Training Unit.

- Manages the DITP Emergency Response Team to include supervision of team members, budget, procurement, training and deployment of the team. Serves as an emergency responder.

- Develops and delivers training for the following: contractor orientation, emergency evacuation, plant access, security, emergency medical response, technical rescue, incident command, hazardous materials spills response and environmental training.

- Manages DITP ID badging and the DITP parking and vehicle database.

- Manages the inventory of DITP communications devices.

- Works with the MWRA Safety Committees as a resource and secures assistance in reducing and eliminating safety and health hazards.

- Assists managers and supervisors with investigations of accidents and responds as required.

- Reviews safety work order requests, assists with prioritization and makes recommendations for corrective action.

- Assist the Deputy Director of Deer Island with the planning, coordination and logistics of special events to ensure MWRA employee and visitor safety.

- Reviews assigned employees performance according to MWRA procedures.

- Administers, updates and maintains Right-to-Know programs, Evacuation Training, Security and Integrated Contingency Plan (ICP) awareness.

SECONDARY DUTIES:

- Performs related duties as required.

- Covers some responsibilities of Program Manager, Safety (Security, Construction, RCRA) (Deer Island) in his/her absence.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor's degree in industrial hygiene, engineering, occupational health, safety or related field; and

(B) At least five (5) to seven (7) years of professional safety and environmental health experience; and

(C) Two (2) years' experience in a supervisory or managerial capacity or successful completion of an approved supervisory training program; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of hazardous materials, industrial safety and environmental health issues and of OHSA, DEP, EPA, and Massachusetts Department of Labor Standards and understanding how to make judgments relating to safety and health hazards.

(B) Ability to understand and identify technical and safety related issues and concerns.

(C) Ability to plan, organize, direct, train and assign duties to subordinates.

(D) Excellent interpersonal, written and oral communications skills.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D Motor Vehicle Operator's license required.

Completion of 40 hours OSHA training and annual 8 hour refresher course.

First Aid and CPR certification within six months of hire.

Participates in weekend/off-hours on-call coverage to support the Authority in any Safety matters.

Participates in the Occupational Health and Safety on-call rotation.

Certified Safety Professional (CSP), or other relevant certification preferred. American Board of Industrial Hygiene Certification desired.

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, 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 occasionally is required to site, stand and walk. The employee is frequently required to climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

October 2020

MWRA
POSITION DESCRIPTION

OLD

POSITION: Senior Accountant

DIVISION: Finance

DEPARTMENT: Controller

BASIC PURPOSE:

Updates and maintains financial records related to accounts receivable, billing, activity management, asset management, cash, investments and debt.

SUPERVISION RECEIVED:

Works under the general supervision of the Accounting Manager.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Maintains the accounts receivable, billing, activity management and asset management modules of the Lawson integrated financial management system.
- Records and maintains all cash, investment and debt transactions.
- Prepares and processes general ledger entries in the Lawson financial software applications.
- Records revenue and expense journal entries in the Lawson integrated financial management system in accordance with generally accepted accounting principles.
- Prepares monthly rate revenue invoices and quarterly loan invoices to cities and towns, annual and periodic invoices to commercial TRAC customers and other miscellaneous billings. Assists in the collection of invoice payments as needed.
- Analyzes and reconciles accounts receivable, accounts payable, payroll, cash and investment accounts.
- Establishes fiscal control to insure proper flow of financial data.
- Prepares year-end reports and schedules as requested by the external auditors.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of accounting principles and practices as normally attained through a four-year college program in accounting; and

(B) Two (2) years of general accounting experience with demonstrated personal computer and spreadsheet skills

Necessary Knowledge, Skills and Abilities:

(A) Excellent interpersonal, written and oral communication skills required.

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.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.
The noise level in the work environment is usually moderately quiet.

April 2015

MWRA
POSITION DESCRIPTION

NEW

POSITION: Senior Accountant

DIVISION: Finance

DEPARTMENT: Controller

BASIC PURPOSE:

Updates and maintains financial records related to accounts receivable, billing, activity management, asset management, cash, investments and debt.

SUPERVISION RECEIVED:

Works under the general supervision of the Accounting Manager.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Maintains the accounts receivable, billing, activity management, and asset management modules of the Infor/Lawson integrated financial management system.
- Records and maintains all cash, investment, debt and fixed asset transactions.
- Records all debt activity, including monthly interest, principal and related fees.
- Capitalizes fixed assets and records monthly depreciation expense.
- Prepares and processes general ledger entries in the Info/Lawson financial software applications.
- Records revenue and expense journal entries in the Infor/Lawson integrated financial management system in accordance with generally accepted accounting principles.
- Prepares monthly rate revenue invoices and quarterly loan invoices to cities and towns, annual and periodic invoices to commercial TRAC customers and other miscellaneous billings. Assists in the collection of invoice payments as needed.
- Analyzes and reconciles accounts receivable, accounts payable, payroll, cash, fixed asset and investment accounts.

- Establishes fiscal control to insure proper flow of financial data.
- Provides accounting and financial reporting support to other MWRA departments.
- Prepares year-end reports and schedules as requested by the external auditors.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of accounting principles and practices as normally attained through a Bachelor's degree in accounting, finance or related field; and

(B) Two (2) to five (5) years of general accounting and reporting experience; or

(C) Any equivalent of combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Excellent interpersonal, written and oral communication skills.

(B) Excellent spreadsheet and database skills required. Solid knowledge of MS Office Suite required. Knowledge of Infor/Lawson software is preferred, but not required.

(C) Attention to detail and ability to meet deadlines.

(D) Ability to maintain confidentiality.

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.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is usually moderately quiet.

October 2020

MWRA
POSITION DESCRIPTION

OLD

POSITION: Workforce Development Coordinator

DIVISION: Affirmative Action

DEPARTMENT: Affirmative Action

BASIC PURPOSE:

Responsible for sourcing, recruiting and referring qualified protected class candidates to Human Resources - Employment Unit. Establishes, develops and maintains collaborative linkages and relationships with community groups and organizations, professional associations, government agencies, college and technical schools within the MWRA service area as sources for referring qualified protected class job applicants (women, minorities, persons with disabilities, and Veterans).

SUPERVISION RECEIVED:

Works under the direct supervision of the Project Manager, Monitoring & Compliance.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and maintains traditional and non-traditional recruitment sources in order to refer qualified protected class candidates to MWRA Employment Unit for consideration.

- Manages the applicant tracking database for protected class recruitment.

- Partners with hiring managers and assists Human Resources Department Employment staff in the development of on-going recruitment strategies to attract a representative pool of candidates by participating in assigned interview selection committees, job fairs, and related outreach efforts.

- Performs first-level screening of prospective candidate applications/resumes, to identify candidates meeting/exceeding minimum entrance requirements. Communicates with applicants to ascertain skills, determine current employment status, and clarify information.

- Actively participates on all assigned interview selection committees with hiring managers.

- Provides advice and guidance to department hiring managers on the application of

interviewing and selection policies, procedures, techniques and documentation.

- Researches new ways of using the Internet for recruitment. Identifies and sources candidates through social and professional networking sites.

- Monitors, corrects and analyzes Affirmative Action (AA) statistical data. Codes, tracks and monitors personnel requisitions for under utilization, prepares scheduled monthly and special reports, maintains program/project activity records and statistical information.

- Utilizes established procedures for the management and control of confidential information and documents.

- Coordinates with and consults Human Resources on matters pertaining to hiring policy, recruitment, training and selection criteria.

- Assists in the development of programs designed to enhance the image of MWRA as an equal opportunity and affirmative action employer. Maintains relationships with public and community organizations. Coordinates common-interest programs with minority groups, secondary schools, and government agencies.

SECONDARY DUTIES:

- Performs related duties as assigned.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor's degree in administration, business, management or related field; and

(B) One (1) to three (3) years' experience in human resources or related field with emphasis on recruitment, staffing and placement; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of targeted recruitment principles, procedures and resources.

(B) Ability to interpret and advise hiring managers on the application of EEO/AA laws and regulations during the selection process.

(C) Ability to objectively evaluate applicant credentials, experience, qualifications and skills.

(D) Strong interpersonal skills, relationship-building skills, and the ability to work effectively with a wide range of constituencies in a diverse community.

(E) Ability to maintain confidentiality.

(F) Familiarity with computer software packages such as MS Office Suite.

(G) Excellent oral and written communication skills.

(H) Ability to travel to all MWRA facilities and local recruitment and networking fairs.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D driver's license.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to 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.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job**,** the employee regularly works in an office environment but travels to other MWRA sites and eastern Massachusetts locations on a regular basis. The noise level in the work environment is usually a moderately quiet office setting.

April 2020

MWRA
POSITION DESCRIPTION

NEW

POSITION: Workforce Development Coordinator

DIVISION: Affirmative Action

DEPARTMENT: Affirmative Action

BASIC PURPOSE:

Responsible for sourcing, recruiting (in person and virtual) and referring qualified protected class candidates to Human Resources - Employment Unit. Establishes, develops and maintains collaborative linkages and relationships with community groups and organizations, professional associations, government agencies, college and technical schools within the MWRA service area as sources for referring qualified protected class job applicants (women, minorities, persons with disabilities, and Veterans). Serves as a resource for current MWRA staff on career planning tasks such as updating a resume and practicing for interviews.

SUPERVISION RECEIVED:

Works under the direct supervision of the Project Manager, Monitoring & Compliance.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and maintains traditional and non-traditional recruitment sources in order to refer qualified protected class candidates to MWRA Employment Unit for consideration.
- Manages the applicant tracking database for protected class recruitment.
- Partners with hiring managers and assists Human Resources Department Employment staff in the development of on-going recruitment strategies to attract a representative pool of candidates by participating in assigned interview selection committees, virtual recruitment, job fairs, and related outreach efforts.
- Partners with Human Resources to forecast future hiring needs.
- Works closely with Human Resources and department managers to proactively develop diverse intern applicant pools across the organization.
- Develops and leads individual and employee group sessions on resume tips, cover letters and

strategizing for a successful job interview.

- Performs first-level screening of prospective candidate applications/resumes, to identify candidates meeting/exceeding minimum entrance requirements. Communicates with applicants to ascertain skills, determine current employment status, and clarify information.

- Actively participates on all assigned interview selection committees with hiring managers.

- Provides advice and guidance to department hiring managers on the application of interviewing and selection policies, procedures, techniques and documentation.

- Researches new ways of using the Internet for recruitment. Identifies and sources candidates through social and professional networking sites.

- Monitors, corrects and analyzes Affirmative Action (AA) statistical data. Codes, tracks and monitors personnel requisitions for under utilization, prepares scheduled monthly and special reports, maintains program/project activity records and statistical information.

- Compiles federal and state statistical compliance reports from Human Resources Information Systems (HRIS) for regulatory agencies in support of ongoing Authority Affirmative Action Plan and Human Resources strategies and initiatives.

- Utilizes established procedures for the management and control of confidential information and documents.

- Coordinates with and consults Human Resources on matters pertaining to hiring policy, recruitment, training and selection criteria.

- Assists in the development of programs designed to enhance the image of MWRA as an equal opportunity and affirmative action employer. Maintains relationships with public and community organizations. Coordinates common-interest programs with minority groups, secondary schools, and government agencies.

SECONDARY DUTIES:

- Performs related duties as assigned.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A Bachelor's degree in administration, business, management or related field; and

(B) Two (2) to four (4) years' experience in human resources, career planning, or related field with emphasis on recruitment, staffing and placement; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of targeted recruitment principles, procedures and resources.

(B) Ability to interpret and advise hiring managers on the application of EEO/AA laws and regulations during the selection process.

(C) Ability to objectively evaluate applicant credentials, experience, qualifications and skills.

(D) Strong interpersonal skills, relationship-building skills, and the ability to work effectively with a wide range of constituencies in a diverse community.

(E) Strong presentation skills.

(F) Knowledge of Webex a plus.

(G) Ability to maintain confidentiality.

(H) Familiarity with computer software packages such as MS Office Suite.

(I) Excellent oral and written communication skills.

(J) Ability to travel to all MWRA facilities and local recruitment and networking fairs.

(K) Familiarity with online recruitment tools including LinkedIn.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D driver's license.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to 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.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job**,** the employee regularly works in an office environment but travels to other MWRA sites and eastern Massachusetts locations on a regular basis. The noise level in the work environment is usually a moderately quiet office setting.

October 2020

MWRA
POSITION DESCRIPTION

OLD

POSITION: Senior Program Manager, Energy - Deer Island

DIVISION: Operations

DEPARTMENT: Deer Island/Thermal Power Plant

BASIC PURPOSE:

Directs day-to-day operation of Deer Island's Thermal Plant and power generators. Manages all maintenance work activities of the Thermal plant and power generators including work scheduling, contractor coordination, and plant notifications. Monitors the electrical grid pricing and operates the power generators for peak days, demand response, or high electrical pricing to reduce energy costs. Manages the operation of all Deer Island Thermal and power generation equipment.

SUPERVISION RECEIVED:

Works under the general supervision of the Deer Island Deputy Director.

SUPERVISION EXERCISED:

Exercises close supervision of the Manager, Power Generation, and overall supervision of all Thermal Plant Staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Coordinates all planned and/or scheduled Thermal Plant and power generator outages and associated on-island electrical power generation sources for routine maintenance and testing with treatment operations to ensure equipment availability during critical operational periods.

- Manages all maintenance work activities of the power generators including work scheduling, contractor coordination, and plant notifications. Reviews all Thermal Plant and power generator service bulletins and provide recommendations for implementation.

- Manages the operation of power generators to support plant needs, the ISO-NE demand response program, operation during high price days, ISO peak system demand days, and the forward capacity market.

- Participates in the review and approval of all revisions/additions to power generation equipment on Deer Island.

- Develops and implements contingency plans in response to situations that may jeopardize the Thermal Plant and treatment plant operations.

- Coordinates operational impacts for the Boiler, Eversource, Pratt and Whitney preferred services, and power generator maintenance contracts.

- Reviews and approves all lock out/tag out work requests that may affect the Thermal Plant.

- Reviews and analyzes all trouble reports from generation assets to determine effects upon plant. Coordinates efforts with plant maintenance staff and engineering to resolve system problems and/or malfunctions.

- Monitors generation systems via the DCS to determine system status for orderly transfer of load to restore services to affected regions of the system.

- Prioritizes work orders for repair/replacement/expansion of the Thermal Plant power generators.

- Coordinates with engineering and outside contractors for the periodic modification, repair, improvement, replacement and expansions of the steam boilers, power generators, steam turbines, hydro turbines, and wind turbines. Exercises independent judgment in the operation and maintenance of the Thermal Plant and all power generators during the absence of the Deer Island Deputy Director. Oversees the operation and maintenance of all power generation equipment on Deer Island, including steam turbines, combustion turbines, hydro turbines, wind turbines, solar panels and any other generation assets added to DITP.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of the principles and practices of engineering systems as normally attained through a four (4) year college program in electrical and/or mechanical engineering or a

related field; and

(B) Minimum of eight (8) to ten (10) years of steam boiler/thermal operating experience required, of which four (4) years must be in a supervisory capacity; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Demonstrate working knowledge of Federal regulations governing the operation of generation, transmission and distribution systems i.e., "The Final Rule" CFR 1910.

(B) Demonstrated skills in the development, organization and implementation of safety procedures, switching orders, electrical test and operations protocols.

(C) Demonstrable knowledge of electrical distribution, fault tracking and troubleshooting. Must be able to evaluate electrical distribution issues that may be preventing distribution of electricity from generation equipment to operating equipment.

(D) Excellent organizational, analytical, interpersonal, oral and written organizational skills are required.

(E) Demonstrated knowledge of steam boilers and power generation equipment.

(F) Strong supervisory and leadership skills.

(G) Ability to organize data and generate concise, applicable reports.

(H) Ability to read, understand and interpret electrical 1-line drawings, control/protective elementary schematics and wiring diagrams.

SPECIAL REQUIREMENTS:

A Massachusetts Department of Public Safety-1st Class Engineer's License required to operate boilers & steam plants.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, 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 occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

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

November, 2017

MWRA
POSITION DESCRIPTION

NEW

POSITION: Program Manager, Energy - Deer Island

DIVISION: Operations

DEPARTMENT: Deer Island/Thermal Power Plant

BASIC PURPOSE:

Provides program management support to the operation of Deer Island's Thermal Plant and power generators. Manages and coordinates Combustion Turbine Generator (CTG) boiler, and hydroturbine contractor work with thermal plant operational staff. Manages all maintenance work activities of the Thermal plant and power generators including work scheduling, contractor coordination, and plant notifications. Monitors the electrical grid pricing and recommends operation of the power generators for peak days, demand response, or high electrical pricing to reduce energy costs. Manages all CTG and boiler regulatory compliance programs and contracts.

SUPERVISION RECEIVED:

Works under the general supervision of the Deer Island Deputy Director.

SUPERVISION EXERCISED:

Exercises close supervision of the Technical Assistant.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Coordinates all planned and/or scheduled Thermal Plant and power generator outages and associated on-island electrical power generation sources for routine maintenance and testing with treatment operations to ensure equipment availability during critical operational periods.

- Manages all maintenance work activities of the power generators including work scheduling, contractor coordination, and plant notifications. Reviews all Thermal Plant and power generator service bulletins and provide recommendations for implementation.

- Manages the operation of power generators to support plant needs, the ISO-NE demand response program, operation during high price days, ISO peak system demand days, and the forward capacity market.

- Develops and maintains an asset management program for all thermal plant systems and all Deer Island generating assets in cooperation with DITP's Assets Manager.

- Reviews all testing and calibration reports to ensure equipment reliability.

- Ensures boiler and CTG regulatory compliance through review of applicable environmental regulations.

- Participates in the review and approval of all revisions/additions to power generation equipment on Deer Island.

- Develops and implements contingency plans in response to situations that may jeopardize the Thermal Plant and treatment plant operations.

- Coordinates operational impacts for the Boiler, Eversource, Pratt and Whitney preferred services, and power generator maintenance contracts.

- Designs and manages training programs for Thermal Plant staff.

- Reviews and analyzes all trouble reports from generation assets to determine effects upon plant. Coordinates efforts with plant maintenance staff and engineering to resolve system problems and/or malfunctions.

- Monitors generation systems via the DCS to determine system status for orderly transfer of load to restore services to affected regions of the system.

- Provides technical support, process control, and administrative support to the Manager, Power Generation to aid in the safe and efficient operation of the Thermal Power Plant

- Coordinates with engineering and outside contractors for the periodic modification, repair, improvement, replacement and expansions of the steam boilers, power generators, steam turbines, hydro turbines, and wind turbines.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Knowledge of the principles and practices of engineering and industrial systems as normally attained through a Bachelor's degree in electrical and/or mechanical engineering or a related field; and

(B) Minimum of seven (7) to nine (9) years of experience working with steam boiler and/or generation equipment and managing technical contracts; and

(C) At least three (3) years experience supervising staff, contractors, and/or large projects/contracts; or

(D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Excellent organizational, analytical, interpersonal, oral and written organizational skills are required.

(B) Demonstrated knowledge of steam boilers and power generation equipment.

(C) Demonstrable knowledge of electrical distribution, fault tracking and troubleshooting desired. Must be able to evaluate electrical distribution issues that may be preventing distribution of electricity from generation equipment to operating equipment.

(D) Strong supervisory and leadership skills.

(E) Ability to organize data and generate concise, applicable reports.

(F) Ability to read, understand and interpret electrical 1-line drawings, control/protective elementary schematics and wiring diagrams.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D driver's license.

Will be on-call on nights, weekends, and holidays, and will respond to the plant as-needed on nights, weekends, and holidays in the event of an emergency requiring CTG operation or to address CTG equipment failures.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, 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 occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

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

October 2020

OLD

MWRA
POSITION DESCRIPTION

POSITION: Third Class Engineer

DIVISION: Operations

DEPARTMENT: Thermal

BASIC PURPOSE:

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

SUPERVISION RECEIVED:

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

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Performs the proper operation of all Thermal/Power Plant equipment high pressure boilers, steam topping turbine, combustion turbine generators, fuel oil and waste gas supply systems, diesel generators, pumps, blowers, compressors, water treatment cooling and heating systems, electrical distribution, instrumentation systems, hydroturbines, and burner management systems.

- Performs standard operating procedures (SOPs) for the Thermal/Power Plant and the electrical distribution system.

- Performs casualty control training as required.

- Inspects engineering plant machinery and operation to determine efficiency and need for maintenance requirements.

- Lubricates equipment and machinery.

- Communicates with other Thermal/Plant personnel on the Thermal/Power Plant Operations.

- Adheres and knows Lockout/Tagout procedures for equipment in the Thermal/Power Plant.

- Maintains operating logs and records properly.

- Contributes to a safe working environment and follows safety policies.

- Monitors gauges, meters and recording devices and makes adjustments to maintain specified pressures and temperature, flows, amperage, voltage and power.

- Makes ordinary repairs such as replacing gaskets, re-packing pumps, cleaning, scraping and washing out water boxes. Assists in making minor repairs to auxiliary equipment.

- Monitors steam, combustion, and hydro turbines, boilers, feed and circulating pumps, diesel engines, compressors, digester gas systems, digital control systems, etc., controls steam water/oil flows as required.

- Collects water, steam, oil, and gas samples and tests to determine quality. Records results and reports abnormalities to 2nd Class Engineer.

- Maintains a clean and orderly work area.

- Directs all chemical and fuel deliveries/ordering as required.

- Prepares injury and illness reports, safety work orders and maintenance work order requests as necessary.

- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:

    - Operation of forklift or other light equipment that does not require a special license.

    - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.

    - Inspects and troubleshoots various systems and equipment

    - Installs and retrofits/new equipment related to plant systems.

    - Modifies and/or aligns existing equipment to specifications.

    - With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.

- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.

- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.

- Installs safety rails, changes light bulbs and replaces HVAC filters.

- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.

- Removes snow from immediate work area in order to perform tasks.

- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Basic technical and communication skills as normally attained through a high school education or the equivalent; and

(B) Three (3) to five (5) years of experience in the operation of Thermal/Power Plant equipment, high pressure boilers, topping turbines and related auxiliary equipment; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of operation of generating equipment, plant heating, large diesel-fuel engines and electrical distribution systems.

(B) Ability to plan, organize and perform assigned duties independently.

(C) Ability to understand responsibility and work with minimal supervision.

(D) Extensive knowledge of safety practices and application in Steam Engineering and Wastewater Facilities.

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

SPECIAL REQUIREMENTS:

- A valid Massachusetts Third Class Engineer's License.

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

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

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

November 2016

MWRA
POSITION DESCRIPTION

NEW

POSITION: Second Class Engineer

DIVISION: Operations

DEPARTMENT: Thermal

BASIC PURPOSE:

Under the direction of the Manager, Power Generation, responsible for supervision of watch personnel. Coordinate set up, operation, adjustment and maintenance of Thermal Power Plant equipment as necessary to maintain required supply to heat and electrical power.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Power Generation.

SUPERVISION EXERCISED:

Exercises close supervision of assigned staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises assigned shift of Thermal/Power Plant personnel in the proper operation of all Thermal/Power Plant equipment: high pressure boilers, steam topping turbine, combustion turbine generators, fuel oil and waste gas supply systems, pumps, blowers, compressors, water treatment cooling and heating systems, electrical distribution, instrumentation systems, burner management systems, central control systems, hydroturbines,

- Implements the standard operating procedures (SOPs) for the Thermal/Power Plant and the electrical distribution system.

- Is responsible for casualty control training of assigned personnel.

- Coordinates plant operation with contract personnel

- Inspects engineering plant machinery and operation to determine efficiency and need for maintenance requirements.

- Supervises the lubrication of equipment and machinery.

- Communicates with other Thermal/Plant supervisors on the Thermal/Power Plant Operations.
- Oversees equipment for Lock Out/Tag Out in the Thermal/Power Plant.
- Ensures operating logs and records are properly maintained.
- Ensures that safety policies are being followed and work environment is safe.
- Write the performance reviews of subordinates as per the MWRA evaluation system.
- Monitors the chemicals and fuel oil consumption and reorders as needed.
- Submits maintenance requests using the MAXIMO system
- Performs, as directed, scheduled Preventive Maintenance and minor Corrective Maintenance as required.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
- Inspects and troubleshoots various systems and equipment.
- Installs and retrofits/new equipment related to plant systems.
- Modifies and/or aligns existing equipment to specifications.
- With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping and/or ventilation equipment to prepare work area for access.
- Opens hatches.
- Installs safety rails.
- Removes snow from immediate work area.
- Routine testing, lockout/tagout, operations (startup/shutdown) and adjustment of process equipment.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Basic technical and communication skills as normally attained through a high school education or the equivalent; and

(B) Four (4) to six (6) years of experience in the principles of operation of the Thermal/Power plant equipment, high pressure boilers, topping turbines and related auxiliary equipment, of which two (2) year must be in a supervisory capacity; or

(C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Knowledge of operation of generating equipment, plant heating, electrical distribution systems, combustion turbine generators, and hydroturbines.

(B) Ability to plan, organize, direct, train and assign duties to subordinates.

(C) Ability to understand responsibility and work with minimal supervision.

(D) Extensive knowledge of safety practices and application in the Steam Engineering and Wastewater facilities.

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

SPECIAL REQUIREMENTS:

- A valid Massachusetts Second Class Engineer's License.

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

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

The employee regularly works near moving mechanical parts. The employee occasionally works in precarious places and is occasionally exposed to fumes or airborne particles.

The noise level in the work environment is moderately loud at work locations.

October 2016

MWRA
POSITION DESCRIPTION

OLD

POSITION: Trades Foreman

DIVISION: Operations

DEPARTMENT: Equipment Maintenance, Facility Equipment Maintenance -West, Facility Maintenance-Metro, Deer Island

BASIC PURPOSE:

Supervises construction and facilities maintenance activities as assigned.

SUPERVISION RECEIVED:

Works under the general supervision of the Facilities Manager, Supervisor of Plant Maintenance or Sr. Program Manager.

SUPERVISION EXERCISED:

Exercises close supervision of assigned Facilities Specialists, Trades staff, OMC and Skilled Laborers.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises assigned personnel in the maintenance of equipment and systems, the construction and repair of structures and in the overall care and upkeep of MWRA facilities.
- Manages various repair contracts.
- Orders materials and supplies to meet work order requirements.
- Coordinates with the other Maintenance staff to assist with the overall maintenance program, maintenance management system, and to complete specific construction, repair and maintenance activities.
- Determines the daily assignments for assigned staff and distributes work accordingly. Establishes deadlines and priorities on the basis of the maintenance schedule or emergencies.
- Provides technical input to improve task completion for assigned work orders; reports modifications made to equipment and reviews construction repair proposals.
- Assists trade and maintenance crews in troubleshooting assigned work orders and provides instruction on difficult work operations.
- Trains new personnel in plant and equipment maintenance.
- Reviews, monitors, evaluates work performed, and recommends appropriate improvements.

- Reviews assigned employee performance according to MWRA procedures.
- Monitors daily and weekly job status within the overall work plan.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Promotes the MWRA Safety Program by participating in safety meetings.
- Assists other trades in the performance of their work, as required, or as assigned.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A high school diploma or GED; and

(B) Five (5) to seven (7) years of related experience in construction and maintenance with experience supervising a variety of Trade professionals; or in an equivalent position, to achieve proficiency in the following areas:

- A working knowledge of the methods, procedures and work rules relating to construction, preventive maintenance, and repair of equipment; and
- The ability to troubleshoot problems in the construction of structures and the maintenance and repair of equipment.
- Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience.

(C) Any equivalent combination of experience or education.

Necessary Knowledge, Skills and Abilities:

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

(B) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training or an approved substitution.

(C) A working knowledge of the occupational hazards and safety practices common to the trades and the satisfactory completion of MWRA safety training.

(D) Working knowledge of the methods, procedures and work rules relating to operations in a large industrial facility.

(E) Ability to troubleshoot problem areas relative to complex work assignments.

(F) Ability to supervise staff effectively and to establish and maintain effective working relationships with subordinates, superiors and associates.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

TOOLS AND EQUIPMENT USED:

Power and hand tools, mobile radio, telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

December 2007

MWRA
POSITION DESCRIPTION

NEW

POSITION: Trades Foreman (Licensed)

DIVISION: Operations

DEPARTMENT: Equipment Maintenance, Facility Equipment Maintenance -West, Facility Maintenance-Metro, Deer Island

BASIC PURPOSE:

Supervises construction and facilities maintenance activities as assigned.

SUPERVISION RECEIVED:

Works under the general supervision of the Facilities Manager, Supervisor of Plant Maintenance or Sr. Program Manager.

SUPERVISION EXERCISED:

Exercises close supervision of assigned Facilities Specialists, Trades staff, OMC and Skilled Laborers.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises assigned personnel in the maintenance of equipment and systems, the construction and repair of structures and in the overall care and upkeep of MWRA facilities.
- Manages various repair contracts.
- Orders materials and supplies to meet work order requirements.
- Coordinates with the other Maintenance staff to assist with the overall maintenance program, maintenance management system, and to complete specific construction, repair and maintenance activities.
- Determines the daily assignments for assigned staff and distributes work accordingly. Establishes deadlines and priorities on the basis of the maintenance schedule or emergencies.
- Provides technical input to improve task completion for assigned work orders; reports modifications made to equipment and reviews construction repair proposals.
- Assists trade and maintenance crews in troubleshooting assigned work orders and provides instruction on difficult work operations.
- Trains new personnel in plant and equipment maintenance.
- Reviews, monitors, evaluates work performed, and recommends appropriate improvements.

- Reviews assigned employee performance according to MWRA procedures.
- Monitors daily and weekly job status within the overall work plan.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Promotes the MWRA Safety Program by participating in safety meetings.
- Assists other trades in the performance of their work, as required, or as assigned.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A high school diploma or GED; and

(B) Five (5) to seven (7) years of related experience in construction and maintenance with experience supervising a variety of Trade professionals; or in an equivalent position, to achieve proficiency in the following areas:

- A working knowledge of the methods, procedures and work rules relating to construction, preventive maintenance, and repair of equipment; and
- The ability to troubleshoot problems in the construction of structures and the maintenance and repair of equipment.
- Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience.

(C) Any equivalent combination of experience or education.

Necessary Knowledge, Skills and Abilities:

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

(B) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training or an approved substitution.

(C) A working knowledge of the occupational hazards and safety practices common to the trades and the satisfactory completion of MWRA safety training.

(D) Working knowledge of the methods, procedures and work rules relating to operations in a large industrial facility.

(E) Ability to troubleshoot problem areas relative to complex work assignments.

(F) Ability to supervise staff effectively and to establish and maintain effective working relationships with subordinates, superiors and associates.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

A valid Massachusetts Construction Supervisor's License.

TOOLS AND EQUIPMENT USED:

Power and hand tools, mobile radio, telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

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

April 2015

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Appointment of Area Manager, Electrical, Operations Division

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COMMITTEE: Personnel and 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. Thomas Wright to the position of Area Manager, Electrical, Deer Island Maintenance (Unit 6, Grade 12) at an annual salary of $105,760.86, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Area Manager, Electrical position became vacant in August of 2020 upon the retirement of the incumbent. This position is responsible for the core area maintenance program for the Deer Island Treatment Plant, a group of 32 staff (Electrical, Instrumentation, HVAC, Machinists and Welders) that work across all process areas of the plant. A key responsibility of this position is managing the complex plant-wide electrical distribution, fire protection, gas monitoring, and heating and cooling systems. This requires extensive communication with both internal staff and external contractors and agencies. These systems are involved in continuous ongoing improvements, repairs, and functional testing to ensure reliability to meet operational demands. The Area Manager, Electrical position reports to the Maintenance Manager, Deer Island.

Selection Process

The position of Area Manager, Electrical was posted internally and two candidates applied. The Deer Island Deputy Director of Maintenance, Assets Manager, and Manager of Operations Support interviewed both candidates. Upon completion of the interviews, Mr. Thomas Wright was determined to be the best-qualified candidate for the position based on the combination of his knowledge of Deer Island's complex systems, education, past experience and understanding of the position's duties and areas of responsibilities.

Mr. Wright has over 35 years of experience and has been with the MWRA for over 27 years in maintenance positions of increasing levels of responsibility within the electrical department and core maintenance group. Although Mr. Wright's expertise lies in the electrical field, his years of maintenance experience enable him to manage a multi-disciplined trade shop. Prior to coming to the MWRA, Mr. Wright held many positions at Digital Equipment Corporation. Some of his roles at Digital included Production Control Planner, Warehouse Supervisor, and Electrician. He was responsible for the analysis and rollup of the production line option forecast to determine the impact on the factory. Mr. Wright also served as the communication link between the other business units within the company and had extensive experience at Digital, including the installation of intricate electrical projects on switchgear and electrical distribution systems.

In 1993, Mr. Wright started with the MWRA in the position of Electrician at Deer Island. He was involved in the functional testing and startup of Deer Island's electrical system. He was promoted to Senior Medium Voltage Electrician in 2005. Since 2015, Mr. Wright has held the position of Electrical Operations Supervisor. In this position, he manages a staff of seven Medium Voltage Electricians and is responsible for training of all staff that perform complex maintenance repairs and testing on substations, transformers, cable bus relays, uninterrupted power supply units, and variable frequency drives. He is also responsible for monitoring, trouble-shooting, and repairing the plant-wide fire alarm system at Deer Island. Mr. Wright has been in a supervisory role in a number of positions and has supervised staff at MWRA since 2005. In recent months, he has served as the Acting Area Manager, Electrical, and has done an excellent job of managing the staff and ensuring work has been accomplished according to the mission for the group.

Mr. Wright holds a Massachusetts Master Electrician's license. He has extensive knowledge of MWRA's wastewater systems, facilities, equipment and electrical distribution. 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 Thomas Wright
Position Description
Organization Chart

Thomas W. Wright

OBJECTIVE: To continue a career in Industrial Plant Facilities utilizing my full skill set and 30+ years of hands-on experience.

EXPERIENCE:

1993 to Present - ***Mass. Water Resources Authority - Deer Island Wastewater Treatment Plant***

Aug 2015 to Present – ***Electrical Operations Supervisor***

Supervise, and support seven Medium Voltage Electricians in the safe performance of the maintenance, repair and installation of various electrical equipment throughout the facility, including but not limited to:

- 13.8kv Load Breaks, Transformers Switchgear & associated equipment;
- 480v bus ducts, motors, associated control circuits and switchgear. UPS, DC systems and VFDs
- Fire System;
- Installation of fixed power monitoring equipment in plant switchgear;
- Respond to power outages and restoration of plant switchgear to normal operation after power restored.

Responsible for using and maintaining the integrity of our computerized asset management system, (MAXIMO) including: recording daily work performed, kitting, recording new equipment installations and/or replacements, generating reports to be used as managerial tools in decision making of critical equipment to optimize Plant performance.

Responsible for training staff on the Plant's electrical distribution system.

Responsible for the development and maintenance of data logs to capture critical information on UPS Systems, PICS power feeds, RWW VFD repair/troubleshooting events, LV manhole raceways, LV VFD installs etc. which are used in managerial decision-making.

2005 to August 2015 - ***Senior Medium Voltage Electrical Specialist***

Maintained and repaired various electrical equipment throughout the Plant, including: 13.8kv & 480v bus ducts, motors and associated control circuits and switchgear.

Responsible for responding, troubleshooting and resolving all Plant outages to normal operation 24/7.

Performed power monitoring on various electrical equipment throughout the plant using portable power analyzers.

EXPERIENCE (continued)

Prepared and delivered written and/or verbal reports to electrical engineering group.

Collaborated with the training department in developing and implementing an electrical safety/awareness course administered to affected MWRA staff.

Responsible for the coordination of the Plant switchgear Electrical Services Contract.

1993 to 2005 – *Electrician*

1972 to 1992 - Digital Equipment Corporation

1983 to 1992 Digital Equipment Corporation – Electrician

Responsible for maintaining and troubleshooting lighting controller, power distribution system, fire alarm, security system and motor controllers at a 330K sq ft R&D and manufacturing facility. Other responsibilities included estimations and installation of new electrical projects including clean rooms, vfd's, computer rooms, motor generator sets, chiller and cooling tower systems.

1972 – 1983 Digital Equipment Corporation - various roles: Planner, Computer Special Systems Group, Warehouse Supervisor, Production Control Planner & Materials Scheduler

EDUCATION: *Chamberlin Jr. College (Coyne Electric Division)*

- 300 Hour Journeyman Electrician Course 1983
- 100 Hour Master Electrician Course 1987
- Lowell High School – Graduated 1972
- Various Digital and MWRA Training Courses

LICENSES:

- Various Digital and MWRA Training Course
- Massachusetts Electrical Journeyman #29932E
- Massachusetts Electrical Masters #12445A

MILITARY SERVICE: *1974 – 1980*

Field Radio Mechanic US Army Reserves 187th Inf. Brd 3rd Batt Combat Support Co., Danvers, Massachusetts.

MWRA
POSITION DESCRIPTION

POSTION: Area Manager (Electrical)

PCR#: **2988071**

DIVISION: Operations

DEPARTMENT: Operations Division / Deer Island

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 EXCERCISED:

Exercises close supervision of assigned operations/maintenance staff.

ESSENTIAL DUTIES AND RESPONSIBILITES:

- 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's 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 Electrical Engineering, 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; or

(D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

(A) A working knowledge of the methods, techniques, operations, systems, equipment, principles and practices of wastewater or water treatment.

(B) Must have a working knowledge of High, Medium and Low voltage distribution systems, switchgear operation and inspection, control systems, VFDs, lighting systems, as well as applicable federal, state and local codes.

(C) Proficient with personal computers (PCs) and PC programs Word & Excel. Experience using CMMS (Computerized Maintenance Management System). Experience with developing and managing contract services.

(D) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training program or an approved substitution.

(E) Extensive knowledge of safety practices and applications in wastewater treatment operations.

(F) Ability to plan, organize, direct, train and assign duties to subordinates.

SPECIAL REQUIREMENTS:

- A valid Class D Massachusetts Motor Vehicle Operator License.

- A valid Massachusetts Master Electrician's license preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

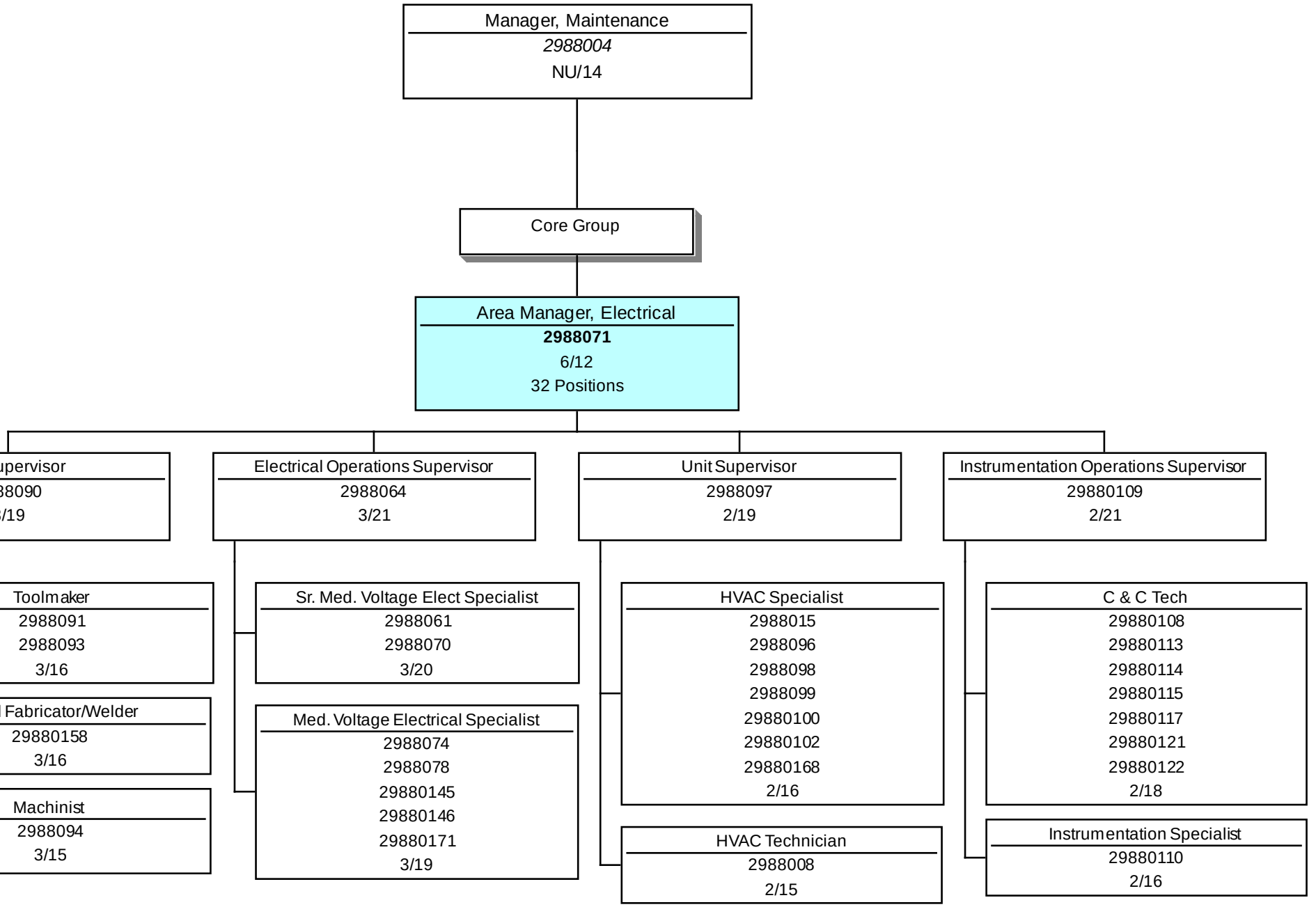
The noise level in the work environment is usually loud in field settings, and moderately quiet in an office setting.

March 2015

Operations-Wastewater Treatment

Deer Island - Trade Maintenance

October, 2020



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Appointment of Shift Operations Manager
Operations Division

COMMITTEE: Personnel and 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. Angly Catulle to the position of Shift Operations Manager at an annual salary of $97,705.78, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Shift Operations Manager position became vacant in September of 2020 upon the promotion of the incumbent. This position is responsible for managing a shift of operations staff at the Deer Island Treatment Plant. On evenings and weekends, the Shift Manager is responsible for all plant activity and must be able to respond quickly to problems and emergencies of all kinds. The Shift Manager oversees a shift of six to ten staff and is responsible for operating the plant to achieve permit compliance, to protect the public health and to ensure safety of the work force at all times. The position requires excellent decision-making and communications skills and the ability to recognize problems that require rapid solutions and/or elevation to senior management. In addition, excellent knowledge of the Deer Island Treatment Plant control system (PICS) is required to understand how to manage the plant and its processes. The Shift Operations Manager reports to the Senior Shift Manager.

Selection Process

The position of Shift Operations Manager was posted internally and one candidate applied. The Deputy Director of the Deer Island Treatment Plant, the Senior Shift Manager, and the Assistant Manager, Employment, conducted the interview. Upon completion of the interview, Mr. Angly Catulle was determined to be well qualified for the position, based on the combination of his knowledge of the Deer Island plant, his extensive experience with plant operations, and his demonstrated record of responding effectively to plant operational issues.

Mr. Catulle has over 20 years of operational experience and has been with the MWRA for 12 years in positions of increasing levels of responsibility. Mr. Catulle began his operations career in 1999 working for Tyco Electronics of Norwood, Massachusetts. Mr. Catulle was the Lead Operator at the industrial wastewater treatment facility at Tyco and was responsible for treating industrial metal wastes using coagulation and flocculation processes. In 2008, Mr. Catulle was hired by MWRA as an Operator at the Deer Island Treatment Plant. He distinguished himself in this role as a fast learner with an aptitude for learning different processes. Mr. Catulle was promoted to Area Supervisor in 2014, and has served effectively in this position. This position requires learning how to operate equipment remotely from the control room using the PICS system and responding to alarms and emergencies. Mr. Catulle has excelled at using PICS for monitoring and troubleshooting problems, in addition to monitoring for and reacting to alarm conditions.

In 2018, Mr. Catulle served as an acting Shift Operations Manager for three months and was assigned to this position again for three months in 2020. In both cases, he distinguished himself by effectively managing the staff. Through these experiences, Mr. Catulle has become skilled at managing the operations of all processes at Deer Island and has responded effectively to numerous challenges, such as electrical outages, over the years. He has also been effective at training the junior operators on his shift, which has been a critical contribution due to the number of new hires in the Operations Department caused by recent retirements. Mr. Catulle's combined experience as an Operator, Area Supervisor, and Acting Shift Operations Manager has allowed him to acquire the skills necessary to serve as Shift Operations Manager.

Mr. Catulle has an Associate's Degree in Electronics Technology from Bunker Hill Community College and holds a Massachusetts Grade 7-C Full Wastewater Operator License, the highest Wastewater license available in Massachusetts. He has extensive knowledge of MWRA's wastewater systems, control systems, and NPDES permit requirements.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY21 Current Expense Budget.

ATTACHMENTS:

Resume of Angly Catulle
Position Description
Organization Chart

Angly Catulle

Objective

To progress my career in the wastewater treatment field within the Massachusetts Water Resources Authority.

Education

Bunker Hill Community College: 1995 – 1999

- Associate Degree in electronics
- Certificate degree in electronics

Special Licenses:

- Grade 7 Massachusetts Wastewater Operator
- Grade 3 Industrial Wastewater Operator
- Grade 4 Wastewater Collection System Operator

Work Experience

Massachusetts Water Resources Authority (Deer Island Treatment Plant) 2008- Present

Acting Shift Operations Manager: February 2018- May 2018, July 1, 2020 to present

Responsible for all day-to-day activities of the Operation of the Plant ensuring permit compliance

Responsible for supervising and overseeing Operators, Area Supervisors, and Contractors

Area Supervisor: 2014 to present

Oversee and supervise staff ensuring daily assignments are delegated and completed in a safe and efficient manner.

Make sure all samples are taken accordingly.

Monitor PICS, check all alarms, and make changes if necessary.

Perform daily round around the plant, and to make sure everything is going according to plan.

Report to the manager all activities and changes that may occur.

Operator: 2008-2014

Perform assignments designated by Area Supervisor including checking all equipment, such as digesters, pump station, gravity thickeners, centrifuges, Odor control facilities, cryogenic facilities, etc.

Report unusual activities of any equipment malfunctions to the Area Supervisor.

Take samples at various locations as required, perform the analysis, record data, and communicate results to Area Supervisor.

Tyco electronics Norwood Ma: 1999-2008

Tyco Electronics is an industrial plating and machine shop operations. They make parts and plate them for various organizations. They make them for automotive industry, the army, etc. they do gold, silver, bronze, chrome, copper plating. The wastewater system is a small plant that is average about fifty to seventy-five thousand gallons per day (GPD).

Lead Operator:

Responsible for the daily operations and reporting to the Chief Operator.

Treat cyanide by using a cyanide destruction system, maintain a high Ph. level, and Orp level around 450 – 500 mv of a two stage process system.

Treat hexavalent chromium by using chrome reduction process system with low Ph. level.

Recovered gold using ion exchange process system.

Maintain a low sludge waste by using a filter press to cake our sludge and dry them before sending out as waste.

Maintain the sludge blanket in the clarifier, and do regular maintenance on it.

Cleaned and calibrated all probes around the plant.

Received all chemicals delivery, sodium hydroxide, sulfuric, hydrochloric, acetic acid, sodium Meta bisulfite, sodium hypochlorite, potassium permanganate, etc.

Order chemical for plating, waste treatment as well as the machine shop department.

Oversee the machine wasting, such as oil, and mineral spirit waste.

Responsible for waste manifest for all operations.

Give assignment to the off shift operators.

Daily data logs for all activities around electro plating, wastewater treatment, and machine shop department.

Record data and report them to the chief operator.

MWRA
POSITION DESCRIPTION

POSITION: Shift Operations Manager

PCR#:

DIVISION: Operations

DEPARTMENT: Deer Island

BASIC PURPOSE:

Manages the assigned eight (8) hour operational staff within the Deer Island Treatment Plant to ensure Permit Compliance in a cost efficient manner. Is required to provide person-to-person coverage.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior Shift Manager.

SUPERVISION EXERCISED:

Exercises close supervision of the Area Supervisor.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the Deer Island Treatment Plant to ensure Permit Compliance, effective and efficient operations during an eight- (8) hour shift providing person-to-person coverage.

- Coordinates process operations with all areas of the plant, to include the remote headworks.

- Operates the PICS and OMS Systems of the treatment plant responsible for Quality Assurance/Quality Control (QA/QC) on all data gathered and entered during the shift assigned.

- Participates in developing and presenting to the Senior Shift Manager input for the current expense budget for responsible areas.

- Directs subordinates in Plant Operations for the Deer Island Treatment Plant. Serves as a coach and leader to shift personnel. Cultivates positive communications between staff and other shift members to promote a harmonious team-working environment.

- Develops rounds for Plant personnel and monitors performance with proxy pens and/or other means.

- Is responsible for assurance of work requests during shift and that equipment failures and observances are documented for the maintenance department to perform proper remedy.

- Performs administrative duties for personnel assigned to the shift and responsible for shift knowledge of plant information. Reviews and evaluates employee performance according to MWRA procedures. Responsible for enforcement of MWRA policies and procedures including discipline, code of conduct and related personnel policies.

- Directs and is responsible for shift training.

- Prepares a daily activity report to the Sr. Shift Manager on plant and personnel issues, deficiencies, and suggestions for efficient plant operations. .

- Is responsible for carrying out policy set forth by the Senior Shift Manager and Operations Director.

- Is responsible for safety orientation, policy and implementation for the shift personnel. Insures that staff is current with CPR and First Aid requirements as applicable. Provides a safe working environment for staff.

SECONDARY DUTIES:

Performs related duties as assigned.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Two (2) year college program in environmental/chemical engineering or related field; and

(B) Eight (8) to ten (10) years experience in wastewater field with a process control background, of which a minimum of three (3) years of applicable supervisory experience is required; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Proficient in the use of personal computers and software applications packages for financial analysis and management, such as Excel and Word, and computerized maintenance management systems, such as MAXIMO

(B) Demonstrated ability to plan, organize, direct and assign duties to subordinates is required.

(C) Excellent analytical, written and oral communications skills.

(D) Knowledge of Wastewater Treatment Operation and Process Control theory, practices and principles.

(E) Ability to read and interpret technical drawings and process and instrumentation diagrams. Ability to learn and operate PICS system.

SPECIAL REQUIREMENTS:

A valid Massachusetts Wastewater Treatment Plant Operator Grade 7 certification.

A valid Massachusetts Class D Motor Vehicle Operators 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 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.

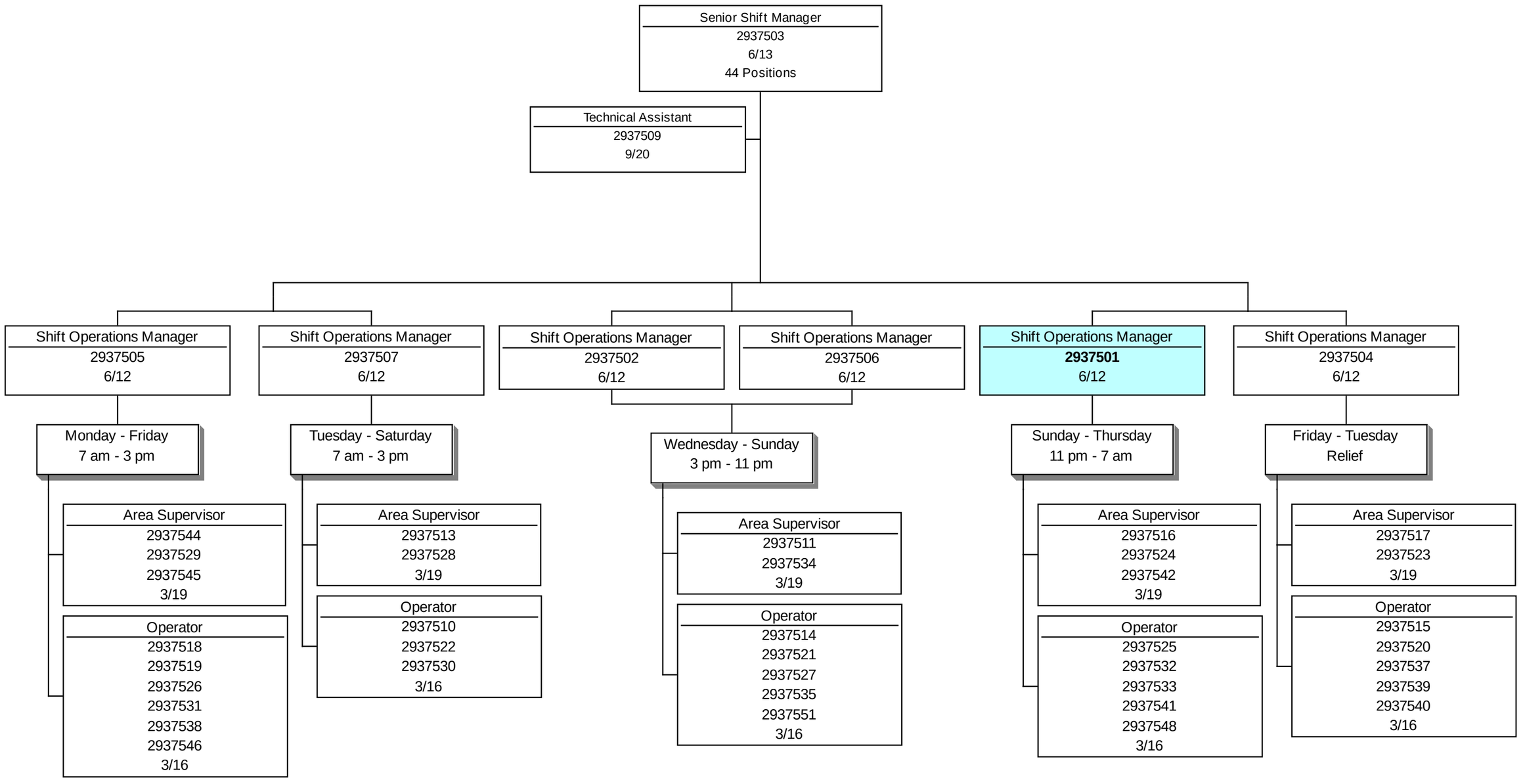
The noise level in the work environment is usually loud in field settings, and moderately quiet in an office setting.

Feb 2010

Operations-Wastewater Treatment

Deer Island - Operations

October, 2020



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 14, 2020
SUBJECT: Appointment of Construction Coordinator
Engineering & Construction Department

COMMITTEE: Personnel and Compensation

____ INFORMATION
_X_ VOTE

Andrea Murphy, Director, Human Resources
John P. Colbert, P.E., Chief Engineer
Corinne M. Barrett, Director of Construction
Preparer/Title

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

RECOMMENDATION:

To approve the appointment of James Snow to the position of Construction Coordinator in the Engineering & Construction Department (Unit 9, Grade 30) at the recommended salary of $119,503.32 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Construction Coordinator position became vacant in January of 2020 upon the retirement of the incumbent. This position manages all aspects of construction projects, including the rehabilitation and improvement of MWRA's water and wastewater facilities, and pipelines. Construction Coordinators take the lead role in all communication with contractors and design engineers, in negotiating change order costs and determining the reasons and necessity for the changes; and in general, ensure that MWRA's best interests are served during the construction of projects. Construction Coordinators also perform constructability reviews of construction plans and specifications prior to bid. Additional responsibilities include, but are not limited to, supervision of field engineers and assignment of projects, staff development and evaluation of performance, and provision of technical and administrative assistance as required to staff assigned to construction projects. The Construction Coordinator reports to the Assistant Director of Construction, in the Construction Unit.

Selection Process

The position of Construction Coordinator was posted both internally and externally. A total of 30 candidates applied for the position, six of whom were determined to be qualified and were referred for an interview. The Director and Assistant Director of Construction, and the Special Assistant for Affirmative Action interviewed the six candidates. The Director of Construction, the Chief Engineer, and the Associate Special Assistant for Affirmative Action conducted a second round

of interviews for the two finalists. Upon completion of the interviews, James Snow was determined to be the most qualified candidate based on his combination of education, experience, ability and knowledge.

Mr. Snow has over 35 years of experience in engineering, land surveying and construction, including 30 years with the MWRA. He has over 16 years of MWRA experience in construction and construction administration. He spent his first 12 years at the MWRA performing resident engineering and inspection functions for the Construction Program. In May 2002, Mr. Snow was promoted to a Senior Civil Engineer position in the Engineering Design Information Systems Center Unit where he oversaw all land surveying and GIS work. In December 2015, he transferred back to the Construction Program and then was promoted to Principal Civil Engineer in 2018.

During his time in the Construction Program, Mr. Snow has actively participated in the successful completion of a number of construction projects, including the Pelletizing Plant in Quincy, several gravity and force main sewer projects, the Chelsea Screen House Improvements, and the Caruso Pump Station Improvements. Mr. Snow is currently working on the Chelsea Creek Headworks upgrade project. His responsibilities have included overseeing the work of contractors and consultants to ensure performance in accordance with specifications, regular attendance at contractor progress meetings in the field, supervision of field inspectors, and ensuring close coordination with MWRA Operations staff and senior management on construction issues. He successfully manages multiple projects simultaneously. Mr. Snow has shown good leadership skills and has earned the respect of his supervisors and colleagues.

Mr. Snow has a Bachelor of Science Degree in Civil Engineering Technology from the University of Massachusetts, Lowell, and he has successfully completed various courses in surveying and construction health and safety training.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Divisions FY21 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of James Snow
Position Description
Organizational Chart

James Edward Snow

Career Summary

- 19 years of experience in the engineering & land surveying fields.
- 16 years of experience in the construction and construction administration fields.
- 35 years of combined experience in project management.
- Dedicated to proven technology to enhance efficiency.
- Dedicated to the advantages of collaborative efforts and the free flow of information and ideas.
- Proven record of working professionally and effectively in the methodical engineering and fast-paced construction environments.

Software:

- AutoCAD Civil 3D 2011, AutoCAD 2011, ESRI Arc Map, Arc Catalog, Microsoft Access, Excel, Word, PowerPoint, Project, Trimble Geomatic Office & Pathfinder, Leica GeoOffice GPS software.

Working Knowledge

- IFIX SCADA software, Modicon Concept 984 LC PLC ladder logic software.

Survey Equipment and firmware

- Trimble GPS 4700, 5700 (RTK) & GEO Pro. - Topcon DL-102 (digital level) & GS-4 (total station)
- Leica 1200 RTK GPS. - Leica M15 Robotic Total Station. - Leica VIVA field data collector.

Education and Training

- Bachelors in Science Degree Civil Engineering Technology from the University of Massachusetts Lowell, Magna cum Laude.
- MALSCE GPS vertical datum seminar MALSCE Land Court seminar. - AutoCAD Civil 3D, Map, Raster. - National Geodetic Survey Modernization Seminar. - FEMA Flood Map Modernization Seminar

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Experience:

Massachusetts Water Resources Authority, Chelsea Ma.
Construction Inspectional Administration, Construction 12/2015 to Present.

Contract 7431 Chelsea Screen House Improvements. $5,000,000. Construction Field Engineer.
Contract 7362 Caruso Pump Station Improvements. $4,097,097. Construction Field Engineer & Resident Engineer
Contract 7161 Chelsea Head works Improvements, $72,859,000. Construction Field Engineer/Start-up Engineer

- Coordinate contract activities with Authority operations, maintenance & SCADA staff.
- Developed and implemented Emergency Pump Panel rewiring and testing procedures for the Caruso PS.
- Develop and manage substantial completion monetized punch lists.
- Provide Change Order contractual and technical review and comments.
- Developed and implemented testing and start-up protocol for the Caruso PS building HVAC control system. As well as for the control system testing for the Chelsea Creek HW channel 1 start-up.
- Provided detailed plumbing change order review and estimate for the Chelsea Head Works contract. This review resulted in reducing contractor's demolition man-hours estimate from 1435 hours to 700 hours. Along with substantial reduction in quantities of demolition piping and insulation.
- Chelsea Creek HW, provided numerous change order reviews primarily focusing on complex mechanical, electrical and control system reviews.
- Submittal review training manuals, O&Ms, 1080s. Also reviewed and implemented mechanical cut-in plans and temporary mechanical cut-in plans as well as the Chelsea Creek control room relocation.

- Caruso PS & Chelsea Greek HW, performed the duties of start-up engineer. Responsibilities included managing all aspects of system installation from conduit, wire, instrumentation and mechanical system installation and field testing all in preparation for ORT, ASORT and functional testing. Oversaw the ORT, ASORT and functional testing of channel 1.

- At the Chelsea Creek HW & Caruso contracts, I am and have provide on-going control system and mechanical system support. This support includes both phone and on-site evening and weekend responses for both the operations and maintenance departments.

Massachusetts Water Resources Authority, Chelsea Ma.
Survey Manager & Field Engineer, Engineering Department 5/2002 to 12/2015

- Perform extensive on-going research effort into purchasing of updated Land Surveying hardware and software, as well as AutoCAD Civil 3Dsoftware to improve efficiency and productivity.
- To ensure professional and efficient delivery of survey and mapping services, with a staff reduced from 4 to 1. I established a system of project management changes that included extensive research into upgrades and modernization of equipment, software. The Development of best practice, work flow, standards and construction & task order contract development. These work flow improvements resulted in added services and no reduction in the annual job production or in complexity or size.
- Performed dozens of in-depth survey task order and construction contract base plan drawing review reports.
- Supervised contract consultants in the implementation of AutoCAD standards and contract implementation.
- Supervised field staff in both office and field work in the MWRA Sewer System Spatial Correction Project. This project involved utilizing RTK GPS technology to locate and collect attributes for over 4500 MWRA sewer structures, ranging over 43 communities in metropolitan Boston area.
- Developed & Implemented the MWRA Survey AutoCAD Land Desktop and Civil3D standards. These standards are utilized in Authority construction and engineering contracts.
- Developed project plan and procedures for the GPS location and GIS mapping of the Authorities Extensive Waterworks infrastructure. Plan encompasses 60 communities several thousand structures along with several hundred miles of water pipelines and aqueducts.
- Developed and implemented a comprehensive wind turbine tower and foundation stability monitoring procedure. This involved developing procedures to monitor and report to the executive office the structural stability of the Delauri PS turbine and foundation. This procedure tracked the movement of the turbine tower/foundation. This method was utilized for the final determination that the tower and foundation were plumb and level prior to pouring the new Turbine tower foundation.
- Perform detailed utility and topographic surveys for the MWRA engineering in-house design.
- Assist in house construction departments with field engineering and layout.
- Developed a detailed "Field Engineering" (01050) construction specification for field engineering, Record plans and Detail Records.
- Have completed dozens of up-dated Detail Records. Including complete field survey as well as pipeline and appurtenance alignment development from original historical field books, pipe schedules, calculation books, photographs, record plans and detail records.
  Some of the larger more complex sites include the Chestnut Hill Emergency Pump Station and the Southborough Metrowest, Hultman and Sudbury dam facility. This work included detailed field survey and investigation. Comprehensive and detail record research that reached back over 100 years to the original facilities. From this effort we developed a document and AutoCAD chronological sequence of construction, renovation, demolition over the life of the facilities. This method is employed to assist in the creation of the most defensible, comprehensive and accurate record drawing possible.
- Researched and authored a comprehensive Storm Flood Assessment Report for the Chelsea maintenance facility.
- Performed all field and office work including the field survey and design for the Braintree Weymouth wastewater pump station by-pass piping.
- Created & managed the Survey group's jobs and research database and filing system as well two servers.
- Adjust and organize GPS data into the proper format for export to the MWRA GIS department.

- Coordinate data QA/QC with MWRA GIS staff.
- Provide consultation on survey related issues to senior management, engineering and GIS staff through out the MWRA.
- Created and managed 20 project specific survey contracts. For consultant contract and task order survey contracts. Ranging in value from a few thousand dollars to over $100,000.
- Provide cost estimates for survey task order contracts.
- Utilize Arc Map 10.2.2 to create spatially accurate record databases of record plans level runs and traverses.
- Utilize AutoCAD Civil3D in the creation of water and sewer system detail, utility and topographic drawings for MWRA in-house design.

Massachusetts Water Resources Authority, Chelsea Ma.
Resident Engineer & Inspector, Construction Department 6/90 to 5/02

- Acted as the MWRA inspection liaison on the MWRA's $89 million dollar sludge pelletizing plant, located in Quincy, Ma.
- Acted as construction inspector on several gravity and force main sewer contracts. Ensuring that the contractor adhered to the contract plans and specifications.
- Acted as resident engineer for a $1 million dollar baffle manhole separation project in Somerville, Ma.
- Acted Resident Inspector on the Nut and Deer Island asbestos abatement project valued at $1.5 million dollars.
- Worked on a team that video inspected and completed rehabilitation design plans and specifications for 19,000 linear feet of the 9-foot diameter Northern Metropolitan trunk sewer.
- Acted as resident inspector and contract administrator for the $60 million dollar MWRA pelletizing plant expansion. (1998-2002)
    - Responsible for mechanical system installation and testing. The administration of $7.25 million dollar computer control hardware and software installation.
    - Lead the effort in PLC ladder logic development and SCADA content and presentation.
    - Responsible for over sight of all mechanical, electrical & control equipment installation and testing
    - Developed a detailed control system testing protocol for 4500 discrete I/O and analog points.
    - Supervised MWRA staff in implementing start-up & testing protocol
    - Was the lead person in developing the criteria for system acceptance testing.
    - Supervised MWRA, NEFCO plant and contractor staff in operating the pelletizing process for acceptance testing. Acted as Chief Operator during testing and optimization of pelletizing process.
    - Organized & moderated over 300 electrical and control system meetings and minutes.
    - Authority representative at several out of state PLC and SCADA Factory Acceptance testing at the integrators Richmond Virginia office. Provided senior management with consultation on FAT acceptance and transport to site.
    - Researched, estimated and developed dozens of electrical and equipment *Contract change orders.*
    - Compiled and implemented an in-depth electrical and computer program punch list

Hayward Boynton & Williams, Inc. Brockton, Ma.
Project Engineer & Survey Manager 8/86 to 6/90

<u>Engineering design duties:</u>

- Supervise a staff of junior engineers, surveyors and construction superintendents. In the design, permitting and construction of small to large residential & commercial projects.
- Supervisory duties included, implementing best practices, assigning duties, providing technical support, confirming and signing time sheets, implementing company work hour policies, establishing staff daily schedule, as well as providing supervised staff bonus reviews.
- Project manager on medium to large residential & commercial permitting, design and construction projects.

- Followed community and state By-laws for residential and commercial development designs. Including right of way alignment, roadway, utility, lot sizing, volumes, wetlands, sheet flow calculation and drainage design.
- Applied for and implemented municipal, State and Federal environmental, construction and building permitting.
- Calculation and plotting of medium to large scale residential and commercial sub-division plans. including property determination, roadway design, surface sheet flow and drainage calculations, permitting, municipal approvals,
- Regularly met with clients and municipal officials.
- Represented clients at Community Board meeting including Planning, Conservation, Zoning and Health.

Survey Duties

- Responsible for both field and office duties on all aspects of land surveying and civil engineering Projects. My duties included field and office survey work along with engineering design.
- Supervise project research involving Registry of Deeds, Probate, Land Court, Corp of Engineers and various State and Municipal agencies. Supervised survey party in property, topographic, aerial control, level runs, wetlands, construction layout. Survey calculations involving property line, Land Courts, topography, volumes, wetlands.
- Supervised field and office staff in several large scale and complex Land Court and aerial topography projects. All in support of multiple acre development projects

Joseph Monahan & Associates, E. Dennis, Ma. (Associated with C.R. Short Inc)
Survey Party Chief / Office Engineer/Project Coordinator 11/85 – 6/86

C.R. Short & Inc., E. Dennis, Ma. (Associated with Joseph Monahan) 5/84 to 11/85
Office Engineer / Party Chief.

- Initially performed the duties of a survey party chief and junior engineer. Then gained additional responsibilities as a project manager.
- Acted as Project manager for in-house and client development projects. My duties and responsibilities included roadway, utility and building design, permitting, cost estimating, purchasing, scheduling, construction supervision and over-sight.
- Supervised survey crews as a party chief also supervised and managed in-house construction staff and contractors.
- Associated project duties include: Project, permitting & design engineer. Performed topographic and property surveys. Completed survey calculations and plotting for property and property development projects. Performed percolation and soil tests for on-site septic and drainage designs. Designed site plans in accordance with town and state By-laws for individual and multiple residential and commercial development.

Easton Iron Foundry, Easton, Ma. 4/81 to 5/85

Furnace tender, Molder, Delivery/Shipping /Receiving

References provided upon request.

MWRA
POSITION DESCRIPTION

POSITION: Construction Coordinator

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

Supervises office and field engineers to oversee and manage construction contracts and professional engineering contracts in the construction, rehabilitation, improvements, and start-up of Waterworks and Wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of the Assistant Director, Construction.

SUPERVISION EXERCISED:

Exercises close supervision of office and field employees including professional and technical staff, resident engineers, and inspectors.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees and manages a program of construction projects, including the rehabilitation and improvement of waterworks and wastewater facilities and pipelines.

- Supervises and manages office and field engineers, including assignment of projects, evaluation of performance, and staff development planning. Provides technical and administrative assistance to staff during the construction, startup, and warranty of projects.

- Oversees and directs consultant engineering services and contracts during construction, including all work for quality of work, budget, schedule, and compliance with contractual terms and MWRA objectives and policies. Negotiates and reviews construction services in consultant contracts.

- Acts as liaison with engineering, operations, and maintenance staff to ensure the smooth construction and start-up of new or rehabilitated facilities.

- Ensures contractor compliance with construction documents, MWRA procedures and policies, regulatory requirements, and applicable engineering standards.

- Supervises the development and maintenance of construction tracking and reporting procedures. Prepares and updates construction budget and schedule projections.

- Performs constructability reviews of construction plans and specifications.

- Reviews, negotiates and processes change orders and claims in accordance with MWRA policies and procedures.

- Reviews and processes pay estimates and final payment and construction closeout documents in a timely manner. Oversees preparation and submittal of accurate record drawings upon construction completion.

- Oversees office and field project files, ensuring that all project documentation is complete, up-to-date, and in accordance with MWRA policies and procedures.

- Prepares staff summaries for the Executive Director and Board for construction contract and engineering agreement changes, and project status.

SECONDARY DUTIES:

- Participates in preparing for collective bargaining and hears Step-One grievances.

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) Completion of a four (4) year college program in civil engineering or a related field; and

(B) Eight (8) to (10) ten years experience in the construction of water and wastewater facilities and infrastructure, of which four (4) years should be in a supervisory capacity and four (4) years should include a project management experience; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

(A) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.

(B) Knowledge of Massachusetts laws, including MGL Chapter 30 and Chapter 149 construction regulations.

(C) Familiarity with computer software, such as Word and Excel.

(D) Excellent interpersonal, managerial, oral and written communication skills are required.

SPECIAL REQUIREMENTS:

Registration as a Professional Engineer in Massachusetts is preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

While performing the duties of this job, the employees frequently works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, extreme heat or extreme cold, and the risk of electrical shock.

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

June 1, 2011

Engineering & Construction

Construction

October, 2020