



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Posted 02/15/2019
11:08 AM

Frederick A. Laskey
Executive Director

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

ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

Wednesday, February 20, 2019

Chair: H. Vitale
Vice-Chair: J. Foti
Committee Members:
C. Cook
J. Carroll
K. Cotter
A. Pappastergion
B. Peña
J. Walsh

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 10:00 a.m.

AGENDA

A. Information

1. FY2019 Second Quarter Orange Notebook
2. Delegated Authority Report – January 2019
3. FY2019 Mid-Year Capital Project Spending Report
4. FY2019 Financial Update and Summary as of January 2019
5. FY2019 Community Assessment Adjustments
6. Preliminary FY2020 Water and Sewer Assessments

B. Approvals

1. Transmittal of the FY2020 Proposed Current Expense Budget to the MWRA Advisory Board
2. Approval of Eightieth Supplemental Bond Resolution
3. Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Interval Accounts
4. Appointment of Proxy for Fore River Railroad Corporation

C. Contract Amendments/Change Orders

1. Actuarial Services: The Segal Company, Inc., Contract F248, Amendment No.1

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

January 16, 2019

A meeting of the Administration, Finance and Audit Committee was held on January 16, 2019 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Peña and Walsh and Ms. Wolowicz. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Thomas Durkin, Michele Gillen, Douglas Rice, Corinne Barrett, James Halloran, Michael Cole, Matthew Horan, Stephen Estes-Smargiassi, Carl Leone, Lise Marx, John Colbert, and Kristin MacDougall. The meeting was called to order at 10:16 a.m.

Information

Delegated Authority Report – December 2018

Staff made a verbal presentation. There were questions and answers.

FY2019 Financial Update and Summary as of December 2018

Staff provided a verbal update on FY2019 financial results and variance highlights through December 2018. There were questions and answers.

Update on the 2018 MWRA Water and Wastewater Master Plan

Staff made a presentation. (Mr. Carroll and Mr. Foti joined the meeting during the presentation.) There was discussion and questions and answers. (Mr. Foti briefly left and returned to the meeting during discussion.)

The meeting adjourned at 11:06 a.m.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: FY19 Second Quarter Orange Notebook



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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



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

RECOMMENDATION:

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

DISCUSSION:

The Orange Notebook presents performance indicators for operational, financial, workforce, and customer service parameters tracked by MWRA management each month. Noteworthy outcomes for the second quarter are highlighted below.

Deer Island Operations

Several routinely tracked metrics show the effects of the high precipitation during November and the second quarter. The plant flow and precipitation chart shows the 9.26 inches of rain in November (15.76 for the quarter) and the resulting 568 mgd average flow in November (424 for the quarter). These higher flows are reflected in Total Power Use, with pumping power use being 41.5 percent higher than target. The extended periods of high flow and storm conditions necessitated reliance on the diesel powered combustion turbine generators (CTGs) to provide reliable power for continuous operation, as seen in the Self-Generation metric. The CTGs were operated on 11 days for a total of 183 hours, more than double the targeted amount. (See page 1)

Drinking Water Source Water

One measure of source water quality is UV absorbance (UV 254), which characterizes the amount and reactivity of natural organic carbon material in the water. Higher UV 254 is correlated with a number of water quality effects including increased ozone and chlorine use, increases in disinfection byproducts, and changes in lead corrosivity. UV 254 is typically higher in tributary streams, and decreases over time in the reservoirs naturally with exposure to sunlight, settling, and natural biological activity. The Quabbin Reservoir, with its multi-year residence time, typically has much lower UV 254 than the Wachusett Reservoir, which has a much shorter residence time. Staff manage transfers and reservoir releases to move higher quality Quabbin water to Wachusett

Reservoir, improving the quality of water withdrawn for water supply. During wetter periods, the Wachusett Reservoir watershed yields much more water than needed for water supply, keeping the reservoir level high and reducing the ability to transfer Quabbin water. With the wet fall, Wachusett Reservoir levels were too high for Quabbin transfers for most of the quarter. UV 254 levels are elevated at both reservoirs, but particularly so at Wachusett. As reservoir levels drop, additional Quabbin transfers will assist in reducing UV 254 levels. (See page 20 and 26)

Treated Water Quality

With the higher and more reactive natural organic carbon levels, disinfection byproducts have increased slightly, while remaining well below regulatory standards, in both the metro Boston and Chicopee Valley Aqueduct (CVA) systems. Two classes of chlorine disinfection byproducts are sampled quarterly throughout the distribution system: total trihalomethanes (TTHMs) and haloacetic acids (HAA5). They are regulated on the basis of locational running annual averages and the sample location with the highest four quarter average determines compliance. Metro Boston levels were 15.7 ug/l (compared to the standard of 80) for TTHMs and 15.9 ug/l (compared to the standard of 60) for HAA5s. The highest average values among the three CVA communities were 62 ug/l for TTHMs and 42 ug/l for HAA5s. Levels in the CVA system are typically higher than the metro Boston system reflecting the differences in treatment. The CVA system uses free chlorine along with UV for primary disinfection, as well as for residual disinfection (and Chicopee boosts with additional chlorine) compared with the use of ozone and UV for primary disinfection and chloramines for residual disinfection in the metro Boston system. (See page 25)

Wastewater Structure Inspections and Maintenance

Siphons are sections of sewer interceptors, which pass under rivers, streams, and other low lying obstacles to the grade line of the pipe. Typically, they consist of an upstream and downstream chamber, connected by several smaller diameter “barrels” passing under the obstacle. Because they represent a low point in the pipe, they risk becoming obstructed with settled material, resulting in reduced capacity and the potential for upstream overflows. On a regular schedule of approximately every two to three years, each siphon is cleaned and inspected via MWRA’s TV inspection equipment. Cleaning typically is conducted prior to inspection to allow for an effective view of both any remaining debris and any defects in the siphon structure. Additional cleaning may occur after the inspection, but is accounted for as one cleaning for the purposes of tracking. Half way through FY19, staff have already completed their yearly target for cleaning. While inspections are lagging their midyear target, staff expect that having the siphons already cleaned and ready for inspection by the TV crews will speed up work during the rest of the year. (Page 7)

Leak Detection and Repair

During the quarter, staff were able to significantly reduce the backlog of leaks on MWRA pipes. Most of the remaining backlogged leaks are on pipelines, which cannot easily be isolated without substantial community impact, and are awaiting the completion of redundant pipelines for repair. No leaks are considered significant and none are currently surfacing. Leak detection is below target for the quarter, but MWRA resources were diverted to assist 19 different communities during the quarter in finding either substantial or difficult to detect local leaks. Overall, MWRA system unaccounted for water remains low at under two percent. (See pages 6 and 14)

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Second Quarter FY2019

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 20, 2019

Board of Directors Report on Key Indicators of MWRA Performance

2nd Quarter FY19

Table of Contents

Operations and Maintenance

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

Construction Programs

Projects in Construction	16
CSO Control Update	18
CIP Expenditures	19

Drinking Water Quality and Supply

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

Wastewater Quality

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

Community Flows and Programs

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

Business Services

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

Other Management

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

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

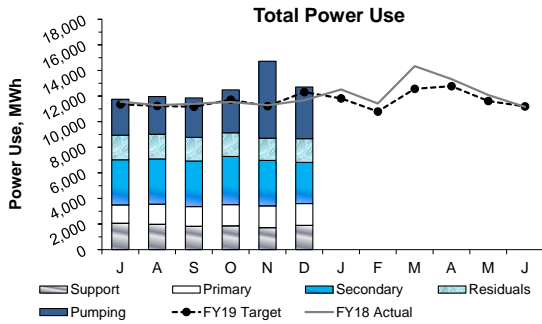
Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 20, 2019

OPERATIONS AND MAINTENANCE

Deer Island Operations

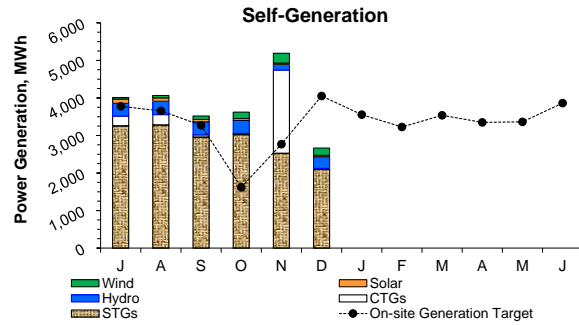
2nd Quarter - FY19

Page 1 of 4

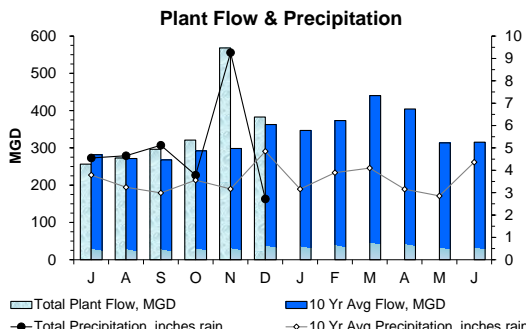


Total power usage in the 2nd Quarter was 13.2% above target as Total Plant Flow was 44.0% above target with the 3 year average plant flow. While power usage in the Residuals treatment process was below target, usage in a number of other processes were similar to or above target as a result of the higher plant flow, including power used for raw wastewater pumping which was 41.5% above target. Wastewater pumping for the North System was 30.4% higher and for the South System was 75.9% higher than target.

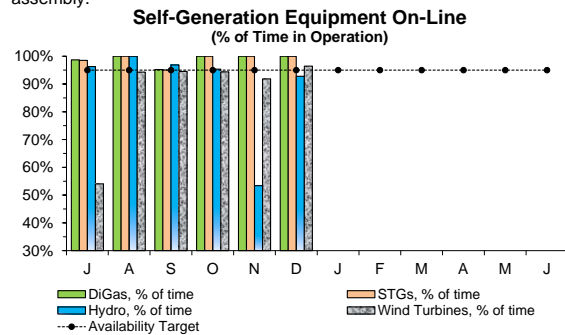
Note: Power usage projections are based on 3 year averages.



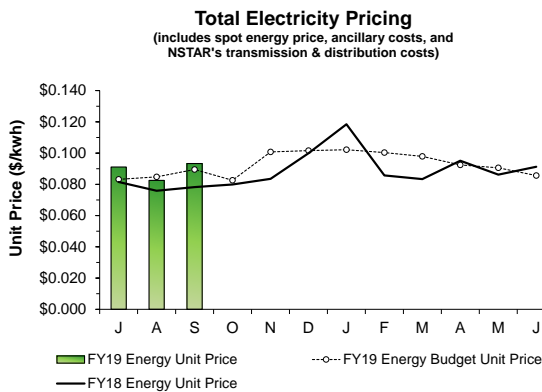
Power generated on-site during the 2nd Quarter was 35.9% above target. This was mainly due to the CTGs being operated on 11 days in November, for a total of 183 hours, as a precaution during the many rain events and extended periods of high plant flows. As a result, power generated by the CTGs was more than double the expected generation during Quarter 2. Power generated by the STGs and Wind Turbines also exceeded their target by 43.7% and 13.7%. Generation by the Solar Panels was 6.3% below target. Hydro Turbine generation was 38.4% below target due in part to extremely high plant flows events that prevented the turbine from operating at times, in addition to maintenance issues resulting in the turbine remaining offline for several days. Hydro Turbine #1 has been out of service pending repairs to the rotating assembly.



Total Plant Flow for the 2nd Quarter was 33.4% above target with the 10 year average plant flow (424.0 MGD actual vs. 317.8 MGD expected) as precipitation was 36.2% above target (15.76 inches actual vs. 11.57 inches expected). The near record breaking rainfall of 9.26 inches in November alone was nearly three (3) times higher than the 10 year average for the month.

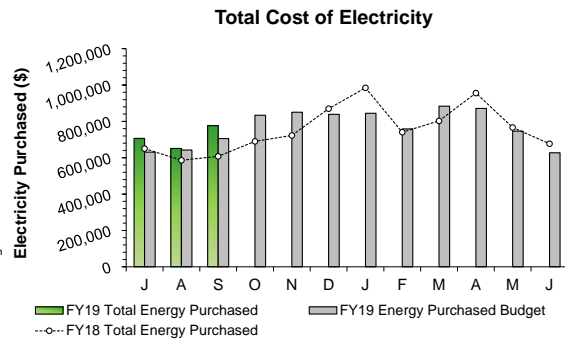


The DiGas system, STGs, and Wind Turbines met or exceeded the 95% availability target for the 2nd Quarter. The Hydro Turbine availability was 14.5% lower than target due in part to extremely high plant flows during heavy rain events (in November), that prevented the turbine from operating at times, in addition to maintenance issues resulting in the turbine remaining offline for several days.



Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price in September (the most current invoice available) was 4.3% above target with budgetary estimates. The actual total energy unit prices in October, November, and December are not yet available as the complete invoices have not been received. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

Note: Only the actual energy prices are reported. Therefore, the dataset lags by three (3) months due to the timing of invoice receipt and review.



The Electricity cost data for Electricity Purchased in October and November are not yet available. Year-to-date Total Cost of Electricity is \$156,106 (7.9%) higher than budgeted through September as the Total Energy Unit Price is 3.7% higher than target and the Total Electricity Purchased is 4.1% higher than target through September.

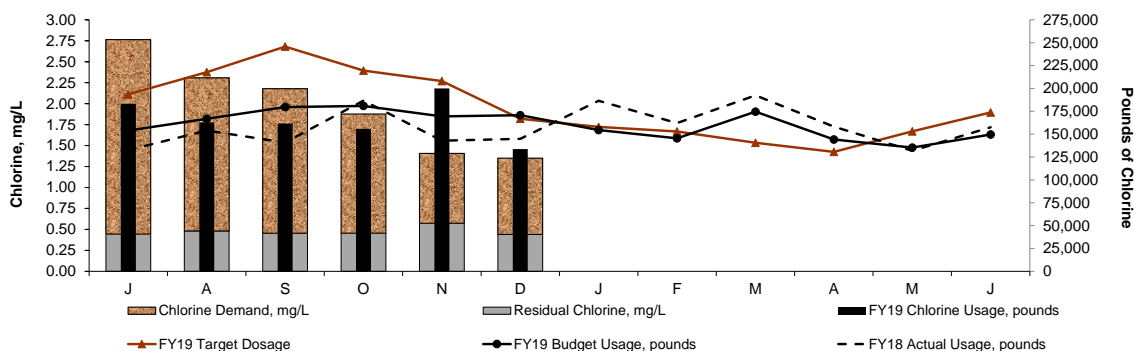
Note: Only months with complete Electricity Purchased data are reported. Therefore, the dataset lags by three (3) months due to the timing of invoice receipt and review.

Deer Island Operations

2nd Quarter - FY19

Page 2 of 4

Deer Island Sodium Hypochlorite Use



The disinfection dosing rate in the 2nd Quarter was 28.5% below target with budgetary estimates. Actual sodium hypochlorite dosage and usage is indicative of a lower chlorine demand in the wastewater due to higher flows and a more dilute wastewater. DITP maintained an average disinfection chlorine residual of 0.49 mg/L this month with an average dosing rate of 1.54 mg/L (as chlorine demand was 1.05 mg/L).

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

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
J	1	1	0	99.5%	6.02
A	1	1	0	99.9%	2.96
S	2	2	0	99.4%	7.81
O	3	3	0	99.5%	9.58
N	12	12	0	96.2%	100.05
D	2	2	0	99.9%	9.68
J					
F					
M					
A					
M					
J					
Total	21	21	0	98.7%	136.10

98.2% of all flows were treated at full secondary during the 2nd Quarter. There were 17 secondary blending events this quarter, all due to high plant flow resulting from heavy rain. The Boston area received 292.6% more rain in November than expected resulting in a total of 12 secondary blending events for the month. Additionally, a number of high plant flow records for November were broken (see Deer Island Operations & Maintenance Report section below). Secondary blending for the 2nd Quarter resulted in a total of 114.02 hours of blending and 703.93 MGal of primary-only treated effluent with secondary effluent. The Maximum Secondary Capacity for the entire quarter was 700 MGD.

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

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 1,208.1 MGD during the early morning of November 10. This peak flow occurred during a storm event that brought 1.65 inches of rain to the metropolitan Boston area. A number of high plant flow and rainfall records, dating back to plant startup in July 1998, were broken in November, as precipitation mostly in the form of rain in the Boston area, was 292.6% higher than expected. The daily average plant flow for the North System influent flow (351.06 MGD), South System influent flow (217.12 MGD), and Total Plant influent flow (568.19 MGD) all shattered the previous high flow records for the month of November (see table below).

Overall, Total Plant Flow in the 2nd Quarter was 33.4% above the 10 year average plant flow target for the quarter.

	Previous November Record (since plant startup July 1998)	New November Record (set 2018)
Total Plant Influent Flow	422.68 MGD (2006)	568.19 MGD
North System Influent Flow	281.74 MGD (2006)	351.06 MGD
South System Influent Flow	160.32 MGD (2011)	217.12 MGD
Precipitation	5.8 inches (2006)	9.26 inches

Cleaning of the North Main Pump Station riser shafts began during the week of November 19 and continued into December. The ten-foot diameter North Metropolitan Relief Tunnel riser shaft and the eleven-foot diameter Boston Main Drainage Tunnel riser shaft were cleaned out by the end of the month. The total amount of material removed will not be available until the completed invoice from the grit and screenings hauling contractor is received. The removal of this floating material reduces the risk of pumping system malfunctions during low flow and pump-down events at the North Main Pump Station. This cleaning occurs twice a year.

Deer Island Operations & Maintenance Report (continued)

Secondary Treatment:

Annual turnaround maintenance was performed on Train #1 in the Cryogenic Oxygen Facility in October. This turnaround maintenance is performed on roughly half of the components and systems in the Cryogenic Oxygen Facility and allows the remaining half of the facility to continue to operate and produce oxygen uninterrupted. During this turnaround maintenance, the contractor calibrated all the instrumentation on Cold Box unit #1 as well as, a number of other components of the oxygen plant. The same turnaround maintenance was completed on Train #2 in the spring (April).

DITP successfully received and offloaded a single 58,000 pound tanker delivery of liquid oxygen on November 21. The ability to receive liquid oxygen is important for DITP as a contingency in the event the cryogenic oxygen facility is out of service. Oxygen is needed for the biological process in secondary treatment to effectively treat the wastewater to a level that meets the effluent quality required in the discharge permit. As such, a minimum of one (1) liquid oxygen delivery is scheduled for offloading into the 1,000 ton liquid oxygen storage tank every five (5) years to ensure the deliveries can be successfully offloaded and allows staff to review the steps necessary to perform such an offload. DITP utilizes approximately 100 to 120 dry tons per day of pure oxygen to support the secondary biological process.

Residuals:

Contractors began work on a major Gravity Thickener Rehabilitation project in October. DITP has six (6) gravity thickeners used to concentrate sludge that is generated from the primary treatment process, and scum that is generated from all treatment processes. The sludge and scum thickening equipment and five (5) of the six (6) Fiberglass-Reinforced Plastic (FRP) domed covers have reached the end of their useful lives and are in need of replacement. This rehabilitation project will upgrade all six (6) gravity thickeners including complete replacement of each tank's sludge and scum thickening equipment as well as replacement of five (5) of the six (6) FRP dome covers (the FRP domed cover for Gravity Thickener #2 has already been replaced). Additionally, critical components which were previously fabricated from carbon steel, including the center columns and center cages, will now be fabricated from type 316 stainless steel in order to provide superior protection against hydrogen sulfide gas which is present in high concentrations in this highly corrosive environment. Gravity Thickener #1 was turned over to the contractors to begin work on October 12. The entire rehabilitation project is anticipated to take nearly three (3) years to complete.

Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 28.8% of Deer Island's total power use for the quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 23.1% of Deer Island's total electrical power use for the quarter.

The required annual boiler inspections were successfully completed by a Department of Public Safety certified inspector on September 19 for Boiler 101 and on October 10 for Boiler 201. No issues were cited during these inspections.

The CTGs were operated on October 23 and on December 17 for ISO-New England electrical declared demand response audit events.

Contractors from Eversource began mobilizing on-site in early October to begin work in preparation for the installation the on-island of the new cross-harbor power cable. Currently, this work involves trenching from the Eversource building (Station 132) down the roadway inside the perimeter fence line ending at the northwestern section of parking lot #1. This new cross-harbor power cable will replace the existing cross-harbor power cable that serves as the primary means of transmitting electricity to Deer Island, and is expected to be available near the end of calendar year 2019.

The quarterly Continuous Emissions Monitoring System (CEMS) cylinder gas audits, along with the quarterly Continuous Opacity Monitoring System (COMS) audits for the two (2) boilers in the Thermal Power Plant were successfully completed by contractors on November 30. The CEMS measures the nitrogen oxides (NOx) emissions, the oxygen, carbon monoxide, and sulfur dioxide concentrations in the boiler flue gas. The cylinder gas audit measures each gas analyzer in the CEMS against known cylinder gas concentrations. The opacity audits measure the performance of the COMS through a number of required testing protocols specified in the regulations. DITP received passing results on all the audit tests that were performed and a final report will be submitted to the MaDEP.

Annual maintenance at the Thermal Power Plant began on December 10 and continued through December 26. Various maintenance activities on the Steam Turbine Generators (STGs) and the two (2) Zurn boilers included maintenance on various pumps, valves, and instruments throughout the power plant. The annual maintenance, which typically occurs during the late fall, includes maintenance on the common systems. However, the common systems maintenance was postponed to 2019 due to the later timing of this year's maintenance. Therefore, one (1) boiler and one (1) steam turbine generator remained in operation at all times during this minor plant outage.

DITP took delivery of nearly 343,000 gallons of #2 fuel oil without incident from December 10 through December 17. This fuel oil is used for CTG operation, for boiler startup operations, and for supplemental fuel for boiler operation during periods of low or unstable digester gas production.

Clinton AWWTP:

Drained, clean, and inspected #2 contact channel. Placed channel back in service.
Replaced broken throat flange and intermediate bearing #1 Influent Screw Pump.
Replaced coupling in #2 Belt Filter Press Sludge Supply Pump.
Drained, cleaned, and inspected #1 Final Clarifier.

Phosphorus Reduction Facility:

Work completed or in progress during the Second Quarter:
Acid washed and inspected #1, 2, & 3 disk filters.
Laid up disk filters for off season maintenance.

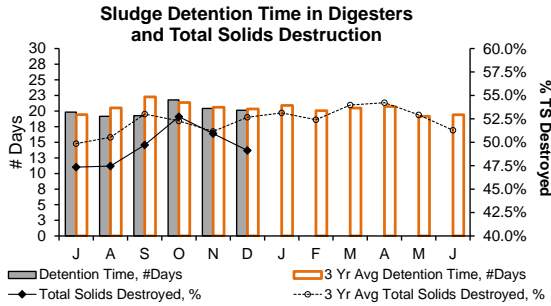
Painting and Coatings contract:

Contractor has commenced work, bead blasting piping in the Chemical Building Basement.

Deer Island Operations and Residuals

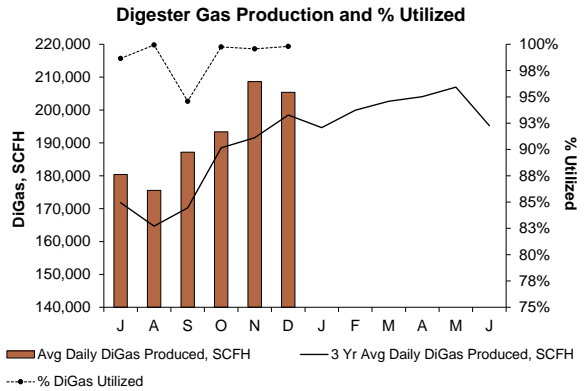
2nd Quarter - FY19

Page 4 of 4



Total solids (TS) destruction following anaerobic sludge digestion averaged 50.9% during the 2nd Quarter, 2.1% below the 3 year average of 52.0% even though the sludge detention time in the digesters was on target at 20.8 days. DI operated with an average of 8.0 digesters similar to the 3 year average. TS destruction was lower than expected due to a slightly higher percentage of secondary sludge going to digestion in December.

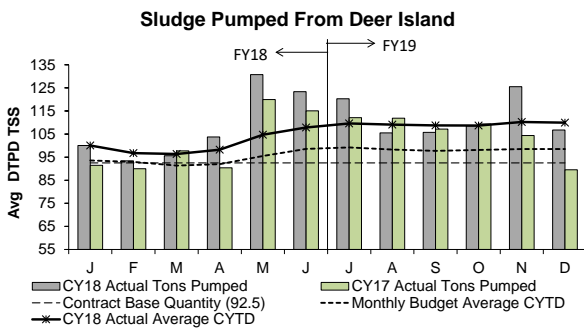
Total solids (TS) destruction is dependent on sludge detention time which is determined by primary and secondary solids production, plant flow, and the number of active digesters in operation. Solids destruction is also significantly impacted by changes in the number of digesters and the resulting shifting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



The Avg Daily DiGas Production in the 2nd Quarter was 5.0% above target with the 3 Year Avg Daily DiGas Production. On average, 99.7% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant.

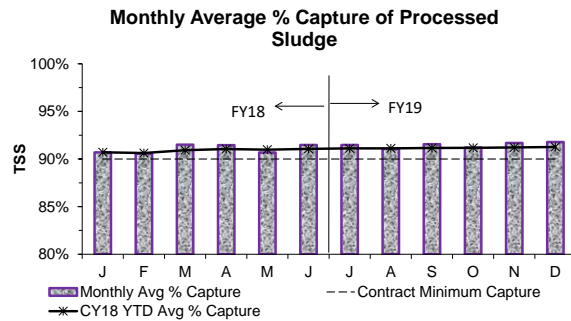
Residuals Pellet Plant

New England Fertilizer Company (NEFCO) operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 92.5 DTPD/TSS as an annual average. The monthly invoice is based on 92.5 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 92.5 DTPD/TSS each year (FY18's budget is 99.5 DTPD/TSS and FY19's budget is 98.9 DTPD/TSS).

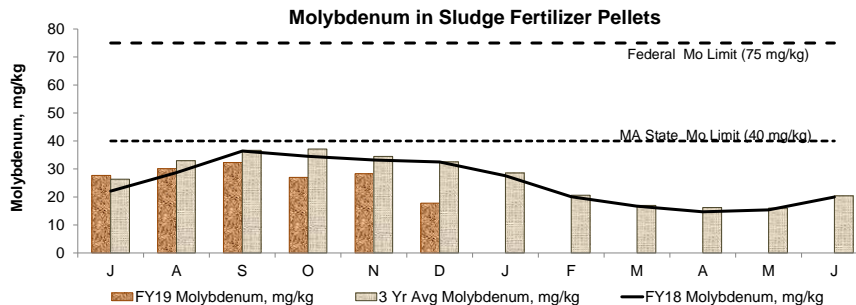


The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 2nd Quarter was 113.6 DTPD - 12.7% above target with the FY19 budget of 100.8 DTPD for the same period. Sludge delivered to the BPF was higher than expected due in part to 10% higher than expected total sludge in November (caused by high influent loadings from the higher plant flows). Additionally, the quarterly target based on historical values from FY15 to FY17 was biased low as a result of less sludge being sent to the BPF while digester operation was transitioning from Module #3 to Module #1 in December of FY15.

The CY18 average quantity of sludge pumped through December is 109.9 DTPD - 11.6% above target, compared with the CY18 average budget of 98.5 DTPD for the same time period.



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 2nd Quarter was 91.6% and the CY18 to date average capture is 91.3%.



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

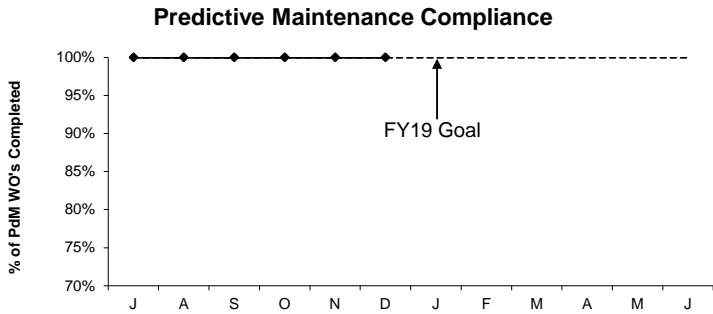
The levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, levels in the MWRA sludge fertilizer pellets during the 2nd Quarter averaged 24.4 mg/kg, 30% below the 3 year average, 39% below the MA State Limit, and 68% below the Federal Limit.

Deer Island Maintenance

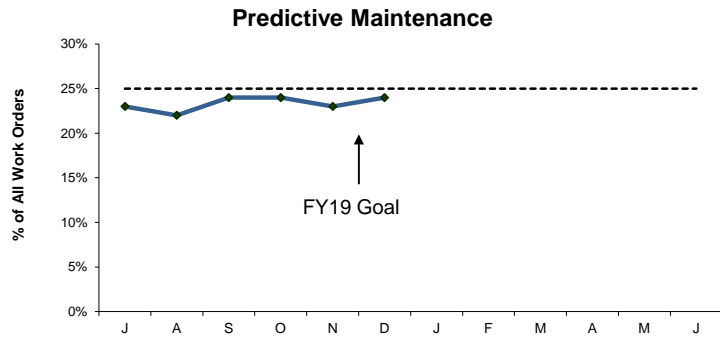
2nd Quarter - FY19

Productivity Initiatives

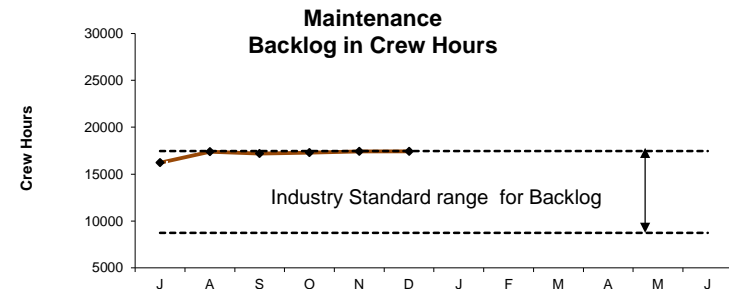
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.



Deer Island's FY19 predictive maintenance goal is 100%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.



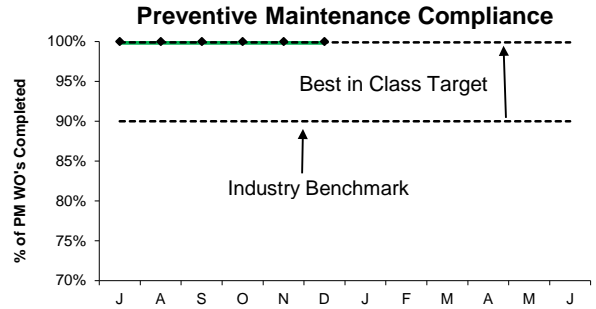
Deer Island's increased FY19 predictive maintenance goal is 25% of all work orders to be predictive. 24% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.



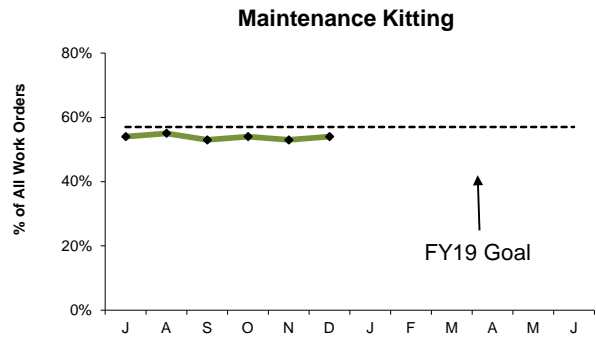
DITP's maintenance backlog at Deer Island is 17,298 hours this quarter. DITP is at the upper end of the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by five vacancies; (1) HVAC Technician, (1) Plumber, (2) Electricians and (1) Instrument Technician. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

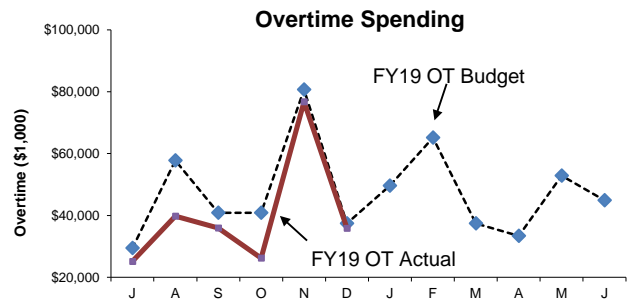
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.



Deer Island's FY19 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 100% of all PM work orders this quarter.



Deer Island's increased FY19 maintenance kitting goal is 57% of all work orders to be kitted. 54% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

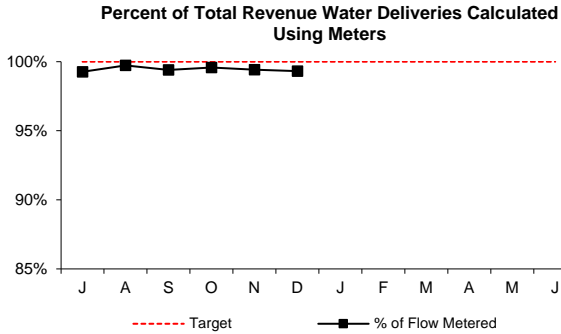


Maintenance overtime was under budget by \$16K this quarter and \$49k under for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime was predominately used for Storm Coverage/High Flows, Island Wide HVAC Winterization Preparation, Cryo Heating Coil #1 Replacement and Oxidizer Tank #2 Repair.

Operations Division Metering & Reliability

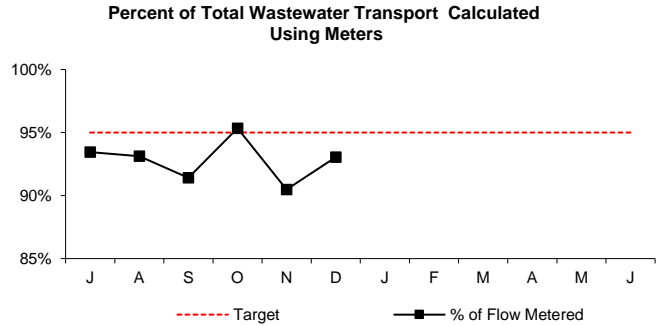
2nd Quarter - FY19

WATER METERS



The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 2nd Quarter of FY19, meter actuals accounted for 99.44% of flow; only 0.56% of total revenue water deliveries were estimated. The following is the breakdown of reasons for estimations: In-house and Capital Construction Projects - 0.03% Instrumentation Failure - 0.53%

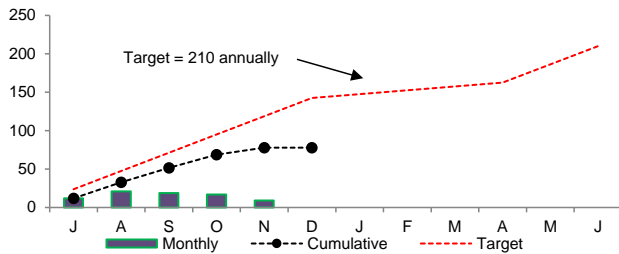
WASTEWATER METERS



The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions. During the 2nd Quarter of FY19, meter actuals accounted for 92.95% of flow. Due to instrumentation failures, 7.05% of wastewater transport flow was estimated.

WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During the 2nd Quarter of FY19, 26.19 miles of water mains were inspected. The total inspected for the fiscal year to date is 77.88

Leak Backlog Summary

Month	J	A	S	O	N	D	J	F	M	A	M	J	Totals
Leaks Detected	1	4	4	1	0	1							11
Leaks Repaired	0	0	3	7	2	1							13
Backlog	10	14	15	9	7	7							n/a

During the 2nd Quarter of FY19, two new leaks were detected, ten leaks were repaired. Refer to FY19 Leak Report below for details. Also, community service ranging from individual leak location to hydrant surveys were conducted for: Arlington, Boston, Boston Water & Sewer, Canton, Deer Island, Ludlow, Lynn, Malden, Marlborough, Medford, Milton, Newton, Northboro, Reading, Saugus, Somerville, Stoneham, Wakefield, Watertown and Winthrop.

2nd Quarter - FY 19 Leak Report

Date Detected	Location of Leaks	Repaired
07/16/18	683 Boylston St., @ Lee St. Brookline	09/11/18
09/03/18	#2 Lynn Fells Pkwy., exit. Stoneham	09/05/18
09/07/18	Waverly Oaks Road. Waltham	09/15/18
11/20/17	Peabody St. @ Washington St., Newton	10/24/18
11/26/17	Nonantum Rd. @ Maple St., Newton	10/24/18
08/01/18	Morton St. @ Forest Hills Ave., W. Roxbury	10/25/18
08/08/18	Morton St. @ Forest Hills Cemetary, W. Roxbury	10/31/18
09/21/18	Felton St. @ Water St., Waltham	10/02/18
09/27/18	Morton St. @ Norfolk St., Dorchester	10/31/18
10/20/18	Morton St. @ Norfolk St. #2, Dorchester	10/23/18
08/26/18	West St. @ Neponset River, Hyde Park	11/15/18
08/28/18	Morton St. @ Harvard St. Mattapan	11/19/18
12/16/18	Hicks Ave. @ Mystic Ave., Medford	12/17/18

Date Detected	Location of Leaks/Unrepaired
06/08/15	Allandale Rd. @ Grove St., Brookline, Sect 78, located acoustically. Not surfacing. No redundancy.
06/17/15	Washington St. at East St., Dedham; Sect 77, located acoustically. Not surfacing. Need redundant SEH pipeline to enable isolation.
07/01/16	241 Forest St. Winchester, Sect 89, leaking blow of valve. Not surfacing. Need redundant NIH pipeline to enable isolation.
12/04/16	1025 W Roxbury Pkwy, Brookline, Sect 95, located acoustically. Not surfacing. Leaking blow off valve. No redundancy.
12/04/16	710 Ashland St/Summer St. Lynn, Sect 91. Not surfacing. Leaking emergency connection valve between MWRA and LWSC systems. LWSC has difficulty isolating 16" main.
07/20/17	Mystic Valley Parkway, Medford. Not surfacing.
04/20/18	#634 Mystic Ave. @ Mt. Vernon, Somerville. Not surfacing. Repair scheduled. Permit Issues.

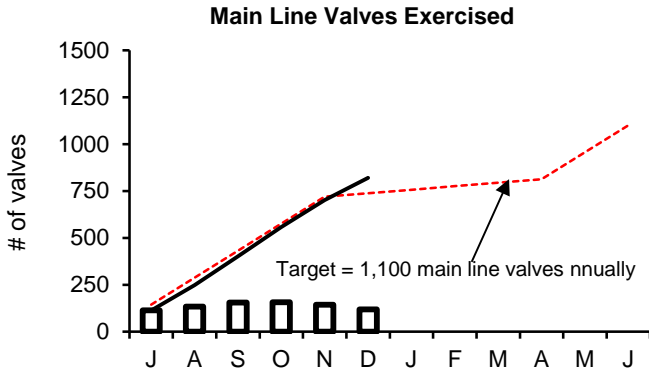
Water Distribution System Valves

2nd Quarter - FY19

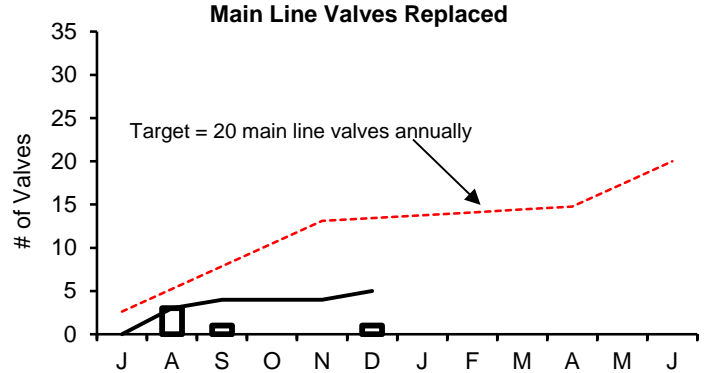
Background

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

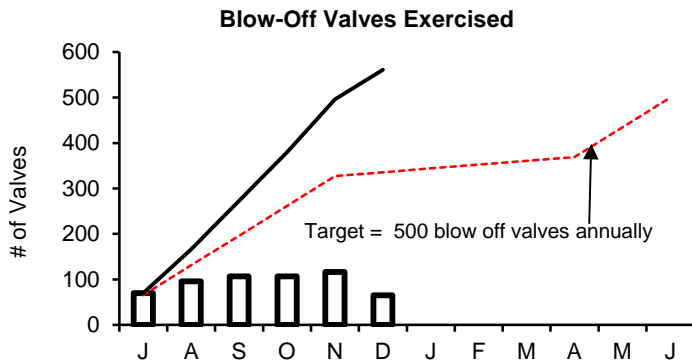
Type of Valve	Inventory #	Operable Percentage	
		FY19 to Date	FY19 Targets
Main Line Valves	2,159	96.6%	95%
Blow-Off Valves	1,317	98.4%	95%
Air Release Valves	1,380	95.0%	95%
Control Valves	49	100.0%	95%



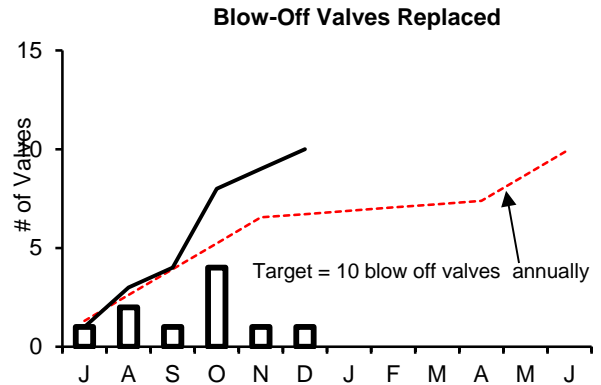
During the 2nd Quarter of FY19, 418 main line valves were exercised. The total exercised for the fiscal year to date is 820.



During the 2nd Quarter of FY19, there was one main line valve replaced. The total replaced for the fiscal year to date is five. Focus has been on Blow-Off valve replacements related to available pipeline isolations.



During the 2nd Quarter of FY19, 288 blow off valves were exercised. The total exercised for the fiscal year to date is 561. Valve exercising has increased due to full allocated staffing and CIP projects coming to completion.



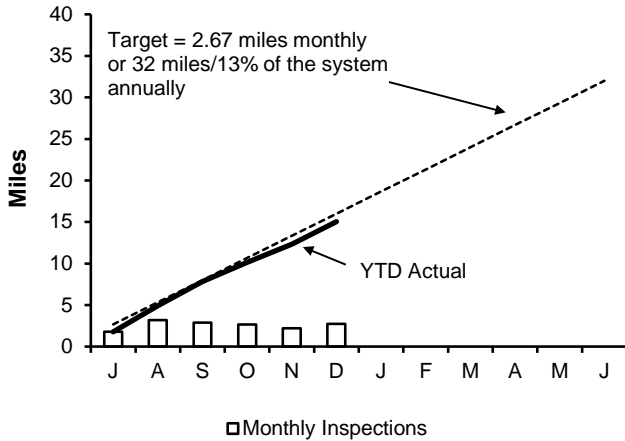
During the 2nd Quarter of FY19, there were six blow off valves replaced. The total replaced for the fiscal year to date is ten. Focus has been on Blow-Off valve replacements related to available pipeline isolations.

Wastewater Pipeline and Structure Inspections and Maintenance

2nd Quarter - FY19

Inspections

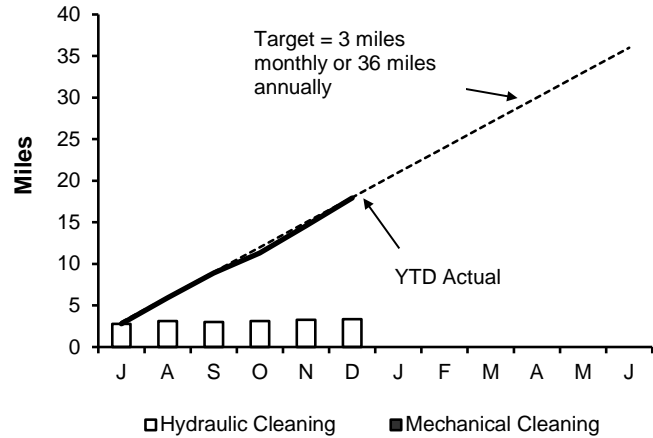
Pipeline Inspections



Staff internally inspected 7.59 miles of MWRA sewer pipeline during this quarter. The year to date total is 15.04 miles. No Community Assistance was provided quarter.

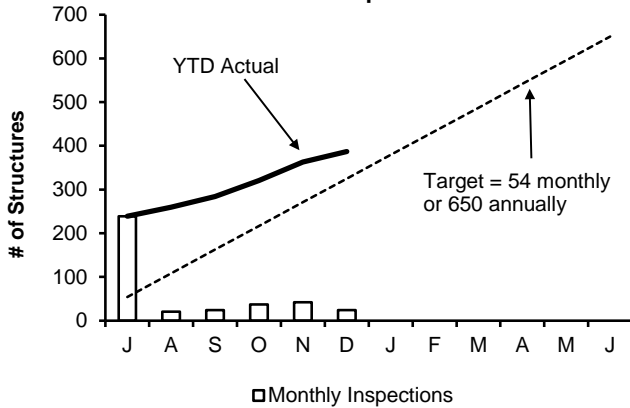
Maintenance

Pipeline Cleaning



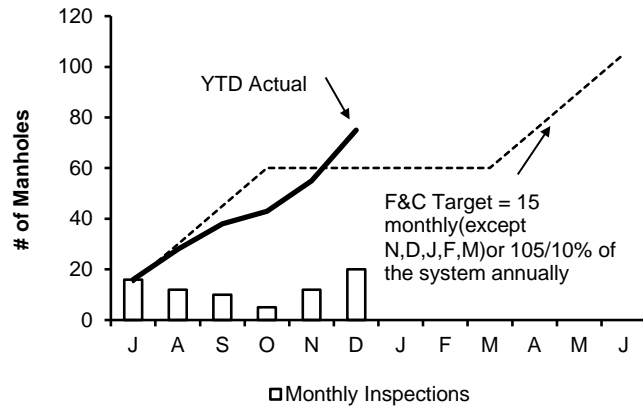
Staff cleaned 9.74 miles of MWRA's sewer system and removed 27 yards of grit and debris during this quarter. The year to date total is 17.93 miles. No Community Assistance was provided this quarter.

Structure Inspections



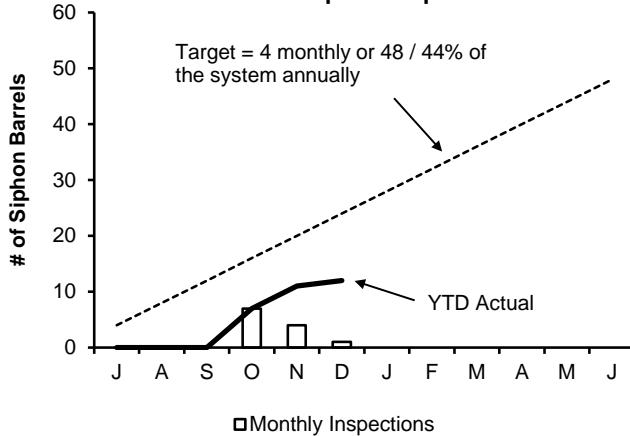
Staff inspected the 36 CSO structures and performed 103 additional manhole/structure inspections during this quarter. The year to date total is 387 inspections.

Manhole Rehabilitation



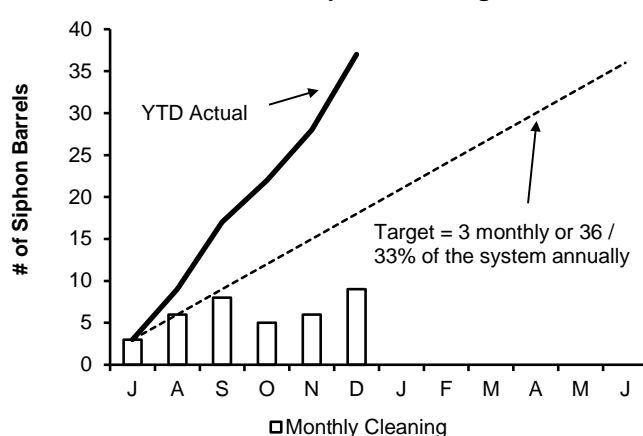
Staff replaced 37 frames & cover during this quarter. The year to date total is 75.

Inverted Siphon Inspections



Staff inspected 12 siphon barrels this quarter. Year to date total is 12 inspections.

Inverted Siphon Cleaning

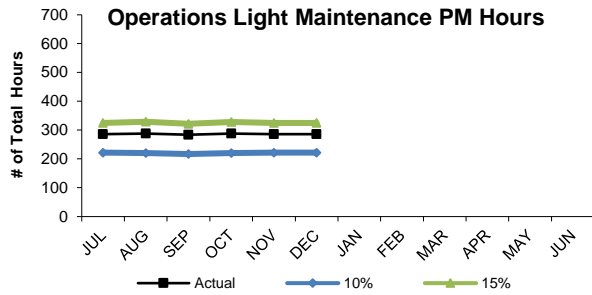


Staff cleaned 20 siphon barrels during this quarter. Year to date total is 37.

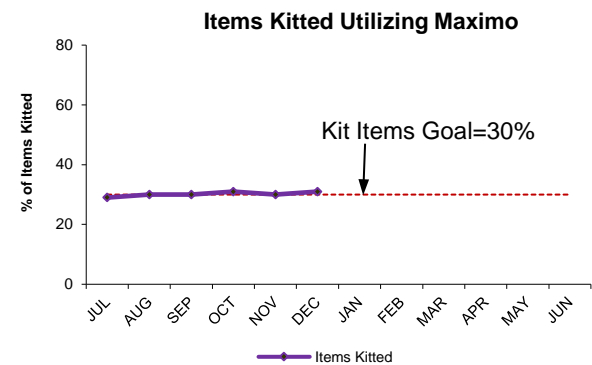
Field Operations' Metropolitan Equipment & Facility Maintenance

2nd Quarter - FY19

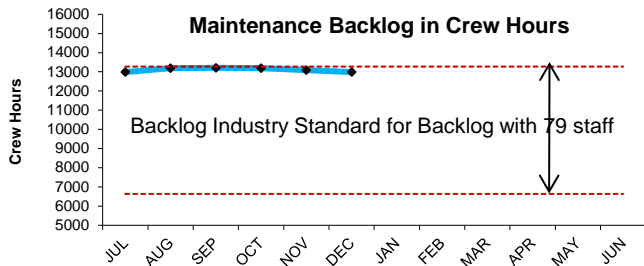
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus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



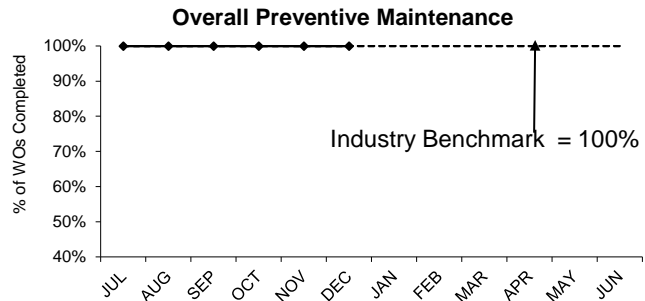
Operations staff averaged 287 hours of preventive maintenance during the 2nd Quarter, an average of 14% of the total PM hours for the 2nd Quarter, which is within the industry benchmark of 10% to 15%.



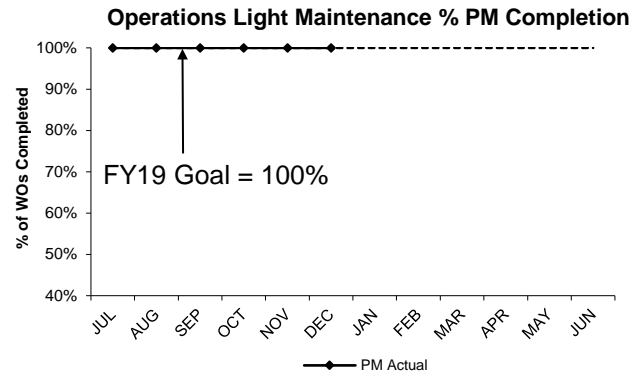
Operation's FY19 maintenance kitting goal has been set at 30% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 2nd Quarter, 30% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



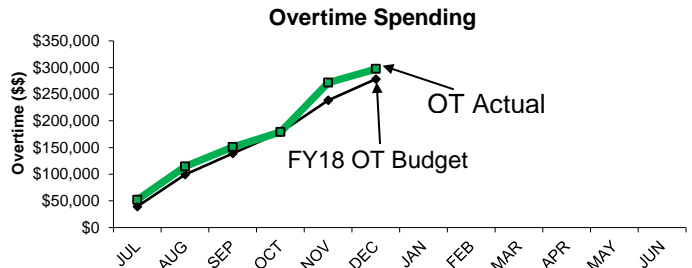
The 2nd Quarter backlog average is 13096 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6636 to 13275 hours.



The Field Operations Department (FOD) preventive maintenance goal for FY19 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 2nd Quarter.



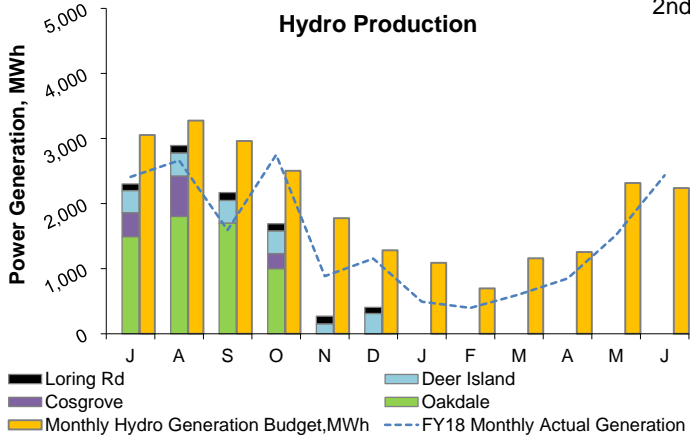
Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY19 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 2nd Quarter.



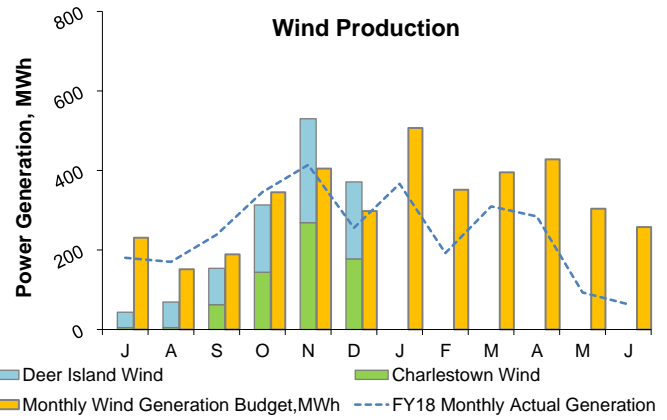
Maintenance overtime was \$7k over budget for the 2nd Quarter. Overtime was used for critical maintenance repairs. Overtime for FY19 is \$297k which is currently \$19k over budget for the fiscal year.

Renewable Electricity Generation: Savings and Revenue

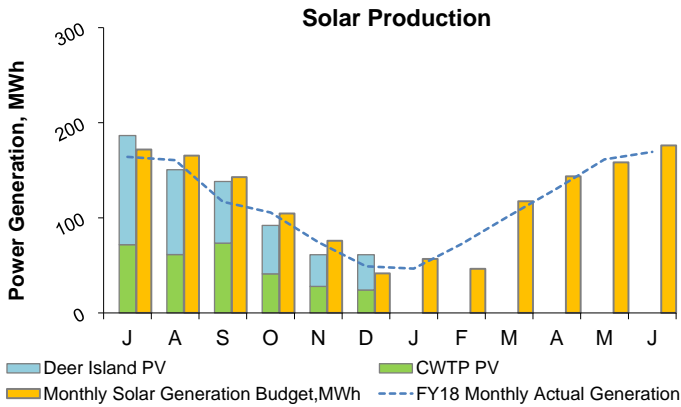
2nd Quarter - FY19



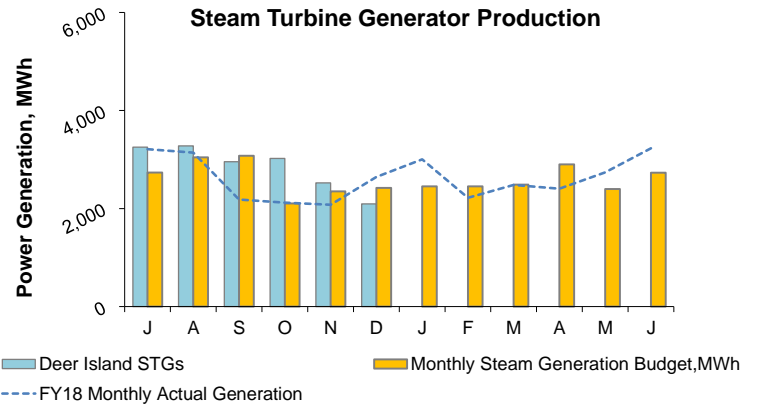
In the 2nd Quarter, the renewable energy produced from all hydro turbines totaled 2,369 MWh; 52% below budget³ primarily due to Cosgrove generation values having been underestimated by the utility company and Oakdale being offline. The utility data for Cosgrove is typically corrected and reconciled in later months of the year. The total energy produced to date in FY19 is 9,732 MWh; 27% below budget³. The total savings and revenue² to date in FY19 (actuals through September¹) is \$340,009; 16% below budget³, due to the reasons stated above. The savings and revenue value does not include RPS REC revenue (see next page).



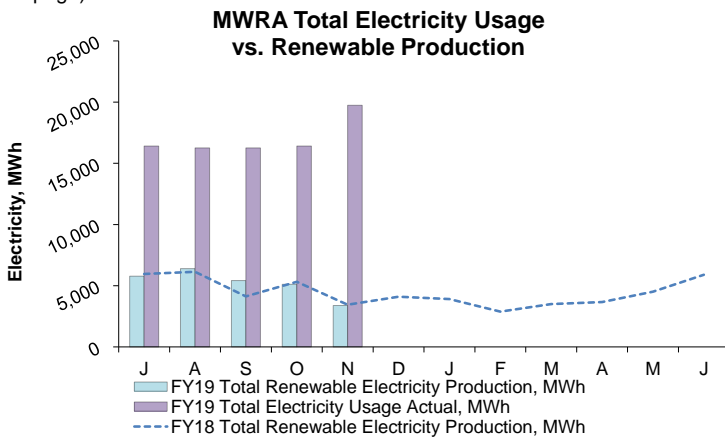
In the 2nd Quarter, the renewable energy produced from all wind turbines totaled 1,215 MWh; 14% above budget³. The total energy produced to date in FY19 is 1,482 MWh; 11% below budget³, mostly due to Charlestown Wind generation values being underestimated by the utility company. The total savings and revenue² to date in FY19 (actuals through September¹) is \$33,842; 60% below budget³, due to the reasons stated above. The savings and revenue value does not include RPS REC revenue (see next page).



In the 2nd Quarter, the renewable energy produced from all solar PV systems totaled 214 MWh; 3 below budget³. The total energy produced to date in FY19 is 690 MWh; 2% below budget³. The total savings and revenue² to date in FY19 (actuals through September¹) is \$60,410; 5% above budget³. The savings and revenue value does not include RPS REC revenue (see next page).

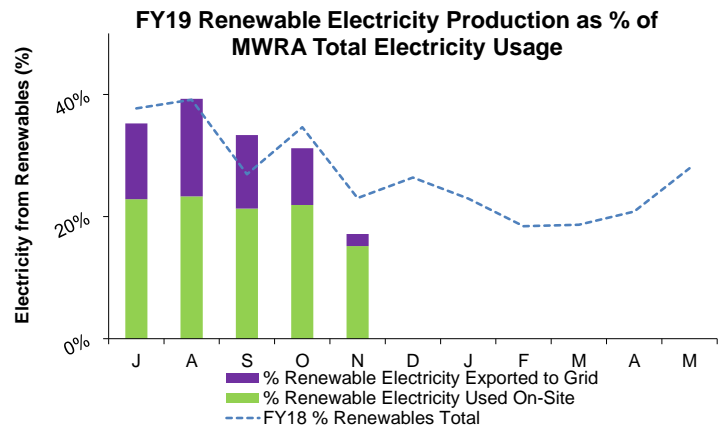


In the 2nd Quarter, the renewable energy produced from all steam turbine generators totaled 7,642 MWh; 44% above budget³. The total energy produced to date in FY19 is 17,129 MWh; 21% above budget³. The total savings and revenue² to date in FY19 (actuals through September¹) is \$842,589; 13% above budget³. The savings and revenue value does not include RPS REC revenue (see next page).



In the first 5 months of FY19, MWRA's electricity generation by renewable resources totaled 26,098 MWh. MWRA's total electricity usage was approximately 85,083 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget.

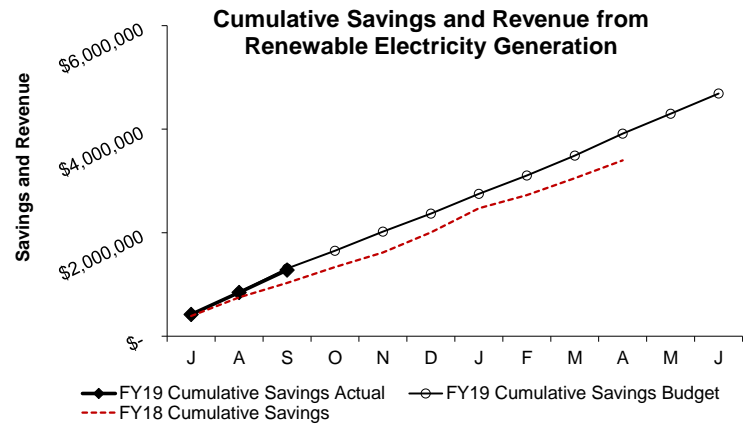
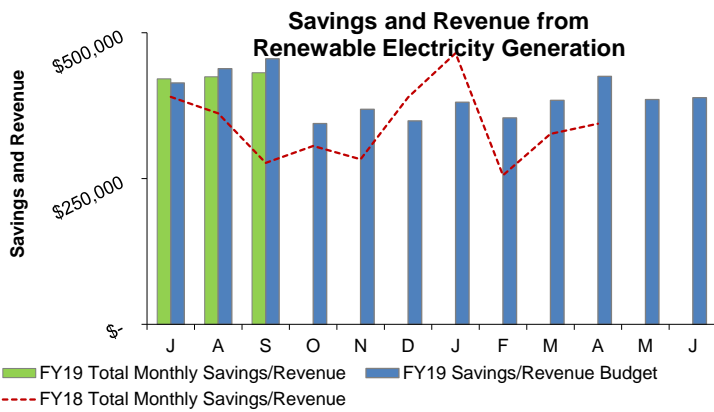
In the first 5 months of FY19, green power generation represented approximately 31% of total electricity usage. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.



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

Renewable Electricity Generation: Savings and Revenue

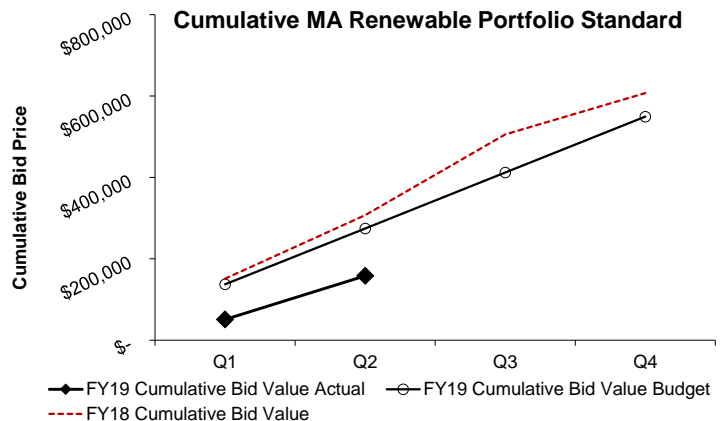
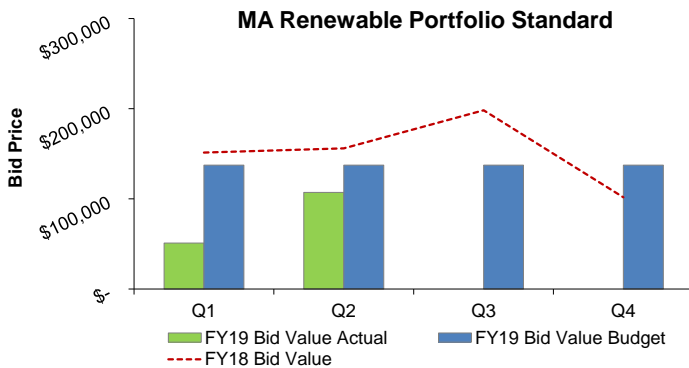
2nd Quarter - FY19



Savings and revenue from MWRA renewable electricity generation in the first 3 months of FY19 (actuals only through September¹) is \$1,276,850; which is 1% below the budget³.

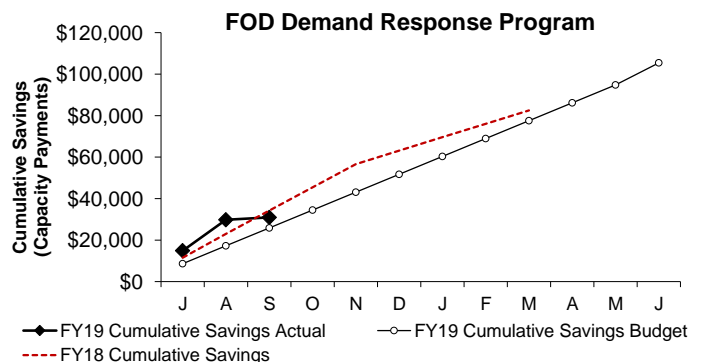
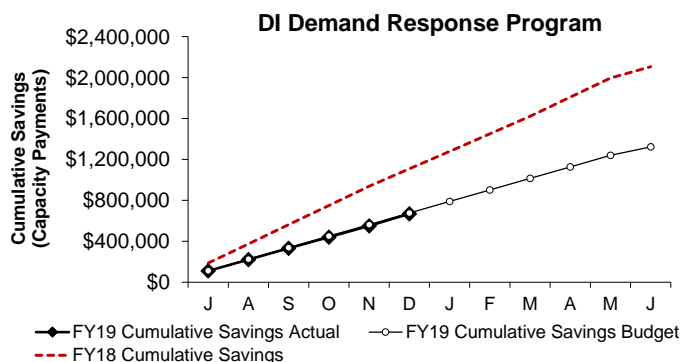
Savings and revenue² from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs).

The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).



Bids were awarded during the 2nd Quarter¹ from MWRA's Class 1, Class 2, and Solar REC renewable energy assets; 6,672 Q2 CY2018 Class I Renewable Energy Certificates (RECs), 2,000 Q2 CY2018 Class 2 RECs, and 97 Q2 CY2018 Solar RECs (SRECs) were sold for a total value of \$107,155 RPS revenue; which is 22% below budget³ for the Quarter. This is mainly due to Class I market prices being 71% below budget for the Quarter.

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



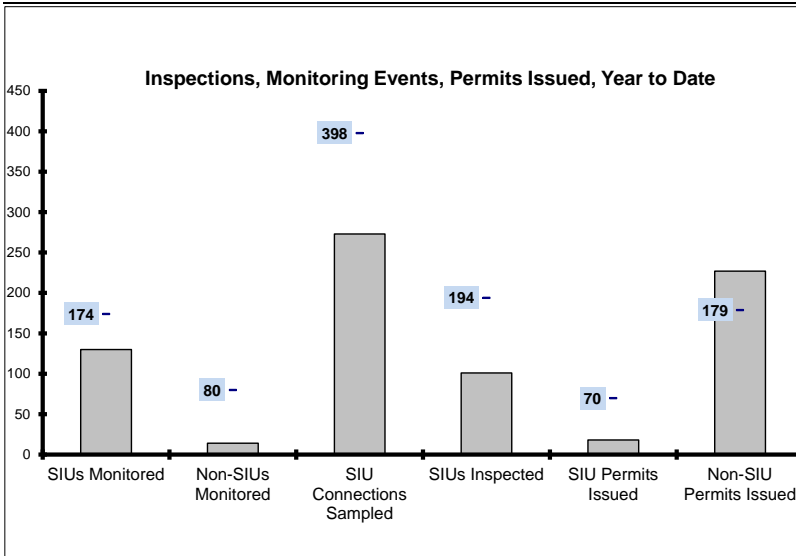
Currently Deer Island, JCWTP, and Loring Rd participate in the ISO-New England Demand Response Programs⁴. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE.

FY19 Cumulative savings (Capacity Payments only) total \$668,783 for Deer Island through December and \$30,947 for FOD through September¹.

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

Toxic Reduction and Control

2nd Quarter - FY19



Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal year. The "SIU Monitored" data above, reflects the number of industries monitored in the month. However, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect samples taken from multiple sampling locations at these industries.

TRAC has completed over half of its EPA required SIU monitoring events and connections and SIU inspections halfway through FY19. Eighteen percent of the required non-SIU monitoring events have completed; it is anticipated that the remaining 76 events will be completed before the end of the fiscal year.

EPA Required SIU Monitoring Events
for FY19: 174
YTD : **130**

Required Non-SIU Monitoring Events
for FY19: 80
YTD : **14**

SIU Connections to be Sampled
For FY19: 398
YTD: **273**

EPA Required SIU Inspections
for FY19: 194
YTD: **101**

SIU Permits due to Expire
In FY19: 70
YTD: **18**

Non-SIU Permits due to Expire
for FY19: 179
YTD: **227**

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

TRAC also monitors one-third of the non-SIUs each year. SIU and Non-SIU permits are issued with durations of two to five years, depending on the category of industry, varying the number of permits that expire in a given year.

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	11	0	1	1	3	2	15
Aug	2	122	1	1	0	2	3	125
Sep	2	14	0	2	1	5	3	21
Oct	3	16	0	7	0	14	3	37
Nov	2	10	0	2	0	7	2	19
Dec	5	4	0	4	0	2	5	10
Jan								
Feb								
Mar								
Apr								
May								
Jun								

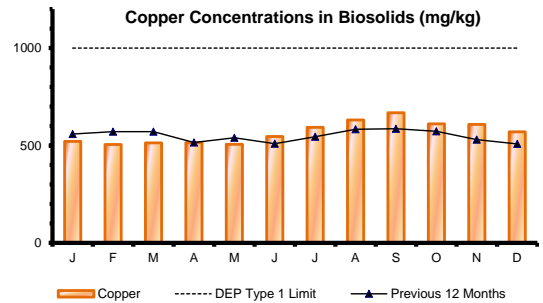
% YTD	83%	78%	6%	7%	11%	15%	18	227
-------	-----	-----	----	----	-----	-----	----	-----

In the 2nd Quarter of FY19, 76 permits were issued, 10 of which were SIUs. All ten of the SIU permits were issued within 120 days. EPA requires MWRA to issue or renew 90% of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10% of SIU permits to be issued within 180 days. TRAC anticipates that it will both meet its target for SIU permit issuance and that the remaining SIU permits issued will be ready for issuance with the 120 day timeframe.

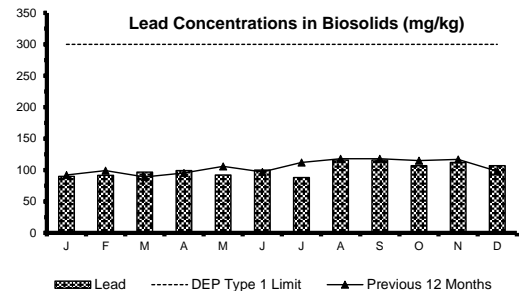
During the second quarter, 53% of all permits were issued in the 120 day timeframe, 17% in the 120-180 days timeframe, and the remaining 30% in the 180 plus days timeframe. Personnel turnover, dating back to early FY18, continued to impact permit issuance into the second quarter of FY19. Those workflow issues have been addressed; any future permit issuances exceeding 180 days should be attributable to circumstances out of the control of TRAC, such as: waiting for data from an industry, approval from the municipality in which the industry was operating or intended to operate, or the late payment of a permit fee.

No SIU permits for the Clinton Sewerage Service area were issued during the second quarter of this fiscal year.

Although TRAC has only issued 18 SIU permits to date (26% of fiscal year goal), it is anticipated that TRAC will meet this goal. Timing of permit renewal issuance is dependent upon permit expiration dates which are not spaced evenly throughout the year.



Legend: Copper (orange bars), DEP Type 1 Limit (dashed line), Previous 12 Months (line with triangles)



Legend: Lead (hatched bars), DEP Type 1 Limit (dashed line), Previous 12 Months (line with triangles)

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

Copper and lead levels remain relatively constant, below the DEP Type 1 Limit, and within the range of values over the past several years. A discussion of molybdenum concentrations in biosolids is included in the Deer Island Residuals Pellet discussion.

Field Operations Highlights

2nd Quarter – FY19

Western Water Operations and Maintenance

Carroll Water Treatment: Staff continued to support the Wachusett Aqueduct Pump Station. Operations Engineering and Environmental Quality staff provided assistance with the startup, checkout and commissioning of the control system, as well as water quality testing during pump testing. Worked with USGS to measure test flows discharged to Sudbury Reservoir. Pump Station testing is completed.

Grounds and Aqueducts Maintenance: Staff completed the annual cutting of the easements including the Mass Endangered Species Act zone areas that cannot be cleared until December.

Winsor Power Station: Staff coordinated with the power supplier to change the supply power from a nonstandard 2,200-volt service to a standard 2,400-volt service. This resulted in being able to remove the station transformer that will remove over 500 gallons of oil storage.

Metro Water Operations and Maintenance

Water Pipeline Program: Six blow off retrofit projects were completed and ten leaks were repaired during the quarter. Work also began on the repair of a leak on Deer Island at the Centrifuge Building.

Chestnut Hill Pump Station Operation: The Pump Station was successfully operated during October. Valves were realigned to supply the station from the reservoir and returned to normal position after station operation.

Operations Engineering

Staff continued support to major capital and in-house projects, reviewing contracts, submittals and detail and record drawings. Staff coordinated all necessary water main isolations and ensuring all communities were supplied with the flow and pressures they require. Staff ensured that Operation's needs are met by the contract design and construction.

Staff supported the isolations and activations including obtaining street opening permits, coordinating with the affected communities, and developing the isolation and activation operation plans. Four blow-offs retrofitted in Boston, Everett, and Malden; six leak repairs in Boston and Waltham; and three, 24-inch gate valves replaced in Malden and one, 20-inch gate valve replaced in Revere.

Community Emergency Response Training Program: Emergency response training is required by DEP, and is being provided by MWRA expert staff for staff from the communities and MWRA.

Community Water Quality Meetings: Staff from Op. Eng., Planning and Water Quality Assurance meet with

community staff to discuss current DEP policies, water quality, hydraulics, lead and MWRA loan programs. This month's meeting was with Marblehead.

Wastewater Operations & Maintenance

Operations Staff attended a Wastewater Facility Set Point Review Meeting with SCADA Staff and Process Control Staff to review the operational and alarm set points at all wastewater facilities; continued to work with Process Control Staff to develop "simple" SOPs for Wastewater Operators; and met with Permitting Staff and the Training Consultant (Geosphere) to review and provide feedback for the next round of required Spill Prevention, Control, and Countermeasure (SPCC) Training this Spring.

Metro Equipment and Facility Maintenance

- MWRA Electricians provided electrical support to an outside vendor replacing the Newton Street Pump Station boiler fuel tank; working with an outside contractor, conducted infrared testing at Houghs Neck, Gillis Pump Station and Spot Pond Pump Station; working with a Manufacturer's Technician and MWRA Mechanics replaced the Variable Frequency Drive for IPS Pump #3; upgraded Shaft 9A with a new electrical service; and installed switchgear to receive emergency power as needed and the replaced explosion proof heaters Houghs Neck pump station. MWRA HVAC Technicians replaced the split A/C Unit for the MIS Training Center. MWRA Mechanics conducted equipment vibration monitoring at the Quincy Pump Station, Nut Island Headworks and IPS. MWRA Plumbers completed backflow testing at Chelsea Headworks, Chelsea Screen House, Cottage Farm CSO, North Dorchester Bay, Newton Street Pump Station and Spring Street Pump Station; winterized the dog fountains at Hingham Pump Station, Nut Island and Columbus Park. MWRA Electricians and Plumbers installed emergency over-pressurization switches on three pumps at the Brattle Court Pump Station.

- **Metering**

Notified the BWSC, Newton, Swampscott, Winthrop, Watertown and Somerville of increased water use potentially from leaks, and provided assistance to Malden, Chelsea and Clinton on water loss issues.

Staff continue to work with the contractor on the wastewater meter replacement contract. Staff worked with Verizon and MIS on the wireless 4G Connectivity Project.

TRAC

Compliance and Enforcement

- TRAC issued 9 Notices of Noncompliance, 53 Notices of Violation, 1 Return to Permit Letters, 2 Rulings on Request for Reconsideration and 1 Extension Letter.

Field Operations Highlights

2nd Quarter – FY19

Twin Rivers Technologies Corporation (TRT) moved to voluntarily dismiss and withdraw its Claim for an Adjudicatory Proceeding, in withdrawing the claim, TRT agreed to perform the required actions specified in the Notice/Order and pay the \$5,000 penalty specified in the 2014 Demand Letter to TRT from MWRA. The penalty was paid in full. TRT will install a pretreatment system to address ongoing acrolein violations at its facility.

TRAC hosted two meetings for SIUs to discuss certified operator requirements, compliance, and FY19 priorities at MWRA's Chelsea facility, with 90 attendees representing more than 57 industries.

Inspections and Permitting

TRAC issued a total of 54 MWRA 8(m) Permits allowing companies to work within an easement or other property interest held by the Authority. The total number includes 37 permits issued for work within water infrastructure easements and 17 permits issued for work within sewer infrastructure easements. Permits issued this quarter were issued in an average of 86 days from the date the application for 8(m) permit was received by the MWRA.

Staff conducted 67 Annual SIU Inspections, 2 Industrial Surveys, and 274 other inspections. Other inspections include inspections for enforcement, permit renewal, NonSIU, follow-up, temporary construction dewatering sites, group/combined permit audits, out-of-business facility, and survey.

TRAC monitored the septage receiving sites a total of 33 times. Staff conducted 119 inspections of existing gasoline/oil separators, 28 new construction gasoline/oil separators and 2 septage hauler permit related inspections.

76 MWRA Sewer Use Discharge Permits (Permits) were issued and/or renewed to its sewer users.

Monitoring

TRAC completed 315-SIU monitoring events, 16-NSIU monitoring events and 480 other events including Local Limits Sampling, Clinton NPDES Sampling, Municipal Sulfide and Sulfide Project Sampling, Cosgrove and Oakdale NPDES Sampling, Carroll Water Treatment Plant Half Plant Maintenance Sampling, Carrol Water Treatment Plant Compliance Sampling for discharge to Marlborough, CSO Hypochlorite Tank Chemical Testing, CSO Sampling, and Sudbury Aqueduct Monitoring and Emergency Response Sampling.

Other

TRAC's annual bills to sewer use discharge permit holders were issued on November 15, 2018. The amount invoiced totaled \$1,999,222.

On September 28, 2018, EPA published a notice regarding its intent to approve MWRA's proposed modifications to the Clinton Local Limits. These modifications were approved on November 6, 2018. The

modifications included the integration of chemicals previously regulated on a facility-by-facility basis into the Total Toxic Organics (TTO) List. A limit of 9 mg/L was established for formaldehyde, and the limit for fats, oils, and grease (FOG) was increased from 100 mg/L to 300 mg/L. The formaldehyde and FOG limits are now consistent across the entire Authority Sewerage Service Area. These changes will be incorporated into MWRA's Sewer Use Regulations in Calendar Year 2019.

Environmental Quality-Water

Regulatory and Non-Regulatory Sampling Programs:

- Staff collected Unregulated Contaminant Monitoring Rule (UCMR4) Samples. This EPA program collects data for contaminants suspected to be present in drinking water, but do not have a health-based standard. Staff provided community training on sample collection, laboratory coordination, sample storage and shipping requirements as well as data reporting for those communities required to do their own sampling under this rule.

Contaminant Monitoring System: Staff participated in an EPA Forum panel for drinking water utilities on December 5th to discuss MWRA's experience in establishing CMS alarm thresholds.

- Staff installed a UV Reactor at UMass Amherst for a research project on mitigating potential chemical spills.

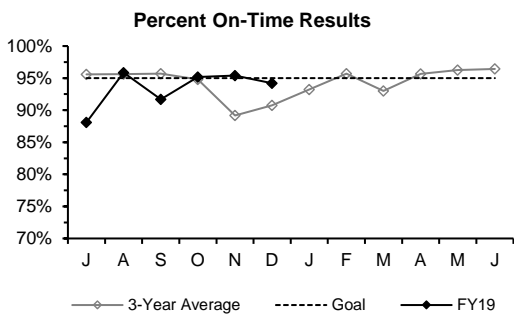
Chemical Contract Management: Staff completed annual Water Treatment Chemical Purity Sampling, collecting a random tank truck sample from the chemical suppliers that deliver product to CWTP and BWTF.

Environmental Quality-Wastewater

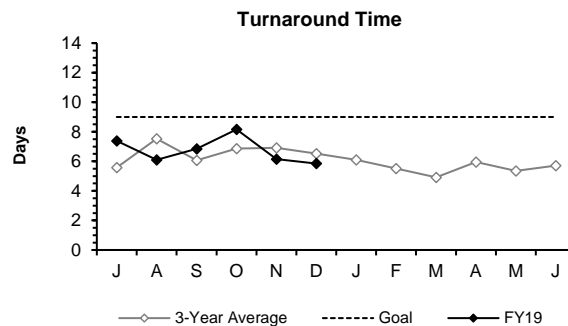
- Ambient Monitoring:
- Staff presented at an Outfall Monitoring Science Advisory Panel Workshop on in November. The meeting generated a good deal of public interest and led to a *Boston Globe* editorial and Board presentation of the role of MWRA in monitoring pharmaceuticals and personal care products in wastewater. The 2017 Outfall Monitoring Overview Report was presented to the Board and submitted to regulators. A scientific journal article detailing the recovery of flounder in Boston Harbor, was published in November resulting in substantial positive press in local and national media
- Cooperation with Other agencies: Made a presentation to the MWRA Advisory Board about the Outfall Ambient Monitoring Program. Hosted a brown bag presentation by the Charles River Conservancy and Northeastern University, and a scientific workshop for local watershed associations. Provided data to researchers at several area universities, to Save the Harbor/Save the Bay, and the Stellwagen Bank National Marine Sanctuary. Staff attended a meeting of the Boston Harbor Ecosystem Network and a NEWEA Conference on combined sewer overflows. Submitted comments on the Springfield revised draft NPDES Permit.

Laboratory Services

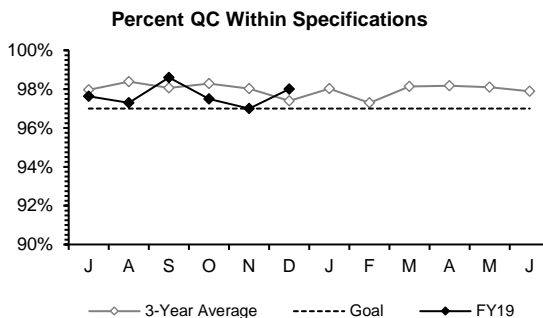
2nd Quarter - FY19



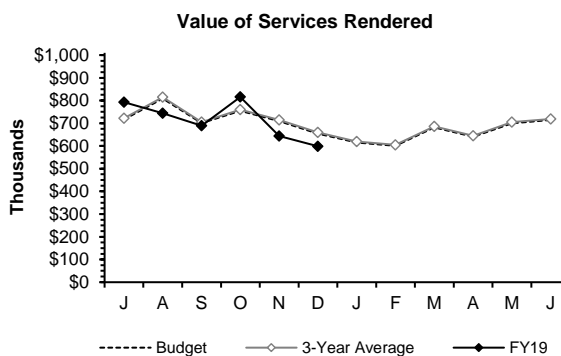
The Percent On-Time measurement was at or near the 95% goal.



Turnaround Time was faster than the 9-day goal.



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



Value of Services Rendered was below the seasonally adjusted budget projection due to staffing vacancies.

Highlights:

CSO Assessment: We continued to perform weekend CSO receiving water sampling in the Charles and Mystic Rivers during/after significant wet weather events. This is intended to give additional data for the CSO Assessment to document the recovery of the rivers after it rains.

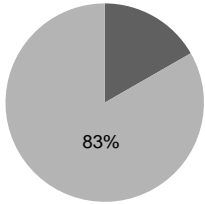
Lead Testing: Completed the annual system wide compliance sampling round.

QA: Successfully completed the biennial MA DEP microbiology audit of the Central Laboratory with no reported deficiencies. The Central Laboratory was also audited for certification under the National Environmental Laboratory Accreditation Program. This is one part of a process required to allow our fecal coliform results for fertilizer pellets to be accepted by the state of Pennsylvania.

CONSTRUCTION PROGRAMS

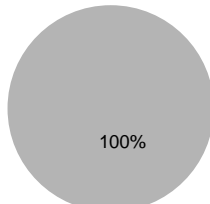
Projects In Construction 2nd Quarter– FY19

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

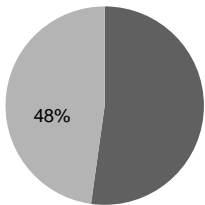
Reading Extension Sewer Rehabilitation

Project Summary: This project involves the rehabilitation of 10,820-linear feet of the Reading Extension Sewer and 2,280-linear feet of the Metropolitan Sewer and 62 associated manholes/structures.

Notice to Proceed: 10-Aug-2017 **Contract Completion:** 10-Dec-2018

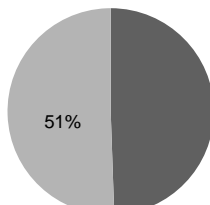
Status and Issues: As of December, the Contractor installed a cured-in-place spot repair over a hole created during the liner installation. They then completed CCTV inspections of the remaining CIPPL repairs and found no additional defects. In addition, they completed all of the remaining manhole rehabilitation punchlist items.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

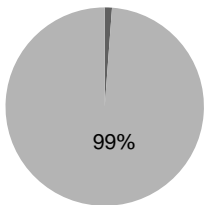
Chelsea Creek Headworks Upgrade

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

Notice to Proceed: 22-Nov-2016 **Contract Completion:** 21-Nov-2020

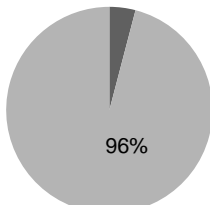
Status and Issues: As of December, the Contractor excavated and placed the concrete for the duct banks, and stripped the odor control fan foundation cantilever portion of the top slab. In addition, they cored a hole in the flat top of the butterfly valve manhole for the gate box and extension stem.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

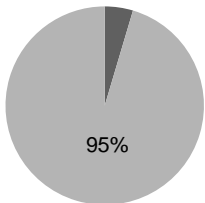
Wachusett Aqueduct Pumping Station

Project Summary: This project involves the construction of a 240 MGD pump station to supply water from the Wachusett Aqueduct to the Carroll Water Treatment Plant.

Notice to Proceed: 1-Mar-2016 **Contract Completion:** 14-Feb-2019

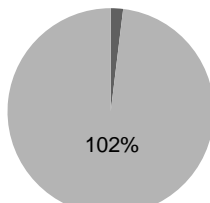
Status and Issues: As of December, the Contractor performed punch list work in the pump room including: sealing the floor, waterproofing the construction joints and cleaning and laminating of the windows. They also painted and labeled the plumbing pipes and performed the integrated security monitoring final testing.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

Alewife Brook Pump Station Improvements

Project Summary: This project involves the replacement of wet-weather pumps, motors, gear drives, VFD's, MCC, screens, sluice gates, standby generator, roof, PLC's and HVAC. Also, the remediation of PCB's and asbestos and the installation of a flow meter on the 66-inch downstream Alewife Brook Conduit.

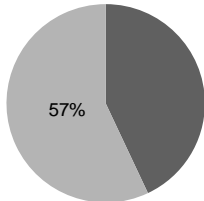
Notice to Proceed: 29-Jan-2016 **Contract Completion:** 14-Dec-2018

Status and Issues: As of December, the Contractor continued checkout, testing and start-up of the equipment and devices throughout the station including instrumentation. They also performed additional vibration testing on the three wastewater pumps and motors.

Projects In Construction

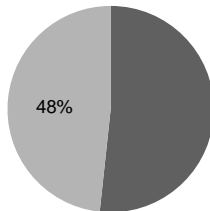
2nd Quarter– FY19

Money



- Amount Remaining
- Billed to Date

Time



- Days Remaining
- Days Expended

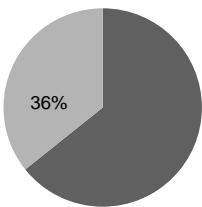
NIH Section 110 - Stoneham

Project Summary: This project consists of the replacement of 14,000 linear feet of 48-inch diameter transmission main in the Town of Stoneham.

Notice to Proceed: 5-Sep-2017 *Contract Completion:* 1-Jun-2020

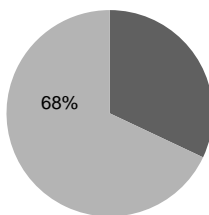
Status and Issues: As of December, the Contractor installed 430-LF of 48" DIP water main along Pond Street (DCR), Main Street and Warren Street; they removed 475-CY of ledge along Pond Street (DCR), and Main Street.

Money



- Amount Remaining
- Billed to Date

Time



- Days Remaining
- Days Expended

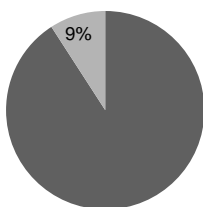
Winthrop Terminal VFD and Motor

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

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

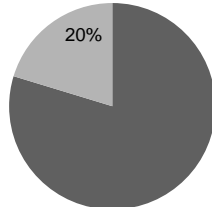
Status and Issues: VFD/Motor No. 2 installation is on-going.

Money



- Amount Remaining
- Billed to Date

Time



- Days Remaining
- Days Expended

Gravity Thickener Rehabilitation

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

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

Status and Issues: As of December, the Contractor resurfaced and coated GT #1's tank walls and launders. They shop tested the control panel and drive, as well as the thickener mechanism.

CSO CONTROL PROGRAM

2nd Quarter – FY19

All 35 projects in the Long-Term CSO Control Plan are complete, in compliance with Schedule Seven. Of the \$910.1 million budget in the FY19 CIP for the CSO Control Program, approximately \$7 million remain to be spent through 2021.

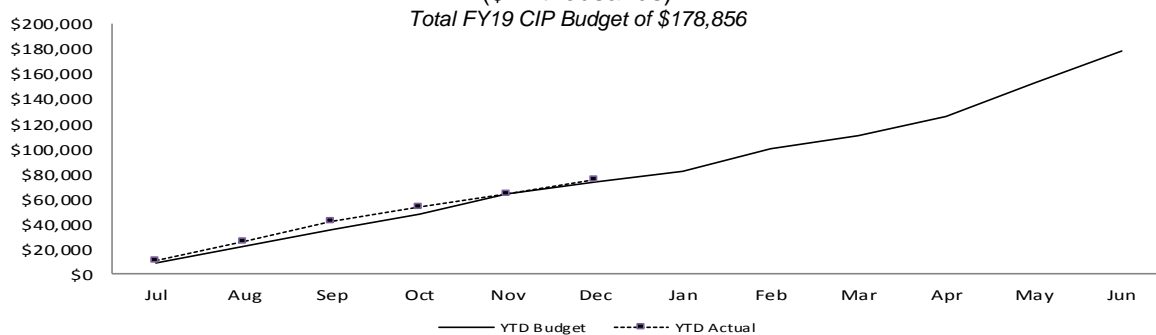
Project/Item	Status as of December 31, 2018
BWSC Dorchester Interceptor Inflow Removal	MWRA’s CIP and the MOU/FAA with BWSC included \$5.4 million for additional inflow removal from the BWSC Dorchester Interceptor system in the South Dorchester Bay Sewer Separation area, of which \$1.7 million was transferred to the BWSC MOU/FAA CSO account and \$1.6 million of that was withdrawn by BWSC to fund related design and construction work. On May 17, 2017, MWRA’s Board of Directors authorized removing the remaining \$3.8 million from the BWSC MOU/FAA (which ended on June 30, 2017) and including this funding amount in a separate, 4-year financial assistance agreement with BWSC effective July 1, 2017. The new agreement limits MWRA financial assistance to reimbursement of the eligible costs of BWSC construction work reviewed and approved by MWRA, up to \$3.8 million. BWSC continues to perform sewer system evaluations that will support its construction project recommendations.
City of Cambridge Memorandum of Understanding and Financial Assistance Agreement	The City of Cambridge attained substantial completion of its last project, CAM004 Sewer Separation, in December 2015 in compliance with Schedule Seven, and attained substantial completion of related surface restoration work by the end of 2017. MWRA made a final transfer of funds to the Cambridge CSO account in December 2017, in the amount of \$1,254,551, to cover eligible costs through June 30, 2018, when the 22 year-old, \$100.2 million MOU/FAA ended. Cambridge continues to support ongoing MWRA final eligibility reviews and final reconciliation of the MOU/FAA costs scheduled for completion in Q3FY19.
MWRA CSO Performance Assessment	<p>MWRA issued the Notice to Proceed with the contract for CSO Post-Construction Monitoring and Performance Assessment to AECOM Technical Services, Inc., in November 2017. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality compliance assessments culminating in the submission of a report verifying attainment of court-ordered levels of CSO control to EPA and DEP in December 2020, in compliance with the last milestone in Schedule Seven. MWRA issued the first of five planned progress reports on November 30, 2018. It covers the analysis of rainfall and CSO meter data collected in the period April 15 through June 30, 2018. The remaining progress reports will cover subsequent six-month data collection periods, as well as describe hydraulic model related activities. AECOM has begun the recalibration and verification of MWRA’s hydraulic model using the recent CSO and sewer system data. Model recalibration and verification will bring the meter results and model predictions closer together to gain assurance of the accuracy of the model in predicting CSO discharges and verifying attainment of the Long Term Control Plan’s typical year levels of CSO control. MWRA staff and AECOM are also conducting investigations at several outfalls where metered CSO discharges differ from historical model predictions.</p> <p>MWRA staff also continue to collect water quality data in CSO affected waters for eventual analysis by AECOM relative to compliance with water quality standards.</p>

CIP Expenditures 2nd Quarter – FY19

FY19 Capital Improvement Program Expenditure Variances through December by Program (\$ in thousands)				
Program	FY19 Budget Through December	FY19 Actual Through December	Variance Amount	Variance Percent
Wastewater	39,506	33,139	(6,367)	-16%
Waterworks	32,121	40,969	8,848	28%
Business and Operations Support	2,418	1,416	(1,001)	-41%
Total	\$74,045	\$75,524	\$1,479	2%

Project underspending within Wastewater was due to delays in Channel 1 work and odor control equipment delivery for the Chelsea Creek Headworks Upgrade Construction, delay in city of Somerville construction award for the Somerville Marginal In-System Storage, motor commission testing problem for the Winthrop Terminal Facility Variable Frequency Drives Replacements, timing of final work for the Alewife Brook Pump Station, delay in the notice to proceed for the Clinton Roofing Rehab, and delay in completion of design documents for the NI Odor Control & HVAC Design/ESDC/REI contract. This was partially offset by greater than anticipated community requests for grants and loans, progress on Deer Island Gravity Thickener Rehabilitation, and FY18 work completed in FY19 for the Reading Extension Sewer and Prison Point Piping Rehabilitation contracts. Project overspending in Waterworks was due to greater than anticipated requests for community loans, progress for the Northern Intermediate High Section 89 & 29 construction Phases 2 and 1C, Section 89 & 29 Replacement Design, Southern Extra High Section 111 Construction 2, Wachusett Aqueduct Pump Station, timing of Watershed Land purchases, and scheduled FY18 work invoiced in FY19 for the Rosemary Brook Building Repair. This was partially offset by SEH Section 111 Construction 3 delay in notice-to-proceed, Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budget and behind schedule due to additional structural repairs, schedule delay for the Maintenance Building/Garage Washbay/Storage Building contract, delay in CP3 Sections 23, 24, 47 Design/CA/RI due to utility relocations, and delay in test pit work for WASM 3 MEPA Design.

Budget vs. Actual CIP Expenditures (\$ in thousands)



Construction Fund Management

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

Cash Balance as of 12/29/2018	\$48.2 million
Unused capacity under the debt cap:	\$1.52 billion
Estimated date for exhausting construction fund without new borrowing:	MAY-19
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$128 million
Commercial paper capacity / Revolving Loan	\$350 million
Budgeted FY19 capital spending*:	\$188 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

2nd Quarter – FY19

Source Water – Microbial Results

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

Sample Site: Quabbin Reservoir

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

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

Sample Site: Wachusett Reservoir

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

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

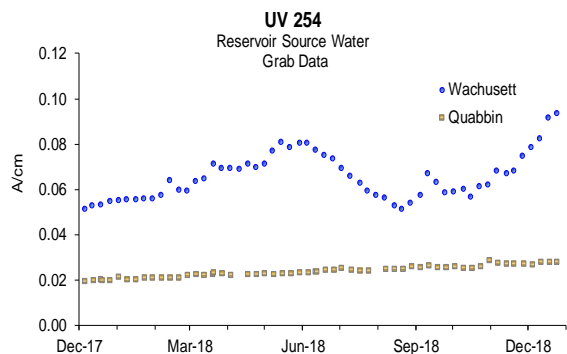
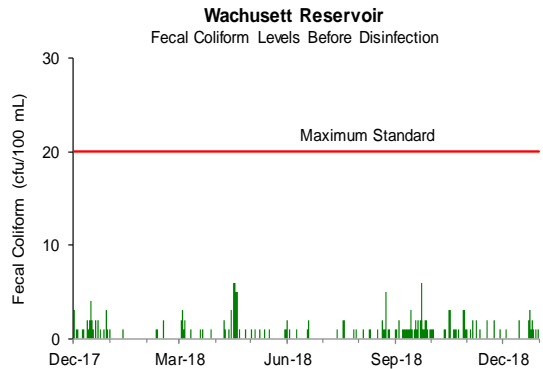
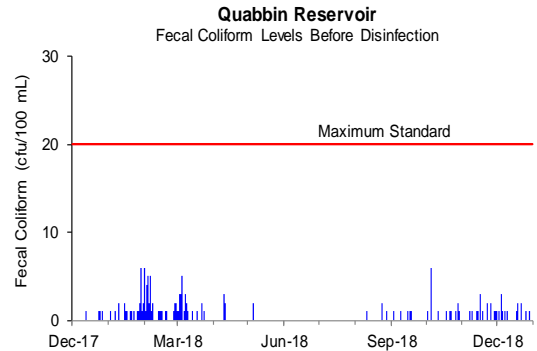
All samples collected during the 2nd Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

Source Water – UV Absorbance

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

Quabbin Reservoir UV-254 levels are currently around 0.028 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.094 A/cm.



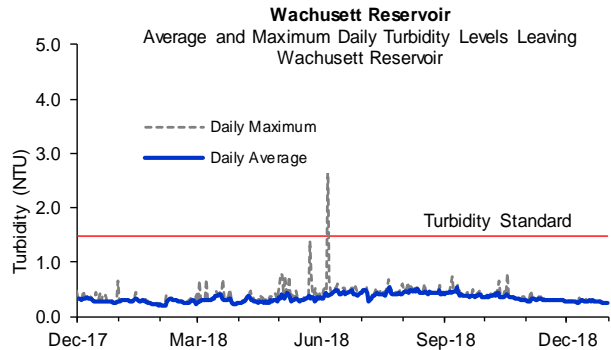
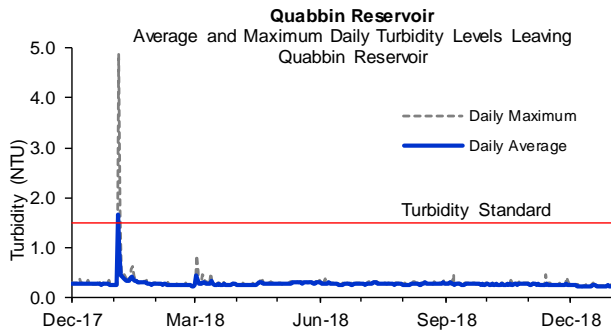
Source Water – Turbidity

2nd Quarter – FY19

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

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

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

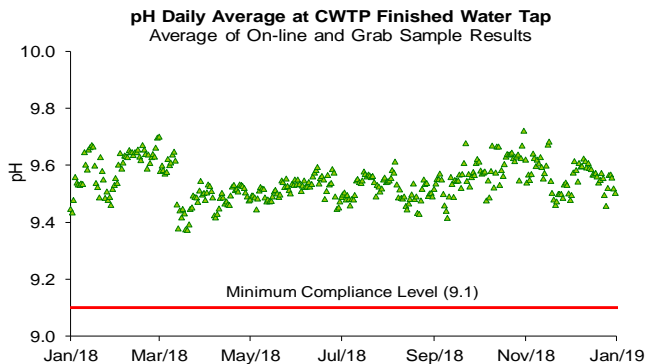
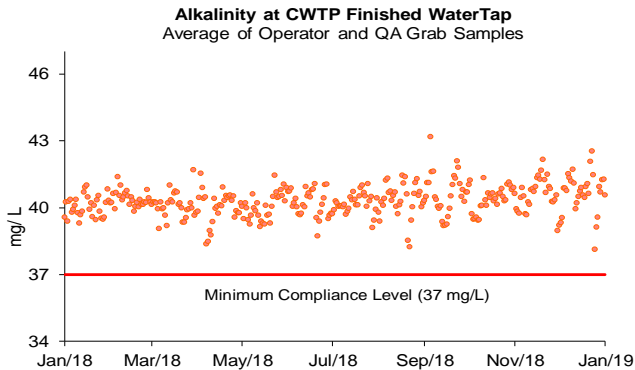


Treated Water – pH and Alkalinity Compliance

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

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

Distribution system samples were collected on December 12 and 13, 2018. Distribution system sample pH ranged from 9.3 to 9.7 and alkalinity ranged from 39 to 43 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

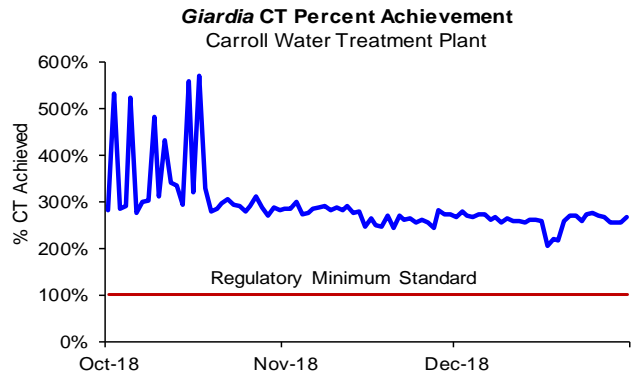
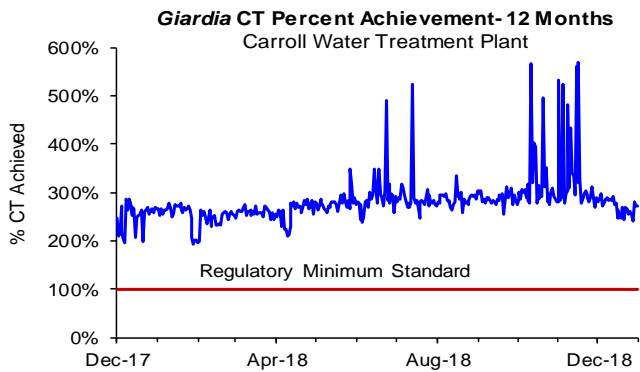
2nd Quarter – FY19

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

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

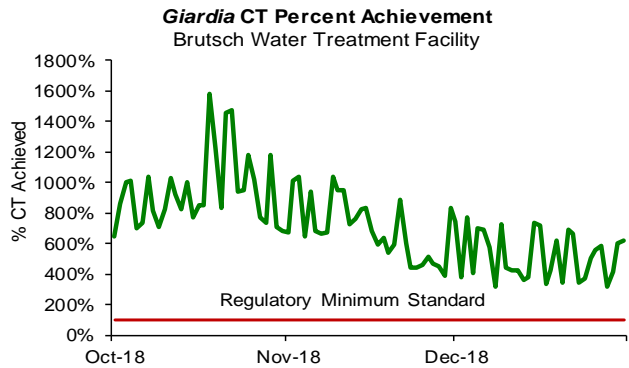
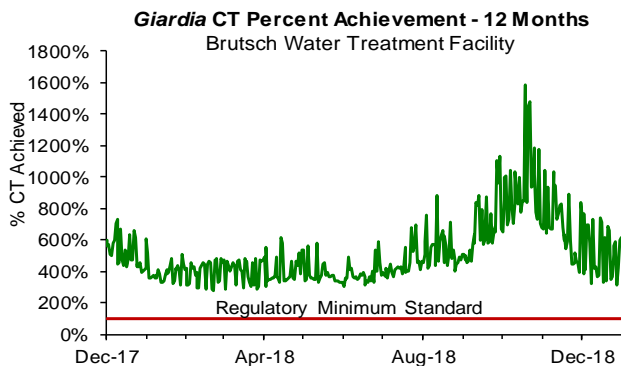
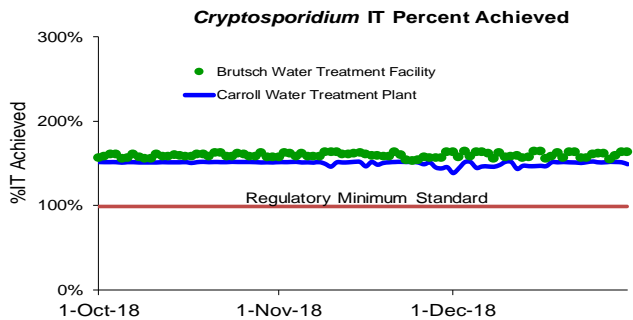
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 1.8 to 2.7 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.
- The Wachusett Aqueduct Pump Station (WAPS) will improve redundancy in the MWRA water system. WAPS testing was performed from June through October. Prior to and during WAPS testing, CWTP proactively increase the ozone dose and “CT achievement”. This is visible in the two top graphs.



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

- The chlorine dose at BWTF is adjusted in order to achieve MWRA’s seasonal target of >0.75 mg/L (November 01 – May 31) and >1.0 mg/L (June 1– October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.6 to 1.9 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.



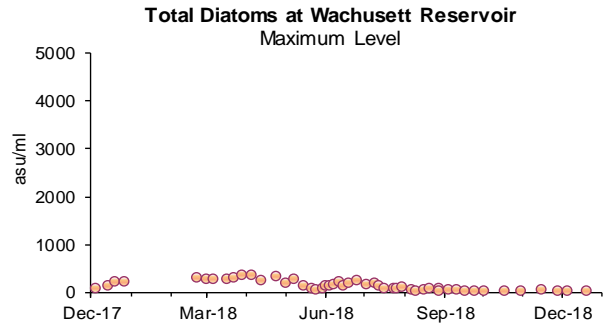
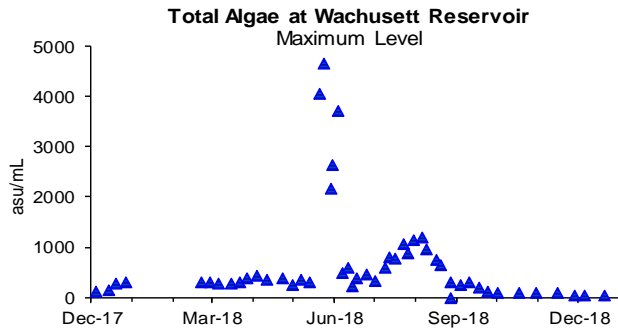
Source Water - Algae

2nd Quarter – FY19

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

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

In the 2nd Quarter, no complaints which may be related to algae were reported from the local water departments.

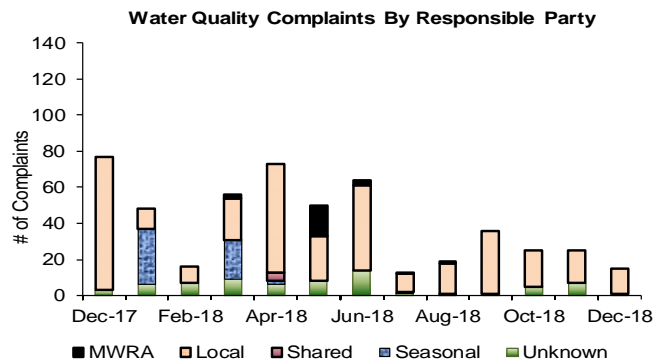
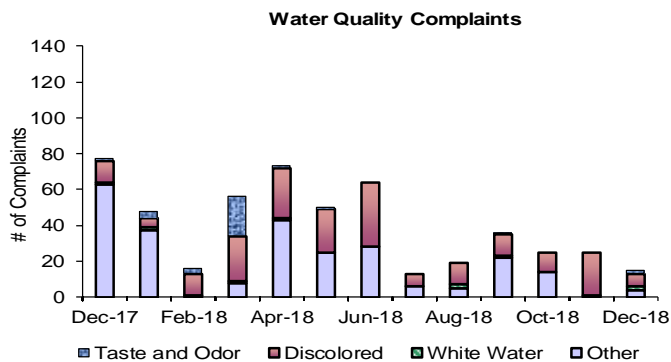


Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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

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

Communities reported 65 complaints during the quarter compared to 140 complaints from 2nd Quarter of FY18. Of these complaints, 42 were for "discolored water", 2 were for "taste and odor", 2 were for "white water", and 19 were for "other". Of these complaints, 52 were local community issues and 13 were unknown in origin.



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

2nd Quarter – FY19

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

The MWRA TCR program has 141 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

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

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

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

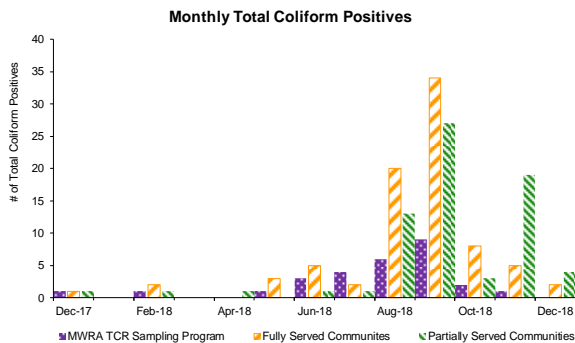
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

In the 2nd Quarter, 41 of the 6,286 community samples (0.65% system-wide) submitted to MWRA labs for analysis tested positive for total coliform (Boston, Everett, Lexington, Milton, Somerville, Watertown, Bedford, Needham - October; Lexington, Malden, Stoneham, Bedford, Hanscom AFB – November; Everett, Newton, Bedford, Peabody – December). 3 of the 1,921 Shared community/MWRA samples (0.16%) tested positive for total coliform. No samples tested positive for *E.coli*. Bedford had more than one positive total coliform sample each month and was required to conduct Level 2 Assessments for each month of the quarter. In November, Hanscom AFB had more than one positive coliform sample and was required to conduct a Level 1 Assessment. Only 1.0% of the Fully Served community samples had chlorine residuals lower than 0.2 mg/L.

NOTES:

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



	Total Coliform			E.coli # Positive	Assessment Required
	# Samples (b)	# (%) Positive			
MWRA					
a	MWRA Locations	333	0 (0%)	0	
	Shared Community/MWRA sites	1588	3 (0.19%)	0	
	Total: MWRA	1921	3 (0.16%)	0	No
Fully Served	ARLINGTON	167	0 (0%)	0	
	BELMONT	104	0 (0%)	0	
	BOSTON	796	1 (0.13%)	0	No
	BROOKLINE	223	0 (0%)	0	
	CHELSEA	169	0 (0%)	0	
	DEER ISLAND	52	0 (0%)	0	
	EVERETT	178	3 (1.69%)	0	No
	FRAMINGHAM	239	0 (0%)	0	
	LEXINGTON	128	4 (3.13%)	0	No
	LYNNFIELD	18	0 (0%)	0	
	MALDEN	258	2 (0.78%)	0	No
	MARBLEHEAD	72	0 (0%)	0	
	MEDFORD	204	0 (0%)	0	
	MELROSE	117	0 (0%)	0	
	MILTON	105	1 (0.95%)	0	No
	NAHANT	30	0 (0%)	0	
	NEWTON	279	1 (0.36%)	0	No
	NORTHBOROUGH	48	0 (0%)	0	
	NORWOOD	99	0 (0%)	0	
	QUINCY	299	0 (0%)	0	
	READING	130	0 (0%)	0	
	REVERE	180	0 (0%)	0	
	SAUGUS	104	0 (0%)	0	
	SOMERVILLE	276	1 (0.36%)	0	No
	SOUTHBOROUGH	30	0 (0%)	0	
	STONEHAM	94	1 (1.06%)	0	No
SWAMPSCOTT	54	0 (0%)	0		
WALTHAM	216	0 (0%)	0		
WATERTOWN	133	1 (0.75%)	0	No	
WESTON	45	0 (0%)	0		
WINTHROP	72	0 (0%)	0		
	Total: Fully Served	4919	15 (0.30%)		
Partially Served	BEDFORD	78	13 (16.67%)	0	Yes
	CANTON	87	0 (0%)	0	
	HANSCOM AFB	47	10 (21.28%)	0	Yes
	MARLBOROUGH	126	0 (0%)	0	
	NEEDHAM	126	1 (0.79%)	0	No
	PEABODY	214	2 (0.93%)	0	No
	WAKEFIELD	145	0 (0%)	0	
	WELLESLEY	113	0 (0%)	0	
	WILMINGTON	85	0 (0%)	0	
	WINCHESTER	91	0 (0%)	0	
	WOBBURN	195	0 (0%)	0	
	SOUTH HADLEY FD1	60	0 (0%)	0	
	Total: CVA & Partially Served	1367	26 (1.90%)		
	Total: Community Samples	6286	41 (0.65%)		

Chlorine Residuals in Fully Served Communities

	2018												
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
% <0.1	0.5	0.2	0.1	0.1	0.0	0.2	0.0	0.3	0.7	0.5	0.7	0.7	0.2
% <0.2	1.1	0.5	0.2	0.2	0.3	0.2	0.4	0.5	1.0	1.5	1.9	1.6	1.0
% <0.5	3.1	1.4	0.5	0.8	0.7	0.4	0.7	1.5	3.4	4.6	5.8	3.8	2.3
% <1.0	6.0	3.2	2.2	1.4	1.5	1.3	1.6	3.2	8.9	11.9	11.2	8.3	5.2
% >1.0	94.0	96.8	97.9	98.6	98.5	98.7	98.4	96.8	91.1	88.2	88.8	91.7	94.8

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

2nd Quarter – FY19

Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. TTHMs and HAA5s are of concern due to their potential adverse health effects at high levels. EPA's locational running annual average (LRAA) standard is 80 µg/L for TTHMs and 60 µg/L for HAA5s.

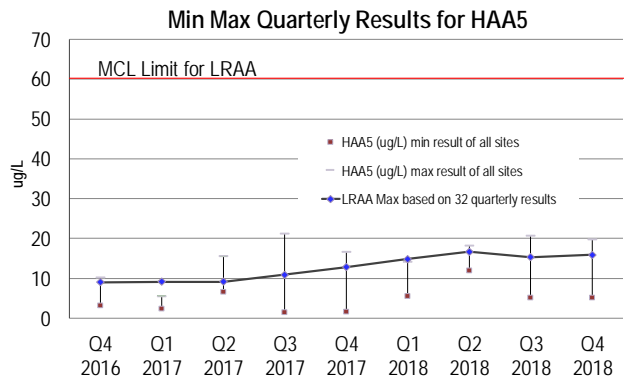
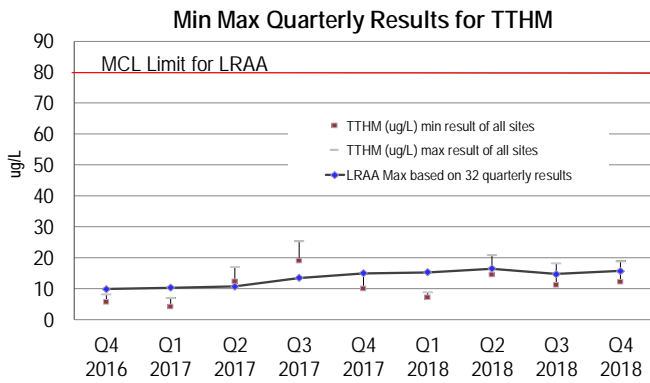
The locational running annual average at each individual sampling location must be below the standard. The charts below show the highest and lowest single values for all sites, and the LRAA of the highest location each quarter.

Partially served and CVA communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their individual results. The chart below combines all three CVA communities data (Chicopee, Wilbraham and South Hadley FD1).

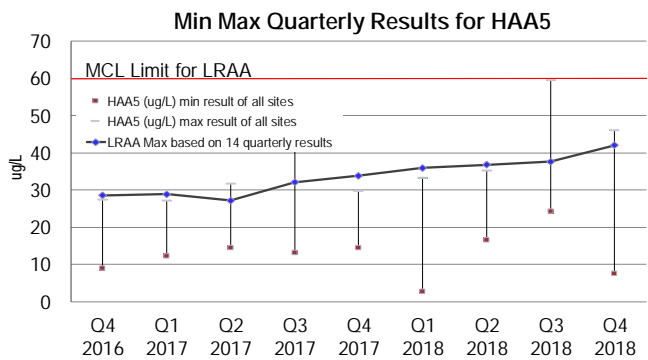
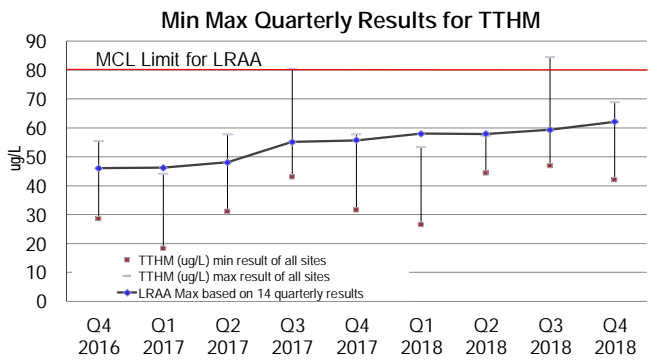
Bromate is tested monthly per DEP requirements for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA's RAA MCL standard for bromate is 10 µg/L.

The LRAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remain below current standards. The Max LRAA in the quarter for TTHMs = 15.7 µg/L; HAA5s = 15.9 µg/L. The current RAA for Bromate = 0.0 µg/L. CVA's DBP levels continue to be below current standards.

MetroBoston Disinfection By-Products



CVA Disinfection By-Products (Combined Results)



Water Supply and Source Water Management

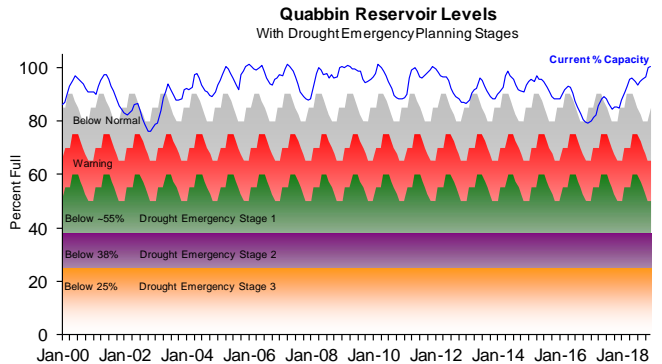
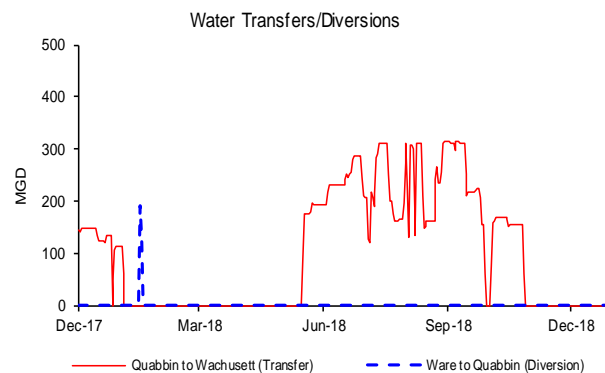
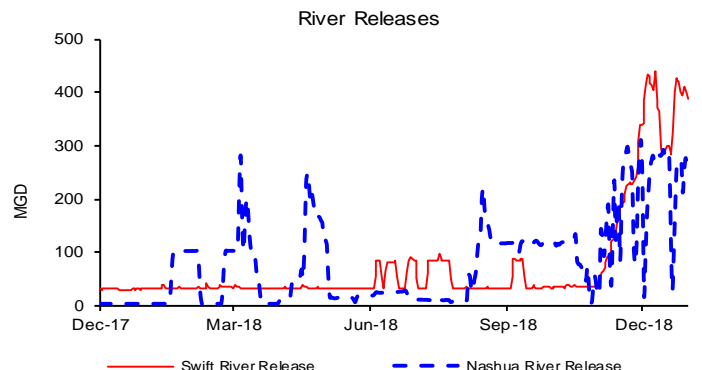
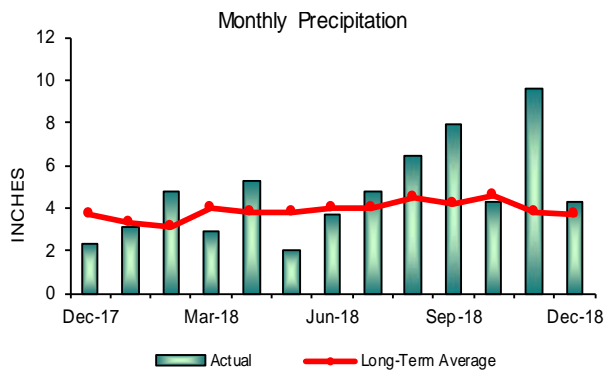
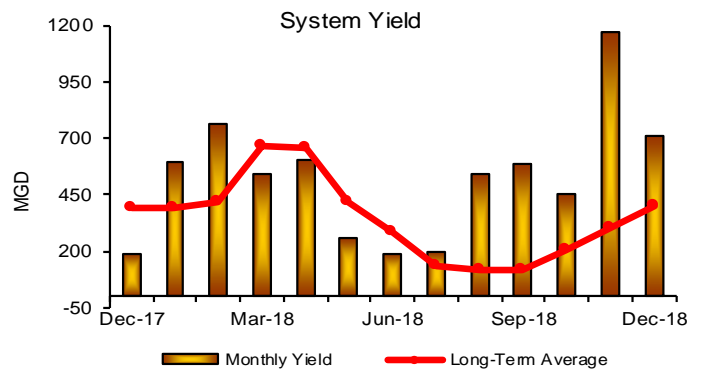
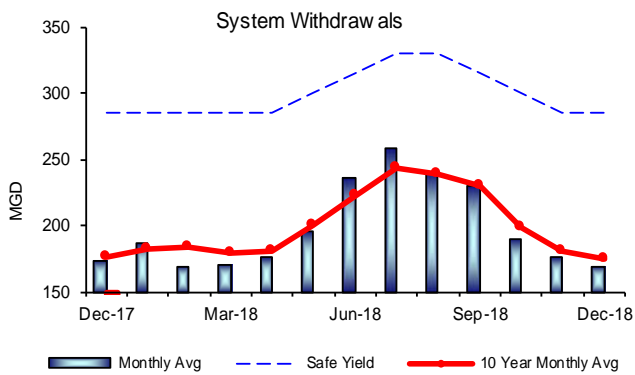
2nd Quarter – FY19

Background

A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir was designed to effectively supply water to the service areas under a range of climatic conditions and has the ability to endure a range of fluctuations. Wachusett Reservoir serves as a terminal reservoir to meet the daily demands of the Greater Boston area. A key component to this reservoir's operation is the seasonal transfer of Quabbin Reservoir water to enhance water quality during high demand periods. On an annual basis, Quabbin Reservoir accounts for nearly 50% of the water supplied to Greater Boston. The water quality of both reservoirs (as well as the Ware River, which is also part of the System Safe Yield) depend upon implementation of DCR's DEP-approved Watershed Protection Plans. System Yield is defined as the water produced by its sources, and is reported as the net change in water available for water supply and operating requirements.

Outcome

The volume of the Quabbin Reservoir was at 100.5% as of December 31, 2018; a 4.9% increase for the quarter, which represents a gain of more than 19.8 billion gallons of storage and an increase in elevation of 2.54' for the quarter. Quabbin level is in "normal" operating range. Precipitation and yield for the quarter were above their respective long term averages. System withdrawal for the quarter was below the 10 year monthly average.



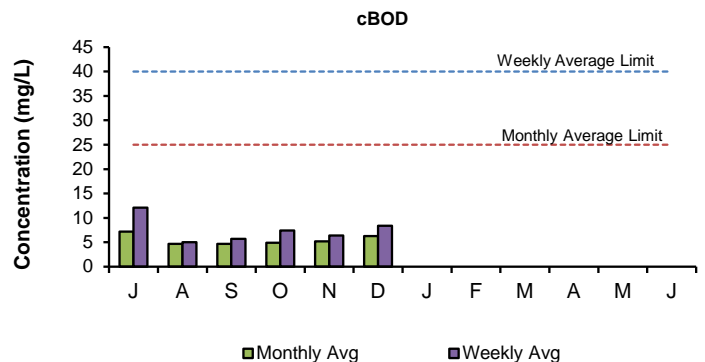
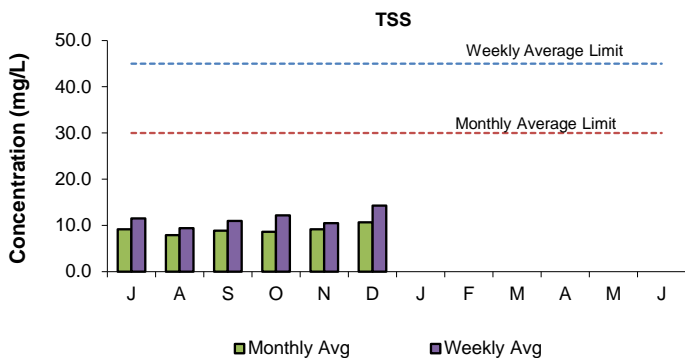
WASTEWATER QUALITY

NPDES Permit Compliance: Deer Island Treatment Plant 2nd Quarter - FY19

NPDES Permit Limits

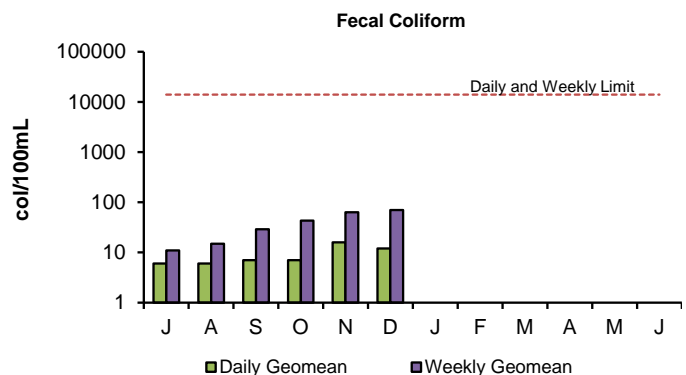
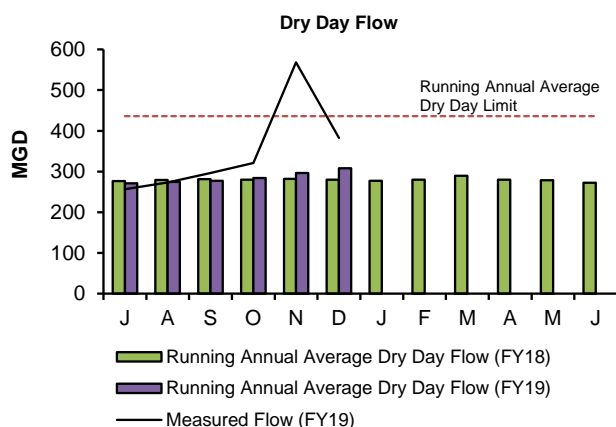
Effluent Characteristics	Units	Limits	October	November	December	2nd Quarter Violations	FY19 YTD Violations
Dry Day Flow (365 Day Average):	mgd	436	284.2	296.0	307.9	0	0
cBOD: Monthly Average	mg/L	25	4.9	5.2	6.3	0	0
Weekly Average	mg/L	40	7.4	6.4	8.4	0	0
TSS: Monthly Average	mg/L	30	8.6	9.2	10.7	0	0
Weekly Average	mg/L	45	12.2	10.5	14.3	0	0
TCR: Monthly Average	ug/L	456	0	0	0	0	0
Daily Maximum	ug/L	631	0	0	0	0	0
Fecal Coliform: Daily Geometric Mean	col/100mL	14000	7	16	12	0	0
Weekly Geometric Mean	col/100mL	14000	43	63	70	0	0
% of Samples >14000	%	10	0	0	0	0	0
Consecutive Samples >14000	#	3	0	0	0	0	0
pH:	SU	6.0-9.0	6.5-7.0	6.5-7.0	6.4-7.2	0	0
PCB, Aroclors: Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity: Mysid Shrimp	%	≥50	>100	>100	>100	0	0
Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity: Sea Urchin	%	≥1.5	100	100	100	0	0
Inland Silverside	%	≥1.5	100	100	100	0	0

There have been no permit violations in FY19 to date at the Deer Island Treatment Plant (DITP).



Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 2nd Quarter were within permit limits.

Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 2nd Quarter were within permit limits.



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 2nd Quarter was well below the permit limit of 436 MGD.

Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 2nd Quarter, all permit conditions for fecal coliform were met.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant
2nd Quarter - FY19

NPDES Permit Limits

Effluent Characteristics		Units	Limits	October	November	December	2nd Quarter Violations	FY19 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	2.84	3.09	3.26	2 ¹	2
BOD:	Monthly Average:	mg/L	20	1.8	1.3	3.3	0	0
	Weekly Average:	mg/L	20	1.7	2.3	4.6	0	0
TSS:	Monthly Average:	mg/L	20	7.7	7.5	4.4	0	0
	Weekly Average:	mg/L	20	10.0	12.3	5.2	1 ²	1
pH:		SU	6.5-8.3	7.2-7.9	6.8-7.7	7.0-7.8	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	8.3	9.4	9.5	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	12.7	6.7	5.5	0	0
	Daily Geometric Mean:	cfu/100mL	409	113.1	43.7	8.8	0	0
TCR:	Monthly Average:	ug/L	17.6	0.0	0.0	0.0	0	0
	Daily Maximum:	ug/L	30.4	0.0	0.0	0.0	0	0
Copper:	Monthly Average:	ug/L	11.6	6.2	6.6	3.2	0	0
	Daily Maximum:	ug/L	14.0	6.2	6.6	3.4	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	2.0 / 10.0	0.17	0.03	0.01	0	0
	Daily Maximum:	mg/L	3.0 / 35.2	0.00	0.12	0.04	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	mg/L	1.0 / RPT*	0.28	0.04	0.09	0	0
	Daily Maximum:	mg/L	RPT*	0.14	0.07	0.12	0	0
Acute Toxicity*:	Daily Minimum:	%	≥100	N/A	N/A	>100	0	0
Chronic Toxicity*:	Daily Minimum:	%	≥62.5	N/A	N/A	100	0	0

There have been three permit violations in FY19 at the Clinton Treatment Plant.

1st Quarter: There were no permit violations in the first quarter.

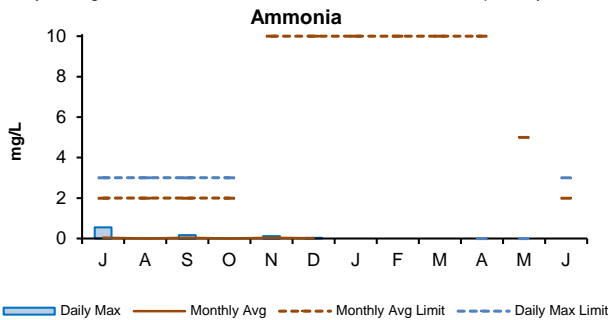
2nd Quarter: There were three permit violations in the second quarter.

¹The 12-month rolling average flow exceeded the limit of 3.01 MGD in November and December, due to excessive rains in the region.

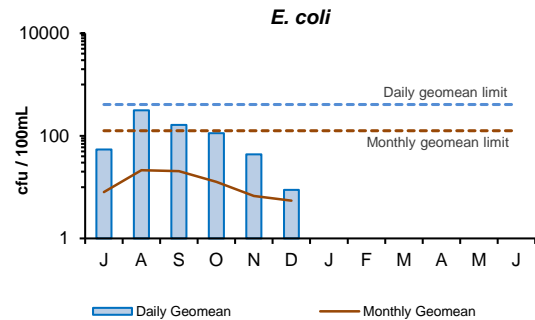
²The TSS weekly average loading exceeded the limit of 500 lbs/day in November, as a result of elevated TSS concentrations and highly elevated plant flows due to rain. The weekly average loading 11/18 - 11/24 was 592 lbs/day.

* The winter period (November 1st - March 31st) monthly average phosphorus limit of 1.0 mg/L goes into effect November 1st, 2019

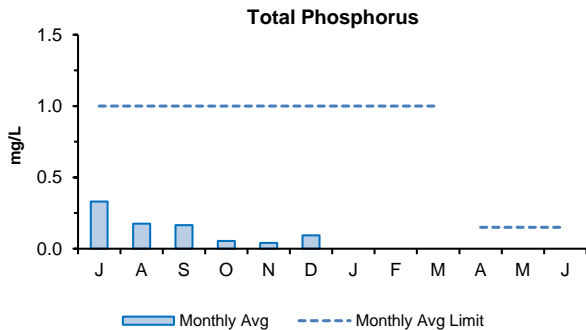
+Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



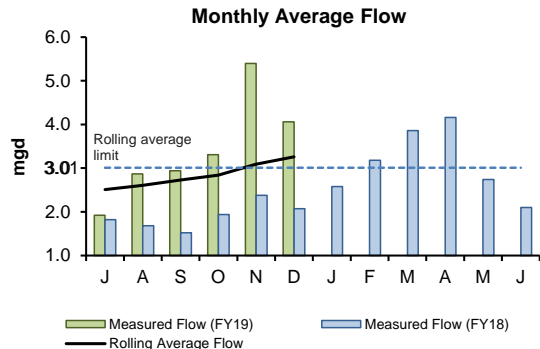
The 2nd Quarter's monthly average and daily maximum concentrations of ammonia were below the permit limits. The monthly average and daily maximum limits for the 2nd Quarter are variable, moving from 2 and 3 mg/L to 10 and 35.2 mg/L respectively. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.



E. coli is an indicator for the possible presence of pathogens. There were no violations of permit limits in the 2nd Quarter. The monthly and daily limits are 126 cfu/100 mL and 409 cfu/100 mL respectively.



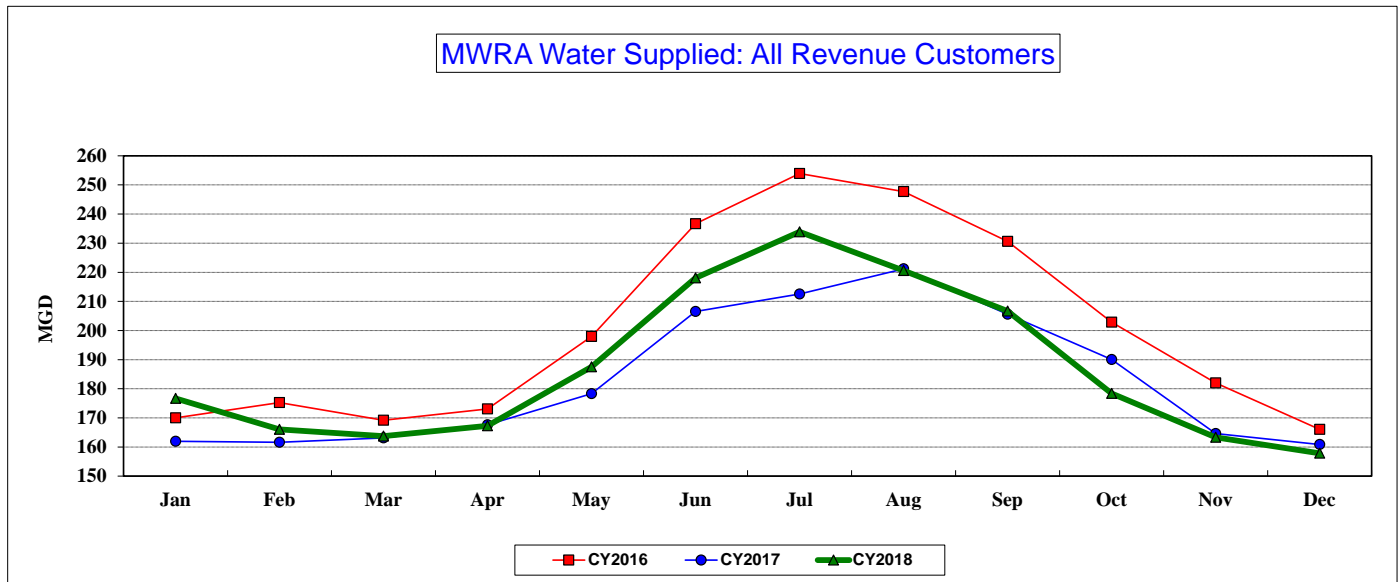
The 2nd Quarter's monthly average concentrations for total phosphorus were below permit limits. An interim permit limit of 1.0 mg/L is in effect from April through October, until April 1st, 2019, when the new permit limit of 0.15 mg/L goes into effect for April - October. The new permit limit of 1.0 mg/L from November through March goes into effect November 1st, 2019.



The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The average monthly flows during the 2nd quarter exceeded the limit of 3.01 in November and December due to excessive rains in the region.

COMMUNITY FLOWS AND PROGRAMS

Total Water Use 2nd Quarter - FY19



MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2016	169.989	175.229	169.161	173.080	197.940	236.644	253.923	247.681	230.631	202.827	182.020	166.059	200.513	200.513
CY2017	161.941	161.609	163.129	167.613	178.331	206.541	212.533	221.175	205.579	190.053	164.610	160.853	182.969	182.969
CY2018	176.713	166.065	163.701	167.282	187.553	218.076	233.894	220.562	206.693	178.419	163.315	157.832	186.821	186.821

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2016	5,269.650	5,081.631	5,244.002	5,192.412	6,136.128	7,099.331	7,871.618	7,678.123	6,918.941	6,287.652	5,460.602	5,147.831	73,387.922	73,387.922
CY2017	5,020.179	4,525.063	5,056.997	5,028.390	5,528.255	6,196.217	6,588.510	6,856.435	6,167.355	5,891.640	4,938.301	4,986.434	66,783.777	66,783.777
CY2018	5,478.106	4,649.821	5,074.728	5,018.447	5,814.128	6,542.278	7,250.719	6,837.418	6,200.796	5,530.986	4,899.450	4,892.783	68,189.659	68,189.659

Calendar year 2018 water use will be used to allocate the FY20 water utility rate revenue requirement to MWRA water communities. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement.

December 2018 water supplied of 157.8 mgd for revenue generating users is down 3.0 mgd or 1.9% compared to December 2017, and represents the lowest monthly water use by MWRA customers since the inception of the MWRA. December's total reservoir withdrawal of 168.2 mgd also represents a new monthly low for the MWRA.

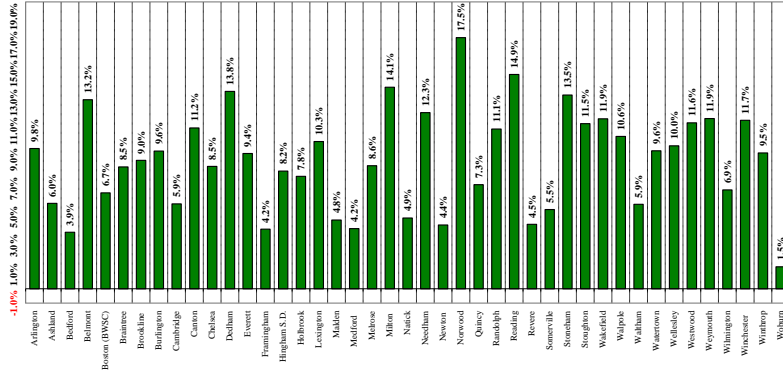
While December water use represented new lows for the MWRA, overall CY18 annual water use for revenue generating users totaled 186.8 mgd, and is 3.9 mgd or 2.1% higher than CY17.

Community Wastewater Flows 2nd Quarter - FY19

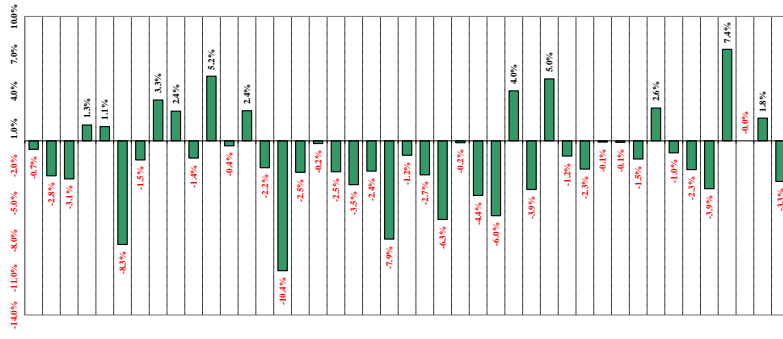
How Projected CY2018 Community Wastewater Flows Could Effect FY2020 Sewer Assessments 1,2,3

The flow components of FY2020 sewer assessments will be calculated using a 3-year average of CY2016 to CY2017 CY2018 wastewater flows compared to FY2019 assessments that used a 3-year average of CY2015 to CY2017 wastewater flows.

Change in Average Flow

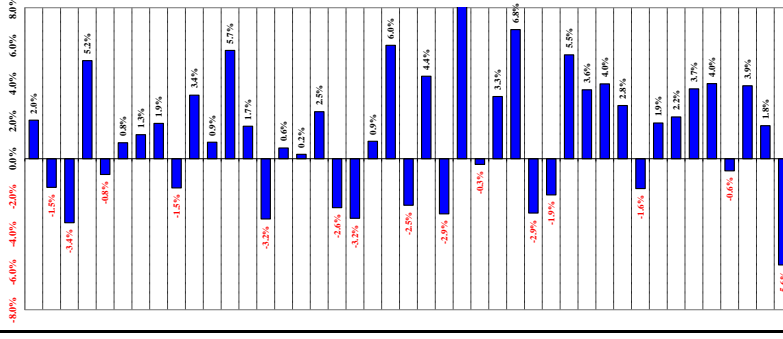


Change in Max. Month Flow

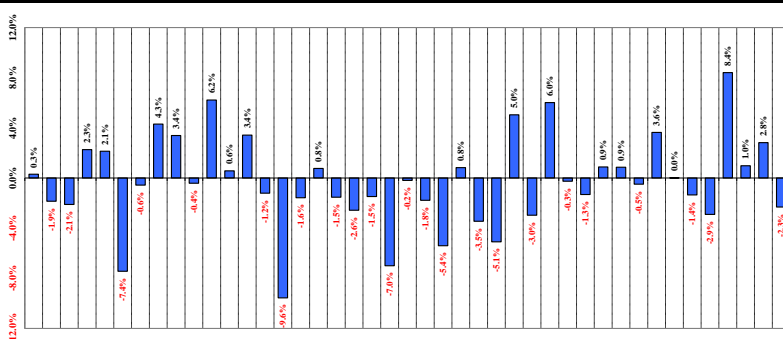


But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2016 to CY2018 flow share compared to CY2015 to CY2017 flow share, compared to all other communities in the system.

Change in Average Flow Share

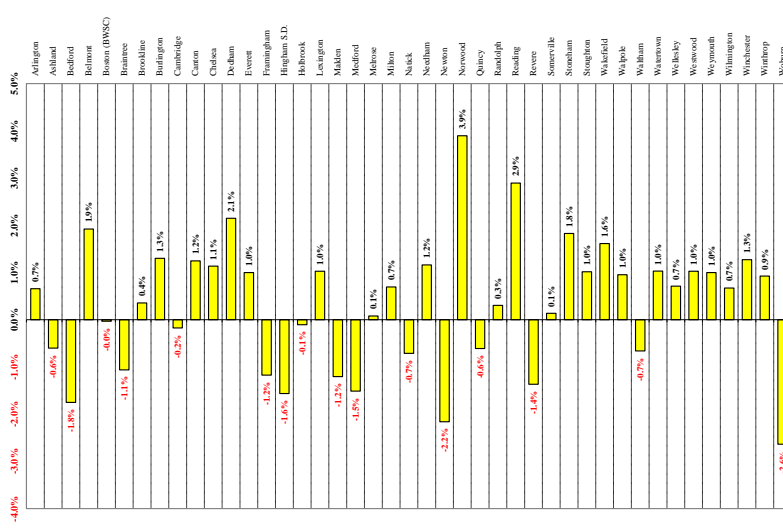


Change in Max. Month Flow Share



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

Assessment Impact Due to Change in Flow Share



¹ MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smooths the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.
² Based on CY2015 to CY2018 average wastewater flows as of 07/30/19. Flow data is preliminary and subject to change pending additional MWRA and community review.
³ CY2015 to CY2018 wastewater flows based on actual meter data.
⁴ Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

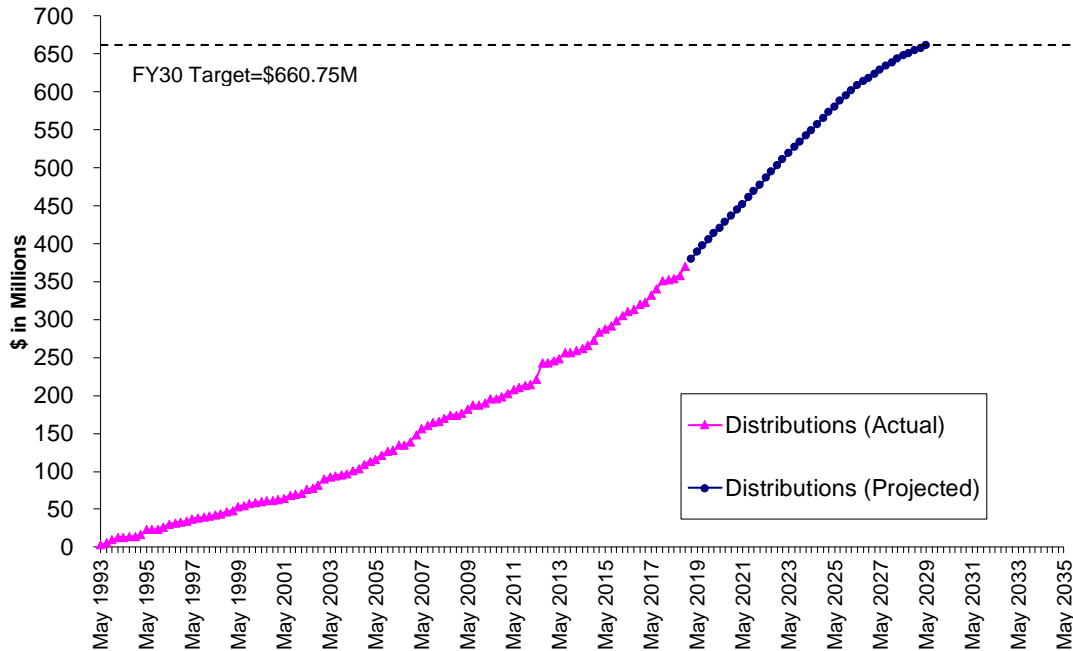
Community Support Programs

2nd Quarter – FY19

Infiltration/Inflow Local Financial Assistance Program

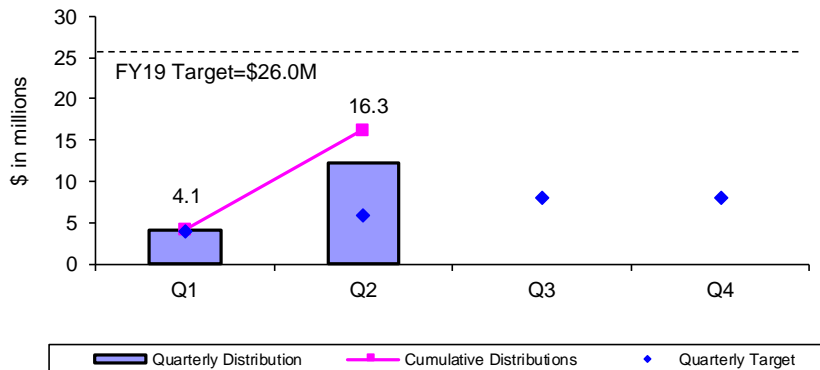
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$660.75 million in grants and interest-free loans (average of about \$18 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total \$300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 through 12 funds (total \$360 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. An additional future Phase 13 providing \$100 million in loan only funds is not yet included in this report.

I/I Local Financial Assistance Program Distribution FY93-FY30



During the 2nd Quarter of FY19, \$12.2 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Hingham, Lexington, Malden, Newton, Quincy, Stoughton and Wakefield. Total grant/loan distribution for FY19 is \$16.3 million. From FY93 through the 2nd Quarter of FY19, all 43 member sewer communities have participated in the program and more than \$370 million has been distributed to fund 556 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY19 Quarterly Distributions of Sewer Grant/Loans



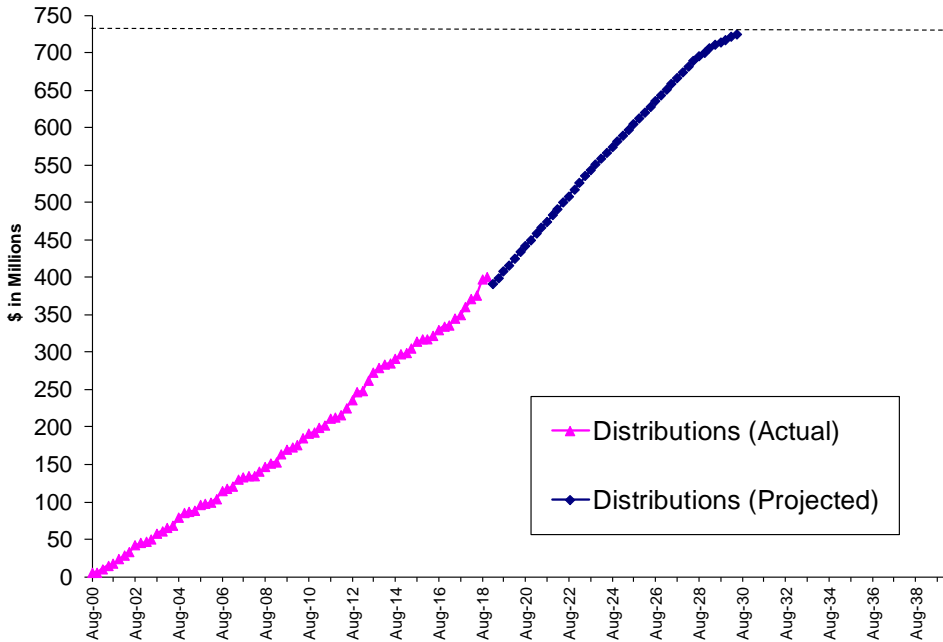
Community Support Programs

2nd Quarter – FY19

Local Water System Assistance Program

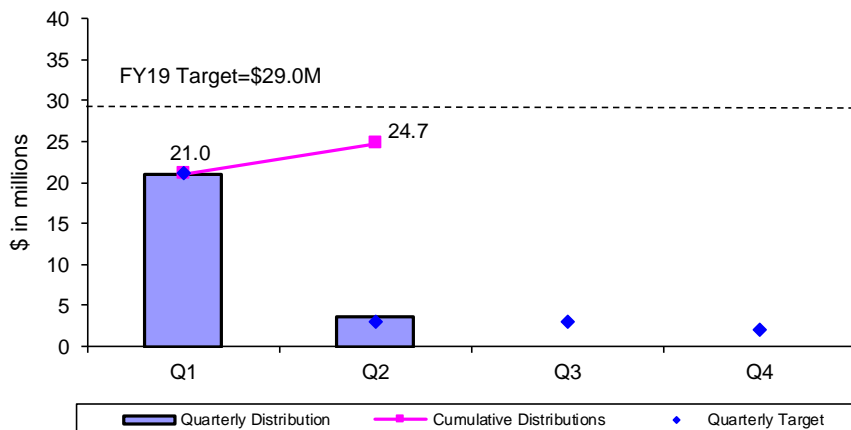
MWRA's Local Water System Assistance Programs (LWSAP) provides \$724 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There have been 3 phases: Phase 1 at \$222 Million, Phase 2 at \$210 Million, and Phase 3 at \$292 Million. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with \$222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY23. The Phase 3 Water Loan Program is authorized for distributions FY18 through FY30.

Local Water System Assistance Program Distribution FY01-FY30



During the 2nd Quarter of FY19, \$3.7 million in interest-free loans was distributed to fund local water projects in Newton, Swampscott and Waltham. Total loan distribution for FY19 is \$24.7 million. From FY01 through the 2nd Quarter of FY19, more than \$400 million has been distributed to fund 421 local water system rehabilitation projects in 42 MWRA member water communities. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY19 Quarterly Distributions of Water Loans



Community Support Programs

2nd Quarter – FY19

Lead Service Line Replacement Loan Program

By its vote on March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide up to \$100 million in 10-year zero-interest loans to communities solely for efforts to fully replace lead service lines. The Lead Service Line Replacement Loan Program is also referenced as the Lead Loan Program or LLP. Each community can develop its own program, tailored to their local circumstances. MWRA's goal in providing financial assistance to member communities is to improve local water systems so that the high quality water MWRA delivers can make it all the way to the consumer's tap. The presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines are in use.

FY17 was the first year of the Lead Service Line Replacement Loan Program. During FY17, MWRA made three Lead Loan Program distributions as noted in the Table below.

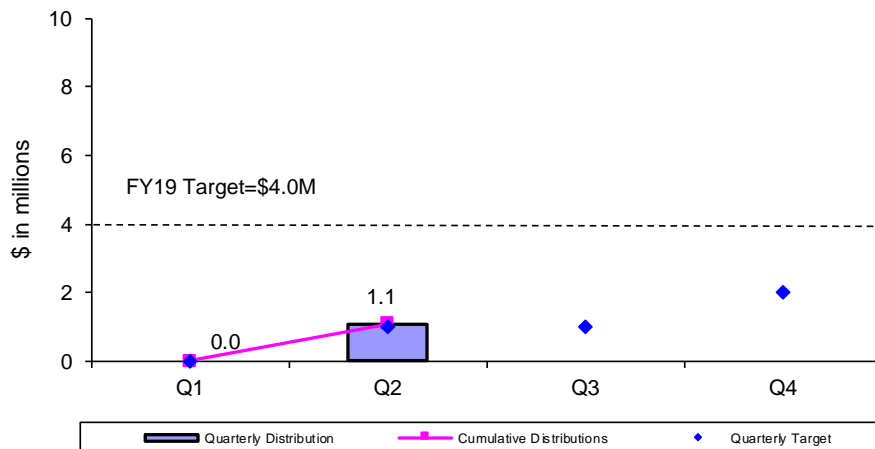
FY18 was the second year of the Lead Loan Program. During FY18, MWRA made five Lead Loan Program distributions as noted in the table below.

FY19 is the third year of the Lead Loan Program. Two Lead Loans were made during the second quarter of FY19: \$100,000 to Chelsea and \$1.0 Million to Everett.

Summary of Lead Loans:

Chelsea in FY19	\$0.1 Million
Everett in FY19	\$1.0 Million
Needham in FY18	\$1.0 Million
Winchester in FY18	\$0.5 Million
Revere in FY18	\$0.2 Million
Winthrop in FY18	\$0.3 Million
Marlborough in FY18	\$1.0 Million
Newton in FY17	\$4.0 Million
Quincy in FY17	\$1.5 Million
Winchester in FY17	\$0.5 Million
TOTAL	\$10.1 Million

FY19 Quarterly Distributions of Lead Service Line Replacement Loans

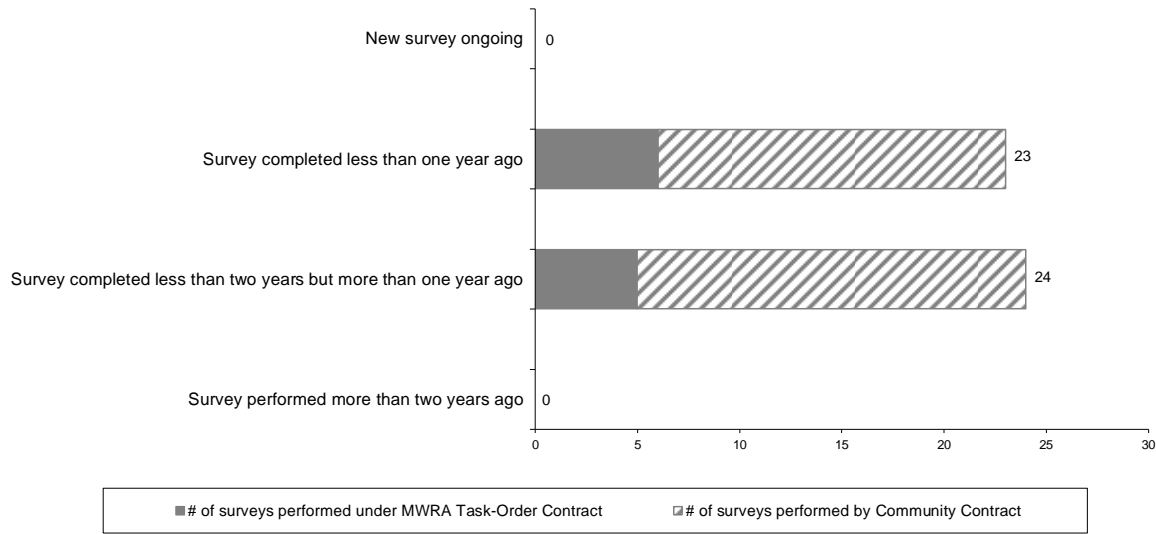


Community Support Programs

2nd Quarter – FY19

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA’s task order leak detection contract. MWRA’s task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 2nd Quarter of FY19, all member water communities were in compliance with MWRA’s Leak Detection Regulation.



Community Water Conservation Outreach

MWRA’s Community Water Conservation Program helps to maintain average water demand below the regional water system’s safe yield of 300 mgd. Current 5-year average water demand is less than 205 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor and outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, toilet leak detection dye tabs, and instructions), all at no cost to member communities or individual customers. The Program’s annual budget is \$25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	690	10,753			11,443
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,738	1,635			3,373
Toilet Leak Detection Dye Tablets	-----	15,202	352			15,554

BUSINESS SERVICES

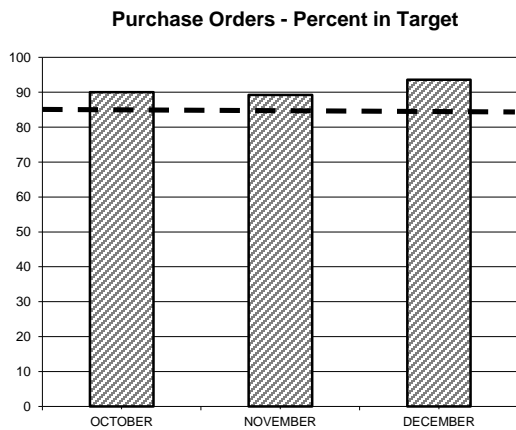
Procurement: Purchasing and Contracts

2nd Quarter - FY19

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

Outcome: Processed 91% of purchase orders within target; Average Processing Time was 5.23 days vs. 4.77 days in Qtr 2 of FY18. Processed 58% (7 of 12) of contracts within target timeframes; Average Processing Time was 192 days vs. 153 days in Qtr 2 of FY18.

Purchasing



	No.	TARGET	PERCENT IN TARGET
\$0 - \$500	595	3 DAYS	85.8%
\$500 - \$2K	693	7 DAYS	94.0%
\$2K - \$5K	457	10 DAYS	95.6%
\$5K - \$10K	64	25 DAYS	82.8%
\$10K - \$25K	58	30 DAYS	89.6%
\$25K - \$50K	17	60 DAYS	70.5%
Over \$50K	29	90 DAYS	93.3%

The Purchasing Unit processed 1913 purchase orders, 64 less than the 1977 processed in Qtr 2 of FY18 for a total value of \$24,523,913 versus a dollar value of \$8,548,562 in Qtr 2 of FY18.

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

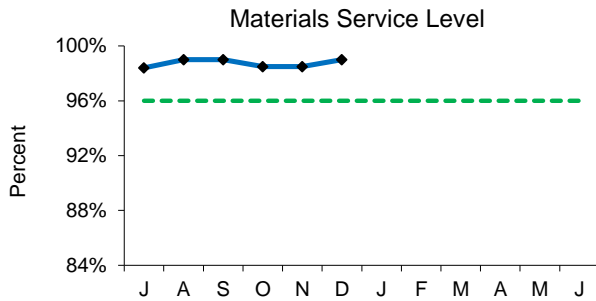
Contracts, Change Orders and Amendments

Five contracts were not processed within the target timeframes. Two contracts were delayed due to additional procurement requirements necessary for insurance services. Insurance for all categories of coverage was obtained timely and according to schedule. One contract was delayed due to delays in the receipt of a parental guaranty. Another contract was not processed within the target timeframe due to delays in verifying references. The final contract required Boston Water and Sewer Commission Board of Director's approval (Union Park Pump Station Fuel Storage Upgrade).

Procurement processed seventeen contracts with a value of \$14,413,635 and six amendments with a value of \$893,641. Thirty two change orders were executed during the period. The dollar value of all non-credit change orders during Q2 FY18 was \$1,448,601 and the value of credit change orders was (\$428,945.43).

Materials Management

2nd Quarter - FY19



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,593 (99.0%) of the 7,696 items requested in Q2 from the inventory locations for a total dollar value of \$1,390,801.

Inventory Value - All Sites

Inventory goals focus on:

- Maintaining optimum levels of consumables and spare parts inventory
- Adding new items to inventory to meet changing business needs
- Reviewing consumables and spare parts for obsolescence
- Managing and controlling valuable equipment and tools via the Property Pass Program

The FY18 goal is to reduce consumable inventory from the July '18 base level (\$8.4 million) by 2.0% (approximately \$168,025), to \$8.2 million by June 30, 2019 (see chart below).

Items added to inventory this quarter include:

- Deer Island – paint rollers and paint primer for Facilities; fan kit, fan filter, couplings, bushings and door enclosure kit for Electric Shop; position transmitter, potentiometer, terminal strips, wire labels, transducers, and electronic timer for I&C; pump and flare fitting for Liquid Train; elbows, coupling and brass connectors for HVAC; hubs, unions and expansion joints for Power and Pump.
- Chelsea – class 3 safety vests for Safety; switch selectors, motor and heater unit for Work Coordination; brake rotors, brake pads, ball joints, oil filters, plow link, plow harness and headlight bulbs for Fleet Services.
- Southboro – fuel filters, oil filters, air filters and wiper blades for Fleet Services; sanding discs for Equipment Maintenance; paint brushes for Facilities Maintenance.

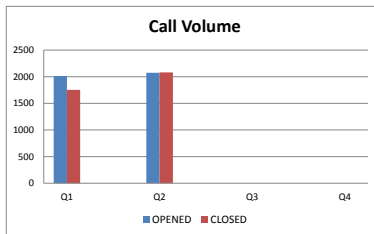
Property Pass Program:

- Five audits were conducted during Q2.
- Scrap revenue received for Q2 amounted to \$9,457. Year to date revenue received amounted to \$20,296.
- Revenue received from online auctions held during Q2 amounted to \$181,356. Year to date revenue received amounted to \$314,124.

Items	Base Value July-18	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	8,401,259	8,291,625	-109,634
Spare Parts Inventory Value	8,884,367	8,934,503	50,136
Total Inventory Value	17,285,626	17,226,128	-59,498

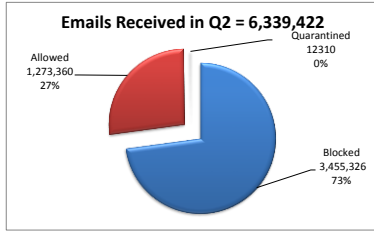
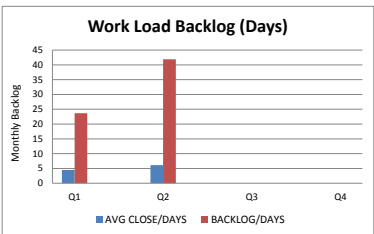
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

MIS Program
2nd Quarter FY19



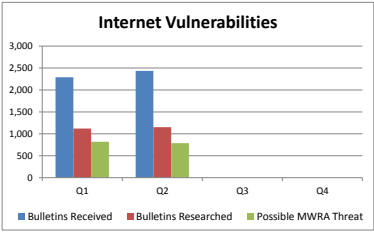
Performance & Backlog for Q1

- 87% of open calls were closed.
- Call closure averaged 4.5 days.
- Priority 1 & 2 Service Level Agreements (SLA) were not met because of priorities and delayed closure. Workarounds provided.



Information Security for Q2

- In Q2, pushed security fixes/updates to desktops/servers protecting against 512 vulnerabilities.
- McAfee quarantined 8 distinct viruses from 116 PCs. PCs are current with antivirus signatures for known malware.



Infrastructure:

- Desktop Refresh: Bid awarded to Hub Technical Services LLC. Software compatibility still being tested and reviewed.
- Managed Security Services Contract: Amendment for contract 7499 approved by Board of Directors.
- Audio/Visual Upgrades: A/V Equipment in conference and meeting rooms, operations centers, etc. is old and needs to be upgraded. New equipment was identified and the first installation is scheduled for January.
- External Facing Server Hardware Replacement: Testing communications over private wireless.
- DITP Circuit Upgrade: New data network circuit installed.
- Multi-Functional Devices (MFD): Completed.
- Network Switch Upgrades: Completed CNY core switch, and edge switch upgrades. The remaining 10 buildings will be scheduled through February.
- iPhone Upgrades: Completed 34% of iPhone 8 upgrades.

Applications/Library & Records Center/Training:

- Enterprise Content Management (ECM)/e-Construction: Continued working on business process workflows and/or use case documentation of existing E&C Department processes. Continued working on a Management Dashboard design. Discussed evaluation approaches of ECM products with Gartner IT Consultants.
- Canto Cumulus Upgrade: Upgraded the Digital Asset Management Software used for managing MWRA photos/images, from version 9 to 11 to maintain vendor support and to be Windows 10 compatible. End users and IT staff were trained on new features.
- GIS: The TV Inspection Truck software, GraniteXP and was updated to the latest version called GraniteNet. This upgrade keeps the Authority current with the latest technology, provides an easier user interface for entering inspection observations and Windows 10 compliant.
- ELN: The Electronic Lab Notebook (ELN) Improvements Project was completed in December adding new functionality of the phase one Water Quality (WQ) implementation completed in Q3 of 2017. The major enhancements were to allow grouped workbooks to be accessed independently and to implement incremental row locking of data already reviewed by supervisors allowing staff continued use of other log entries within the same workbook.
- PIMS: Version 12.0.0 with 9 bug fixes was installed in PIMS production environment.
- PIMS CROMERR: Web Self-Monitoring Reporting tool (WebSMR) was configured in production for outside lab submissions that are compliant with EPA's Cross-Media Electronic Reporting Rule (CROMERR) . Outside Laboratory have successfully submitted Sample results for their respective industries.
- Oracle Discoverer: The Oracle Discoverer query building tool was upgraded to 11g. User documentation for new Oracle Discoverer was completed.
- Learning Management System (LMS): The LMS which internally hosts and manages on-line training for MWRA staff such as the Conflict of Interest Law Training, Active Shooter Video Training, etc., was upgraded from ver. 3.1 to 3.5 to maintain software support and add new functionality and software fixes.
- Library & Records Center: Library: Fulfilled 21 research requests, acquired 7 new, loaned 35 books and reports, and provided 21 articles and 28 standards. The MWRA Library Portal supported 2780 end user searches. Research topics included: Metal deicing, MWRA tunnel geology, 1848 Cochituate Water Celebration, and cured-in-place pipes. Record Center: Added 127 new boxes and handled 201 total boxes, fulfilled 22 rush requests (< 24hrs), scanned/emailed 455 pages, received 24 soil and 20 rock core samples and attended 1 Records Conservation Board meeting.
- IT Training: For the quarter, 37 staff attended 9 classes. Windows10 Job-aids were developed for Mapping a Network Drive job aid and using Outlook PST files.

Legal Matters

2nd Quarter - FY19

PROJECT ASSISTANCE

Real Estate, Contract, Environmental and Other Support:

- **8(m) Permits:** Reviewed sixty-eight (68) 8(m) permits. Drafted an amendment to an 8(m) permit for Wellesley Country Club for the use of certain Sudbury Aqueduct land (amendment addresses new location of alternate public access trail provided by Permittee).
- **Real Property:** Recorded Certificate of Compliance for Order of Conditions 270-0674 for work which was part of MWRA Contract 7478 in Stoneham. Drafted Second Amended Memorandum of Understanding related to the fishing pier at Deer Island. Reviewed MWRA's property rights and potential land acquisitions related to the Dorchester Interceptor Sewer rehabilitation – MWRA Contract 7279. Extended term of license with J. F. White for the use of an MWRA parcel of land located at 12 Cleverly Court, Quincy, Massachusetts. Reviewed lease amendment #5 for MWRA's records retention space at 34 St. Martin Drive, Marlborough. Recorded Order of Conditions 270-0674 for work which was part of MWRA Contract 7478. Reviewed MWRA's property rights at Shaft 8 in Barre, MA, at 233 Clinton Road in Brookline, MA, and for Section 44 at MBTA's Wedgemere Station in Winchester, MA.
- **Direct Connect Permits:** Revised Direct Connect Permit 18-08-179DC to connect a 6-inch PVC sanitary sewer from the proposed building at 130 Eastern Avenue in Chelsea to Section 61 of MWRA's Chelsea Branch Sewer at manhole station 20+80. Reviewed Direct Connect Permit 18-04-177DC to connect a 10-inch PVC gravity sanitary sewer line from the proposed Harvard Engineering and Science Complex at 130-140 Western Avenue in Boston to Section 163 of MWRA's Charles River Valley Sewer at manhole station 12+78.
- **MOA:** Drafted a memorandum of agreement between the City of Newton and MWRA relative to cost sharing for work being performed by MWRA for the City of Newton in the City of Newton as part of MWRA Contract 6392 – Rehabilitation of Sections 23, 24, and 47 Water Mains.
- **Boston Harbor Case:** Reviewed and filed Semi-Annual Compliance and Progress Report. Reviewed first semiannual progress report on the three-year CSO performance assessment.
- **Watershed Acquisitions:** Reviewed Wachusett Watershed Preservation Restriction, W-001195 located on Cottonwood Place in Boylston, MA. Reviewed Wachusett Watershed Acquisition, W-001207 located on Highland and Wachusett Streets in Holden, MA.
- **NPDES:** Reviewed annual DITP outfall monitoring overview.
- **Legislation:** Drafted legislation authorizing MWRA to release easements upon certain real property in Stoneham, MA, which is adjacent to MWRA's Spot Pond Facility.
- **Fore River Railroad Corporation (FRRC):** Filed Certificate of Change of Directors or Officers of the FRRC with the Secretary of the Commonwealth.
- **Deer Island New Cross Harbor Cable:** Drafted and negotiated the terms of a letter agreement with the Harbor Electric Energy Co., concerning pre-payment of certain construction interest charges associated with the new cross harbor electric cable to Deer Island. The pre-payments help reduce total project costs.
- **Prison Point CSO Facility:** Assisted engineering in successfully securing a variance from the Division of Professional Licensure, Board of State Examiners of Plumbers and Gas Fitters, for relief from the applicable provisions of 248 CMR 3.00 through 10.00, which would otherwise require restroom facilities at the chemical building for the Prison Point CSO facility. The variance helps reduce project design and construction costs.
- **Deer Island – Harbor Electric Energy Company:** Prepared and filed written comments with the Department of Public Utilities concerning HEEC's proposed 2019 Capacity and Support Charge for Deer Island. The comments questioned HEEC's treatment

of the impact of the 2017 Federal Tax Cuts & Jobs Act on the 2019 Capacity and Support Charge. The Department agreed and removed a portion of the 2019 Capacity and Support Charge, pending further investigation by the Department in 2019.

- **Public Records Requests:** During the second quarter of FY 2019, one hundred and thirty-five (135) public records requests were received and one hundred and thirty-three (133) public records request were closed.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

A Charge was filed at the Massachusetts Commission Against Discrimination alleging that the MWRA discriminated against an employee on the basis of age.

Two demands for arbitration were filed.

Matters Concluded

Received an arbitrator’s decision in favor of MWRA finding that employees were not working out of classification when assigned certain tasks and therefore the MWRA did not violate a collective bargaining agreement.

Received a Department of Unemployment Assistance decision in favor of MWRA denying claimant unemployment benefits.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of Dec 2018	As of Sept 2018	As of June 2018
Construction/Contract/Bid Protest (other than BHP)	3	2	2
Tort/Labor/Employment	4	5	3
Environmental/Regulatory/Other	2	2	2
Eminent Domain/Real Estate	0	0	0
Total	9	9	7
Other Litigation matters (restraining orders, etc.)	1	2	2
Total – all pending lawsuits	10	11	9
Claims not in suit:	1	2	1
Bankruptcy	0	0	2
Wage Garnishment	4	4	4
TRAC/Adjudicatory Appeals	0	1	1
Subpoenas	0	1	1
TOTAL – ALL LITIGATION MATTERS	15	18	18

LITIGATION/CLAIMS

New lawsuits/claims:

Isabelle Quinn v. MWRA, et al., C.A. No. 2018 CV 3544 E: Plaintiff filed a personal injury action in Suffolk Superior Court alleging negligence on the part of MWRA in connection with an automobile accident between an MWRA vehicle operated by an MWRA employee and plaintiff’s vehicle which occurred in the town of Weston on May 31, 2016, and which caused plaintiff to sustain a fractured right arm. The plaintiff claims medical and other expenses totaling \$104,846.

New lawsuits/claims: (cont.) BHD/BECJV2015 v. MWRA: Plaintiff BHD/BECJV2015 is a joint venture between Barletta Heavy Division, Inc. and Barletta Engineering Corporation for the purpose of bidding and performing MWRA Contract No. 7157, also known as Wachusett Aqueduct Pumping Station. The contractor seeks to recover claimed increased costs of \$311,000 allegedly arising out of differing site conditions. This action challenges the Engineer's Final Decision denying the contractor's claims under G.L. c. 30 §39J.

Significant Developments DaPrato v. MWRA, C.A. No. 2015 CV 3687 D: On November 1, 2018, MWRA filed an application to the Supreme Judicial Court (SJC) for direct appellate review of its appeal from judgment in the underlying action. MWRA also filed a brief in support of its appeal with the Appeals Court on November 19, 2018. On December 13, 2018, the SJC accepted MWRA's application for direct appellate review and MWRA filed an amended brief for the SJC's consideration. The SJC also solicited amicus briefs to address to two specific questions concerning the court's instructions to the jury during the trial.

Closed Cases/Claims: Julie Ischia v. MWRA, DCR, Stoneham DPW, Albanese: Malden District Court Small Claims Session. Ms. Ischia claimed damage to her car, totaling approximately \$1,200, allegedly when she went over something in the road (Ravine Road, Stoneham) on the night of April 4, 2018. The matter was dismissed by a magistrate on October 12, 2018, after Ms. Ischia failed to appear at the call of the list on the day of trial, and because Malden District Court does not have jurisdiction over the case.

(Former employee) v. MWRA, C.A. No. 2018 CV 1070 D: Plaintiff filed a lawsuit alleging handicap discrimination and retaliation under G. L. c. 151B. The case settled for \$77,500.00 and the lawsuit was dismissed with prejudice.

Subpoenas During the Second Quarter of FY 2019, no subpoenas were received and no subpoenas were pending at the end of the Second Quarter FY 2019.

Wage Garnishments There are currently 14 Trustee Process matters, four of which are considered active and are monitored by Law Division.

TRAC/MISC.

New Appeals: No new TRAC Appeals.

Settlement by Agreement of Parties No Settlement by Agreement of Parties.

Stipulation of Dismissal No Joint Stipulation of Dismissals filed.

Notice of Dismissal Fine paid in full One TRAC case: Notice of Dismissal, Fine paid in full.

Twin Rivers Technology Manufacturing Corporation;
MWRA Docket No. 17-05.

Tentative Decision There are no Tentative Decisions issued in the 2nd Quarter FY 2019.

Final Decisions There are no Final Decisions issued in the 2nd Quarter FY 2019.

INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES
2nd Quarter FY19

Highlights

During the 2nd quarter FY19, IA completed a review of fuel usage and mileage tracking to determine the reasonableness and accuracy of the base year data that is required to be reported to MassDEP on emission limits of passenger vehicles. Recommendations included supporting the replacement of the Gas Boy fuel system software, ensuring all applicable vehicles are included in the reporting and creating a field in Maximo for identifying passenger and non-passenger vehicles.

Other completed assignments included an audit of the City of Cambridge's force account costs charged to MWRA related to the CSO financial assistance agreement, unemployment compensation review and a preliminary consultant and a contractor review. Work continues on reviewing costs on the new HEEC electrical cable to Deer Island, and the first 2 progress payments from MWRA have been made that will result in substantial future savings. Various management advisory services were also completed this quarter.

Status of Recommendations

During FY19, 7 recommendations were closed of which 5 are from prior fiscal years' audits.

IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation. When a recommendation has not been implemented within 48 months, the appropriateness of the recommendation is re-evaluated.

All Open Recommendations Pending Implementation – Aging Between 0 and 48 Months

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
MIS Mobile Equipment Asset Tracking (9/26/16)	1	11	12
Wright Express (WEX) Credit Card Fuel Purchases (11/16/16)	1	12	13
Purchase Card Activity on Deer Island (3/31/17)	2	13	15
Review of Uniform Debit Card Program (3/30/18)	3	3	6
Review of MWRA Procedures on Payments for Police Details (5/23/18)	1	0	1
Overtime & Timesheet Review (6/30/18)	2	14	16
Fleet Services Process Review (6/30/18)	4	1	5
Fuel Use & Mileage Tracking (12/31/18)	7	1	8
Total Recommendations	21	55	76

Cost Savings

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

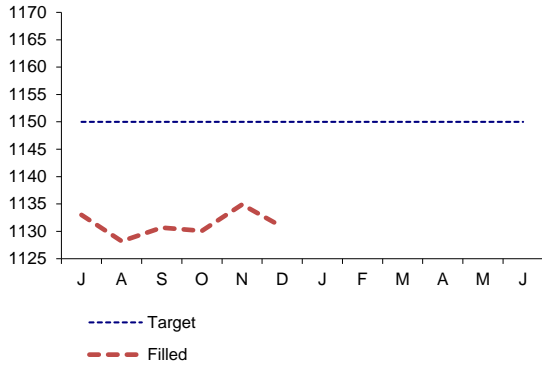
Cost Savings	FY15	FY16	FY17	FY18	FY19 Q2	TOTAL
Consultants	\$87,605	\$88,312	\$272,431	\$118,782	\$52,784	\$619,914
Contractors & Vendors	\$1,146,742	\$1,772,422	\$3,037,712	\$1,323,156	\$2,631,543	\$9,911,575
Internal Audits	\$543,471	\$220,929	\$224,178	\$203,702	\$101,151	\$1,293,931
Total	\$1,777,818	\$2,081,663	\$3,534,321	\$1,645,640	\$2,785,478	\$11,825,420

OTHER MANAGEMENT

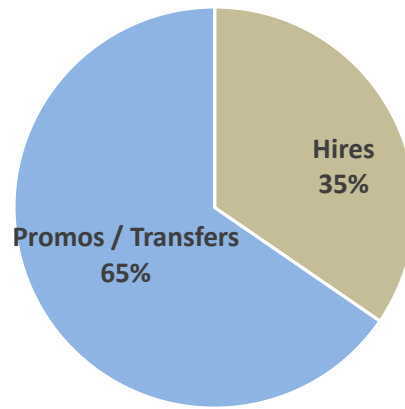
Workforce Management

2nd Quarter FY19

FTE Tracking



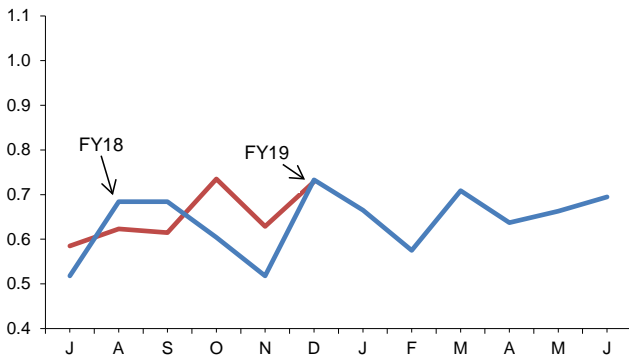
FY19 Target for FTE's = 1150
 FTE's as of DEC 2018 = 1130.8
 Tunnel Redundancy as of DEC 2018 = 3.8



Position Filled by Hires/Promos & Transfer for YTD FY19

	Pr/Trms	Hires	Total
FY17	155 (68%)	72 (32%)	227
FY18	118 (61%)	74 (39%)	192
FY19	70 (65%)	37 (35%)	107

Average Monthly Sick Leave Usage
Per Employee

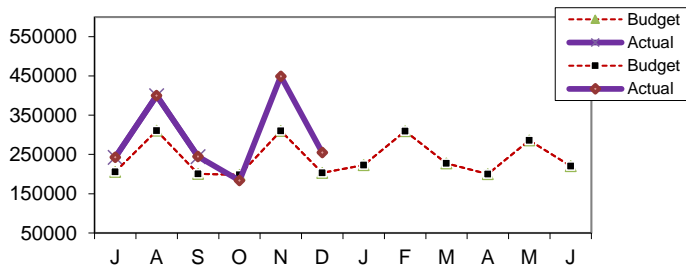


Average monthly sick leave for the 2nd Quarter of FY19 increased as compared to the 2nd Quarter of FY18 (7.482 to 7.832 days)

	Number of Employees	YTD	Annualized Total	Annual FMLA %	FY18
Admin	130	4.18	8.35	17.5%	6.6
Aff. Action	5	3.01	6.02	0.0%	7.1
Executive	4	2.50	2.47	0.0%	3.3
Finance	33	3.68	7.36	0.0%	6.1
Int. Audit	6	1.39	2.79	0.0%	4.9
Law	14	3.87	7.73	6.6%	6.9
OEP	8	2.48	4.97	74.0%	3.6
Operations	934	3.93	7.87	14.6%	7.7
Tunnel Red	4	4.62	9.23	47.2%	0
Pub. Affs.	11	2.23	4.47	23.9%	10.4
MWRA Avg	1149	1.31	7.83	14.8%	7.7

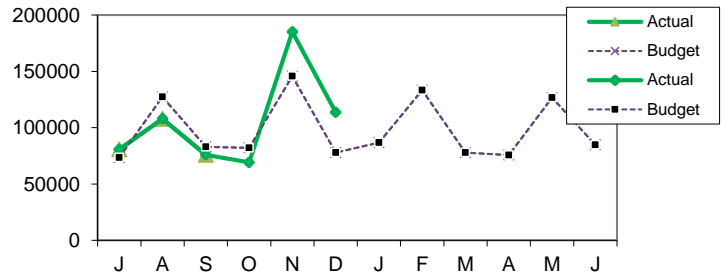
Percent of sick leave usage for FY19, attributable to Family and Medical Leave Act (FMLA) is 14.8% .

Field Operations
Current Month Overtime \$



Total Overtime for Field Operations for the second quarter of FY 2019 was \$887,546 which is \$176k over budget. Emergency overtime was \$461k, which was \$81k over budget. Rain events totaled \$335k, CSO Activation was \$33k, emergency maintenance was \$44k, emergency operations was \$43k. Coverage overtime was \$177k, which was \$40k over budget, reflecting the month's shift coverage requirements. Planned overtime was \$249k or \$55k over budget. The month's spending includes planned operations at \$53k, maintenance off-hours work at \$75k, and half plant operations at \$39k. YTD, FOD has spent \$1,775,005 on overtime which is \$346k over budget.

Deer Island Treatment Plant
Current Month Overtime \$

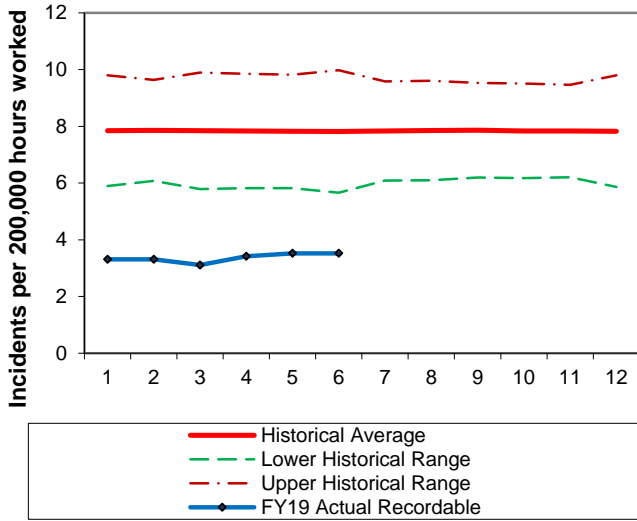


Total Overtime for Deer Island for the second quarter of FY2019 was \$368,081, which is \$62,533 over budget. The over spending in the second quarter was for storm coverage of \$52k and shift coverage requirements of \$20k. This is offset by lower spending for Planned/Unplanned overtime of (\$10k). YTD, Deer Island has spent \$632,528 on overtime, which is \$43K over budget mostly due to storm coverage in November and December due to high rains and flows.

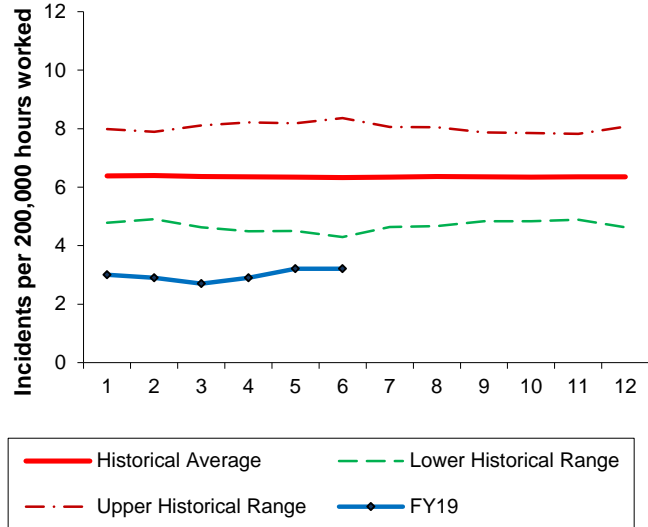
Workplace Safety

2nd Quarter - FY19

Recordable Injury & Illness Rates



Lost Time Injury & Illness Rates



- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid.
- 2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness.
- 3 The "Historical Average" is computed using the actual MWRA monthly incident rates for FY99 through FY18. The "Upper" and "Lower Historical Ranges" are computed using these same data – adding and subtracting two standard deviations respectively.

WORKERS COMPENSATION HIGHLIGHTS

	2nd Quarter Information		Open Claims
	New	Closed	
Lost Time	8	19	56
Medical Only	13	24	16
Report Only	12	22	
	QYTD		FYTD
Regular Duty Returns	5		15
Light Duty Returns	0		0

COMMENTS:

Regular Duty Returns

- OCT** 2 Employee returned to full duty/no restrictions
- NOV** 1 Employees returned to full duty/no restrictions
- DEC** 2 Employee returned to full duty/no restrictions

Light Duty Returns

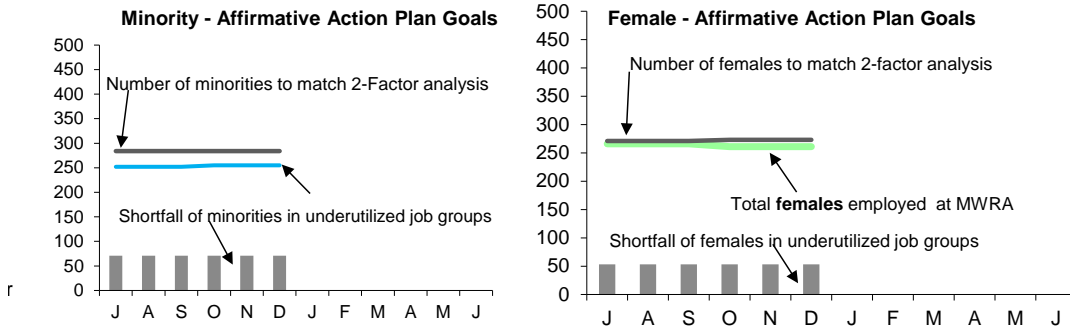
- OCT** N/A
- NOV** N/A
- DEC** N/A

Note: Claims may initially be counted in one category and changed to another category at a later date. Examples include a medical treatment only claim (no lost time from work) but the employee may require surgery at a later date resulting in the claim becoming a lost time claim. At that time we would only count the claim as opened but not as a new claim.

*Report only claims are closed the month they are filed.

MWRA Job Group Representation

2nd Quarter - FY19



Highlights:

At the end of Q2 FY19, 7 job groups or a total of 71 positions are underutilized by minorities as compared to 7 job groups for a total of 44 positions at the end of Q2 FY18; for females 8 job groups or a total of 53 positions are underutilized females as compared to 10 job groups or a total of 62 positions at the end of Q2 FY18. During Q2, 8 minorities and 2 females were hired. During this same period no minorities and no females were terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees	Minorities	Achievement	Minority	Females	Achievement	Female
	as of 12/31/2018	as of 12/31/2018	Level	Over or Under Underutilized	As of 12/31/2018	Level	Over or Under Underutilized
Administrator A	22	1	3	-2	8	7	1
Administrator B	21	1	4	-3	6	3	3
Clerical A	29	11	6	5	25	20	5
Clerical B	26	9	7	2	8	10	-2
Engineer A	80	29	17	12	16	16	0
Engineer B	61	16	12	4	13	7	6
Craft A	116	19	42	-23	0	4	-4
Craft B	145	22	43	-21	2	4	-2
Laborer	68	19	14	5	3	3	0
Management A	98	17	24	-7	33	38	-5
Management B	42	7	7	0	9	4	5
Operator A	65	3	13	-10	1	5	-4
Operator B	69	18	16	2	4	22	-18
Professional A	31	5	8	-3	19	15	4
Professional B	155	42	37	5	76	56	20
Para Professional	59	19	19	0	30	46	-16
Technical A	54	14	11	3	7	12	-5
Technical B	8	3	1	2	1	1	0
Total	1149	255	284	38/-71	261	273	42/-53

AACU Candidate Referrals for Underutilized Positions

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/T ransfers	AACU Ref. External	Position Status
Administrative A	Chief Engineer	1	Int	1	0	Promo =WM
Administrative B	Assistant Director, Engineering	1	Int	1	0	Promo =WF
Craft A	WSS Foreman	1	Int	1	0	Promo =HM
Craft A	Metal Fabricator/Welder	1	Ext	1	0	Promo =WM
Craft A	M&O Specialist	1	Int/Ext	0	1	NH =WM
Craft B	Junior Instrument Technician	2	Ext	0	0	NH =(BM) (WM)
Craft B	Facilities Specialist I	2	Int/Ext	2	0	Promo =2(WM)
Clerical B	Warehouse Material Handler	3	Int	3	0	Trans =2(WM) Promo WM
Laborer	Building and Grounds Worker	1	Ext	0	0	NH = WM
Management A	Manager, Finance & Administration	1	Int/Ext	1	0	Promo =AM
Management A	Budget Manager	1	Int/Ext	0	0	NH = WM
Management A	Manager, Design	1	Int/Ext	0	0	NH =WF
Management A	Manager, Geotechnical and Tunneling	1	Int/Ext	0	0	NH =AF
Management A	Deputy Contracts Manager	1	Int	1	0	Promo =WM
Operator B	Operator	4	Int	4	0	Promo =3(WM) (HM)
ParaProfessional	Human Resources Coordinator	1	Int	1	0	Trans =HM
ParaProfessional	Planning Scheduling Coordinator	2	Int	2	0	Promo =(WM) (BM)
Technical A	Business Systems Analyst III	1	Int	1	0	Promo =AM
Technical A	Systems Analyst Programmer	1	Int/Ext	0	0	NH =AM

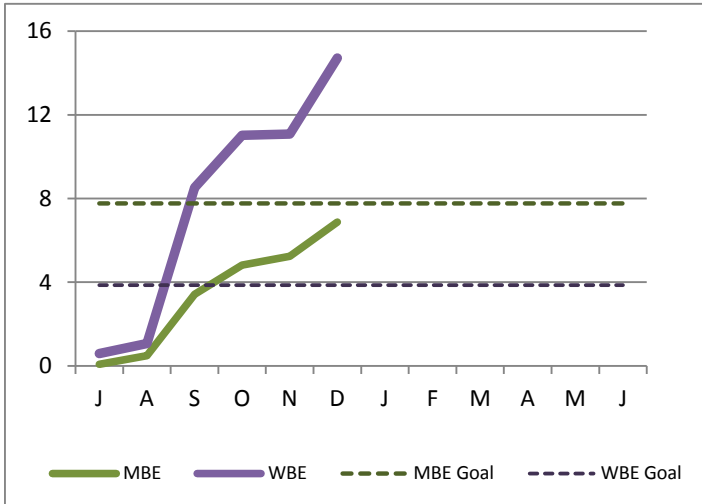
MBE/WBE Expenditures

2nd Quarter - FY19

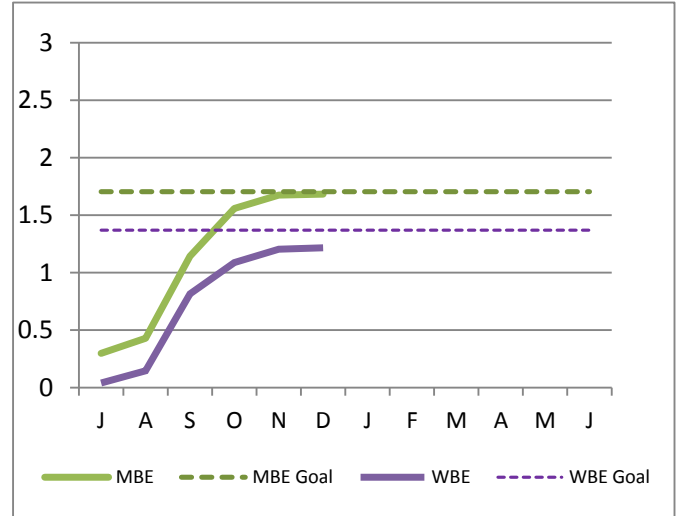
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY19 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they have no MBE/WBE spending goals.

MBE/WBE percentages are the results from a 2002 Availability Analysis, and MassDEP's Availability Analysis. As a result of the Availability Analyses, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through December.

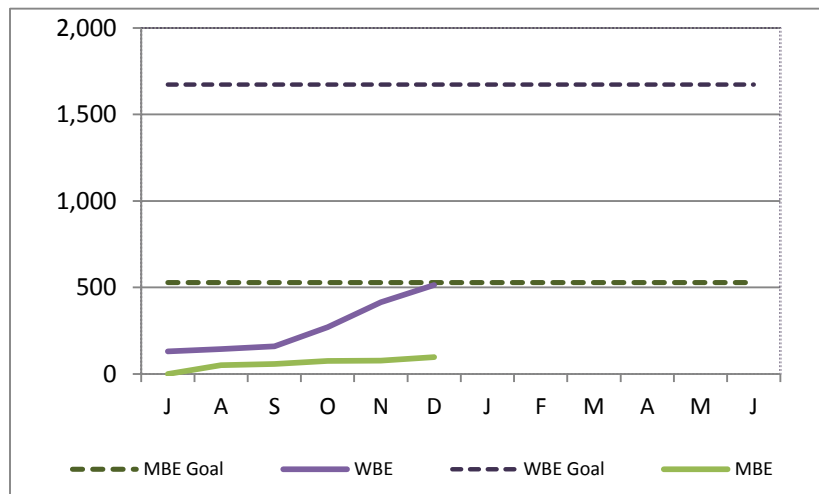
Construction (millions \$)



Professional Services (millions \$)



Goods/Services (Thousands \$)



FY19 spending and percentage of goals achieved, as well as FY18 performance are as follows:

MBE			
FY19 YTD		FY18	
Amount	Percent	Amount	Percent
6,874,450	88.5%	12,337,140	169.4%
1,682,915	98.7%	1,680,583	89.2%
97,612	18.5%	183,744	39.8%
8,654,977	89.9%	14,201,467	298.4%

WBE			
FY19 YTD		FY18	
Amount	Percent	Amount	Percent
14,715,260	381.0%	15,875,719	438.4%
1,216,209	88.8%	1,196,643	79.0%
514,342	30.7%	786,485	78.9%
16,445,811	268.2%	17,858,847	596.3%

Construction
Prof Svcs
Goods/Svcs
Totals

FY19 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

MWRA FY19 CEB Expenses through December 2018

As of December 2018, total expenses are \$366.0 million, \$8.0 million or 2.1% lower than budget, and total revenue is \$386.1 million, \$1.4 million or 0.4% over budget, for a net variance of \$9.5 million.

Expenses –

Direct Expenses are \$113.7 million, \$3.7 million or 3.1% under budget.

- **Wages & Salaries** are under budget by \$2.4 million or 4.6%. Regular pay is \$2.4 million under budget, due to lower head count, and timing of backfilling positions. At the end of December, the average Full Time Equivalent (FTE) positions was 1,134, twenty-one fewer than the 1,155 FTE's budgeted.
- **Ongoing Maintenance** expense \$1.2 million under budget or 7.3%, reflecting the timing of projects.
- **Professional Services** expense \$904k under budget or 23.6%, primarily due to under spending for Engineering and Other Professional Service of \$289k and \$280k, respectively. Additionally, Legal expenses were \$120k under budget.
- **Utilities** expenses are \$711k or 6.5% over budget due to overspending of \$616k on electricity primarily at Deer Island and overspending on diesel fuel by \$126K due to the timing of deliveries at Deer Island and in Wastewater Operations.
- **Other Materials** expenses are \$671k or 24.2% under budget reflecting delayed spending on computer hardware of \$522k and lower spending on equipment & furniture of \$148k. Computer hardware purchases have been delayed.
- **Other Services** expenses are \$533k or 4.5% over budget reflecting higher processing volume at palletization plant of \$744k.
- **Overtime** expenses are \$480k or 21.8% over budget due to wet weather events.
- **Fringe Benefits** expenses are \$478k or 4.6% under budget reflecting lower health insurance cost of \$457k again due to lower head count.

Indirect Expenses are \$23.3 million, \$357k or 1.5% under budget reflecting lower than budgeted Watershed Reimbursement of \$154k and lower HEEC related charge due to delay of the low voltage switchgear upgrade project of \$307k partially offset by increased HEEC Capacity charges of \$67k.

Debt Service Expenses totaled \$228.9 million, \$4.0 million under budget due to lower than budgeted variable interest rates.

Revenue and Income –

Total Revenue and Income is \$386.1 million, \$1.4 million higher than budget, primarily due to greater than budgeted investment income reflecting higher returns of \$1.0 million and Disposal of Equipment \$288k, partially offset by lower energy revenue of \$196k, due to lower Demand Response payments and Renewable Portfolio credits.

	December 2018			
	Year-to-Date			
	Period 6 YTD Budget	Period 6 YTD Actual	Period 6 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	\$ 52,094,007	\$ 49,716,949	\$ (2,377,058)	-4.6%
OVERTIME	2,205,845	2,685,806	479,961	21.8%
FRINGE BENEFITS	10,369,901	9,892,084	(477,817)	-4.6%
WORKERS' COMPENSATION	1,211,304	1,254,969	43,665	3.6%
CHEMICALS	5,816,694	5,983,550	166,856	2.9%
ENERGY AND UTILITIES	10,874,230	11,584,790	710,560	6.5%
MAINTENANCE	16,265,719	15,084,605	(1,181,114)	-7.3%
TRAINING AND MEETINGS	241,438	223,068	(18,370)	-7.6%
PROFESSIONAL SERVICES	3,828,674	2,924,626	(904,048)	-23.6%
OTHER MATERIALS	2,778,570	2,107,325	(671,245)	-24.2%
OTHER SERVICES	11,734,508	12,267,812	533,304	4.5%
TOTAL DIRECT EXPENSES	\$ 117,420,890	\$ 113,725,584	\$ (3,695,307)	-3.1%
INSURANCE	\$ 1,049,529	\$ 1,086,413	\$ 36,884	3.5%
WATERSHED/PILOT	13,203,213	13,049,242	(153,971)	-1.2%
HEEC PAYMENT	693,412	453,175	(240,237)	-34.6%
MITIGATION	807,131	807,131	-	0.0%
ADDITIONS TO RESERVES	940,901	940,901	-	0.0%
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
TOTAL INDIRECT EXPENSES	\$ 23,694,186	\$ 23,336,862	\$ (357,326)	-1.5%
STATE REVOLVING FUND	\$ 42,093,788	\$ 41,754,371	\$ (339,417)	-0.8%
SENIOR DEBT	134,566,990	134,566,990	-	0.0%
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%
CURRENT REVENUE/CAPITAL	7,099,996	7,099,996	-	0.0%
SUBORDINATE MWRA DEBT	46,087,268	46,087,268	-	0.0%
LOCAL WATER PIPELINE CP	2,375,198	2,375,198	-	0.0%
CAPITAL LEASE	1,608,530	1,608,530	-	0.0%
DEBT PREPAYMENT	-	-	-	---
VARIABLE DEBT	-	(3,647,734)	(3,647,734)	---
DEFESANCE ACCOUNT	-	-	-	---
TOTAL DEBT SERVICE	\$ 232,887,044	\$ 228,899,893	\$ (3,987,151)	-1.7%
TOTAL EXPENSES	\$ 374,002,120	\$ 365,962,339	\$ (8,039,784)	-2.1%
REVENUE & INCOME				
RATE REVENUE	\$ 369,521,100	\$ 369,521,100	\$ -	0.0%
OTHER USER CHARGES	4,441,475	4,504,813	63,338	1.4%
OTHER REVENUE	4,135,752	4,464,637	328,885	8.0%
RATE STABILIZATION	-	-	-	---
INVESTMENT INCOME	6,608,255	7,638,341	1,030,086	15.6%
TOTAL REVENUE & INCOME	\$ 384,706,582	\$ 386,128,891	\$ 1,422,309	0.4%

Cost of Debt

2nd Quarter – FY19

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

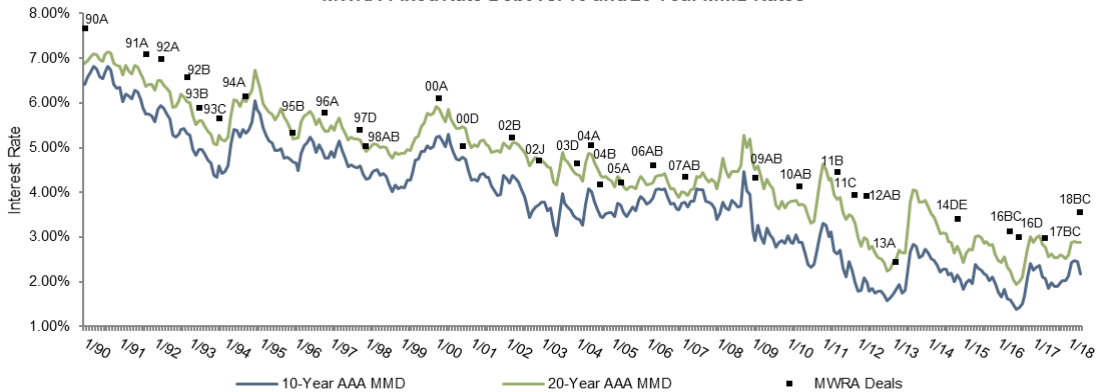
Average Cost of MWRA Debt FYTD

Fixed Debt (\$3,40 billion)	3.77%
Variable Debt (\$418.9 million)	2.04%
SRF Debt (\$935.7 million)	1.48%
Weighted Average Debt Cost (\$4,755 billion) 3.17%	

Most Recent Senior Fixed Debt Issue May 2018

2018 Series B & C (\$129.5 million) 3.56%

MWRA Fixed Rate Debt vs. 10 and 20 Year MMD Rates

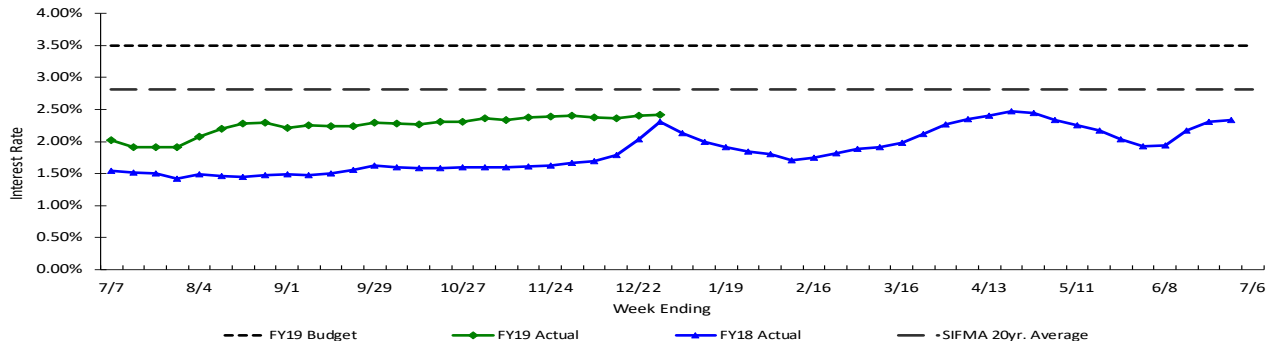


Bond Deal	1993B	1993C	1994A	1995B	1996A	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B
Rate	5.89%	5.66%	6.15%	5.34%	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%
Avg Life	19.8 yrs	19.1 yrs	19.5 yrs	20.5 yrs	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs

Bond Deal	2005A	2006AB	2007AB	2009AB	2010AB	2011B	2011C	2012AB	2013A	2014DEF	2016BC	2016D	2017BC	2018BC
Rate	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%	2.98%	3.56%
Avg Life	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8yrs	11.2 yrs	11.7yrs

Weekly Average Variable Interest Rates vs. Budget

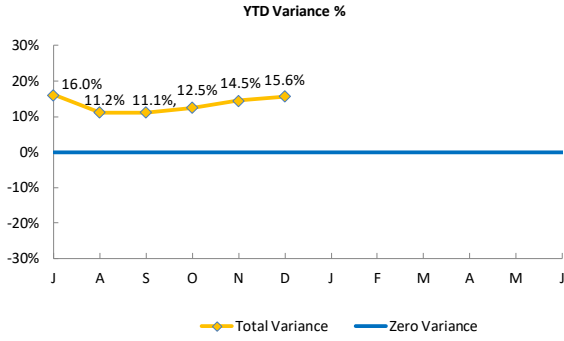
MWRA currently has eleven variable rate debt issues with \$808.2 million outstanding, excluding commercial paper. Of the eleven outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In December, SIFMA rates ranged from a high of 1.71% to a low of 1.64% for the month. MWRA’s issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate risk as compared to fixed rate debt.



Investment Income

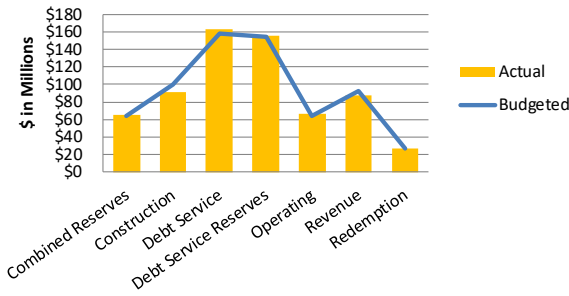
2nd Quarter – FY19

Year To Date



	YTD BUDGET VARIANCE (\$'000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	\$10	(\$2)	9	1.2%
Construction	(\$75)	\$254	178	20.5%
Debt Service	\$40	\$460	500	36.2%
Debt Service Reserves	\$2	\$23	25	1.3%
Operating	\$28	\$65	93	15.7%
Revenue	(\$40)	\$264	224	27.9%
Redemption	\$0	\$1	1	0.3%
Total Variance	(\$35)	\$1,066	\$1,030	15.6%

**YTD Average Balances
Budgeted vs. Actual**

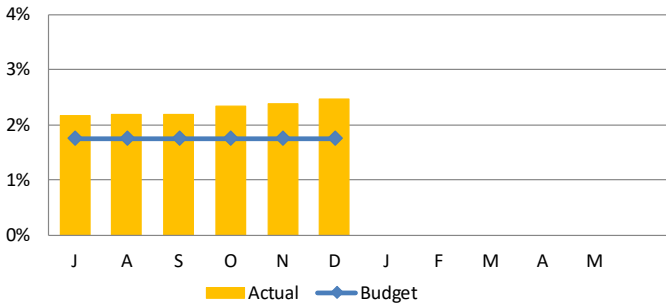


**YTD Average Interest Rate
Budgeted vs. Actual**

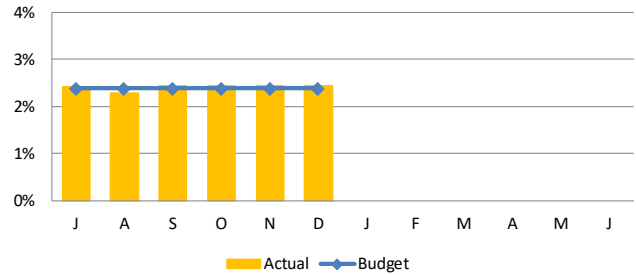


Monthly

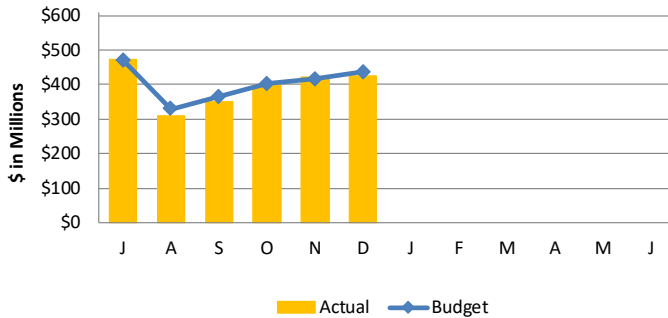
Short -Term Interest Rates



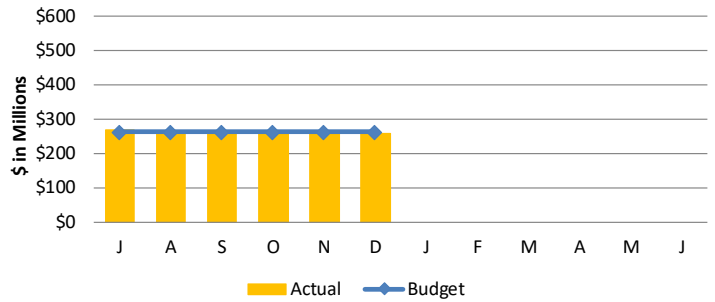
Long -Term Interest Rates



Short-Term Average Balances



Long-Term Average Balances



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Delegated Authority Report – January 2019



COMMITTEE: Administration, Finance & Audit

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 January 1 – 31, 2019.

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.

BACKGROUND:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on February 21, 2018, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

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

Change Orders:

Up to 25% of the original contract amount or \$250,000, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to \$100,000 and one year with a firm; or up to \$50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to \$250,000 if a competitive procurement process has been conducted, or up to \$100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

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

Amendments:

Up to 25% of the original contract amount or \$250,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

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

CONSTRUCTION/PROFESSIONAL SERVICES DELEGATED AUTHORITY ITEMS JANUARY 1 - 31, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	01/08/19	WACHUSETT AQUEDUCT PUMPING STATION CONSTRUCTION FURNISH AND INSTALL TWO LOOP DETECTORS AND RECONNECT TO THE EXISTING UNDERGROUND CABLES; MODIFY THE PUMP CONTROL VALVES PROGRAM LOGIC TO REVISE THE PUMP CONTROL VALVE CLOSING SEQUENCE; FURNISH AND INSTALL A CONVENTIONAL CEILING MOUNTED HEAT DETECTOR IN THE ENCLOSED OVERHEAD DOOR AREA; FURNISH AND INSTALL ELECTRIC CABLE, MODIFY THE GEOTHERMAL PUMP CONTROL PANEL; FURNISH AND INSTALL A WALL MOUNTED FIRE ALARM DEVICE WITH FLASHING RED STROBE LIGHT AND HORN IN THE GUARD HOUSE BATHROOM; FURNISH AND INSTALL COPPER TUBING FOR EACH OF THE SEVEN VERTICAL TURBINE PUMPS; FURNISH AND INSTALL A SEWAGE PUMP RUN SIGNAL FOR EACH OF THE TWO SEWAGE EJECTOR PUMPS.	7157	53	BHD/BEC 2015, A JOINT VENTURE	\$36,392.00
C-2.	01/08/19	HATCHERY PIPELINE AND HYDROELECTRIC PROJECT INCREASE LEVEL OF EFFORT TO PERFORM THE FOLLOWING CONSTRUCTION ADMINISTRATION SERVICES: MONTHLY PROJECT ADMINISTRATION TIME, RESPOND TO SUBMITTALS, CHANGE/CLARIFICATION AND CHANGE ORDER REQUESTS; EXTEND TECHNICAL SUPPORT AND START-UP SERVICES, TURBINE OPERATIONAL ISSUES SUPPORT, NGRID COORDINATION, BUILDING RECORD DRAWINGS; EXTEND CONTRACT TERM BY SIX MONTHS FROM SEPTEMBER 1, 2018 TO MARCH 1, 2019.	7017A	3	STANTEC CONSULTING SERVICES, INC.	\$95,217.00
C-3.	01/08/19	DEER ISLAND TREATMENT PLANT PUMP REFURBISHMENT AWARD OF ENERGY EFFICIENCY CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE REFURBISHMENT OF NORTH MAIN PUMP STATION PUMP 9 AT THE DEER ISLAND TREATMENT PLANT FOR A TERM OF 180 CALENDAR DAYS. REBATE TOTALING \$58,955 WILL BE RECEIVED FROM EVERSOURCE UPON PROJECT COMPLETION.	5581	AWARD	A.W. CHESTERTON COMPANY	\$98,976.00
C-4.	01/22/19	REPLACEMENT OF GENERATOR NO. 1 AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF GENERATOR NO. 1 AT THE JOHN J. CARROLL WATER TREATMENT PLANT FOR A TERM OF 270 CALENDAR DAYS.	7642	AWARD	EWING ELECTRICAL CO., INC.	\$416,524.00
C-5.	01/30/19	LIQUID OXYGEN STORAGE YARD CANOPY - JOHN J. CARROLL WATER TREATMENT PLANT FURNISH, INSTALL AND REMOVE TEMPORARY GRAVEL WALKWAY AND TEMPORARY ALUMINUM ACCESS WALKWAYS AT THE FILL STATION; REMOVE AND REPLACE CONDUIT, AND DISCONNECT AND RECONNECT WIRING FOR STREET LIGHTS; FURNISH AND INSTALL REBAR AT THE TRUCK PAD; FURNISH AND INSTALL AN ADDITIONAL LIGHT WITH REQUIRED CONDUIT AND WIRING ON THE CANOPY.	7085G	2	D & C CONSTRUCTION CO., INC.	\$56,226.11
C-6.	01/30/19	BELLEVUE 2/TURKEY HILL WATER TANK PAINTING PROJECT FURNISH AND INSTALL 5/16-INCH THICKNESS CURVED WELDED STEEL PLATE WITH A CONTINUOUS 5/16-INCH FILLET SEAL WELD FOR AN AREA OF 125 SQUARE FEET; EXTEND THE CONTRACT TERM BY 102 CALENDAR DAYS.	7634	3	WORLDWIDE INDUSTRIES CORP.	\$120,104.80
C-7.	01/30/19	WACHUSETT AQUEDUCT PUMPING STATION CONSTRUCTION FURNISH FOUR DUCTILE IRON BLIND FLANGES; FURNISH AND INSTALL THREE NEMA 4X STAINLESS STEEL ENCLOSURE AIR CONDITIONER UNITS, FURNISH AND INSTALL AN AIR CONDITIONER TEMPERATURE SENSOR FOR EACH CABINET; FURNISH AND INSTALL FIBERGLASS INSULATION FOR THE GEOTHERMAL SYSTEM CONDENSER WATER SUPPLY AND RETURN PIPES AND REMOVABLE JACKET TYPE INSULATION FOR THE GEOTHERMAL HEAT EXCHANGER UNIT; FURNISH AND INSTALL A DUCT SMOKE DETECTOR ON AIR HANDLING UNITS #1 AND #2, CONNECT THE DUCT SMOKE DETECTORS TO THE FIRE ALARM SYSTEM; MODIFY THE PUMP MOTOR CONTROL CENTER TO STOP PUMP OPERATION; FURNISH AND INSTALL A SUMP PUMP RUN SIGNAL; RECONFIGURE THE MULTIPLEXER INPUT AND OUTPUT MODULES BETWEEN THE WACHUSETT AQUEDUCT PUMP STATION AND THE CARROLL WATER TREATMENT PLANT OPERATIONS BUILDING.	7157	54	BHD/BEC 2015, A JOINT VENTURE	\$148,941.00
C-8.	01/30/19	SOUTHERN EXTRA HIGH PIPELINE - SECTION 111 (DEDHAM NORTH) REMOVE THE TOWN OF DEDHAM EXISTING VITRIFIED CLAY PIPE STORM DRAIN, FURNISH AND INSTALL NEW PVC PIPE; REMOVE AND REPLACE 30-FEET OF 12-INCH DEDHAM/WESTWOOD WATER DISTRICT WATER MAIN AND ISOLATION VALVE; ADDITIONAL EXCAVATION, BACKFILL AND PAVING TO SUPPORT EVERSOURCE IN THE REPAIR AND REPLACEMENT OF EXISTING LEAKING 2-INCH HIGH PRESSURE GAS MAIN AN SAWMILL LANE.	7504	4	P. GIOIOSO & SONS, INC.	\$159,986.58


PURCHASING DELEGATED AUTHORITY ITEMS JANUARY 1 - 31, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1	01/08/19	PURCHASE OF GRANITE MARKING PILLARS AWARD OF PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 18 GRANITE MARKING PILLARS FOR THE MULTI-COMMUNITY AQUEDUCTS TRAILS PROGRAM.	WRA-4596		QUINCY MEMORIALS, INC.	\$26,676.00
P-2	01/08/19	SUPPLY AND DELIVERY OF 3/4-INCH CRUSHED STONE AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 3/4-INCH CRUSHED STONE FOR IN-HOUSE PIPELINE WORK ON AN AS NEEDED BASIS.	WRA-4599Q		J&J LANDSCAPE SUPPLY CO., LLC	\$32,000.00
P-3	01/08/19	SUPPLY AND DELIVERY OF EMULSION POLYMER AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SUPPLY AND DELIVERY OF EMULSION POLYMER FOR THE PHOSPHORUS REDUCTION FACILITY AT THE CLINTON WASTEWATER TREATMENT PLANT.	WRA-4603		ARIES CHEMICAL, INC.	\$45,698.10
P-4	01/08/19	PURCHASE OF INDUSTRIAL CONTROLS SYSTEM CYBERSECURITY TRAINING AWARD OF A SOLE SOURCE PURCHASE ORDER FOR INDUSTRIAL CONTROLS SYSTEM CYBERSECURITY TRAINING FOR SCADA AND PICS STAFF.			MYJETAK, LLC D/B/A CYBATI	\$67,920.00
P-5	01/18/19	PURCHASE OF A NEW ARTICULATING DOUBLE DRUM ROLLER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE NEW ARTICULATING DOUBLE DRUM ROLLER FOR IN-HOUSE PIPELINE WORK IN ROADWAYS.	WRA-4626Q		ATS EQUIPMENT INC.	\$34,900.00
P-6	01/18/19	PURCHASE ORDER FOR SUPPLEMENTAL ENVIRONMENTAL PROJECT SETTLEMENT FOR SMART CONTROLS AWARD OF A PURCHASE ORDER FOR SMART CONTROLS FOR STREETLIGHTS IN CLINTON AS A SUPPLEMENTAL ENVIRONMENTAL PROJECT STEMMING FROM A CHEMICAL INCIDENT AT THE CLINTON TREATMENT PLANT.			CIMCON LIGHTING, INC.	\$44,048.00
P-7	01/22/19	PURCHASE OF GENERAL MOTORS AUTOMOTIVE TRAINING AWARD OF A ONE-YEAR PURCHASE ORDER FOR GENERAL MOTORS AUTOMOTIVE TRAINING FOR VEHICLE MAINTENANCE STAFF.			APPLIED AUTOMOTIVE TECHNOLOGY, INC.	\$31,200.00
P-8	01/22/19	PURCHASE OF ONE REVERSE BOOM CRANE AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE REVERSE BOOM CRANE FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4598Q		AIR TECHNICAL INDUSTRIES, INC.	\$62,317.00
P-9	01/28/19	MAINTENANCE AND SUPPORT FOR CITRIX NETSCALER APPLIANCES, AND NETSCALER AND WORKSPACE SUITE AND XENMOBILE LICENSES AWARD OF A PURCHASE ORDER CONTRACT TO THE LOWEST RESPONSIVE BIDDER UNDER STATE CONTRACT ITC47 FOR ONE YEAR MAINTENANCE AND SUPPORT OF CITRIX NETSCALER APPLIANCES, AND NETSCALER, WORKSPACE SUITE, AND XENMOBILE LICENSES USED TO MANAGE MOBILE DEVICES.	WRA-4610		INTRASYSTEMS INC.	\$117,933.80

POSITION CONTROL REGISTER (PCR) LOCATION CHANGES JANUARY 2019




DATE OF CHANGE	POSITION TITLE	CURRENT PCR#	CURRENT COST CENTER	NEW PCR #	NEW COST CENTER	REASON FOR CHANGE
1/5/2019	O&M Safety Specialist	2941006	Deer Island Operations and Maintenance	8910004	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Manager, Safety & Security	2941001	Deer Island Operations and Maintenance	8910002	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Program Manager, Security/Safety	1710008	Emergency Planning and Preparedness	8910009	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Acting Operations Specialist	56210078A	Operations Admin	8910007A	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Safety Program Coordinator	5210075	Operations Admin	8910008	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	O&M Safety Specialist	2941003	Deer Island Operations and Maintenance	8910003	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Sr Field Service Technician	2941007	Deer Island Operations and Maintenance	8910006	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/5/2019	Administrative Coordinator	2941008	Deer Island Operations and Maintenance	8910005	Occupational Health and Safety	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/12/2019	Program Manager, Energy Management	5210095	Operations Admin	2915019	Deer Island	Consolidation of all safety functions to the newly created Occupational Health and Safety Department
1/12/2019	Admin, Real Property and Environmental Management	8850008	Real Property Environmental Management	815011	Administration Director's Office	Elimination of Real Property/Environmental Management department which is being rolled into Administration, Directors Office.
1/19/2019	Real Property Project Manager	8850001	Real Property Environmental Management	8150012	Administration Director's Office	Elimination of Real Property/Environmental Management department which is being rolled into Administration, Directors Office.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Fiscal Year 2019 Mid-Year Capital Improvement Program Spending Report

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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

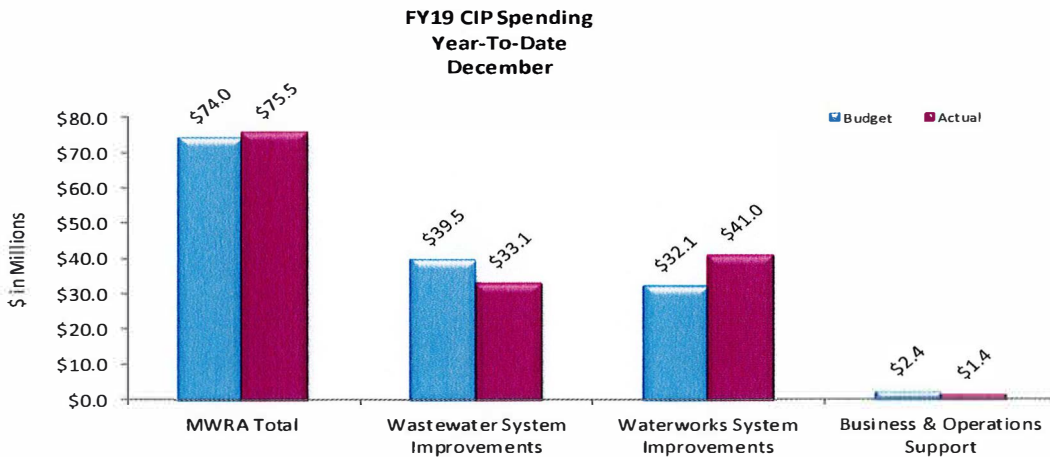

Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. The Fiscal Year 2019 Mid-Year Capital Improvement Program Spending Report highlights major capital program accomplishments and provides explanations for spending variances and schedule changes versus the budget.

DISCUSSION:

FY19 actual spending for the first half of the year is \$75.5 million compared to a budgeted amount of \$74.0 million which is \$1.5 million or 2.0% greater than budget. The projected spending for FY19, based on the FY20 Proposed CIP, is estimated at \$174.3 million versus the budget of \$179.2 million which is \$4.9 million or 2.7% less than budget as compared to the historical 18% variance below budget spending pattern. After accounting for programs which are not directly under MWRA's control, the projected spending for FY19 is estimated at \$122.9 million versus the budget of \$151.3 million which is \$28.4 million or 18.8% less than budget as compared with a historical 22% variance below budget spending pattern.



Projects that were completed or reached substantial completion in the first half of FY19 included:

Wastewater System Improvements

- Interceptor Renewal No. 1 Reading Extension Sewer
 - Total Project Cost: \$2.0 million
 - Completion Date: December 2018
 - Total Project Duration: 1.3 years

- Clinton Treatment Plant Phosphorus Reduction
 - Total Project Cost: \$7.5 million
 - Completion Date: September 2018
 - Total Project Duration: 2 years

- Residuals Sludge Tank and Silo Coating
 - Total Project Cost: \$0.7 million
 - Completion Date: September 2018
 - Total Project Duration: 1 year

- Deer Island Miscellaneous Variable Frequency Drives
 - Total Project Cost: \$0.5 million
 - Completion Date: November 2018
 - Total Project Duration: 1 year

Waterworks System Improvements

- Marlborough Maintenance Facility
 - Total Project Cost: \$3.7 million
 - Completion Date: July 2018
 - Total Project Duration: 1.2 years

- Northern Intermediate High Sections 89 & 29 Construction 1C
 - Total Project Cost: \$18.3 million
 - Completion Date: September 2018
 - Total Project Duration: 1.7 years

- Southern Extra High Section 111 Construction 1
 - Total Project Cost: \$12.5 million
 - Completion Date: September 2018
 - Total Project Duration: 2.2 years

- Carroll Treatment Plant Liquid Oxygen Storage Yard Canopy
 - Total Project Cost: \$0.3 million
 - Completion Date: December 2018
 - Total Project Duration: 0.7 years

Business and Operations Support

- As-Needed Design Contracts 14
 - Total Project Cost: \$1.5 million
 - Completion Date: September 2018
 - Total Project Duration: 2.2 years

- Miscellaneous Fencing and Gates
 - Total Project Cost: \$0.6 million
 - Completion Date: September 2018
 - Total Project Duration: 2.5 years

- As-Needed Design Contracts 15
 - Total Project Cost: \$1.5 million
 - Completion Date: December 2018
 - Total Project Duration: 2.5 years

- Maximo Upgrade
 - Total Project Cost: \$2.6 million
 - Completion Date: December 2018
 - Total Project Duration: 3.4 years

MWRA also has a number of projects currently in design or under construction. Life-to-date expenditures for some of the larger active contracts are:

Wastewater System Improvements

Project	FY19 Budget (\$ in millions)	Expenditures Thr. December 2018	% Complete
Chelsea Creek Headworks Upgrades Construction	\$80.5	\$39.1	49%
Alewife Brook Pump Station Rehabilitation	\$13.4	\$12.4	93%
Nut Island Odor Control and HVAC Design	\$5.7	\$2.8	49%
Prison Point Rehabilitation Engineering Services	\$3.1	\$1.7	55%
Deer Island HVAC Equipment Replacement Engineering Services	\$2.0	\$1.4	70%
Deer Island Winthrop Terminal Facility Variable Frequency Drives Construction	\$12.0	\$4.4	37%
Deer Island Gravity Thickener Rehabilitation	\$19.6	\$2.4	12%
Deer Island Fire Alarm System Replacement Design	\$2.1	\$0.7	33%
Deer Island Clarifier Rehabilitation Phase 2 Design	\$2.4	\$1.2	50%

Waterworks System Improvements

Project	FY19 Budget (\$ in millions)	Expenditures Thr. December 2018	% Complete
Wachusett Aqueduct Pumping Station Construction	\$49.9	\$49.9	100%
Northern Intermediate High Sections 89 and 29 Redundancy Phase 2 Construction	\$22.0	\$14.1	46%
Southern Extra High Section 111 Phase 2 Construction	\$17.4	\$9.9	57%
Southern Extra High Section 111 Phase 3 Construction	\$19.0	\$0.3	2%
Southern Extra High Redundancy Pipeline Phase 1 Design/Engineering Services During Construction	\$7.7	\$5.1	66%
Northern Intermediate High Sections 89 and 29 Redundancy Design/Engineering Services During Construction	\$6.3	\$5.6	89%
Northern Intermediate High Sections 89 and 29 Replacement Design/Engineering Services	\$3.9	\$0.9	23%
Northern Low Service Sections 50/57 Water and Sections 21/20/19 Sewer Design/Engineering Services During Construction	\$6.0	\$1.6	27%
Painting of Bellevue II and Turkey Hill Water Tanks	\$5.7	\$1.2	21%
Peabody Pipeline Design	\$3.5	\$1.4	40%

Community Financial Assistance

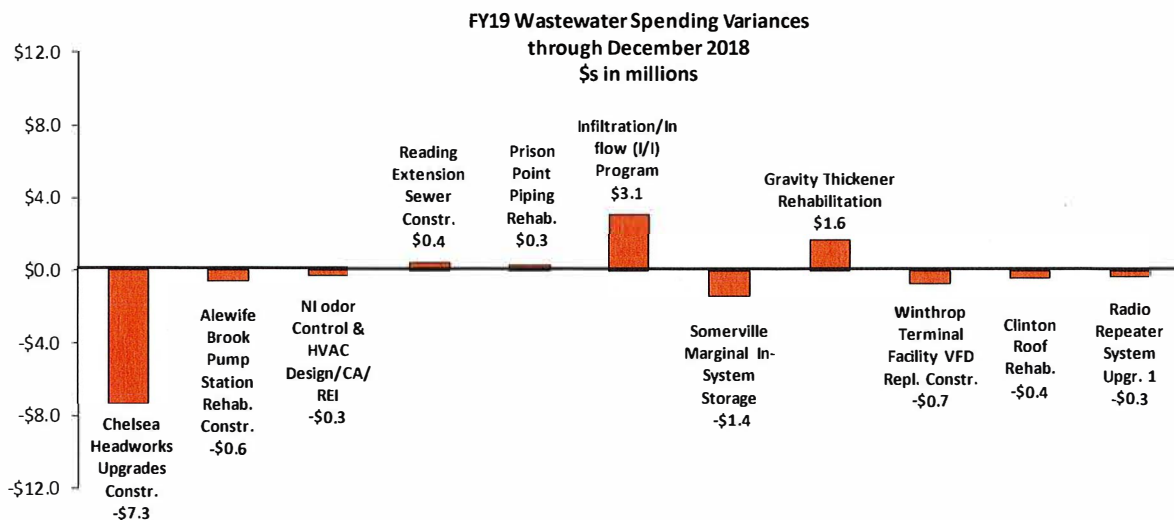
In the first half of FY19, MWRA continued support for the community financial assistance programs by providing funding distributions of \$42.0 million for wastewater infiltration and inflow (I/I) removal (\$16.3 million) and water pipeline improvements (\$25.7 million, including \$1.1 million for lead service replacement).

Major Variances to FY19 Budget

FY19 Capital Improvement Program Spending Through December 2018 (\$000s)					
Program	Budgeted Spending	Actual Spending	Variance to Budget		% of Total YTD Actual Spending
			\$	%	
Total Wastewater System	\$39,506	\$33,139	(\$6,367)	-16%	44%
Interception & Pumping	\$23,330	\$15,126	(\$8,205)	-35%	20%
Treatment	\$4,035	\$4,306	\$270	7%	6%
Residuals	\$653	\$449	(\$204)	0%	1%
Combined Sewer Overflow	\$1,997	\$657	(\$1,340)	-67%	1%
Other Wastewater Programs	\$9,490	\$12,601	\$3,110	33%	17%
Total Waterworks System	\$32,121	\$40,969	\$8,848	28%	54%
Drinking Water Quality Improvements	\$883	\$437	(\$446)	-51%	1%
Transmission	\$6,759	\$6,595	(\$163)	-2%	9%
Distribution and Pumping	\$18,936	\$20,130	\$1,194	6%	27%
Other Waterworks Programs	\$5,544	\$13,807	\$8,264	149%	18%
Business & Operations Support	\$2,418	\$1,416	(\$1,001)	-41%	2%
Total MWRA (without Contingency)	\$74,045	\$75,524	\$1,479	2%	100%

Wastewater System Improvements

Wastewater year-to-date spending was \$33.1 million, \$6.4 million or 16.1% less than budget. The graph below reflects contract variances greater than \$250,000:



The reasons for the variances are:

Interception & Pumping: Net underspending of \$8.2 million

- \$7.3 million for Chelsea Creek Upgrades Construction due to delays for Channel 1 work and odor control equipment delivery.
- \$0.6 million for Alewife Brook Pump Station construction due to contractor behind schedule for final work.
- \$0.3 million for Nut Island Odor Control and HVAC Design due to delay in completion of design documents.
- This underspending was partially offset by overspending of \$0.4 million for the Reading Extension Sewer and \$0.3 million for Prison Point Piping Rehabilitation for work scheduled for FY18 that was completed in FY19.

Other Wastewater: Net overspending of \$3.1 million

- \$3.1 million for Community I/I due to greater than budgeted requests for grants and loans.

Combined Sewer Overflow: Net underspending of \$1.3 million

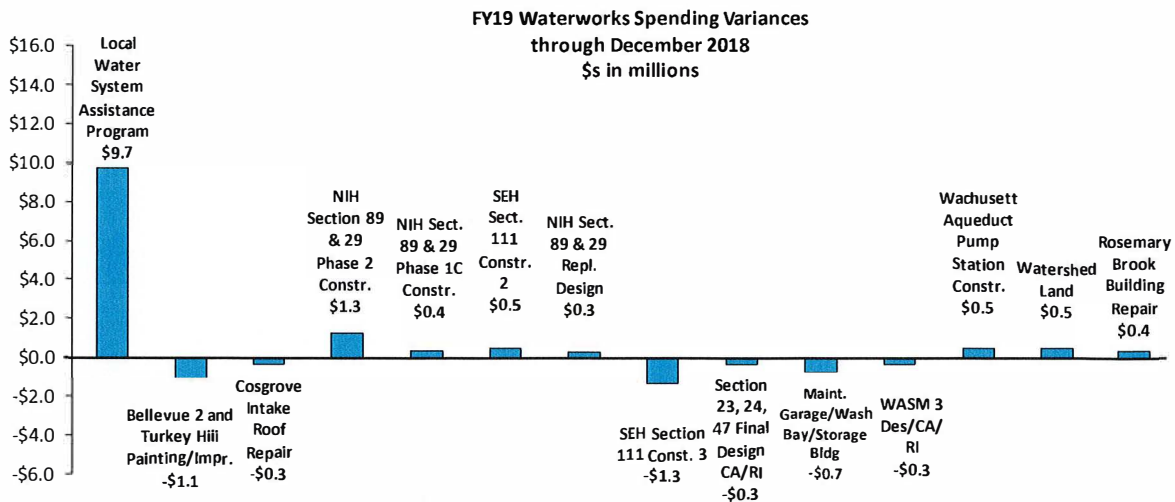
- \$1.4 million for Somerville Marginal In-System Storage due to the delay of the City of Somerville design and construction awards.

Wastewater Treatment: Net overspending of \$0.3 million

- \$1.6 million for Gravity Thickener Rehabilitation due to contractor progress, partially offset by underspending of \$0.7 million for Winthrop Terminal Facility VFD Replacement Construction due to motor commissioning testing problem, \$0.4 million for Clinton Roof Rehabilitation due to the delayed notice to proceed, and \$0.3 million for Radio Repeater System Upgrade 1 due to the delayed award.

Waterworks System Improvements

Waterworks actual spending was \$41.0 million, \$8.8 million or 27.5% greater than budget. The graph below reflects contract variances greater than \$250,000:



Other Waterworks: Net overspending of \$8.3 million

- \$9.7 million for the Local Water System Assistance Program due to greater than anticipated loan requests, partially offset by \$1.1 million for Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budget and additional structural repairs needed, and \$0.3 million for a delay in the notice to proceed of the Cosgrove Intake Roof Repair contract.

Water Distribution and Pumping: Net overspending of \$1.2 million

- Overspending of \$1.3 million for NIH Section 89 & 29 Phase 2 Construction, \$0.4 million for Phase 1C Construction, and \$0.5 million for Southern Extra High Section 111 Construction 2, and \$0.3 million for NIH Section 89 & 29 Replacement Design
- This overspending was partially offset by underspending of \$1.3 million for SEH Construction 3 due to delay in notice to proceed, and \$0.3 million for Section 23, 24, 47 Final Design CA/RI due to pending City of Newton MOA for pipe replacement and delayed utility relocation.

Waterworks Transmission: Net underspending of \$0.2 million

- \$0.7 million for Maintenance Garage/Wash Bay/Storage Building for schedule delay, and \$0.3 million for WASM 3 MEPA/Design/CA/RI for test pit work that was delayed.
- This underspending was partially offset by overspending of \$0.5 million for Wachusett Aqueduct Pumping Station construction due to contractor progress, \$0.5 million for timing of Watershed Land purchases, and \$0.4 million for Rosemary Brook Siphon Building Repair for FY18 work invoiced in FY19.

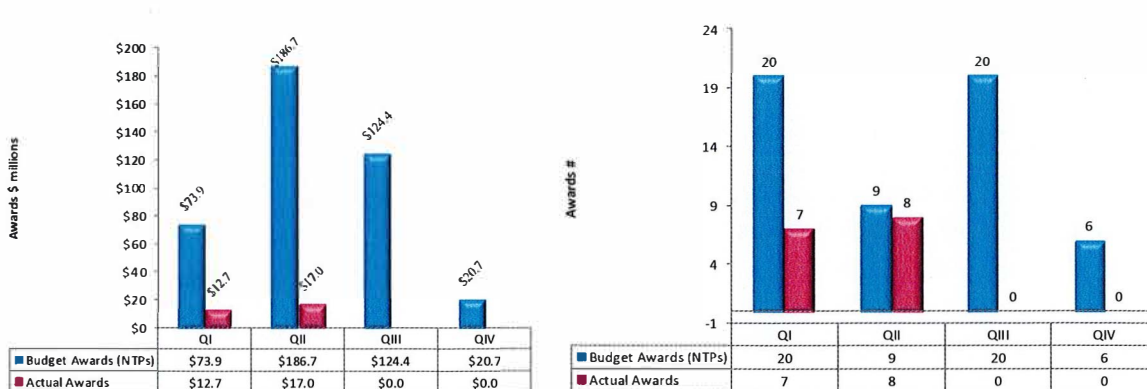
Business and Operations Support

Business and Operations Support spending is \$1.4 million, \$1.0 million or 41.4% less than budget. The underspending is primarily due to timing of task order work and final work for Maximo Upgrade.

Please refer to Attachment A for detailed FY19 CIP variance explanations.

Status of Contract Awards Planned for FY19

MWRA’s FY19 CIP projects 55 contract to be awarded valued at \$405.7 million. Through mid-year, MWRA has awarded 15 contracts with a value of \$29.7 million or 11.4% of the \$260.6 million planned.



As part of the FY20 CIP development and monthly CIP coordination meetings, staff have reviewed planned contract awards for FY19 and have updated assumptions based on new information. By the end of FY19, staff expect to award 21 additional contracts valued at \$74.0 million for a total of 36 contracts valued at \$103.7 million.

The primary reasons for not expecting to award all contracts in FY19 are:

- Six projects have been delayed due to changes in scope that have required additional work;
- Four projects whose schedules have been modified;
- Seven design projects have been deleted and are being either combined with another project or will be handled through as-needed technical assistance;
- Four projects with Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review; and
- One project was delayed due to permitting.

The table below summarizes the total number of capital contract awards planned for FY19 and highlights the number planned for award during the second half of FY19.

Please refer to Attachment B for contract award status for all FY19 budgeted contracts.

Recap of Planned FY19 Contract Awards

	# of Awards	\$ Award
Total Planned Awards per FY19 CIP	55	\$ 405.7
Actual Awards in First Half FY19	12	28.3
Actual Unplanned Awards in First Half FY19	3	1.4
Planned Awards in Second Half of FY19	21	74.0
Subtotal	36	103.7
Shifted Beyond FY19 - Scope/Priority Change/Issues/Permit	15	284.0
Deleted/Transferred from CIP/Project on hold	7	22.2
Total Projects Planned to be awarded in FY19	36	\$ 103.7

The following contracts were awarded in the first half of FY19:

- Intermediate High Pipeline Improvements Design/Engineering Services During Construction - \$6.5 million
- Carroll Water Treatment Plant SCADA Upgrade Design Program/Resident Engineering - \$4.7 million
- Bellevue II and Turkey Hill Tank Painting - \$4.0 million
- Weston Aqueduct Supply Mains/Spot Pond Supply Mains Pressure reducing Valves Design/Engineering Services During Construction - \$2.8 million
- Braintree-Weymouth Pump Station Improvements Design/Engineering Services During Construction - \$2.1 million
- Section 56 Pipe Demolition Construction - \$1.9 million
- As-Needed Construction Services/Resident Engineering Inspection Contract 1 - \$1.5 million

- As-Needed Construction Services/Resident Engineering Inspection Contract 2 - \$1.5 million
- Remote Headworks and Deer Island Shaft Study - \$1.4 million
- Cosgrove Intake Roof Replacement - \$0.9 million
- Cathodic Protection Shafts E and L - \$0.9 million
- Clinton Roofing Rehabilitation - \$0.7 million
- Miscellaneous Fencing Installations and repairs - \$0.5 million
- Information Technology Technical Consultant Services to Implement Water Quality Reporting System - \$0.3 million
- Deer Island Radio Repeater System Upgrades Phase 1 - \$0.2 million

Major Awards Planned for the 2nd Half of FY19

Looking ahead to the second half of FY19, the MWRA anticipates awarding several major construction contracts. The largest of these projects are listed below:

Major Planned Construction Contract Awards for Second Half of FY19		
Project	Contract	FY19 Budget in Millions
New Connecting Mains - Shaft 7 to WASM 3	CP-3 Sections 23, 24, 47 Rehabilitation	\$14.3
DI Treatment Plant Asset Protection	Motor Control Center and Switchgear Replacement Construction	10.6
Residuals Asset Protection	Mechanical/Electrical/Drum Dryer Replacements	7.0
Metropolitan Redundancy Interim Improvements	Commonwealth Avenue Pump Station Improvements Construction (awarded in January)	7.0
DI Treatment Plant Asset Protection	Chemical Tank Relining and Digester Pipe Replacement	6.5
Facility Asset Protection	Interceptor Renewal 3 Dorchester Interceptor Sewer	5.6
Waterworks Facility Asset Protection	Deer Island Water Tank Painting (awarded in January)	3.9
Residuals Asset Protection	Pellet Plant Piping Relocate	3.0
Total		\$57.9

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

Major Planned Professional Services Awards for Second Half of FY19		
Project	Contract	FY19 Budget in millions
Metropolitan Redundancy Interim Improvements	Chestnut Hill Emergency Pumping Station Design/Construction Administration	\$6.7
NHS Revere and Malden Pipeline Improvements	Sections 53 and 99 Connections Design/Construction Administration	4.8
Deer Island Treatment Plant Asset Protection	South System Pump Station VFD Replacement Design/Engineering Services During Construction/Resident Engineering Inspection	4.5
Waterworks Facility Asset Protection	Steel Tank Improvements Design/Construction Administration	3.3
NHS Revere and Malden Pipeline Improvements	Section 56 Replacement Saugus Design/Construction Administration	2.0
Total		\$21.3

In the second half of the FY19, MWRA also anticipates substantial completion on major contracts including Wachusett Aqueduct Pumping Station, Alewife Brook Pumping Station rehabilitation, DeLauri Pumping Station Screens and Security Upgrade, Bellevue II and Turkey Hill Tanks Painting, and Section 56 Pipe Demolition Construction.

ATTACHMENTS:

- A. FY19 CIP Variance Explanations through December 2018
- B. FY19 CIP Contract Award Update

**ATTACHMENT A
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$23,330	\$15,126	(\$8,205)	-35.2%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$7.4M (due to timing of odor control equipment delivery and delay in commissioning channel 1) Alewife Brook Pump Station Rehab - Construction: \$619k (contractor behind schedule for final work) Nut Island Odor Control & HVAC Design/CA/REI: \$327k (delay in completion of design documents) Wastewater Meter System Planning/Study/Design: \$243k (due to additional time for acquisition of metering data) Remote Headworks & Deer Island Shaft Study: \$185k (schedule shift) Wastewater Central Monitoring Equipment/Hardware: \$100k (timing of purchases) Miscellaneous contracts totaling \$163k. <u>Offset Overspending</u> Interceptor Renewal 1, Reading Extension Sewer - Construction: \$446k, and Prison Point Pipeline Rehabilitation - Design/CA/RI: \$262k (work scheduled for FY18 performed in FY19) Alewife Brook Pump Station Final Design/CA/REI: \$124k (greater than anticipated RE services)
Treatment	\$4,035	\$4,306	\$270	6.7%	<u>Overspending</u> Gravity Thickener Rehab: \$1.6M (contractor progress) <u>Offset Underspending</u> WTF VFD Replacement - Construction: \$722k (due to motor commissioning testing problem) Clinton Roofing Rehabilitation: \$370k (schedule shift) Radio Repeater System Upgrades - Phase 1: \$250k (award delayed and was less than budgeted)
Residuals	\$653	\$449	(\$204)	-31.2%	<u>Underspending</u> Electrical Improvements \$179k and Mechanical Improvements \$150K: (scope of work incorporated into Electrical, Mechanical, & Drum Replacements contract) <u>Offset Overspending</u> Sludge Tank & Silo Coating: \$125k (due to work scheduled for FY18 completed in FY19)

ATTACHMENT A
FY19 CIP Year-to-Date Variance Report (000's)

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
CSO	\$1,997	\$657	(\$1,340)	-67.1%	<u>Underspending</u> Somerville Marginal In-System Storage: \$1.4M (shift in Somerville design and construction schedule) Offset Overspending CSO Performance Assessment: \$103k (timing of executed task orders)
Other Wastewater	\$9,490	\$12,601	\$3,110	32.8%	<u>Overspending</u> I/I Local Financial Assistance: \$3.1M (greater than budgeted requests for grants and loans)
Total Wastewater	\$39,506	\$33,139	(\$6,367)	-16.1%	

**ATTACHMENT A
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$883	\$437	(\$446)	-50.5%	<u>Underspending</u> Technical Assistance: \$312k (due to timing of task order work) Miscellaneous contracts totaling \$134k
Transmission	\$6,759	\$6,595	(\$163)	-2.4%	<u>Underspending</u> Maintenance Garage/Wash Bay/Storage Building: \$675k (schedule shift) WASM 3 - MEPA/Design/CA/RI: \$282k (test pits work delayed) Commonwealth Avenue Pump Station Improvements - Design/CA/RI: \$232k (CA & RI services delayed pending award of construction contract) Wachusett Aqueduct Pump Station - Design/ESDC/RI: \$220k (ESDC & RI task orders pending reallocation) <u>Offset Overspending</u> Wachusett Aqueduct Pump Station - Construction: \$482k (due to project progress) Watershed Land Acquisition: \$475k (timing of land purchases) Rosemary Brook Siphon Building Repair: \$386k (timing of final payment)
Distribution & Pumping	\$18,936	\$20,130	\$1,194	6.3%	<u>Overspending</u> NIH Section 89/29 Redundancy Phase 1B and 1C and Phase 2 : \$1.9M, Section 89/29 Replacement - Design: \$297k, Section 56 Pipe Demolition - Construction: \$190k, SEH Redundancy Pipeline Section 111 - Construction 2: \$501k, and Section 89 & 29 Redundancy - Design: \$138k (all due to project progress) Miscellaneous contracts totaling \$149k. <u>Offset Underspending</u> SEH Redundancy Pipeline Section 111 - Construction 3: \$1.3M (due to delay in notice to proceed) New Connecting Mains CP3 (Sect 23,24,47) - Final Design/CA/RI: \$293k (pending City of Newton MOA for pipe replacement and delayed utility relocation) Peabody Pipeline Design/ESDC/REI: \$208k (contract terminated) Section 14 Water Pipe Relocation (Malden): \$180k (work scheduled for FY19 performed in FY18)
Other Waterworks	\$5,544	\$13,807	\$8,264	-	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$9.7M (greater than budgeted requests for loans) <u>Offset Underspending</u> Bellevue II & Turkey Hill Water Tanks Repainting: \$1.1M (award less than budgeted) Cosgrove Intake Roof Replacement: \$320k (schedule shift)

ATTACHMENT A
FY19 CIP Year-to-Date Variance Report (000's)

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Total Waterworks	\$32,121	\$40,969	\$8,848	27.5%	
Business & Operations Support					
Total Business & Operations Support	\$2,418	\$1,416	(\$1,001)	-41.4%	<u>Underspending</u> As-Needed Technical Assistance: \$639k (due to timing of task order work) MIS Projects: \$290k (mostly due to timing of final MAXIMO upgrade work)
Total MWRA	\$74,045	\$75,524	\$1,479	2.0%	

ATTACHMENT B
FY19 Final CIP Planned Contract Awards

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$000s)	Award Amount	Vendor	Schedule Change Reason Code *
Application Improvements Program	7286	Lawson Enhancements	Jul-18	Jul-21	\$2.7			6
Application Improvements Program	7438	Enterprise Content Management	Jul-18	Apr-19	\$1.3			3
Information Technology Management Program	7408	Technical Consulting Services to Implement Water Quality Reporting System	Jul-18	Nov-18	\$0.2	\$0.3	Overture Partners, LLC	1
Facility Asset Protection	7237	Remote Hdwks & DI Shaft Study	Jul-18	Sep-18	\$0.8	\$1.4	Mott MacDonald, LLC	1
Residuals Asset Protection	7152	Electrical Improvements	Jul-18	Will be combined with Mechanical Improvements and Drum Dryer Replacement.	\$2.2			2
Waterworks Facility Asset	7634	Paint Bellevue II and Turkey Hill Tanks	Jul-18	Aug-18	\$5.7	\$4.0	Worldwide Industries Corp.	1
Dam Projects	7614	Sudbury/Foss Dam Design Construction Administration/Resident Inspection	Jul-18	Apr-19	\$0.2			3
Metropolitan Redundancy Interim Improvements	7560	Tops of Shaft Design/Construction Administration/Resident Inspection	Jul-18	Contract deleted. Will use As-Needed Design.	\$2.2			2
Metropolitan Redundancy Interim Improvements	7575	Weston Aqueduct Supply Mains/Spot Pond Supply Mains Pressure Reducing Valves Design/Engineering Services During Construction	Jul-18	Jul-18	\$4.2	\$2.8	CDM Smith	1
DI Treatment Plant Asset Protection	7094	HVAC Equipment Replacement Resident Engineering Inspection	Aug-18	Jul-19	\$2.0			5
DI Treatment Plant Asset Protection	7110	HVAC Equipment Replacement - Construction	Aug-18	Jul-19	\$40.2			5

**ATTACHMENT B
FY19 Final CIP Planned Contract Awards**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$000s)	Award Amount	Vendor	Schedule Change Reason Code *
Waterworks Facility Asset Protection	7022	Cosgrove Intake Roof Replacement	Aug-18	Sep-18	\$0.6	\$0.9	Greenwood Industries	1
Capital Maintenance Planning & Support	7629	As-Needed Construction Services/Resident Engineering Inspection Contract 1	Sep-18	Sep-18	\$1.5	\$1.5	Kleinfelder Northeast, Inc.	1
Capital Maintenance Planning & Support	7630	As-Needed Construction Services/Resident Engineering Inspection Contract 2	Sep-18	Sep-18	\$1.5	\$1.5	MWH Construction	1
Braintree-Weymouth Relief Facilities	7435	Braintree/Weymouth Pump Station Improvements - Design/Engineering Services During Construction	Sep-18	Nov-18	\$1.9	\$2.1	Wright-Pierce	1
Residuals Asset Protection	7173	Pellet Piping - Relocate	Sep-18	Apr-19	\$3.0			3
DI Treatment Plant Asset Protection	7167	Gas Protect System Replacement Phase 1	Sep-18	Jun-19	\$1.0			3
DI Treatment Plant Asset Protection	7273	Gravity Thickener Overflw Pipe Replacement	Sep-18	Will be combined with contract 7449.	\$1.5			2
Waterworks Facility Asset Protection	6888	Gillis PS/CF Roof Replacement	Sep-18	Mar-19	\$0.4			3
Waterworks Facility Asset Protection	7025	Generator Docking Station	Sep-18	Feb-19	\$0.8			3
NHS - Revere & Malden Pipeline Improvements	7485	Sect 53 and 99 Connection- Design Construction Administration/Resident Inspection	Oct-18	May-19	\$4.8			3
New Connect Mains-Shaft 7 to WASM 3	6955	Intermediate High Pipeline Improvements Design and Engineering Services During Construction	Oct-18	Jan-19	\$2.7	\$6.5	CDM Smith Inc.	1

**ATTACHMENT B
FY19 Final CIP Planned Contract Awards**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$000s)	Award Amount	Vendor	Schedule Change Reason Code *
Waterworks Facility Asset Protection	7542	Water Meter Upgrade Design Construction Administration/Resident Inspection	Oct-18	Work will be done under a Technical Assistance contract.	\$0.2			2
Metropolitan Redundancy Interim Improvements	7574	Chestnut Hill Emergency Pump Station Design/Construction Administration/Resident Inspection	Oct-18	Mar-19	\$6.7			3
Facility Asset Protection	7421	Sections 4, 5, 6, 186 - Design Construction Administration/Resident Inspection	Nov-18	Jul-19	\$1.7			6
Facility Asset Protection	7551	Wiggins Term Pump Station Design	Nov-18	Work will be done under a Technical Assistance contract.	\$0.5			2
DI Treatment Plant Asset Protection	7395	Clarifier Rehabilitation Phase 2 - Construction	Nov-18	Jul-19	\$129.9			7
Corrosion & Odor Control	7548	Nut Island Odor Ctrl HVAC Improvements Construction Phase 2	Dec-18	Jul-19	\$38.2			4
Clinton Wastewater Treatment Plant	7372	Valves & Screw Pumps Replacement	Dec-18	Jun-19	\$1.9			3
July 2018 - December 2018		29 Contracts Planned			\$260.6	\$20.9		
MWRA Facilities Management	6983	Design/Engineering Services	Jan-19	Jul-19	\$0.2			6
Siphon Structure Rehabilitation	6224	Design/Construction Services/Resident Inspection	Jan-19	Apr-19	\$1.5			3
Wastewater Meter System-Equipment Replacement	7639	Meter Modems-Antenna Replacement	Jan-19	Work being done under the Current Expense Budget.	\$0.4			2

**ATTACHMENT B
FY19 Final CIP Planned Contract Awards**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$000s)	Award Amount	Vendor	Schedule Change Reason Code *
DI Treatment Plant Asset Protection	6963	Combined Heat & Power Alternatives Study	Jan-19	Mar-19	\$0.8			3
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Jan-19	Aug-19	\$20.0			7
DI Treatment Plant Asset Protection	7426	Fire System Replacement - Resident Engineering Inspection	Jan-19	Aug-19	\$2.1			7
NHS - Revere & Malden Pipeline Improvements	7454	Section 56 Replacement/Saugus Design Construction Administration/Resident Inspection	Jan-19	Jun-19	\$2.0			3
NHS - Revere & Malden Pipeline Improvements	7536	Section 56 Pipe Demolition Construction	Jan-19	Oct-18	\$1.5	\$1.9	R. Zoppo	1
Cathodic Protection Of Distribution Mains	6440	Cathodic Protection Shafts E&L	Jan-19	Oct-18	\$0.9	\$0.9	CorTech	1
Southern Spine Distribution Mains	7155	Section 22 North - Facility Plan/Environmental Impact Report	Jan-19	Jun-19	\$1.0			3
Central Monitoring System	7581	CWTP SCADA Upgrade Design Program Resident Engineering	Jan-19	Jan-19	\$4.1	\$4.7	Arcasis U.S., Inc.	1
Metropolitan Tunnel Redundancy	7159	Conceptual Design Environmental Impact Report	Jan-19	Apr-20	\$9.0			5
Metropolitan Redundancy Interim Improvements	7524	Commonwealth Ave Pump Station Improvements Construction	Jan-19	Jan-19	\$7.0			3
DI Treatment Plant Asset Protection	7126	South System Pump Station VFD Replace Design/Engineering Services During Construction/Resident Engineering Inspection	Feb-19	Jun-19	\$4.5			3
DI Treatment Plant Asset Protection	7397	Clarifier Rehabilitation Phase 2 - Resident Engineering Inspection	Feb-19	Jul-19	\$3.0			7

**ATTACHMENT B
FY19 Final CIP Planned Contract Awards**

Program / Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	Total Contract Amount (\$000s)	Award Amount	Vendor	Schedule Change Reason Code *
DI Treatment Plant Asset Protection	7420	Motor Control Center & Switchgear Replacement Construction	Feb-19	Jun-19	\$10.6			3
Peabody Pipeline Project	6893	Peabody Pipeline Construction	Feb-19	Project deleted.	\$15.2			2
Waterworks Facility Asset Protection	6832	Steel Tank/Improvements Design Construction Administration/Resident Inspection	Feb-19	May-19	\$3.3			3
Facility Asset Protection	7279	Interceptor Renewal 3, Dorchester Interceptor Sewer - Construction	Mar-19	Jun-19	\$5.6			3
Facility Asset Protection	7462	Prison Point Rehabilitation - Construction	Mar-19	Jul-19	\$31.7			5
DI Treatment Plant Asset Protection	6723	E Seawall Design/Engineering Services During Construction/Resident Engineering Inspection	Apr-19	Apr-19	\$0.7			3
DI Treatment Plant Asset Protection	7134	Radio Repeater System Upgrade 2	Apr-19	May-19	\$2.5			3
New Connect Mains-Shaft 7 to WASM 3	6392	CP3-Sect 23,24,47, Rehabilitation	Apr-19	Apr-19	\$14.3			3
Metropolitan Redundancy Interim Improvements	7599	Shafts 5 and 9 Bldg Improvements Design Construction Administration/Resident Inspection	Apr-19	Oct-19	\$0.8			6
Sudbury/Weston Aqued. Repairs	7369	Weston Aqueduct Sluice Gates - Construction	May-19	Sep-19	\$1.1			5
Facility Asset Protection	7554	Fuel Oil Tank Repl Construction Phase 1	Jun-19	Nov-19	\$1.4			5
January 2019 - June 2019		26 Contracts Planned			\$142.6	\$7.4		

FY19 55 Planned Contract Awards 12 awarded Through December 2018

\$405.7


\$28.3

ATTACHMENT B
FY19 Final CIP Planned Contract Awards

*** Reason Codes:**

1. NTP issued in first half of FY19.
2. Project/Phase eliminated or being performed in-house; or phase completed but on hold.
3. NTP expected January 2019 - June 2019.
4. Schedule change due to permitting.
5. Scope changes.
6. Changes in priorities.
7. Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review

STAFF SUMMARY

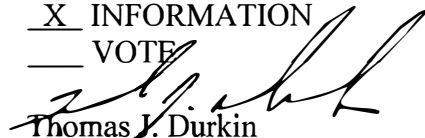
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: FY19 Financial Update and Summary Through January 2019

COMMITTEE: Administration, Finance & Audit

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



INFORMATION
 VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2019 through January 2019, comparing actual spending to the budget.

DISCUSSION:

Starting this month, MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of using these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority's multi-year rate management strategy. As such, in January the year-to-date debt related savings of \$4.7 million was transferred to the Defeasance Account. This favorable variance is the result of the lower than budgeted variable rates. Staff have already identified candidates for year-end defeasance and included the impact of the FY19 defeasance in the Proposed FY20 budget and planning estimates. It is noteworthy to mention that the favorable budget variance from the variable rate bonds is reduced this year relative to past years due to rising interest rates.

The total Year-to-Date variance for the FY19 CEB is \$6.7 million, due to lower direct expenses of \$4.5 million and indirect expenses of \$0.4 million; and higher revenue of \$1.8 million. The year-end favorable variance is projected at \$15.1 million, of which \$8.3 million is related to debt service. Beyond debt service savings, staff project a surplus of approximately \$6.8 million at year-end of which \$4.1 million would be from lower direct expenses, \$0.2 million from lower indirect expenses, and \$2.5 million from greater than budgeted revenues.

As the year progresses and more actual spending information becomes available, staff will continue to refine the year-end projections and update the Board accordingly.

FY19 Current Expense Budget

The CEB expense variances through January 2019 by major budget category were:

- Net Lower Direct Expenses of \$4.5 million or 3.3% under budget. Spending was lower for Wages & Salaries, Maintenance, Professional Services, Other Materials, and Fringe Benefits. This is offset by higher spending on Utilities, Other Services, Overtime, Chemicals, Worker's Compensation, and Training & Meetings.
- Lower Indirect Expenses of \$0.4 million or 1.6%, due to lower expenses for the low voltage switchgear upgrades related to the HEEC cable and lower Watershed reimbursements due to a FY2018 year-end over accrual.

FY19 Budget and FY19 Actual Year-to-Date Variance by Expenditure Category
(in millions)

	FY19 Budget YTD	FY19 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$135.8	\$131.3	-\$4.5	-3.3%
Indirect Expenses	\$26.3	\$25.8	-\$0.4	-1.6%
Capital Financing	\$269.3	\$269.3	\$0.0	0.0%
Total	\$431.4	\$426.5	-\$4.9	-1.1%

Totals may not add due to rounding

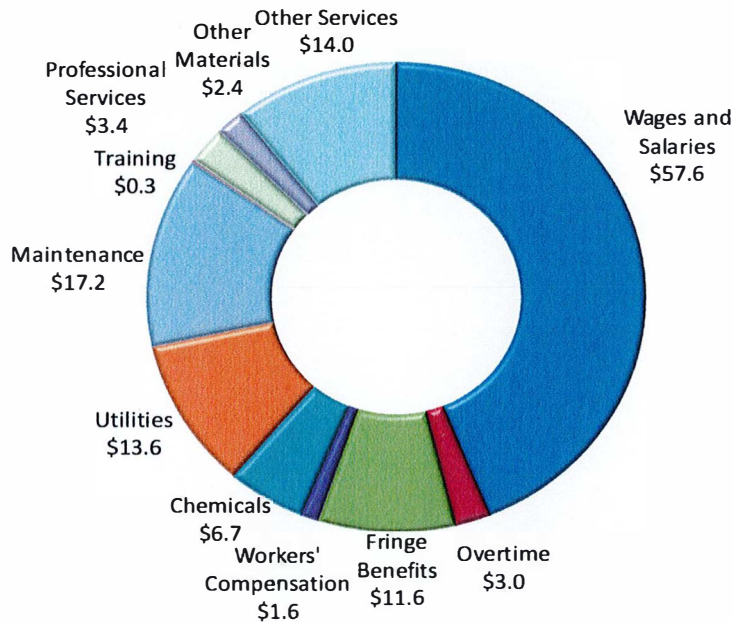
Total Revenues of \$446.4 million were \$1.8 million or 0.4% over budget. The majority of the variance is pertaining to the favorable short-term rates for investment income.

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

Direct Expenses

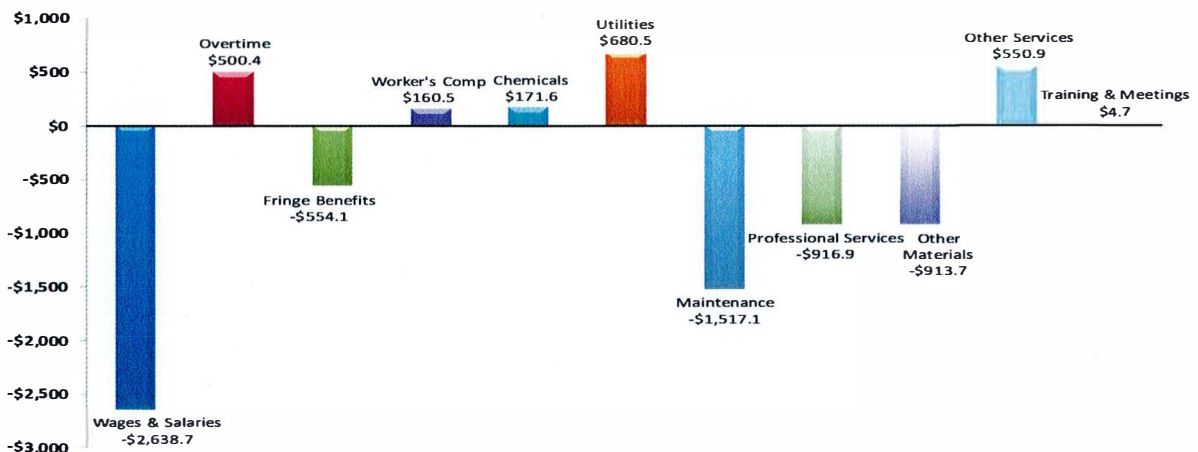
Year-to-date direct expenses totaled \$131.3 million, which was \$4.5 million or 3.3% less than budgeted.

**FY19 Year-to-Date Direct Expenses
(in millions)**



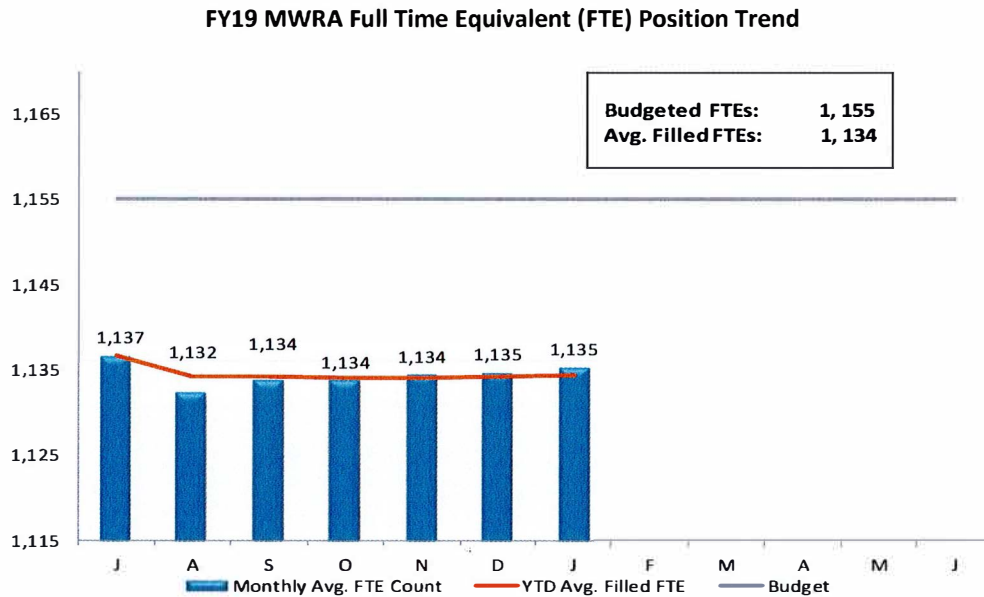
Lower than budgeted spending for Wages and Salaries, Maintenance, Professional Services, Other Materials, Fringe Benefits, and Training and Meetings was partially offset by higher spending for Utilities, Other Services, Overtime, Chemicals, and Worker's Compensation.

**FY19 Year-to-Date Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries are under budget by \$2.6 million or 4.4%. Year to date, there have been 21 fewer average FTEs (1,134 versus 1,155 budget) and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions, and lower leave balance accruals also contributed to Regular Pay being under budget.



Maintenance

Maintenance was under budget by \$1.5 million or 8.1%, of which \$1.1 million is attributable to Field Operations and \$0.4 million is attributable to Deer Island. Much of the underspending in Field Operations is due to the timing delays for projects that will be completed later in FY19 than budgeted or due to the shift of projects from the CEB to the CIP after reassessing the scope and costs. Underspending at Deer Island is primarily due to the timing delays in FY19 for numerous smaller, planned projects and purchases that will be completed later in FY19 than budgeted.

Professional Services

Professional Services were under budget by \$0.9 million or 21.5%. The overall underspending year-to-date is due to Other Professional Services in Human Resources, Finance, and Law; Engineering Services in Operations; Computer System Consultants in MIS; Legal Services in Law and Human Resources; and Lab Testing and Analysis in EnQual Wastewater and Lab Services.

Other Materials

Other Materials were under budget by \$0.9 million or 27.7%, largely driven by the timing of purchases related to Computer Hardware and Equipment/Furniture. This is offset by overspending for Postage, Lab and Testing Supplies in Department of Laboratory Services, and Work Clothes in Operations.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$0.6 million or 4.6%. This is primarily driven by lower Health Insurance costs of \$0.5 million due to fewer employees and retirees participating in health insurance plans, the change to the ratio of employee contribution for past employees versus new hires that contribute at a higher percentage, and change from family to individual plans which are less costly.

Utilities

Utilities were overspent by \$0.7 million or 5.3%. Electricity overspending of \$0.6 million is primarily at Deer Island due to price. In addition, Diesel Fuel was overspent by \$0.1 million in Wastewater Operations due to timing of deliveries.

Other Services

Other Services were over budget by \$0.6 million or 4.1%. The main area of overspending was for Sludge Pelletization (\$0.9 million) due to higher year-to-date quantities. This overage was offset by lower spending in Other Services (\$0.2 million) for a number of services and includes the timing of Technical Assistance for Lead issues, the timing of remediation projects managed by Real Property/Environmental Management and Memberships/Dues/Subscriptions (\$0.1 million) in Operations due to timing.

Overtime

Overtime expenses were higher than budget by \$0.5 million or 19.7%. The over spending for the fiscal year was mainly in Wastewater Operations due to wet weather events.

Chemicals

Chemicals were higher than budget by \$0.2 million or 2.6%. The majority of the variance for Chemicals was the result of higher Sodium Hypochlorite usage at Deer Island and Wastewater Operations due to wet weather; higher Activated Carbon at Nut Island Headworks and Braintree/Weymouth Intermediate Pump Station; higher Ferric Chloride at Deer Island and Clinton; higher Sodium Bisulfite usage at Deer Island and in Wastewater Operations; and higher Sodium Hypochlorite at the Carroll Water Treatment Plant due to higher usage of Wachusett Reservoir water versus the higher quality water from the Quabbin Reservoir, which required higher dosages to disinfect the water. This is offset by lower spending for Soda Ash at Carroll Water Treatment Plant and lower Hydrogen Peroxide at Deer Island. Through January, Deer Island flows are 14.5% greater than budget and the Carroll Plant flows are 2.8% less than budgeted.

Worker's Compensation

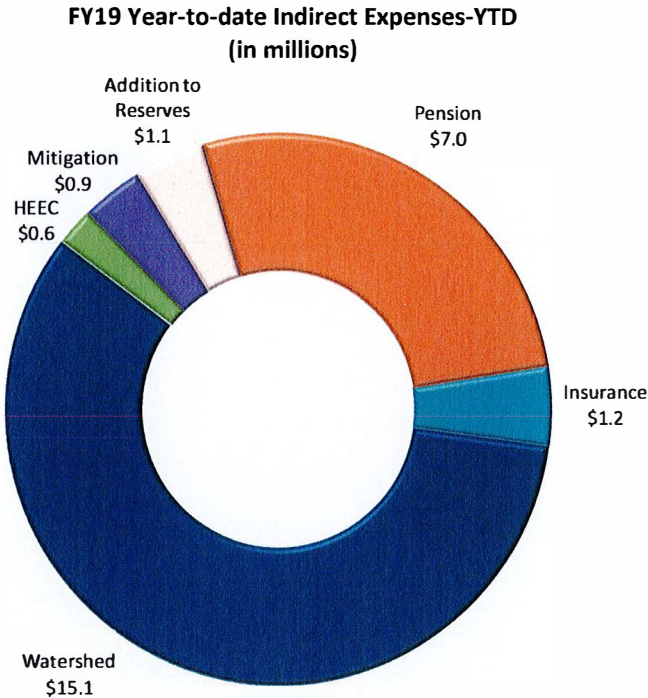
Worker's Compensation expenses were higher than budget by \$0.2 million or 11.4%. The higher expenses were primarily due to higher compensation payments and net reserves changes (\$255,000), which are offset by lower medical payments and net reserve changes (\$48,000) and administrative expenses of (\$47,000).

Training & Meetings

Training & Meetings expenses were slightly higher than budgeted by \$5,000 or 1.9%.

Indirect Expenses

Year-to-date Indirect Expenses totaled \$25.8 million, which is \$0.4 million or 1.6% under budget. There are variances within the lines that comprise Indirect Expenses, including lower HEEC cable costs and Watershed costs. HEEC charges are under budget by \$0.2 million for the low voltage switchgear upgrades. Watershed costs are lower than budget by \$0.2 million due to an over-accrual at the end of FY18 on Watershed operating expenses. Staff typically need to close the fiscal year prior to receiving the final invoice from DCR, so an estimated amount is accrued based on recent history.

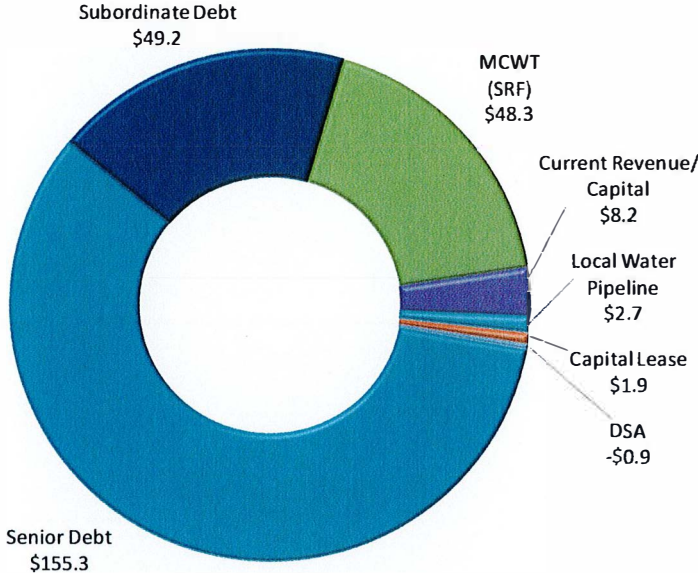


Capital Financing

Capital Financing expenses include the principal and interest payments for fixed 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, and the Chelsea facility lease payment.

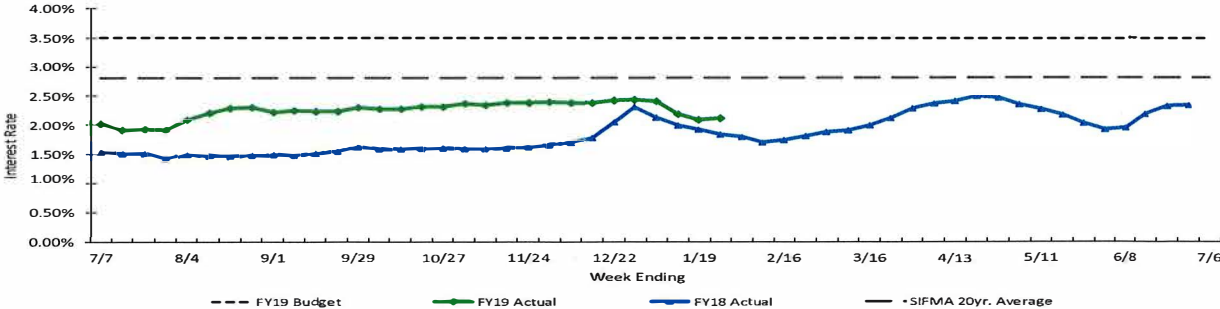
Year-to-date Capital Financing expenses for FY19 totaled \$269.3 million, which is right on budget after the transfer of \$4.7 million of year-to-date surplus to the Defeasance Account. The surplus is primarily attributable to short-term variable rates. As in the past, staff have already identified candidates for the proposed FY19 defeasance which will have favorable impacts in the FY20-23 period.

**Year-to-date FY19 Capital Finance
(in millions)**



The graph below reflects the FY19 actual variable rate trend by week year-to-date against the FY19 Budget.

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



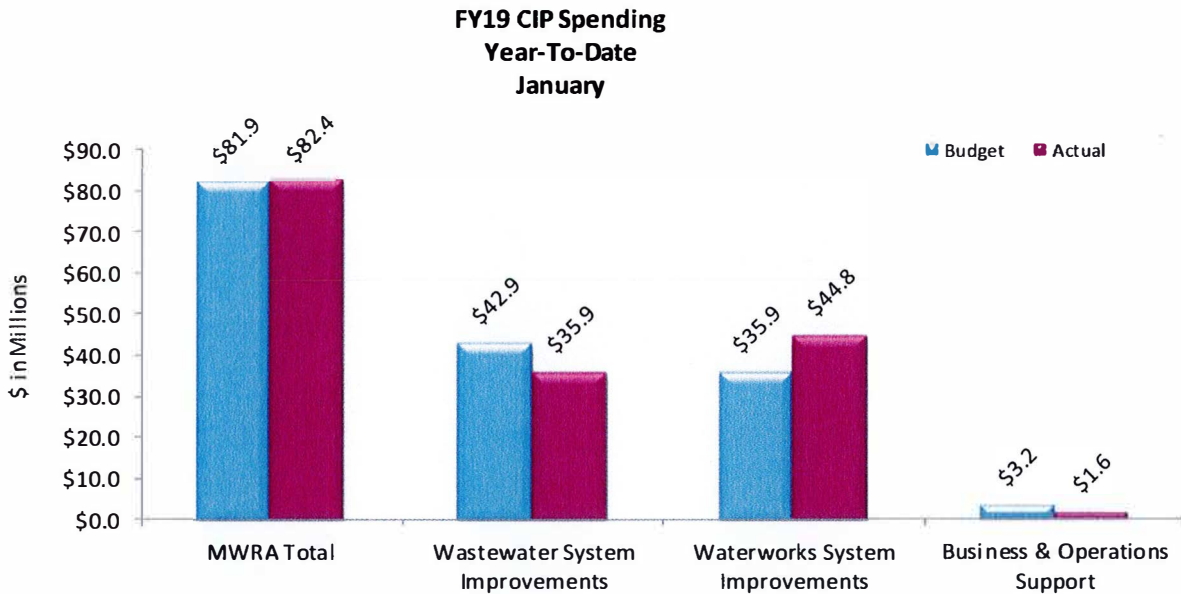
Revenue & Income

Year-to-date Revenues of \$446.4 million were over budget by \$1.8 million or 0.4%. Investment income was over budget by \$1.3 million due to favorable returns on investment income (average short-term rates were higher than budgeted: 2.33% vs. 1.75%). In addition, there were favorable variances on the income from the disposal of equipment (\$0.3 million), and for Miscellaneous Revenue (\$0.2 million).

FY19 Capital Improvement Program

Capital expenditures in Fiscal Year 2019 through January total \$82.4 million, \$0.4 million or 0.5% over 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 Pipeline loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$57.1 million, \$12.4 million or 17.8% under budget.



Overall CIP spending reflects the overspending of \$9.0 million in Waterworks Improvements, and underspending of \$6.9 million in Wastewater Improvements, and \$1.6 million in Business and Operations Support. Major variances in Waterworks are primarily due to greater than anticipated community requests for loans and contractor progress on the Section 56 Pipe Demolition Construction, Southern Extra High (SEH) Section 111 Construction 2, Northern Intermediate High (NIH) Section 89 & 29 Construction Phases 2 and 1C, Wachusett Aqueduct Pump Station, timing of watershed land purchases, partially offset by delay in notice to proceed and MBTA crossing issues for Southern Extra High (SEH) Section 111 Construction 3, Bellevue Tank 2/Turkey Hill Painting contract awarded less than budget and additional structural repairs, and Maintenance Garage/Washbay/Storage Building due to delay in schedule.

Wastewater variances are primarily due to construction delays for the Chelsea Creek Headworks Upgrades for Channel 1 work, odor control equipment delivery and redesign of lower roofs, Somerville Marginal In-System Storage project due to delay in Somerville design and construction awards, Winthrop Terminal Facility Variable Frequency Drive (VFD) Replacement due to motor commissioning testing issue, Alewife Brook Pump Station Rehabilitation due to delay in final work, partially offset contractor progress for the Gravity Thickener Rehabilitation contract, greater

than anticipated community requests for grants and loans for the I/I Local Financial Assistance Program, and work scheduled for FY18 that was completed in FY19 for the Reading Extension Sewer contract.

FY19 Budget and FY19 Actual Year-to-Date Variance by Program
(in millions)

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	25.4	16.0	(9.4)	-37.1%
Treatment	4.9	6.1	1.3	25.9%
Residuals	1.0	0.4	(0.5)	-55.3%
CSO	2.1	0.8	(1.3)	-63.8%
Other	9.5	12.6	3.1	32.8%
Total Wastewater System Improvements	\$42.9	\$35.9	(\$6.9)	-16.2%
Waterworks System Improvements				
Drinking Water Quality Improvements	1.0	0.6	(0.4)	-38.1%
Transmission	7.4	6.8	(0.6)	-7.7%
Distribution & Pumping	21.3	23.6	2.3	10.7%
Other	6.2	13.8	7.6	124.2%
Total Waterworks System Improvements	\$35.9	\$44.8	\$9.0	25.0%
Business & Operations Support	\$3.2	\$1.6	(\$1.6)	-49.4%
Total MWRA	\$81.9	\$82.4	\$0.4	0.5%

Totals may not add due to rounding

FY19 Year-to-date Spending by Program:

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

Interception & Pumping: Net underspending of \$9.4 million

- \$8.4 million for Chelsea Creek Headworks Upgrades Construction due to delays for Channel 1 work, odor control equipment delivery, and redesign of lower roofs.
- \$0.6 million for Alewife Brook Pump Station construction due to delay of final work.
- \$0.4 million for Nut Island Odor Control and HVAC Design due to delay in completion of design documents.
- \$0.3 million for Wastewater Metering Planning/Study/Design due to police details and temporary meter work were less than anticipated.
- \$0.3 million for Remote Headworks and Deer Island Shaft Study due to delay in notice to proceed.
- This underspending was partially offset by \$0.4 million for Reading Extension Sewer and \$0.3 million for Prison Point Piping Rehabilitation for FY18 scheduled work that was completed in FY19.

Other Waterworks: Net overspending of \$7.6 million

- \$9.7 million for the Local Water System Assistance Program due to greater than anticipated loan requests, partially offset by \$1.6 million for Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budget and additional structural

repairs needed and \$0.3 million for a delay in the notice to proceed of the Cosgrove Intake Roof Repair contract.

Other Wastewater: Net overspending of \$3.1 million

- \$3.1 million for Community I/I due to greater than budgeted requests for grants and loans.

Water Distribution and Pumping: Net overspending of \$2.3 million

- Overspending of \$1.7 million for Section 56 Pipe Demolition, \$1.2 million for Southern Extra High (SEH) Section 111 Construction 2, \$0.9 million for Northern Intermediate High (NIH) Section 89 & 29 Phase 2 Construction, \$0.4 million for Phase 1C and \$0.1 million for Phase 1B Construction due to contractor progress, and \$0.3 million for NIH Section 89 & 29 Replacement Design due to consultant progress of work.
- This overspending was partially offset by underspending of \$1.6 million for SEH Construction 3 due to delay in notice to proceed, \$0.4 million for Section 23, 24, 47 Final Design CA/RI due to pending City of Newton MOA for pipe replacement and delayed utility relocation, \$0.3 million for Peabody Pipeline Design/ESDC due to project being terminated, and \$0.2 million for Section 14 Water Main Relocation (Malden) due to timing of final work.

Business & Operations Support: Net underspending of \$1.6 million

- \$0.9 million for As-Needed Technical Assistance due to timing of task order work, \$0.2 million for the Maximo Upgrade due to timing of final work, and \$0.6 million for timing of MIS initiatives.

Combined Sewer Overflow: Net underspending of \$1.3 million

- \$1.4 million for Somerville Marginal In-System Storage due to the delay of the City of Somerville construction award.

Wastewater Treatment: Net overspending of \$1.3 million

- \$2.6 million for Gravity Thickener Rehabilitation due to contractor progress, partially offset by underspending of \$0.7 million for Winthrop Terminal Facility VFD Replacement Construction due to motor commissioning testing problem, \$0.4 million for Clinton Treatment Plant Roof Rehabilitation due to the delayed notice to proceed, and \$0.3 million for Radio Repeater System Upgrade 1 due to the delayed award.

Waterworks Transmission: Net underspending of \$0.6 million

- \$0.9 million for Maintenance Garage/Wash Bay/Storage Building for schedule delay, \$0.3 million for Commonwealth Avenue Pumping Station Design Construction Administration/Resident Inspection due to CA/RI delay pending award of construction, and \$0.2 million for WASM 3 MEPA/Design/CA/RI for test pit work that was delayed.
- This underspending was partially offset by overspending of \$0.5 million for timing of Watershed Land purchases, \$0.4 million for Rosemary Brook Siphon Building Repair for FY18 work invoiced in FY19, and \$0.3 million for Wachusett Aqueduct Pumping Station construction due to contractor progress.

Residuals: Net underspending of \$0.5 million

- Underspending of \$0.7 million for Electrical and Mechanical Improvements due to delay in award due to updated scope of work, partially offset by \$0.1 million for Sludge Tank and Silo Coating due to work scheduled for FY18 completed in FY19.

Drinking Water Quality Improvements: Net underspending of \$0.4 million

- \$0.4 million for timing of task order work and \$0.1 million for the Marlborough Maintenance Facility due to work scheduled in FY19 completed in FY18, partially offset by \$0.1 million for progress for Liquid Oxygen Storage Yard Canopy work.

Construction Fund Balance

The construction fund balance was \$43.3 million as of the end of January. Commercial Paper/Revolving Loan availability was \$222 million to fund construction projects.

ATTACHMENTS:

Attachment 1 – Variance Summary January 2019

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY19 Actuals vs. FY19 Budget

	January 2019 Year-to-Date				
	Period 7 YTD Budget	Period 7 YTD Actual	Period 7 YTD Variance	%	FY19 Approved
<u>EXPENSES</u>					
WAGES AND SALARIES	\$ 60,239,380	\$ 57,600,655	\$ (2,638,725)	-4.4%	\$ 107,032,021
OVERTIME	2,544,160	3,044,537	500,377	19.7%	4,447,554
FRINGE BENEFITS	12,110,099	11,555,994	(554,105)	-4.6%	21,173,571
WORKERS' COMPENSATION	1,413,189	1,573,643	160,454	11.4%	2,422,609
CHEMICALS	6,528,394	6,699,948	171,554	2.6%	10,830,452
ENERGY AND UTILITIES	12,883,770	13,564,228	680,458	5.3%	22,868,632
MAINTENANCE	18,749,353	17,232,239	(1,517,114)	-8.1%	32,258,727
TRAINING AND MEETINGS	249,705	254,364	4,659	1.9%	455,770
PROFESSIONAL SERVICES	4,268,446	3,351,499	(916,947)	-21.5%	7,675,976
OTHER MATERIALS	3,301,048	2,387,375	(913,673)	-27.7%	7,381,098
OTHER SERVICES	13,489,344	14,040,203	550,859	4.1%	23,065,411
TOTAL DIRECT EXPENSES	\$ 135,776,888	\$ 131,304,685	\$ (4,472,204)	-3.3%	\$ 239,611,821
INSURANCE	\$ 1,210,995	\$ 1,199,465	\$ (11,530)	-1.0%	\$ 2,099,064
WATERSHED/PILOT	15,234,477	15,054,599	(179,878)	-1.2%	26,406,427
HEEC PAYMENT	808,982	573,566	(235,416)	-29.1%	1,386,832
MITIGATION	931,305	931,305	-	0.0%	1,614,262
ADDITIONS TO RESERVES	1,085,655	1,085,655	-	0.0%	1,881,797
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%	7,000,000
POST EMPLOYEE BENEFITS	-	-	-	---	5,574,152
TOTAL INDIRECT EXPENSES	\$ 26,271,414	\$ 25,844,590	\$ (426,825)	-1.6%	\$ 45,962,534
STATE REVOLVING FUND	\$ 48,708,025	\$ 48,288,745	\$ (419,280)	-0.9%	\$ 89,380,363
SENIOR DEBT	155,269,604	155,269,604	-	0.0%	272,633,982
CORD FUND	-	-	-	---	-
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%	(944,726)
CURRENT REVENUE/CAPITAL	8,192,303	8,192,303	-	0.0%	14,199,991
SUBORDINATE MWRA DEBT	53,501,553	53,501,553	-	0.0%	92,032,292
LOCAL WATER PIPELINE CP	2,740,613	2,740,613	-	0.0%	4,750,396
CAPITAL LEASE	1,855,996	1,855,996	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	7,100,000
VARIABLE DEBT	-	(4,252,285)	(4,252,285)	---	-
HEEC CABLE CAPACITY RESERV	-	-	-	---	-
DEFESANCE ACCOUNT	-	4,671,565	4,671,565	---	-
TOTAL DEBT SERVICE	\$ 269,323,368	\$ 269,323,368	\$ -	0.0%	\$ 482,369,358
TOTAL EXPENSES	\$ 431,371,670	\$ 426,472,643	\$ (4,899,029)	-1.1%	\$ 767,943,713
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 426,370,500	\$ 426,370,500	\$ -	0.0%	\$ 739,042,200
OTHER USER CHARGES	6,216,167	6,285,713	69,546	1.1%	9,328,768
OTHER REVENUE	4,450,267	4,863,126	412,859	9.3%	6,013,635
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	7,620,446	8,906,044	1,285,598	16.9%	13,559,110
TOTAL REVENUE & INCOME	\$ 444,657,380	\$ 446,425,383	\$ 1,768,003	0.4%	\$ 767,943,713

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
<u>Direct Expenses</u>					
Wages & Salaries	60,239,380	57,600,655	(2,638,725)	-4.4%	Wages and Salaries are under budget by \$2.6 million. Year to date, there have been 21 fewer average FTEs (1,134 versus 1,155 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions, and lower leave balance accruals contributed to Regular Pay being under budget.
Overtime	2,544,160	3,044,537	500,377	19.7%	Higher spending mainly in Wastewater Operations for wet weather events.
Fringe Benefits	12,110,099	11,555,994	(554,105)	-4.6%	Lower than budget mainly in Health Insurance of \$515,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	1,413,189	1,573,643	160,454	11.4%	The higher expenses were due to Compensation payments and reserves of \$255,000, offset by lower Medical payments and reserves of \$48,000, and Administrative Expenses of \$47,000. Due to the uncertainties of when spending will happen, the budget is spread evenly through out the year.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Chemicals	6,528,394	6,699,948	171,554	2.6%	Overspending for Sodium Hypochlorite of \$195,000; DITP & Wastewater Ops due to wet weather and at CWTP due to rainy fiscal year, we have been using more water from Wachusett Reservoir vs. the higher quality water from Quabbin Reservoir, which has required higher dosing to disinfect the water; Activated Carbon of \$162,000 for the unbudgeted replacement of carbon at Nut Island Headworks and Braintree Weymouth IPS for odor control; Ferric Chloride of \$146,000 at DITP and Clinton; Sodium Bisulfite of \$81,000 at DITP and Wastewater Ops. This is offset by underspending in Soda Ash of \$238,000 at CWTP and Clinton; and Hydrogen Peroxide of \$127,000 at DITP. DITP flows are 14.5% higher than the budget and CWTP flows are 2.8% less than the budget through January. It is important to note that Chemicals variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	12,883,770	13,564,228	680,458	5.3%	Overspending in Electricity of \$588,000 primarily at DITP due to pricing; Diesel Fuel of \$116,000 in Wastewater Ops and at DI due to timing of deliveries.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Maintenance	18,749,353	17,232,239	(1,517,114)	-8.1%	<p>Services were underspent by \$749,000 and Materials were underspent by \$768,000.</p> <p><u>Services:</u> Underspending in Building & Grounds Services of \$652,000 is driven by FOD (\$641,000); Pipeline Services of \$134,000 driven by Metro Maintenance for the timing of manhole rehab work (\$169,000); and Specialized Equipment Services of \$74,000 driven by Emergency Preparedness (\$100,000).</p> <p align="right"><u>Materials:</u></p> <p>Underspending in P&M Materials of \$574,000 driven by Deer Island (\$449,000) and Water Operations (\$259,000); Electrical Materials of \$280,000 driven by Deer Island (\$159,000) and Metro Maintenance (\$123,000); HVAC Materials of \$108,000 driven by Deer Island (\$112,000).</p>
Training & Meetings	249,705	254,364	4,659	1.9%	Minor overspending in Operations.
Professional Services	4,268,446	3,351,499	(916,947)	-21.5%	<p>Underspending in Other Professional Services of \$327,000 in HR for Training and the Pay Equity Study, Finance and Law; Engineering Services of \$193,000 in Operations primarily at Reservoir Ops for timing of dam asset maintenance plans and DITP for timing of study of biosolids exemptions for MWRA pellets as relative to MDAR regulations; Computer System Consultants of \$165,000 in MIS; Legal Services of \$142,000 in Law and HR; and Lab & Testing Analysis of \$131,000 in EnQual Wastewater and Lab Services.</p>

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Other Materials	3,301,048	2,387,375	(913,673)	-27.7%	Lower than budgeted spending in Computer Hardware of \$732,000 in MIS for timing of the roll out of PC replacements; Equipment/Furniture of \$177,000 in Operations for timing of water quality equipment; and furniture at DITP. This is offset by higher than budgeted spending in Postage of \$62,000 for timing of replenishment of the postage meter in the mailrooms and in Lab & Testing Supplies of \$43,000 in Laboratory Services; and Work Clothes of \$27,000 in Operations
Other Services	13,489,344	14,040,203	550,859	4.1%	Higher than budgeted spending for Sludge Pelletization of \$880,000 due to higher year-to-date quantities; and Grit & Screenings Removal of \$43,000 due to higher quantities. This is offset by lower spending for Telephone/Data Services of \$162,000 in MIS and FOD; Other Services of \$153,000 for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for Lead issues in Planning. Membership/Dues/Subscriptions of \$119,000 in Operations due to timing.
Total Direct Expenses	135,776,888	131,304,685	(4,472,203)	-3.3%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,210,995	1,199,465	(11,530)	-1.0%	Higher claims than budgeted of \$27,000, offset by lower premiums of \$38,000.
Watershed/PILOT	15,234,477	15,054,599	(179,878)	-1.2%	Lower Watershed Reimbursement of \$180,000 due to over accrual at the end of FY18 as compared to the actual amount paid in the first quarter of FY19.
HEEC Payment	808,982	573,566	(235,416)	-29.1%	Lower than budgeted spending on special projects related to the HEEC cable.
Mitigation	931,305	931,305	-	0.0%	
Addition to Reserves	1,085,655	1,085,655	-	0.0%	
Pension Expense	7,000,000	7,000,000	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	26,271,414	25,844,590	(426,824)	-1.6%	
Debt Service					
Debt Service	270,268,094	270,268,094	-	0.0%	\$4.3 million for lower than budgeted variable rate, and a combination of lower cost of borrowing and assumed versus actual borrowing terms for SRF funds.
Debt Service Assistance	(944,726)	(944,726)	-	0.0%	
Total Debt Service Expenses	269,323,368	269,323,368	-	0.0%	
Total Expenses					
Total Expenses	431,371,670	426,472,643	(4,899,027)	-1.1%	
Revenue & Income					
Rate Revenue	426,370,500	426,370,500	-	0.0%	
Other User Charges	6,216,167	6,285,713	69,546	1.1%	Higher DITP water costs of \$83,000.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD January	FY19 Actuals YTD January	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Other Revenue	4,450,267	4,863,126	412,859	9.3%	\$344,000 for disposal of surplus materials and Miscellaneous Revenue of \$161,000 primarily associated with worker's compensation reimbursement for older claims. This is offset by lower energy revenue received of \$123,000.
Investment Income	7,620,446	8,906,044	1,285,598	16.9%	Investment Income is over budget mostly due to short term rates higher than budget (2.33% vs.1.75% budget).
Total Revenue	444,657,380	446,425,383	1,768,003	0.4%	
Net Revenue in Excess of Expenses	13,285,710	19,952,740	6,667,030		

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD January	FY19 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$25,424	\$15,989	(\$9,436)	-37.1%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$8.5M (due to timing of odor control equipment delivery, delay in commissioning channel 1, and redesign of lower roofs) Alewife Brook Pump Station Rehab - Construction: \$619k (due to timing of final work) Nut Island Odor Control & HVAC Design/CA/REI: \$415k (delay in completion of design documents) Remote Headworks & Deer Island Shaft Study: \$285k (schedule shift) Wastewater Meter System Planning/Study/Design: \$281k (due to additional time for acquisition of metering data) Wastewater Central Monitoring Equipment/Hardware: \$100k (timing of purchases) <u>Offset Overspending</u> Interceptor Renewal 1, Reading Extension Sewer - Construction: \$374k, Prison Point Pipeline Rehabilitation - Design/CA/RI: \$262k and DeLauri Pump Station Alewife Brook Pump Station Final Design/CA/REI: \$129k (greater than anticipated resident engineering services) Screens & Security Upgrades: \$117k (work scheduled for FY18 performed in FY19)
Treatment	\$4,872	\$6,133	\$1,261	25.9%	<u>Overspending</u> Gravity Thickener Rehab: \$2.6M (contractor progress) <u>Offset Underspending</u> WTF VFD Replacement - Construction: \$748k (due to motor commissioning testing problem) Clinton Roofing Rehabilitation: \$370k (schedule shift) Radio Repeater System Upgrades - Phase 1: \$250k (award delayed and was less than budgeted)
Residuals	\$982	\$439	(\$543)	-55.3%	<u>Underspending</u> Electrical Improvements \$358k and Mechanical Improvements \$300k (scope of work incorporated into Electrical, Mechanical, & Drum Replacements contract and schedule shift) <u>Offset Overspending</u> Sludge Tank & Silo Coating: \$115k (due to work scheduled for FY18 completed in FY19)

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD January	FY19 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
CSO	\$2,089	\$757	(\$1,332)	-63.8%	<u>Underspending</u> Somerville Marginal In-System Storage: \$1.4M (shift in Somerville design and construction schedule) Offset Overspending CSO Performance Assessment: \$111k (timing of executed task orders)
Other Wastewater	\$9,490	\$12,601	\$3,110	32.8%	<u>Overspending</u> I/I Local Financial Assistance: \$3.1M (greater than budgeted requests for grants and loans)
Total Wastewater	\$42,858	\$35,919	(\$6,939)	-16.2%	
Waterworks					
Drinking Water Quality Improvements	\$993	\$614	(\$378)	-38.1%	<u>Underspending</u> Technical Assistance: \$378k (due to timing of task order work)
Transmission	\$7,422	\$6,847	(\$575)	-7.7%	<u>Underspending</u> Maintenance Garage/Wash Bay/Storage Building: \$900k (schedule shift) Commonwealth Avenue Pump Station Improvements - Design/CA/RI: \$280k (CA & RI services delayed pending award of construction contract) Wachusett Aqueduct Pump Station - Design/ESDC/RI: \$265k (ESDC & RI task orders pending reallocation) WASM 3 - MEPA/Design/CA/RI: \$178k (test pits work delayed) <u>Offset Overspending</u> Watershed Land Acquisition: \$475k (timing of land purchases) Rosemary Brook Siphon Building Repair: \$386k (timing of final payment) Wachusett Aqueduct Pump Station - Construction: \$300k (due to project progress)

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD January	FY19 Actuals YTD January	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$21,304	\$23,575	\$2,271	10.7%	<u>Overspending</u> NHS - Revere & Malden Pipeline Section 56 Pipe Demolition - Construction: \$1.7M, NIH Section 89/29 Redundancy Phase 1B and 1C and Phase 2 : \$1.5M, Section 89/29 Replacement - Design: \$258k, and Section 89 & 29 Redundancy - Design: \$124k, SEH Redundancy Pipeline Section 111 - Construction 2: \$1.2M, (all due to project progress) <u>Offset Underspending</u> SEH Redundancy Pipeline Section 111 - Construction 3: \$1.6M (due to delay in notice to proceed) New Connecting Mains CP3 (Sect 23,24,47) - Final Design/CA/RI: \$374k (pending City of Newton MOA for pipe replacement and delayed utility relocation) Peabody Pipeline Design/ESDC/REI: \$298k (contract terminated) Section 14 Water Pipe Relocation (Malden): \$180k (work scheduled for FY19 performed in FY18)
Other Waterworks	\$6,159	\$13,807	\$7,649	-	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$9.7M (greater than budgeted requests for loans) <u>Offset Underspending</u> Bellevue II & Turkey Hill Water Tanks Repainting: \$1.6M (award less than budgeted and additional structural repairs needed) Cosgrove Intake Roof Replacement: \$320k and Generator Docking Station: \$114k (schedule shifts)
Total Waterworks	\$35,878	\$44,844	\$8,966	25.0%	
Business & Operations Support					
Total Business & Operations Support	\$3,208	\$1,624	(\$1,584)	-49.4%	<u>Underspending</u> As-Needed Technical Assistance: \$866k (due to timing of task order work) MIS Projects: \$748k (due to timing of work) FY19-23 Major Lab Instrumentation: \$111k (timing of lab equipment purchases) <u>Offset Overspending</u> FY19-23 Vehicle Purchases: \$107k (timing of MWRA vehicle purchases)
Total MWRA	\$81,943	\$82,386	\$443	0.5%	


Attachment 4
FY19 Budget vs. FY19 Projection

TOTAL MWRA	FY19 Budget	FY19 Projection	Change FY19 Budget vs FY19 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 107,032,021	\$ 102,619,538	\$ (4,412,483)	-4.1%
OVERTIME	4,447,554	5,037,646	590,092	13.3%
FRINGE BENEFITS	21,173,571	19,982,295	(1,191,276)	-5.6%
WORKERS' COMPENSATION	2,422,609	2,422,609	-	0.0%
CHEMICALS	10,830,452	11,051,809	221,357	2.0%
ENERGY AND UTILITIES	22,868,633	23,825,873	957,240	4.2%
MAINTENANCE	32,258,727	32,119,639	(139,088)	-0.4%
TRAINING AND MEETINGS	455,770	454,135	(1,635)	-0.4%
PROFESSIONAL SERVICES	7,675,976	6,967,286	(708,690)	-9.2%
OTHER MATERIALS	7,381,098	7,077,726	(303,372)	-4.1%
OTHER SERVICES	23,065,410	23,953,492	888,082	3.9%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 235,512,050	\$ (4,099,771)	-1.7%
INSURANCE	\$ 2,099,064	\$ 2,067,643	(31,421)	-1.5%
WATERSHED/PILOT	26,406,427	26,406,427	-	0.0%
HEEC PAYMENT	1,386,832	-	(1,386,832)	-100.0%
MITIGATION	1,614,262	1,203,255	(411,007)	-25.5%
ADDITIONS TO RESERVES	1,881,797	1,614,262	(267,535)	-14.2%
RETIREMENT FUND	7,000,000	1,881,798	(5,118,202)	-73.1%
ADDITIONAL PENSION DEPOSIT	-	7,000,000	7,000,000	
POSTEMPLOYMENT BENEFITS	5,574,152	5,574,152	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 45,747,537	\$ (214,997)	-0.5%
STATE REVOLVING FUND	\$ 89,380,358	\$ 88,521,835	(858,523)	-1.0%
SENIOR DEBT	272,633,979	272,633,979	0	0.0%
SUBORDINATE DEBT	92,032,294	92,032,294	-	0.0%
LOCAL WATER PIPELINE CP	4,750,393	3,077,647	(1,672,746)	-35.2%
CURRENT REVENUE/CAPITAL	14,200,000	14,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	7,100,000	-	0.0%
VARIABLE RATE SAVINGS	-	(5,794,432)	(5,794,432)	
DEFEASANCE ACCOUNT	-	-	-	
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%
HEEC CABLE CAPACITY RESERVE FUND	-	-	-	
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 474,043,657	\$ (8,325,701)	-1.8%
TOTAL EXPENSES	\$ 767,943,713	\$ 755,303,244	\$ (12,640,469)	-1.7%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 739,042,200	-	0.00%
OTHER USER CHARGES	9,328,768	9,328,768	-	0.0%
OTHER REVENUE	6,013,635	6,444,796	431,161	7.2%
RATE STABILIZATION	-	-	-	
INVESTMENT INCOME	13,559,110	15,619,110	2,060,000	15.2%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 770,434,874	\$ 2,491,161	0.3%

VARIANCE:

\$ 15,131,631 \$ 15,131,631

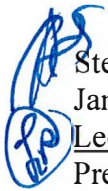

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: FY2019 Community Assessment Adjustments

COMMITTEE: Administration, Finance & Audit

X INFORMATION
 VOTE


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

 Stephen Estes-Smargiassi, Dir, Planning & Sustainability
 James Halloran, Budget Director 
 Leo Norton, Asst. Mgr. Rates, Revenue & Finance
 Preparer/Title


Thomas J. Durkin
 Director of Finance

RECOMMENDATION:

For information only. This staff summary provides information on changes to CY2017 water meter data used to calculate FY2019 community water assessments. The assessment adjustments resulting from this change are included in the preliminary FY2020 assessments being presented at today's Board of Directors' meeting.

DISCUSSION:

MWRA annually determines preliminary water and sewer assessments in February and final assessments in June. As part of MWRA's Rate Basis Review and Comment Process, approved by the Board of Directors in 1996, water and sewer customers can challenge rate basis data through the current fiscal year. MWRA staff also conduct supplementary quality assurance reviews of meter data during this time period which could result in changes to the rate basis data.

Following a review of calendar year 2017 water meter data, MWRA staff have made adjustments to water use for Lynn and Southborough. The attached table shows those water use changes as well the corresponding adjustments to the FY2019 water assessment for each community, taking into account the revised water use shares for all MWRA communities.

The following table and discussion detail prior year adjustments for Lynn and Southborough. These assessment adjustments will be applied to each community's FY2020 water assessment.

Community	Water Use Adjustment	FY2019 Water Assessment Adjustment
Lynn	Increase CY2017 water use by 22.874 million gallons (mg)	+\$90,380
Southborough	Increase CY2017 water use by 3.195 mg	+\$12,299

Reason for Water Use Adjustments

LYNN: Due to redevelopment construction activity, MWRA has not had access to the vault for Lynn Meter #208, the meter used by MWRA to record water use by the GE power plant. The 2017 flow through this connection was estimated to be 9.125 mg based on historic use.

Following a review of data from a separate meter inside the GE plant, staff have revised Lynn's CY2017 water use upward by 22.874 mg, for a total of 31.999 mg.

While the City of Lynn's water system is partially supplied by MWRA, most of the water provided each year is for the GE plant. City officials have been aware of the higher water use, and have been billing GE based on this usage.

MWRA staff have notified Lynn officials of the impact on its FY2019 wholesale water assessment resulting from this water use adjustment, and continue to work with GE to relocate Meter #208. Until this meter is relocated, water use will be recorded through the meter inside the GE plant.

SOUTHBOROUGH: The Town of Ashland has had Emergency Water use agreements in place with the MWRA in December 2015 and August 2016. Under these agreements, MWRA water was provided to Ashland via a connection with the Town of Southborough. While Ashland did not use MWRA water in CY2015, it did use 3.195 mg in CY2016.

FY2018 water assessments were calculated based on CY2016 water use. The 3.195 mg of water provided to Ashland via Southborough was deducted from Southborough's CY2016 water use when CY2018 assessments were calculated.

FY2019 water assessments were calculated based on CY2017 water use. Following the calculation of FY2019 water assessments, MWRA staff discovered that the 3.195 mg deduction was applied in error to CY2017 water use as well.

As a result, Southborough's CY2017 water use has been adjusted upwards 3.195 mg. MWRA has notified Southborough officials of the meter data adjustment and corresponding impact on its FY2019 water assessment.

Attachment 1 summarizes the FY2019 water assessment adjustments and the impact for each community.

BUDGET/FISCAL IMPACT:

Based on MWRA's zero-based assessment methodology, FY2019 water assessments for all other water communities will change proportionally. These adjustments will be applied to each community's FY2020 sewer assessment.

ATTACHMENTS:

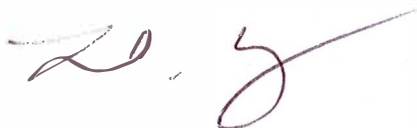
Water Utility: Fiscal Year 2019 Assessment Adjustments

Massachusetts Water Resources Authority
 Wholesale Water & Sewer Assessments
 Water Utility: Fiscal Year 2019 Assessment Adjustments

Run Date: 24-Jan-19
 Print Date: 24-Jan-19
 Print Time: 2:05 PM


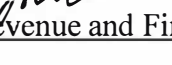
MWRA WATER CUSTOMER	Calendar Year 2017		Fiscal Year 2019		REVISED CY 2017		REVISED FY 2019		Fiscal Year	Comments
	Preliminary Water Use (MG adjusted for rates allocation)	Share of Water Use	Billable Water Assessment	Share of System Assessment	Water Use (MG adjusted for rates allocation)	Share of Water Use	Billable Water Assessment	Share of System Assessment	2019 Assessment Adjustment	
ARLINGTON	1,314.101	2.08%	\$5,207,787	2.08%	1,314.101	2.08%	\$5,205,637	2.08%	-\$2,150	
BELMONT	717.995	1.14%	2,845,415	1.14%	717.995	1.14%	2,844,240	1.14%	-1,175	
BOSTON (BWSC)	22,899.948	36.32%	90,752,551	36.32%	22,899.948	36.31%	90,715,079	36.31%	-37,472	
BROOKLINE	1,775.917	2.82%	7,037,965	2.82%	1,775.917	2.82%	7,035,059	2.82%	-2,906	
CANTON	472.922	0.75%	1,874,192	0.75%	472.922	0.75%	1,873,418	0.75%	-774	
CHELSEA	1,218.854	1.93%	4,830,322	1.93%	1,218.854	1.93%	4,828,328	1.93%	-1,994	
DEDHAM-WESTOOD W.D.	38.911	0.06%	154,204	0.06%	38.911	0.06%	154,140	0.06%	-64	
EVERETT	1,379.263	2.19%	5,466,023	2.19%	1,379.263	2.19%	5,463,766	2.19%	-2,257	
FRAMINGHAM	2,070.489	3.28%	8,205,353	3.28%	2,070.489	3.28%	8,201,964	3.28%	-3,389	
LEOMINSTER	0.000	0.00%	0	0.00%	0.000	0.00%	0	0.00%	0	
LEXINGTON	1,798.638	2.85%	7,128,006	2.85%	1,798.638	2.85%	7,125,062	2.85%	-2,944	
LYNN (LWSC)	80.755	0.13%	320,031	0.13%	103.603	0.16%	410,411	0.16%	90,380	Increased CY17 water use by 22.874 mg.
LYNNFIELD W.D.	191.769	0.30%	759,983	0.30%	191.769	0.30%	759,669	0.30%	-314	
MALDEN	1,796.372	2.85%	7,119,028	2.85%	1,796.372	2.85%	7,116,089	2.85%	-2,939	
MARBLEHEAD	638.808	1.01%	2,531,598	1.01%	638.808	1.01%	2,530,553	1.01%	-1,045	
MARLBOROUGH	1,468.822	2.33%	5,820,947	2.33%	1,468.822	2.33%	5,818,544	2.33%	-2,403	
MEDFORD	1,630.664	2.59%	6,462,326	2.59%	1,630.664	2.59%	6,459,657	2.59%	-2,669	
MELROSE	731.042	1.16%	2,897,122	1.16%	731.042	1.16%	2,895,926	1.16%	-1,196	
MILTON	873.850	1.39%	3,463,069	1.39%	873.850	1.39%	3,461,639	1.39%	-1,430	
NAHANT	125.237	0.20%	496,315	0.20%	125.237	0.20%	496,110	0.20%	-205	
NEEDHAM	216.010	0.34%	856,049	0.34%	216.010	0.34%	855,696	0.34%	-353	
NEWTON	3,048.248	4.83%	12,080,214	4.83%	3,048.248	4.83%	12,075,225	4.83%	-4,989	
NORTHBOROUGH	320.731	0.51%	1,271,058	0.51%	320.731	0.51%	1,270,533	0.51%	-525	
NORWOOD	1,025.608	1.63%	4,064,489	1.63%	1,025.608	1.63%	4,062,811	1.63%	-1,678	
PEABODY	1,050.408	1.67%	4,162,771	1.67%	1,050.408	1.67%	4,161,052	1.67%	-1,719	
QUINCY	3,027.600	4.80%	11,998,387	4.80%	3,027.600	4.80%	11,993,433	4.80%	-4,954	
READING	579.591	0.92%	2,296,922	0.92%	579.591	0.92%	2,295,974	0.92%	-948	
REVERE	1,308.439	2.08%	5,185,345	2.08%	1,308.439	2.07%	5,183,204	2.07%	-2,141	
SAUGUS	1,013.618	1.61%	4,016,971	1.61%	1,013.618	1.61%	4,015,313	1.61%	-1,658	
SOMERVILLE	2,032.627	3.22%	8,055,307	3.22%	2,032.627	3.22%	8,051,980	3.22%	-3,327	
SOUTHBOROUGH	218.665	0.35%	866,571	0.35%	221.860	0.35%	878,870	0.35%	12,299	Increased CY17 water use by 3.195 mg.
STONEHAM	783.701	1.24%	3,105,808	1.24%	783.701	1.24%	3,104,526	1.24%	-1,282	
STOUGHTON	40.734	0.06%	161,431	0.06%	40.734	0.06%	161,364	0.06%	-67	
SWAMPSCOTT	510.165	0.81%	2,021,785	0.81%	510.165	0.81%	2,020,950	0.81%	-835	
WAKEFIELD	538.368	0.85%	2,133,553	0.85%	538.368	0.85%	2,132,672	0.85%	-881	
WALTHAM	2,349.545	3.73%	9,311,252	3.73%	2,349.545	3.73%	9,307,408	3.73%	-3,844	
WATERTOWN	932.720	1.48%	3,696,371	1.48%	932.720	1.48%	3,694,845	1.48%	-1,526	
WELLESLEY	374.892	0.59%	1,485,700	0.59%	374.892	0.59%	1,485,086	0.59%	-614	
WESTON	629.110	1.00%	2,493,163	1.00%	629.110	1.00%	2,492,133	1.00%	-1,030	
WILMINGTON	126.961	0.20%	503,145	0.20%	126.961	0.20%	502,937	0.20%	-208	
WINCHESTER	464.464	0.74%	1,840,674	0.74%	464.464	0.74%	1,839,913	0.74%	-761	
WINTHROP	428.675	0.68%	1,698,840	0.68%	428.675	0.68%	1,698,139	0.68%	-701	
WOBURN	801.702	1.27%	3,177,148	1.27%	801.702	1.27%	3,175,836	1.27%	-1,312	
Total	63,046.942	100.00%	\$249,855,191	100.00%	63,072.986	100.00%	249,855,191	100.00%	\$0	


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Preliminary FY20 Water and Sewer Assessments

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


 James Halloran, Budget Director

 Leo Norton, Asst. Mgr, Rates, Revenue and Finance
 Preparer/Title


 Thomas J. Durkin
 Director of Finance



Consistent with the Proposed FY20 Current Expense Budget (CEB), preliminary FY20 water and sewer assessments are based on a Rate Revenue Requirement of \$766,657,500, a 3.7% increase over the FY19 Rate Revenue Requirement.

The preliminary FY20 Rate Revenue Requirement will be allocated to MWRA communities based on their respective shares of CY18 MWRA water use, the average of CY16-CY18 wastewater flows, corresponding strength of flows, and population.

RECOMMENDATION:

For information only. This staff summary provides information on preliminary FY20 wholesale water and sewer assessments. Staff plan to transmit preliminary FY20 assessments to MWRA communities on or before Thursday, February 21, 2019.

DISCUSSION:

The Proposed FY20 CEB recommends a Rate Revenue Requirement of \$766,657,500, an increase of 3.7% over the final FY19 requirement.

	FY20 Preliminary	FY19 Approved	\$ Change from FY19	% Change from FY19
Water	\$259,189,924	\$249,855,191	\$ 9,334,733	3.7%
Sewer	\$507,467,576	\$489,187,009	\$18,280,567	3.7%
Total	\$766,657,500	\$739,042,200	\$27,615,300	3.7%

Attachment 1 summarizes preliminary FY20 wholesale water and sewer charges for each MWRA community.

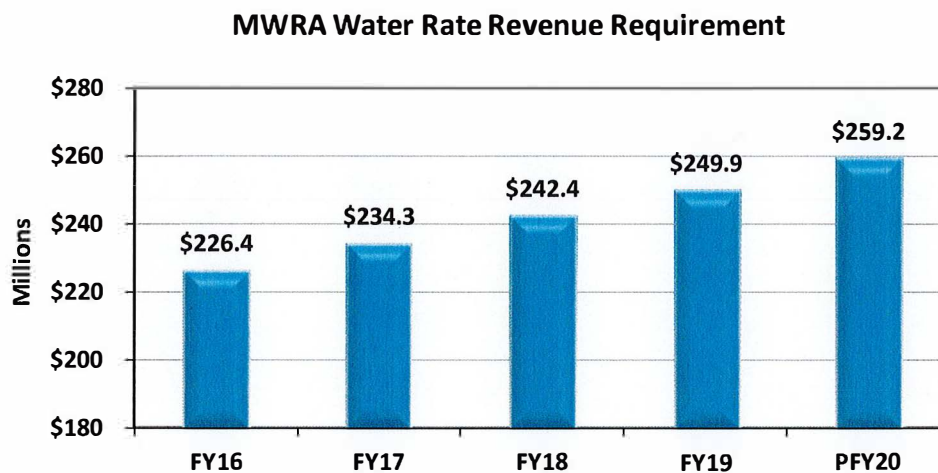
The estimated annual impact of the preliminary FY20 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA

community that uses close to the system average of 61,000 gallons of water per year is approximately \$19.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community's share of total water use for the most recent calendar year. Preliminary FY20 assessments are based on each community's share of CY18 water use of 64.418 billion gallons, a 2.2% increase compared to CY17 water use of 63.047 billion gallons. Changes in FY20 water assessments for customer communities compared to FY19 assessments will vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY18 compared to CY17. This is particularly true for communities that receive only part of their water from MWRA.

The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY19 to PFY20 are primarily the result of increased debt service related to water utility rehabilitation and improvements.



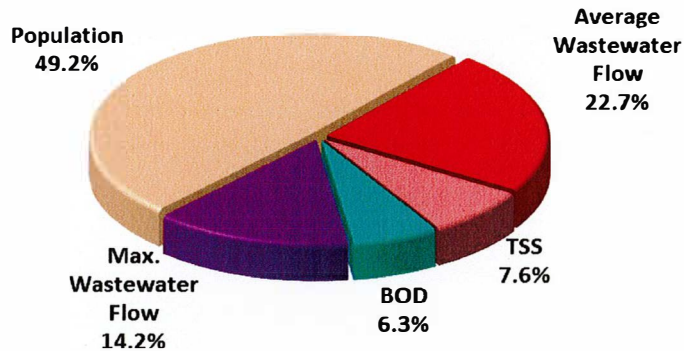
In addition, staff have revised CY17 water use for 2 communities served by the MWRA water system resulting in adjusted FY19 water assessments. These adjustments will be applied to FY20 water assessments. A separate staff summary detailing these adjustments is being presented at this meeting.

Sewer Assessments

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

On average, approximately 51% of a community's preliminary FY20 sewer assessment is based on each community's share of wastewater flow and strength of flow (total suspended solids or TSS and biochemical oxygen demand or BOD), and approximately 49% is based on population as illustrated in the next graph.

Allocation of Total MWRA Sewer Utility Assessment

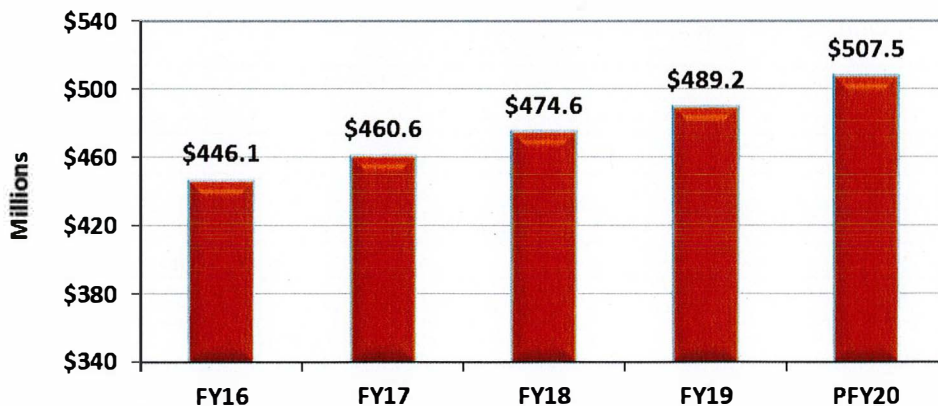


Both the preliminary and final FY20 assessments for population will be calculated using the most recent (July 2017) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service reported by each MWRA community.

Preliminary FY20 assessments have been calculated using the average of CY16, CY17 and CY18 wastewater flows. Ongoing review of meter data may result in revised flows prior to issuing final assessments in June.

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

MWRA Sewer Rate Revenue Requirement



Clinton and Lancaster Sewer Assessments

Proposed FY20 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$4,567,281, an increase of 9.5% over FY19 expenses. This includes a 10.4% increase in operating costs, and a 7.4% increase in capital expenses related

primarily to the valve and screw pumps replacement and roofing rehabilitation projects.

In accordance with the agreement that allows the City of Worcester to take water from the Wachusett watershed, Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. Proposed FY20 direct operating expenses for the plant total \$2,628,054, resulting in a preliminary FY20 charge of \$207,905 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton Plant. Based on proposed FY20 expenses and CY18 wastewater flows, Lancaster's preliminary FY20 charge is \$380,633, a decrease of 15.5% from the final FY19 charge of \$450,278. The decrease is primarily the result of Lancaster's lower share of sewer flows at the Clinton Plant in CY18.

The preliminary FY20 charge for the Town of Clinton is \$3,961,434. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs.

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

CVA Water Assessments

Based on the Proposed FY20 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the preliminary FY20 system assessment is \$5,155,111, an increase of 2.9% from FY19 assessments.

MWRA's CVA water assessment methodology allocates CVA assessments to the three communities served by the CVA system based on their share of prior calendar year water use. Based on CY18 water use, preliminary FY20 assessments are as follows:

- City of Chicopee: \$3,612,064 (+2.0%)
- South Hadley Fire District #1: \$ 725,197 (+2.1%)
- Town of Wilbraham: \$ 817,850 (+8.0%)

As with the metropolitan water system, changes in preliminary FY20 water assessments for each CVA community compared to FY19 assessments vary depending on their water use and how that use factors into their share of the CVA water system in CY18 compared to CY17.

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

Wholesale Water Rate

MWRA's wholesale water rate per million gallons is applied to customers purchasing MWRA water on a pay-as-you-go basis (including customers with emergency agreements). Examples include the Department of Conservation and Recreation and the Department of Youth Services. The preliminary wholesale water rate for FY20 is \$4,023.56 per million gallons. The proposed FY20 CEB includes revenue of \$158,353 from these customers.

Retail Sewer Rate

MWRA provides direct retail sewer service to Regis College in Weston and the New England Center for Children in Southborough. In accordance with MWRA Policy #OP.11, "Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area", both entities are charged a modified per million gallon "retail" rate that captures both sanitary and non-sanitary flows. Based on preliminary FY20 sewer assessments, the FY20 retail sewer rate will be \$7,924.36 per million gallons. The Proposed FY20 CEB includes revenue of \$96,124 from these customers.

ATTACHMENTS:

1. Preliminary FY20 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant Sewer User Charge Determination
3. Chicopee Valley Aqueduct System Assessment

MWRA Fully Served Water and Sewer Customers	Final FY19 Water Assessment	Preliminary FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Preliminary FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Preliminary FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
ARLINGTON	5,207,787	5,429,333	4.3%	8,649,531	9,011,108	4.2%	\$13,857,318	\$14,440,441	\$583,123	4.2%
BELMONT	2,845,415	3,002,417	5.5%	5,092,015	5,374,220	5.5%	7,937,430	8,376,637	439,207	5.5%
BOSTON (BWSC)	90,752,551	93,429,979	3.0%	141,531,379	147,214,547	4.0%	232,283,930	240,644,526	8,360,596	3.6%
BROOKLINE	7,037,965	7,301,894	3.8%	12,898,264	13,324,237	3.3%	19,936,229	20,626,131	689,902	3.5%
CHELSEA	4,830,322	4,940,301	2.3%	8,305,015	8,705,517	4.8%	13,135,337	13,645,818	510,481	3.9%
EVERETT	5,466,023	5,544,645	1.4%	8,876,844	9,313,471	4.9%	14,342,867	14,858,116	515,249	3.6%
FRAMINGHAM	8,205,353	8,449,638	3.0%	13,423,226	13,704,216	2.1%	21,628,579	22,153,854	525,275	2.4%
LEXINGTON	7,128,006	7,414,724	4.0%	7,572,486	7,923,398	4.6%	14,700,492	15,338,122	637,630	4.3%
MALDEN	7,119,028	7,554,262	6.1%	13,514,306	13,822,520	2.3%	20,633,334	21,376,782	743,448	3.6%
MEDFORD	6,462,326	6,543,875	1.3%	12,356,732	12,611,566	2.1%	18,819,058	19,155,441	336,383	1.8%
MELROSE	2,897,122	2,977,605	2.8%	6,520,195	6,785,330	4.1%	9,417,317	9,762,935	345,618	3.7%
MILTON	3,463,069	3,509,377	1.3%	5,556,575	5,792,015	4.2%	9,019,644	9,301,392	281,748	3.1%
NEWTON	12,080,214	12,724,326	5.3%	22,348,192	22,639,537	1.3%	34,428,406	35,363,863	935,457	2.7%
NORWOOD	4,064,489	3,964,362	-2.5%	7,628,062	8,245,988	8.1%	11,692,551	12,210,350	517,799	4.4%
QUINCY	11,998,387	11,716,123	-2.4%	20,708,161	21,281,625	2.8%	32,706,548	32,997,752	291,204	0.9%
READING	2,296,922	2,371,066	3.2%	5,090,525	5,430,596	6.7%	7,387,447	7,801,662	414,215	5.6%
REVERE	5,185,345	5,263,284	1.5%	10,761,283	10,994,231	2.2%	15,946,628	16,257,515	310,887	1.9%
SOMERVILLE	8,055,307	8,433,001	4.7%	17,094,747	17,654,452	3.3%	25,150,054	26,087,453	937,399	3.7%
STONEHAM	3,105,808	3,019,723	-2.8%	4,616,825	4,860,101	5.3%	7,722,633	7,879,824	157,191	2.0%
WALTHAM	9,311,252	9,623,699	3.4%	13,800,824	14,087,691	2.1%	23,112,076	23,711,390	599,314	2.6%
WATERTOWN	3,696,371	3,899,172	5.5%	6,357,733	6,735,163	5.9%	10,054,104	10,634,335	580,231	5.8%
WINTHROP	1,698,840	1,848,725	8.8%	3,565,533	3,754,400	5.3%	5,264,373	5,603,125	338,752	6.4%
TOTAL	\$12,907,902	\$18,961,535	2.8%	\$356,268,453	\$369,265,929	3.6%	\$569,176,355	\$588,227,464	\$19,051,109	3.3%

MWRA Sewer and Partial Water Customers	Final FY19 Water Assessment	Preliminary FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Preliminary FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Preliminary FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
CANTON	1,874,192	2,137,222	14.0%	4,383,915	4,661,549	6.3%	\$6,258,107	\$6,798,771	\$540,664	8.6%
NEEDHAM	856,049	1,413,150	65.1%	6,173,219	6,460,637	4.7%	7,029,268	7,873,787	844,519	12.0%
STOUGHTON	161,431	146,715	-9.1%	5,072,227	5,289,740	4.3%	5,233,658	5,436,455	202,797	3.9%
WAKEFIELD	2,133,553	2,581,683	21.0%	6,290,285	6,644,649	5.6%	8,423,838	9,226,332	802,494	9.5%
WELLESLEY	1,485,700	1,477,073	-0.6%	5,745,909	5,992,162	4.3%	7,231,609	7,469,235	237,626	3.3%
WILMINGTON	503,145	732,349	45.6%	2,913,415	3,010,395	3.3%	3,416,560	3,742,744	326,184	9.5%
WINCHESTER	1,840,674	1,732,537	-5.9%	4,319,099	4,503,768	4.3%	6,159,773	6,236,305	76,532	1.2%
WOBURN	3,177,148	4,120,146	29.7%	9,474,524	9,556,907	0.9%	12,651,672	13,677,053	1,025,381	8.1%
TOTAL	\$12,031,892	\$14,340,875	19.2%	\$44,372,593	46,119,807	3.9%	\$56,404,485	\$60,460,682	\$4,056,197	7.2%

MWRA Sewer-only Customers	Final FY19 Water Assessment	Preliminary FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Preliminary FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Preliminary FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
ASHLAND				2,693,503	2,776,819	3.1%	\$2,693,503	\$2,776,819	\$83,316	3.1%
BEDFORD				3,655,178	3,661,257	0.2%	3,655,178	3,661,257	6,079	0.2%
BRAINTREE				9,758,859	9,978,997	2.3%	9,758,859	9,978,997	220,138	2.3%
BURLINGTON				5,530,776	5,869,990	6.1%	5,530,776	5,869,990	339,214	6.1%
CAMBRIDGE				25,518,527	26,636,146	4.4%	25,518,527	26,636,146	1,117,619	4.4%
DEDHAM				5,597,434	5,913,520	5.6%	5,597,434	5,913,520	316,086	5.6%
HINGHAM SEWER DISTRICT				1,902,184	1,953,706	2.7%	1,902,184	1,953,706	51,522	2.7%
HOLBROOK				1,824,554	1,876,569	2.9%	1,824,554	1,876,569	52,015	2.9%
NATICK				5,972,626	6,108,225	2.3%	5,972,626	6,108,225	135,599	2.3%
RANDOLPH				6,530,979	6,814,617	4.3%	6,530,979	6,814,617	283,638	4.3%
WALPOLE				3,988,527	4,127,058	3.5%	3,988,527	4,127,058	138,531	3.5%
WESTWOOD				2,988,061	3,163,487	5.9%	2,988,061	3,163,487	175,426	5.9%
WEYMOUTH				12,584,755	13,201,449	4.9%	12,584,755	13,201,449	616,694	4.9%
TOTAL				\$88,545,963	\$92,081,840	4.0%	\$88,545,963	\$92,081,840	\$3,535,877	4.0%

MWRA Water-only Customers	Final FY19 Water Assessment	Preliminary FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Preliminary FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Preliminary FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
LYNNFIELD WATER DISTRICT	759,983	801,392	5.4%				\$759,983	\$801,392	\$41,409	5.4%
MARBLEHEAD	2,531,598	2,576,899	1.8%				2,531,598	2,576,899	45,301	1.8%
NAHANT	496,315	457,376	-7.8%				496,315	457,376	(38,939)	-7.8%
SAUGUS	4,016,971	4,222,326	5.1%				4,016,971	4,222,326	205,355	5.1%
SOUTHBOROUGH	866,571	927,840	7.1%				866,571	927,840	61,269	7.1%
SWAMPSCOTT	2,021,785	2,162,229	6.9%				2,021,785	2,162,229	140,444	6.9%
WESTON	2,493,163	2,414,331	-3.2%				2,493,163	2,414,331	(78,832)	-3.2%
TOTAL	\$13,186,386	\$13,562,393	2.9%				\$13,186,386	\$13,562,393	\$376,007	2.9%

MWRA Partial Water-only Customers	Final FY19 Water Assessment	Preliminary FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Preliminary FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Preliminary FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
DEDHAM-WESTWOOD WATER DISTRICT	154,204.00	181,986.00	18.0%				\$154,204	\$181,986	\$27,782	18.0%
LYNN (LWSC)	320,031	592,299	85.1%				320,031	592,299	272,268	85.1%
MARLBOROUGH	5,820,947	5,876,246	1.0%				5,820,947	5,876,246	55,299	1.0%
NORTHBOROUGH	1,271,058	1,312,949	3.3%				1,271,058	1,312,949	41,891	3.3%
PEABODY	4,162,771	4,361,641	4.8%				4,162,771	4,361,641	198,870	4.8%
TOTAL	\$11,729,011	\$12,325,121	5.1%				\$11,729,011	\$12,325,121	\$596,110	5.1%
SYSTEMS TOTAL	\$249,855,191	\$259,189,924	3.74%	\$489,187,009	\$507,467,576	3.74%	\$739,042,200	\$766,657,500	\$27,615,300	3.74%

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

BUDGETED EXPENSES: Proposed FY2020	
Clinton Direct Operating Expenses:	\$2,628,054
MWRA Support Allocation:	656,714
Subtotal O&M Expenses:	\$3,284,767
Total Debt Service Expenses:	\$1,282,513
Total Clinton Service Area Expenses	\$4,567,281
Less Revenue (City of Worcester Payment)	-207,905
Clinton WWTP Rate Revenue Requirement:	\$4,359,375

WASTEWATER FLOW and FLOW SHARES:	CY2018		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.714	0.273	2.987
Average Flow (MG/YR)	990.645	99.514	1,090.159
Proportional Share of Flow	90.87%	9.13%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$3,284,767
Less Revenue (City of Worcester Payment)	-207,905
O&M Expenses to be Recovered	\$3,076,862
Clinton's Share of Flow	90.87%
Clinton's Share of O&M Costs	\$2,795,994
Total Clinton O&M Charge	\$2,795,994
Debt Service Costs to be Recovered	\$1,282,513
Clinton's Share of Wastewater Flow	90.87%
Total Clinton Debt Service Charge	\$1,165,440
Total Clinton O&M and Debt Service Charge	\$3,961,434
Less MWRA Water Ratepayer Subsidy	-3,461,434
Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000

LANCASTER SEWER DISTRICT	
O&M Expenses	\$3,284,767
Less Revenue (City of Worcester Payment)	-207,905
O&M Expenses to be Recovered	\$3,076,862
Lancaster's Share of Flow	9.13%
Lancaster's Share of O&M Costs	\$280,868
Total Lancaster Sewer District O&M Charge	\$280,868
Debt Service Costs to be Recovered	\$1,282,513
Lancaster's Share of Wastewater Flow	9.13%
Total Lancaster Sewer District Debt Service Charge	\$117,073
Total Lancaster O&M and Debt Service Charge	\$397,941
Billable Charge to Lancaster Sewer District	\$397,941

Clinton WWTP Charges and Payment Schedule

Sewer Customer	Billable Charges
Town of Clinton (billable)	\$500,000
Lancaster Sewer District (before adj.)	\$397,941
Lancaster Sewer District (prior period adj.)	-\$17,308
Lancaster Sewer District (billable)	\$380,633
Total Billable Sewer Use Charges	\$880,633
Worcester's share of Clinton WWTP Expenses	\$207,905

Payment 1 on or before Sept 15, 2019	Payment 2 on or before Nov 15, 2019	Payment 3 on or before Feb 15, 2020	Payment 4 on or before May 15, 2020
\$125,000	\$125,000	\$125,000	\$125,000
\$95,158	\$95,158	\$95,158	\$95,158
\$220,158	\$220,158	\$220,158	\$220,158
\$0	\$0	\$207,905	\$0

Massachusetts Water Resources Authority
Chicopee Valley Aqueduct Water System Assessment
PFY2020

CVA Operating Budget	FY19	PFY20	Change from Prior Year	
			Dollars	Percent
CVA Cost Center Expenses	\$902,430	\$927,347	\$24,918	2.8%
Allocated Waterworks Expenses	143,220	153,261	10,041	7.0%
Allocated Watershed/PILOT	482,590	494,948	12,357	2.6%
Allocated Watershed Land Acquisition	25,584	26,521	937	3.7%
Allocated MWRA Indirect Expenses	596,737	615,451	18,715	3.1%
SUBTOTAL OPERATING BUDGET	\$2,150,561	\$2,217,527	\$66,967	3.1%

CVA Capital Budget	FY19	PFY20	Change from Prior Year	
			Dollars	Percent
Capital Expenses	\$3,039,237	\$3,064,246	\$25,009	0.8%
TOTAL CVA BUDGET	\$5,189,798	\$5,281,774	\$91,976	1.8%

BASE COMMUNITY ASSESSMENT	FY19 ¹	PFY20 ²	Change from Prior Year	
			Dollars	Percent
Chicopee	\$3,670,553	\$3,713,926	\$43,373	1.2%
South Hadley Fire District #1	739,075	745,638	6,563	0.9%
Wilbraham	780,170	822,210	42,040	5.4%
CVA BASE SYSTEM ASSESSMENT	\$5,189,798	\$5,281,774	\$91,976	1.8%

PRIOR PERIOD ADJUSTMENTS	FY19 ³	PFY20 ³	Change from Prior Year	
			Dollars	Percent
Chicopee	-\$128,478	-\$101,861	\$26,617	-20.7%
South Hadley Fire District #1	-28,716	-20,440	8,275	-28.8%
Wilbraham	-22,875	-4,360	18,514	-80.9%
TOTAL ADJUSTMENTS	-\$180,069	-\$126,662	\$53,406	-29.7%


ADJUSTED ASSESSMENT	FY19	PFY20	Change from Prior Year	
			Dollars	Percent
Chicopee	\$3,542,075	\$3,612,064	\$69,989	2.0%
South Hadley Fire District #1	710,359	725,197	14,838	2.1%
Wilbraham	757,295	817,850	60,555	8.0%
ADJUSTED ASSESSMENT	\$5,009,729	\$5,155,111	\$145,382	2.90%

¹ Based on CY2017 water use and before prior period adjustments.


² Based on CY2018 water use and before prior period adjustments.

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Transmittal of the FY20 Proposed Current Expense Budget

COMMITTEE Administration, Finance & Audit

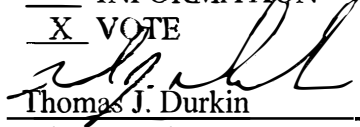
James Halloran, Budget Director 

Michael Cole, Budget Manager 

Preparer/Title

 INFORMATION

 X VOTE


Thomas J. Durkin

Director, Finance

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

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

The FY20 Proposed Budget puts forth a 3.74% combined assessment increase and less than 4.0% projected average assessment increases for the next four years.

The FY20 Proposed Budget reflects the benefits of a planned \$15.0 million defeasance to be executed in FY19 with targeted savings during FY21-23. Besides the planned defeasances, the Authority is continuing to address the Pension and the Other Post Employment Benefits (OPEB) obligations, which are the largest long-term liabilities after the debt payments.

RECOMMENDATION:

To approve transmittal of the FY20 Proposed Current Expense Budget to the MWRA Advisory Board for its 60 day review and comment period.

DISCUSSION:

This staff summary presents an overview of the FY20 Proposed Current Expense Budget (CEB) and projects the Rate Revenue Requirement for the next five years.

Summary

The FY20 Proposed Budget recommends a combined increase in rates and charges of 3.74%. Capital Financing costs remain the largest component of the CEB and account for 62.4% of total expenses. Total expenses are \$797.0 million, an increase of \$29.1 million or 3.8% over the FY19 Budget. There are no offsets from Debt Service Assistance (DSA) assumed for FY20 or in any future years.

Total expenses include \$497.6 million for Capital Financing costs and \$299.5 million for operating expenses, of which \$248.8 million is for Direct Expenses and \$50.7 million is for Indirect Expenses. Total expenses increased mainly due to higher Capital Financing costs of \$15.2 million and higher Direct Expenses of \$9.1 million due to Wages & Salaries which includes five additional positions for the Tunnel Redundancy Department, Chemicals due to increases in Sodium Hypochlorite and Activated Carbon prices within Wastewater Operations, and Utilities due to increased Electricity costs at Deer Island.

Indirect Expenses increased by \$4.8 million due to higher operations and maintenance costs for the cross-harbor electrical cable, higher Watershed Management operating expenses, higher OPEB contribution, higher required pension contribution, and higher additions to reserves.

The FY20 Proposed Budget revenues, excluding rate revenue, total \$30.4 million, an increase of \$1.5 million or 5.1% over the FY19 Budget. The FY20 Proposed Budget non-rate revenue budget includes \$14.9 million in Other User Charges and Other Revenue and \$15.5 million for Investment Income.

The FY20 Proposed Rate Revenue Requirement is \$766.7 million, an increase of \$27.6 million or 3.74% over the FY19 Budget.

Table 1 on the following page provides a comparison of the FY20 Proposed CEB and FY19 Budget by major categories. Additional detail by line item and by Division is provided in Attachments A and B.

Table 1

MWRA Current Expense Budget
 FY20 Proposed Budget versus FY19 Approved Budget

(\$ in Millions)	FY19 Approved Budget	FY20 Proposed Budget	\$ Change	% Change
Directs	\$ 239.6	\$ 248.8	\$ 9.1	3.8%
Indirects	46.0	50.7	4.8	10.4%
Sub-Total Operating Expenses	\$ 285.6	\$ 299.5	\$ 13.9	4.9%
Capital Financing (before Offsets)	482.4	497.6	15.2	3.1%
Offsets: Bond Redemption ¹	-	-	-	
Variable Debt Savings	-	-	-	
Debt Service Assistance	-	-	-	
Sub-Total Capital Financing	\$ 482.4	\$ 497.6	\$ 15.2	3.1%
Total Expenses	\$ 767.9	\$ 797.0	\$ 29.1	3.8%
Investment Income	\$ 13.6	\$ 15.5	\$ 1.9	14.3%
Non-Rate Revenue	15.3	14.9	(0.5)	-3.1%
Rate Stabilization ¹	-	-	-	
Sub-Total Non-Rate Revenue	\$ 28.9	\$ 30.4	\$ 1.5	5.1%
Rate Revenue	739.0	766.7	27.6	3.7%
Total Revenue & Income	\$ 767.9	\$ 797.0	\$ 29.1	3.8%
FY19 Rate Revenue Increase		3.74%		
Combined Use of Reserves	\$ -	\$ -		

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

EXPENSES:

Direct Expenses

FY20 Direct Expenses total \$248.8 million, an increase of \$9.1 million, or 3.8%, from the FY19 Budget.

FY20 PROPOSED CURRENT EXPENSE BUDGET				
MWRA DIRECT EXPENSES BY LINE ITEM				
LINE ITEM	FY19 Approved Budget	FY20 Proposed Budget	Change FY20 vs FY19	
WAGES AND SALARIES	\$107,032,021	\$110,520,570	\$3,488,549	3.3%
OVERTIME	\$4,447,554	\$4,898,965	\$451,411	10.1%
FRINGE BENEFITS	\$21,173,571	\$21,965,210	\$791,639	3.7%
WORKERS' COMPENSATION	\$2,422,609	\$2,354,256	(\$68,353)	-2.8%
CHEMICALS	\$10,830,452	\$12,087,530	\$1,257,078	11.6%
ENERGY AND UTILITIES	\$22,868,633	\$24,199,103	\$1,330,470	5.8%
MAINTENANCE	\$32,258,727	\$32,784,793	\$526,066	1.6%
TRAINING AND MEETINGS	\$455,770	\$504,394	\$48,624	10.7%
PROFESSIONAL SERVICES	\$7,675,976	\$8,324,491	\$648,515	8.4%
OTHER MATERIALS	\$7,381,098	\$7,186,700	(\$194,398)	-2.6%
OTHER SERVICES	\$23,065,410	\$23,925,385	\$859,975	3.7%
TOTAL	\$239,611,821	\$248,751,395	\$9,139,574	3.8%

- *Wages and Salaries* – The budget includes \$110.5 million for Wages and Salaries as compared to \$107.0 million in the FY19 Budget, an increase of \$3.5 million or 3.3%. Regular Pay which is 98.0% of total Wages and Salaries, increased \$3.5 million primarily for COLA increases and additional staff. The FY20 Proposed Budget includes 1,160 FTEs, five more than the FY19 Budget. The five additional FTEs represent the second year of the hiring to support the Metropolitan Tunnel Redundancy capital project.
- *Overtime* – The budget includes \$4.9 million for Overtime, an increase of \$451,000 or 10.1% from the FY19 Budget mostly for COLA increases. Overtime was increased in the Field Operations Department in the Operations Division to reflect recent trends in planned overtime for off-hours maintenance.
- *Fringe Benefits* – The budget includes \$22.0 million for Fringe Benefits, an increase of \$792,000 or 3.7% from the FY19 Budget. Health Insurance premiums total \$19.0 million, an increase of \$698,000 or 3.8% from the FY19 Budget largely due to an anticipated 6% increase in rate structure offset by a change to the number and mix of plans based on FY19 enrollment changes.

- *Workers' Compensation* – The budget includes \$2.4 million for Workers' Compensation. This is level funded with the FY19 Budget and is based on historical average spending and reserves adjustments for Worker's Compensation.
- *Chemicals* – The budget includes \$12.1 million for Chemicals, an increase of \$1.3 million or 11.6% from the FY19 Budget. Sodium Hypochlorite has increased by \$561,000 or 21.1% over FY19 Budget due to price increases, impacting the Deer Island Treatment Plant and Wastewater Operations (which increased by \$284,000 and \$180,000 respectively). Activated Carbon increased by \$326,000 or 95.7% over the FY19 Budget due to a change from using Sodium Hydroxite within Wastewater Operations. The FY20 Budget does not include any funding for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit, which is projected to have more stringent requirements for enterococcus treatment compliance.
- *Utilities* – The budget includes \$24.2 million for Utilities, which is an increase of \$1.3 million or 5.8% over the FY19 Budget. The budget funds \$18.4 million for Electricity, an increase of \$1.2 million or 7.2% over the FY19 budget. \$1.1 million of the increase is related to the Deer Island Treatment Plant, which saw an increase in usage by 1.3 million kWh and in pricing by \$0.01/kWh (per a new contract with Eversource effective 10/2018).
- *Maintenance* – The budget includes \$32.8 million for Maintenance projects, an increase of \$526,000 or 1.6% from the FY19 budget. The Operations Division had an increase of \$130,000 or 0.5% in FY20. The overall \$526,000 increase in the budget is driven by software maintenance in MIS, which is comprised of a two-year extension to the Managed Security Service Provider (MSSP) contract for \$392,000 and for Management Consoles (infrastructure monitoring) in MIS for \$148,000.
- *Training and Meetings* – The budget includes \$504,000 for Training and Meetings, an increase of \$49,000 or 10.7% from the FY19 Budget, primarily for training for the new Tunnel Redundancy Department in the amount of \$47,000.
- *Professional Services* – The budget includes \$8.3 million for Professional Services, an increase of \$649,000 or 8.5% over the FY19 Budget. The budget increase is driven by Computer Systems Consultant in the MIS Department, which includes a two year extension to the MSSP contract for monitoring in the amount of \$684,000.
- *Other Materials* – The budget includes \$7.2 million for Other Materials, a decrease of \$194,000 or 2.6% from the FY19 Budget. The decrease is driven by reductions in Computer Hardware of \$298,000 and Equipment/Furniture of \$181,000, offset by an increase to Lab & Testing Supplies of 139,000.

- *Other Services* – The budget includes \$23.9 million for Other Services, an increase of \$860,000 or 3.7% from the FY19 Budget. The primary increase in the budget reflects an increase in the base cost of the sludge pelletization contract, which is budgeted at \$13.9 million for FY20 versus \$13.3 million for FY19 (due to an increase to two tons/day). In addition, there was an increase to Space/Lease Rentals of \$256,000 driven by increases to rent and common area maintenance at Charlestown Navy Yard and Marlboro Records Center and Warehouse.

Indirect Expenses

Indirect Expenses for FY20 total \$50.7 million, an increase of \$4.8 million or 10.4% over the FY19 Budget. Below are the highlights of major changes:

- The budget includes \$27.2 million for the Watershed Management budget, an increase of \$788,000 or 3.0% over the FY19 Budget. The budget includes \$18.4 million for reimbursement of operating expenses net of revenues, and \$8.8 million for Payment in Lieu of Taxes (PILOT). The largest increase is for operating expenses net of revenues of \$618,000 mainly for healthcare costs and contractual increases. The PILOT payments increased by \$255,000 from the FY19 budget based on actual assessments in FY19.
- The budget includes \$7.3 million for the Retirement Fund (level to planning estimate), an increase of \$315,000 million or 4.5% over the FY19 budget. MWRA's pension fund is at a 95.0% funding level.
- The budget includes \$4.4 million for the Harbor Energy Electric Company (HEEC), an increase of \$3.0 million or 219.4% over the FY19 Budget due to the new cable projected to be placed into service in December 2019. The budget reflects updated calculations for the Operations and Maintenance component of the HEEC payment obligations and capital improvements to the electrical substations providing electricity to the Deer Island Wastewater Treatment Plant. The \$4.4 million is level to the planning estimate. The \$6.5 million reserve is projected to be used between FY21-25.
- The budget includes \$2.1 million for Insurance, a decrease of \$18,000 or 0.8% from the FY19 Budget. The FY20 Budget is based on average actual spending for the past five years (FY14-18).

- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. Based on the latest actuarial evaluation, MWRA's pension fund is at a 95.0% funding level. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established with Board approval and funding started on April 23, 2015. The current Trust balance is \$28.7 million. Starting in FY18, GASB 75 is the governing regulation for employee OPEB contributions. The proposed \$6.0 million budget is based on 50% of the contribution determined in the January 1, 2018 actuarial report.
- Funding for the Operating Reserve for FY19 is \$2.1 million. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY20 Proposed Budget, the required balance is \$44.0 million versus the \$41.9 million required in FY19.

Capital Financing

As a result of the Authority's Capital Improvement Program, capital financing as a percent of total expenses (before offsets) has increased steadily from 36% in 1990 to 62.4% in the FY20 Proposed Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project, the Integrated Water Supply Improvement Program, and the Combined Sewer Overflow (CSO) projects. MWRA's capital spending, from its inception, has been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for ~80% of capital spending to date. Going forward, the majority of spending will be focused on asset protection and water redundancy initiatives.

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

The FY20 Proposed Budget capital financing costs total \$497.6 million and remains the largest portion of the MWRA's budget.

The FY20 Proposed Budget includes a planned defeasance of \$15.0 million which will reduce debt service by approximately \$5.2 million in FY20, \$478,000 in FY21, \$4.5 million in FY22, and \$5.8 million in FY23.

The FY20 Budget assumes a 3.75% interest rate for variable rate debt which is 0.25% higher than the rate in FY19. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series; liquidity fees for the Standby Bond Purchase Agreement, Letter of Credit, and Direct Purchase providers; and remarketing fees. While MWRA continues to experience low interest rates, they are not reflective of historical averages and there are projected increases in the future.

The FY20 Proposed Budget capital financing costs increased by \$15.2 million or 3.2% compared to the FY19 Budget. This increase in the MWRA's debt service is the result of projected FY20 borrowings and the structure of the existing debt, partially offset by the impact of the projected defeasance.

The FY20 capital financing budget includes:

- \$204.7 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$8.5 million to support issuances of \$125 million in May 2019 and \$5.1 million to support issuances of \$125 million of new money in May 2020.
- \$170.6 million in principal and interest payments on subordinate bonds;
- \$93.1 million in principal and interest payments on SRF loans. This amount includes \$8.6 million to support issuances of \$55 million of loans during 2019 and \$55 million 2020;
- \$15.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$4.9 million in debt prepayment;
- \$5.8 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and,
- \$3.2 million for the Chelsea Lease.

Revenue

FY20 non-rate revenue totals \$14.9 million, which is a decrease of \$473,000 or 3.1% versus the FY19 Budget. The FY20 non-rate revenue budget includes:

- \$5.6 million in Other Revenue, a decrease of \$383,000 from the FY19 Budget. Other Revenue includes \$2.1 million from the sale of the Authority's Renewable Portfolio Credits, revenue from participating in load response program and sale of generated power to the grid, a decrease of \$581,000 attributable to a decrease in the price for demand response and for Renewable Portfolio Credits. The balance of Other Revenue includes \$2.4 million in permit fees and penalties, an increase of \$191,000 over the FY19 Budget.

- \$15.5 million in Investment Income, an increase of \$1.9 million or 14.3% over the FY19 Budget, reflecting higher interest rate assumptions. The short-term interest rate assumption is at 2.25%, which is 50 basis points above the FY19 Budget level.
- \$9.2 million in Other User Charges, including \$5.2 million for the Chicopee Valley Aqueduct (CVA) communities, \$1.8 million for Deer Island water usage, \$615,000 for entrance fees from member communities, and \$500,000 for the Commonwealth’s partial reimbursement for Clinton Wastewater Treatment Plant expenses. Other User Charges are \$90,000 or 1.0% less than the FY19 Budget.

The Rate Revenue Requirement for FY20 is \$766.7 million, an increase \$27.6 million or 3.74% over the FY19 Budget. The Rate Revenue Requirement is the difference between total expenses of \$797.0 million and non-rate revenue of \$30.4 million.

Planning Estimates and Future Rate Projections

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

Table 3 below presents the combined estimated future rate increases and household charges based on the Proposed FY20 Budget. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth and use of Rate Stabilization and Bond Redemption reserves through FY25.

Table 3

Rates & Budget Projections						
Proposed FY20 CEB	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Total Rate Revenue (\$000)	\$ 739,042	\$ 766,657	\$ 793,957	\$ 821,419	\$ 848,185	\$ 875,791
Rate Revenue Change from Prior Year (\$000)	\$ 21,988	\$ 27,615	\$ 27,299	\$ 27,463	\$ 26,766	\$ 27,606
Rate Revenue Increase	3.1%	3.7%	3.6%	3.5%	3.3%	3.3%
Use of Reserves (\$000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$1,157	\$1,208	\$1,261	\$1,316	\$1,372	\$1,431
Based on annual water usage of 90,000 gallons	\$1,707	\$1,783	\$1,861	\$1,942	\$2,025	\$2,112

CEB Review and Adoption Process

The Advisory Board has 60 days from the transmittal of the FY20 Proposed Budget to review the budget and prepare comments and recommendations. During the review period, Advisory Board and MWRA staff will continue to meet and evaluate the impact of changing circumstances as they arise. Following the receipt of the Advisory Board's comments and recommendations, MWRA presents its official responses to the Board of Directors at budget hearings. Staff will present the final budget and the final assessments and for Fiscal Year 2020 to the Board for approval in June 2019.

ATTACHMENTS:

- Attachment A FY20 Proposed Current Expense Budget compared to FY19 Budget
- Attachment B FY20 Proposed Current Expense Budget by Division vs. FY19 Budget
- Attachment C FY20 Proposed Current Expense Budget compared to FY19 Projection

ATTACHMENT A

FY20 Proposed Budget vs FY19 Final Budget

TOTAL MWRA	FY19 Final Budget	FY20 Requests	Change FY20 Proposed vs FY19 Final Budget	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 107,032,021	\$ 110,520,570	\$ 3,488,549	3.26%
OVERTIME	4,447,554	4,898,965	451,411	10.15%
FRINGE BENEFITS	21,173,571	21,965,210	791,639	3.74%
WORKERS' COMPENSATION	2,422,609	2,354,256	(68,353)	-2.82%
CHEMICALS	10,830,452	12,087,530	1,257,078	11.61%
ENERGY AND UTILITIES	22,868,633	24,199,103	1,330,470	5.82%
MAINTENANCE	32,258,727	32,784,793	526,066	1.63%
TRAINING AND MEETINGS	455,770	504,394	48,624	10.67%
PROFESSIONAL SERVICES	7,675,976	8,324,491	648,515	8.45%
OTHER MATERIALS	7,381,098	7,186,700	(194,398)	-2.63%
OTHER SERVICES	23,065,410	23,925,385	859,975	3.73%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 248,751,395	\$ 9,139,574	3.81%
INSURANCE	\$ 2,099,064	\$ 2,081,406	(17,658)	-0.84%
WATERSHED/PILOT	26,406,427	27,194,708	788,281	2.99%
HEEC PAYMENT	1,386,832	4,429,316	3,042,484	219.38%
MITIGATION	1,614,262	1,654,618	40,356	2.50%
ADDITIONS TO RESERVES	1,881,797	2,086,626	204,829	10.88%
RETIREMENT FUND	7,000,000	7,315,000	315,000	4.50%
POSTEMPLOYMENT BENEFITS	5,574,152	5,962,457	388,305	6.97%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 50,724,131	\$ 4,761,597	10.36%
STATE REVOLVING FUND	\$ 89,380,358	\$ 93,138,692	3,758,334	4.20%
SENIOR DEBT	272,633,979	204,715,571	(67,918,409)	-24.91%
SUBORDINATE DEBT	92,032,294	170,587,702	78,555,408	85.36%
LOCAL WATER PIPELINE CP	4,750,393	5,846,823	1,096,430	23.08%
CURRENT REVENUE/CAPITAL	14,200,000	15,200,000	1,000,000	7.04%
CAPITAL LEASE	3,217,060	3,217,060	-	0.00%
DEBT PREPAYMENT	7,100,000	4,850,000	(2,250,000)	-31.69%
DEBT SERVICE ASSISTANCE	(944,726)		944,726	-100.00%
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 497,555,847	\$ 15,186,489	3.15%
TOTAL EXPENSES	\$ 767,943,713	\$ 797,031,374	\$ 29,087,661	3.79%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 766,657,500	27,615,300	3.74%
OTHER USER CHARGES	9,328,768	9,239,263	(89,505)	-0.96%
OTHER REVENUE	6,013,635	5,630,638	(382,997)	-6.37%
RATE STABILIZATION	-		-	
INVESTMENT INCOME	13,559,110	15,503,973	1,944,863	14.34%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 797,031,374	\$ 29,087,661	3.79%
Rate Revenue Increase over FY19		3.74%		

ATTACHMENT B

FY20 Proposed Direct Expense Budget by Division


Division	FY19 Final Budget	FY20 Proposed Budget	Change FY20 Proposed Budget vs. FY19 Final Budget	
			\$	%
Executive	\$1,419,176	\$1,441,574	\$22,398	1.6%
Emergency Preparedness	3,634,962	3,751,945	\$116,983	3.2%
Administration	49,485,247	51,545,891	\$2,060,644	4.2%
Finance	4,321,201	4,430,058	\$108,857	2.5%
Law	2,058,972	2,087,231	\$28,259	1.4%
Affirmative Action	570,187	684,800	\$114,613	20.1%
Internal Audit	696,794	717,268	\$20,474	2.9%
Public Affairs	1,270,466	1,146,532	-\$123,934	-9.8%
Operations/Planning	176,154,817	182,946,095	\$6,791,278	3.9%
Total Authority	\$239,611,821	\$248,751,395	\$9,139,574	3.8%

Attachment C
FY20 Proposed vs. FY19 Projection

TOTAL MWRA	FY19 Budget	FY19 Projection	FY20 Proposed	Change FY20 Proposed Budget vs FY19 Projection	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 107,032,021	\$ 102,619,538	\$ 110,520,570	\$ 7,901,032	7.7%
OVERTIME	4,447,554	5,037,646	4,898,965	(138,681)	-2.8%
FRINGE BENEFITS	21,173,571	19,982,295	21,965,210	1,982,915	9.9%
WORKERS' COMPENSATION	2,422,609	2,422,609	2,354,256	(68,353)	-2.8%
CHEMICALS	10,830,452	11,051,809	12,087,530	1,035,721	9.4%
ENERGY AND UTILITIES	22,868,633	23,825,873	24,199,103	373,229	1.6%
MAINTENANCE	32,258,727	32,119,639	32,784,793	665,153	2.1%
TRAINING AND MEETINGS	455,770	454,135	504,394	50,259	11.1%
PROFESSIONAL SERVICES	7,675,976	6,967,286	8,324,491	1,357,205	19.5%
OTHER MATERIALS	7,381,098	7,077,726	7,186,700	108,974	1.5%
OTHER SERVICES	23,065,410	23,953,492	23,925,385	(28,107)	-0.1%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 235,512,050	\$ 248,751,395	\$ 13,239,346	5.6%
INSURANCE	\$ 2,099,064	\$ 2,067,643	\$ 2,081,406	13,763	0.7%
WATERSHED/PILOT	26,406,427	26,406,427	27,194,708	788,281	3.0%
HEEC PAYMENT	1,386,832	-	4,429,316	4,429,316	
MITIGATION	1,614,262	1,203,255	1,654,618	451,363	37.5%
ADDITIONS TO RESERVES	1,881,797	1,614,262	2,086,626	472,364	29.3%
RETIREMENT FUND	7,000,000	1,881,798	7,315,000	5,433,202	288.7%
ADDITIONAL PENSION DEPOSIT	-	7,000,000	-	(7,000,000)	-100.0%
POSTEMPLOYMENT BENEFITS	5,574,152	5,574,152	5,962,457	388,305	7.0%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 45,747,537	\$ 50,724,131	\$ 4,976,594	10.9%
STATE REVOLVING FUND	\$ 89,380,358	\$ 88,521,835	\$ 93,138,692	4,616,857	5.2%
SENIOR DEBT	272,633,979	272,633,979	204,715,571	(67,918,409)	-24.9%
SUBORDINATE DEBT	92,032,294	92,032,294	170,587,702	78,555,408	85.4%
LOCAL WATER PIPELINE CP	4,750,393	3,077,647	5,846,823	2,769,176	90.0%
CURRENT REVENUE/CAPITAL	14,200,000	14,200,000	15,200,000	1,000,000	7.0%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	7,100,000	4,850,000	(2,250,000)	-31.7%
VARIABLE RATE SAVINGS	-	(5,794,432)	-	5,794,432	-100.0%
DEFEASANCE ACCOUNT	-	-	-	-	
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	944,726	-100.0%
HEEC CABLE CAPACITY RESERVE FUND	-	-	-	-	
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 474,043,657	\$ 497,555,847	\$ 23,512,190	5.0%
TOTAL EXPENSES	\$ 767,943,713	\$ 755,303,244	\$ 797,031,374	\$ 41,728,130	5.5%
REVENUE & INCOME					
RATE REVENUE	\$ 739,042,200	\$ 739,042,200	\$ 766,657,500	27,615,300	3.74%
OTHER USER CHARGES	9,328,768	9,328,768	9,239,263	(89,505)	-1.0%
OTHER REVENUE	6,013,635	6,444,796	5,630,638	(814,158)	-12.6%
RATE STABILIZATION	-	-	-	-	
INVESTMENT INCOME	13,559,110	15,619,110	15,503,973	(115,137)	-0.7%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 770,434,874	\$ 797,031,374	\$ 26,596,499	3.5%



VARIANCE: \$ 15,131,631 \$ (15,131,631)


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Approval of the Eightieth Supplemental Resolution

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

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


Thomas J. Durkin
Director of Finance

RECOMMENDATION:

To adopt the Eightieth Supplemental Resolution authorizing the issuance of up to \$166,000,000 of Massachusetts Water Resources Authority General Revenue Bonds and Massachusetts Water Resources Authority General Revenue Refunding Bonds and the supporting Issuance Resolution.

DISCUSSION:

The bonds to be issued under this authorization include \$125.0 million in new money and \$41.0 million in refunding bonds. The \$125.0 million in new money will be used to fund ongoing capital improvements including the Chelsea Creek Headworks Upgrades, Deer Island Gravity Thickeners, Northern Intermediate High Redundancy and Southern Extra High Redundancy. In addition to the new money, this authorization would allow for the issuance of up to \$41 million in General Revenue Refunding Bonds. The following table provides a breakdown of the new money and refunding components of the proposed transaction.

	Proposed Issuance Amount
New Money Bonds	\$ 125,000,000
Current Refunding for Interest Savings	\$ 41,000,000
Total Authorization	\$ 166,000,000

MWRA's pool of bonds available to be refunded is limited based on the Tax Reform and Jobs Act of 2017, which eliminated the ability to use tax-exempt debt to advance refund outstanding tax-exempt bonds. As a result, the use of tax-exempt debt for refundings is limited to current refundings, which means the new debt is issued within 90-days of the call date of the outstanding bonds. In addition to these restrictions, staff also utilize MWRA's debt policy's parameters when reviewing candidates for a refunding for interest rate savings. The criteria are as follows:

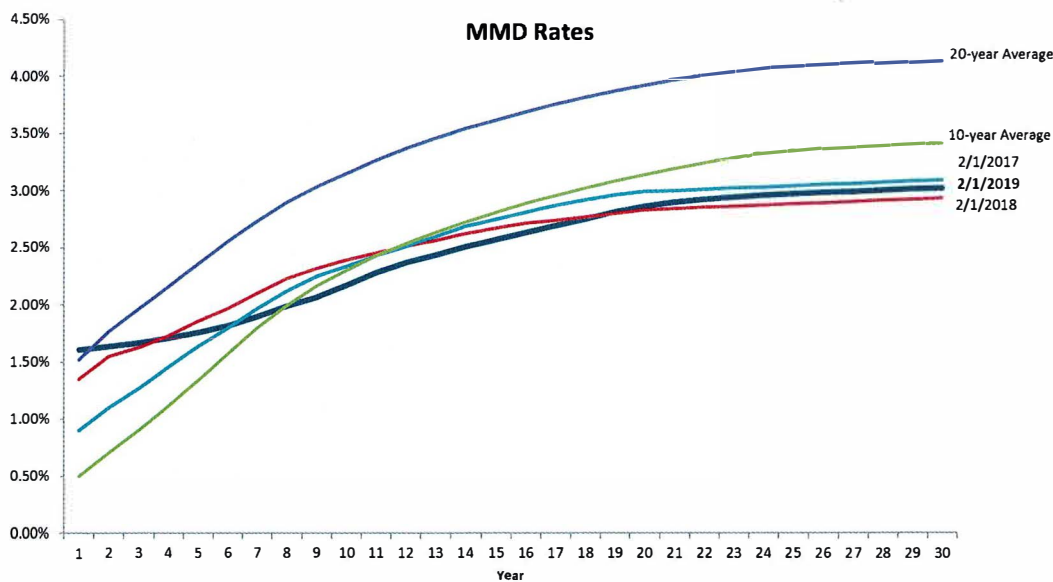
- overall savings has a present value of 4.0% or greater;
- individual maturities have a 3% present value savings or an option value above 70%; and
- the efficiency of the escrow is greater than 50%.

In addition to these criteria, bonds may be refunded or restructured to meet particular organizational and/or strategic needs when it is advantageous to do so. All refunding transactions require the approval of the Board of Directors.

2009 Series B are the only fixed rate bonds that meet both the current refunding restriction and the refunding threshold. The limited number of candidates remaining available for refunding is a result of MWRA previously taking advantage of the historically low interest rates over the last several years. Since May 2016, MWRA has refunded over \$1.2 billion in outstanding bonds for approximately \$182.4 million in present value interest rate savings.

In addition to being refunding candidates, the 2009 Series B bonds are excellent targets for defeasance. The \$40.3 million available to be currently refunded is comprised of a \$22.1 million maturity and a \$18.2 million maturity due in 2021 and 2022 respectively. Since both FY21 and FY22 are peak debt service years, staff will likely include a portion of each of these maturities in the FY19 defeasance planned to be presented to the Board in May 2019. The amounts not targeted for defeasance will be refunded for interest rate savings.

While interest rates have risen over the historic lows experienced in 2016, long-term interest rates are still at relatively low levels when compared to the same period in 2017 and 2018, as well as the average 10 and 20-year Municipal Market Data (MMD) fixed rates. As a result of pressure from the Federal Reserve Open Market Committee voting to increase the Federal Funds rate, shorter term interest rates have risen higher than any period shown on the graph below. Since long-term rates have experienced a similar rate increase, the yield curve has become flatter. The following graph details the relationship between the current and historic rates.



As of February 12, 2019, the refunding of the 2009 Series B bond is projected to result in approximately \$2.5 million in gross savings and \$2.4 million or 6.0% present value savings. The following table presents the savings by fiscal year.

Fiscal Year	Prior Debt Service	Refunding Debt Service	Savings
2019	\$ 1,008,500	\$ 945,500	\$ 63,000
2020	\$ 2,017,000	\$ 1,553,263	\$ 463,737
2021	\$ 24,137,000	\$ 23,083,263	\$ 1,053,737
2022	\$ 19,131,000	\$ 18,183,063	\$ 947,937
Total			\$ 2,528,412

Long-term fixed interest rates would have to increase by 126 basis points for this transaction to fall below the 4% threshold. Similar to the last four refunding transactions, staff intend to issue the 2019 refunding bonds as “Green Bonds.” Green Bonds are marketed to environmentally responsible investment funds. While there is no required certification for Green Bonds, MWRA will be required to document that the funds were used to pay for projects that provided an environmental benefit. Given MWRA’s mission its projects are green by their nature.


As a result of the new restrictions on tax-exempt advance refundings, staff are evaluating options for incorporating shorter call dates than the traditional 10-year call. Staff will continue to work with MWRA’s financial advisor and banking partners to provide the most flexibility without significant additional costs.

Under the terms of the last procurement approved by the Board in January 2016, Morgan Stanley will serve as the lead underwriter for this transaction. Staff will continue to work with MWRA’s financial advisor to determine the most appropriate size and structure for the transaction.

BUDGET/FISCAL IMPACT:

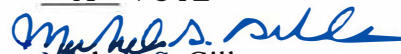
There are sufficient funds available in the FY19 and Proposed FY20 CEBs to pay the debt service costs associated with these borrowings. The potential refunding for savings component will reduce future debt service. The amount of the potential reduction will be determined based on market conditions and the ultimate pricing of the refunding transaction.

STAFF SUMMARY

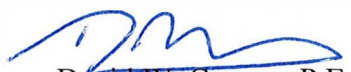
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Interval Accounts

COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE


Michele S. Gillen
Director of Administration

Carolyn M. Fiore, Deputy Chief Operating Officer
Michael E. McDonald, Energy Manager
Denise K. Breiteneicher, Prog. Mgr. Energy and Env. Manager
Preparer/Title


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

MWRA has been competitively procuring electricity since 2001. Historically it has been economically beneficial for MWRA to buy electricity in the competitive market as opposed to paying for basic service from the utilities. For example, the current three-year contract yielded savings of approximately \$6.9 million over the life of the contract compared to being on basic service. In the competitive bid process, the challenge is to determine the level of risk versus certainty that MWRA is willing to assume, and to estimate the potential budget impact for a variety of options. One of MWRA's large electricity supply contracts (the so-called Interval Accounts) expires in May 2019. Staff traditionally take electricity bids in spring and fall because the energy market pricing is typically more favorable during these seasons.

In a commodity market where prices change within a very short period of time, MWRA must be prepared to award the contract almost immediately after bids are received to lock-in the pricing. The exact bid opening dates for the power procurements are not yet established. However, on the day bids are received, staff will evaluate the bids based on market conditions and pricing received. To ensure that MWRA is prepared to execute replacement power contracts if the pricing received is favorable, staff recommend that the Board authorize the Executive Director to award the contract to the successful bidder. Staff will report to the Board on the bid result and on the new contract that is executed for electric power supply for the Interval Accounts.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute contracts for the supply of electric power to the Interval Accounts, consisting of the Carroll Water Treatment Plant and the larger operations and facility management accounts, with the lowest responsive and responsible bidder, for the period and pricing structure selected, as determined by staff to be in MWRA's best interest, and for a contract supply term not to exceed 36 months. This delegation of authority is

necessary because MWRA will be required to notify the selected bidders within a few hours of bid submittal to lock-in the bid prices in a constantly changing market.

BACKGROUND:

Based on MWRA account load profiles and prior consults with energy advisors, MWRA has established three distinct electricity supply contracts. The largest contract is for the Deer Island Treatment Plant, which represents approximately 66% of MWRA's total purchased electricity (Deer Island currently self generates approximately 25% of its *total* plant electrical demand.) The next largest contract is for the Interval Accounts, which include the larger facilities, such as the Carroll Water Treatment Plant, the headworks facilities, the Clinton Treatment Plant, and some of the water and wastewater pump stations; representing approximately 30% of MWRA's total purchased load. The third contract is for the smaller, non-time-of-use accounts, known as Profile Accounts, (e.g., CSOs, some smaller pump stations, and the Charlestown Navy Yard), representing the remaining 4% of MWRA's total purchased load. The existing contract for the Interval Accounts expires in May 2019. A new contract for the Deer Island account was procured in October 2018, and the Profile Accounts expire in October 2019. The three electricity supply contracts are structured to have staggered end dates to minimize the risk of procuring the bulk of MWRA's load at the same time. The electricity supply contract for MWRA's smaller Profile Accounts are procured separately because these accounts are based on an all-in pricing structure and typically have higher administrative contract management costs, which make them less attractive to prospective bidders.

The Interval Accounts contract includes three different fixed price blocks of energy, grouped by ISO-New England zone (Northeastern MA, Southeastern MA, and Western/Central MA), with the balance of the load purchased from the ISO-New England real-time market. The current Interval Account contract structure provides a fixed-price portion of approximately 70%, with 30% purchased in the spot market.

Historically, bids have been taken for several different contract structures, including a 100% fixed all-in rate, a blended structure with a fixed-price block and the balance of the load purchased from the variable-rate spot market, and a 100% variable-rate spot market structure.

During the past 36 months of the current Interval Account contract, MWRA saved approximately \$2.3 million when compared to the 100% fixed rate option, and \$6.9 million when compared to the basic service option. When compared to the all-variable option, the result was nearly the same as what MWRA paid under the blended fixed/variable contract while lowering risk and providing more budget certainty.

It is important to note that this assessment is based on historical price comparisons between contract prices and spot market prices, which may not be good indicators of future relationships between these two data sets.

DISCUSSION:

MWRA's contract for Interval Accounts currently consists of 28 accounts with an electrical demand of approximately 40 million kWh per year and is set to expire in May 2019. Staff intend to pursue a new contract to take its place, targeting March or April for solicitation of bids in order

to take advantage of anticipated favorability in the energy market during the spring season. The contract start date will be the first meter read date available for enrollment for each account in May 2019.

Bids for three pricing structures will be sought, each for 12, 24, and 36 month terms. The first structure will be for an all-in, firm fixed price, with pricing to include all services and products necessary to provide firm delivery of energy to the Interval Accounts. The second will be for purchase of 100% of the electricity from the ISO-New England real-time market. The third will be for supply of a base block of power at a fixed-price per kWh, grouped by load, for a total of up to 4 MW, plus a fixed-fee adder to purchase and supply a variable amount of electricity above the base block, that will be purchased in the real-time market at market clearing prices. For all pricing structures, ancillary charges and any congestion charges would be passed through to MWRA at cost. The size of the base blocks of power will be similar to the existing contract structure, with a fixed fraction of approximately 70%. Although there may be a moderate premium for the fixed blocks of power, this fixed strategy provides budget certainty with minimal risk, and still offers an opportunity to see potential real-time spot market price savings. This third option is the pricing structure that has been used with success in recent contracts.

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

Staff have also looked at other electricity purchasing options available to state agencies and authorities, such as purchasing electricity through collaboratives. While a collaborative may generate more interest from the market by offering energy providers a larger block of electricity to bid on, MWRA has a history of success in securing competitive rates with its bidding process for the Interval Accounts.

To ensure that MWRA is prepared to execute the replacement power contract if the bid pricing received is favorable, staff recommend that the Board authorize the Executive Director to award the contract to the successful bidder. If pricing is not favorable, the MWRA can re-bid the accounts at a later date, or consider other options available to it, while temporarily enrolling these accounts in Basic Service.

BUDGET/FISCAL IMPACT:

MWRA's total electricity budget for FY19 is \$17.1 million. This amount includes approximately \$9.2 million for electricity supply and \$7.9 million for the transmission and distribution costs charged by the local distribution companies. The authorization staff are seeking for purchasing the electricity supply will cover approximately 30% of MWRA's demand for approximately \$3.1 million. As bids are taken, staff will assess the impact in comparison with the budgeted amounts and update the Board accordingly.

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 *F. Laskey*
DATE: February 20, 2019
SUBJECT: Appointment of Proxy for Fore River Railroad Corporation

COMMITTEE: Administration, Finance & Audit

X VOTE
 INFORMATION

Carolyn M. Francisco Murphy
Carolyn M. Francisco Murphy
General Counsel

Sean R. Cordy, Senior Financial Analyst *SRC*
Matthew R. Horan, Treasurer *MHR*
Preparer/Title

Thomas J. Durkin
Thomas J. Durkin
Director of Finance

RECOMMENDATION:

That the MWRA Board of Directors, as holder of all voting rights of all the issued and outstanding shares of stock of the Fore River Railroad Corporation, vote to appoint Bethany A. Card, with the power of substitution, to vote as proxy at the next annual meeting and any special meeting of the stockholders for the Fore River Railroad Corporation in accordance with the form of proxy attached hereto and filed with the records of this meeting. In addition, the MWRA Board of Directors directs the proxy to elect the following board members:

- | | | |
|---------------------|-----------------------------|--------------------|
| David W. Coppes | Thomas J. Durkin | Godfrey O. Ezeigwe |
| Carolyn M. Fiore | Michele S. Gillen | Lisa R. Grollman |
| Frederick A. Laskey | Carolyn M. Francisco Murphy | Brian Peña |
| John J. Walsh | | |

DISCUSSION:

In 1987, MWRA purchased the Fore River Staging Area from General Dynamics. Included in the sale was the purchase of the Fore River Railroad Corporation (FRRC). The railroad operates during weekdays and services MWRA's Residuals Plant and Twin Rivers Technologies, Inc. Since July 2001, FRRC has leased its operating rights to Fore River Transportation Corp., a short-line railroad operator. Pursuant to the by-laws of the FRRC, an annual meeting of the shareholders must be held in the first quarter of each calendar year to elect the Board of Directors. MWRA is the sole stockholder of the FRRC.

The primary purpose of the proxy for the stockholders at the Annual Stockholders' meeting is to elect the FRRC Board of Directors as set forth on the Shareholder's Annual Meeting Agenda. Each Director's term extends until the next annual meeting. The FRRC by-laws state that the Board

shall consist of a minimum of five members. The current Board Members are listed below:

David W. Coppes
Carolyn M. Fiore
Frederick A. Laskey
John J. Walsh

Thomas J. Durkin
Michele S. Gillen
Carolyn M. Francisco Murphy

Godfrey ●. Ezeigwe
Lisa R. Grollman
Brian Peña

Staff recommend that the current members be reappointed to serve on the FRRC Board in 2019.

ATTACHMENT:

Form of Proxy

FORE RIVER RAILROAD CORPORATION
PROXY

The undersigned, on behalf of MWRA's Board of Directors and duly representing the holder of all the issued and outstanding shares of stock of the Fore River Railroad Corporation hereby appoints Bethany A. Card to vote as proxy for the undersigned at the upcoming Annual Meeting of the Stockholders and at any Special Meeting of the Stockholders of the Fore River Railroad Corporation. The proxy is instructed to vote on all business as may properly come before the stockholder's meetings and to sign any waivers of notice to be taken thereat, with all the powers the undersigned would possess if personally present. In addition, the Board of Directors directs the proxy to elect the following board members:

David W. Coppes
Carolyn M. Fiore
Frederick A. Laskey
John J. Walsh

Thomas J. Durkin
Michele S. Gillen
Carolyn M. Francisco Murphy

Godfrey O. Ezeigwe
Lisa R. Grollman
Brian Peña

MASSACHUSETTS WATER RESOURCES
AUTHORITY

By: _____
Matthew A. Beaton
Chairman
Board of Directors

Dated: Boston, Massachusetts
February 20, 2019

Massachusetts Water Resources Authority: 1,470 Shares

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Actuarial Services
The Segal Company, Inc.
Contract F248, Amendment 1



COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

Robert Belkin, Controller
Preparer/Title



Thomas J. Durkin
Director of Finance

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to contract F248, Actuarial Services, with The Segal Company, Inc., to increase the contract term by nine months from December 31, 2018 through September 30, 2019, with no increase in cost.

DISCUSSION:

MWRA Contract F248 was executed on January 24, 2018 with The Segal Company, Inc., an accredited actuary, to perform a valuation of benefits as of January 1, 2018 of the Massachusetts Water Resources Authority Postemployment Benefits Other than Pensions (OPEB) Net OPEB Liability for the development of accounting and financial reporting information under Governmental Accounting Standards Board (GASB) statements No. 74 and No. 75. Implementation of Statement No. 75 was required for financial statements for Fiscal Year ended June 30, 2018.

The valuation noted above was completed in April 2018. Per the terms of the contract, Segal also completed a roll forward of the benefits valuation from January 1, 2018 to June 30, 2018. This roll forward was completed on August 2, 2018. That information was included in the Authority's financial statements as of June 30, 2018.

This Amendment:

Amendment 1 will include a further roll forward of the benefits valuation from June 30, 2018 to June 30, 2019 for inclusion in the Authority's financial statements as of June 30, 2019. Staff met with Segal on January 25, 2019, and Segal agreed to perform the work for no more than \$4,000. Unused Allowance funds will be used to complete the roll forward and therefore, no cost increase to the contract amount is required.

Contract Summary:

	<u>Amount</u>	<u>Time</u>	<u>Date</u>
Original contract	\$22,000.00	12 months	January 1, 2018
Amendment 1	\$0	9 months	Pending
Total Contract	\$22,000.00	21 months	

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Fiscal Year 2019 Current Expense Budget for this contract.

MBE/WBE PARTICIPATION:

Due to limited subcontracting opportunities, no MBE or WBE participation criteria were established for this procurement.



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

WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, February 20, 2019

Chair: P. Flanagan
Vice-Chair: J. Walsh
Committee Members:
C. Cook
J. Carroll
J. Foti
A. Pappastergion
B. Peña
H. Vitale

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately Following AF&A Committee

AGENDA

A. Approvals

1. Amendments to the MWRA Regulations for Adjudicatory Proceedings, Enforcement and Administrative Penalties, and Sewer Use
2. Assignment and Assumption of Bid WRA-4115 and Issuance of a New Purchase Order Contract for the Supply and Delivery of Polymer to the Deer Island Treatment Plant, Solenis, LLC

B. Contract Amendments/Change Orders

1. Chelsea Creek Headworks Upgrade, BHD/BEC JV 2015, A Joint Venture, Contract 7161, Change Order 26
2. Alewife Brook Pump Station: Stantec Consulting Services, Inc., Contract 7034, Amendment 6

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Wastewater Policy and Oversight Committee January 16, 2019

A meeting of the Wastewater Policy and Oversight Committee was held on January 16, 2019 at the Authority headquarters in Charlestown. Committee Vice Chair Walsh presided. Present from the Board were Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Peña, Vitale, Walsh and Ms. Wolowicz. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Betsy Reilley, Daniel Codiga, Douglas Rice, David Duest, Carl Pawlowski, Brian Rozowski and Kristin MacDougall. The meeting was called to order at 11:06 a.m.

Contract Awards

*** Modeling of Massachusetts Bay Water Quality: Deltares, USA, Inc., Contract 7412**

Staff made a presentation. There were questions and answers. Mr. Pappastergion requested a copy of the proposal rankings. (Staff distributed the requested information after the Committee meeting.)

The Committee recommended approval (ref. WW A.1).

Contract Amendments/Change Orders

*** Operations and Maintenance of the Fore River Pelletizing Plant: New England Fertilizer Company, Contract S345, Amendment 2**

Staff made a presentation. There was discussion and questions and answers. (Mr. Foti left the meeting, and Ms. Wolowicz left and returned to the meeting during discussion.) Mr. Carroll requested information about correspondence to the Board regarding the adjacent structure's roof collapse in August 2018. (Staff distributed the requested information after the Committee meeting.)

The Committee recommended approval (ref. WW B.1).

The meeting adjourned at 11:39 a.m.

* Committee recommendation approved by the Board on January 16, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Amendments to the MWRA Regulations for Adjudicatory Proceedings, Enforcement and Administrative Penalties, and Sewer Use

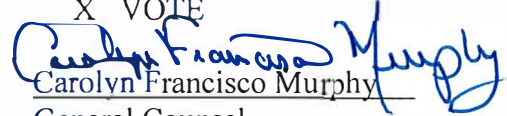


COMMITTEE: Wastewater Policy & Oversight


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

INFORMATION

VOTE



Carolyn Francisco Murphy
General Counsel



David W. Coppes P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize staff to publish notice of proposed amendments to MWRA's Regulations for Adjudicatory Proceedings (360 CMR 1.00), Enforcement and Administrative Penalties (360 CMR 2.00), and Sewer Use (360 CMR 10.000) (summary chart attached) in the Massachusetts Register and newspapers for public comment. Staff will return to the Board for approval to adopt the amendments after public comments have been received.

The amendments include:

- Changes to incorporate new local limits for the Clinton Sewerage Service Area;
- Changes to incorporate the U.S. Environmental Protection Agency's (EPA) new Pretreatment Regulations for dental office effluent into MWRA's Sewer User Regulations;
- Increases to the annual charges paid by permit holders; and
- Changes to clarify regulations so as to align them with TRAC administrative practices.

BACKGROUND:

MWRA has the authority to adopt regulations, published in the Code of Massachusetts Regulations which have the force of law. Before adopting or amending a regulation, MWRA must provide notice of the proposed regulations in the Massachusetts Register and newspapers, send notice to various specified entities, and allow for a period for public comment.

MWRA's Adjudicatory Proceedings, Enforcement and Administrative Penalty, and Sewer Use Regulations are required by EPA for its Industrial Pretreatment Program, which is administered by MWRA's Toxic Reduction and Control (TRAC) department. The Adjudicatory Proceedings Regulations govern the formal administrative appeal process in the event of disagreements over

permit or enforcement actions. The Enforcement and Administrative Penalty Regulations and the Sewer Use Regulations are derived from EPA's federal pretreatment regulations found at 40 CFR Part 403, *et seq.*, and set conditions for use of MWRA and municipal sewers, including charges for obtaining and holding a permit. They also provide for enforcement for noncompliance with MWRA regulations and permits.

The proposed revisions to the three regulations listed above focus on the following four areas: revisions to the Clinton Sewerage Service Area local limits resulting from a revised National Pollutant Discharge Elimination System (NPDES) permit for the Clinton Wastewater Treatment Plant; establishment of a group Dental Discharges permit to comply with the newly promulgated federal dental office effluent guidelines, 40 CFR Part 441; updates to MWRA's Incentive Program Charges; and other revisions to ensure that these regulations reflect current program policies and practices as derived from federal regulations.

DISCUSSION:

Proposed Amendments

On March 1, 2017, MWRA's revised Clinton NPDES permit went into effect. The NPDES permit for the Clinton Wastewater Treatment Plant required that the MWRA conduct an analysis of the industrial discharge limits for permitted industries in the Clinton Sewerage Service Area. Following the analysis, MWRA was required to submit a written technical evaluation of the results of the analysis within 180 days (August 25, 2017) of the effective date of the permit. Under this requirement, MWRA reviewed the adequacy of existing discharge limits and the establishment of additional standards, if necessary, to prevent pollutants from entering the treatment system that would interfere with the operation of the treatment plant or pass untreated through the treatment plant to contaminate the receiving water. On July 19, 2017, staff briefed the Board of Directors on the Clinton local limits discharge evaluation and subsequently submitted it to EPA on August 9, 2017. On September 28, 2018, EPA published a notice regarding its intent to approve MWRA's proposed modifications to the Clinton local limits. These modifications were approved by EPA on November 6, 2018. The modifications include:

- Elimination of the requirement to regulate parameters listed in Appendix D of the regulations on a facility by facility basis and incorporate all parameters (except formaldehyde) into the Total Toxic Organics (TTO) list. Parameters on the TTO list cannot individually exceed 1 mg/L or in combination exceed 5 mg/L.
- Establishment of a formaldehyde limit of 9 mg/L. Formaldehyde is a limit currently regulated in the Clinton Sewerage Service Area on a facility-by-facility basis. Formaldehyde can pose a fume toxicity risk to sewer workers in large enough quantities. Therefore, fume toxicity was used as the determining factor for establishing a formaldehyde limit, as the MWRA did in its Metropolitan Local Limits completed in 2001. The limit of 9.0 mg/l in the Metropolitan Sewerage Service Area was developed using the American Conference of Governmental Industrial Hygienists' short-term fume toxicity exposure level for formaldehyde in the air and converting that to an undiluted aqueous limit. This is the limit that is being proposed for the Clinton local limits.

- Increase the fats, oils, and grease (FOG) limit from 100 mg/L to 300 mg/L. MWRA's Metropolitan sewerage service area local limit is 300 mg/L. There is a very low concentration of FOG at the Clinton Wastewater Treatment Plant and the plant can effectively remove any increases.

On June 14, 2017, EPA promulgated new dental office effluent guidelines, 40 CFR Part 441. MWRA intends to establish a group permit for Dental Discharges to meet the intent of EPA's guidelines. This group permit will be a five-year permit and will cover discharges from a facility where the practice of dentistry is performed including, but not limited to, institutions, permanent or temporary offices, clinics, home offices, and facilities owned and operated by Federal, state, or local governments, that discharge to a sanitary sewer, or to a septic system or holding tank whose contents are hauled for discharge to a sanitary sewer in the MWRA Sewerage Service Area. Dental facilities that do not generate or discharge wastewater from amalgam-related processes are exempt from this permit. Based on an existing database of dental offices in MWRA's Sewerage Service Area regulated by the Massachusetts Department of Environmental Protection under 314 CMR 73.00, it is anticipated that approximately 1,000 dental offices will be covered under this group permit.

MWRA has not updated the Incentive Program Charges since fiscal year 2012. In order to reflect increases in the TRAC department's operating expenditures to implement its Industrial Pretreatment Program, MWRA's Advisory Board requested and MWRA is proposing to update the Incentive Program Charges; increasing fees in FY20 by 4.0% and for the following four fiscal years, an additional 3.0% annually.

In addition to the changes outlined above, other proposed revisions to the regulations are intended to clarify the intent of the existing regulations and/or align them with MWRA practices derived from EPA regulations. The adoption of these changes will not result in any substantial changes to the conduct of the pretreatment program, since they are intended to reflect current practices and procedures.

Attachment 1 presents a summary table of the proposed amendments. The table identifies the section of the regulations to be amended, the source of the proposed change, a description of the amendment, and an explanation for the amendment. Attachment 2 presents the specific charges for the various permit types as they stand now and with the 4.0% increase in FY20 and 3.0% increases in each of the following four fiscal years. A complete red-line/strike-out version of the amended regulations will be available in the Board lounge.

Next Steps

Upon Board approval, staff will transmit the proposed changes to the Massachusetts Secretary of State for publication in the Massachusetts Register and send notices to various specified entities, including permit holders. Upon completion of the public comment period, staff will return to the Board for approval to adopt the amendments with modifications, if any are deemed necessary on the basis of public comments.

BUDGET/FISCAL IMPACT:

The 4.0% across-the-board increase in the Incentive and Other Charges in FY20 and subsequent 3.0% increase across-the board in FY21 through FY24 will generate an additional \$240,480 in revenue in FY20 (this increase includes the new Dental Discharges permit), \$310,694 in FY21, \$384,016 in FY22, \$458,508 in FY23, and \$535,234 in FY24, as compared to the FY19 estimated revenue. The actual amount invoiced each year will vary based on the number of facilities in each permit category. The increases in charges are intended to cover annual increases in TRACs budget as well as to recoup a portion of annual operating cost increases that have not been captured since the last Incentive Charge increase in FY12. Collection of permit charges in the last several years were at approximately 98%.

ATTACHMENTS:

1. Summary of Proposed Regulations Amendments
2. Chart of Charges by Permit Type

Attachment 1

EXPLANATION OF PROPOSED AMENDMENTS

The following table outlines the substantive changes made to the three regulations. In addition to these changes, spelling mistakes and grammatical errors were corrected, as well as the capitalization of defined terms were made in all three sets. These are not listed in this table.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
360 CMR 1.00			
360 CMR 1.04	MWRA	Adds a definition for electronic medium.	By adding this definition and updating subsequent sections of the regulations, it provides MWRA with the option of accept documents electronically.
360 CMR 1.06 (1) and (3)	MWRA	Explains how to file a document in a timely fashion and when MWRA deems that document has been received.	Clarifies timeline for submitting and MWRA receiving documents filed in the mail and electronically.
360 CMR 1.06 (5)	MWRA	Adds an additional 3 days to the due dates for any items served in paper.	Adding the additional 3 days better reflects current practices regarding due dates for items served in paper.
360 CMR 1.07 (6)	MWRA	Allows filings to be submitted in electronic medium.	Current regulation does not allow for the electronic submittal of filings.
360 CMR 1.22 (2)	MWRA	Explains how discovery requests can be made.	Current regulation does not clearly state how discovery requests can be made and adds that they can be made electronically.
360 CMR 1.24 (9)	MWRA	Updates items that can be included as part of the record.	Adds electronic tapes and copies of documents stored electronically as items that can be included as part of the record.
360 CMR 2.00			
360 CMR 2.04	MWRA	Adds a definition for electronic medium.	By adding this definition and updating subsequent sections of the regulations, it provides MWRA with the option of accept documents electronically.
360 CMR 2.07 (1)	MWRA	Allows notices, orders, and rulings to be submitted in electronic medium.	Current regulation does not allow for the electronic submittal of these notices.
360 CMR 2.22 (4) and (6)	MWRA	Clarifies how and when appeals of penalty assessment notices are reviewed.	Clarifies process in revised regulation.
360 CMR 2.34 (3)	MWRA	Clarification regarding when a stipulated penalty becomes final and outlines the interest rate charged to unpaid balances.	Clarifies process in revised regulation. Reflects language included in 360 CMR 10.103(6).
360 CMR 10.00			
360 CMR 10.004 Definitions	MWRA	Added definitions of 'Centralized Waste Treatment Facility,' 'Construction Site Dewatering,' 'Dental Discharges,' 'Food Processing,' 'Photo Processing,' 'Printing,' and 'Reclaimed Water	Definitions added to incorporate new terms utilized in the revised regulations or to include terms in the definitions section previously defined elsewhere in the regulations.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
		System.’	
360 CMR 10.004 Definitions	MWRA	Revised definitions of ‘Combined Permit’ and ‘Group Permit.’	Definition revised to incorporate new Dental Discharges permit category.
360 CMR 10.006 (2) (b)	MWRA	Removed unnecessary and confusing text.	Does not change the intent of the section.
360 CMR 10.007 (1) (g) and (h)	MWRA	Inserted ‘Group Permit for Dental Discharges’ into 1(g) and revised reference to 360 CMR 10.064 (now referred to as a Combined Permit).	Changes incorporate the new Dental Discharges permit category as types of Group and Combined Permits.
360 CMR 10.007 (4)(f)	MWRA	Incorporates requirements for onetime only Discharges into regulations, explaining when and how a onetime only Discharge will be authorized.	Outlines MWRA’s requirements for onetime only Discharges; requirements were previously only documented in guidance. Does not represent a change to existing practice.
360 CMR 10.007 (4) (g)	MWRA and EPA	Deletes subsection that states that dental offices in compliance with DEP discharge regulations do not require a MWRA permit.	Dental offices may now require a MWRA permit pursuant to 360 CMR 10.065, as adopted to meet the requirements of the new federal dental effluent guidelines.
360 CMR 10.008 (2) (f)	MWRA	Removes references to ‘monitoring reports’ and ‘computer diskette.’	Clarification allows MWRA to accept all sampling, analysis and other reports, not just monitoring reports, to be submitted in paper or electronically. MWRA will no longer accept reports on computer diskette.
360 CMR 10.009	MWRA and EPA	Updates the signatory and certification language to allow for the electronic submission of documents. Removes references to ‘computer diskette.’	Gives MWRA the option to accept documents electronically if they are in compliance with 40 CFR Part 3. MWRA will no longer accept reports on computer diskettes.
360 CMR 10.011 (7), (8), and (9)	MWRA	Reorganizes sections, no substantive changes were made.	Reorganization is intended to improve comprehension of requirements.
360 CMR 10.015 (3)	MWRA	Replaces ‘appeal’ with ‘petition’ or ‘disputes’ and adds clarifying language.	Provides for consistent use of terminology utilized by MWRA in other regulations. Does not represent a change to existing practice.
360 CMR 10.023 (10) (a) and (b)	MWRA and EPA	Deletes 10(b) and eliminates reference to the Metropolitan Sewerage Service Area from 10(a).	The EPA approved revised Local Limits from the Clinton Sewerage Service area, including a change to the FOG limit to 300 mg/L, same limit as the Metropolitan Sewerage Service Area. Therefore, there is no need to distinguish between the two Sewerage Service Areas.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
360 CMR 10.023 (13)	MWRA	Adds an allowance for a Reclaimed Water System permitted by MassDEP and MWRA to discharge sludge resulting from the treatment of Sanitary Sewage into the MWRA Sewerage Service Area.	This addition allows for reclaimed water systems to operate according to MassDEP and MWRA regulations within MWRA's Sewerage Service Area.
360 CMR 10.024 (2) (b)	MWRA and EPA	Adds a 9 mg/L Formaldehyde limit to the Local Limits in the Clinton Sewerage Service Area. Also removes reference to Appendix D which has been incorporated in the Total Toxic Organics (TTO) list (Appendix B) for the Clinton Sewerage Service Area.	Previously, limits for formaldehyde and the other pollutants listed in Appendix D were established on a facility by facility basis. Per the new Local Limits analysis completed as part of the reissuance of the Clinton NPDES permit, MWRA proposed, and EPA approved the adoption of the Metropolitan Sewerage Service Area limit of 9 mg/L for formaldehyde and to incorporating the remaining pollutants from Appendix D into the TTO list (Appendix B).
360 CMR 10.061 (5) (b)	MWRA	Clarifies that a dental offices exempt from 10.065 and discharge x-ray waste are exempt from the Group Permit for Photo Processing and Printing operations.	Previously, all dental offices that discharged x-ray waste were exempt from coverage under the Group Permit for Photo Processing and Printing operations. MWRA is maintaining this exemption for dental offices that are also exempt from 10.065.
360 CMR 10.064 (1), (2), and (5)	MWRA	Removes all specific references to 'Photo Processing and Printing' from the Combined Permit and incorporates references to 10.063 and 10.065.	Previously, a Combined Permit was for Low Flow and Photo Processing and Printing Permits. With the addition of the Dental Discharges Permit, MWRA may also issue combine permits for Low Flow and Dental Discharges or Low Flow and Food Processing.
360 CMR 10.065	MWRA and EPA	Creates a new Dental Discharges Permit category. Incorporates requirements from both 40 CFR 441 and 310 CMR 73.000- citing the more stringent of the two regulations. The Dental Discharges group permit is modeled after existing MWRA Group Permit types.	With this new permit category, MWRA is compliant with the new federal dental effluent guidelines (40 CFR 441) and MassDEP's existing dental amalgam regulations (310 CMR 73.00).
360 CMR 10.091	MWRA	Removes 'dewatering or drainage from a construction site' and replaces it with Construction Site Dewatering.	Intended to create consistency by using the defined term 'Construction Site Dewatering,' rather than using a separate definition for that term.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
360 CMR 10.092 (9)	MWRA	Adds a requirement that applications must identify both the owner and general contractor. Both will be listed as permittees.	This requirement holds both the owner of the property and the general contractor doing the work responsible for the terms outlined within the Permit.
360 CMR 10.101 (1) (a), (b), (c), (d), (e), and (f)	MWRA	Strikes existing list of Permit charges and inserts new ones.	Increase in rates for permit charges.
360 CMR 10.101 (2) (g) and (l)	MWRA	Adds definitions for Category 10 and D1 Permits.	Category 10 Permits were previously undefined in the regulations and Category D1 are the new Dental Discharges Group Permit.
360 CMR 10.101 (5)	MWRA	Removes Permit charge structure for Low Flow and Low Pollutant Permits and replaces it with the Permit Charge structure for the Temporary Construction Dewatering Permit.	The Low Flow and Low Pollutant Permit charge will now be billed annually rather than upon the Permit expiration date. These Permit charges have been incorporated into 10.101 (1). Permit charges for the Temporary Construction Dewatering Permit will now be required at the time the application is submitted and is required for MWRA to process the application.
360 CMR 10.102 (1) (a), (b), (c), (d), (e), and (f)	MWRA	Strikes existing list of monitoring charges and inserts new ones.	Increase in rates for monitoring charges.
360 CMR 10.102 (1)(f)(5)	MWRA	Strikes second paragraph and moves language to new sections 10.102 (4), (5), and (6)	This language was out of place and required clarification. See information under the new sections for description of changes.
360 CMR 10.102 (4)	MWRA	Language moved from section 10.102 (1)(f)(5).	Clarifies what Permits do not have a monitoring charge associated with them. Does not represent a change from existing practice.
360 CMR 10.102 (5)	MWRA	Language moved from section 10.102 (1)(f)(5).	Clarifies that monitoring charges for SIUs are determined based on their status as of June 30 th of the previous fiscal year or when a new SIU permit is issued. Does not represent a change from existing practice.
360 CMR 10.102 (6)	MWRA	Language moved from section 10.102 (1)(f)(5).	Clarifies how some unique categories of SIUs monitoring charges are assessed. Does not represent a change from existing practice.
360 CMR 10.102 (7) (a), (b), (c), (d), (e), and (f)	MWRA	Strikes existing list of monitoring charges and inserts new ones.	Increase in rates for late and non-submittal of reports.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
360 CMR 10.103 (4)	MWRA	Adds language that requires Category 12 Permit charges to be paid in full upon submission of Permit application.	This represents a change in practice, currently, Category 12 Permit charges are due upon the issuance of the Permit. These Permit reviews require substantial time and effort for review and are often not finalized. In order to recover the upfront costs of reviewing these Permit applications, MWRA is requiring that these Permit charges are paid at the time of application submittal.
360 CMR 10.103 (8)	MWRA	Replaces 'appeal' with 'petition' or 'disputes' and adds clarifying language.	Provides for consistent use of terminology utilized by MWRA in other regulations. Does not represent a change to existing practice.
Appendix A	MWRA	Removes 'Bis (2-Chloroisopropyl Ether)' and adds '2,2'-Oxybis(1-Chloropropane).	Represents clarification in the chemical that is regulated, does not represent a change in practice.
Appendix B	MWRA and EPA	Incorporates chemicals listed in Appendix D into Appendix B. Removes 'Bis (2-Chloroisopropyl Ether)' and adds '2,2'-Oxybis(1-Chloropropane).	Chemicals previously listed in Appendix D were regulated on a facility by facility basis in the Clinton Sewerage Service Area. These chemicals are now incorporated into the TTO list for purposes of Permit limits.
Appendix D	MWRA and EPA	Appendix D 'Clinton Sewerage Service Area Facility Specific Limits' is removed and replaced with Appendix E, 'Pesticides.'	Chemicals previously listed in Appendix D were regulated on a facility by facility basis in the Clinton Sewerage Service Area. These chemicals are now incorporated into the TTO list for purposes of Permit limits.
Appendix E	MWRA	Appendix E was renamed to Appendix D.	Does not represent a change in practice.

Attachment 2

CHARGE AMOUNTS FOR FISCAL YEARS 2019 - 2024


PERMIT CATEGORIES	CHARGE COMPONENTS	CURRENT CHARGE AMOUNTS FY 2019	PROPOSED CHARGE AMOUNTS FY 2020	PROPOSED CHARGE AMOUNTS FY 2021	PROPOSED CHARGE AMOUNTS FY 2022	PROPOSED CHARGE AMOUNTS FY 2023	PROPOSED CHARGE AMOUNTS FY 2024
1 SIU	Permitting Monitoring	\$2,556	\$2,660	\$2,740	\$2,824	\$2,910	\$2,998
	Low Score	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
	Medium Score	\$5,926	\$6,164	\$6,350	\$6,542	\$6,740	\$6,944
	High Score	\$8,890	\$9,246	\$9,524	\$9,810	\$10,106	\$10,410
	More than 3 Sample Locations	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
1 non-SIU	Permitting Monitoring	\$1,686	\$1,754	\$1,808	\$1,864	\$1,920	\$1,978
	More than 3 Sample Locations	\$966	\$1,006	\$1,038	\$1,070	\$1,104	\$1,138
		\$966	\$1,006	\$1,038	\$1,070	\$1,104	\$1,138
2 SIU	Permitting Monitoring	\$1,644	\$1,710	\$1,762	\$1,816	\$1,872	\$1,930
	Low Score	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
	Medium Score	\$5,926	\$6,164	\$6,350	\$6,542	\$6,740	\$6,944
	High Score	\$8,890	\$9,246	\$9,524	\$9,810	\$10,106	\$10,410
	More than 3 Sample Locations	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
2 non-SIU	Permitting Monitoring	\$1,400	\$1,456	\$1,500	\$1,546	\$1,594	\$1,642
	More than 3 Sample Locations	\$966	\$1,006	\$1,038	\$1,070	\$1,104	\$1,138
		\$966	\$1,006	\$1,038	\$1,070	\$1,104	\$1,138
3 SIU	Permitting Monitoring	\$1,400	\$1,456	\$1,500	\$1,546	\$1,594	\$1,642
	Low Score	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
	Medium Score	\$5,926	\$6,164	\$6,350	\$6,542	\$6,740	\$6,944
	High Score	\$8,890	\$9,246	\$9,524	\$9,810	\$10,106	\$10,410
	More than 3 Sample Locations	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
3 non-SIU	Permitting Monitoring	\$1,054	\$1,098	\$1,132	\$1,166	\$1,202	\$1,240
	More than 3 Sample Locations	\$728	\$758	\$782	\$806	\$832	\$858
		\$728	\$758	\$782	\$806	\$832	\$858
4 SIU	Permitting	\$952	\$992	\$1,022	\$1,054	\$1,086	\$1,120
6 (Septage Hauler)	Permitting	\$952	\$992	\$1,022	\$1,054	\$1,086	\$1,120
10 (General Permit for Low Flow/Low Pollutant)	Permitting	\$244	\$100	\$104	\$106	\$110	\$112
12 (Construction Dewatering)	Permitting	\$3,704	\$3,854	\$3,970	\$4,090	\$4,214	\$4,342
	Monitoring	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474
	More than 3 Sample Locations	\$2,962	\$3,082	\$3,176	\$3,272	\$3,372	\$3,474

PERMIT CATEGORIES	CHARGE COMPONENTS	CURRENT CHARGE AMOUNTS FY 2019	PROPOSED CHARGE AMOUNTS FY 2020	PROPOSED CHARGE AMOUNTS FY 2021	PROPOSED CHARGE AMOUNTS FY 2022	PROPOSED CHARGE AMOUNTS FY 2023	PROPOSED CHARGE AMOUNTS FY 2024
G1 (Group Permit for Photo Processing and Printing)	Permitting NOI	\$218 \$82	\$228 \$86	\$236 \$90	\$244 \$94	\$252 \$98	\$260 \$102
G2 (Group Permit for Food Processing)	Permitting NOI	\$184 \$82	\$192 \$86	\$198 \$90	\$204 \$94	\$212 \$98	\$220 \$102
C1 (Combined Permit)	Permitting	\$266	\$278	\$288	\$298	\$308	\$318
D1 (Group Permit for Dental Discharges)	Permitting NOI	N/A	\$192 \$86	\$198 \$90	\$204 \$94	\$212 \$98	\$220 \$102
ALL	Late/No Discharge Report	\$164	\$170	\$176	\$180	\$186	\$192

Notes:

1. All charge amounts are assessed annually.
2. SIUs receive a low, medium, or high monitoring score charge each year, based on their pollutant loadings and violations status.
3. There is an extra charge for facilities with more than three sampling locations. For each three additional sampling locations (e.g., 4-6, 7-9 locations), the monitoring charge is increased by the amount indicated on the applicable line on the chart.
4. Each Group Permit holder submits a Notice of Intent (NOI) to apply for the permit and pays a one-time charge for the NOI.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Assignment and Assumption of Contract for Supply and Delivery of Polymer to the Deer Island Treatment Plant from BASF Corporation to Solenis LLC and Issuance of a New Purchase Order Contract to Solenis LLC


COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE


Michele S. Gillen

Director of Administration

David F. Duest, Director, Deer Island WWTP
Douglas J. Rice, Director of Procurement
Preparer/Title


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

A recent acquisition involving BASF Corporation and Solenis, LLC effective January 31, 2019, requires that the polymer supply and delivery contract for the Deer Island Treatment Plant originally awarded to BASF Corporation (Bid WRA-4115) be assigned to and assumed by Solenis, LLC. This staff summary recommends the approval of the assignment of the contract, as well as the issuance of a new purchase order to Solenis, LLC, so that payment under the contract can properly be made after this assignment is approved.

RECOMMENDATION:

To approve the assignment and assumption of the contract for supply and delivery of polymer to the Deer Island Treatment Plant, from BASF Corporation to Solenis, LLC, and further to authorize the Executive Director, on behalf of the Authority, to execute a new purchase order in an amount not to exceed \$344,509.79 to Solenis, LLC, with no increase in price or contract term.

DISCUSSION

In February 2016, after a competitive bid process, MWRA awarded Bid WRA-4115 for the supply and delivery of polymer to the Deer Island Treatment Plant to BASF Corporation. BASF was issued a two-year purchase order contract in an amount not to exceed \$637,200, for the time period March 1, 2016, to February 28, 2018. On October 18, 2017, the Board approved Amendment 1 to exercise a two-year extension option, thereby extending the contract term from March 1, 2018, to February 28, 2020. Amendment 1 also added \$693,900 to the contract for an additional 900,000 pounds of polymer at a two-year fixed price of \$0.771 per pound, resulting in an amended contract in an amount not to exceed \$1,331,100.

On January 31, 2019, Solenis, LLC completed a transaction to combine BASF's wet-end paper and water treatment chemical business with Solenis. Under this agreement, BASF will hold a 49% share of the combined entity that will operate under the Solenis name. Under the assignment all terms, conditions, price, liabilities, and performance obligations of the original contract will remain in full force and effect. Staff are of the opinion that the supply of polymer will not be impacted by this acquisition as Solenis is an established, leading global specialty chemical supplier, deeply involved in water treatment and water intensive industries. Therefore, staff recommend that the Board approve this assignment to Solenis.

Under the existing contract, MWRA has received approximately 453,165 pounds of polymer, with 446,835 pounds remaining to be supplied. In order to effectuate payment to Solenis, upon the Board's approval of this assignment, a new purchase order contract in the amount of \$344,509.79 will be issued, covering the remaining 446,835 pounds to be supplied at the existing contract price of \$0.771 per pound. This is a not to exceed sum, as MWRA will only pay for product actually received.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for this contract in Deer Island's FY19 Current Expense Budget. Appropriate funding for the remaining term of this two-year contract will be included in subsequent Proposed CEB requests.

MBE/WBE PARTICIPATION:

Solenis, LLC is not a certified Minority- or Women-owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Chelsea Creek Headworks Upgrade
BHD/BEC 2015, A Joint Venture
Contract 7161, Change Order 26



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Corinne M. Barrett, Director, Construction
Martin E. McGowan, Construction Coordinator
Preparer/Title



Martin E. McGowan, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 26 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture, for an amount not to exceed \$375,000.00, increasing the contract amount from \$80,372,972.46 to \$80,747,972.46, with no increase in contract term.

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

DISCUSSION:

The Chelsea Creek Headworks is one of three remote headworks facilities that provides preliminary treatment and flow control of the wastewater from MWRA's Northern Service Area before reaching the Deer Island Treatment Plant. Preliminary treatment at the headworks facilities includes grit and screenings removal, which prevents excessive wear and maintenance of equipment at the North Main Pump Station, and protects the cross harbor tunnels from filling with debris. The Chelsea Creek Headworks was constructed in the 1960s and received its last significant upgrade in 1987.

This project is the first of the complete upgrades to the three headworks facilities and includes automation of the screenings collection and solids conveyance system, allowing the facility to be unstaffed during dry weather flows. The following items are being replaced or upgraded:

- grit collector systems;
- existing climber screens with catenary screens;

- influent and effluent sluice gates;
- the gates' hydraulic operating system with electric gate actuators;
- HVAC systems;
- a new carbon adsorber odor control system with redundancy;
- ancillary systems including the emergency generator, fuel oil tank, and transformer;
- instrumentation and control systems;
- the communications tower and a communications building; and
- fire suppression.

In addition, this contract includes abatement of hazardous building materials including paint containing PCBs, flood protection measures to protect the facility to the 100-year flood elevation plus 2.5 feet, and upgrades to meet current code requirements for egress, plumbing, electrical, etc.

This Change Order

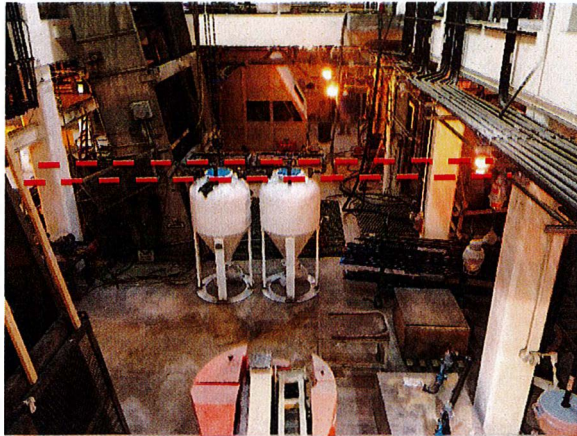
Change Order 26 consists of the following item:

Design, Furnish and Install a Revised Pneumatic Ejection
Piping System with Engineered Supports

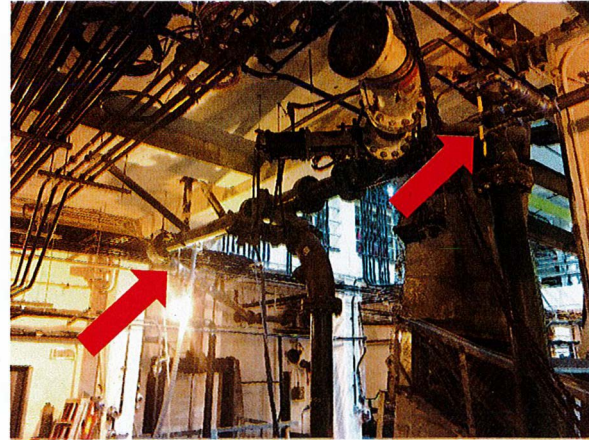
Not to Exceed \$375,000.00

The Contractor is required to furnish and install a pneumatic ejection system to transport grit and screenings collected from the lower operating level up to the dumpsters located at ground level. After commencement of the contract, a conflict between the design for the new piping and existing hydraulic power unit (HPU) used to control the hydraulically operated sluice gates was identified. The HPU will eventually be demolished, but must remain operational until the gates on the last process channel are taken out of service. Additionally, the footprint of the new catenary bar screens is larger than the existing climber screens, leaving a smaller open area for the bridge crane to raise and lower large equipment and material between the mezzanine level and the operating floor. The new pipe, as designed, would further obstruct this area. Lastly, the new cross over piping and knife gates used for diverting grit and screenings to either dumpster were originally designed on the operating floor, upstream of the existing cross over piping and knife gates. This arrangement would not allow staff to operate the new and existing systems concurrently during the interim period when both systems are needed.

To eliminate the conflict with the HPU, maintain the remaining available space for the bridge crane for future maintenance and construction activities, and allow continued operation of the new and old grit and screening transport systems, the as-designed pipe routing needs to be revised. The new piping on the operating floor and mezzanine level will be installed in a similar alignment as the existing piping. The revised design relocates the cross over piping and diverter knife gates from the operating floor to the garage. This will allow grit and screenings to be directed to the dumpsters using the existing knife gates and controls during the interim condition. As a result of this reconfiguration, the Contractor must furnish and install additional grit pipe and fittings and spools and extend the air piping and control wiring from the operating floor to the garage for the new diverter knife gates.



As designed pipe routing (shown in red) obstructing bridge crane path



Existing restraints for pneumatic ejection piping

In addition to the revised pneumatic ejection piping layout described above, the system also requires engineered pipe supports to restrain the piping from the significant lateral forces exerted on the piping when grit or screenings get ejected with high pressure air. The contract documents did not include a requirement for providing design services to perform a pipe stress analysis and design the required supports, restraints, and anchors. The contract documents only listed the operating pressure of the pneumatic ejection pipe and indicated standard pipe hangers and spacing. To correct this omission, the Contractor must design, furnish, and install pipe supports and restraints, in lieu of the standard pipe hangers. The pipe support system must be designed and stamped by a registered professional engineer licensed in Massachusetts. In addition, all of the vendor-furnished 90-degree elbows must be replaced with 90-degree base elbows for connecting to the new support system.

The approved PCO for this item was identified by MWRA staff as a design error and omission. MWRA staff, the Consultant, and the Contractor have agreed to a not-to-exceed amount of \$375,000 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$72,859,000.00	1,460 Days	11/22/16
Change Orders:			
Change Order 1	\$252,512.00	0 Days	06/29/17
Change Order 2*	\$208,431.00	0 Days	07/24/17
Change Order 3	\$1,129,740.20	0 Days	07/24/17
Change Order 4*	\$237,870.00	0 Days	10/18/17
Change Order 5	\$304,036.26	0 Days	12/21/17
Change Order 6*	\$207,226.00	0 Days	01/26/18
Change Order 7	\$1,278,783.00	0 Days	02/07/18
Change Order 8	\$937,267.00	0 Days	02/22/18
Change Order 9	\$17,321.00	0 Days	04/03/18
Change Order 10*	\$20,879.00	0 Days	04/11/18
Change Order 11*	\$200,000.00	0 Days	05/18/18

Change Order 12	\$1,000,000.00	0 Days	05/31/18
Change Order 13*	\$129,783.00	0 Days	06/12/18
Change Order 14	\$500,000.00	0 Days	06/28/18
Change Order 15*	\$24,634.00	0 Days	08/20/18
Change Order 16*	\$21,584.00	0 Days	08/24/18
Change Order 17*	\$109,065.00	0 Days	09/13/18
Change Order 18	\$395,742.00	0 Days	09/28/18
Change Order 19*	\$18,351.00	0 Days	10/26/18
Change Order 20*	\$20,123.00	0 Days	11/06/18
Change Order 21*	\$82,621.00	0 Days	11/13/18
Change Order 22	\$182,792.00	0 Days	11/19/18
Change Order 23*	\$70,125.00	0 Days	12/17/18
Change Order 24*	\$15,618.00	0 Days	01/24/19
Change Order 25*	\$149,469.00	0 Days	Pending
Change Order 26	<u>\$375,000.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$7,888,972.46	0 Days	
Adjusted Contract:	\$80,747,972.46	1,460 Days	

* Approved under delegated authority

If Change Order 26 is approved, the cumulative value of all change orders to this contract will be \$7,888,972.46 or 10.8% of the original contract amount. Work on this contract is approximately 48% complete.

BUDGET/FISCAL IMPACT:

The FY19 Capital Improvement Program budget includes \$80,519,865 for Contract 7161. Including this change order for an amount not to exceed \$375,000, the adjusted subphase total will be \$80,747,972.46 or \$228,107.46 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 3.4% and 3.8%, 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: February 20, 2019
SUBJECT: Alewife Brook Pump Station Rehabilitation
Stantec Consulting Services, Inc.
Contract 7034, Amendment 6



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

John P. Colbert, P.E., Chief Engineer
David K. Pottle, P.E., Program Manager
Preparer/Title

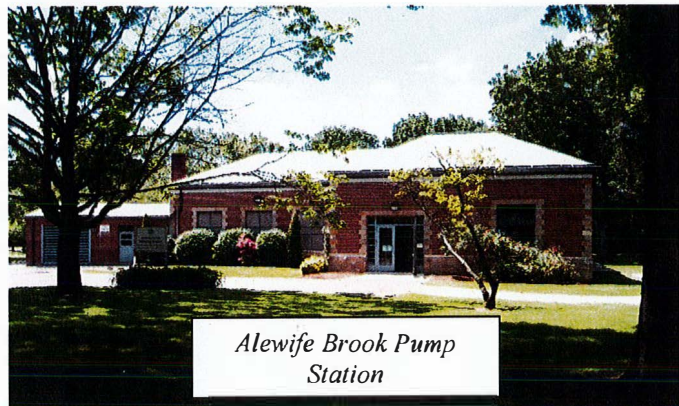

David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 6 to Contract 7034, Alewife Brook Pump Station Rehabilitation, with Stantec Consulting Services, Inc., to increase the contract amount by \$94,195.74 from \$2,169,652.22 to \$2,263,847.96 and increase the contract term by 93 days from November 27, 2019 to February 28, 2020.

BACKGROUND:

Constructed in 1951, the Alewife Brook Pump Station in Somerville (shown on the right) receives wastewater from portions of Arlington, Belmont, Cambridge, Medford, and Somerville. All flow is pumped to the North Metropolitan and North Metropolitan Relief Sewers, and ultimately conveyed to Deer Island for treatment.



On February 15, 2012, the Board approved the award of Contract 7034 in an amount not to exceed \$1,558,446.39, for a term of 1,703 calendar days for final design, and construction administration and resident engineering services for the Alewife Brook Pump Station Rehabilitation project.¹ The project includes: replacement of wet-weather pumps, motors, gear drives, variable frequency drives, motor control center, influent screens, sluice gates, standby generator, roof, programmable logic controller, and air handling and air conditioning units; remediation of PCB-containing paints;

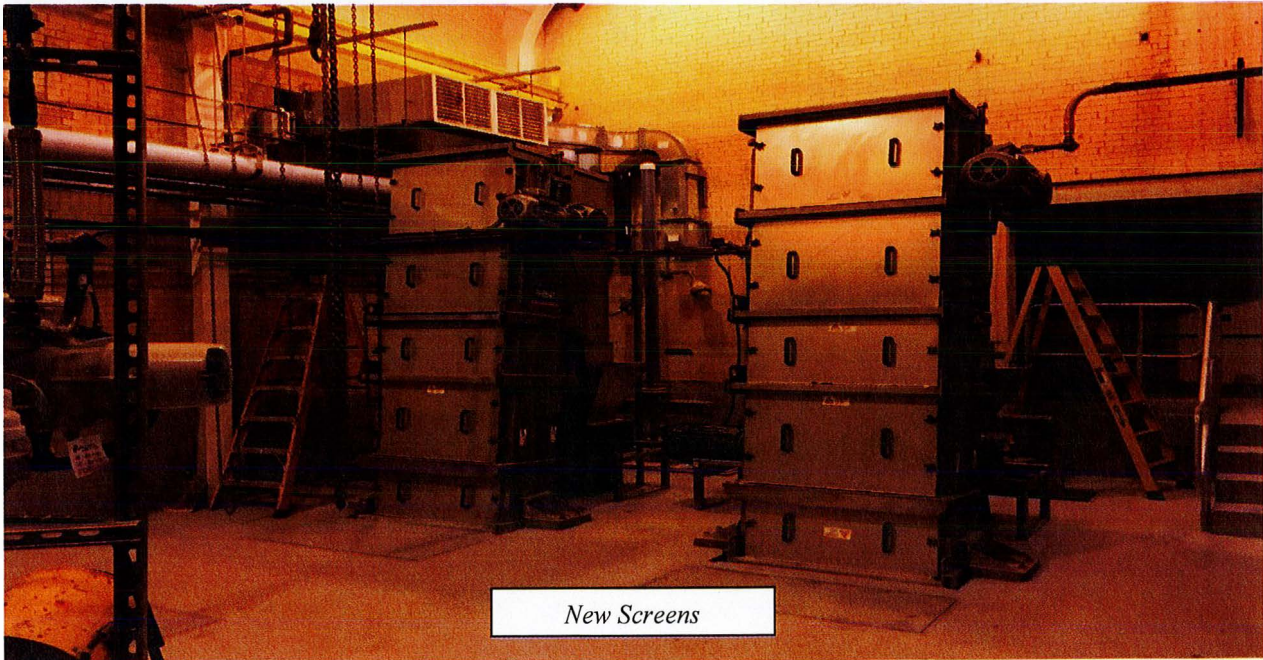
¹ Contract 7034 was awarded to Fay, Spofford & Thorndike, LLC. On October 31, 2015 all assets and liabilities of FST were transferred to Stantec Consulting Services, Inc. Contract 7034 was assigned from FST to Stantec by vote of the Board of Directors on February 10, 2016.

remediation of asbestos-containing roofing and insulation materials; installation of a flow meter on the 66-inch downstream Alewife Brook Conduit; flood control measures; and energy efficiency improvements.

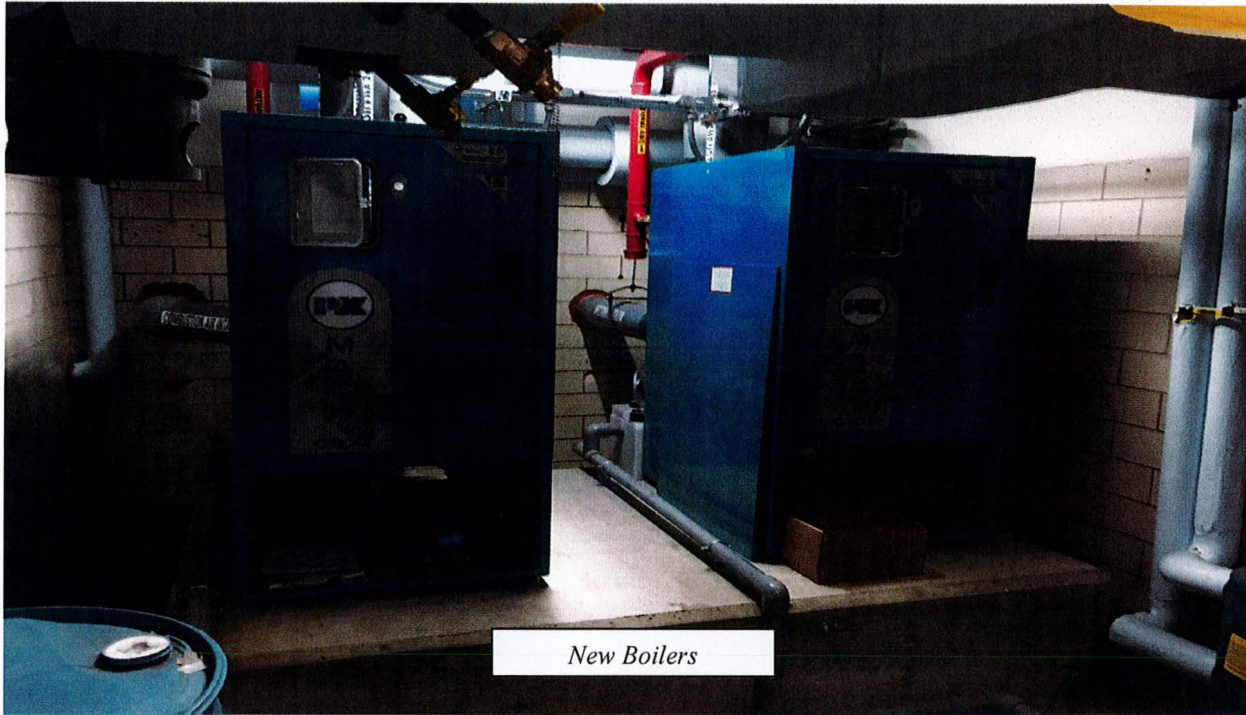
On November 18, 2015, the Board approved the award of Contract 6797 to Barletta Engineering Corporation for construction of the improvements. The Notice to Proceed for construction was issued on January 29, 2016 and Substantial Completion is scheduled to be achieved by February 28, 2019. Construction work is nearly complete.



New Wet Weather Pumps



New Screens



DISCUSSION:

Amendment 1 increased the contract amount by \$181,274.24 and extended the term by 182 days for additional design services to include flood protection measures, replacement of the programmable logic controller, energy efficiency improvements, modifications to the generator exhaust and chimney; review of additional contractor submittals in proportion with the added design work; preparation of additional record drawings; and additional project administration services associated with the extended term. Amendment 2 increased the contract amount by \$73,305 and extended the term by 748 days for additional review, comments and revisions of construction documents associated with the added design work; bid protest assistance services; additional design services to account for statutory and regulatory changes; building permit assistance services; and additional project administration services and hourly rate escalation associated with the extended term. Amendment 3 increased the contract amount by \$95,266 with no increase in contract term for additional contractor submittal review services. Amendment 4 increased the contract amount by \$195,495 and extended the term by 194 days for indirect cost rates changes and hourly rate escalation, additional contract administration and resident engineering services associated with extension of Construction Contract 6797, additional hazardous materials abatement oversight services and additional shop test witnessing services. Amendment 5 increased the contract amount by \$65,865.02 for development of high-performance SCADA system graphics and additional contractor requests for information (RFIs) review services.

This Amendment

Amendment 6 will increase the contract amount by \$94,195.74 from \$2,169,652.22 to \$2,263,847.96 and increase the contract term by 93 days from November 27, 2019 to February 28, 2020 for the following items:

Additional Contract Time

93 days

Contract 7034 provides construction administration and resident engineering services during construction of Contract 6797 - Alewife Brook Pump Station Rehabilitation. At this time, the construction contract, Contract 6797, is projected to achieve Substantial Completion by February 28, 2019, with the warranty period ending on February 28, 2020. This contract currently ends on November 27, 2019. A time extension of 93 days is required to extend the post-construction services, which include providing as-needed assistance to the MWRA and certifying that the facility performs as designed during the warranty period, through February 28, 2020.

Out of Scope Services

Additional out of scope work is required to complete the construction contract including additional submittal reviews, programming modifications as a result of startup, and staff time to support the extended construction schedule described below.

Additional Funding for Review of Contractor Submittals \$32,168.31

This contract includes the review of 387 contractor submittals. This quantity of submittals has been reached. Staff have determined that an additional 50 contractor submittals are anticipated through the end of construction. These are mostly operations and maintenance manuals for installed equipment. Based on the actual cost incurred (\$643.37 per submittal) for review of contractor submittals to date, the estimated cost to review the projected 50 submittals is \$32,168.31. Proposed Amendment 6 does not increase the budget for review of the contract-stipulated 387 submittals.

Pump Control Strategy Changes and Additional Funding for PLC Programming and Testing \$26,087.25

The pumps at the Alewife Brook Pump Station are operated according to a pump control strategy programmed into the station's programmable logic controller (PLC). The outdated PLC was replaced with a PLC meeting MWRA's current SCADA standards. Contract 7034 required that the rehabilitated station operate according to the same protocols as the original facility, and therefore, the new PLC was programmed based on the original facility's control strategy. During facility startup testing, frequent on/off cycling of the new, larger wet weather pumps occurred. To correct this condition, the station's pump control strategy needs to be revised. Additional services to be provided include development of a revised pump operations control strategy, PLC programming, simulation testing, wet weather testing of actual pump operations, and, if necessary, refinement of the control strategy, reprogramming of the PLC and retesting of wet weather pump operations.

Additional Funding for Resident Engineering Services and Project Administration \$35,940.18

Contract 7034 provides an MWRA-established level of effort of 5,000 hours of resident engineering services. Due to the projected extended duration of contract by 93 days, an additional 175 hours of resident engineering services is required. Resident engineering services to be performed at this stage of the project include ensuring that the rehabilitated pump station operates as designed and the contractor's punch list items are completed.

Extension of the contract also requires Stantec perform additional project administration services including: attending project meetings, subconsultant management, monthly accrual reporting, monthly invoicing, and monthly progress and M/WBE compliance reporting. This item also includes additional on-site inspections by technical staff.

CONTRACT SUMMARY:

	<u>AMOUNT</u>	<u>TIME</u>	<u>DATED</u>
Contract Amount:	\$1,558,446.39	1,703 Days	03/01/12
Amendment 1*	\$181,274.24	182 Days	07/31/13
Amendment 2	\$73,305.00	748 Days	12/16/15
Amendment 3	\$95,266.00	0 Days	04/12/17
Amendment 4	\$195,495.57	194 Days	01/17/18
Amendment 5*	\$65,865.02	0 Days	02/07/19
Amendment 6	\$94,195.74	93 Days	Pending
Adjusted Contract Amount:	\$2,263,847.96	2,920 Days	

*Approved under delegated authority

Amendments 1 through 6 increase the total contract amount by 45.3%.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes a budget of \$2,103,787 for Contract 7034. Including this amendment for \$94,195.74 the adjusted contract total will be \$2,263,847.96, or \$160,060.96 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

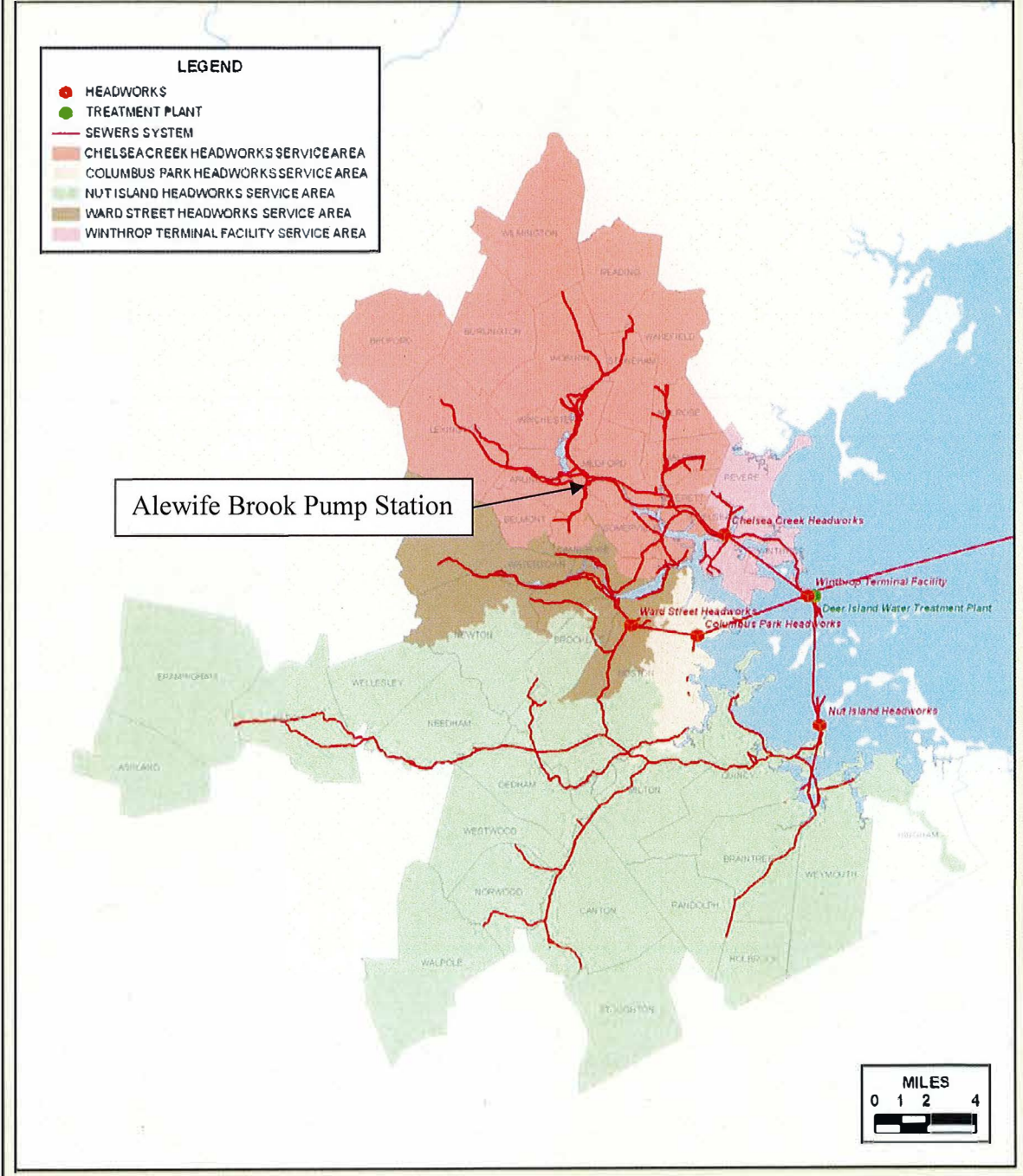
Stantec Consulting Services, Inc. has committed to 9.84% MBE and 6.76% WBE participation; these percentages will be unchanged by Amendment 6.

ATTACHMENT:

Attachment A – Alewife Brook Pump Station Location.

Attachment A

Location of Alewife Brook Pump Station





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

WATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, February 20, 2019

Chair: B. Peña
Vice-Chair: C. Cook
Committee Members:
J. Carroll
J. Foti
A. Pappastergion
H. Vitale
J. Walsh
J. Wolowicz

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately Following Wastewater Committee

AGENDA

A. Contract Awards

1. Dam Safety Compliance and Consulting Services – Repairs, Design and Engineering Services During Construction: GZA Environmental, Inc., Contract 7614
2. Chestnut Hill Emergency Pumping Station Improvements Design and Engineering Services During Construction, Hazen and Sawyer, Contract 7574

B. Contract Amendments/Change Orders

1. Wachusett Aqueduct Pumping Station, BHD/BEC JV 2015, A Joint Venture, Contract 7157, Change Order 55

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Water Policy and Oversight Committee

January 16, 2019

A meeting of the Water Policy and Oversight Committee was held on January 19, 2019 at the Authority headquarters in Charlestown. Committee Vice Chair Peña presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Mark Johnson, Stephen Estes-Smargiassi, Daniel Nvule, Carl Leone, Kristen Hall, Bethany Card, John Colbert, Carmine Demaria, Lisa Hamilton and Kristin MacDougall. The meeting was called to order at 11:40 a.m.

Information

Report of 2018 Water Use Trends and Reservoir Status

Staff made a presentation. There was discussion and questions and answers. (Mr. Foti returned to the meeting and Mr. Pappastergion left the meeting during the presentation.)

Lead Service Line Replacement Loan Program Update

Staff made a verbal presentation. There were questions and answers. (Mr. Pappastergion returned to the meeting during the presentation.)

Approvals

* Approval of a Contract Between the Massachusetts Water Resources Authority and the Massachusetts Department of Fish and Game Related to the McLaughlin Fish Hatchery Pipeline and Hydropower Project

Staff made a verbal presentation.

The Committee recommended approval. (ref. W B.1).

* Committee recommendation approved by the Board on January 16, 2019

Contract Awards

*** Painting of Deer Island Steel Water Storage Tank: Atlas Painting and Sheeting Co., Contract 7601**

Staff made a presentation. There was discussion and questions and answers. (Mr. Carroll left the meeting during the presentation.)

The Committee recommended approval (ref. W C.1).

*** Commonwealth Avenue Pumping Station Improvements: WES Construction Corp., Contract 7524**

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

The Committee recommended approval (ref. W C.2).

Contract Amendments/Change Orders

*** Northern Intermediate High Section 110 – Stoneham: Albanese D&S, Inc., Contract 7067, Change Order 5**


Staff made a presentation. There was discussion and questions and answers. (Mr. Carroll returned to the meeting and Mr. Flanagan briefly left and returned to the meeting during discussion.)

The Committee recommended approval (ref. W D.1).

The meeting adjourned at 12:23 p.m.

* Committee recommendation approved by the Board on January 16, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Dam Safety Compliance and Consulting Services – Repairs Design and Engineering Services During Construction
GZA GeoEnvironmental, Inc.
Contract 7614

COMMITTEE: Water Policy & Oversight

INFORMATION

VOTE


Michele S. Gillen

Director of Administration

John J. Gregoire, Program Manager, Reservoir Operations
Mark Johnson, P.E., Director of Waterworks
Preparer/Title


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

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7614 to GZA GeoEnvironmental, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$432,028.54, for a contract term of 52 months from the Notice to Proceed.

BACKGROUND:

In accordance with the 2004 Memorandum of Understanding with the Department of Conservation and Recreation (DCR), MWRA is responsible for funding and undertaking required regulatory inspections and analyses, and capital maintenance and improvements of the dams that impound MWRA's active and back-up reservoirs. Ensuring the integrity of these dams is paramount, not only for water supply and flood control functions, but also for downstream public safety. The majority of MWRA/DCR water supply dams are classified by the Massachusetts Office of Dam Safety as Large size and High Hazard class.¹

Massachusetts Office of Dam Safety Regulations require that these dams be inspected on a recurring frequency. MWRA has an excellent compliance record through regular performance of required engineering inspections and through addressing the findings of such inspections through maintenance and capital repairs, as needed. To date, MWRA has invested over \$22 million to correct deficiencies and make operational improvements to ensure the safety and longevity of these important water supply dams.

¹ Hazard class refers to the potential for loss of life and infrastructure downstream due to a dam failure.

The tasks included in this contract reflect this continuing responsibility by addressing some remaining deficiencies determined through prior dam safety regulatory inspections and studies.

DISCUSSION:

Contract 7614 provides for qualified dam safety engineers to design construction repairs and provide engineering services during construction at three reservoirs as described below.

At the Sudbury Reservoir, this contract will provide a design for masonry and weep hole repairs on the downstream spillway face and downstream training walls, diver inspection of the upstream side of the spillway, and design of gatehouse vent piping repairs.



Figure 1 - Sudbury Dam Spillway)

At the Wachusett Reservoir, this contract will provide a design to reconnect a section of the earthen embankment at North Dike, which had been removed in the 1960s to allow construction of a pumping station for the City of Leominster. Prior design flood analyses revealed that wave run-up overtopping during a ‘Probable Maximum Flood’ event could occur at this location. A consequence of overtopping is potential failure of the dike at this location.



Figure 2 - Leominster Pump Station in notch cut from North Dike

Also, at the Wachusett Reservoir, this contract will include design of a contract for installation of required piezometers to monitor the phreatic surface (hydraulic grade line from the reservoir) through the dam. Borings required to create these piezometer locations will provide subsurface soils and conditions data that will be used in future stability analyses. This is the first phase in piezometer installations at MWRA’s earthen dams. Future phases will include dams and dikes at the Norumbega, Weston, Fells, and Chestnut Hill Reservoirs.

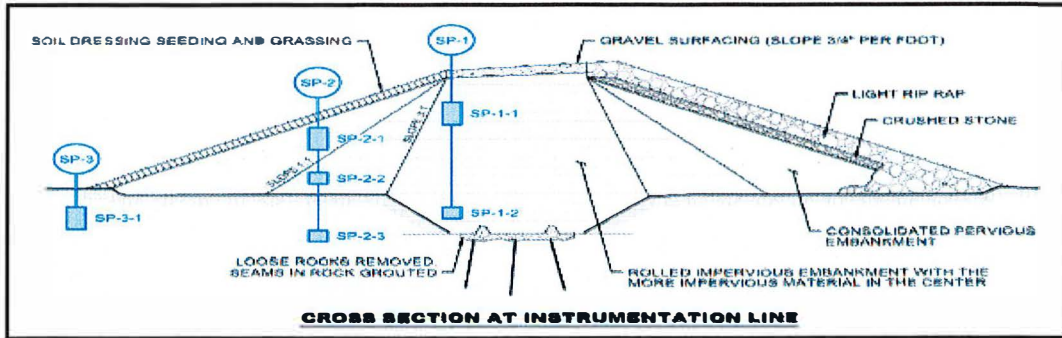


Figure 3 - Example of piezometer placement in earthen dam

At the Foss Reservoir, work will include turf and soil analyses, and design of overtopping protection for the steepest section of the earthen dam. These modifications were recommended when MWRA obtained approval from the Office of Dam Safety for the 500-year spillway design flood. The spillway, while adequate to pass this flood, will have little remaining freeboard creating potential for wind-induced overtopping of the dam.



Figure 4 - Foss Reservoir Dam and Spillway

Procurement Process

On November 24, 2018, 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. In addition, notice was sent directly to over one hundred engineering firms. Of the 30 firms that requested the RFQ/P documents, 15 were potential prime consultants.

The following criteria were used to evaluate proposals: Cost (25 points), Capacity/Qualifications/Key Personnel (20 points), Experience and Past Performance (20 points), Technical Approach (20 points), and Capacity, Organization and Management Approach (15 points)

A pre-proposal conference and site visit was held on December 3, 2018, for which seven firms attended. MWRA received three proposals on January 10, 2019, from GZA GeoEnvironmental, Inc., GEI, Inc., and WSP USA, Inc. The Selection Committee reviewed the proposals and scored each proposal accordingly. The results, including the proposed costs are listed below.

	Total Points	Order of Preference/Total Score	Rank	Lump Sum Price
GZA GeoEnvironmental, Inc.	426	7	1	\$432,028.54
GEI, Inc.	409	9	2	\$453,654.89
WSP USA, Inc.	356	14	3	\$760,823.10
<i>Engineer's Estimate</i>				<i>\$300,000.00</i>

Staff's estimate for the design and consulting scope items was relatively close to the first and second-ranked firms' estimates. However, staff underestimated engineering services during construction (ESDC). Staff believe the higher ESDC in the proposals reflects uncertainty with future items such as construction advice, contractor submittals, and on-site meetings, inspections, and observations once construction commences.

Based on a detailed review of all proposals, the Selection Committee unanimously selected GZA as the top-ranked firm for this contract. GZA has held several MWRA contracts on dam work since 2005, including engineering design, studies, dam safety inspections, and ESDC. GZA also performed the most recent Phase I regulatory inspections for MWRA dams in 2016 and 2018. Staff have been pleased with the performance of GZA on these past MWRA dam projects.

GEI also scored highly across the Evaluation Criteria with the Selection Committee ranking it second. GEI's costs were also very competitive. GEI has performed some MWRA dam studies and design work, including the Winsor Dam internal drainage improvements (2007) and Foss Spillway Design Flood Study (2013). The Selection Committee felt the firm could successfully perform the work if awarded.

WSP-USA had some prior experience with MWRA, but it was predominantly on water mains and aqueduct projects in the 1990s and early 2000s. The firm did demonstrate relevant experience in dam safety work nationally. The Selection Committee was impressed with the personnel, technical approach, and overall experience that WSP-USA offered to Contract 7614 and it appeared qualified to do the work. However, the firm's proposed cost was very high, particularly its estimate for project administration, which at \$307,935 was 12 times higher than GZA's project administration estimate (\$25,209) and eight times higher than GEI's project administration estimate (\$38,266).

Staff are of the opinion that GZA possesses the skill, ability, and integrity necessary to perform the work under this contract. GZA is well-qualified, and offered a competitive cost to accomplish the work. Therefore, staff recommend award of this contract to GZA GeoEnvironmental, Inc. in an amount not to exceed \$432,028.54.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes \$210,000 for Contract 7614. The contract award is \$432,028.54, or \$222,028.54 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Chestnut Hill Emergency Pumping Station Improvements Design and Engineering Services During Construction
Hazen and Sawyer, P.C.
Contract 7574



COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration

John Colbert, P.E., Chief Engineer
Lisa Hamilton, P.E., Assistant Director, Engineering
Kathleen Cullen, P.E., Program Manager
Preparer/Title


David W. Coppes, P.E

Chief Operating Officer

This project is one of several Metropolitan Redundancy Interim Improvement projects that are being implemented to improve emergency response to an unexpected shut down of the Metropolitan Tunnel system until a new redundant tunnel is constructed. This Chestnut Hill Emergency Pumping Station Improvements contract will improve station operation by providing control of excessive discharge and surge pressure at the pumping station in the event that the Dorchester Tunnel needs to be taken out of service in an emergency.

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7574, Chestnut Hill Emergency Pumping Station Improvements 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 the amount of \$2,074,166.81, for a contract term of 66 months from the Notice to Proceed.

BACKGROUND:

The Chestnut Hill Emergency Pumping Station was completed in 2002 and is located on Beacon Street in Boston (see Attachment A). If the City Tunnel or Dorchester Tunnel failed, or needed to be taken out of service, the pumping station would be put into service to provide flow to the Southern High and Southern Extra High service areas. The pumping station is designed to pump water from the Chestnut Hill Reservoir and supply it either through the Dorchester Tunnel or via surface lines. There is also a connection on the suction side of the pumping station to the potable Boston low service system. When the pumping station is in operation, it would supply the Newton

Street Pumping Station, the Hyde Park Pumping Station, and the Blue Hills Covered Storage facility. The facility contains four 22.5 mgd pumps for a total station capacity of 90 mgd.

Through modeling of metropolitan tunnel failure scenarios, staff have identified that starting and stopping the Newton Street and Hyde Park Pumping Stations can cause dramatic increases or decreases in discharge pressure at the Chestnut Hill Emergency Pumping Station. In addition, if the Dorchester Tunnel is out of service and the Chestnut Hill Emergency Pumping Station is pumping to surface lines, discharge pressures from the pumping station could exceed normal pressures in community pipelines increasing risk of failure during emergency operation.

DISCUSSION:

Contract 7574 is a 66 month professional services contract for design and engineering services during construction (24 months for design, 30 months for construction, and a 12-month warranty period) for improvements to the Chestnut Hill Emergency Pumping Station.

This contract will provide design and engineering services during construction for improvements to the Chestnut Hill Emergency Pumping Station including:

- Hydraulic analysis of the pumping station under several operating scenarios to determine the maximum allowable pumping station discharge pressure.
- Design of improved surge control measures.
- An evaluation of the station electrical loading to identify the facility loads with the intent to design and install a 1 MW towable generator docking station to provide electrical redundancy in the event of a loss of all utility power. The facility has two independent electrical feeds from different transmission lines for redundancy, but no generator power.
- Design of two new isolation valves and vaults to provide necessary isolation of the pump station in the event of failure of the Dorchester Tunnel. The valves will be installed on Section 106 between Shaft 7B and the discharge of the pumping station.
- The electrical conduit in the underground pumping station is embedded in the concrete and has been susceptible to water leaks and maintenance issues. This design will move all electrical conduit and cable into overhead cable trays to improve station reliability.

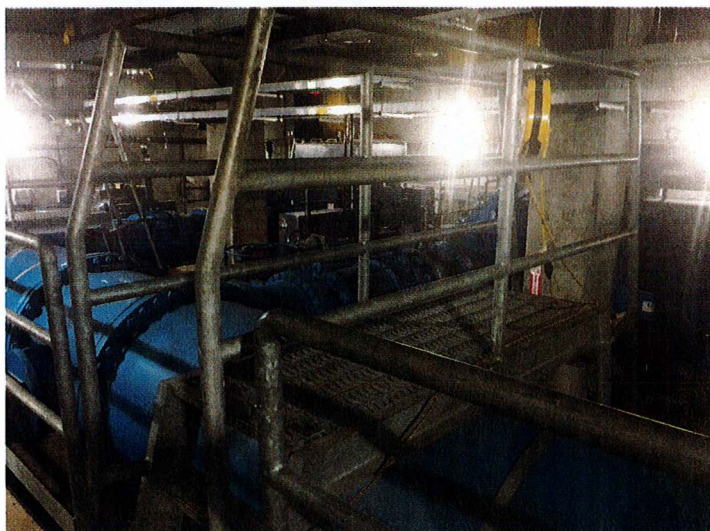


Figure 1 – Chestnut Hill emergency Pump Station

Staff will determine the required level of effort for Resident Engineering Services during final design and as appropriate procure these services at a later date through a competitive process.

Procurement Process

On November 3, 2018, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P). In addition to standard advertising in the Boston Herald, El Mundo, Banner Publications, Central Register and COMMBUYS, MWRA also sent a notice of the RFQ/P to approximately 40 firms, which might serve as prime consultants or sub-consultants on the project. Of those, 14 firms requested the RFQ/P documents; eight of which were potential prime consultants. Two firms subsequently submitted as prime consultants. Firms which did not submit proposals were contacted to determine why they did not submit. One firm believed that another firm was better positioned to win the proposal, so it did not bid. Another firm indicated that the firm was “at capacity” for those services at the projected time period and thus did not submit a proposal. At the request of one potential proposer firm, MWRA extended the due date for proposals by an Addendum to ensure adequate time for proposal development and to encourage competition, and that proposer did submit a proposal.

The RFQ/P included the following evaluation criteria: Cost - 20 points; Qualifications and Key Personnel - 20 points; Technical Approach – 20 points; Experience/Past Performance on Similar Non-Authority Projects and Past Performance on Authority Projects - 20 points; Capacity/Organization and Management Approach – 15 points; and MBE/WBE participation – 5 points.

On December 20, 2018, MWRA received proposals from two firms: Hazen and Sawyer, P.C. and Stantec Consulting Services Inc.

The proposal costs and levels of effort are presented below:

PROPOSER	PROPOSED CONTRACT COST	LEVEL OF EFFORT
Hazen and Sawyer, P.C.	\$2,074,166.81	13,012 hours
Stantec Consulting Services Inc.	\$2,997,016.55	17,688 hours
<i>Engineer’s Estimate</i>	<i>\$2,960,680.00</i>	<i>17,631 hours</i>

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.	365	5	1
Stantec Consulting Services Inc.	350	10	2

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

Hazen and Sawyer, P.C. was ranked first by every member of the Selection Committee. Hazen and Sawyer's proposed staffing and project team has excellent qualifications, experience/past performance, and capacity. Hazen and Sawyer's costs and hours were significantly lower than the Engineer's Estimate, particularly in Task 1 (Administration) and Task 3 (Bid Documents and Bidding Services). However, the firm stated that these costs were "lean" but feasible, based upon past experience, and were an effort to be competitive while still meeting the scope requirements. A review of specific requirements of meetings, for example, showed that Hazen included the specific number of hours per meeting, plus one hour for travel and one hour for preparation per meeting, thus meeting the required level of effort for the task. In other critical tasks, for example Task 2.3 (Surge Analysis), Hazen included far more (i.e. nearly twice the number of hours) than the number listed in the Engineer's Estimate. Based upon a detailed review of level of effort by task, the Selection Committee determined that Hazen and Sawyer's proposal, although 26% lower than the Engineer's Estimate overall level of effort, presented an adequate level of effort for the project. Hazen and Sawyer also had a lower overall cost per hour by using a team that is well-qualified, but not at the top of their pay scale and did not request any salary waivers. Committee Members agreed that Hazen and Sawyer's technical approach was strong in outlining potential project solutions. Hazen and Sawyer's overall past MWRA and non-MWRA similar project performance has been very good. References from NYC for the Croton Water Filtration Plant Pumping Station project, and from the City of Baltimore for its Deer Creek Pumping Station Upgrades project are both quite positive. Hazen and Sawyer's work for MWRA includes the Spot Pond Covered Storage Facility Design/Build; Nut Island Headworks Odor Control and HVAC Improvements Design; and Agency-Wide Technical Assistance Consulting Services, all of which received very good evaluations.

Stantec Consulting Services Inc. was ranked second. The Selection Committee determined that Stantec's proposed project team was qualified with relevant experience, and is the same team that worked on the Wachusett Aqueduct Pumping Station. Although Stantec's cost and hours were overall slightly higher than the Engineer's Estimate, the distribution of hours was very different and included a much higher number of hours in Task 4 (Engineering Services During Construction) and significantly lower number of hours in Task 2 (Preliminary Design). In addition, Stantec's overall cost per hour was the highest due to a well-qualified team at the top of their pay scale, and requested three salary cap waivers for key team members. The Selection Committee agreed that Stantec provided an appropriate technical approach. The firm's references for past MWRA projects and non-MWRA similar past performance were rated overall average. The Committee noted that there have been technical, budget, schedule, and staffing resource related issues with several recent Authority projects.

Based on final rankings, the Selection Committee recommends the award of this contract to Hazen and Sawyer, P.C. in an amount not to exceed \$2,074,166.81. In accordance with MWRA's procurement procedures, staff entered into discussions with Hazen and Sawyer to confirm costs, level of effort, and project management. Based on those discussions, staff are of the opinion that Hazen and Sawyer can complete the project for the proposed cost.

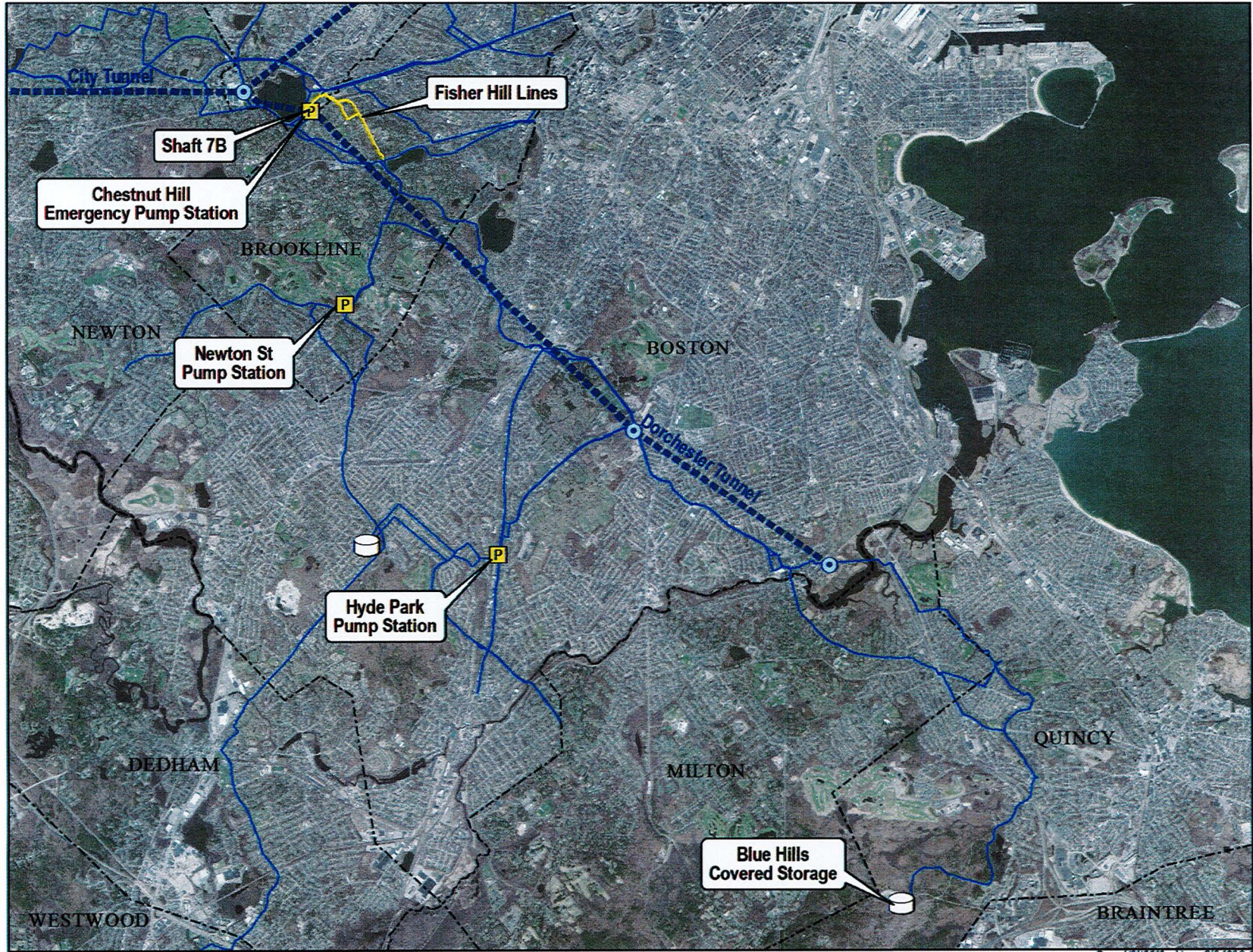
BUDGET/FISCAL IMPACT:

The FY19 CIP includes a budget of \$6,700,000 for Contract 7574. The contract award amount is \$2,074,166.81. The scope of the project was reduced during scope development to include a docking station for a towable generator, rather than locate a permanent generator at a nearby gatehouse or parkland and run permanent underground cables to the station.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this contract were established at 7.18% and 5.77%, respectively. Hazen and Sawyer has committed to 7.6% MBE and 5.8% WBE participation.

Attachment A - Project Location



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: Wachusett Aqueduct Pumping Station
BHD/BEC JV 2015, A Joint Venture
Contract 7157, Change Order 55



COMMITTEE: Water Policy and Oversight

 INFORMATION
 X VOTE

Corinne M. Barrett, Director, Construction
Vincent Spada, P.E. Construction Coordinator
Preparer/Title



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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 55 to Contract 7157, Wachusett Aqueduct Pumping Station, with BHD/BEC JV 2015, A Joint Venture, for an amount not to exceed \$116,949, increasing the contract amount from \$50,655,413.03 to \$50,772,362.03, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7157 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 water transmission system between the Wachusett Reservoir and the John J. Carroll Water Treatment Plant consists of the Cosgrove Tunnel and the Wachusett Aqueduct. The Cosgrove Tunnel provides the primary raw water supply to the Carroll Plant and the Wachusett Aqueduct is an emergency back-up. Although rehabilitation of the Wachusett Aqueduct in 2003 allowed its use during a short winter duration so that the Cosgrove Tunnel could be connected to the Carroll Plant, it is limited in its flow capacity (approximately 240 MGD) and it cannot meet the grade line requirements of the Carroll Plant in the event of an emergency. Since the Wachusett Aqueduct operates at a lower hydraulic grade line than the Cosgrove Tunnel, water cannot flow from it into the Carroll Plant's ozone contactors without pumping. If the Wachusett Aqueduct were needed in an emergency, the Carroll Plant would have to be shut down and temporary chlorination facilities would have to be installed at the upstream-end of the aqueduct, at the base of the Wachusett dam, to provide disinfection. Demand management would be required during periods of summer high water use if demand exceeded the aqueduct's capacity.

Once completed, this new pumping station will allow the Wachusett Aqueduct to provide up to 240 MGD of redundant capacity for the Cosgrove Tunnel. Completion of the Hultman Aqueduct rehabilitation and interconnections project provided redundancy for the MetroWest Water Supply Tunnel. Together, these projects will provide water transmission redundancy from Wachusett Reservoir to the metropolitan tunnel system.

This Change Order

Change Order 55 consists of the following 3 items:

Furnish and Install ASI BACport Interface Translators at
Each of the Six Existing ASI Systems Automatic Control Panels Not to Exceed \$80,000



BACport Control Cabinets

The contract documents include the installation of an Automatic Temperature Control system to connect the Wachusett Aqueduct Pumping Station system with a new system installed at the John J. Carroll Water Treatment Plant. The new system must interface with the pump station temperature controls and the existing temperature controls in each of the Carroll Plant buildings, so that building temperatures can be monitored and controlled at the Carroll Plant Control Room. The contract documents required that the new system must connect to six ASI Control Systems in the Operations, Chemical, Ozone, Post Treatment and Generator Buildings. However, connection of the

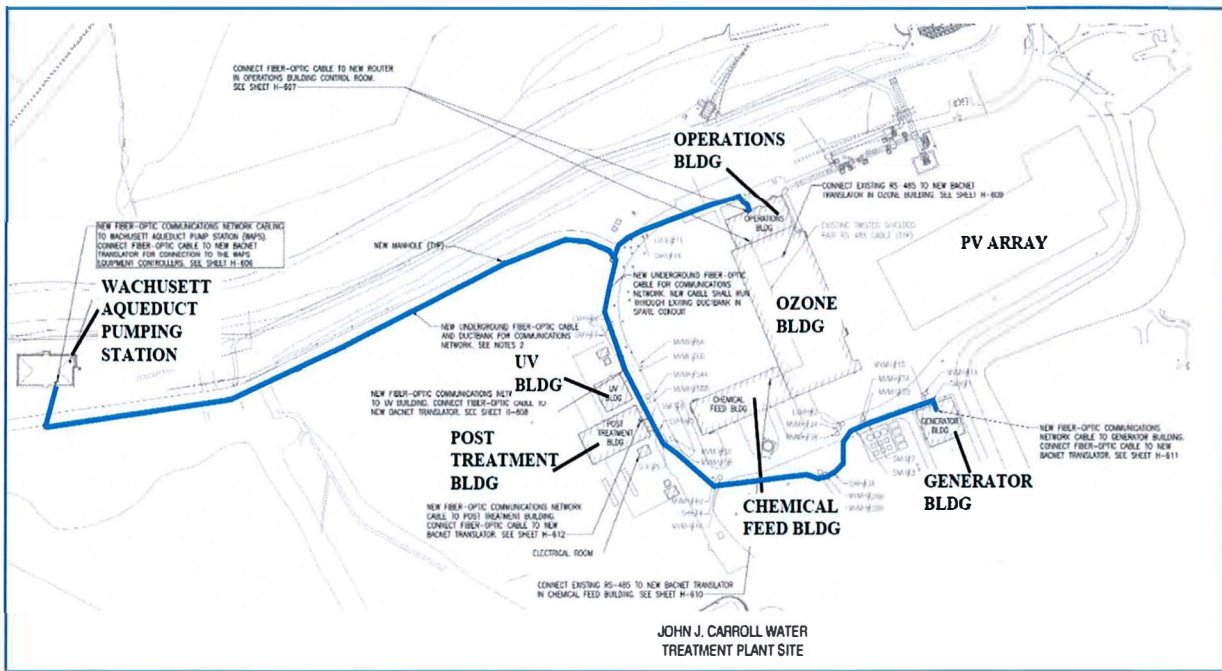
furnished system to the existing ASI controls required installation of a proprietary ASI BACport Interface Translator and programming. This proprietary device was shown on the drawings, but was not identified as a proprietary product in the specifications as is required by state procurement law. The Engineer erred in not identifying a proprietary item in the specifications. As a result, the Contractor must now furnish, install, and program BACport Interface Translators in lieu of the units selected by the Contractor.

This item was identified by MWRA staff as a design error. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$80,000 for this additional work with no increase in contract term. Staff and the Contractor are currently negotiating the final lump sum cost of this item.

Furnish and Install Galvanized Rigid Conduit and
PVC Coated Galvanized Rigid Conduit

Not to Exceed \$30,000

The contract documents require the Contractor to install automatic temperature control fiber optic cables from an outside manhole into the UV-A, UV-B, and Ozone buildings through existing spare underground conduits. During construction, the Contractor field verified the availability of the spare conduits and found that there were no spare conduits, as shown on record drawings for the facility, from the outside manhole into the UV-B building. However, a spare conduit was identified from the UV-A building to the UV-B building. As a result, it was determined that the fiber optic cable could be run from the outside manhole to the UV-A building and then from the UV-A building to the UV-B building. To accomplish this, galvanized rigid conduits must be furnished and installed inside the UV-A and UV-B buildings to run the fiber optic cable to the control panel.



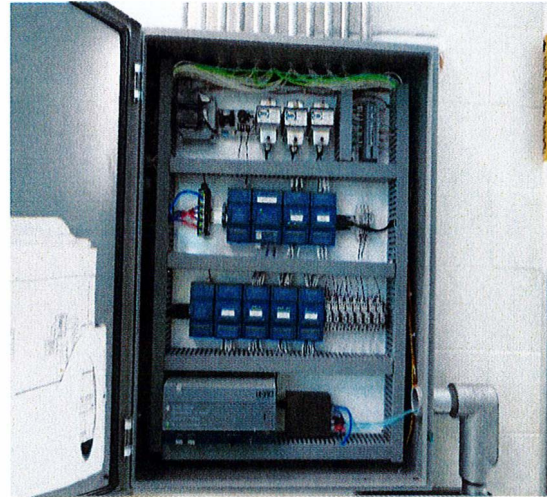
ATC Fiber Optic Cable Installation

This item was identified by MWRA staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$30,000 for this additional work with no increase in contract term. Staff and the Contractor are currently negotiating the final lump sum cost of this item. The Contractor proceeded with this work at its own risk in order to continue with the remainder of the contract work.

Remove Existing Obsolete Controller and Furnish and Install New Controller

\$6,949

During construction, it was discovered that the existing Johnson Controls automatic temperature controller for the mechanical room of the UV-A building is no longer manufactured and the company does not provide customer technical support for this product. A new controller must be furnished and installed. As a result, the Contractor must now furnish and install a Distech Controller that is capable of communicating with the automatic temperature control system.



BACnet Controllers

This item was identified by MWRA staff as a design change. MWRA staff, the Consultant, and the Contractor have agreed to a lump sum amount of \$6,949 for this additional work with no increase in contract term. The Contractor has not begun this work.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$47,011,000.00	1,260 Days	03/01/16
Change Orders:			
Change Order 1*	(\$1,500,000.00)	(180) Days	07/25/16
Change Order 2*	\$14,766.00	0 Days	10/26/16
Change Order 3*	\$24,822.00	0 Days	11/16/16
Change Order 4*	\$199,629.92	0 Days	12/12/16
Change Order 5	\$328,039.00	0 Days	12/23/16
Change Order 6*	\$23,202.00	0 Days	01/18/17
Change Order 7*	\$24,533.12	0 Days	02/06/17
Change Order 8*	\$189,495.00	0 Days	03/06/17
Change Order 9	\$100,079.80	0 Days	03/23/17
Change Order 10*	\$24,521.45	0 Days	04/03/17
Change Order 11*	\$24,455.00	0 Days	04/12/17
Change Order 12*	\$24,659.00	0 Days	04/19/17
Change Order 13*	\$22,491.00	0 Days	05/03/17
Change Order 14*	\$19,515.00	0 Days	05/22/17
Change Order 15	\$306,664.00	0 Days	06/12/17
Change Order 16*	\$200,000.00	0 Days	07/24/17
Change Order 17*	\$23,350.00	0 Days	07/27/17
Change Order 18	\$608,007.00	0 Days	07/27/17
Change Order 19*	\$19,866.00	0 Days	08/14/17
Change Order 20*	\$222,828.00	0 Days	10/04/17
Change Order 21	\$285,385.00	0 Days	10/04/17
Change Order 22*	\$19,436.00	0 Days	10/24/17
Change Order 23*	\$24,888.00	0 Days	10/30/17

CONTRACT SUMMARY: (cont.)

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Change Order 24*	\$183,838.00	0 Days	11/28/17
Change Order 25	\$290,963.00	0 Days	11/29/17
Change Order 26*	\$22,404.00	0 Days	12/12/17
Change Order 27*	\$21,710.00	0 Days	01/03/18
Change Order 28*	\$23,825.00	0 Days	02/22/18
Change Order 29*	\$24,931.00	0 Days	02/22/18
Change Order 30*	\$15,297.00	0 Days	03/20/18
Change Order 31*	\$141,686.00	0 Days	05/14/18
Change Order 32	\$292,910.00	0 Days	06/06/18
Change Order 33*	\$23,068.00	0 Days	06/18/18
Change Order 34*	\$24,317.00	0 Days	06/18/18
Change Order 35*	\$24,773.00	0 Days	06/28/18
Change Order 36*	\$23,511.00	0 Days	07/09/18
Change Order 37*	\$18,563.00	0 Days	07/09/18
Change Order 38*	\$22,858.00	0 Days	07/11/18
Change Order 39	\$508,549.00	0 Days	07/23/18
Change Order 40*	\$24,239.00	0 Days	07/30/18
Change Order 41*	\$24,271.00	0 Days	07/31/18
Change Order 42*	\$21,892.00	0 Days	08/06/18
Change Order 43*	\$20,415.00	0 Days	08/13/18
Change Order 44*	\$20,000.00	0 Days	08/14/18
Change Order 45*	\$24,909.00	0 Days	08/27/18
Change Order 46*	\$23,709.00	0 Days	09/10/18
Change Order 47*	\$23,825.74	0 Days	09/12/18
Change Order 48*	\$24,896.00	0 Days	09/12/18
Change Order 49*	\$20,000.00	0 Days	09/19/18
Change Order 50*	\$11,840.00	0 Days	09/19/18
Change Order 51	\$273,755.00	0 Days	09/28/18
Change Order 52*	\$51,493.00	0 Days	12/10/18
Change Order 53*	\$36,392.00	0 Days	01/15/19
Change Order 54*	\$148,941.00	0 Days	01/31/19
Change Order 55	<u>\$116,949.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$3,761,362.03	(180 Days)	
Adjusted Contract:	\$50,772,362.03	1080 Days	

*Approved under delegated authority

If Change Order 55 is approved, the cumulative total value of all change orders to this contract will be \$3,761,362.03 or 8% of the original contract amount. Work on this contract is 98.73% complete.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes a budget of \$49,876,796 for Contract 7157. Including this change order for an amount not to exceed \$116,949, the adjusted sub phase total will be \$50,772,362.03 or \$895,566.03 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 3.4% and 3.8%, respectively.



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

PERSONNEL & COMPENSATION COMMITTEE MEETING

to be held on

Wednesday, February 20, 2019

Chair: J. Wolowicz
Vice-Chair: K. Cotter
Committee Members:
J. Carroll
P. Flanagan
J. Foti
A. Pappastergion
H. Vitale
J. Walsh

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately Following Water Committee

AGENDA

A. Information

1. Update on Massachusetts Equal Pay Act (verbal)
2. ~~Organizational Changes in the Operations Division (information to follow)~~

B. Approvals

1. PCR Amendments - February 2019
2. Appointment of Warehouse Manager
3. Appointment of Program Manager, Water Quality
4. Appointment of Associate Special Assistant for Affirmative Action
5. Appointment of Director, Wastewater Operations and Maintenance
6. Appointment of Director, Metropolitan Operations
7. Appointment of Deputy Director of Waterworks
8. Approval of the 2019 Affirmative Action Plan

C. Contract Awards

1. Workers' Compensation Third Party Administrator Services: PMA Management Corp. of New England, Contract A618

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Personnel and Compensation Committee

January 16, 2019

A meeting of the Personnel and Compensation Committee was held on January 16, 2019 at the Authority headquarters in Charlestown. Committee Chair Wolowicz presided. Present from the Board were Messrs. Cotter, Flanagan, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Andrea Murphy and Kristin MacDougall. The meeting was called to order at 10:15 a.m.

Approvals

* PCR Amendments – January, 2019

Staff made a verbal presentation.

The Committee recommended approval (ref. P&C A.1).

The meeting adjourned at 10:16 a.m.

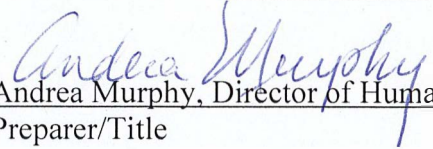
* Committee recommendation approved by the Board on January 16, 2019

STAFF SUMMARY

TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: February 20, 2019
SUBJECT: February PCR Amendments



COMMITTEE: Personnel and Compensation


Andrea Murphy, Director of Human Resources
Preparer/Title

 INFORMATION
 X VOTE


Michele S. Gillen
Director, Administration

RECOMMENDATION:

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

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR must be approved by the Personnel Committee of the Board of Directors. All amendments resulting in an upgrade of a position by more than one grade level, and/or an amendment which creates a position increasing annual cost by \$10,000 or more, must be approved by the Board of Directors after review by the Personnel and Compensation Committee.

February PCR Amendments

The four PCR amendments are positions in the Operations Division changing the titles for three vacant positions to meet staffing needs and changing title and grade of one filled position as part of a reorganization.

The amendments are:

Operations Division Organizational Change

1. Title change to one vacant position in the Metro Water General Department, Operations Division from Director, Metropolitan, Non-Union Grade 15, to Director, Metropolitan Operations, Non-Union Grade 15 to more accurately reflect the position's responsibilities.
2. Title and grade change to one filled position in the Waterworks Department, from Manager, Operations Engineering, Non-Union Grade 14, to Deputy Director, Waterworks, Non-Union Grade 15 as part of a reorganization. The appointment and reorganization are described in separate staff summaries.

3. Title change to one vacant position in the Enqual Department, Operations Division from Project Engineer, Unit 9, Grade 21, to Environmental Scientist, Unit 9, Grade 21 to provide a new title and job description that better meet program needs.
4. Title change to one vacant position in the Wastewater Operations Department, Operations Division from Program Manager, Process Control & Project Support, Unit 9, Grade 29 to a Program Manager, Wastewater Operations, Unit 9, Grade 29 to align the title with current staffing needs.

The amendments require approval by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of this PCR amendment will be a cost of \$6,787. The actual cost will depend on the salary rate for the new incumbents. Staff will ensure that the cost increase associated with these PCR amendments will not result in spending over the approved FY19 Wages and Salaries budget.

ATTACHMENTS:

Old Job Description
New Job Description

MASSACHUSETTS WATER RESOURCES AUTHORITY
 POSITION CONTROL REGISTER AMENDMENTS
 FISCAL YEAR 2019

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - February 20, 2019																		
Number	Current		V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget	Estimated		Estimated Annual		Reason For Amendment		
	PCR #										Salary	New Salary	\$	Impact				
P13	Operations Metro Water General 3385031		V	T	Director, Metropolitan	NU	15	Director, Metropolitan Operations	NU	15	\$145,600	\$145,600	-	\$145,600	\$0	-	\$0	To more accurately reflect the position's responsibilities.
P14	Operations Waterworks 5811025		F	T, G	Manager, Operations Engineering	NU	14	Deputy Director, Waterworks	NU	15	\$138,813	\$145,600	-	\$145,600	\$6,787	-	\$6,787	To address recommended organizational changes.
P15	Operations Enqual 2250021		V	T	Project Engineer	9	21	Environmental Scientist	9	21	\$89,575	\$65,032	-	\$89,575	\$0	-	\$0	To use a new title and description to better meet staffing needs.
P16	Operations Wastewater 24700135		V	T	Program Manager, Process Control and Project Support	9	29	Program Manager, Wastewater Operations	9	29	\$125,202	\$90,546	-	\$125,202	\$0	-	\$0	To align title with current staffing needs.
PERSONNEL & COMPENSATION COMMITTEE TOTAL=						4						TOTAL:		\$6,787	-	\$6,787		

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Director, Metropolitan

PCR#:

DIVISION: Operations

DEPARTMENT: Metro Water General

BASIC PURPOSE:

Directs the operation, maintenance, and support activities for all metropolitan water distribution, pump stations, storage, and pressure reducing valve (PRV) facilities. Directs SCADA (Supervisory Control and Data Acquisition) and Process Control programs for water and wastewater facilities. Plans for and ensures that the necessary resources and support are provided to meet operational needs and applicable regulatory requirements in a cost effective manner.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Waterworks.

SUPERVISION EXERCISED:

Exercises direct supervision of Senior Program Manager, Operations Control Center (OCC), Senior Program Manager, Pipelines (Water), Senior Program Manager, Valves, Manager, SCADA & Process Control, and indirect supervision of approximately 100 staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs the operations and maintenance of the metropolitan water system, which includes 300 miles of pipeline, 5500 valves, 12 pump stations, 12 storage facilities and 50 PRVs and 8 tunnel shafts.
- Oversees metropolitan operations program to ensure that all critical metropolitan water facilities are properly monitored and controlled. Identify necessary SCADA support to optimize the mix of automation and attended operation to ensure rapid, reliable and efficient response to water and wastewater system malfunctions on a 24-hour/day basis.
- Oversees the preparation and updating of long range operation and maintenance planning for metropolitan water distribution pipeline, pumping, storage, and PRV facilities.

- Develops and implements staffing plans to improve productivity and achieve maximum utilization of staffing resources.
- Oversees water valve maintenance, rehabilitation, and replacement program to maximize valve operability and to continuously improve staff productivity to achieve competitive costs.
- Oversees water pump maintenance program to maximize pump operability and continuously improve staff productivity to achieve competitive costs.
- Oversees the SCADA and Process Control programs that support both water and wastewater facilities.
- Collaborates with the Manager, Operations Engineering to coordinate hydraulic and water operations planning.
- Works closely with community water departments to optimize water supply (volume, pressure and quality). Assists in planning major local system improvements. Assists local communities with emergency response planning efforts. Coordinates improvements within local systems and between the MWRA and local water systems.
- Oversees MWRA's cross-connection control program for all metropolitan water facilities.
- Oversees the inspection program of all construction activities near metropolitan water system facilities to protect the system from accidents.
- Oversees the operations and routine inspection of all metropolitan water storage facilities to ensure compliance with all drinking water protection laws and regulations and to optimize water quality in each storage facility.
- Plays an active role in water distribution system construction coordination activities and start-up planning for major capital projects.
- Manages the development and updating of operations & maintenance manuals and systems, and station operating procedures. Works with the design consultants to ensure timely production of updates.
- Partners with the Manager, Training and Development to oversee and provide opportunities for technical, supervisory and managerial training and education for all department employees. Ensure that staff are trained properly to be ready to operate new facilities as they come on line.
- Directs the Metropolitan Operations safety programs, maximizing employee involvement,

supporting the Authority-wide safety program, and making inspections. Acts as liaison to the Manager, Occupational Safety and Health.

- Maximizes effective use of the Maximo maintenance management software and related computer programs.
- Manages the preparation of and exercises control over current expense budget for Metropolitan Operations.
- Represents the Metro Water Operations Section of the Operations Division as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Act as interagency liaison and public relations contract/spokesperson with regard to operation of metropolitan water facilities. Establishes emergency response procedures, training programs, and practice drills with the assistance of emergency response and safety staff.
- Assures consistency and uniformity of work rules in accordance with established policies and procedures.
- Provides feedback and coaching to managers to maximize successful performance.
- Reviews, analyzes and prepares managerial reports for operational, maintenance, process control, budget, and personnel matters. Develops recommendations for ongoing improvements in facility operations and maintenance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's degree in civil, environmental or mechanical engineering or a related technical discipline; and
- (B) Understanding of planning, design, operations and maintenance of major water utilities as

acquired through ten (10) to twelve (12) years of related experience, of which at least five (5) years must be in the successful management of a waterworks facility with multiple supervisory levels; or

(C) An equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

(A) Excellent working knowledge of a large water supply system and associated systems and equipment, or of a similar complex hydraulic and treatment system operation.

(B) Demonstrated successful experience managing in a union environment with a diverse workforce.

(C) Knowledge of computerized maintenance management systems and procedures.

(D) Personal computer experience and familiarity with associated software programs.

(E) Excellent interpersonal, written and verbal communication skills required.

SPECIAL REQUIREMENTS:

Possession of a valid Massachusetts Class D Motor Vehicle Operators License.

Massachusetts Grade IV Water Distribution Operator's license

Must be available for on-call assignments; and responding to emergencies on a 24/7 basis using a domicile MWRA vehicle.

TOOLS AND EQUIPMENT USED:

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

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 accommodation 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 frequently required to use hands to finger, handle or operate objects, including office equipment, controls and reach with hands and arms. The employee is occasionally required to stand and walk and infrequently required to stoop, kneel, crouch or crawl.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close and distance vision.

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 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 office environment is a moderately quiet and is moderately loud in field settings

December 2018

**MWRA
POSITION DESCRIPTION**



POSITION: Director, Metropolitan Operations

PCR#:

DIVISION: Operations

DEPARTMENT: Metro Water General

BASIC PURPOSE:

Directs the operation, maintenance, and support activities for all metropolitan water distribution, pump stations, storage, and pressure reducing valve (PRV) facilities. Directs SCADA (Supervisory Control and Data Acquisition) and Process Control programs for water and wastewater facilities. Plans for and ensures that the necessary resources and support are provided to meet operational needs and applicable regulatory requirements in a cost effective manner.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Waterworks.

SUPERVISION EXERCISED:

Exercises direct supervision of Senior Program Manager, Operations Control Center (OCC), Senior Program Manager, Pipelines (Water), Senior Program Manager, Valves, Manager, SCADA & Process Control, and indirect supervision of approximately 100 staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs the operations and maintenance of the metropolitan water system, which includes 300 miles of pipeline, 5500 valves, 12 pump stations, 12 storage facilities and 50 PRVs and 8 tunnel shafts.
- Oversees metropolitan operations program to ensure that all critical metropolitan water facilities are properly monitored and controlled. Identify necessary SCADA support to optimize the mix of automation and attended operation to ensure rapid, reliable and efficient response to water and wastewater system malfunctions on a 24-hour/day basis.
- Oversees the preparation and updating of long range operation and maintenance planning for metropolitan water distribution pipeline, pumping, storage, and PRV facilities.

- Develops and implements staffing plans to improve productivity and achieve maximum utilization of staffing resources.
- Oversees water valve maintenance, rehabilitation, and replacement program to maximize valve operability and to continuously improve staff productivity to achieve competitive costs.
- Oversees water pump maintenance program to maximize pump operability and continuously improve staff productivity to achieve competitive costs.
- Oversees the SCADA and Process Control programs that support both water and wastewater facilities.
- Collaborates with the Manager, Operations Engineering to coordinate hydraulic and water operations planning.
- Works closely with community water departments to optimize water supply (volume, pressure and quality). Assists in planning major local system improvements. Assists local communities with emergency response planning efforts. Coordinates improvements within local systems and between the MWRA and local water systems.
- Oversees MWRA's cross-connection control program for all metropolitan water facilities.
- Oversees the inspection program of all construction activities near metropolitan water system facilities to protect the system from accidents.
- Oversees the operations and routine inspection of all metropolitan water storage facilities to ensure compliance with all drinking water protection laws and regulations and to optimize water quality in each storage facility.
- Plays an active role in water distribution system construction coordination activities and start-up planning for major capital projects.
- Manages the development and updating of operations & maintenance manuals and systems, and station operating procedures. Works with the design consultants to ensure timely production of updates.
- Partners with the Manager, Training and Development to oversee and provide opportunities for technical, supervisory and managerial training and education for all department employees. Ensure that staff are trained properly to be ready to operate new facilities as they come on line.
- Directs the Metropolitan Operations safety programs, maximizing employee involvement,

supporting the Authority-wide safety program, and making inspections. Acts as liaison to the Manager, Occupational Safety and Health.

- Maximizes effective use of the Maximo maintenance management software and related computer programs.
- Manages the preparation of and exercises control over current expense budget for Metropolitan Operations.
- Represents the Metro Water Operations Section of the Operations Division as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Act as interagency liaison and public relations contract/spokesperson with regard to operation of metropolitan water facilities. Establishes emergency response procedures, training programs, and practice drills with the assistance of emergency response and safety staff.
- Assures consistency and uniformity of work rules in accordance with established policies and procedures.
- Provides feedback and coaching to managers to maximize successful performance.
- Reviews, analyzes and prepares managerial reports for operational, maintenance, process control, budget, and personnel matters. Develops recommendations for ongoing improvements in facility operations and maintenance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's degree in civil, environmental or mechanical engineering or a related technical discipline; and
- (B) Understanding of planning, design, operations and maintenance of major water utilities as

acquired through ten (10) to twelve (12) years of related experience, of which at least five (5) years must be in the successful management of a waterworks facility with multiple supervisory levels; or

(C) An equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

(A) Excellent working knowledge of a large water supply system and associated systems and equipment, or of a similar complex hydraulic and treatment system operation.

(B) Demonstrated successful experience managing in a union environment with a diverse workforce.

(C) Knowledge of computerized maintenance management systems and procedures.

(D) Personal computer experience and familiarity with associated software programs.

(E) Excellent interpersonal, written and verbal communication skills required.

SPECIAL REQUIREMENTS:

Possession of a valid Massachusetts Class D Motor Vehicle Operators License.

Massachusetts Grade IV Water Distribution Operator's license

Must be available for on-call assignments; and responding to emergencies on a 24/7 basis using a domicile MWRA vehicle.

TOOLS AND EQUIPMENT USED:

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

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 accommodation 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 frequently required to use hands to finger, handle or operate objects, including office equipment, controls and reach with hands and arms. The employee is occasionally required to stand and walk and infrequently required to stoop, kneel, crouch or crawl.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close and distance vision.

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 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 office environment is a moderately quiet and is moderately loud in field settings

December 2018

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Manager, Operations Engineering

PCR#:

DIVISION: Operations

DEPARTMENT: Operations, Engineering and Construction

BASIC PURPOSE:

The Manager, Operations Engineering is responsible for ensuring that effective engineering and operations planning is done to provide continuous water service to communities during the major construction programs, maintenance activities, and for any operational or physical changes to MWRA water system. Ensures proposed projects and field actions meet MWRA safety and operational requirements.

SUPERVISION RECEIVED:

Works under the general supervision of the Director of Waterworks.

SUPERVISION EXERCISED:

Exercises close supervision of professional engineering and technical staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages status of all capital and maintenance projects.
- Works with Engineering and Construction Department staff to ensure that operations related design requirements are incorporated into project designs.
- Coordinates review of all internal and external water design projects.
- Directs Operations Engineering staff on in-house design of various maintenance and improvement projects and on development and management of various service contracts.
- Works closely with Waterworks staff on construction liaison, turnover and start-up efforts relate to water facilities.

- Manages the development and implementation of written operations plans for the water system.
- Provides input to senior operations staff on planning for various field operations, maintenance and construction projects.
- Assists water managers in preparation of their annual condition assessments.
- Participates on departmental and agency-wide emergency response and safety programs.
- Participates in the Emergency Operations Center (EOC) staffing for emergency responses.
- Recommends, develops and implements policies and procedures for Operations Engineering.
- Oversees personnel management. Ensures that major initiatives and policy changes are properly communicated to all staff. Identifies needed improvements to work practices and works with Operations Management and Labor Relations staff to bring about changes.
- Identifies organizational needs and proposes re-organization plans to address changing needs.
- Oversees staff productivity monitoring and continual improvement through staff skills development, strategic planning, SOP improvements and research and implementation of technology advances.
- Reviews assigned employees' performance per MWRA procedures.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies.
- Prepares for and hears Step-One grievances and pre-disciplinary hearings.
- Participates in collective bargaining negotiations.
- Performs related duties as required.

SECONDARY DUTIES:

- Assists employees with preparation of injury/illness reports, safety and maintenance work orders, and assure that they keep high quality, accurate related documents and records.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in civil or mechanical engineering or related field. A masters degree preferred; and
- (B) Ten (10) to twelve (12) years experience in Water Engineering including at least four (4) years of experience in a supervisory position; and
- (C) Experience in working in a union environment desirable; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of engineering principles and practices.
- (B) Excellent interpersonal, written and oral communication skills required.
- (C) Excellent computer skills in the area of word processing, spreadsheets and databases.

SPECIAL REQUIREMENTS:

A Registered Professional Engineering License or the ability to obtain within 12 months.

A valid Class 4D Water License or ability to obtain within 24 months.

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, including office equipment 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 and walk; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds, occasionally lift/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 regularly works in an office environment. The employee occasionally exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles.

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

February 2014

**MWRA
POSITION DESCRIPTION**



POSITION: Deputy Director, Waterworks

PCR#:

DIVISION: Operations

DEPARTMENT: Waterworks

BASIC PURPOSE:

The Deputy Director, Waterworks assists the Director, Waterworks in overseeing the planning, design, construction, operation, and maintenance of all water supply facilities and services including reservoirs, aqueducts, pumping, distribution, water supply and treatment and transmission operations. In addition, the position is responsible for ensuring that effective engineering, operations planning, and process control is performed for the water and wastewater systems.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Waterworks.

SUPERVISION EXERCISED:

Exercises direct supervision of Senior Program Manager, Process Control and close supervision of professional, management, engineering and technical staff, and supervises other assigned operations and maintenance staff as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists in development of operational strategies for the water system. Coordinates the use of supply reservoir, aqueduct flow, power generation, flood control, pumping, distribution, treatment and transmission, water quality and other elements of water supply.
- Provides input for the long-term planning for modernizing, rehabilitating and upgrading the Authority's water facilities.
- Provides input into the design and construction of rehabilitating and upgrading the Authority's waterworks facilities.

- Provides advice/assistance on all issues (i.e. operations, administrative, safety, security, financial, and planning activities) to the Director, Waterworks and acts in place of Director in his/her absence.
- Directs Operations Engineering staff to work with Engineering and Construction Department staff to ensure that Operations-related design requirements are incorporated into project designs.
- Oversees the coordination of Operations reviews of all internal and external design projects.
- Directs Operations Engineering staff on in-house design of various maintenance and improvement projects and on development and management of various service contracts.
- Directs Process Control staff in implementing and improving instrumentation and automated facility controls and facility/equipment performance and reliability, and reducing energy consumption and maintenance requirements.
- Oversees the development, updating and management of process control strategies to ensure clear documentation of manual and automated facility controls and alarming functions.
- Oversees the performance of facility audits to ensure automation, alarms, and emergency safeguards are functioning as designed and documented.
- Works closely with Operations staff on construction liaison, turnover and start-up efforts related to water facilities.
- Manages the development and implementation of written operations plans.
- Provides input to senior Operations staff on planning for various field operations, maintenance and construction projects.
- Participates in departmental and agency-wide emergency response and safety programs.
- Participates in the Emergency Operations Center (EOC) staffing for emergency responses.
- Identifies organizational needs and proposes re-organization plans to address changing needs.

- Oversees staff productivity monitoring and continual improvement through staff skills development, strategic planning, standard operating procedures (SOP) improvements and research and implementation of technology advances.
- Represents Waterworks Department as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Reviews assigned employees' performance per MWRA procedures. Provides feedback and coaching to managers to maximize successful performance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's Degree in civil, environmental, or mechanical engineering or a related technical discipline; and
- (B) Understanding of planning, design, operations and maintenance of major water utilities as acquired through ten (10) to twelve (12) years of experience in water operations engineering or related field, of which at least five (5) years must be in the successful management in a waterworks engineering environment; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) In depth knowledge of engineering principles and practices.
- (B) Excellent working knowledge of operations engineering and process control for a large water supply system and associated systems and equipment, or of a similar complex

hydraulic and treatment system operation.

- (C) Excellent computer skills in the Microsoft Office (word processing, spreadsheets and databases) and knowledge of computerized maintenance management systems and procedures.
- (D) Excellent interpersonal, written and verbal communication skills.
- (E) Demonstrated successful experience managing in a union environment with a diverse workforce.

SPECIAL REQUIREMENTS:

- A Registered Professional Engineering License.
- A valid Massachusetts Grade IV Distribution Operator's License.
- Possession of a valid Massachusetts Class D Motor Vehicle Operators License.
- Must be available for on-call assignments and responding to emergencies on a 24/7 basis using a domicile MWRA vehicle.

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, including office equipment 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 and walk; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds, occasionally lift/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 regularly works in an office environment. The employee occasionally exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles.

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

February 2019

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Project Engineer

PCR#:

DIVISION: Operations

DEPARTMENT: ENQUAD

BASIC PURPOSE:

Assists Sr. Program Manager in the implementation of the Clinton permit and sections of the Deer Island permit covering the CSO facilities including monitoring of effluent quality, data checking and validation, preparation of various regulatory reports, and generation of reports for Internet-Website publication as well as preparation of internal management reports.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior Program Manager, NPDES compliance.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Coordinates compliance activities required in the permit among the various operating facilities and programs.
- Prepares written reports on treatment monitoring and permit-related activities for internal and external purposes.
- Prepares statistical and graphical analyses of treatment plant data as appropriate.
- Monitors Deer Island effluent quality compliance with permit limits and Contingency Plan thresholds.
- Downloads, validates and analyzes data and prepares reports as required.

- Prepares monthly Discharge Monitoring Reports for the Clinton Treatment Plant.
- Generates monthly CSO Summary Reports.
- Prepares WEB reports including but not limited to monthly monitoring summary reports, quarterly Contingency Plan summary reports, Orange Notebook, and CP threshold exceedances report.
- Submits permit-related reports to regulatory agencies and other interested parties.

SECONDARY DUTIES:

- Performs other duties as required.

DESIRED MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Undergraduate degree in environmental engineering or equivalent degree in environmental science or related field. Masters degree preferred.
- (B) Experience in permit compliance.
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of wastewater treatment systems, environmental principles, wastewater treatment, and environmental regulations.
- (B) Excellent computer skills in Oracle, Access and Excel and working knowledge of MS Word and PowerPoint.
- (C) Excellent written and communication skills as well as good interpersonal and organizational skills.

SPECIAL REQUIREMENTS:

None.

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 machines

PHYSICAL DEMANDS:

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

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

There are no requirements that weight be lifted or force be exerted in the performance of this job, although the employee will have the opportunity to participate in field activities that involve lifting weight (e.g. water, sediment, or other environmental samples) or exerted force. Specific vision requirements 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 regularly works in an office environment. The noise level in the work environment is usually a moderately quiet office setting.

September 2010

**MWRA
POSITION DESCRIPTION**



POSITION: Environmental Scientist

PCR#:

DIVISION: Operations

DEPARTMENT: Environmental Quality-Wastewater (ENQUAL-WW)/CNY

BASIC PURPOSE:

Assists the Senior Program Manager, NPDES and the Program Manager, Environmental Compliance and Monitoring in the implementation of the National Pollution Discharge Elimination System (NPDES) permits, covering the Authority's wastewater and waterworks facilities. Assists in the implementation of the Authority's environmental monitoring projects in Boston Harbor and its tributary rivers.

SUPERVISION RECEIVED:

Works under the general supervision of the Program Manager, Environmental Compliance and Monitoring.

SUPERVISION EXERCISED:

May exercise occasional supervision over interns or contract employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Coordinates compliance activities required in the NPDES permits for MWRA wastewater and water treatment plants and other facilities.
- Prepares monthly NPDES permit required Discharge Monitoring Reports.
- Assists in the implementation of the MWRA's environmental monitoring projects in Boston Harbor, the Charles, Mystic, and Neponset Rivers, and local beaches, in conjunction with other Authority departments.
- Prepares written reports, complete with statistical and/or graphical analyses, using environmental monitoring or operational data, as appropriate.

- Prepares reports for web posting including Contingency Plan (CP) threshold exceedances and monthly and quarterly summary reports such as Orange Notebook.
- Works with ENQUAL-WW data management staff and other Operations staff to ensure environmental and operational data in MWRA databases are fully validated, updated, and available for use.
- Submits permit-related reports to regulatory agencies and other interested parties.
- Rotational on-call (remote) responsibilities for regulatory notifications of sanitary sewer overflows and wastewater treatment plant upsets after business hours, and for web posting of CSO discharges and sanitary sewer overflows.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A bachelor's degree in environmental engineering, environmental science, or related field; and
- (B) Two (2) to four (4) years experience in permit compliance, environmental monitoring and data analysis, or similar environmental experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of wastewater treatment systems, environmental principles, wastewater treatment and environmental regulations.
- (B) Excellent computer skills in MS Word, Access, Excel and working knowledge of Oracle and Power Point.
- (C) Excellent written and oral communication skills as well as good interpersonal and organizational skills.

SPECIAL REQUIREMENTS:

None.

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 including office equipment or controls and reach with hands and arms. The employee is frequently required to sit, talk and hear. The employee is occasionally required to stand and walk, stoop, kneel, crouch or crawl, taste or smell.

There are no requirements that weight be lifted or force be exerted in performance of this job, although the employee will have the opportunity to participate in field activities that involve lifting weight (e.g. water, sediment or other environmental samples) or exerting force. Specific vision requirements 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 regularly works in an office environment.

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

February 2019

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Program Manager, Process Control & Project Support

PCR#:

DIVISION: Operations

DEPARTMENT: Wastewater Operations and Maintenance

BASIC PURPOSE:

Independently manage, with minimal supervision, the planning, design and construction administrative services for various operation and maintenance projects and programs.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior Program Manager within the Process Control & Project Support Group.

SUPERVISION EXERCISED:

Exercises close supervision of assigned staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages all related permitting activities including development of environmental permit applications, 8M permits, direct connection permits and applicable environmental permits and represents Department as needed.
- Manages, with minimal supervision, engineering projects, including facilities or equipment for wastewater pumping stations, CSO facilities and collection system components.
- Manages and coordinates site assessment site acquisition activities with other responsible Authority Division and Departments.
- Provides technical assistance to senior staff in the development of program plans and standard designs for projects which may include design and construction of new and rehabilitation projects, development of maintenance and operations procedures,

development of safety procedures, and on all related hydraulic evaluation efforts.

- Manages the atmospheric hydrogen sulfide odor/corrosion program for Authority owned interceptors and facilities.
- Coordinates projects with communities, government agencies and other MWRA departments. Provides technical information and assistance. Addresses professional and community groups and initiates outreach projects as required.
- Provides technical review of consultants prepared reports and design projects, contractor shop drawings and O&M manuals.
- Provides oral and written reports to the Senior Program Manager – Process Control & Project Support detailing results of problem investigations and economic justification for proposed changes as required.
- Works with the Massachusetts Department of Public Safety and applies for permits for general maintenance and upgrades at all Metro water and wastewater facilities. Manages and maintains, thru the MAXIMO data base, all necessary records for review by inspectors.
- Develops and coordinates maintenance service contracts in the field such as, but not limited to, SCADA, I&C and Electrical at Metro water and wastewater facilities.
- Assists in the development and administration of condition monitoring programs such as vibration analysis, load bank testing, and Thermography.
- Supports the efforts of the FAMP Program, RCM process and analysis, and any related Task Forces or Task Team initiatives.
- Periodically performs condition assessments on equipment at both water and wastewater facilities. Identifies equipment for future upgrades and replacement to be included in the CEB or CIP Budget process. Provides written justifications and priority rating consistent with the FAMP Asset Replacement initiative.
- Represent the department at various internal and external meetings, including construction Meetings, O & M Meetings, project progress meetings and Participates in the Construction and Start-up of new facilities. Participates in performance certification criteria and evaluation reports of both internal and external entities.
- Assists the Manager, Wastewater Operations in the absence of the Program Manager, Operations (wet weather, vacations etc)

- Works with senior manager, pipeline to develop and implement sewer system optimization and storage program.
- Manages the operation and maintenance of TELOG and related instrumentation.
- Manages the implementation of and maintenance of new and existing wastewater SCADA equipment and instrumentation.
- Attends the Maintenance Manager's weekly maintenance meeting as requested.
- Manages staff productivity monitoring and continual improvement through staff skill development, strategic planning, SOP improvements, and research and implementation of technology advances.
- Participates in the selection and hiring of project consultants and oversees the consultants planning process.
- Work closely with the Operations Supervisors and the Senior Program Manager, Maintenance to assure critical work orders are issued, completed and closed.
- Develops records and procedures required for all 24 hour facilities
- Participates in the Emergency Operations Center (EOC) staffing as required and trains staff to provide storm and incident management.

SECONDARY DUTIES:

- Provides backup and support to the Program Manager, Operations during wet weather events.
- Conducts assigned field audits of Facilities, CSOs, SSOs, Tide gates and other structures in support of safe/efficient infrastructure.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

(A) A four (4) year college degree in civil, mechanical, or environmental engineering is required; and

(B) A thorough knowledge of the operation and maintenance of a large Municipal Sewerage

System as normally attained through seven (7) to nine (9) years of experience with three (3) of supervision of staff and or large projects; or

- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability to work effectively as part of an engineering team and also to function independently with minimal supervision. Demonstrated ability to supervise technical staff.
- (B) Knowledge of local, state and federal regulations as applicable to the planning, design and construction of wastewater systems and facilities.
- (C) Demonstrated knowledge of process plant equipment, system operation, building construction; wastewater plant experience preferred.
- (D) Demonstrated abilities to work productively and maintain working relationships with external parties.
- (E) Proficiency with personal computers and knowledge of word processing, spreadsheets, database and engineering applications software required.
- (F) Excellent interpersonal, verbal and written communications skills are required.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License is required.

A valid Grade 6 wastewater operator's license, a collections system certification, or 4D Drinking Water Supply Facilities Operators license preferred.

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 sit, stand and walk. The employee is frequently required to climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

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

WORK ENVIRONMENT:

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

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

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

May 2008

**MWRA
POSITION DESCRIPTION**



POSITION: Program Manager, Wastewater Operations

PCR#:

DIVISION: Field Operations

DEPARTMENT: Wastewater Operations

BASIC PURPOSE:

Assists the Manager of Operations in managing the operation of the Authority's Wastewater OCC, wastewater pumping stations, headworks and CSO facilities. Manages wet weather events, develops Standard Operating Procedures (SOPs), trains staff on SOPs, facility operations, process control procedures and emergency response plans. Coordinates maintenance programs, acts as a construction liaison as well as a Operational advisor.

SUPERVISION RECEIVED

Works under the general supervision of the Manager of Operations

SUPERVISION EXERCISED:

Will exercise close supervision over wastewater operations staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops, updates and ensures implementation of Standard Operating Procedures (SOPs) for all wastewater facilities. Develops operational and inspection protocols for operations staff as directed by the Manager of Operations.
- Manages predictive and preventive maintenance initiatives. Works closely with Operations Supervisors, Maintenance Managers and Work Coordination Managers to ensure all work orders are issued, completed and closed in a timely manner. Conducts periodic audits on Operations staff maintenance activities. Attends weekly maintenance coordination meetings. Utilizes Maximo to open and process work orders as required.
- Responsible for coordinating all aspects of communication/Tellog, PLC, system alarms with SCADA, Metering and Engineering groups.

- Responsible for operations involvement on construction projects, attend construction meetings and participates in the construction and start-up of new facilities.
- Performs facility audits, facility inspections, SPCC inspections and staff scheduling issues as directed by the Manager of Operations. Responsible for scanner system and updates of new technology associated with facility automation as needed.
- Manages departmental records relating to the Yellow/Orange Notebooks.
- Utilizes PI Processbook to monitor facility operation and to gather information to produce reports. Gathers data and formulates storm reports for Wastewater Operations.
- Acts as liaison to the safety coordinator and implements recommendations as needed. Responsible for the safe operation of all wastewater system components and ensures all staff are in compliance with all MWRRA safety policies and procedures.
- Manages wet weather events for Wastewater Operations.
- Trains staff on proper Operational Techniques and Emergency Response.

SECONDARY DUTIES:

- Performs related duties as required

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) B.S. in Mechanical, Electrical, or Civil Engineering.
- (B) Demonstrated knowledge of wastewater operations and wastewater equipment maintenance and practices as acquired by seven (7) to nine (9) years experience in the field.
- (C) Any combination of education and experience

Necessary Knowledge, Skills, and Abilities:

- (A) Ability to read and interpret plans and drawings.
- (B) Proficient in the use of personal computers and associated Microsoft Office software programs, including Word, Excel, and Access.

(C) Experience with the CMMS software MAXIMO.

(D) Trained in Confined Space Entry and capable of entering, of setting up, installing, disassembling confined space equipment and ability to work in a confined space

SPECIAL REQUIREMENTS:

A valid Grade 5 Wastewater Operator's license, or the ability to obtain within 6 months

A valid Grade 4 Collections System Certification, or the ability to obtain within 6 months

A valid Massachusetts Class D Motor Vehicle Operators License.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone and personal computer.

PHYSICAL DEMANDS:

The physical demands 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 fingers, handle, feel or operate objects, including office equipment or controls and reaches with hands and arms. The employee must frequently lift and or move up to 10 pounds, occasionally lift/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, depth perception and the ability to focus.

WORK ENVIRONMENT:


The work environment characteristics 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 will also be exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles.

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

November, 2014


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 8, 2019
SUBJECT: Appointment of Warehouse Manager, Southborough

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Andrea Murphy, Director, Human Resources
Douglas Rice, Director, Procurement
Stephen Coffey, Materials Manager
Preparer/Title


Michele S. Gillen
Director of Administration

RECOMMENDATION:

To approve the appointment of Mr. John Harrington to the position of Warehouse Manager, Southborough (Unit 6, Grade 12) at the recommended salary of \$93,910.14 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Warehouse Manager position became vacant upon the retirement of the incumbent. The position reports to the Materials Manager and oversees the Southborough and Marlborough inventory control functions for materials and supplies in accordance with the Authority's materials management and purchasing policies and procedures. The responsibilities of this position include managing the warehouse staff as well as all warehousing and inventory control activities such as stock replenishment, inventory control, shipping, receiving and issuance functions. The Warehouse Manager also ensures the availability of supplies and materials for Western Operations and Maintenance as well as spare parts for John J. Carroll Water Treatment Plant.

Selection Process

The position of Warehouse Manager, Southborough was posted internally. Eight qualified candidates were referred for interviews, which were conducted by the Materials Manager, Director of Procurement, and MBE/WBE Program Manager. Upon completion of the interviews, Mr. John Harrington was selected as the most qualified candidate for this position based on his experience, knowledge, skills and education.

Mr. Harrington has 30 years of experience working in warehousing. Mr. Harrington joined the MWRA in 1993 as a contract Laborer driving a bus to transport employees on and off Deer Island. He was hired into the Material Handlers position on Deer Island in 1997. In that role, he performed a variety of warehousing tasks involving the handling, kitting, issuing and counting of materials and the maintenance of inventory records. In 2013, he was promoted to the position of Inventory Control Specialist where he was responsible for inventory control in the Property Pass Unit. In this position, he performed audits on all of the MWRA assets, including, tools, generators, power equipment in and ensured all MIS equipment was in the MWRA database for further tracking.

Most recently, Mr. Harrington has been the Property Pass Asset Control Supervisor. In this role, he supervises three employees and performs reviews to ensure compliance with MWRA asset control policies and procedures. Under his supervision, Property Pass has completed multiple audits throughout the agency providing a critical accounting of certain assets, including power tools and other machinery. He is also responsible for the disposition of surplus property. Under Mr. Harrington's supervision, MWRA received close to \$400,000 in revenue from surplus items last year.

Mr. Harrington has demonstrated the ability to handle all aspects of warehousing, and has proven himself to be an effective supervisor. He has a wealth of knowledge and experience in inventory management, surplus property and with both Maximo and Lawson systems. Mr. Harrington is widely respected by his colleagues.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY19 CEB for this position.

ATTACHMENTS:

- Resume of Mr. Harrington
- Position Description
- Materials Management Department Organizational Chart

JOHN HARRINGTON

PROFESSIONAL EXPERIENCE

Massachusetts Water Resources Authority

Chelsea, MA

ASSET CONTROL SUPERVISOR

2016-Present

- Supervise staff and perform reviews to ensure adherence to asset control policies and procedures
- Perform periodic audits to identify inaccuracies in asset levels and recommend and implement corrective action
- Perform data entry and confirm staff accurately reflect the issuance, receipt, transfer, maintenance and audit of assets in coordination with MWRA policies and procedures
- Track all power tools, machinery and other assets through Maximo database
- Manage all assets of GovDeals.com: posting item; setting pricing; communicate with buyers; schedule pick up of sold asset
- Review asset control procedures to ensure all assets purchased under the Property Pass program are tracked and accounted for including MIS material.
- Develop and implement a plan for efficient space utilization of the Property Pass areas
- Identify and coordinate the value of surplus or obsolete material
- Review and approve staff payroll submissions

INVENTORY CONTROL SPECIALIST

2013- 2016

- Managed submissions of MIS equipment, power tools and materials into Property Pass System
- Managed changes in Property Pass System, as needed
- Coordinated with managers and supervisors to schedule audits
- Conducted power tools, materials and equipment audit throughout MWRA
- Entered audit findings into Property Pass System
- Coordinated and picked up surplus power tools, materials and equipment and retrieves sign off by appropriate manager
- Managed removal and/or disposal of surplus or obsolete power tools and equipment
- Assigned tool ID numbers to all new power tools, materials and equipment
- Requested new NIGP numbers, as needed
- Organized and prepared surplus materials for entry into govdeals.com

SHIPPING AND RECEIVING SUPERVISOR (ACTING)

9/2002-11/2002

- Managed and supervised all scheduled shipments and deliveries
- Rearranged shipments within receiving department to solve space issues.
- Reviewed and corresponded with vendors to correct any receiving exceptions
- Supervised staff and ensured proper staffing levels were met

MATERIAL HANDLER (R=RECEIVER AND IW=ISSUE WINDOW)

1997- 2013

- R - Performed loading dock duties: unloaded delivery trucks, signed off and obtained packing slips
- R- Managed and verified that physical inventory was correctly labeled
- R - Completed receiving exceptions
- IW - Issued material to appropriate tradesman
- IW- Prepared issue kits of material for maintenance
- IW -Maintained Low List and verified accuracy on Lawson system for proper stock count
- IW- Performed cycle counts

CONTRACT LABORER MWRA BUS

1993-1997

- Daily circle checks inspection of bus and reported any issues
- Responsible for scheduled and on-call pick up/drop off of employees and vendors of MWRA
- Ensured safety and customer service to all passengers daily

JOHN HARRINGTON CONCRETE FOUNDATIONS TEWKSBURY, MA

Owner/Operator 1982-1996

- Supervised/Managed up to four employees
- Managed payroll and administrative duties
- Job cost and ordered material
- Priced jobs with prospective clients

LICENSING AND EDUCATION

Massachusetts Hoisting Operators License (1C)
Northern Essex Community College- Liberal Arts
Wilmington High School
License: HE-104859
Graduate of 1968
Graduate of 1966

MILITARY SERVICE

United States Air Force Attained rank of Sergeant 1969-1972

CORE QUALIFICATIONS AND SKILLS

Strong institutional knowledge
Excellent time management skills
Dependable and hard-working
Inventory management
Equipment Operation
Problem resolution
Property Pass System
Ability to make decisions
Customer Service
Lawson
MAXIMO
Microsoft Word, Excel, Outlook

**MWRA
POSITION DESCRIPTION**

POSITION: Warehouse Manager, Southern Region

PCR#: 8820034

DIVISION: Administration & Finance

DEPARTMENT: Materials Management

BASIC PURPOSE:

Manages all warehouse activities at assigned location including stock replenishment, inventory control, shipping, receiving and issuance functions. Ensures comprehensive and efficient support or availability of supplies and materials for several of the Authority's operating units and any other divisional units in the assigned district. Also working with the Authority's Surplus Property Committee coordinates the storing and disbursement of all the Authority's declared surplus equipment and material.

SUPERVISION RECEIVED:

Reports directly to the Materials Manager.

SUPERVISION EXERCISED:

Exercises close supervision over the Warehouse Supervisors and Materials Handler.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the activities of the shipping, receiving, and storing of inventory items at assigned site.
- Manages the replenishment of all supplies, materials, and relevant contract services; ensures adequate on-site inventory to support the Authority's needs.
- Manages the efficient utilization of the computer-based inventory control system, providing the information required for the timely availability of all materials for the Authority's southern operating units.
- Manages the establishment and maintenance of the Inventory Master Record, to reflect and effectively utilize data on reorder points, unit costs, and lead times.
- Provides all safety-related material for the entire Authority.

- Ensures cooperative efforts among related functions, such as MIS, Procurement, Maintenance, Operations, Finance, etc., to assure the accuracy and efficiency of the purchasing and inventory control system.
- Manages the development and maintenance of computer-based inventory control reports and related systems and procedures.
- Ensures the organized receiving and completion of associated procurement documentation for all supplies and materials.
- Manages the SARA (Superfund Amendments and Reauthorization Act of 1986) program for all materials received and disbursed by the warehouse.
- Coordinates with other plant managers the short and long-term needs for supplies and materials.
- Monitors vendor performance and service delivery and manages sales representatives in cooperation with Procurement.
- Initiates, coordinates and evaluates training for all warehouse personnel.
- Evaluates assigned employees performance according to MWRA procedures.
- Promotes the MWRA safety programs by supporting the supervisor's weekly safety meetings, holding monthly safety meetings and keeping informed on the staff's safety record.
- Administers the application of collective bargaining provisions and personnel policies in the workplace. Serves as Step 1 grievance hearing officer.
- Designs and develops long-range plans for staffing and efficient space utilization.
- Provides support to the Surplus Property Committee in administrative duties, including such things as processing and tracking the surplus property requests, arranging for storage if necessary and assists in the disposition of surplus property.
- Provides information and assistance to parties interested in purchasing surplus property.
- Works in coordination with all divisions to determine how/what pieces of surplus material can be re-used by the Authority.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in Business Administration program or related field; and
- (B) Seven (7) to nine (9) years of experience in materials management of which at least two (2) must be in a supervisory capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of inventory management and standard business procedures.
- (B) Excellent interpersonal, written and oral communications skills.
- (C) Experience and knowledge in automated inventory systems or other data management systems.
- (D) Experience in MSWord, Excel and Access is desirable.
- (E) Familiarity with types or parts normally used in a maintenance organization.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle License.

TOOLS AND EQUIPMENT USED:

Office machines such as the telephone, personal computer including word processing and other software, copy and fax machines.

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

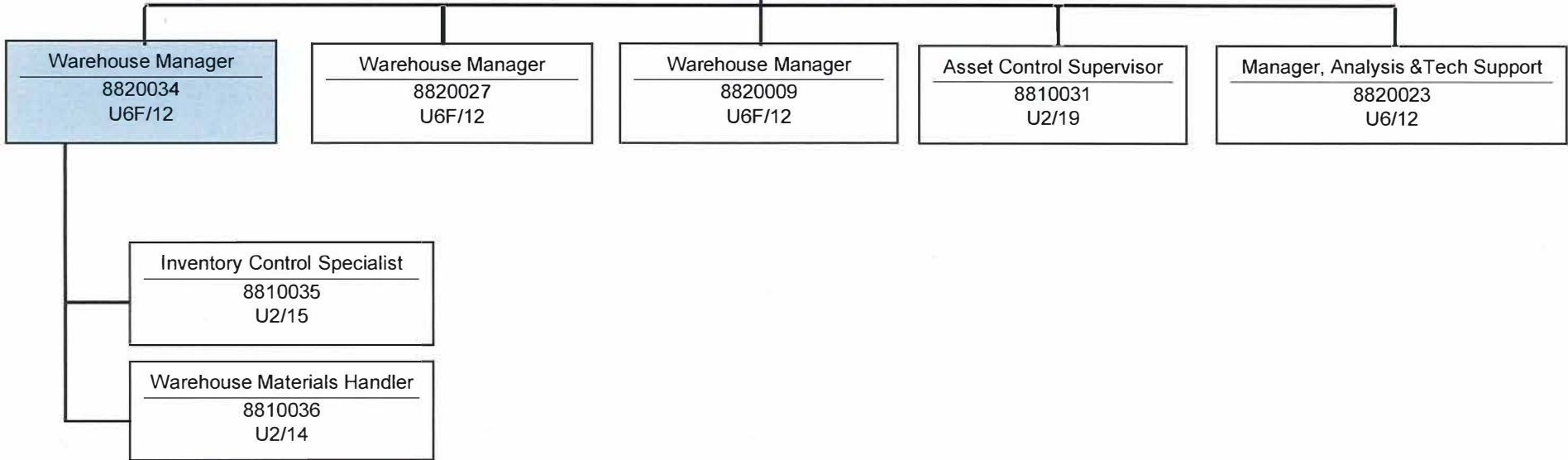
The job is hearing protection required and the noise level in the work environment is very loud in field settings and moderately loud at treatment facilities.

**Administration
Materials Management**


February 2019

Director, Procurement
8810021
NU/16

Materials Manager
8820001
U6/13



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Appointment of Program Manager, Water Quality
Environmental Quality

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Betsy Reilley, Ph.D., Director, ENQUAL
Andrea Murphy, Director, Human Resources
Carolyn Fiore, Deputy Chief Operating Officer
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Mr. Joshua Das to the position of Program Manager, Water Quality (Unit 9, Grade 29), in the Environmental Quality Department, at an annual salary of \$112,432.84, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Program Manager of Water Quality became vacant in September 2018 upon the promotion of the previous incumbent. Organizationally, this position reports to the Senior Program Manager, Water Quality Assurance.

The Water Quality Assurance unit is part of the Environmental Quality Department and is located in Southborough. The group is responsible for monitoring and responding to water quality issues, collection of Massachusetts Department of Environmental Protection required samples, generating DEP compliance reports and other water quality reports. The Program Manager, Water Quality oversees the monitoring of source and distribution water quality trends to identify potential Safe Drinking Water Act compliance deficiencies and recommends corrective action(s) as required. The position also investigates the causes and effects of distribution system water quality deterioration, including coliform regrowth, chlorine residual decay, discolored water, cyanobacterial related issues, and other water quality issues; and is an on-call manager during water quality emergencies.

Selection Process

The Program Manager position was posted internally. A total of four candidates applied for the position, two of which were determined to be qualified and were referred for an interview. The Director of Environmental Quality; the Senior Program Manager, Water Quality Assurance; and the Special Assistant for Affirmative Action conducted the interviews. Upon completion of the

interviews, Mr. Joshua Das was determined to be the best candidate based on his experience, knowledge, skills and education.

Mr. Das has served as a Project Manager for Public Health in the Planning Department since July 1999, and has been responsible for a broad range of programs, including coordination of the lead and copper monitoring program with the laboratory, communities, and regulatory agencies. Mr. Das has served as MWRA's primary contact with local and state public health agencies; has assisted in the response to public health emergencies including total coliform, *E. coli*, *giardia* and *cryptosporidium*, and boil orders. Mr. Das has been the lead for the coordination and development of the annual water quality report required by EPA and distributed to over 800,000 households in the service area. He has demonstrated the ability to communicate technical material effectively both orally and in writing for the general public. In addition to Mr. Das' experience at MWRA, he has served as a mentor with the Engineers Without Borders program, working on water and sanitation projects in the Dominican Republic, Zambia, and Malawi, and visiting sites in Haiti as part of the Partners in Health program. Mr. Das serves as a lecturer at several universities including MIT, Northeastern, and Tufts. His knowledge of current water quality issues, public health, and communication make him the best qualified candidate.

Mr. Das has a Bachelor of Science in Chemistry and English from Tufts University, and a Master of Science in Environmental Health Science from Harvard University's School of Public Health.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY19 expense budget.

ATTACHMENTS:

Resume of Joshua Das
Position Description
Organization Chart

JOSHUA DAS

EDUCATION

HARVARD UNIVERSITY; School of Public Health; Boston, MA

M.S. in Environmental Health Science, Concentration in Water. June 1999

- Course work includes: Water Pollution, Sustainable Development, Environmental Economics, Risk Analysis, Statistics, Epidemiology, Environmental Law, Toxicology.
- Includes course in Design of Water Resource Systems at *Division of Engineering and Applied Sciences* as well as courses at *Kennedy School of Government* and *MIT Sloan School of Management*.
- Independent studies include evaluation of affordable technologies to remove arsenic from water in Bangladesh and evaluation of heavy metals on benthic organisms in New Bedford Harbor.

TUFTS UNIVERSITY; Medford, MA

B.S. in Chemistry and English. May 1994

- *Foreign Study Program* at University of New South Wales, Australia, Spring 1993

OTHER COURSEWORK

- Graduate classes at MIT and Tufts University on Water and Sanitation Infrastructure in Developing Countries, Spring 2004 & 2006
- University of Massachusetts' Center for Survey Research: Survey Research Methods, Spring 2001

PROFESSIONAL EXPERIENCE

MASSACHUSETTS WATER RESOURCES AUTHORITY; Boston, MA

Project Manager, Public Health, Planning Department

July 1999 - Present

- Coordinate bi-annual lead and copper drinking water sampling for 32 communities within MWRA service area, including analysis of data, outreach to communities, and preparing and submitting certification package to regulatory agency.
- Organize lead education outreach to communities, including drafting brochures and web materials, as well as certification to regulatory agency.
- Provide technical and research support for all public health/drinking water concerns within agency.
- Arrange and compose annual Consumer Confidence Report mailed to over 900,000 households in 42 communities including coordination with water quality data team, bid process for printer, collaboration with graphic designer, oversight of mailing, and certification to regulatory agency.
- Managed Waterborne Disease Surveillance Program with Massachusetts Department of Public Health and Boston Public Health Commission.
- Oversee customer complaint phone line and provide appropriate response.
- Provide lectures to several local universities, including MIT, Northeastern, and Tufts, on MWRA's drinking water program.
- Maintain water quality and public health materials for the agency webpage - www.mwra.com.
- Oversight and distribution of monthly water quality report, including drafting annual summaries on several topics.
- Managed and reviewed Tufts University research on high sensitivity *Cryptosporidium* and *Giardia* testing.
- Assist in coordinating agency response to potential bio-terrorism including involvement with state-wide committees.
- Working with Boston Public Health Commission, Boston Public Schools, and Harvard University to improve access to tap water in public places, with particular emphasis on bringing water fountains back to schools that presently buy bottled water.
- Introduced initiative to work on pharmaceutical take-back programs in the MWRA service area and across the state, including the coordination and assistance of a Rappaport fellow.

INTERNATIONAL DEVELOPMENT ENTERPRISES; Dhaka, Bangladesh

Consultant

October 2001 - December 2001

- Evaluated affordable, easy-to-use arsenic removal technologies in Dhaka and surrounding communities.
- Performed field studies and reviewed scientific papers on the affordability, sustainability, environmental impact, and practicality of technologies developed by IDE.
- Participated in conferences assessing arsenic problem across Bangladesh and promoted the use of simple, practical technologies to alleviate the burden on exposed populations.

THE CADMUS GROUP; Waltham, MA

Consultant, Spring 2003

Project Investigator, Summer 1998

- Conducted peer review for Environmental Protection Agency's Unregulated Contaminant Regulation (UCMR) Health Effects Manual. The written review included assessment of the health effects of each UCMR contaminant, and appraisal of usefulness of the health language.
- Collaborated in work group that researched contaminants included in the UCMR under the Safe Drinking Water Act.
- Prepared and edited draft copy of the UCMR Lab Manual sent to EPA.

CHOMERICS; Woburn, MA

Research and Development Chemist

June 1994 - July 1997

- Formulated and developed electrically and thermally conductive materials for electronic energy management.
- Received "Best Technological Discovery - 1994" for work on innovative flame retardant product. Prepared submission of patent on this novel material.
- Planned and coordinated waste disposal and reduction.

NEW ENGLAND AQUARIUM; Boston, MA

Internship

Winter 1993

- Analyzed and maintained marine life to help several ongoing research projects (Nile River, Lobster Diet and Health).

PURE WATER DEPARTMENT; Colonie, NY

Summers 1991 & 1992

Environmental Lab Assistant

- Investigated pH, suspended solids, and dissolved oxygen of influent/effluent waters and primary/secondary tanks.

PROFESSIONAL SERVICE

PARTNERS IN HEALTH; Haiti

Summer 2007

- Participated in site visit to villages associated with the Zanmi Lasante health clinic in Haiti including evaluation and focus groups on water and sanitation concerns and conditions.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY; Cambridge, MA

Spring, 2006-2013

- Present lecture for Susan Murcotts' course on Water and Sanitation in the Developing World entitled "Centralized Water Treatment and Increasing Demand: MWRA and Beijing - Different Stages of Development".

- The lecture focuses on the history of the MWRA and how developing countries can use the MWRA example to improve their water management practices.

ENGINEERS WITHOUT BORDERS; Mentor

Harvard University Chapter, Spring 2011 – Spring 2013

- Mentored Harvard University Chapter on their on-going project in the Dominican Republic. The project involved the design, construction, and promotion of water filters in rural, agricultural area where drinking water has bacterial contamination issues.

Boston University Chapter, Spring 2014 – Spring 2017

- Mentor for Boston University Chapter on their project in Zambia. The project involves installing a new solar-powered pump, household filters, handwashing stations, and improving latrines.

Tufts University Chapter, Spring 2016 – Current

- Mentor for Tufts University Chapter on their project in Malawi. The project involves implementing a new well for the local community, as well as installing a rain-water harvesting tank for a local school.

WATERWORKS MUSEUM; Chestnut Hill, MA Spring 2011 – 2015

- Facilitator at new museum on the history of the Boston area water system. Provided tours and answer questions on the local system, including emphasis on demand management and public health.

PUBLICATIONS & PRESENTATIONS

Rudd, R., Colton, T., Das, J., DeJong, W., Hyde, J. "Mutual Exchanges Support Academic and Community Collaboration." *Public Health Reports*. Volume 118.

Das, J., Bolstorff, B., Pendarvis, J. "Public Health Partnerships and Disease Surveillance with a Large Water Utility: Waterborne Disease Surveillance by Massachusetts Water Resources Authority with State and City Health Departments" Presentation: American Public Health Annual Meeting - November 2006, New England Water Works Conference, September 2007

Das, J. "Back to the Bubblers: Bringing Tap Water Back to Boston Schools" Summary of project to promote tap water and to switch public schools back to tap water from bottled water. In Preparation.
Estes-Smargiassi, S., Das, J., Ascollilo, L., Griffiths, J. "Is a Little Cryptosporidium OK? Results of Research Sampling and Trying to Determine a Standard." In Preparation.

PROFESSIONAL AFFILIATIONS

American Water Works Association (AWWA)

International Water Association (IWA)

SKILLS, TRAVEL EXPERIENCE, and VOLUNTEERING

- Language Skills - Elementary Russian and courses in Spanish and Italian
- Computer Skills - Microsoft Office, Access, SAS, STATA, SPSS
- Travel - Indian Subcontinent, Southeast Asia, China, Central and South America, Caribbean including Haiti, Northern and Southern Africa, Middle East, Western and Eastern Europe, Australia and New Zealand

- Camp counselor at Camp Exclamation Point, 1995-1997, 2008-current. Camp is for kids with limited opportunities located in Vermont.
- Judge for MWRA's essay contest for middle and high school students: 2001-current.

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Water Quality

PCR#: 3370004

DIVISION: Operations

DEPARTMENT: Environmental Quality

BASIC PURPOSE:

Oversees the assessment of drinking water quality, conducts sampling and analyses for Safe Drinking Water Act (SDWA) compliance. Supports investigations on the causes and effects of distribution system water quality deterioration including coliform regrowth, chlorine residual decay, discolored water, cyanobacterial related issues, and other water quality concerns.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior Program Manager, Water Quality.

SUPERVISION EXERCISED:

Exercises close supervision of the Laboratory Supervisor and other staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees and participates in the monitoring of daily and weekly source and distribution water quality trends to identify potential SDWA compliance deficiencies and recommends corrective action(s) as required.
- Participates in the preparation and review of routine water quality reports to communities, DEP and others as required.
- Coordinates Operations response to source and treated water quality incidents.
- Establishes and oversees a trigger planning system to diagnose and respond to water quality problems.
- Participates in the investigation of distribution system water quality deterioration including, but not limited to, coliform or *E. coli* detection and regrowth, chlorine residual decay, cyanotoxins and cyanobacteria, and discolored water. Recommends corrective

action(s) and coordinates actions with community water departments as required.

- Responds to water quality complaints, including coordination of MWRA sampling, as necessary.
- Keeps up-to-date with AWWA Water Research Foundation and SDWA drinking water quality research and advises management of key findings that could affect capital or operating programs.
- Oversees and implements training as needed for MWRA and community field sampling staff.
- Manage and oversee sampling staff and overall sampling program. Recommend changes to improve efficiency and reliability. Ensure sampling is completed and meets all federal and state Drinking Water Regulatory requirements.
- Develop programs for algae monitoring and response, cyanotoxins, and emergency reservoir water quality.
- Acts as On-Call Manager for Environmental Quality, Water. Required to be part of an on-call rotation for emergencies with other ENQUAL staff twenty-four (24) hours a day, seven (7) days a week.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four- (4) year college program in sanitary engineering, microbiology, chemistry or related field. A master's degree and/or PE required. A Ph.D. is preferred; and
- (B) Comprehensive understanding of drinking water quality issues as acquired through seven (7) to nine (9) years experience in water quality related work of which three (3) years must be in a supervisory capacity. A Ph.D. can be substituted for up to three (3) years of work experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Computer literacy in PC-based word processing, spreadsheet and database packages.
- (B) Ability to communicate technical material effectively orally and in writing.

SPECIAL REQUIREMENTS:

Possession of a Grade II Water Treatment license or able to obtain within 1 year of appointment.

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.

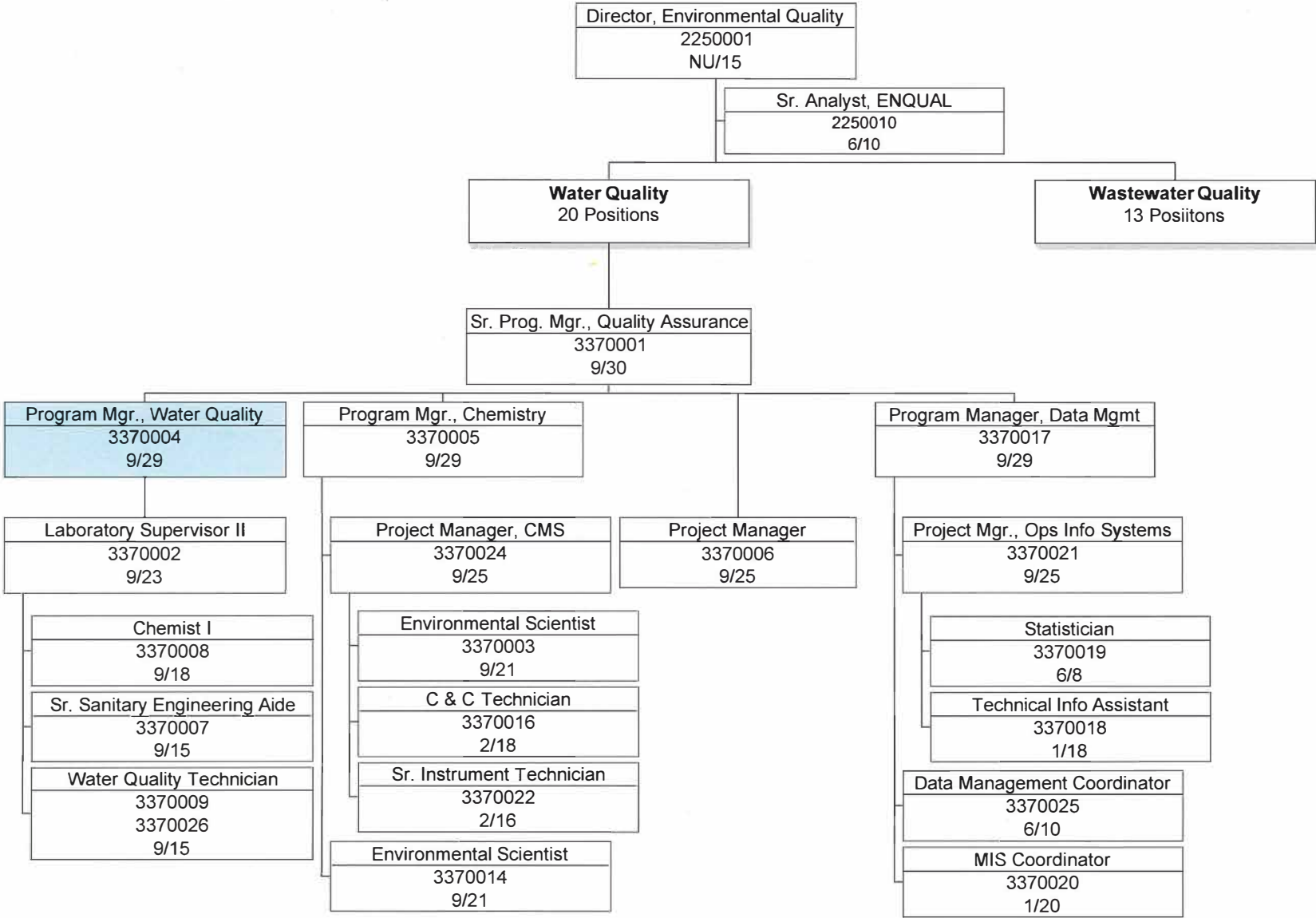
While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and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


October 2018

Environmental Quality

February 2019




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Appointment of Associate Special Assistant, Affirmative Action and Compliance Unit

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Andrea Murphy, Director of Human Resources
Patterson Riley, Special Assistant, AACU
Preparer/Title 

RECOMMENDATION:

To approve the appointment of Ms. Tomeka Cribb-Jones to the position of Associate Special Assistant in the Affirmative Action and Compliance Unit (Non-Union Grade 14) at an annual salary of \$117,300 commencing on a date determined by the Executive Director.

DISCUSSION:

The Board of Directors approved the position of Associate Special Assistant at the December 19, 2018 meeting. This new position will assist with planning and implementing department goals and objectives, and acts in the absence of the Special Assistant. The Associate Special Assistant will supervise the Project Manager, Monitoring and Compliance, the MBE/WBE Program Manager, the Compliance Monitor and the Workforce Development Coordinator. This position will also supervise the investigation of internal discrimination complaints, review personnel practices to ensure compliance with Federal and State EEO/AA laws and regulations, and coordinate the design and presentation of workshops and training sessions regarding Federal and State EEO/AA laws in conjunction with the Manager of Training and Development in the Human Resources Department.

SELECTION PROCESS:

The position was posted internally and one candidate applied. Tomeka Cribb-Jones was interviewed by the Director of Human Resources and Special Assistant for Affirmative Action and Compliance. Ms. Cribb-Jones was recommended for the position based on her experience, knowledge, skills, abilities and education.

Ms. Cribb-Jones has 17 years of public sector and non-profit human resources management experience in the personnel related areas of labor relations, affirmative action and diversity, talent acquisition and employee training. She has served as the MWRA's Assistant Manager,

Labor Relations since January 2015. In that role, she serves as the hearing officer for grievance and disciplinary hearings, assists with workplace investigations related to discrimination complaints, and provides support to legal counsel in arbitration cases and other external matters. Ms. Cribb-Jones has earned the respect of her colleagues and managers. Prior to joining MWRA, she worked at Boston Public Schools where she managed all aspects of the Human Resource function, supporting 128 schools and the central office departments such as Special Education, Transportation, Academics and the Office of the English Language Learners, and supervised 10 management staff. She was also involved in labor and employee relations, worked closely with the union, conducted investigations and collaborated with school administration staff to ensure schools were meeting diversity commitments.

Ms. Cribb-Jones has a Bachelor's of Arts degree from Emmanuel College in Business Communication. She has also completed the Society of Human Resources Management-Professional in Human Resources Training Program at Curry College and the MWRA Supervisory Training Program.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY19 CEB for this position.

ATTACHEMENTS:

- Resume of Tomeka Cribb-Jones
- Position Description
- Organizational Chart

Tomeka Cribb-Jones

PROFESSIONAL EXPERIENCE

MASS WATER RESOURCES AUTHORITY (MWRA) | Charlestown, MA

2015-present

ASSISTANT MANAGER Labor Relations

- Assists in Labor Relations activities including serving as hearing officer for grievance and disciplinary hearings, participate and assist in collective bargaining negotiations.
- Assist with workplace investigations as it relates to harassment, discrimination, or affirmative action complaints.
- Involved in labor and collective bargaining matters including proposal development, responses to requests for information and meeting organization.
- Participate in meetings between labor and management to discuss and attempt to resolve issues of mutual concern.
- Partner with Affirmative Action and Legal Department to ensure consistent application and interpretation of labor relations and employee relations policies
- Provide advice and support to managers and supervisors on employee performance issues such as attendance, job performance and other disciplinary issues and workplace investigations.
- Provide support to legal counsel in arbitration cases, and other external matters.
- Assist with completion and implementation of HR special projects.

BOSTON PUBLIC SCHOOLS | Boston, MA

2004 – 2014

SR. HUMAN CAPITAL Business Partner

- Managed all aspects of the HR function, supporting 128 schools and BPS central office departments including but not limited to SPED, Transportation, Academics, Office of English Language Learners comprised of a 4,930-employee population. Provide supervision to 8 Human Capital School Support Partners in a cross-functional team and 2 HR Coordinators.
- Heavily involved in labor and employee relations. Provided consultation to principals related to position management and the promotion, retention and dismissal of staff.
- Worked closely with the union to understand issues and concerns and ensure full compliance. Conducted investigations; involved in collective bargaining negotiations. Collaborated with principals to ensure schools were meeting diversity commitments. Researched and dug deeper to understand the core root of the problem. Introduced and enforced new practices to ensure commitments met.
- Approved the appointment of employees to fill budgeted vacancies according to court orders, collective bargaining contracts and state and city qualifications. Worked with Principals and Headmasters on licensure and certifications requirements for teacher, teacher assistant and administrator openings.
- Identified training needs with BPS central departments to assist in developing appropriate training materials and deliver training across district when required

NEW ENGLAND ORGAN BANK | Newton, MA

2002 – 2004

HUMAN RESOURCES MANAGER & TRAINING MANAGER

- Immediately focused on talent acquisition for this non-profit organization, playing an instrumental role in nearly doubling the workforce from 30 to 70 employees within 2 years.
- Quickly ramped up and built out a comprehensive program, putting infrastructure, policies and processes in place to train a high performance OPO team. Familiarized with employment law, licensing, certifications and OSHA standards
- Drove the talent acquisition strategy, successfully meeting aggressive 1.5-month goal to recruit, hire, onboard, train and assimilate a team of 15+ case managers supporting donor families.

- Developed and delivered training materials; trained 2 trainers to help assimilate the team. Mentored new hires to ensure they fully understood the material.
- Shifted to new strategies to attract volunteers to NEOB, leading rebranding strategy to garner employee buy-in. Partnered closely with managers on performance management issues. Helped to identify and eliminate low performers. Coached on providing feedback and disciplinary action where needed. Ensured proper documentation.

ADVENTURES IN ADVERTISING | Quincy, MA
1999 – 2002

HUMAN RESOURCES MANAGER /DIVERSITY RECRUITER

- Managed all aspects of the HR function for a high volume distributor, managed summer interns and 4 call center representatives.
- Heavily involved in employee relations and investigations. Conducted and handled investigations with fairness regarding unemployment hearings 10+ per month on average.
- Provided ongoing coaching and guidance to 15+ Field Managers regarding performance management, documentation, employment law, compliance and appropriate communications. Held management team accountable.
- Challenged with a growing high turnover of high-level, minority managers. Initiated and facilitated monthly discussions to create open honest, candid dialogue. Mandated Diversity Training across the field for all managers.
- Received Outstanding Achievement award in 2001 for this effort and high impact leadership contribution to the company. Strengthened relationships with campus affinity groups and career centers. Incepted new strategy that positioned AIA as a long-term career choice.

Technical Proficiencies:

Microsoft Office, Excel, PeopleSoft, TalentEd, Kenexa, Lawson and Applicant Pro

Affiliations: National Coalition of 100 Black Women

EDUCATION AND TRAINING

- Completed MWRA Supervisory Training Program - 2018
- Completed Webinars through The New England ADA Center / National Diversity Council - 2017
- Completed SHRM-PHR Human Resources Training Program, Curry College, Milton, MA - 2014
- Urban School Human Capital Academy, Houston, Texas- 2014
- Executive Leadership Management Program, Boston Public Schools, Boston, MA - 2012
- Bachelor of Arts in Business Communication, Emmanuel College, Boston, MA - 1996
Minor in Economics

EARLIER ENGAGEMENTS

Chief of Staff and Special Projects, Boston Public Schools, 2004-2006

Intern, Office of Communications, Boston Celtics (NBA) | Boston, MA, 1995 – 1996

**MWRA
POSITION DESCRIPTION**

POSITION: Associate Special Assistant

PCR#:

DIVISION: Affirmative Action

DEPARTMENT: Affirmative Action and Compliance Unit

BASIC PURPOSE:

Assists with the planning and implementing department goals and objectives and acts in the absence of the Special Assistant. Directs all activities of an administrative nature.

SUPERVISION RECEIVED:

Works under the general supervision of the Special Assistant.

SUPERVISION EXERCISED:

Functionally supervises the Project Manager, Monitoring and Compliance, the MBE/WBE Program Manager, the Personnel Compliance Monitor and administrative staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists the Special Assistant in coordinating the activities of the Unit. Works with program managers and staff to ensure effective communication and work flows identifies problems and issues and creates action plans to address same.
- Oversees day-to-day Unit operations, represents the Special Assistant on administrative matters, and signs-off on documents.
- Supervises the investigation of internal discrimination charges and complaints filed by employees and/or applicants for employment with the Authority.
- In conjunction with the Manager, Training and Development, coordinates of the design and presentation of workshops and training sessions regarding Federal and State Equal Employment Opportunity (EEO/AA) laws.
- Reviews and makes recommendations to ensure that personnel practices are in compliance with Federal and State EEO/AA laws and regulations including the

Massachusetts Equal Pay Act (MEPA).

- Supervises the development and monitors the implementation of the Authority's Affirmative Action Plan (AAP) including the achievement of staffing and M/W/DBE goals by each division.
- Directs the development of the department's budget and monitors for adherence to Authority's policies and variance reporting.
- Maintains strong working relationships and affiliations with external state and federal agencies, professional organizations, community organizations and groups as appropriate.
- Serves as the primary Unit liaison with Federal and State agencies with regard to quarterly and annual utilization analysis, including relevant workforce analysis and availability data.
- Maintains working knowledge of Authority EEO/AA policies and all current state, local and federal EEO/AA matters relating to collective bargaining agreements, labor relations and bargaining unit grievance hearings.
- Serves on selection committees.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in public administration, management, business administration, or related field. Graduate degree preferred; and
- (B) Knowledge of State and Federal employment laws and EEO/AA principles and practices as acquired by seven (7) to nine (9) years of experience in human resource administration, dispute resolution, or affirmative action of which at least three (3) years are in a managerial or supervisory capacity. Public sector experience strongly preferred; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent analytical and writing skills.

- (B) Working knowledge and understanding of relevant contract compliance and M/W/DBE program development.
- (C) Excellent writing and oral communication skills.
- (D) Ability to plan, organize, direct, train and assign duties to subordinates.
- (E) Ability to maintain confidentiality.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operator'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. The employee must occasionally lift and/or move up to 10 pounds.

Specific vision abilities required by this job include close vision and the ability to focus.

WORK ENVIRONMENT:

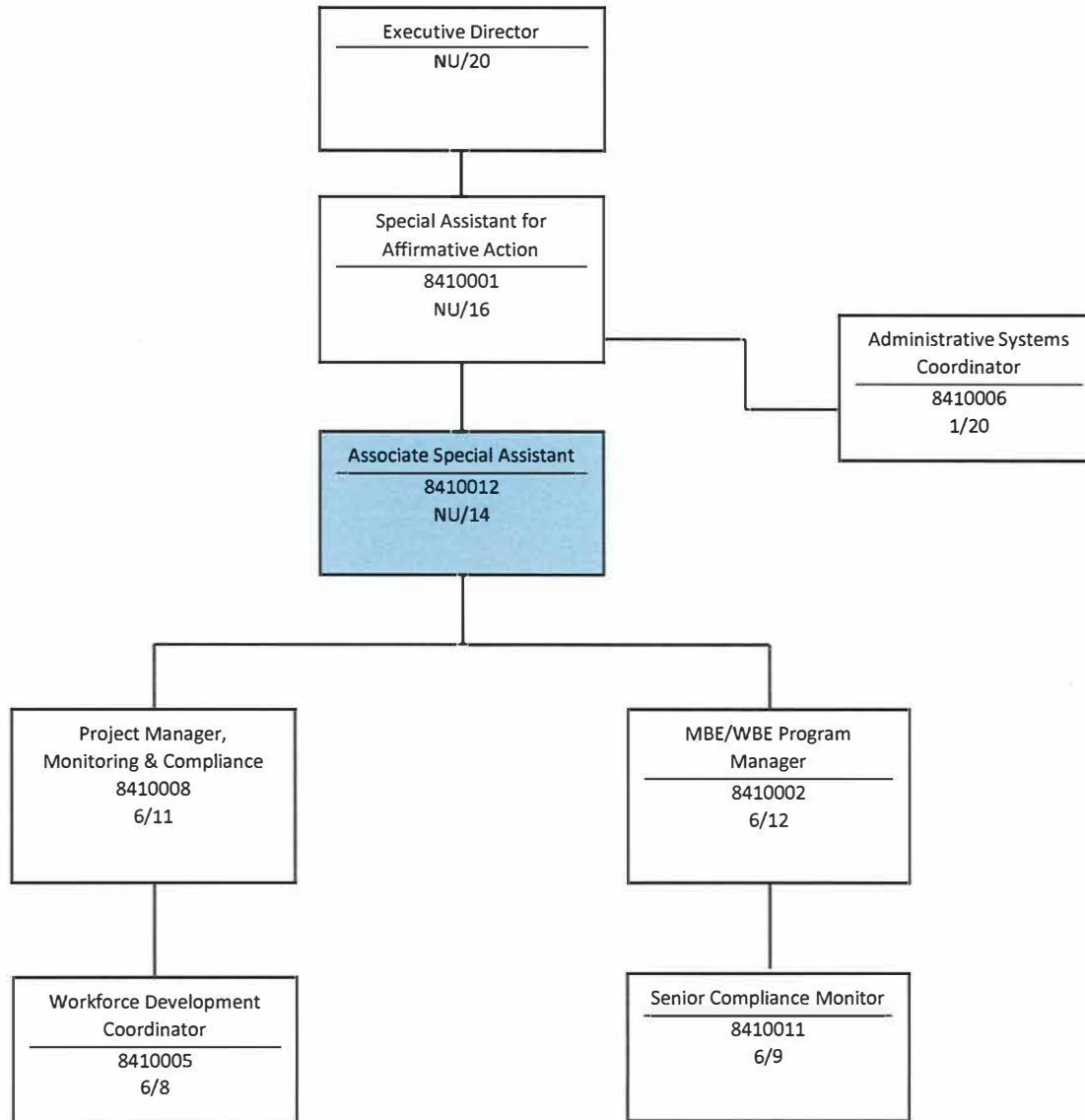
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally works in outside weather conditions.

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


December 2018

Affirmative Action

February 2019



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Appointment of Director, Wastewater, Operations and Maintenance

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Stephen D. Cullen, Director, Wastewater
Andrea Murphy, Director, Human Resources
Preparer/Title


David W. Coppes, PE
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Charles Ryan to the position of Director, Wastewater Operations and Maintenance (Non-Union, Grade 15), in the Operations Division, at the annual salary of \$145,600 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Director, Wastewater Operations and Maintenance became vacant in June 2018 as a result of the promotion of the incumbent. This position is responsible for directing the operations, maintenance, and support activities for all wastewater operations facilities in the Metropolitan area. The position directs the maintenance planning and crew accountability for all field operations groups. The position also oversees the Wastewater Operations program (including the Chelsea Operations and Control Center), the Wastewater Pipeline program, and the Metro Maintenance program (including Trades Maintenance, Facilities and Grounds Maintenance, and Work Coordination). This position reports to the Director, Wastewater.

Selection Process

The position of Director, Wastewater Operations and Maintenance was posted internally. A total of two qualified candidates submitted applications, and both candidates were referred for interviews. The Chief Operating Officer, the Director of Wastewater, and the Manager of Operations Support (representing Human Resources) conducted the interviews. Upon completion of the interviews, Mr. Ryan was determined to be the best candidate based upon his experience, skills, and education.

Mr. Ryan has more than 32 years of experience in wastewater operations and maintenance management. He has been employed at MWRA since 1987 and since that time has been promoted to various positions with increasing levels of responsibility. As a Project Engineer, Mr. Ryan assisted in all operational and budgetary issues. He then assumed the role of Project Manager, Metering and eventually was promoted to Program Manager, Metering overseeing the Metering group. Since 2008, Mr. Ryan has served as the Manager, Wastewater Operations overseeing the

operations and maintenance activities for MWRA's 13 wastewater pump stations, three combined sewer overflow facilities, two CSO storage facilities, and four headworks. Mr. Ryan has extensive knowledge of MWRA's wastewater system having been involved in all aspects of operation, maintenance and metering. He has worked closely with wastewater operations, maintenance and management staff throughout his tenure at MWRA and has developed excellent communication, preparation and prioritization skills dealing with wet weather events. He is well-respected by both management and line staff. Mr. Ryan has extensive experience managing in a unionized environment including handling staffing issues, discipline issues, grievances and the hiring/selection of employees, while working closely with Labor Relations and Human Resources staff.

Mr. Ryan has a Bachelor of Science in Marine Engineering from the Massachusetts Maritime Academy, and a Masters of Business Administration from the University of Massachusetts at Boston. He also has a Grade 6 Wastewater Treatment Plant Operators License, and a Grade 4 Wastewater Collections License.

BUDGET/FISCAL IMPACTS:

There are sufficient funds in the Operations Division's FY19 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of Charles Ryan
Position Description
Organizational Chart

Charles B. Ryan

OBJECTIVE: To utilize my knowledge, experience and education to advance my career at the MWRA and obtain a position of increased responsibility that will be mutually beneficial to the MWRA and myself.

Summary

- Strong goal and results orientated with proven success in setting and meeting objectives.
 - Very strong interpersonal and communication skills.
 - Self-starter who can meet objectives with little supervision.
 - Excellent reputation for professionalism and competence.
 - Strong experience and knowledge of the operation and maintenance of large municipal wastewater transport system.
-

EDUCATION: Masters Business Administration,
University of Massachusetts, Boston

B.S. Marine Engineering,
Massachusetts Maritime Academy

LICENSES: Wastewater Treatment Plant Operators License Grade 6-C
Collection Systems Operators License Grade 4

EXPERIENCE: Massachusetts Water Resources Authority
2 Griffin Way
Boston, MA 02129

Manager, Wastewater Operations - June 2008 to Present

- Manages the operation and oversight of the Authority's wastewater pumping stations, headworks facilities and combined sewer over flow facilities; including normal and wet weather operations, facility inspections, operations maintenance activities and facility housekeeping.
- Manages 63 Wastewater Operations staff, including hiring, training, setting staffing plans, scheduling, labor/management issues, evaluations, collective bargaining, disciplinary matters and acting as a step 1 hearing officer for all staff.

- Manages wet weather operations to ensure all wastewater facilities are ready, fully functional and properly staffed for all rain events. Manages EOC during rain events ensuring proper oversight of wet weather wastewater operations.
- Works with Engineering and Construction staff for the planning, design, review and selection committee process, for the rehabilitation and construction for the Authority's wastewater facilities. Works to ensure proper testing of equipment, functional SCADA systems and complete and accurate O&M manuals.
- Works with Maintenance staff to ensure maintenance activities are prioritized and performed in a timely manner to ensure full and optimal operations at all wastewater facilities. Utilizes Maximo to track preventive and corrective maintenance activities in all wastewater facilities.
- Reviews SCADA trends and scanner rounds to ensure proper operation and inspection of all wastewater facilities.
- Develops standard operating procedures (SOPs), training programs, wastewater policies, long range plans, O&M manuals and safety programs.
- Performs budgetary, personnel and administrative functions for wastewater operations department.
- Works with Pipeline Maintenance & Technical Inspection staff to coordinate wet weather monitoring and facility maintenance activities.

Program Manager, Metering - November 1993 to June 2008

- Manage the operation and maintenance of the Authority's wastewater and water metering systems. Manage the \$5.2 million Meter Replacement Contract for the replacement of the permanent wastewater metering system. Developed preventive maintenance programs for water and wastewater metering systems.

Project Manager, Sewerage Division - January 1992 to November 1993

- Managed the Sewerage Division's Metering Department, overseeing all aspects of the program responsible for the generation of an \$80 million revenue budget. Assisted the Director of Transport with all budgetary, personnel related issues, management of engineering/construction projects, operational/maintenance activities associated with the routine daily and long term objectives of the Transport Department.

Project Engineer, Sewerage Division - November 1989 to January 1992

- Assisted the Superintendent of Collections with all engineering, operational, maintenance and budgetary issues.

Senior Engineering Aide, Sewerage Division - June 1987 to November 1989

- Assisted the Superintendent of Collections with all engineering, operational, maintenance and budgetary issues.

Diesel Power Plant Operator, Water Division - February 1987 to June 1987

- Performed all maintenance and operational duties at the MWRA Brattle Court water pumping station.

EXPERIENCE: Town of Braintree, MA

Braintree Town Council, Councilor-at-Large, Braintree, MA - January 2008 to Present: Current Council President - 2018 to 2019; Responsible for the for the legislative duties of the Town of Braintree's government, including, review and adoption, of all town departmental budgets, supplementary budgets, capital improvement programs, and town ordinances.

Braintree Board of Selectman, Braintree, MA - April 2004 to December 2007: Chairman – 2006; Oversee and manage all aspects of the town's \$82 million fiscal budget. Oversee the town's public safety departments (police and fire), department of public works, financial department and human services.

Braintree DPW Board, Braintree, MA – April 2003 to April 2004: Chairman 2003 –2004; Provided recommendations for all aspects of the town of Braintree's department of public works, water treatment and distribution, wastewater collection, engineer functions, highway department and solid waste collection.

Braintree Water & Sewer Commission, Braintree, MA - April 2000 to 2003: Chairman – 2000; Oversee all aspects of the operation and maintenance programs for the town's water treatment, distribution and wastewater collection systems. Oversee the adherence to the DEPs Administrative Consent Order relating to the town's wastewater collection system.

AFFILIATIONS:

Massachusetts Organization of State Engineers and Scientists, Board of Directors – 2003 to 2008: Represented the MWRA on the MOSES BOD, negotiated collective bargaining agreements between MOSES and the MWRA.

Water Environment Federation - Collection Systems Committee: 2005 – 2008

New England Water Environment Association

Mentoring Committee - Chairman 2003 to 2008

Membership Committee 2000-2006, Chairman 2000-2003

Collection Systems Committee 1989-2000, Chairman 1996-1998

Massachusetts Water Pollution Control Association - Board of Directors 1994-1995

AWARDS/HONORS: NEWEA Select Society of Sanitary Sludge Shovelers
 NEWEA Golden Manhole Society
 NEWEA Collection Systems Award 2006

OTHER: Harvard University - Kennedy School of Government,
 Rappaport Institute, Seminars on Municipal Governance
 and Policy, 2007
 Bentley University - Effective Leadership: Leading People
 Teams and Projects, May 2018

REFERENCES: Available upon request

**MWRA
POSITION DESCRIPTION**

POSITION: Director, Wastewater Operations & Maintenance

PCR#: 2470001

DIVISION: Operations

DEPARTMENT: Operations

BASIC PURPOSE:

Directs operations, maintenance and support activities for the Wastewater Operations Facilities. Directs equipment maintenance staff and programs for all Metropolitan water and wastewater facilities. Plans for and ensures that the necessary resources and support are provided to meet operational needs and applicable regulatory requirements in a cost effective manner.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Wastewater.

SUPERVISION EXERCISED:

Exercises direct supervision of the Manager, Wastewater Operations, Senior Program Manager of Wastewater Pipeline & TV Inspection, Manager, Metro Maintenance, and indirect supervision of over 200 staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs the operations and maintenance of all wastewater operations facilities and programs including 270 miles of sewer pipelines, 11 pump stations, 5 remote headworks, and 4 Combined Sewer Overflow (CSO) treatment/storage facilities.
- Oversees the preparation and updating of long range operation and maintenance planning for metropolitan sewer pipeline, pumping, headwork, and CSO storage facilities.
- Develops and implements staffing plans to improve productivity and achieve maximum utilization of staffing resources.
- Directs the facilities and equipment maintenance for over 45 critical water and wastewater facilities in the greater Boston area.

- Directs the maintenance programs related to the MWRA sewerage pipelines and appurtenances (siphons, headhouses, & manholes).
- Develops, directs and coordinates strategic plans with the Operations Division and MWRA managers to provide services to wastewater operations facilities.
- Oversees and directs the continual upgrading and improvement of facility-wide management systems.
- Directs department-wide efforts to track and improve crew efficiency and accountability in Operations.
- Advises the department and division directors on all Metropolitan wastewater operations and facilities issues.
- Establishes and participates in the development of applicable agency-wide wastewater policies.
- Reviews plans and specifications for facility and equipment improvements prepared by technical staff and consultants to ensure cost effectiveness and compatibility with existing systems and operating requirements.
- Directs the development, review and selection of new and/or improved equipment, processes and systems and their smooth transition into operation.
- Manages the development and updating of operations & maintenance manuals and systems, and station operating procedures. Works with the design consultants to ensure timely production of updates.
- Partners with the Manager, Training and Development to oversee and provide opportunities for technical, supervisory and managerial training and education for all department employees. Ensure that staff are trained properly to be ready to operate new facilities as they come on line.
- Directs the Wastewater Operations and Equipment Maintenance safety programs maximizing employee involvement, supporting the Authority-wide safety programs, and making inspections. Acts as liaison to the Manager, Occupational Safety and Health.
- Maximizes effective use of the Maximo maintenance management software and related computer programs.
- Manages preparation of and exercises control over current expense budgets for Wastewater Operations.

- Represents the Wastewater Operations Section of the Operations Division as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Act as interagency liaison and public relations contract/spokesperson with regard to operation of Wastewater Facilities.
- Establishes emergency response procedures, training programs, and practice drills with the assistance of emergency response and safety staff.
- Assures consistency and uniformity of work rules in accordance with established policies and procedures. Provides feedback and coaching to managers to maximize successful performance.
- Reviews, analyzes and prepares managerial reports for operational, maintenance, process control, budget and personnel matters. Develops recommendations for ongoing improvements in facility operations and maintenance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolutions, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's degree in civil, environmental, mechanical, electrical, or chemical engineering or a related technical discipline; and
- (B) Thorough knowledge of planning, design, operations and maintenance of major wastewater utilities as acquired through ten (10) to twelve (12) years of related experience, of which at least five (5) years must be in the successful management of a large wastewater utility or related industrial process with multiple supervisory levels; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent working knowledge of large wastewater collection and treatment facilities and associated systems and equipment,
- (B) Demonstrated successful experience managing in a union environment with a diverse workforce.
- (C) Knowledge of computerized maintenance management systems and procedures.
- (D) Personal computer experience and familiarity with associated software programs such as MAXIMO.
- (E) Excellent interpersonal, written and verbal communication skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

A valid Grade 6 wastewater operator's license.

Must be available for on-call assignments and to respond to emergencies on a 24/7 basis using a MWRA domicile vehicle.

TOOLS AND EQUIPMENT USED:

Office machines 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 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.

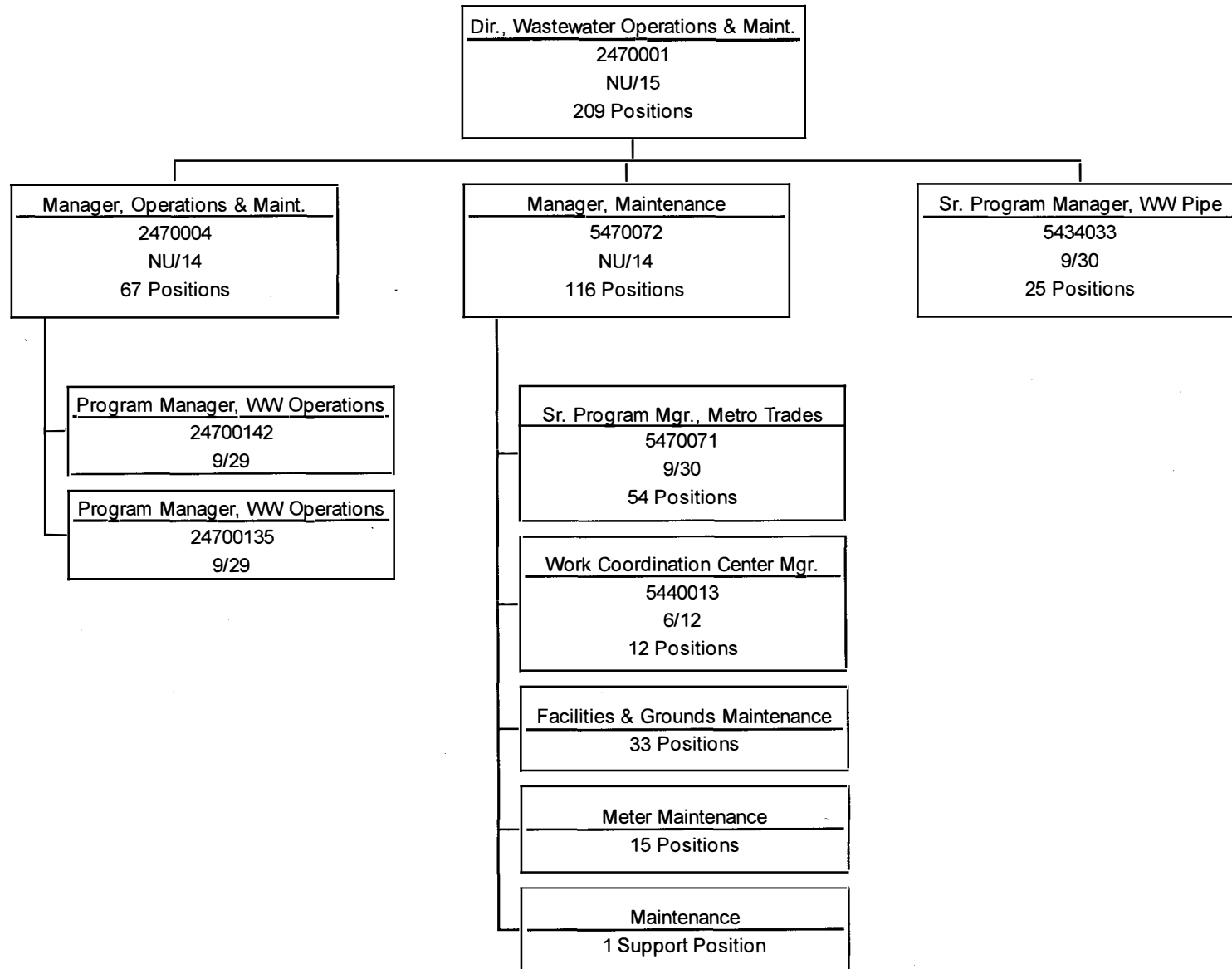
While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee works near moving mechanical parts is occasionally exposed to wet and/or humid conditions. The employee is occasionally exposed to fumes and airborne particles, toxic or caustic chemicals,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

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


December 2018

Wastewater Operations & Metro Maintenance - Summary

February 2019




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Appointment of Director, Metropolitan Operations

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Mark H. Johnson, PE, Director, Waterworks
Andrea Murphy, Director, Human Resources
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Mr. Bradley J. Palmer to the position of Director, Metropolitan Operations (Non-Union, Grade 15), in the Operations Division, at the annual salary of \$145,600, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Director, Metropolitan Operations became vacant in June 2018 as a result of the promotion of the incumbent. The Director, Metropolitan Operations directs the operations, maintenance, and support activities for all metropolitan water distribution, pumping stations, storage, and pressure reducing valve facilities. The position oversees the Water Pipeline Maintenance program, the Water Valve Maintenance program, and Metropolitan Operations (including the Chelsea Operations and Control Center). This position reports to the Director of Waterworks.

Selection Process

The position of Director, Metropolitan Operations was posted internally. A total of three qualified candidates submitted applications, and all three candidates were referred for interviews. The Chief Operating Officer, the Director of Waterworks, and the Manager, Operations Support (representing Human Resources) conducted the interviews. Upon completion of the interviews, Mr. Palmer was determined to be the best candidate based upon his experience, knowledge, skills and education.

Mr. Palmer has 39 years of engineering, operations, and maintenance experience, including 30 years at MWRA serving in multiple operations and maintenance management roles. He is well respected by both management and line staff. Prior to MWRA, he worked 9 years aboard merchant marine vessels, advancing to the position of Chief Engineer. Mr. Palmer started at the MWRA as the Superintendent of Pumping Stations, where he was responsible for the operation and maintenance of 10 water pumping stations within the Metropolitan water service area. During his tenure managing the pumping stations, he led the efforts to transition from a fully staffed work

place to a fully automated work place with roving operations staff. His next assignment was the position of Manager, Metropolitan Maintenance, which included responsibility for maintenance of all water assets in the Metropolitan water system (pump stations, pipelines, valves, and water storage tanks), and then Manager, Western Maintenance. In this role, he was responsible for the maintenance of the water transmission system, including all tunnels and aqueducts. He participated in the start-up of the MetroWest Water Supply Tunnel, and the Carroll Water Treatment Plant. He successfully managed the implementation of the Carroll Plant preventative maintenance program. Since 2014, Mr. Palmer has served as the Manager, Treatment and Transmission, where he is responsible for the management of all treatment and hydraulic operations of the Chicopee Valley Aqueduct, Cosgrove Intake and Power Station, Oakdale Power Station, the Carroll Plant, William A. Brutsch Water Treatment Facility and Norumbega Covered Storage tanks.

Mr. Palmer has a Bachelor of Science in Marine Engineering from the Massachusetts Maritime Academy, and a Masters of Business Administration from the University of Massachusetts at Lowell. He has a Grade 4 Water Distribution System Operators License, a Grade 3 Water Treatment System Operators License, and a United States Coast Guard Chief Engineer's license (reserve status); and is also a Certified Maintenance and Reliability Professional.

BUDGET/FISCAL IMPACTS:

There are sufficient funds in the Operations Division's FY19 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of Bradley J. Palmer
Position Description
Organizational Chart

Bradley J. Palmer

Education

Massachusetts Maritime Academy, Buzzards Bay, Massachusetts
Bachelor of Science in Marine Engineering - May, 1979

University of Massachusetts-Lowell, Lowell, Massachusetts
Master of Business Administration – October, 2004

Licenses

Grade 4D (Full), Grade 3T (Full) & Grade 4T (O.I.T.) Drinking Water Supply Facilities
Operator License – Massachusetts
Certified Maintenance and Reliability Professional - SMRP
United States Coast Guard License, Chief Engineer, Motor, Unlimited (reserve status)
Pesticide Applicator License - Massachusetts

Work History

Massachusetts Water Resources Authority

- 6/14-Present **Manager, Transmission & Treatment**
Responsible for the management of all treatment and hydraulic operations staff engaged in the delivery of water from the sources to metropolitan Boston, including operation of the Chicopee Valley Aqueduct, Cosgrove Intake & Power Station, Oakdale Power Station, John J. Carroll Water Treatment Plant, William A. Brutsch Water Treatment Facility, and Norumbega Covered Storage Tanks.
- 7/02-6/14 **Manager, Western Maintenance**
Responsible for the maintenance of the MWRA's water transmission system, this system includes over 125 miles of tunnels and aqueducts, 100 associated above ground facilities, 2 active hydro-power stations and a 405(peak) MGD ozone water treatment plant. Supervise a staff of 74, responsible for an annual budget of \$3.8 million. Participated in the start-up of the Metro-West Water Supply Tunnel and the John J. Carroll Water Treatment Plant. Successfully managed the implementation of the Plant's preventative maintenance program and the development of 6 maintenance service contracts.
- 8/99-7/02 **Manager, Metropolitan Maintenance**
Responsible for the maintenance of the MWRA's water distribution system, this system includes 265 miles of water main covering 7 pressure zones, 3,500 valves, 8 covered storage facilities, 10 potable water pumping stations and 37 pressure reducing valves. Supervise a staff of 93, responsible for an annual budget of \$4.9 million. Successfully implemented the use of computerized maintenance management software in the equipment maintenance group.
- 8/89-8/99 **Superintendent of Pumping Stations**
Responsible for operation and maintenance of 10 potable water pumping stations within the Metropolitan Boston service area. Successfully managed the transition from a manual operating environment to an automated operating environment and the associated reduction in operating personnel in the pumping stations.

United States Merchant Marine

6/79-8/89

Licensed Marine Engineer

Sailed aboard various merchant vessels including Oil Tankers, Ocean-Going Tugs, Research Ships and Underway Replenishment Ships, advancing my license from Third Assistant Engineer to Chief Engineer. My job duties while sailing as a First Assistant Engineer included the day-to-day supervision of all operational and maintenance activities related to the Engine Department. Additional duties included maintenance planning, safety, stores, and procurement. As a Chief Engineer, I had overall responsibility for the Engine Department and reported directly to the Captain of the vessel. These Engine Departments varied in size from 10 to 30 people.

Professional Organizations

Member - American Water Works Association – New England Water Works Association
Member - Society for Maintenance and Reliability Professionals

**MWRA
POSITION DESCRIPTION**

POSITION: Director, Metropolitan Operations

PCR#: 3385031

DIVISION: Operations

DEPARTMENT: Metro Water General

BASIC PURPOSE:

Directs the operation, maintenance, and support activities for all metropolitan water distribution, pump stations, storage, and pressure reducing valve (PRV) facilities. Directs SCADA (Supervisory Control and Data Acquisition) and Process Control programs for water and wastewater facilities. Plans for and ensures that the necessary resources and support are provided to meet operational needs and applicable regulatory requirements in a cost effective manner.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Waterworks.

SUPERVISION EXERCISED:

Exercises direct supervision of Senior Program Manager, Operations Control Center (OCC), Senior Program Manager, Pipelines (Water), Senior Program Manager, Valves, Manager, SCADA & Process Control, and indirect supervision of approximately 100 staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs the operations and maintenance of the metropolitan water system, which includes 300 miles of pipeline, 5500 valves, 12 pump stations, 12 storage facilities and 50 PRVs and 8 tunnel shafts.
- Oversees metropolitan operations program to ensure that all critical metropolitan water facilities are properly monitored and controlled. Identify necessary SCADA support to optimize the mix of automation and attended operation to ensure rapid, reliable and efficient response to water and wastewater system malfunctions on a 24-hour/day basis.
- Oversees the preparation and updating of long range operation and maintenance planning for metropolitan water distribution pipeline, pumping, storage, and PRV facilities.
- Develops and implements staffing plans to improve productivity and achieve maximum

utilization of staffing resources.

- Oversees water valve maintenance, rehabilitation, and replacement program to maximize valve operability and to continuously improve staff productivity to achieve competitive costs.
- Oversees water pump maintenance program to maximize pump operability and continuously improve staff productivity to achieve competitive costs.
- Oversees the SCADA and Process Control programs that support both water and wastewater facilities.
- Collaborates with the Manager, Operations Engineering to coordinate hydraulic and water operations planning.
- Works closely with community water departments to optimize water supply (volume, pressure and quality). Assists in planning major local system improvements. Assists local communities with emergency response planning efforts. Coordinates improvements within local systems and between the MWRA and local water systems.
- Oversees MWRA's cross-connection control program for all metropolitan water facilities.
- Oversees the inspection program of all construction activities near metropolitan water system facilities to protect the system from accidents.
- Oversees the operations and routine inspection of all metropolitan water storage facilities to ensure compliance with all drinking water protection laws and regulations and to optimize water quality in each storage facility.
- Plays an active role in water distribution system construction coordination activities and start-up planning for major capital projects.
- Manages the development and updating of operations & maintenance manuals and systems, and station operating procedures. Works with the design consultants to ensure timely production of updates.
- Partners with the Manager, Training and Development to oversee and provide opportunities for technical, supervisory and managerial training and education for all department employees. Ensure that staff are trained properly to be ready to operate new facilities as they come on line.
- Directs the Metropolitan Operations safety programs, maximizing employee involvement, supporting the Authority-wide safety program, and making inspections. Acts as liaison to the Manager, Occupational Safety and Health.

- Maximizes effective use of the Maximo maintenance management software and related computer programs.
- Manages the preparation of and exercises control over current expense budget for Metropolitan Operations.
- Represents the Metro Water Operations Section of the Operations Division as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Act as interagency liaison and public relations contract/spokesperson with regard to operation of metropolitan water facilities. Establishes emergency response procedures, training programs, and practice drills with the assistance of emergency response and safety staff.
- Assures consistency and uniformity of work rules in accordance with established policies and procedures.
- Provides feedback and coaching to managers to maximize successful performance.
- Reviews, analyzes and prepares managerial reports for operational, maintenance, process control, budget, and personnel matters. Develops recommendations for ongoing improvements in facility operations and maintenance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's degree in civil, environmental or mechanical engineering or a related technical discipline; and
- (B) Understanding of planning, design, operations and maintenance of major water utilities as acquired through ten (10) to twelve (12) years of related experience, of which at least five (5) years must be in the successful management of a waterworks facility with multiple supervisory levels; or

(C) An equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

(A) Excellent working knowledge of a large water supply system and associated systems and equipment, or of a similar complex hydraulic and treatment system operation.

(B) Demonstrated successful experience managing in a union environment with a diverse workforce.

(C) Knowledge of computerized maintenance management systems and procedures.

(D) Personal computer experience and familiarity with associated software programs.

(E) Excellent interpersonal, written and verbal communication skills required.

SPECIAL REQUIREMENTS:

Possession of a valid Massachusetts Class D Motor Vehicle Operators License.

Massachusetts Grade IV Water Distribution Operator's license

Must be available for on-call assignments; and responding to emergencies on a 24/7 basis using a domicile MWRA vehicle.

TOOLS AND EQUIPMENT USED:

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

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 accommodation 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 frequently required to use hands to finger, handle or operate objects, including office equipment, controls and reach with hands and arms. The employee is occasionally required to stand and walk and infrequently required to stoop, kneel, crouch or crawl.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close and distance vision.

WORK ENVIRONMENT:

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

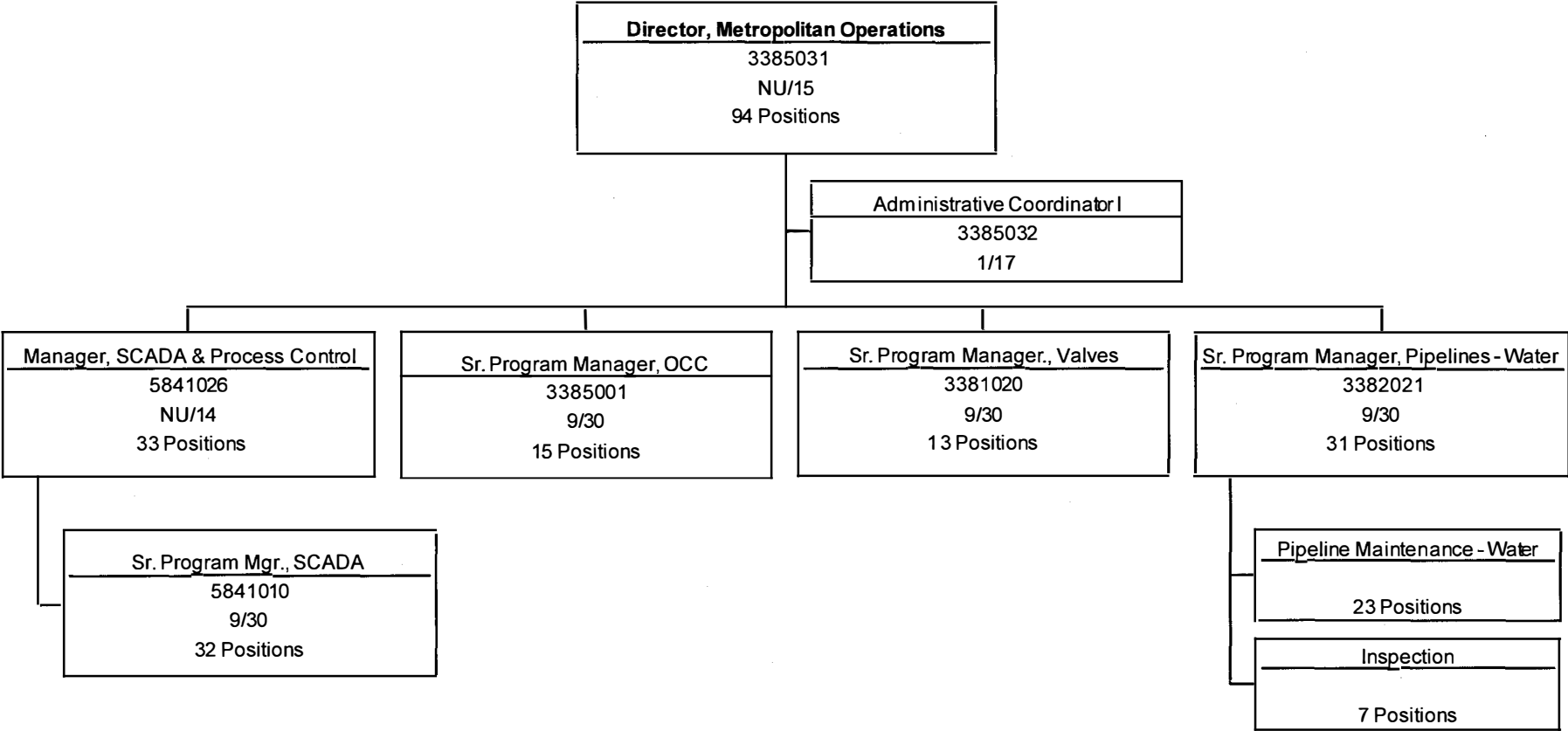
While performing the duties of this job the employee regularly works in an office environment. The employee occasionally works in outside weather conditions. The employee works near moving mechanical parts is occasionally exposed to wet and/or humid conditions. The employee is occasionally exposed to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

The noise level in the office environment is a moderately quiet and is moderately loud in field settings


December 2018

Metropolitan Water Operations

February 2019



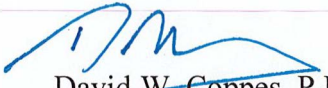
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Appointment of Deputy Director of Waterworks

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Mark H. Johnson, PE, Director of Waterworks
Andrea Murphy, Director, Human Resources
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Ms. Valerie Moran to the position of Deputy Director of Waterworks (Non-Union, Grade 15), in the Operations Division, at the annual salary of \$145,600, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The MWRA water system is managed by the Director of Waterworks and is organized into Metropolitan Operations, Western Operations, and Operations Engineering groups. Good succession planning anticipates future departures and considers staff roles in future organizational structures. The Deputy Director of Waterworks is a new position that combines existing program responsibilities (Operations Engineering and Process Control) with additional waterworks management assistance and oversight, including acting in the role of Director of Waterworks in his absence. This position is being created to assist the Director of Waterworks in the management, planning, design, construction, operation and maintenance of all waterworks facilities.

Ms. Valerie Moran currently serves as the Manager of Operations Engineering (Non-union Grade 14.) In this position, she is responsible for ensuring effective engineering and operations planning for the entire water system and coordination with MWRA member communities during major construction programs, maintenance activities, operational changes, and emergencies. Ms. Moran has been with MWRA since 1987, has extensive MWRA water system experience, and plays an important role in water system planning. She has had a significant role in operations commissioning of a number of water system facilities, including pipelines, pumping stations, storage facilities, and the Metrowest Tunnel. She is a highly respected key liaison to MWRA community water departments. Ms. Moran played a leading role in the development of the Metropolitan Tunnel Redundancy program and in developing and training staff in system supply for tunnel failure scenarios. Ms. Moran's job performance concentrates on assuring day-to-day water delivery while maintaining a long-range view of the needs and future of the MWRA water system.

Ms. Moran has a Bachelor's Degree in Civil Engineering from the University of Lowell (now UMass Lowell), she holds a Grade 4 Drinking Water Operator Distribution license, and is a registered Professional Engineer.

BUDGET/FISCAL IMPACTS:

The recommended organizational plan results in conversion of a Non-union Grade 14 position to a Non-union Grade 15 position (Deputy Director of Waterworks).

ATTACHMENT:

Resume of Valerie Moran
Position Description
Proposed Organization Chart

Valerie Moran, P.E.

Summary of Qualifications

- Extensive knowledge of MWRA water system, gained through 31+ years of experience
- Key contributor to the MWRA Water Redundancy Program
- Strong analytical, critical thinking and problem-solving skills
- Excellent interpersonal and communication skills with the ability to work with cross-functional teams.
- Cultivated and maintained good working relations with MWRA community water and public works personnel
- Proven ability to manage and troubleshoot activities during major water main breaks and repairs.

Professional Experience

Massachusetts Water Resources Authority,
1987 to Present

2014 – present Manager of Operations Engineering

- Oversee new water system project design and construction coordination, and emergency response.
- Direct hydraulic component of water system operations to ensure safe and efficient operations of the water delivery system.
- Manage staff responsible for providing continuous water service during any type of operational or physical change to the MWRA water system.
- Participate, with all departments, in the strategic planning process for the management of the MWRA water system.
- Train, supervise, motivate and evaluate Operations Engineering's' highly valued engineering staff.
- Develop Emergency Response Plans and manage the efforts of the staff in creating them as well. A specific example is the Metropolitan Tunnel Redundancy Emergency Action Plan
- Work closely with member communities to address their water quality and hydraulic needs

2003 – 2014 Sr. Program Manager – Operations Planning

- Authored Operations Plans and managed staff responsible for implementing the approved Operations Plans.
- Functioned as responsible person (RP) during major operations
- Developed Emergency Action Plans (EAP) for specific situations including:
 - East Boston Pumping Operation
 - Limited redundancy at selected meters (ie Meter 3, East Boston)
 - Shaft 5 isolation
- Oversaw Operations requirements during start-up of major facilities and pipelines including, testing, training creation of facility handbooks and O&M manuals

1999 – 2003 Program Manager – Operations Planning

- Created MWRA dechlorination manual
- Provide Engineering Support to the following programs:
 - Water pipeline, Valve, Metropolitan Operations, Western Operations, Customer Communities
- Review and comment at all stages of design on various MWRA water projects as well as outside contracts that affect MWRA appurtenances
- Developed contract drawings and specifications for paving, linestopping and tank cleaning contracts. Also, oversaw the execution of the contract from start to finish

1994 to 1999 Project Manager, Distribution

- Worked with Distribution Superintendent and Pipeline group to create the yearly Valve Replacement Program and the Valve Exercise Program
- Created Community Complaint Database
- Oversaw and develop Operation Plans for all Metropolitan Valve Operations

1987 to 1994 Project Engineer

- Aided in the creation of the MWRA valve database
- Assisted in the development of contract documents (plans and specifications) for various CIP and CEB projects
- Help create ties between the Distribution Section and the Metropolitan MWRA Communities

Education

Bachelor of Science: Civil Engineering
University of Lowell
1987

Registered Professional Engineer - Massachusetts
Grade 4D Drinking Water Supply Facilities Full Operator

References

References are available upon request.

**MWRA
POSITION DESCRIPTION**

POSITION: Deputy Director, Waterworks

PCR#:

DIVISION: Operations

DEPARTMENT: Waterworks

BASIC PURPOSE:

The Deputy Director, Waterworks assists the Director, Waterworks in overseeing the planning, design, construction, operation, and maintenance of all water supply facilities and services including reservoirs, aqueducts, pumping, distribution, water supply and treatment and transmission operations. In addition, the position is responsible for ensuring that effective engineering, operations planning, and process control is performed for the water and wastewater systems.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Waterworks.

SUPERVISION EXERCISED:

Exercises direct supervision of Senior Program Manager, Process Control and close supervision of professional, management, engineering and technical staff, and supervises other assigned operations and maintenance staff as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists in development of operational strategies for the water system. Coordinates the use of supply reservoir, aqueduct flow, power generation, flood control, pumping, distribution, treatment and transmission, water quality and other elements of water supply.
- Provides input for the long-term planning for modernizing, rehabilitating and upgrading the Authority's water facilities.
- Provides input into the design and construction of rehabilitating and upgrading the Authority's waterworks facilities.

- Provides advice/assistance on all issues (i.e. operations, administrative, safety, security, financial, and planning activities) to the Director, Waterworks and acts in place of Director in his/her absence.
- Directs Operations Engineering staff to work with Engineering and Construction Department staff to ensure that Operations-related design requirements are incorporated into project designs.
- Oversees the coordination of Operations reviews of all internal and external design projects.
- Directs Operations Engineering staff on in-house design of various maintenance and improvement projects and on development and management of various service contracts.
- Directs Process Control staff in implementing and improving instrumentation and automated facility controls and facility/equipment performance and reliability, and reducing energy consumption and maintenance requirements.
- Oversees the development, updating and management of process control strategies to ensure clear documentation of manual and automated facility controls and alarming functions.
- Oversees the performance of facility audits to ensure automation, alarms, and emergency safeguards are functioning as designed and documented.
- Works closely with Operations staff on construction liaison, turnover and start-up efforts related to water facilities.
- Manages the development and implementation of written operations plans.
- Provides input to senior Operations staff on planning for various field operations, maintenance and construction projects.
- Participates in departmental and agency-wide emergency response and safety programs.
- Participates in the Emergency Operations Center (EOC) staffing for emergency responses.
- Identifies organizational needs and proposes re-organization plans to address changing needs.

- Oversees staff productivity monitoring and continual improvement through staff skills development, strategic planning, standard operating procedures (SOP) improvements and research and implementation of technology advances.
- Represents Waterworks Department as required with the Authority's Division Directors, Executive Director and Board of Directors.
- Reviews assigned employees' performance per MWRA procedures. Provides feedback and coaching to managers to maximize successful performance.
- Oversees successful administration of collective bargaining agreement provisions. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's Degree in civil, environmental, or mechanical engineering or a related technical discipline; and
- (B) Understanding of planning, design, operations and maintenance of major water utilities as acquired through ten (10) to twelve (12) years of experience in water operations engineering or related field, of which at least five (5) years must be in the successful management in a waterworks engineering environment; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) In depth knowledge of engineering principles and practices.
- (B) Excellent working knowledge of operations engineering and process control for a large water supply system and associated systems and equipment, or of a similar complex

hydraulic and treatment system operation.

- (C) Excellent computer skills in the Microsoft Office (word processing, spreadsheets and databases) and knowledge of computerized maintenance management systems and procedures.
- (D) Excellent interpersonal, written and verbal communication skills.
- (E) Demonstrated successful experience managing in a union environment with a diverse workforce.

SPECIAL REQUIREMENTS:

- A Registered Professional Engineering License.
- A valid Massachusetts Grade IV Distribution Operator's License.
- Possession of a valid Massachusetts Class D Motor Vehicle Operators License.
- Must be available for on-call assignments and responding to emergencies on a 24/7 basis using a domicile MWRA vehicle.

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, including office equipment 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 and walk; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds, occasionally lift/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.

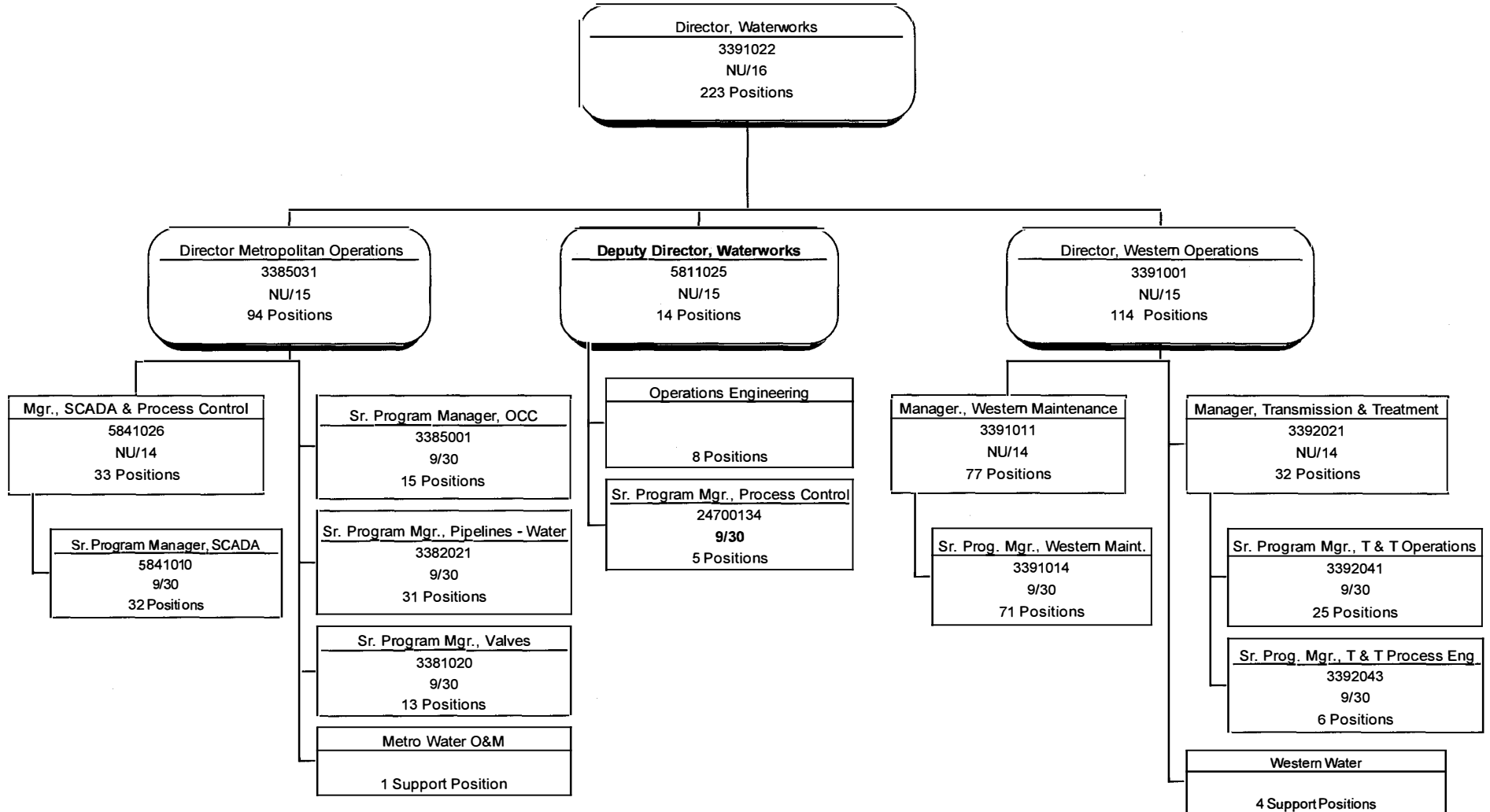
While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles.

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

February 2019

Waterworks

February 2019



STAFF SUMMARY

TO: Board of Directors
FROM: Patterson Riley, Special Assistant, Affirmative Action & Compliance Unit
DATE: February 20, 2019
SUBJECT: Approval of the 2019 Affirmative Action Plan

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Patterson Riley, Special Assistant, AACU
Preparer/Title

RECOMMENDATION:

That the Board of Directors approve the Massachusetts Water Resources Authority's Affirmative Action Plan effective for a one-year period from January 1, 2019 through December 31, 2019.

DISCUSSION:

The Affirmative Action Plan sets out the basic parameters of MWRA's commitment to Equal Opportunity in the areas of Employment (EEO) and Minority/Women Business Enterprise (M/WBE) participation in MWRA procurements and contracted services. The Plan has been prepared pursuant to Section 7(g) of the Authority's Enabling Act, which states:

“The Authority shall develop policies and plans for affirmative action in employment, procurement, and contracting in accordance with laws and consistent with general policies and plans for the Commonwealth.”

MWRA updates its Affirmative Action Plan annually and provides information on the development, implementation and monitoring of the various plan elements in accordance with guidelines of the U.S. Department of Labor, Office of Federal Contract Compliance Programs (OFCCP). Since 2002, MWRA has utilized PeopleClick, a nationally known computer software package, to produce the required workforce staffing summary reports for each Affirmative Action Plan. Affirmative Action and Compliance Unit staff works with staff from the MIS and Human Resources departments to convert personnel transaction data from the MWRA's Human Resources Information System and to validate the proposed workforce goals for CY2019.

The text of the plan is attached (Attachment A). Copies of the full plan including appendices will be available in the Board Lounge on February 20, 2019. Attachment B, “MWRA Job Group Representation,” shows the actual number of minority and female employees currently, along with the numbers of over-and under-utilized job groups. The underutilized job groups denote areas for AACU recruitment focus if positions become available. This report is included in the MWRA Orange Notebook presented to the Board on a quarterly basis.

During the 2018 Affirmative Action Plan year, MWRA hired a total of 84 new employees, including 13 (15%) females and 21 (25%) minorities. There were 99 employees promoted during this period, including 21 (21%) females and 27 (27%) minorities. MWRA is in full compliance with all aspects and requirements of its federally approved affirmative action program and in following those strict guidelines with its Affirmative Action Plan, a promotion only occurs when the individual employee moves from a position within one job group to a new position within a different job group. For Affirmative Action Plan reporting purposes, 74 of these promotions reflect employee promotions where there has been a change in Job Group as described under “Availability Analysis.” Of this total, 12 (16%) females and 23 (31%) minorities were promoted. However, as an employer, the MWRA considers an employee to be promoted at such time that the individual moves into a new position within the same job group, with an increase in pay, grade, different and new job duties. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 25 such promotions during the 2018 Affirmative Action Plan year and of these, 9 (9%) were minorities and 4 (4%) were females.

A total of 87 terminations occurred during CY 2018. Of the total number of terminations, 23 (26%) were females and 12 (14%) were minorities. Of the total number of terminations, 86% left voluntarily, 57% were employees who retired, and 29% were employees who resigned.

In comparison, during the 2017 Affirmative Action Program year, a total of 68 terminations occurred, including 18 (26%) females and 8 (12%) minorities. Of the total number of terminations, 23% were employees who resigned and 77% were employees who retired. A review of the total number of termination statistics for calendar years 2016, 2017 and 2018 is included in Table A below.

Table A

Termination Statistics	Employee Count	Minority		Female	
Total Terminations CY2016	71	16	23%	11	15%
Total Terminations CY2017	68	8	12%	18	26%
Total Terminations CY2018	87	12	14%	23	26%

The race/sex composition of the workforce did not change significantly during the 2018 Affirmative Action Plan year, particularly as compared to Plan years 2016 and 2017.

The current race/sex composition of the workforce for minorities of 22.1% is less than the overall 2018 MWRA workforce staffing goal of 25.1%; and the current sex composition of the workforce for females of 22.8% is less than the overall 2018 workforce staffing goal of 24.3%.

A review of MWRA workforce staffing statistics for calendar years 2016, 2017, and 2018 is included in Table B below:

Table B

Calendar Year	Minority	Female
12/31/16	21.1%	23.8%
12/31/17	21.8%	23.0%
12/31/18	22.1%	22.8%

The 2019 Affirmative Action Plan documents include detailed workforce data for the reporting period December 1, 2017 through November 30, 2018. The data indicate that the number of underutilized job groups for females has decreased. In calendar year 2018, there were 9 job groups underutilized by women and this number has decreased to 6 job groups for 2019. In calendar year 2018, there were 8 job groups underutilized by minorities and there remains 8 job groups underutilized by minorities in 2019.

MWRA will continue its good faith efforts to maintain minority and female workforce staffing representation and to further reduce the number of job groups underutilized by women and minorities. There may be opportunities to fill critical positions through promotions of qualified internal candidates, including women and minority employees. The Affirmative Action and Compliance Unit will continue to focus its efforts to assist senior management to fill vacancies through the promotion of qualified women and minorities in the Management, Skilled Crafts, Operator, and Professional job groups. In addition, where external recruitment efforts are necessitated by the absence of qualified internal candidates, and senior management deem that the need exists to fill critical position vacancies, AACU will work with MWRA hiring managers and Human Resources to recruit qualified minority and female candidates.

It is the policy of the MWRA to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) in the award of all contracts including contracts for construction, goods/non-professional services and professional services. As required by the Massachusetts Department of Environmental Protection via the Environmental Protection Agency, the program will also include Disadvantaged Business Enterprises (DBEs) which means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. Department of Transportation eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the Massachusetts Supplier Diversity Office. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE.

The Plan also includes information on the MBE/WBE/DBE Procurement Program. The MWRA spent \$8.8 million and \$6.7 million, respectively, with minority- and women-owned businesses in the last fiscal year. These amounts were 92% and 110% of the respective MBE and WBE targets, which reflect the achievements of the last fiscal year.

ATTACHEMENT:

Affirmative Action Plan

INTRODUCTION

The Affirmative Action Plan for the Massachusetts Water Resources Authority (the “MWRA” or “Authority”), is prepared and adopted under Section 7(g) of the Enabling Act, which states:

“The Authority shall develop policies and programs for Affirmative Action in employment, procurement and contracting in accordance with law and consistent with general policies and programs of the Commonwealth.”

The AA Plan was developed to be consistent with federal and state laws and regulations:

Federal Executive Order 11246, as amended.

41 CFR Parts 60-1, 60-2, 60-20, 60-50, 60-250, 60-300, 60-741; Office of Federal Contract Compliance Programs (OFCCP): Affirmative Action Requirements.

The Rehabilitation Act of 1973, as amended.

The Vietnam-era Veterans’ Readjustment Assistance Act of 1974, as amended.

In addition, MWRA’s policies and personnel practices adhere to the nondiscrimination provisions of all applicable federal and state laws, as amended, including the following:

- Title VII of the Civil Rights Act of 1964.
- Civil Rights Act of 1991.
- Age Discrimination in Employment Act of 1967.
- Equal Pay Act of 1963.
- Americans with Disabilities Act of 1990.
- Massachusetts General Laws, Chapter 151B.
- Massachusetts Comparable Pay Act.

The AA Plan has been developed by the Affirmative Action and Compliance Unit (AACU) to cover the time period January 1, 2019 through December 31, 2019. The Plan includes a results-oriented set of procedures designed to achieve the full utilization of minorities and women in all levels of the MWRA’s workforce and to promote job opportunities for individuals with disabilities and covered veterans. The Plan has been reviewed by the MWRA Board of Directors, voted on and approved for full implementation.

The Massachusetts Legislature created the MWRA in December 1984 to manage water and sewer services for 3.0 million people and 5,500 businesses in 61 communities. While the Boston Harbor Clean-up is the best known of its projects, MWRA has also completed a modernization of the drinking water system. MWRA also maintains 400 miles of water pipes, aqueducts, and tunnels and 228 miles of sewers. Also, nearly completed are projects to control combined sewer overflows, provide adequate water delivery and meet all federal, state and local water and wastewater standards.

II. POLICY STATEMENT

Executive Director's Statement

Our agency serves citizens in every neighborhood, economic class and cultural group in our service area. MWRA will be in harmony with its social role only when our work environment reflects our broader social aspirations for equal opportunity, justice, personal dignity and cross-cultural respect. To that end, we must take personal responsibility for diversity in our organization and in our community.

All of us at the MWRA recognize that we must take affirmative action to prevent and to remedy any discriminatory effects of business or employment practices based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

On behalf of the MWRA, its managers and employees, I am committed to taking those steps which ensure equitable participation in our employment opportunities by the members of any protected class group without regard to race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran status and marital status. We are committed to achieving equal opportunity for all through fair and effective implementation of our affirmative action plan.



Frederick A. Laskey
Executive Director

Board of Directors' Statement

We, the Board of Directors of the MWRA, take great pride in our diverse and talented workforce. We recognize that our continued success depends largely on the collective strengths of our employees. Developing the right mix of skills, ideas and individuals requires an unwavering commitment to Equal Employment Opportunity and Affirmative Action. Accordingly, it is our policy to recruit, hire, and advance individuals without regard to their race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

Our commitment to the principles of Affirmative Action and Equal Employment Opportunity is reflected in all of our policies and procedures from recruitment and hiring to training, compensation, benefits, transfers and promotions. This commitment is based on sound management and business practices, as well as legal requirements.

In keeping with fair employment practices, we will maintain a positive and productive work environment which calls for the highest standard of personal conduct. In accordance with this standard, any type of harassment or discrimination directed toward any employee or applicant for employment on the basis of race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status will not be tolerated.

MWRA is committed to Equal Employment Opportunity and Affirmative Action. We expect each employee to be an active partner in this effort by supporting, in word and deed, the spirit and principles of Equal Employment Opportunity and Affirmative Action. Further, we expect that these values will govern the relationships we establish with communities we serve and others with whom we do business. Working together, we can build upon this commitment and create an environment that reflects diversity in its fullest and truest sense.

The Special Assistant, Affirmative Action and Compliance Unit, has responsibility for implementing and monitoring the Authority's Affirmative Action and Compliance Plan. Employees are encouraged to contact the Affirmative Action & Compliance Unit directly in order to obtain a copy of the Authority's Policy on Equal Employment Opportunity and Affirmative Action.

III. RESPONSIBILITY FOR IMPLEMENTATION

Senior Management Responsibilities

The responsibility for achieving affirmative action goals and objectives rests with the Executive Director, the Special Assistant of Affirmative Action and Compliance Unit, the Director of Human Resources, Division/Department Directors and other managers and supervisors.

Affirmative Action and Compliance Staff

The Special Assistant, AACU is provided with sufficient authority, senior management support, and staff to execute these responsibilities, and is identified in all internal and external communications regarding the AAP. The Special Assistant may propose additional programs and activities to strengthen the MWRA's commitment to equal employment opportunity and affirmative action and to effectively address AAP/EEO matters.

The Special Assistant, AACU in conjunction with the appropriate staff, is responsible for:

- Implementing affirmative action programs.
- Developing policy statements.
- Designing and conducting audit and reporting systems to monitor protected class status for the following:
 - Recruiting
 - Hiring
 - Promotions
 - Transfers
 - Terminations
 - Demotions
- Periodically reviewing, with the Chairman of the Board of Directors and the Executive Director, the progress of senior managers in furthering the achievement of the Authority's goals.
- Serving as a liaison between MWRA and enforcement agencies.
- Acting as a liaison between MWRA and minority organizations, women's organizations and community action groups concerned with employment opportunities of minorities and women.
- Reviewing the MWRA's AAP with managers and supervisors to ensure the policy is understood and followed.

The MBE/WBE Program Manager in conjunction with the appropriate staff is responsible for:

- Administration and monitoring of the MWRA's MBE/WBE/DBE Plan.

- Assisting divisions in the implementation of the MWRA's MBE/WBE/DBE Program.
- Ensuring that the program is consistent with the MWRA's Supplementary Provision for Equal Employment Opportunity, Anti-Discrimination, and Affirmative Action.

Line Management Responsibilities

Managers and supervisors will implement the program in the following ways:

- Assist in identifying problem areas, establishing goals, and developing time lines.
- Maintain open door policy for employees to discuss issues of equal opportunity and affirmative action.
- Meet with other managers, supervisors, and employees to adhere to MWRA EEO/AA policies.
- Assist in the performance of internal audits to determine compliance.
- Evaluate the performance of subordinate managers and supervisors in achieving affirmative action plan objectives.

Other Key Staff

The Director, Human Resources, has developed and implemented appropriate mechanisms to ensure equal employment opportunity for all applicants and employees.

The General Counsel and the Associate General Counsel for Labor & Employment provide legal advice regarding equal employment opportunity and affirmative action as they affect the Authority.

IV. EQUAL EMPLOYMENT OPPORTUNITY

Dissemination of the Plan

MWRA will communicate its equal employment opportunity policies and affirmative action programs to all relevant audiences in the following manner:

Internally

Communicate to employees the existence of the Affirmative Action Plan and make it available for inspection. Prominently display EEO/AA posters throughout all business locations identifying appropriate staff to contact.

Conduct special meetings with managers, supervisors and employees to explain the intent of the equal employment opportunity policies, discuss individual responsibility for implementation and make clear the Executive Director's support of the policies.

Discuss the policies in employee orientation sessions and reference it in management training sessions.

Include the policies in the Policies and Procedures Manual.

Publicize the policy on the MWRA's internal and external websites, reports and other media.

Publish articles covering EEO programs, updates, and promotions in newsletters and other publications.

Include non-discrimination clauses in union agreements, and work to eliminate contract provisions that may have discriminating effects.

Externally

Communicate to applicants for employment the existence of the Affirmative Action Plan, and make it available for review if requested.

Incorporate the EEO clause in all purchase orders, leases and contracts.

Ensure that both minority and non-minority men and women, Veterans, and persons with disabilities are represented in recruitment advertisements.

Communicate to all recruitment sources the existence of the Affirmative Action Plan.

Development and Execution of the Plan

Development

Workforce Analysis

As of November 30, 2018, MWRA employed 1149 people. The MWRA divides its workforce into 31 organizational units in Executive, Administration, Finance, Law, and Operations as follows:

Board of Directors	
Executive - Office of the Executive Director	Operations - Administration
Executive - Affirmative Action	Operations - ENQUAL
Executive - Office of Emergency Preparedness Services	Operations - Facilities Management
Executive - Internal Audit	Operations - Laboratory Services
Executive - Public Affairs	Operations - Planning
Executive - Tunnel Redundancy Department	Operations - Toxic Reduction & Control
Administration - MIS	Operations - Engineering & Construction
Administration - Facilities	Operations - Wastewater Operations
Administration - Fleet Services	Operations - Water Distribution & Pumping
Administration - Human Resources	Operations - Water & Wastewater O&M
Administration - Procurement	Operations - Water Treatment & Transmission
Administration - Real Property & Environmental	Operations - Operation Support
Finance - Director's Office	
Finance - Rates & Budget	
Finance - Treasury	
Finance- Controller	
Finance - Risk Management	
Law	

Office of Federal Contract Compliance Programs requires that non-construction contracts maintain an organizational profile or a workforce analysis to depict staffing patterns. It is a method to determine whether barriers to equal opportunity exist within an organization.

Pursuant to 41 C.F.R. § 60-2.11(a), the Workforce Analysis Report (Appendix A) lists each job title as it appears in the applicable collective bargaining agreements or payroll records, ranked from the highest paid to the lowest paid within each of the 31 organizational units.

The reports display within each organizational unit for each job title, the total number of incumbents, the total number of male and female incumbents, and the total number of male and female incumbents who are White, Black, Hispanic, Asian, American Indian, Native Hawaiian and Other, and Two or More Races. Finally, the reports also supply a wage rate code for each job title.

Employment Activities December, 2017 - November, 2018

From December 1, 2017 through November 30, 2018, there were a total of 84 new hires at the MWRA, including 13 (15%) females and 21 (25%) minorities. The current race/sex composition of the workforce for minorities of 22.1% is less than the overall 2018 MWRA workforce staffing goal of 25.1%; and the current race/sex composition of the workforce for females of 22.8% is less than the overall 2018 workforce staffing goal of 24.3%.

A total of 99 promotions occurred during this reporting period, including 21 (21%) females and 27 (27%) minorities. For Affirmative Action Plan reporting purposes 74 of these promotions reflect employee promotions where there has been a change in Job Group as described under "Availability Analysis." Of this total, 12 (16%) females and 23 (31%) minorities were promoted. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 25 such promotions during the 2018 Affirmative Action Plan Year and of these 9 (9%) were females and 4 (4%) were minorities.

A total of 87 terminations occurred within the period, and of these, 23 (26%) were females and 12 (14%) were minorities. Of the total number of terminations, 86% left voluntarily, and of those, 57% were employees who retired and 29% were employees who resigned.

Availability Analysis

Pursuant to 41 C.F. R. 60-2.11(b), an analysis of all major Job Groups is included in the Plan (see Appendix B Job Group Analysis Report). Those jobs having similar content, wage rates and opportunities had been grouped together into 18 Job Groups:

Administrator A	Management A
Administrator B	Management B
Clerical A	Operator A
Clerical B	Operator B
Engineers A	ParaProfessional
Engineers B	Professional A
Craft A	Professional B
Craft B	Technical A
Laborers	Technical B

Moreover, the 18 Job Groups have been kept sufficiently large enough to make for meaningful statistical analyses. The grouping avoids placing job titles from different EEO-4 categories within the same Job Group, wherever possible. Alternative job groupings were reflected because they do not make substantial differences and do not mask any potential underutilization of minorities or women. This analysis of the major Job Groups on the Availability Analysis forms is shown in Appendix C.

Action-Oriented Program for Affirmative Employment Opportunities

MWRA is committed to a strong policy of equal employment opportunity and affirmative action and this commitment is clearly expressed in its Affirmative Action Plan, which

covers all aspects of the employment process from recruiting and hiring to training and promotion.

MWRA takes affirmative action to ensure that applicants for employment and employees are treated fairly during employment, without regard to their race, color, religion, sex, national origin and other protected groups. MWRA also takes affirmative action steps and make good faith efforts to develop and implement action-oriented programs designed to remove any employment barriers, expand employment opportunities and strive to achieve established workforce staffing goals and objectives.

During the 2019 Affirmative Action Plan year and continuing, MWRA will make good faith efforts to continue to develop and implement an action-oriented program designed to increase employment opportunities, while tailoring the size of its workforce to meet its future mission and maintain organizational efficiency.

The Special Assistant of the Affirmative Action and Compliance Unit, working in conjunction with MWRA Division Directors, will take affirmative steps to establish the following joint accountability good faith efforts to direct their attention toward employee development programs and career counseling initiatives to prepare all interested employees including individuals in targeted EEO groups for consideration of future promotional opportunities, as follows:

- Assist Divisions in efforts to promote qualified employees including minorities and females to fill current or unanticipated vacancies, particularly those positions in underutilized job groups.
- Review the appropriate education, experience and skill requirements for successful job performance.
- Participate in programs, which may impact protected group members, especially in the areas of the development of training and recruitment.
- Schedule confidential meetings with employees who request information on MWRA affirmative action policies, including promotion and training.
- Encourage current employees to take advantage of the above listed training and developmental opportunities, as well as opportunities for promotion.
- Monitor and review, where appropriate, the qualifications of all employees to assure that protected group members are given full opportunities for training and promotion.
- Implement strategic recruitment strategies for underutilized positions likely to require external recruitment.
- Ensure that all promotional opportunities are posted.

Identification of Areas for Special Attention/Goals

Underutilization exists in the following job groups: Administrative A, Administrator B, Engineer B, Craft A, Craft B, Management A, Management B, Operator B, Professional B, and Technical A. Special attention is required to increase the representation of minority and/or females in these job groups by the following:

- Identify any applicable barriers to equal employment opportunity.
- Conduct training/awareness sessions with managers and continue to make them aware of the Affirmative Action Plan elements designed to ensure that the Authority policy and affirmative action program objectives are being followed.

During this affirmative action plan period, there may be 200 opportunities to fill vacant positions. These positions may be filled by new hires, promotions or transfers. For unanticipated position vacancies that occur in other job groups, good faith efforts will be made to attain the established goals for women and minorities. Based on the two-factor availability analysis, the following goals have been set. The chart listed below identifies the goals for those projected vacancies.

Goals for Projected Vacancies							
JOB GROUP ADMINISTRATIVE A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	8	12.14	29.74	4.55	40.91	1	
JOB GROUP ADMINISTRATIVE B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	7	18.41	20.92	9.52	23.81	1	
JOB GROUP CRAFT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	21	19.25	2.35	15.79	0.00	1	1
JOB GROUP CRAFT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	25	19.02	4.89	15.65	2.04	1	2
JOB GROUP MANAGEMENT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	9	24.24	38.86	14.95	33.64	2	1
JOB GROUP OPERATOR A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	9	19.55	2.23	4.55	1.52	2	
JOB GROUP PROFESSIONAL A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	2	23.05	46.84	16.13	61.29	1	
JOB GROUP TECHNICAL A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	13	22.18	21.18	25.93	12.96		2

Execution

Advertising and Recruitment

- The Special Assistant, AACU, annually submits an ad specifically targeted at a publication that has a high minority and female readership.
- The Director, Human Resources ensures that reasonable recruiting and advertising dollars are being targeted to reach minority and female candidates and conducts an analysis to determine the effectiveness of the employment advertisements.
- Recruiters send vacancy announcements to over 30 public and private recruitment sources. The sources included state employment offices, community organizations, interest groups, and other sources.
- Recruiters distribute literature, attend career fairs, and maintain contact with referral sources to assure a steady flow of qualified protected class applicants.

Selection

- Human Resources and Affirmative Action staff review existing promotion, transfer, training and selection procedures to ensure equal opportunity.
- Human Resources, Affirmative Action, and Division staff develop selection criteria that do not discriminate or tend to screen out women, minorities, covered veterans and/or individuals with disabilities.
- Human Resources and Affirmative Action staff monitor the selection process to ensure equal opportunity and the absence of adverse impact on protected class applicants.
- Human Resources and Affirmative Action staff review application forms to ensure non-discrimination.
- Managers and Supervisors ensure that employees in protected classes receive equal consideration in all selections.

Promotion, Transfer, Layoff and Recall

Promotions and transfer policies are designed to provide equal opportunity to all employees regardless of race, color, religion, sex, sexual orientation, gender identity and expression, national origin, age, ancestry, citizenship, disability, veteran and marital status. All employees who demonstrate management potential are encouraged to seek advancement into supervisory or other managerial positions. All employees are encouraged to take advantage of the benefits and financial support provided to them for professional development and continuing education, which may enhance their promotional opportunities.

Compensation

The principle of equal pay for equal work for all employees is a reality. All employees, including females and minorities, receive compensation in accordance with the same standards. Opportunities for overtime work or otherwise earning increased compensation, when available, is afforded to qualified employees without discrimination based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status. MWRA does not reduce the amount of compensation offered because of any disability income, pension or other benefit the applicant or employee receives from another source.

Facilities

MWRA maintains all of its facilities on a non-segregated basis. MWRA maintains appropriate facilities for both sexes and handicapped individuals unless the construction of such facilities would create an undue burden on the Authority, its facilities or its operations.

Training/Career Development

MWRA assures that training programs and seminars are offered to all employees, including members of protected classes on the basis of appropriate and realistic need. All eligible employees are encouraged to participate in the Authority's tuition reimbursement and tuition remission benefit for continued education, career development and job advancement. Training programs are monitored to assure equal opportunity for protected class employees in all training opportunities.

Training needs are re-evaluated annually to determine the areas of highest priority. Emphasis is on programs to increase productivity and meet job requirements.

Human Resources and Division staff have conducted cross-functional training, to facilitate promotional opportunities and reassignments. This training often requires new skills, licenses and/or certifications.

During calendar year 2019, the Authority will continue to offer, as needed, a series of 6 classes which make up the training component of the Unit 2 and Unit 3 Productivity Improvement Program (PIP) and a series of 12 classes which make up the Unit 1 Administrative Certificate Program (ACP). In calendar year 2019, MWRA will continue to provide wastewater and water license preparatory courses to enhance new skills and development, as well as appropriate licenses and certifications to staff. While PIP and ACP classes are required for employees in designated job titles, classes are available for general enrollment by individuals developing their qualifications for future job openings.

Consideration of Minorities and Females not Currently in the Workforce

MWRA recruits minorities and women, not currently in our workforce, who have the qualifications and requisite skill for employment. All employees engaged in recruiting are committed to the development of sources of minorities and females from organizations, institutions, community agencies, training schools and colleges.

Support for Community Action Programs

School Education Program

The MWRA offers School Education Program presentations for grades K-12. The MWRA School Education Program has provided meaningful educational experiences to a number of students of the MWRA service community, including those in the urban communities of the metropolitan area.

Subjects range from the Quabbin Reservoir and the water distribution system to Deer Island and the transformation of wastewater into effluent. One of the School Education Program's goals and objectives is to increase outreach to the schools in the communities that reflect the diverse population of the MWRA service area. The School Education Program has been instrumental in informing students, and by extension, the general public of these communities, of the operation and work of the MWRA.

Sex Discrimination Guidelines

MWRA does not discriminate against any applicant or employee on the basis of sex in hiring, recruiting, promoting, transferring, layoff, termination, compensation or in selecting employees for training or other related programs.

Recruiting and Advertising

Job advertisements placed by the MWRA in newspapers and other online media for employment do not express a sex preference.

Job Policies and Practices

- Written personnel policies for affirmative action expressly indicate that there shall be no discrimination against employees on account of sex.
- Employees of both sexes have equal opportunity to any available position which the individuals are qualified to perform.
- MWRA does not make any distinction based upon sex in employment opportunities, wages, hours or other conditions of employment. MWRA contribution for insurance, pension, welfare programs and other fringe benefits is the same for men and women, resulting in equal benefits.
- MWRA does not support distinctions between married and unmarried persons of one sex that are not made between married and unmarried persons of the other sex.
- MWRA provides appropriate and comparable physical facilities to both sexes.
- MWRA does not deny a female employee the right to any job which she is qualified to perform.
- MWRA does not penalize women in their conditions of employment because they require time away from work on account of child bearing.
- MWRA does not specify differences for male or female employees on the basis of sex in either involuntary or optional retirement age.

Wages

- MWRA's wage schedules do not relate to and are not based on the sex of its employees.
- MWRA does not discriminatorily restrict one sex to certain job classifications.

Sexual Harassment

Acts of harassment by employees are prohibited employment practices under Title VII of the Civil Rights Act of 1964, Massachusetts General Laws, Chapter 151(B) and MWRA policy and are subject to sanctions and disciplinary measures.

It is the goal of the MWRA to promote a workplace that is free from sexual harassment. Sexual harassment means sexual advances, requests for sexual favors, and verbal or physical conduct of a sexual nature when:

- Submission to or rejection of such advances, requests or conduct is made explicitly or implicitly a term or condition of employment or as a basis for employment decisions; or
- Such advances, requests or conduct have the purpose or effect of unreasonably interfering with an individual's work performance by creating an intimidating, hostile, humiliating or sexually offensive work environment.

MWRA's Harassment Prevention Policy, policy HR.21, updated January 3, 2017, sets forth procedures for employees to follow and notify management of any sexual harassment violations. All MWRA employees received harassment training in 2017.

MWRA personnel investigate complaints of sexual harassment in a prompt, thorough and confidential manner, and recommend appropriate discipline up to and including termination for offenders. Employees should feel confident that retaliation against an individual who has complained about sexual harassment and retaliation against individuals for cooperating with an investigation of a sexual harassment complaint is unlawful and will not be tolerated by this organization.

Religion and National Origin Discrimination Guidelines

MWRA's affirmative action policy prohibits discrimination against employees or applicants for employment on the basis of religion or national origin.

MWRA makes every effort to accommodate the religious observances and practices of employees and prospective employees who regularly observe Friday evening or some other day of the week as their day of religious observance, and/or who observe certain religious holidays during the year and who are conscientiously opposed to performing work or engaging in similar activity on such days when such accommodations can be made without undue hardship on the operation of the Authority's business.

In determining the extent of its obligations under this section, MWRA considers the following factors:

- Business necessity;
- Financial cost and expenses; and
- Resultant personnel problems.

To assure non-discrimination based on religion or national origin, MWRA is engaged in the following activities:

- Internal communications;
- Development of internal procedures described previously;
- Regular notification to employees of EEO policy regarding religion or national origin;
- Utilization of external recruitment sources, including those educational institutions with substantial enrollments of students from various religious and ethnic groups;
- Utilization of religious and ethnic media for institutional and employment advertising.

Affirmative Action Program for Individuals with Disabilities

Policy Statement

The MWRA is committed to take affirmative action to assure equal employment opportunity for qualified individuals with disabilities.

Definition of Qualified Individual with Disability

A “qualified individual with a disability” is a person who:

- Has a physical or mental impairment that substantially limits a “major life activity”,
- Has a record of such an impairment, or
- Is regarded as having such an impairment and
- Is capable of performing the essential functions of the job with or without reasonable accommodation to his or her disability.

Pregnancy and Childbirth

Disabilities caused or contributed to by pregnancy, childbirth or other related medical conditions, will be treated the same as disabilities caused or contributed to by other medical conditions.

Definition of Reasonable Accommodation

A “reasonable accommodation” for a qualified individual with a disability may include, but is not limited to,

- Making existing facilities readily accessible;
- Job restructuring; part-time or modified work schedules; reassignment to a vacant position; modification of equipment or devices; or other similar accommodations.

Note: An accommodation must be reasonable and is not required if it would impose an “undue hardship” on the MWRA.

Request for Reasonable Accommodations

MWRA commits to making reasonable accommodations to the limitations of qualified individuals with disabilities and qualified disabled veterans, unless such an accommodation would impose on undue hardship on the MWRA’s business.

An employee with a disability may make a request for reasonable accommodations at any time to their supervisor or directly to the Affirmative Action and Compliance Unit or the Director of Human Resources. The Special Assistant of Affirmative Action & Compliance or his or her designee shall be notified of all reasonable accommodation requests by supervisors or managers and shall ensure that reasonable accommodation records are kept separate from individual employee files.

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the MWRA's policy statement concerning employment of qualified individuals with disabilities.
- Where the MWRA conducts employment activities, posters will be prominently displayed setting forth such information regarding the employment of individuals with disabilities as may be required by government agencies.
- The MWRA will ensure that a list of schools, private and state placement agencies and community and social service organizations receive job listings which are externally posted and advertised by the Authority and that the list is reviewed annually.
- The MWRA will continue to notify relevant organizations as well as appropriate public employment agencies and unions, of MWRA's commitment to equal employment opportunity and affirmative action for individuals with disabilities, including veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for individuals with disabilities will continue to be included in contracts and purchase orders of \$2,500 or more.
- The MWRA will continue to notify labor unions and (sub) contractors of the commitment to equal employment opportunity and affirmative action for individuals with disabilities and will seek their cooperation and assistance.

Voluntary Disclosure

An individual may voluntarily self-identify himself/herself as an individual with disabilities by completing the Affirmative Action Data Form, at any time.

Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of individuals with disabilities, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if the individual has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of disabled applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons has been considered. Should any known disabled person be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person on the job. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

Affirmative Action Program for Protected Veterans

Policy Statement

The Authority is committed to take affirmative action to assure equal employment opportunity in every respect for disabled veterans, Armed Forces service medal veterans, recently separated veterans, or other veterans who served during a war, or in a campaign or expedition for which a badge has been authorized (“protected veterans”).

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the Authority’s policy statement concerning employment of qualified protected veterans.
- The MWRA will ensure that a list of established veteran’s organizations and public and private recruitment services, included in Appendix D of this Plan, including the appropriate local employment service offices, will receive copies of all positions, which are externally posted and advertised by the MWRA, and that this list will be reviewed annually and MWRA will continue to notify veteran’s service organizations as well as appropriate public employment agencies of the commitment to equal employment opportunity and affirmative action for protected veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for protected veterans will continue to be included in contracts and purchase orders of \$10,000 or more.
- The MWRA will continue to notify labor unions and contractors of the commitment to equal employment opportunity and affirmative action for protected veterans and will seek their cooperation and assistance.
- The MWRA will use the outreach measures it uses for others covered by MWRA’s Affirmative Action Program to recruit and employ veterans also covered by this program.
- The MWRA will submit to the Office of the Assistant Secretary of Veterans Employment and Training no later than March 31st of each year, a form titled Federal Contract Veterans Employment Report, which shall contain a list of new employees, and those individuals who have self-identified as protected veterans hired during the period covered by the Report.

Voluntary Disclosure

- Subsequent to making a job offer, but prior to commencing duties, a prospective employee will be offered the opportunity to self-identify as a special disabled veteran, disabled veteran, a veteran of the Vietnam Era or other protected veteran. The MWRA will consider only that portion of the veteran's military record that is relevant to the job for which the veteran is being considered. After beginning employment, an employee may voluntarily self-identify him/herself at any time as a protected veteran.
- Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of disabled veterans, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if a veteran has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of protected veteran applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

In determining the qualifications of a covered veteran, MWRA will consider only that portion of the military record, including discharge papers, relevant to the specific job qualifications for which the veteran is being considered.

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons and protected veterans have been considered. Should any known disabled person or protected veteran be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person or veteran on the job, that is not an undue hardship. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

- MWRA has established a hiring benchmark for veterans of 8% for the 2018 Affirmative Action Plan year.
- The MWRA will not reduce the amount of compensation to veterans by the amount the veteran receives from disability income, pension or other benefits related to his or her status as a veteran.

Internal Auditing and Reporting Systems

Internal auditing and reporting for Affirmative Action is managed through the use of monthly, quarterly, and annual reports generated by AACU and shared with management. Reports reflecting workforce compensation, promotions, transfers and terminations are reviewed to ensure that the policy of non-discrimination and equal employment opportunity is carried out. State and local government information reports (EEO-4) are prepared and submitted in accordance with regulation and written instructions.

Internal Complaint Procedure

The internal complaint procedure provides the opportunity for any individual (employee or applicant) who believes that she or he has been harassed, discriminated against or unfairly treated by the MWRA to file a complaint using the procedures set forth below.

Filing a Complaint

- The individual alleging discrimination should file a written and signed complaint with the Special Assistant of Affirmative Action and Compliance Unit (form available in AACU), or the Director of Human Resources. Detailed and specific allegations must be provided along with an indication of the action(s) or resolution the individual is seeking.
- The complaint must be filed in as timely a fashion as possible.

No Retaliation

Employees and applicants shall not be subject to harassment, intimidation, threats, coercion or discrimination because they have engaged in or may engage in the following activities:

- Filing a complaint;
- Assisting or participating in an investigation, compliance evaluation, hearing, or any other activity related to the administration of the affirmative action provisions of the Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans;
- Opposing any act or practice made unlawful by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans; or

- Exercising any other right protected by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans.

Procedure

- The Special Assistant of Affirmative Action and Compliance Unit and/or Director of Human Resources, will be responsible for accepting complaints of discrimination in writing.
- Upon receiving a complaint of discrimination, a complaint investigator will be assigned, who shall attempt to determine through preliminary fact finding if a formal investigation is warranted.
- Upon determination that an investigation is warranted, a date will be scheduled for an in-depth interview with the complainant and other relevant parties. The complaint investigator shall attempt to bring about a satisfactory resolution with the complainant and appropriate management and make recommendations accordingly.
- Any agreement or resolution may be in writing and if in writing, copies provided to all appropriate parties.
- The complaint resolution process shall be concluded in an expeditious manner. It is the MWRA's intention to resolve all complaints internally and every effort will be made to maintain confidentiality to the extent practicable.
- The complaint investigator will advise the complainant of his or her administrative rights and the right to file a formal charge with a state or federal agency and the time limits imposed on the exercise of these rights.

Rejection or Cancellation of the Complaint

The MWRA will indicate when a complaint has been rejected for further processing.

In the event an individual files an external complaint, the MWRA's legal counsel will handle all communications. All investigations shall be conducted in a confidential manner to the extent practicable.

In addition to the above, you may file a formal complaint with the government agencies listed below. Using MWRA's complaint process does not prohibit you from filing a complaint with these agencies.

Massachusetts Commission Against
Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02108

Massachusetts Office of Diversity and Equal
Opportunity
One Ashburton Place - Rm. 213
Boston, MA 02108

Springfield Office
MCAD
436 Dwight Street - Rm. 220
Springfield, MA 01103

U.S. Equal Employment Opportunity
Commission
JFK Federal Building
475 Government Center
Boston, MA 02203

Worcester Office
MCAD
455 Main Street - Rm. 101
Worcester, MA 01608

U.S. Department of Labor
Office of Federal Contract
Compliance Programs
JFK Federal Building - Rm. E235
Boston, MA 02203

New Bedford Office
MCAD
800 Purchase Street - Rm. 501
New Bedford, MA 02740

V. MBE/WBE/DBE Program

Policy Statement

It is the policy of the Massachusetts Water Resources Authority (Authority) to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) and Disadvantaged Business Enterprise (DBEs) in the award of all contracts including contracts for construction, goods/non-professional services (supplies and equipment) and professional services (design selection and consultants).

Definitions

- Minority Business Enterprise (MBE) means an ongoing and independent business enterprise which is owned and controlled by one or more minority persons and meets the Massachusetts Supplier Diversity Office (SDO) criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Women Business Enterprise (WBE) means an ongoing and independent business enterprise which is owned and controlled by one or more women and meets SDO certification criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Disadvantaged Business Enterprise (DBE) means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. DOT eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the SDO.

Outreach

The Authority communicates with appropriate advocacy groups and representatives such as SDO, Massachusetts Minority Contractors, and National Association of Minority and Women Owned Law Firms, as well as others, to develop new sources of supply, discuss the M/W/DBE Program and develop initiatives designed to enhance the Plan's effectiveness.

Monitoring and Reporting

The Affirmative Action and Compliance Unit will maintain such records, data and information as may be required to document compliance with Authority policies and procedures, and applicable federal, state and local laws and regulations.

MassDEP Procurement Goals

MassDEP has undertaken an Availability Analysis with Clean Water Trust in 2016 and the first half of 2017 to develop new DBE goals. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE.

Procurement Categories		
	Construction Goals	Professional Goals
D/MBE	4.2%	4.5%
D/WBE	4.2%	4.5%

In FY18, EPA-assisted contracts totaled 11% for construction, with the balance related to engineering, environmental consulting and other services. On this basis, MassDEP has utilized the above goals for both construction and professional services. The specific sub-industries such as water and wastewater engineering, etc. accounted for most of the dollars of these prime contracts and subcontracts.

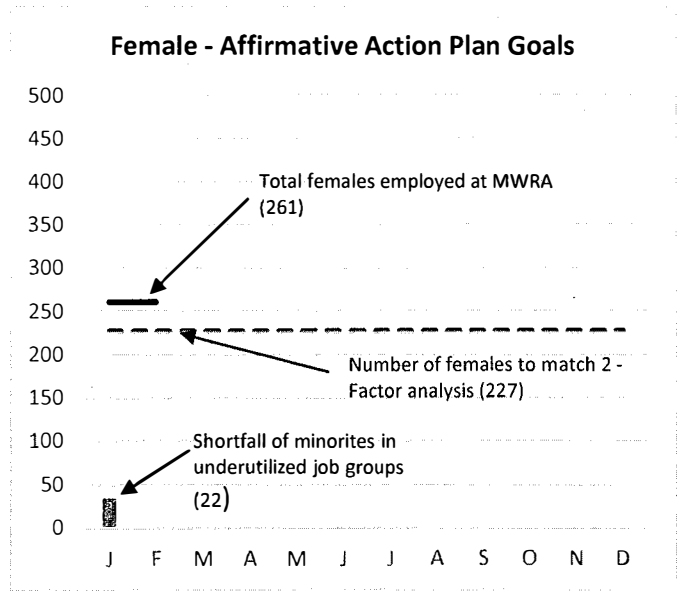
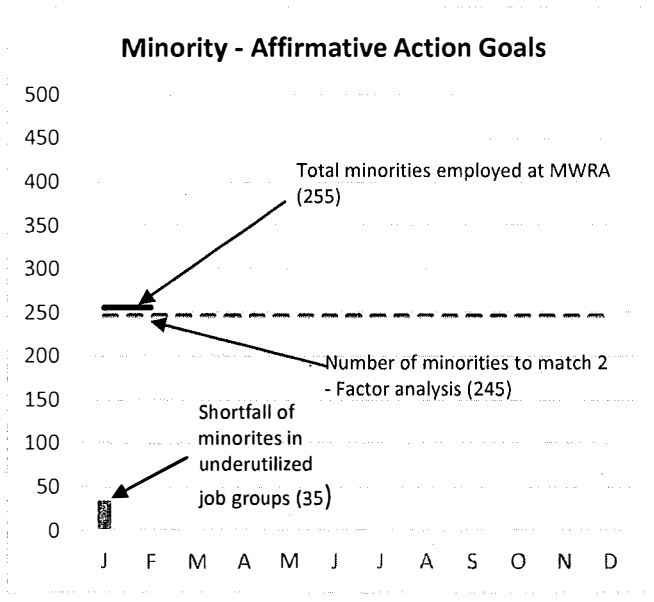
MWRA Procurement Goals

Based upon the Authority's 2002 Availability Study, the MBE and WBE procurement goals are as follows:

Procurement Categories			
	Construction Goals	Professional Goals	NonProfessional Goals
MBE	7.24%	7.18%	5.61%
WBE	3.60%	5.77%	4.88%

For FY18 the MWRA spent \$8.8 million and \$6.7 million respectively with minority and women owned business. These amounts were 92% and 110% of the respective MBE and WBE targets.


Attachment B
MWRA Job Group Representation
CY19



Underutilized Job Groups – Workforce Representation

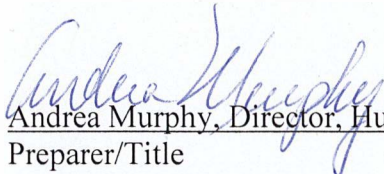
Job Group	Total Employees as of 1/1/2019	Actual Minorities as of 1/1/2019	Achievement Level	Minority Over or Under utilized	Actual Females As of 1/1/2018	Achievement Level	Female Over or Under utilized
Administrative A	22	1	3	-2	8	7	1
Administrative B	21	1	4	-3	6	4	2
Clerical A	29	11	7	4	25	18	7
Clerical B	26	9	6	3	8	10	-2
Engineer A	80	29	16	13	16	19	-3
Engineer B	61	16	14	2	13	12	1
Craft A	116	19	22	-3	0	3	-3
Craft B	145	22	28	-6	2	7	-5
Laborers	68	19	15	4	3	3	0
Management A	98	17	24	-7	33	38	-5
Management B	42	7	9	-2	9	4	5
Operators A	65	3	13	-10	1	1	0
Operators B	69	18	11	7	4	1	3
Para Professional	31	5	7	-2	19	15	4
Professional A	155	42	41	1	76	57	19
Professional B	59	19	12	7	30	16	14
Technical A	54	14	12	2	7	11	-4
Technical B	8	3	1	2	1	1	0
Total	1149	255	245	45/-35	261	227	56/-22

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: February 20, 2019
SUBJECT: Workers' Compensation Third Party Administrator Services
PMA Management Corp. of New England
Contract A618

COMMITTEE: Administration, Finance and Audit

 INFORMATION
 X VOTE


Andrea Murphy, Director, Human Resources
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to select PMA Management Corp. of New England to provide workers' compensation third party administrator services, and authorize the Executive Director, on behalf of the Authority, to execute Contract A618 with PMA Management Corp. of New England in a not-to-exceed amount of \$149,025 and a contact term from April 1, 2019 through March 31, 2022.

BACKGROUND:

MWRA is a self-insurer for workers' compensation through the Department of Industrial Accidents, in accordance with Chapter 152 of the Massachusetts General Law. Since 1987, MWRA has utilized the services of a third party administrator to process workers' compensation claims, set and adjust claim reserves, issue indemnity payments, review and pay medical expenses, notify and seek payment from excess carriers as needed, and file necessary reports all within strict adherence to Department of Industrial Accidents' rules and regulations. The third party administrator maintains an automated, web-based claims management system to manage this process, which includes medical claim history, financial claim history, and legal claim history. Additionally, the third party administrator advises MWRA on appropriate measures for complex cases. Presently, these services are being provided to MWRA by PMA under Contract A601, which is set to expire on March 31, 2019.

DISCUSSION:

On December 27, 2018, MWRA advertised a one-step Request for Qualifications/Proposals (RFQ/P). The MWRA also directly solicited eight firms who provide third party administration services for workers' compensation. Four firms requested the RFQ/P. However, PMA was the only firm to submit a proposal.

The RFQ/P included the following evaluation criteria: Cost – 35 points; Relevant Experience/Past Performance – 20 points; Technical Approach, Capacity, Organization and Management Approach - 25 points; Qualifications and Key Personnel – 20 points.

In January 2019, MWRA received a proposal from one firm, PMA Management Corp. of New England. PMA submitted a strong proposal demonstrating its relevant industry and municipal experience, and proven technical and management approach. PMA has provided solid third party administration services to MWRA since January 2013 and is a key component of MWRA’s successful strategy to provide timely, comprehensive and cost effective care to injured workers while limiting MWRA’s workers’ compensation financial exposure. PMA’s technical approach, which includes an on-line, real-time system for claims management, will assist the MWRA’s in meeting its reporting requirements for the Massachusetts Department of Labor OSHA Safety for Public Sector MGL c149 §6½.

PMA has provided workers’ compensation and risk management services throughout New England and New York, in both public and unionized settings for Tufts University, the City of Waterbury, Connecticut and the Visiting Nurse Service of New York. PMA has also provided third party administration services for Massachusetts Port Authority since 2011 and renewed its service contract in 2017.

Staff find PMA’s cost proposal to be reasonable based on, cost per claim, technical approach, and past performance.

The Selection Committee’s final scores and rankings were as follows:

<u>Firm</u>	<u>Proposed Price*</u>	<u>Total Points</u>	<u>Order of Preference Total Score</u>	<u>Final Ranking</u>
PMA	\$149,025	397	5	1

*To ensure that all the proposers were evaluated equally, the RFQ/P included a onetime allowance of \$60,500 for the transfer of existing claims for all proposers. This allowance was for both data migration of the large database (\$10,500) and to assume responsibility for open claims (\$50,000). The recommended contract price does include an allowance for the takeover of open claims (\$50,000) as PMA is the incumbent.

Staff contacted the solicited firms as well as the firms that requested the RFQ/P but failed to submit a proposal. Responses to the MWRA’s inquiry as for why no proposal was submitted ranged from the MWRA’s requested scope of work did not fit within the firm’s size or scope requirements to a potential bidder recently transitioning to a new claims system and was not prepared to submit a proposal at this time.

BUDGET/FISCAL IMPACTS:

The FY19 budget includes sufficient funds for Workers’ Compensation claims administration. Funds for the remainder of the contract will be included in FY20 and subsequent future fiscal year CEB requests.

MBE/WBE UTILIZATION:

No minimum MBE/WBE participation requirements were established for this contract due to the specialized nature of the services.



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

Chair: M. Beaton
Vice-Chair: J. Carroll
Secretary: A. Pappastergion
Board Members:
C. Cook
K. Cotter
P. Flanagan
J. Foti
B. Peña
H. Vitale
J. Walsh
J. Wolowicz

to be held on

Wednesday, February 20, 2019

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

A. Presentation: 2018 Extraordinary Service Awards

IV. BOARD ACTIONS

A. Approvals

1. Transmittal of the FY2020 Proposed Current Expense Budget to the MWRA Advisory Board (ref. AF&A B.1)
2. Approval of Eightieth Supplemental Bond Resolution (ref. AF&A B.2)
3. Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Interval Accounts (ref. AF&A B.3)
4. Appointment of Proxy for Fore River Railroad Corporation (ref. AF&A B.4)
5. Amendments to the MWRA Regulations for Adjudicatory Proceedings, Enforcement and Administrative Penalties, and Sewer Use (ref. WW A.1)

6. Assignment and Assumption of Bid WRA-4115 and Issuance of a New Purchase Order Contract for the Supply and Delivery of Polymer to the Deer Island Treatment Plant, Solenis, LLC (ref. WW A.2)
7. PCR Amendments - February 2019 (ref. P&C B.1)
8. Appointment of Warehouse Manager (ref. P&C B.2)
9. Appointment of Program Manager, Water Quality (ref. P&C B.3)
10. Appointment of Associate Special Assistant for Affirmative Action (ref. P&C B.4)
11. Appointment of Director, Wastewater Operations and Maintenance (ref. P&C B.5)
12. Appointment of Director, Metropolitan Operations (ref. P&C B.6)
13. Appointment of Deputy Director of Waterworks (ref. P&C B.7)
14. Approval of the 2019 Affirmative Action Plan (ref. P&C B.8)

B. Contract Awards

1. Dam Safety Compliance and Consulting Services – Repairs, Design and Engineering Services During Construction: GZA Environmental, Inc., Contract 7614 (ref. W B.1)
2. Chestnut Hill Emergency Pumping Station Improvements Design and Engineering Services During Construction, Hazen and Sawyer, Contract 7574 (ref. W B.2)
3. Workers' Compensation Third Party Administrator Services: PMA Management Corp. of New England, Contract A618 (ref. P C.1)

C. Contract Amendments/Change Orders

1. Actuarial Services: The Segal Company, Inc., Contract F248, Amendment No.1 (ref. AF&A C.1)
2. Chelsea Creek Headworks Upgrade, BHD/BEC JV 2015, A Joint Venture, Contract 7161, Change Order 26 (ref. WW B.1)

3. Alewife Brook Pump Station: Stantec Consulting Services, Inc., Contract 7034, Amendment 6 (ref. WW B.2)
4. Wachusett Aqueduct Pumping Station, BHD/BEC JV 2015, A Joint Venture, Contract 7157, Change Order 55 (ref. W C.1)

V. **OTHER BUSINESS**

VI. **CORRESPONDENCE TO THE BOARD**

VII. **EXECUTIVE SESSION**

A. **Litigation:**

1. CSO Assessment – U.S. v. M.D.C., et al., USDC No. 85-0489-RGS
2. Richard DaPrato v. MWRA, Suffolk Superior Court, C.A. No. 2015 CV 3687D; Supreme Judicial Court No. 12651.
3. U.S. and Massachusetts Port Authority v. NSTAR Electric Company, et al., USDC No. 16-11470-RGS

B. **Real Estate:**

1. Pan Am Railroad

VIII. **ADJOURNMENT**

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

January 16, 2019

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on Wednesday, January 16, 2019 at the Authority headquarters in Charlestown. Chair Beaton presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Peña, Vitale and Walsh. Mr. Cook was absent. Among those present from the Authority staff were 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, Kathleen Murtagh, Director, Tunnel Redundancy, Ria Convery, Assistant Secretary, and Kristin MacDougall, Assistant to the Board of Directors. The meeting was called to order at 1:11 p.m.

APPROVAL OF DECEMBER 19, 2018 MINUTES

Upon a motion duly made and seconded, it was

Voted: to approve the minutes of the Board of Directors' meeting of December 19, 2018 as presented and filed with the records of the meeting.

REPORT OF THE CHAIR

Chair Beaton provided updates on the Massachusetts budget cycle and Merrimack Valley recovery efforts.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey and Ms. Francisco Murphy provided an update on the Deer Island Cross Harbor Cable project. Mr. Laskey also noted that MWRA will participate in the Massachusetts Municipal Association's Annual Trade Show.

APPROVALS

PCR Amendments – January 2019

Upon a motion duly made and seconded, it was

Voted: to approve amendments to the Position Control Register (PCR) for January 2019 as presented and filed with the records of the meeting.

Approval of a Contract Between the Massachusetts Water Resources Authority and the Massachusetts Department of Fish and Game Relating to the McLaughlin Fish Hatchery Pipeline and Hydropower Project

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a Massachusetts standard form contract, substantially in the form as presented and filed with the records of the meeting, between the Massachusetts Department of Fish and Game and the Massachusetts Water Resources Authority, related to the McLaughlin Fish Hatchery Pipeline and Hydropower Project at the William A. Brutsch Water Treatment Facility.

CONTRACT AWARDS

Modeling of Massachusetts Bay Water Quality: Deltares, USA, Inc., Contract 7412

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7412, Modeling Massachusetts Bay Water Quality, to Deltares USA, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$711,525 for a contract term of 3 years from the Notice to Proceed.

Painting of Deer Island Steel Water Storage Tank: Atlas Painting and Sheeting Co., Contract 7601

Upon a motion duly made and seconded, it was

Voted: to approve the award of Contract 7601, Painting of the Deer Island Steel Water Storage Tank, to the lowest responsible and eligible bidder, Atlas Painting and Sheeting Corp., and to authorize the Executive Director, on behalf

of the Authority, to execute said contract in the bid amount of \$2,590,000, for a contract term of 240 calendar days from the Notice to Proceed.

Commonwealth Avenue Pumping Station Improvements: WES Construction Corp., Contract 7524

Upon a motion duly made and seconded, it was

Voted: to approve the award of Contract 7524, Commonwealth Avenue Pumping Station Improvements, to the lowest responsible and eligible bidder, WES Construction Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$6,879,500 for a contract term of 580 calendar days from the Notice to Proceed. Contract 7524, a DEP SRF funded project, received Authorization to Award from the DEP on January 10, 2019.

CONTRACT AMENDMENTS/CHANGE ORDERS

Operations and Maintenance of the Fore River Pelletizing Plant: New England Fertilizer Company, Contract S345, Amendment 2

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract S345, Operations and Maintenance of the Fore River Pelletizing Plant with New England Fertilizer Company, increasing the contract by an amount not to exceed \$440,000 above current authorization, with no increase in contract term.

Northern Intermediate High Section 110 – Stoneham: Albanese D&S, Inc., Contract 7067, Change Order 5

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 5 to Contract 7067, Northern Intermediate High Section 110 Stoneham, with Albanese D&S Inc., for an amount not to exceed \$1,050,000, increasing the contract amount from \$23,540,800 to \$24,590,800, with no increase in contract term.

Further, voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract 7067 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

OTHER BUSINESS

Annual Meeting: Election and Appointment of MWRA Officers, Retirement Board Member and Committee Assignments

Upon a motion duly made and seconded, it was

Voted: (1) to designate this January 16, 2019 meeting as the Annual Meeting which, as provided in the Authority's by-laws, will be deemed a special meeting of the Board for the purpose of election of officers; (2) to elect John Carroll as Vice Chairman of the Board; (3) to appoint Andrew Pappastergion as Secretary of the Board and Rosemarie Convery and Kristin MacDougall as Assistant Secretaries; Matthew Horan as Treasurer and Robert Belkin and James Halloran as Assistant Treasurers; and reappoint Thomas Durkin as a member of the MWRA Retirement Board for a three-year term beginning July 1, 2018; and (4) to ratify the appointment of Board members to standing Committees, as presented and filed with the records of the meeting. New Committee Chairs will be appointed approximately every two years.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and security and thereafter to return to open session solely for the purpose of adjournment. Upon a motion duly made and seconded, a roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Beaton		
Carroll		
Cotter		
Flanagan		
Foti		

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

Voted: to enter executive session for the purpose of discussing strategy with respect to litigation and security, in that such discussions may have a detrimental effect upon the negotiating positions and security of the Authority.

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session and adjourned at 1:53 p.m.

Approved: February 20, 2019

Attest:

Andrew M. Pappastergion, Secretary