



# MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey  
Executive Director

Telephone: (617) 242-6000  
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## WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

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

Wednesday, June 20, 2018

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

Time: 10:00 a.m.

### AGENDA

#### **A. Contract Awards**

1. Mechanical Improvements, Biosolids Processing Facility: Daniel O'Connell's Sons, Inc., Contract 7153
2. Remote Headworks and Deer Island Shafts Study: Mott MacDonald, LLC, Contract 7237

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

1. Chelsea Creek Headworks Upgrade: BHD/BEC 2015, A Joint Venture, Contract 7161, Change Order 14

## MASSACHUSETTS WATER RESOURCES AUTHORITY

### Meeting of the Wastewater Policy and Oversight Committee

May 30, 2018

A meeting of the Wastewater Policy and Oversight Committee was held May 30, 2018 at the Authority headquarters in Charlestown. Committee Chair Flanagan presided. Present from the Board were Messrs. Blackmon, Cotter, Carroll, Foti, Pappastergion, Peña, Vitale and Ms. Wolowicz. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, David Coppes, Thomas Durkin, Cori Barrett, Stephen Estes-Smargiassi, Wendy Leo, Martin McGowan, Sean Navin and Kristin MacDougall. The meeting was called to order at 11:10 a.m.

#### **Approvals**

##### \* Wastewater Advisory Committee Contract

Staff described the proposed contract, as presented and filed with the records of the meeting. (Mr. Cotter temporarily left the meeting during discussion.)

The Committee recommended approval of the contract (ref. item A.1.)

##### \* Approval of One New Member of the Wastewater Advisory Committee

Staff made a brief verbal presentation.

The Committee recommended approval of the addition of one new member, Mr. George Atallah, P.E., to the Wastewater Advisory Committee. (ref. A.2)

#### **Change Orders**

##### \* Chelsea Creek Headworks Upgrade, BHD/BEC 2015. A Joint Venture, Contract 7161, Change Order 12

Staff made a presentation that provided an overview of the project. There was brief discussion and questions and answers. (Mr. Cotter returned to the meeting during discussion.)

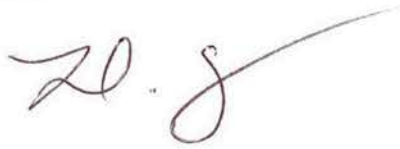
The Committee recommended approval of the change order.

The meeting adjourned at 11:18 a.m.

\* Approved as recommended at the May 30, 2018 Board of Directors meeting.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Mechanical Improvements  
Biosolids Processing Facility  
Daniel O'Connell's Sons, Inc.  
Contract 7153



**COMMITTEE:** Wastewater Policy & Oversight

       INFORMATION

  X   VOTE

  
Michele S. Gillen

Director of Administration

David Duest, Director, Deer Island WWTP  
Richard J. Adams, Manager, Engineering Services  
Carl M. Pawlowski, Manager, Residuals Operations  
Preparer/Title

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

**RECOMMENDATION:**

To approve the award of Contract 7153, Mechanical Improvements, Biosolids Processing Facility, to the lowest responsible and eligible bidder, Daniel O'Connell's Sons, Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$2,700,000, with a contract term of 420 calendar days from the Notice to Proceed.

**DISCUSSION:**

The MWRA constructed and owns the Pelletizing Plant at the fore River Shipyard in Quincy (shown in Figure 1).



Figure 1 - Pelletizing Plant

Construction of the Plant was completed in 1991, which allowed the MWRA to stop the decades-old practice of discharging sludge directly into Boston Harbor. Residuals collected by primary and secondary treatment are processed in Deer Island's egg-shaped anaerobic digesters. The remaining sludge is temporarily stored and then pumped seven miles through a pipeline to the Pelletizing Plant where it is dewatered in centrifuges and dried in thermal dryers. The resulting pellets are beneficially used and marketed as a Class A fertilizer.

Following a competitive procurement process, the first two operation and maintenance contracts for the Plant were awarded to New England Fertilizer Company (NEFCo). The current Contract began in 2001 and was extended by amendment on March 11, 2015 for a period of 5 years, through December 31, 2020. The Amendment established a budget of \$7 million for capital improvement projects.

Staff and NEFCo have identified several capital improvement projects for the proper operation and maintenance of the facility including this mechanical improvements contract. MWRA is responsible for the procurement of the construction contracts for the projects, while NEFCo is responsible for design and construction administration services. NEFCo retained Tighe and Bond to furnish design and related services for the projects. The \$7 million capital improvement budget includes payment to NEFCo of 15% of the construction contract award amount for design and construction administration services.

The Pelletizing Plant contains six individual processing trains. Each train contains two mechanical conveyors (shown in Figure 2) to move and dry biosolids, for a total of twelve conveyors. One of the mechanical conveyors was replaced by NEFCo in 2016. Two more of the mechanical conveyors were discovered during design to be severely deteriorated and an expedited mechanical improvements contract was awarded under delegated authority to IPC Lydon, LLC in the amount of \$128,000. The project was completed in May 2018.



Figure 2 – Mechanical Conveyor

Under this Contract the Contractor will replace the remaining nine original mechanical conveyors and furnish and install ancillary equipment including chutes, discharge boxes, pneumatic slide gates, two dust collection systems, dome cover braces for four storage tanks, a nitrogen purge generator, an air compressor and a boiler. Finally, required electrical and controls modifications will be made for the replacement equipment.

### **Procurement Process**

Contract 7153 was advertised in the Central Register, the Boston Herald, El Mundo, Banner Publication and COMMBUYS and bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were opened on April 12, 2018, from three contractors as follows:

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineer's Estimate</i>	\$2,640,000
<b>Daniel O'Connell's Sons, Inc.</b>	\$2,700,000
Walsh Construction Company II, LLC	\$2,981,425
IPC Lydon, LLC	\$3,063,611

MWRA staff interviewed Daniel O'Connell's Sons, Inc. (DOC) and reviewed its bid in detail, which is approximately 2.2% higher than the Engineer's Estimate. Staff have determined that the bid is complete, reasonable, and includes the payment of prevailing wages as required. References for DOC were checked and found to be favorable. Based upon the information received during the interview, staff are of the opinion that DOC understands the nature and complexity of the project, has the skill, ability and integrity necessary to complete the work, and is qualified to do so.

With respect to the corporate structure of DOC and NEFCo (see Attachment A), DOC is owned by The O'Connell Companies, Inc., which also owns O'Connell Development Group, Inc. In turn, O'Connell Development Group, Inc. holds an 88% ownership interest in NEFCo. Internal Audit, Law Division, and Procurement staff have discussed this corporate relationship. While there is no conflict of interest which precludes an award to DOC, to avoid even the appearance of one DOC's work will be inspected by an outside Resident Engineer/Inspector under an MWRA task order, and supplemental inspections will be performed by MWRA staff. The estimated cost of the Resident Engineering/Inspection work by an outside consultant is \$87,000. NEFCo will coordinate the contract work and Tighe and Bond will provide engineering services during construction, with MWRA having the final word on submittals, specification compliance and any extra work issues.

For the reasons set forth above, MWRA staff recommend that Contract 7153 be awarded to Daniel O'Connell's Sons, Inc. as the lowest responsible and eligible bidder.

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

The Final FY19 Capital Improvement Program includes \$3,941,000 for Contract 7153. The budget includes \$128,000 for two conveyors replaced by NEFCo in May 2018 under the expedited mechanical improvement contract awarded under delegated authority to IPC Lydon, LLC. The award amount for this contract is \$2,700,000 and MWRA will pay NEFCo \$405,000 (15% of the

award amount) for design and construction administration services. The total payment for NEFCo, including the expedited work, will be \$424,200 for a total project cost of \$3,252,200.

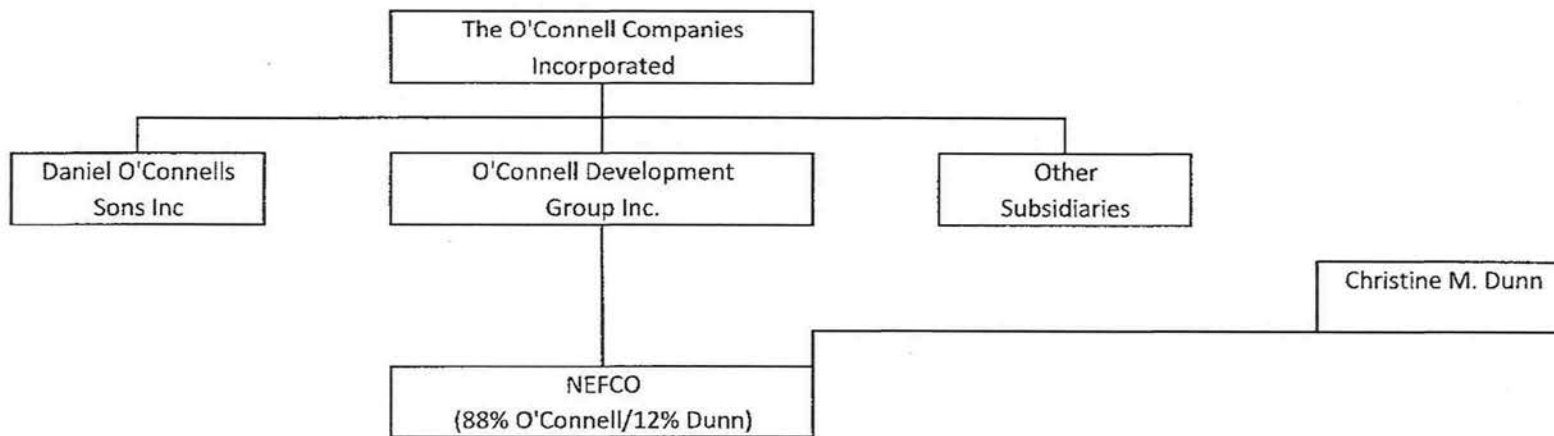
**MBE/WBE PARTICIPATION:**

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


**ATTACHMENT:**

Attachment A – The O’Connell Companies Incorporated Organizational Chart

Attachment A



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 20, 2018  
**SUBJECT:** Remote Headworks and Deer Island Shafts Study  
Mott MacDonald, LLC  
Contract 7237


**COMMITTEE:** Wastewater Policy & Oversight

A. Navanandan, P.E., Chief Engineer  
Andrea K. Adams, P.E., Project Manager  
Preparer/Title

     INFORMATION

  X   VOTE

  
Michele S. Gillen,  
Director of Administration

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

**RECOMMENDATION:**

To approve the recommendation of the Consultant Selection Committee to award Contract 7237, Remote Headworks and Deer Island Shafts Study, to Mott MacDonald, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not-to-exceed \$1,371,788.67 for a contract term of ten months from the Notice to Proceed.

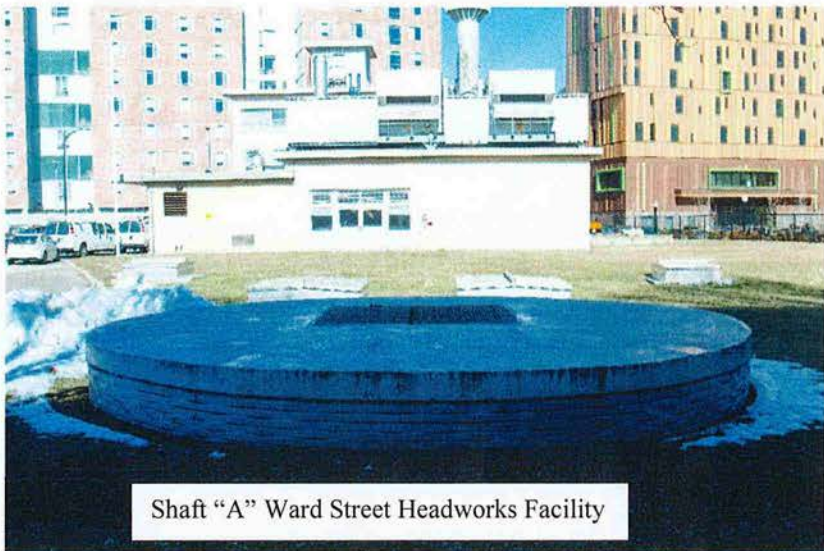
**BACKGROUND:**

The Boston Main Drainage Tunnel, the North Metropolitan Relief Tunnel and the Inter-Island Tunnel convey flow under Boston Harbor from the four remote headworks facilities to the Deer Island Treatment Facility. The Boston Main Drainage Tunnel, constructed in 1953, receives flow from the Ward Street Headworks Facility (Shaft "A") and the Columbus Park Headworks Facility (Shaft "B") and connects to Shaft "C" at the Deer Island Treatment Facility. Shaft "No. 1" at Deer Island receives flow through the North Metropolitan Relief Tunnel, constructed in 1952, from Shaft "No. 2" at the Chelsea Creek Headworks Facility. The Inter-Island Tunnel, constructed in 1996, conveys flow from the "North" Shaft at the Nut Island Headworks Facility to the "South" Shaft at Deer Island. (Attachment A shows the shaft locations.)

The seven shafts are composed of reinforced concrete with inner diameters varying between 14 feet and 16 feet. The total depth of the shafts varies between approximately 240 feet and 330 feet. Access into the shafts is through removable panels or hatches at the top of the shafts. The shafts located at the Ward Street, Columbus Park and Chelsea Creek Headworks facilities also include horizontal connecting structures from the headworks lower level that provide limited access to the shafts via metal platforms above the flow channels.



The shafts adjoining the North Metropolitan Relief Tunnel and the Boston Main Drainage Tunnel have been in operation for approximately 65 years. In 2001, a structural inspection was performed to determine the condition of the interior surfaces and components in the Ward Street, Columbus Park and Chelsea Creek shafts. The inspections were visual only and limited in depth due to continuous flows into the shafts. The assessment



concluded there was approximately 2 inches of concrete loss from the 3 foot-6 inch thick walls due to corrosion and wastewater spray in some areas, but the structural integrity had not been compromised. It was recommended that the condition of the concrete be monitored since further deterioration could expose the reinforcing steel bars and accelerate deterioration of the shafts. Deer Island shafts "No. 1" and "C" have not been inspected.

The "South" and "North" Shafts adjoining the Inter-Island Tunnel between the Nut Island Headworks and Deer Island facilities have been in operation for approximately 20 years. Inspections of these shafts have not yet been performed.

## **DISCUSSION:**

This contract will provide inspections, testing, evaluations and assessments to provide a comprehensive study report of the condition and proposed rehabilitation of the four effluent shafts (Shafts "A", "B", No. "2" and "South") receiving flow from the remote headworks facilities, and the three shafts (Shafts No. "1", "C" and "North") located at Deer Island. The connecting structures and channels at the Ward Street, Columbus Park and Chelsea Creek headworks facilities are also included in the scope of work. Inspections of the shafts, connecting structures and channels will include visual examination, probing, hammer sounding, extracting of concrete core samples for laboratory testing, sampling of the atmosphere to assess corrosivity, measuring the shaft diameters and an assessment of ventilation. The shaft and channel inspections will be performed under confined space entry permits during non-peak flow times. Flows will be held back in order that the shafts are isolated during the inspections.

The consultant will prepare a report that will include the results of the investigations and provide recommendations for repair of the areas investigated, costs of the rehabilitation and design and construction schedules. The study was included in the Wastewater Master Plan and will serve as the basis for future design and construction capital projects to improve long-term structural integrity and preserve hydraulic capacity of the shafts.

**Procurement Process**

On April 19, 2018, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publically advertised in the Central Register, Boston Herald, Banner Publications and El Mundo. In addition, notice of the RFQ/P was sent directly to 55 firms. The RFQ/P included the following evaluation criteria and points: Cost - 25 points; Experience/Past Performance - 25 points; Technical Approach/Organization and Management Approach - 25 points; Capacity/Qualifications and Key Personnel - 23 points; and MBE/WBE Participation - 2 points.

On May 21, 2018, MWRA received proposals from Arcadis U.S., Inc. and Mott MacDonald, LLC.

The proposal costs and level of effort are presented below:

	<u>Proposed Contract Cost</u>	<u>Level of Effort</u>
Arcadis U.S., Inc	\$1,194,580.85*	2,334 hours
Mott MacDonald, LLC	\$1,371,788.67	4,856 hours
<i>Engineer's Estimate</i>	<i>\$802,010.00</i>	<i>3,878 hours</i>

\* Adjusted price reflects calculation errors

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

	<u>Total Points</u>	<u>Order of Preference** Total Score</u>	<u>Final Ranking</u>
Mott MacDonald, LLC	409	7	1
Arcadis U.S., Inc.	377	8	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.

Mott MacDonald presented excellent qualifications, experience/past performance, technical approach and capacity. The Mott MacDonald team will be led by a Project Manager with a PhD in Engineering and fifteen years of experience in evaluation, design and construction oversight of large tunnel and underground structures for water and wastewater. References indicated Mott MacDonald is excellent and technically proficient in tunnel rehabilitation. Mott MacDonald's price was 15% higher than Arcadis' which is attributable to the additional safety measures it proposed for this potentially hazardous inspection services than was included in the scope of services. The scope of services assumed a three-person crew for two days of inspections at each shaft. By contrast, Mott MacDonald's proposal includes a five-person crew for four days of inspection work at each shaft. This amounts to an additional cost of approximately \$220,500 for all shaft inspection work and represents most of the difference in hours from the Engineer's estimate. The Selection Committee was in agreement with Mott MacDonald's assessment of the length of time required and need for additional personnel for the safe performance of the work. Mott MacDonald's cost

proposal includes a cap on direct labor at \$75 per hour and a discounted office indirect cost rate of 150%, which is below its current audited rate of 160.37%. Mott MacDonald's bid included 4,856 hours, which was 25% above the Engineer's Estimate of 3,878 hours and more than double Arcadis' proposed 2,334 hours.

Arcadis' proposal was the lower cost of the two proposals, and the Selection Committee determined that Arcadis presented very good experience/past performance, technical approach and capacity. However, Arcadis' Project Manager had comparatively less experience in the area of large tunnel structures than Mott MacDonald's Project Manager. Most of Arcadis' internal and external references were favorable, but were not overall as high as those offered for Mott MacDonald. The Selection Committee agreed that Arcadis' proposal provided a very good discussion of the site constraints and rehabilitation options, but did not provide adequate details on its approach to perform the shaft inspections. There was some concern that Arcadis did not provide sufficient level of effort, as its proposed hours were 40% below the Engineer's Estimate. Finally, although there were no MBE and WBE requirements, Arcadis did include a WBE sub-consultant on its team for cost estimating and scheduling.

Staff met with representatives of Mott MacDonald to confirm the scope of work, costs and level of effort. Based on those discussions, staff are of the opinion that Mott MacDonald can successfully complete the specified work for the proposed cost.

For the reasons set forth above, the Selection Committee recommends award of this contract to Mott MacDonald, LLC.

**BUDGET/FISCAL IMPACT:**

The Final FY19 Capital Improvement Program includes a budget of \$800,000 for Contract 7237. The contract award amount is \$1,371,788.67 or \$571,838.36 over budget. This amount will be covered within the FY19-23 five-year CIP spending cap.

**MBE/WBE PARTICIPATION:**

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

**ATTACHMENT:**

Attachment A – Tunnel Shafts Location Plan

Attachment A – Tunnel Shafts Location Plan



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Chelsea Creek Headworks Upgrade  
BHD/BEC 2015, A Joint Venture  
Contract 7161, Change Order 14



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**COMMITTEE:** Wastewater Policy & Oversight

     INFORMATION  
  X   VOTE

Martin E. McGowan, Construction Coordinator  
Corinne M. Barrett, Director, Construction  
A. Navanandan, P.E., Chief Engineer  
Preparer/Title



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

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**RECOMMENDATION:**

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 14 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture, for an amount not to exceed \$500,000.00, increasing the contract amount from \$78,782,848.46 to \$79,282,848.46, 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:

- 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 will be upgraded;
- a new carbon adsorber odor control system is being installed and redundancy is being added to both systems;
- ancillary systems including the emergency generator, fuel oil tank, and transformer are being replaced;
- instrumentation and control systems are being upgraded;
- the communications tower is being replaced and a communications building is being added;
- 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, and electrical; and
- fire suppression.

### **This Change Order**

Change Order 14 consists of the following item:

Demolish and Replace Original Deteriorated, Deficient or Structurally Unsound Masonry Walls throughout the Facility

Not to exceed \$500,000.00



Mix Use of Brick and CMU

The Contractor is required to remove wall finishes such as metal paneling coated with asbestos tar paper and PCB paint, plaster painted with PCB paint, lead block tiles, asbestos acoustical tiles and exterior brick in contact with PCB caulking to abate hazardous materials throughout the facility. The Contractor identified numerous deficiencies in the existing masonry substrates once these wall finishes were removed. These deficiencies include walls not installed plumb or properly reinforced, supported and tied to the building structure, varying size CMU blocks

and bricks, and improper installation of lintels at windows and doors. In most cases, the wall construction did not match what was depicted in the as-built drawings with smaller size CMU being used. In other cases, the mixed use of brick and CMU block of varying sizes prevents the proper installation of waterproofing materials necessary to provide flood protection around the building perimeter. Following initial abatement, the Consultant's structural and architectural engineers determined that many of the interior and exterior walls are structurally unsound and



CMU Not Properly Secured to Building Structure

must be demolished and rebuilt. The overall poor workmanship was concealed by the existing wall finishes and could not be assessed until after the abatement work started. As a result of this unforeseen condition, the Contractor must demolish and rebuild the designated walls to provide a structurally sound facility that can also be protected from floods. All masonry walls previously coated with PCB paint must be demolished and disposed of in accordance with the US EPA-approved Risk Based Disposal Plan. Disposal costs will be covered under existing quantities in the contract.



CMU of Varying Size Around Openings



Interior Walls Constructed of 4-inch CMU Instead of 8-inch

The approved PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$500,000.00 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 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	<u>\$500,000.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$6,423,848.46	0 Days	
Adjusted Contract:	\$79,282,848.46	1,460 Days	

\*Approved under delegated authority

If Change Order 14 is approved, the cumulative value of all change orders to this contract will be \$6,423,848.46 or 8.8% of the original contract amount. Work on this contract is approximately 38% complete.

**BUDGET/FISCAL IMPACT:**

The Final FY19 Capital Improvement Program budget includes \$77,462,553 for Contract 7161. Including this change order for \$500,000.00, the adjusted subphase total is \$79,282,848.46 or \$1,820,295.46 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.





# 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 AND OVERSIGHT COMMITTEE MEETING

to be held on

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

Wednesday, June 20, 2018

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

Time: Immediately following Wastewater Committee

## AGENDA

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

1. Western Operations Marlborough Maintenance Facility: E. A. Colangeli Construction Co., Inc., Contract 6650B, Change Order 10

## **MASSACHUSETTS WATER RESOURCES AUTHORITY**

### Meeting of the

### Water Policy and Oversight Committee

May 30, 2018

A meeting of the Water Policy and Oversight Committee was held on May 30, 2018 at the Authority headquarters in Charlestown. Committee Chair Blackmon presided. Present from the Board were Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Vitale, Walsh and Ms. Wolowicz. Among those present from the Authority staff were Fred Laskey, Steven Remsberg, David Coppes, John Vetere, Stephen Estes-Smargiassi, Cori Barrett, Jeffrey Bina, Joshua Das, Renie Jesanis, Nava Navanandan, Paul Rullo, Vincent Spada, William Sullivan and Kristin MacDougall. The meeting was called to order at 11:18 a.m.

### **Approval of Minutes**

### **Information**

#### 2017 Annual Water Quality Report (Consumer Confidence Report)

Staff presented the 2017 Annual Water Quality Report and described key findings and features of the report. Fred Laskey noted that the Wastewater "CCR" that was released earlier in 2018 was very well received (ref. item A.1.)

### **Approvals**

#### \*Water Supply Citizens Advisory Committee Contract

Staff recommended that the Executive Director, on behalf of the Authority, execute a contract with the Water Supply Citizens Advisory Committee.

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

### **Awards**

#### \*Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility, Univar USA, Inc., Bid WRA-4523

Staff recommended the award of Purchase Order Contract WRA-4523 and to authorize the execution of said purchase order contract as presented and filed with the records of the meeting.

The Committee recommended approval. (ref. C.1.)

\*Technical Assistance Consulting Services for the John J. Carroll Water Treatment Plant, Hazen and Sawyer P.C., Contract 7543, Stantec Consulting Services, Inc., Contract 7544

Staff recommended the award of Contract 7543 and 7544 and authorization to execute the contracts as presented and filed with the records of the meeting.

The Committee recommended approval (ref. W.C.2.)

\*Low Service Pressure Reducing Valve Improvements – Boston/Medford, Design and Engineering Services During Construction, CDM Smith, Inc., Contract 7575

Staff made a presentation about the project and recommended the award of and authorization to execute Contract 7575 as presented and filed with the records of the meeting.

The Committee recommended approval (ref. W.C.3.)

### **Change Orders**

\*Section 14 Water Pipeline Relocation – Malden, Albanese Bros., Inc., Contract 6957, Change Order 5

Staff made a presentation about the project and recommended the approval of Change Order 5 to Contract 6597 as presented and filed with the records of the meeting.

The Committee recommended approval (ref. W.D.1.)

\*Wachusett Aqueduct Pumping Station, BHD/BEC JV 2015, A Joint Venture, Contract 7157, Change Order 32

Staff made a presentation about the project and recommended authorization to approve Change Order 32 to Contract 7157 as presented and filed with the records of the meeting.

The Committee recommended approval (ref. W.D.2.)

The meeting adjourned at 11:47 p.m.

\* Approved as recommended at the May 30, 2018 Board of Directors meeting.

### STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Western Operations Marlborough Maintenance Facility  
E. A. Colangeli Construction Co., Inc.  
Contract 6650B, Change Order 10



**COMMITTEE:** Water Policy & Oversight

INFORMATION  
 VOTE

A. Navanandan, P.E., Chief Engineer  
Corinne M. Barrett, Director, Construction  
Vincent Spada, 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 10 to Contract 6650B, Western Operations Marlborough Maintenance Facility, with E. A. Colangeli Construction Co., Inc., for a lump sum amount of \$29,346.00, increasing the contract amount from \$3,559,661.40 to \$3,589,007.40, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 6650B in an amount not to exceed the aggregate of \$75,000, in accordance with the Management Policies and Procedures of the Board of Directors.

### DISCUSSION:



MWRA's former Interim Corrosion Control Facility is a one-story, 7,900 square foot structure that was built in 1994. This facility is located near the John J. Carroll Water Treatment Plant in Marlborough and was formerly used for water treatment prior to the start-up of the John J. Carroll Water Treatment Plant. Under this contract the building is being modified to include electrical, plumbing, mechanical, and SCADA trade shops, outside covered storage, and a supervisor's office space. The work includes demolition of process equipment, replacement and/or upgrade of building systems such as electrical,

HVAC, fire protection, plumbing, roof, floors, and doors to accommodate new functions as well as to comply with current building codes. The work of this contract was prepared in 2007 and

originally included three facility upgrades in one Construction Package 7 (CP7). CP7 included the ICCF in Marlborough, the Water Quality Laboratory Upgrade in Southborough, and the Cosgrove Facility Upgrade in Clinton. It was decided to separate the three construction projects into three separate construction bid projects. The first one was the Southborough Laboratory upgrade which was bid in 2015 and completed in 2017. The ICCF is the second project to be bid and when complete will be followed by the Cosgrove construction.

### **This Change Order**

Change Order 10 consists of the following item:

Furnish and Install Precast Concrete Curb \$29,346.00

The contract documents delineate specific sections of existing concrete curb around the building exterior to be replaced with new precast curb. At the time of design in 2007, the existing concrete curb designated to remain was deemed to be in good condition. Since that time, the concrete curb has deteriorated and is in need of replacement. An additional 280 linear feet of straight precast concrete curb and 70 linear feet of radius precast concrete curb is required to completely replace the entire length of existing precast concrete curb around the building perimeter.



**Marlborough Maintenance Facility Concrete Curb Installation**

The approved PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$29,346.00 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to continue with the remainder of the contract work.

**CONTRACT SUMMARY:**

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$3,367,000.00	365 Days	05/02/17
Change Orders:			
Change Order 1*	\$24,332.00	0 Days	01/16/18
Change Order 2*	\$19,604.00	0 Days	01/31/18
Change Order 3*	\$19,019.00	0 Days	02/07/18
Change Order 4*	\$11,332.40	0 Days	04/19/18
Change Order 5*	\$23,034.00	0 Days	05/01/18
Change Order 6*	\$23,993.00	60 Days	05/03/18
Change Order 7*	\$24,184.00	0 Days	05/14/18
Change Order 8*	\$24,840.00	0 Days	05/21/18
Change Order 9*	\$22,323.00	0 Days	05/31/18
Change Order 10	\$29,346.00	<u>0 Days</u>	Pending
Total of Change Orders:	\$222,007.40	60 Days	
Adjusted Contract:	\$3,589,007.40	425 Days	

\*Approved under delegated authority

If Change Order 10 is approved, the cumulative value of all change orders to this contract will be \$222,007.40 or 7% of the original contract amount. Work on this contract is approximately 78% complete.

**BUDGET/FISCAL IMPACT:**

The Final FY19 Capital Improvement Program includes \$7,646,984 for Contract 6650, Modifications to Existing Waterworks Facilities (the original three-location contract), of which \$3,655,455 is for Contract 6650B. Contract 6650B, Western Operations Marlborough Maintenance Facility is the second phase of the three phases of Contract 6650. Sufficient funds are available for this change order.

**MBE/WBE PARTICIPATION:**

The MBE/WBE participation requirements for this project were established at 7.24% and 3.6%, 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

*Chair:* J. Wolowicz  
*Vice-Chair:* K. Cotter  
*Committee Members:*  
J. Carroll  
P. Flanagan  
J. Foti  
A. Pappastergion  
H. Vitale  
J. Walsh

Wednesday, June 20, 2018

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

Time: Immediately following Water Committee

### **AGENDA**

#### **A. Information**

1. Massachusetts Equal Pay Act

#### **B. Approvals**

1. PCR Amendments – June 2018
2. Appointment of Director, Laboratory Services
3. Appointment of Director, Waterworks
4. Appointment of Director, Wastewater
5. Appointment of Director, Human Resources

## MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the  
Personnel and Compensation Committee  
May 30, 2018

A meeting of the Personnel and Compensation Committee was held on May 30, 2018 at the Authority headquarters in Charlestown. Committee Chair Wolowicz presided. Present from the Board were Messrs. Blackmon, Carroll, Flanagan, Foti, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steven Remsberg, David Coppes, Karen Gay-Valente, Michele Gillen, Andrea Murphy, John Vetere and Kristin MacDougall. The meeting was called to order at 11:48 a.m.

### Information

There was general discussion and brief questions and answers on the following informational items:

- Update on Retirements
- Proposed Organizational Changes in the Operations Division.

During the discussion, Mr. Vitale requested a copy of MWRA's staff succession plan.

### Approvals

#### \* PCR Amendments – April 2018

Staff described the need to change four positions in the Position Control Register to reflect organizational changes in the Operations Division.

The Committee recommended approval (ref. agenda item B.1.)

#### \* Appointment Superintendent, Clinton Advanced Wastewater Treatment Plant, Operations Division

The Committee recommended approval (ref. agenda item B.2.)

#### \* FY19 Non-Union Compensation

The Committee Chair recommended that this agenda item be moved to the full Board of Directors meeting (ref. item B.3.)

\* Approved as recommended at May 30, 2018 Board of Directors meeting.



\* Authority Accountability and Transparency Act Compliance

Committee Chair Wolowicz recommended that the meeting adjourn and reconvene at 12:45 p.m. to discuss executive compensation, independent of MWRA management.

The meeting adjourned at 12:01 p.m.

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ANNUAL MEETING OF THE PERSONNEL AND COMPENSATION COMMITTEE  
INDEPENDENT OF MANAGEMENT

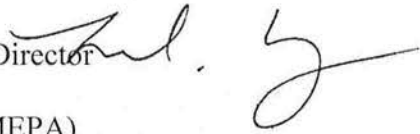
The meeting was called to order at 12:48 p.m. in compliance with the provisions of the above-referenced Act. The only MWRA staff member present was Kristin MacDougall, Assistant to the Board of Directors. Vandana Rao (EOEEA) was also in attendance; Andreae Downes (WAC Executive Director) joined the meeting at 1:02 p.m. Members of the Committee analyzed and assessed the data provided regarding executive compensation at comparable state agencies and authorities, as well as for-profit private sector employees, and national water and wastewater utilities. There was general discussion. It was observed that the level of MWRA compensation was in the mid- to lower range of similar positions at other entities (ref. item P&C C.1.) and, in particular, in the case of the position of Executive Director.

The meeting adjourned at 1:27 p.m.

\* Approved as recommended at the May 30, 2018 Board of Directors meeting.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Massachusetts Equal Pay Act (MEPA)



**COMMITTEE:** Personnel and Compensation

X  INFORMATION  
  VOTE

Karen Gay-Valente, Director of Human Resources  
Patterson Riley, Special Assistant for Affirmative Action  
Preparer/Title

  
Michele S. Gillen  
Director of Administration

**RECOMMENDATION:**

For information only.

**DISCUSSION:**

In August 2016, Governor Baker signed the Massachusetts Equal Pay Act (MEPA) which amends Mass. General Laws Chapters 149 and 151, the equal pay and anti-discrimination statutes. MEPA, the new state employment law, is going into effect on July 1, 2018 and provides more clarity as to what constitutes unlawful wage discrimination and adds language to the law to ensure greater fairness and equity in all<sup>1</sup> Massachusetts private and public sector workplaces. The Massachusetts Attorney General's Office has issued guidelines to assist employers with complying with the law.

**Equal Pay for Comparable Work**

MEPA generally provides that "No employer shall discriminate in any way on the basis of gender in the payment of wages, or pay any person in its employ a salary or wage rate less than the rates paid to its employees of a different gender for comparable work." The law defines "comparable work" as work that requires substantially similar skill, effort, and responsibility, and is performed under similar working conditions.

MEPA permits MWRA to have differences in pay for comparable work only when based on a number of factors including a system that rewards seniority with the employer; as well as education, training, or experience related to the job. In addition to the analysis of differences in pay for comparable work, MEPA prohibits employers from seeking wage or salary history information or an applicant's current salary on an employment application. MWRA's employment application has been updated so that it does not request salary history or current

<sup>1</sup> MEPA does not apply to federal employees working in Massachusetts.

salary from an applicant nor does MWRA seek such information from candidates during a formal interview.

To ensure compliance, an agency may choose to do an optional good faith self-evaluation (or audit) of its pay practices. In order to have a valid affirmative defense against legal action, the self-evaluation must meet two criteria. First the self-evaluation must be reasonable in detail and scope. Additionally, an agency must show reasonable progress towards eliminating impermissible gender-based wage differentials, if any.

The statute of limitations for employees filing an action in court is three years from the date of an alleged violation. If MWRA was determined to have violated MEPA, the liability would be for twice the amount of the unpaid wages owed to the affected employee plus attorneys' fees and costs.

### **MWRA's Progress**

MWRA is conducting a self-evaluation of compensation paid to non-union employees. To assist with this, staff will be recommending award of a pay equity consultant contract under the Executive Director's delegated authority at an estimated cost of \$27,000. The consultant will analyze employee pay and recommend adjustments in pay practices to remediate any gender-based pay differentials, if appropriate. Additionally, MWRA may seek legal assistance from the consultant to determine the extent of the law's application to employees represented by a collective bargaining unit. Finally, the consultant will identify specific recommended changes and/or enhancements in MWRA policies, programs and practices that may prevent unjustified pay differentials in the future.

MWRA will report its findings to the Board in fall 2018, the expected timeframe for the Consultant to complete their assessment.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** June PCR Amendments



COMMITTEE: Personnel and Compensation

  
Karen Gay-Valente, Director of Human Resources  
Preparer/Title

         INFORMATION

  X   VOTE

  
Michele S. Gillen  
Director, Administration

**RECOMMENDATION:**

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

**DISCUSSION:**

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR must be approved by the Personnel Committee of the Board of Directors. All amendments resulting in an upgrade of a position by more than one grade level, and/or an amendment which creates a position increasing annual cost by \$10,000 or more, must be approved by the Board of Directors after review by the Personnel Committee.

**June PCR Amendments**

There are two PCR amendments to reflect organizational changes: one in the Operations Division and one in the Administration Division.

**Operations Division**

As reported to the Board at the last board meeting, given the impending retirement of John Vetere, Deputy Chief Operating Officer for Operations, Engineering, and Construction, the organizational structure within the Operations Division is being changed.

As part of the reorganization plan, one of the two Deputy Chief Operating Officers is being eliminated and Carolyn Fiore will become the sole Deputy Chief Operating Officer. Ms. Fiore will act in the role of Chief Operating Officer in Mr. Coppe's absence and will assume additional administrative and support staff. Given this significant increase in responsibilities, staff recommend a salary adjustment to ensure her compensation is commensurate with the level and associated responsibilities of her position. There is no grade change associated with the additional responsibilities.

## **Administration Division**

Legislation recently enacted, with an effective date of February 2019, requiring public entities to provide workplace health and safety standards that are at least as stringent as OSHA. This change will add additional burdens and requirements to MWRA's already robust safety program. To best meet the requirements of the new statute, staff are recommending the creation of a Non-Union, Grade 14 Manager, Occupational Health and Safety. The Manager, Occupational Health and Safety will report directly to the Director of Administration and will supervise all current MWRA safety staff.

This position would ensure compliance with the Massachusetts Department of Labor Standards and federal rules and regulations, and provide programs, guidance and recommendations in areas of employee safety and health. This position will oversee and develop a program for regulatory compliance with state standards and work closely with other authority safety and health staff to communicate, implement, monitor and track safety and health regulatory compliance and lead agency activities in a proactive way to minimize health issues and prevent situations that could create workers' compensation cases.

MWRA's safety program includes training, the mandatory use of personal protective equipment and comprehensive safety policies, procedures and guides. In addition to the current safety program, these new OSHA like standards, that will be regulated by the Division of Labor Standards, will impose new requirements that are largely administrative including frequent site assessments of all MWRA facilities and stringent routine and emergency reporting to the Division of Labor Standards.

Finally, there is one PCR amendment to create a new Water Quality Technician position at the Southborough Laboratory to meet increased sampling needs. The position has been included in the FY19 budget.

The amendments are:

1. To make a salary adjustment to a filled position in the Programs, Policy, and Planning Unit, Operations Division: Deputy Chief Operating Officer, Non-Union Grade 17.
2. To create a new position of Manager, Occupational Health and Safety, Non-Union, Grade 14.
3. To create a new position of Water Quality Technician, Unit 9, Grade 15.

The first amendment requires approval by the Personnel and Compensation Committee. The second and third amendments require Board approval after review by the Personnel and Compensation Committee.

## **BUDGET/FISCAL IMPACT:**

The annualized budget impact of this PCR amendment will range in cost of \$145,358 to a cost of \$208,552. 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 Descriptions  
New Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2018**

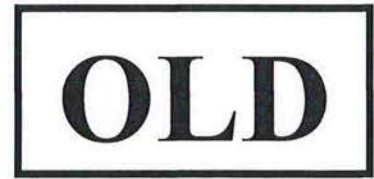
**PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - June 20, 2018**

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			
P8	Operations		F	T	Deputy Chief Operating Officer, Programs, Policy, and Planning	NU	17	Deputy Chief Operating Officer	NU	17	\$164,700	\$172,000	-	\$172,000	\$7,300	-	\$7,300	Pay adjustment to reflect increased responsibilities.
<b>PERSONNEL &amp; COMP COMMITTEE TOTAL =</b>						<b>1</b>						<b>SUBTOTAL:</b>		<b>\$7,300</b>	<b>-</b>	<b>\$7,300</b>		

**PCR AMENDMENTS REQUIRING BOARD APPROVAL - June 20, 2018**

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			
B12	Operations ENQUAL		N/A	N/A	N/A	N/A	N/A	Water Quality Technician	9	15	\$0	\$47,520	-	\$63,657	\$47,520	-	\$63,657	To create a new position to meet increased sampling workload in Southboro.
B13	Administration		N/A	N/A	N/A	N/A	Manager, Occupational Health and Safety	NU	14		N/A	90538	-	\$137,595	90538	-	137595	To create a new position to manage MWRA's compliance with the new OSHA Safety for Public Sector regulations going into effect February 1, 2019.
<b>BOARD TOTAL =</b>						<b>2</b>						<b>SUBTOTAL:</b>		<b>\$138,058</b>	<b>-</b>	<b>\$201,252</b>		
<b>GRAND TOTAL =</b>						<b>3</b>						<b>TOTAL ESTIMATED COSTS:</b>		<b>\$145,358</b>	<b>-</b>	<b>\$208,552</b>		

MWRA  
POSITION DESCRIPTION



**POSITION:** Deputy Chief Operating Officer, Programs, Policy and Planning

**DIVISION:** Operations

**DEPARTMENT:**

**BASIC PURPOSE:**

Directs the key operational programs and planning functions of the Authority including Planning, TRAC, Laboratory Services, ENQUAD, Meter Data Management, Operations Budget and Administration. Directs operational units responsible for environmental monitoring, water quality, industrial pretreatment, enforcement of MWRA regulations and reduction and control of contamination inflow. Supports the development and establishment of Authority policy.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Chief Operating Officer.

**SUPERVISION EXERCISED:**

Exercises close supervision of assigned staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Directs operational and regulatory program activities including but not limited to TRAC, Laboratory Services and ENQUAD. Supervises department heads and managers assigned to these program functions.
- Directs the Operations Division's budget, finance, administration, procurement and personnel functions.
- Directs the planning and sustainability functions including the development of the MWRA master plan and a five year business plan to address the changing focus of the organization, to optimize utilization of staff and resources, to identify and prioritize capital projects and to reduce costs and to improve services.



- Directs the water and wastewater meter data system to ensure accurate development and distribution of meter data. Ensures coordination with meter maintenance staff. Directs development and implementation of meter replacement program.
- Manages a systematic review of program management reports and controls, which are currently used to inform the Board of Directors, Executive Director and senior management of agency operations and effectiveness. Recommends improvements and/or consolidations.
- Assists in the operations, administrative, environmental quality, financial and planning activities, as directed by the COO, to meet the MWRA service mission, as a best practice utility, of providing adequate quantities of safe, high-quality drinking water; collecting and treating wastewater and meeting the highest standard of all regulatory requirements and customer expectations.
- Develops and implements program and policy recommendations and undertakes special assignments and projects within the operations area under the supervision and guidance of the Chief Operating Officer and/or Executive Director.
- Directs the development of agency-wide planning parameters. Manages the process to build interdivisional consensus on key planning assumptions and data in order to standardize the basis for future system needs and use estimates.
- Coordinates program and planning activities throughout the Authority to assure that program management and planning are consistent with Authority policies and priorities. Directs key agency wide strategic initiatives related to water and wastewater service area, capacity, and permitting.
- Assists in handling the responsibility for providing safe MWRA operations for the MWRA workforce, its customers and the general public and provides input into security and emergency preparedness and response regarding the system.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A bachelor's degree in sanitary, civil or mechanical engineering, business, management or

associated field. Advanced degree or other significant post-graduate educational experience in an engineering discipline is preferred; and

- (B) A thorough understanding of water and/or wastewater operations and programs, program management objectives, and operations planning as acquired through ten (10) to twelve (12) years demonstrated success in progressively responsible management positions in operations, maintenance, engineering design, or technical planning relating to water/wastewater service delivery and major water/wastewater facilities; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of engineering.
- (B) Expert familiarity and management competence in the planning, regulation and operation of water and wastewater facilities and systems.
- (C) Demonstrated analytical, writing and organizational skills.
- (D) Ability to work with personnel at various organizational levels, to balance competing priorities and to manage personnel and resources as required.
- (E) Ability to provide technical leadership to subordinate employees in the areas under supervision and inspire confidence in customers and the general public.
- (F) Excellent oral, written and verbal communication skills required.

**SPECIAL REQUIREMENTS:**

None

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

functions.

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

**WORK ENVIRONMENT:**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally works in outside weather conditions.

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

**February 2014**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Deputy Chief Operating Officer

**DIVISION:** Operations

**DEPARTMENT:**

**BASIC PURPOSE:**

Directs the key operational programs and planning functions of the Authority including Planning, TRAC, Laboratory Services, ENQUAD, Meter Data Management, Operations Budget and Administration. Directs operational units responsible for environmental monitoring, water quality, industrial pretreatment, enforcement of MWRA regulations and reduction and control of contamination inflow. Supports the development and establishment of Authority policy.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Chief Operating Officer.

**SUPERVISION EXERCISED:**

Exercises close supervision of assigned staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Directs operational and regulatory program activities including but not limited to TRAC, Laboratory Services and ENQUAD. Supervises department heads and managers assigned to these program functions.
- Directs the Operations Division's budget, finance, administration, procurement and personnel functions.
- Directs the planning and sustainability functions including the development of the MWRA master plan and a five year business plan to address the changing focus of the organization, to optimize utilization of staff and resources, to identify and prioritize capital projects and to reduce costs and to improve services.

- Directs the water and wastewater meter data system to ensure accurate development and distribution of meter data. Ensures coordination with meter maintenance staff. Directs development and implementation of meter replacement program.
- Manages a systematic review of program management reports and controls, which are currently used to inform the Board of Directors, Executive Director and senior management of agency operations and effectiveness. Recommends improvements and/or consolidations.
- Assists in the operations, administrative, environmental quality, financial and planning activities, as directed by the COO, to meet the MWRA service mission, as a best practice utility, of providing adequate quantities of safe, high-quality drinking water; collecting and treating wastewater and meeting the highest standard of all regulatory requirements and customer expectations.
- Develops and implements program and policy recommendations and undertakes special assignments and projects within the operations area under the supervision and guidance of the Chief Operating Officer and/or Executive Director.
- Directs the development of agency-wide planning parameters. Manages the process to build interdivisional consensus on key planning assumptions and data in order to standardize the basis for future system needs and use estimates.
- Coordinates program and planning activities throughout the Authority to assure that program management and planning are consistent with Authority policies and priorities. Directs key agency wide strategic initiatives related to water and wastewater service area, capacity, and permitting.
- Assists in handling the responsibility for providing safe MWRA operations for the MWRA workforce, its customers and the general public and provides input into security and emergency preparedness and response regarding the system.
- Act as Chief Operating Officer in his absence.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A bachelor's degree in sanitary, civil or mechanical engineering, business, management or associated field. Advanced degree or other significant post-graduate educational experience in an engineering discipline is preferred; and
- (B) A thorough understanding of water and/or wastewater operations and programs, program management objectives, and operations planning as acquired through ten (10) to twelve (12) years demonstrated success in progressively responsible management positions in operations, maintenance, engineering design, or technical planning relating to water/wastewater service delivery and major water/wastewater facilities; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of engineering.
- (B) Expert familiarity and management competence in the planning, regulation and operation of water and wastewater facilities and systems.
- (C) Demonstrated analytical, writing and organizational skills.
- (D) Ability to work with personnel at various organizational levels, to balance competing priorities and to manage personnel and resources as required.
- (E) Ability to provide technical leadership to subordinate employees in the areas under supervision and inspire confidence in customers and the general public.
- (F) Excellent oral, written and verbal communication skills required.

**SPECIAL REQUIREMENTS:**

None

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

**WORK ENVIRONMENT:**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally works in outside weather conditions.

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

**June 2018**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** Water Quality Technician

**DIVISION:** Operations

**DEPARTMENT:** Quality Assurance

**BASIC PURPOSE:**

Sets up and collects water samples following Standard Operation Procedures at specified locations. Performs field and laboratory tests as required including alkalinity, free ammonia, monochloramine, fluoride, UV, free and total chlorine, pH, turbidity, etc., following SOPs. Verifies lab instrumentation functions properly by performing required QA/QC. Notifies supervisor of discrepancies or issues.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Laboratory Supervisor

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Organizes sample bottles for the day's sample run. Ensures proper labeling of sample bottles and documentation of Chain of Custody (COC) paperwork.
- Prepares and calibrates field instrumentation following SOPs
- Collects water samples in the field for laboratory testing, using proper handling and preservation techniques, including aseptic procedures. Maintain chain of custody over samples.
- Conducts field measurements of chlorine residual, pH, temperature, monochloramine, odor, and conductivity and documents results on COC.
- Returns to Southboro with samples. Following instruction from supervisor, determines where samples need to go next (for testing in Southboro, or prepare for delivery to DLS/Deer Island, or shipment to contract lab, etc).



- Performs required laboratory analyses.
- Reports results on COC and QA database.
- Checks laboratory equipment for proper operation. Performs necessary QA/QC.
- Maintains laboratory areas.
- Reports any problems or discrepancies to supervisor.
- Preps for next day, including but not limited to, ensuring kit is in order, organizing sample bottles for next day and checking vehicle for next day's use.
- Conducts reservoir field sampling and field measurements. Processes and analyzes freshwater algae samples in the laboratory using microscopy and particle imaging software.

**SECONDARY DUTIES:**

- Cleans and maintains assigned work area and follows procedures to ensure safety and avoid accidents and injuries.
- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) An associate degree or equivalent in chemistry, biology, limnology or a related scientific/laboratory field, with related mathematics courses including algebra; and
- (B) Two (2) years experience of related environmental laboratory experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Familiarity with basic laboratory testing procedures, the operations, calibration and maintenance of basic laboratory equipment and instrumentation.
- (B) Knowledge of techniques used for the accurate handling of data.

(C) Skill in the use of special application software.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.

**TOOLS AND EQUIPMENT USED:**

Laboratory equipment and instruments, telephone, personal computer including word processing and other software, copy and fax machines.

**PHYSICAL DEMANDS:**

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

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

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

**WORK ENVIRONMENT:**

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

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

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

**May 2018**

**MWRA  
POSITION DESCRIPTION**

**NEW**

**POSITION:** Manager, Occupational Health and Safety

**DIVISION:** Administration

**DEPARTMENT:** Safety

**BASIC PURPOSE:**

Manages MWRA's compliance with Massachusetts Department of Labor Standards (DLS) (state) and federal rules and regulations and provides programs, guidance and recommendations in areas of employee safety and health. Oversees and develops a program for regulatory compliance with state standards and works closely with other authority safety and health staff to communicate, implement, monitor and track safety and health regulatory compliance. Leads agency's activities in a proactive way to minimize health issues and prevent situations that could create workers' compensation cases.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director of Administration.

**SUPERVISION EXERCISED:**

Supervises assigned project or safety staff as needed.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Develops and oversees an overall program of regulatory compliance consistent with the employer responsibilities defined by DLS designed to reduce work-related injury and illness. Such program will include the following key activities:
  - Conducting multi-facility (30+) worksite safety assessments and inspections (i.e., self-audits) to determine risks to employee safety and health and ensure that the workplace conditions conform to DLS standards;
  - Assessing potential hazards and controls;
  - Evaluating risks and hazard control measures;
  - Investigating incidents involving the safety and health of employees, visitors, vendors and contractors;
  - Maintaining and evaluating incident and loss records;
  - Assisting with the development and deployment of emergency response plans.
  
- Works closely with authority safety, operations and emergency preparedness staff to

create, update, and implement safety and health programs in areas such as Bloodborne Pathogens Exposure Control Plan, Emergency Action Plan, Fire extinguishers, Fire Prevention Plan, Confined Space, Model Confined Space Entry Policy and Procedure, Hazard Communication, Hearing Conservation Program, Lockout /Tagout, Respiratory Program, Personal Protective Equipment Hazard Assessment, and Trench Safety.

- Works closely with other authority safety staff to establish and/or update operating procedures including the MWRA Online Safety & Health Manual and ensure the appropriate communication to employees is delivered in order to ensure employee compliance with safety and health requirements.
- Ensures that any required DLS postings are prominently displayed at authority worksites in order to inform employees of their rights and responsibilities.
- Ensures the proper notification to the appropriate DLS office of any work-related fatalities, inpatient hospitalizations, amputations, loss of consciousness, and loss of an eye within the timeframes established by DLS.
- Administers an authority-wide system for record keeping for work-related injuries and illnesses using the OSHA Log of Work-Related Injuries and Illnesses form (OSHA Form 300). Posts the summary of the OSHA log for injuries and illnesses (OSHA 300A) according to procedures promulgated by OSHA. Provides access to employees, former employees and their representatives to OSHA Form 300 as required by applicable state regulations.
- Serves as the authority's main contact to DLS Inspectors for communications and for inspections. Attends opening and concluding conferences conducted by the DLS Inspector and provides DLS Inspectors with injury records and written programs as requested. Provides DLS Inspectors with the names of any authorized employee representatives who may be asked to accompany the Inspector during an inspection.
- Reviews reports developed by DLS Inspectors and works with MWRA staff to take any necessary corrective actions.
- As required by DLS, posts citations, abatement verification documents or tags near the cited workplace and complies with the posting period required by DLS. Works with authority staff to correct cited violations within the timeframes prescribed by DLS.
- Works with authority staff to evaluate hazard communication programs and training of employees regarding the hazards they may be exposed to during the course of employment at MWRA including communicating the need for employees to utilize proper personal protective equipment required for handling hazardous chemicals.
- Interacts with regulatory agencies, operations managers, employee representatives and

employees on a regular basis.

- Tracks changes in federal and state safety and health regulations and appraises authority management of such changes and impact to the authority. Recommends and drafts communications, policies and standard operating procedures needed to meet such changes in regulations.
- Oversees the work of professional consultants under contract to the Authority, including quality of output and budget.
- Develops meaningful management workplace safety indicators for use by senior managers (e.g., Yellow/Orange Notebook data and reports).
- Serves as technical consultant to senior management on issues relevant to occupational safety and health.
- Coaches all levels of staff to create and maintain a strong safety culture.
- Provides professional opinions to Law, Labor Relations, Workers' Compensation, and Risk Management, including testifying as an expert witness.
- Represents the executive office in the investigation of serious or potentially serious accidents or security incidents.
- Interprets technical data provided by outside technical professionals.
- Manages budget and staffing.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies. Prepares for, participates in and hears step one grievances and pre-disciplinary hearings. Participates in collective bargaining negotiations.
- Leads efforts to comply with applicable federal or state requirements.

**SECONDARY DUTIES:**

Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Knowledge of the principles and practices of a safety professional as normally attained

through a undergraduate degree in occupational health and safety, industrial hygiene or related science and/or engineering discipline, or environmental science and

- (B) Knowledge of health and safety policies, regulations, standards, best practices in an industrial environment; an understanding of issues related to safety, emergency response, risk management, environmental health; experience in incident investigations, safety inspections as normally attained through eight (8) to ten (10) years of experience including at least three years of supervisory experience; and
- (C) Demonstrated knowledge through direct involvement/management of federal OSHA and Massachusetts DLS standards, training, implementation and auditing of policies and procedures as they related to employee safety.
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent interpersonal, oral and written communication skills needed to interface with regulatory staff and write analyses, recommendations and draft recommendations for safety policies and procedures.
- (B) Expert knowledge in the area of safety and health regulatory compliance in order to recommend, organize and manage a compliance program as required by Massachusetts DLS.
- (C) Ability to identify safety and health issues and concerns and recommend actions to correct deficiencies identified through inspections and other oversight activities.
- (D) Ability to conduct, interpret and translate all safety-related training requirements mandated by federal, state and local regulatory agencies to staff.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.

Certification by the Board of Certified Safety Professionals as a Safety Management Specialist (SMS).

**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 is occasionally required to walk, climb, balance, stoop, kneel, crouch, or crawl.

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, 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 either an office or field environment which involves traveling to worksites. The employee often works in outside weather conditions. The employee often works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee often works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, and risk of electrical shock. The employee may be exposed to strenuous, dangerous, or stressful conditions. While in the field, the employee uses gloves, helmets, respirators, and other personal protective and safety equipment to minimize the risk of illness and injury.

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

**June 2018**

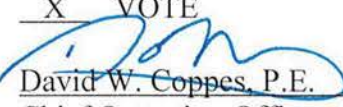
**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Appointment of Director of Laboratory Services



**COMMITTEE:** Personnel & Compensation

Karen Gay-Valente, Director, Human Resources  
Carolyn M. Fiore, Deputy Chief Operating Officer  
Preparer/Title

\_\_\_\_ INFORMATION  
X VOTE  
  
\_\_\_\_  
David W. Coppes, P.E.  
Chief Operating Officer

**RECOMMENDATION:**

To approve the appointment of Mr. Steven Rhode to the position of Director of Laboratory Services, (Non-Union, Grade 15) in the Operations Division, at the recommended annual salary of \$138,500, commencing on a date to be determined by the Executive Director.

**DISCUSSION:**

The position of Director of Laboratory Services in the Operations Division, will become vacant upon the retirement of the incumbent in July 2018. The position, which reports to the Deputy Chief Operating Officer, Programs, Policy and Planning, directs all aspects of the Department of Laboratory Services, including the analysis of samples from water and wastewater operations, and other activities as required for operations, permit compliance assessment and other chemical, biological and microbiological needs. The Director of Laboratory Services is responsible for providing leadership, administration, and supervision of MWRA's five laboratory facilities at Deer Island, Chelsea, Southborough, Clinton and Quabbin, and their associated staff. The Department of Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division including Waterworks, Deer Island, TRAC, Residuals, wastewater operation, and Environmental Quality. The Department's sampling and testing services are utilized to monitor MWRA drinking water and wastewater treatment effectiveness and regulatory compliance, community water regulatory compliance, water and wastewater process operations, Combined Sewer Overflow discharges, and Boston Harbor water quality.

**Selection Process**

The position of Director of Laboratory Services was posted internally and only one candidate, Mr. Steven Rhode, applied for this position. He was determined to be qualified and was referred for an interview. The Deputy Chief Operating Officer, Programs, Policy and Planning and the Special Assistant for Affirmative Action conducted the interview. Upon completion of the interview, Mr. Rhode was highly recommended for the position based on his qualifications and experience.



Mr. Rhode currently serves as the Laboratory Manager in the Department of Laboratory Services. He has more than 24 year of experience in this position. He oversees chemistry, microbiology, client service, field sampling and field testing activities at MWRA's five laboratory locations. Mr. Rhode represents the Department in the Security Task Force, and is MWRA's in-house expert on water contaminant behavior and infectious disease. He was also a critical player in the Authority's School Lead Testing program. Mr. Rhode is highly recommended for the position based on his knowledge of MWRA's laboratory procedures and protocols, his in-depth knowledge of wastewater and water laboratory testing and analysis, and his knowledge of related regulatory compliance issues. He has worked closely with the MWRA departments supported by Laboratory Services and has earned the respect of MWRA management and staff in all aspects of his work.

Prior to his work at MWRA, Mr. Rhode was the Organic Laboratory Manager at Pace Laboratory, Inc., and the Organic Extraction/Gas Chromatograph Manager at National Environmental Testing. He also worked as an analytical chemist at National Environmental Testing.

Mr. Rhode holds a Bachelor of Science in Biology/Chemistry/Marine Science from the University of Tampa, and a Master of Science in Chemistry from the University of New Hampshire.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds in the FY19 Current Expense Budget for this position.

**ATTACHMENTS:**

- Resume of Steven Rhode
- Position Description
- Organizational Chart

# Steve Rhode

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## Experience

### **LABORATORY MANAGER | MASSACHUSETTS WATER RESOURCES AUTHORITY | 1994–CURRENT**

- Serves as primary technical contact for laboratories operated by the wholesale water and wastewater utility serving 2.5 million people in the metropolitan Boston area.
- Direct oversight responsibilities for chemistry, microbiology, client service, field sampling and field testing activities at five laboratory locations.
- Advises utility senior management security task force on water contaminant behavior and laboratory and field testing issues.
- Interaction with local public health and environmental community.

### **ORGANIC LABORATORY MANAGER | PACE LABORATORIES, INC. | 1993–1994**

- Managed organic testing laboratory for a full service commercial environmental laboratory performing \$4M of annual testing.
- Managed US EPA Contract Laboratory Program (CLP) contracts.

### **ORGANIC EXTRACTION/GC MANAGER | NATIONAL ENVIRONMENTAL TESTING | 1989–1993**

- Managed organic testing laboratory for a full service commercial environmental laboratory performing \$4M of annual testing.
- Supervised a wide variety of GC and HPLC analyses using EPA SDWA, NPDES, RCRA and CLP protocols.
- System manager for GC and GC/MS data systems and radiation safety officer.

### **GC/MS ANALYST | CAMBRIDGE ANALYTICAL ASSOCIATES | 1987–1989**

- Lead analyst for GC/MS semi-volatiles analyses.

### **GRADUATE RESEARCH/TEACHING ASSISTANT | BOSTON UNIVERSITY | 1983–1986**

- Drafted sections entitled “Statistics”, “Linear Regression” and Artificial Intelligence” for the 1984 annual fundamental review on Chemometrics for the journal Analytical Chemistry.
- Taught laboratory sections and discussion sessions for undergraduate chemistry courses.

## Education

### **M.S. CHEMISTRY | 1983 | UNIVERSITY OF NEW HAMPSHIRE**

- Thesis: Investigation into Chemical Routes to the Environmental Formation of Tetramethyl Lead
- Related coursework: Advanced Analytical and Instrumental Chemistry, Estuarine Chemistry

### **B.S. BIOLOGY/CHEMISTRY/MARINE SCIENCES | 1980 | UNIVERSITY OF TAMPA**

- Triple major in Biology/Chemistry/Marine Sciences
- Related coursework: 105 semester hours of laboratory science classes

## Presentations/Publications

- "Challenges Associated with a Large-Scale School Lead Testing Program". APHL Bridges Issue 17: Winter 2017.
- "Selecting Disinfectants in a Security-Conscious Environment". AWWA Water Security Congress – April, 2009.
- "Deer Island Effluent Monitoring Program", Outfall Monitoring Science Advisory Panel Technical Workshop - June, 2003.
- "Examination and Implementation of Security Measures for the MWRA Deer Island Water Quality Laboratory". New England Water Works Association Continuing Education Program, October, 2002.
- "Organizing a Large Laboratory for Long-term Success". Michael F. Delaney, William Andruchow, Ph.D., Polina Epelman, and Steve Rhode, Water Environment Laboratory Solutions, Feb./Mar. 1998 issue, and Proceedings of the Environmental Laboratories WEF Conference, Philadelphia, PA, August 1997.

## Professional Activities

- APHL Environmental Laboratory Sciences Committee.
- AWWA/EPA Threat Ensemble Vulnerability Assessment (TEVA) users group.
- AWWA Water Utility Council – WITAF 512: Guide to Evaluating Disinfection in a Security-Conscious Environment, Project Steering Committee.
- Critical Infrastructure Partnership Advisory Council (CIPAC) Water Sector Decontamination Working Group.
- EPA Contamination Response Protocol Toolbox, peer reviewer.
- EPA/AWWA Water Contaminant Detection Working Group.
- EPA Water Contaminant Information Tool (WCIT), beta tester and peer reviewer.
- EPA Water Laboratory Alliance Liaison.
- EPA Water Security Initiative Pilot, invited expert consultant.
- Massachusetts Department of Public Health State Bioterrorism Advisory Committee, Laboratory Workgroup.
- National Environmental Methods Index (NEMI), CBR methods database, peer reviewer.
- New England Water Environment Association, "Crystal Crucible (C<sup>2</sup>)" Award for Laboratory Analyst Excellence, 2009.

## Additional Education/Conferences

- AWWA Water Security Congress – Washington, DC – April, 2009
- Working Together: R&D Partnerships in Homeland Security – Boston, MA - April, 2005
- New England Bioterrorism Workshop – Harvard School of Public Health - June, 2003
- AWWA Executive Security Briefing – Atlanta, GA - October, 2002
- New England Bioterrorism Workshop – MIT Lincoln Laboratories - June, 2002
- The Water Security Summit – Hartford, MA – December, 2001
- Chemical and Biological Early Monitoring for Water, Food and Ground – SPIE – Newton, MA – November, 2001
- Compensation and Benefits Management – Salem State College – Spring, 1995
- Completed all classroom requirements related to a Ph.D. in Chemistry – Boston University, 1986

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Director of Laboratory Services

**PCR#:** 5710001

**DIVISION:** Operations

**DEPARTMENT:** Laboratory Services

**BASIC PURPOSE:**

Directs the analysis of samples from water supply and wastewater operations and other Authority activities as required for operational needs, permit compliance assessment and other chemical, biological, and microbiological needs. Provides leadership, administration and supervision of five laboratory facilities and all associated staff. Ensures appropriate resource availability and technical approach, quality of results and staff productivity, qualifications and efficiency.

**SUPERVISION RECEIVED:**

Works under the supervision of the Deputy Chief Operating Officer, Programs, Policy & Planning.

**SUPERVISION EXERCISED:**

Exercises general supervision and management of five laboratory facilities and approximately sixty (60) technical positions and related positions.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Provides interdivisional coordination and oversight of laboratory facilities, ensuring consistency and appropriateness of testing quality and maximization of processing capability for the laboratory requirements of the Authority's operations activities.
- Directs managers in the development and maintenance of Standard Operating Procedures and quality control mechanisms to ensure data quality and maximize safe and efficient operations.
- Manages resources in and across all laboratory facilities and disciplines to ensure that resources are consistent with analytical requirements and that equipment and training standardization is maximized. Organizes and directs laboratory personnel so that sampling and laboratory needs of the authority are met in a timely, efficient and reliable manner, consistent with highest industry standards.

- Directs the provision of technical consultation to client groups across the MWRA, ensuring that testing, reporting, and time frames are clearly established and are consistent with end-user requirements.
- Provides regulatory agencies, the public, and MWRA staff with high quality reports on requested information in a professional, timely and user-friendly manner.
- Evaluates the utilization of contract resources as necessary to ensure the timely, accurate delivery of analytical information. Manages the procurement of contract resources, specialized testing equipment, computer software and other resources as required.
- Administers personnel policies, provides direction, coordinates the selection, supervision, training and evaluation of all laboratory personnel.
- Plans workplace safety for all laboratory-related activities and for coordinating the preparation of the laboratory department for MWRA emergency response planning and contingency preparation.
- Coordinates preparation of departmental staffing plan, budget and schedule and monitors the implementation of departmental objectives in keeping with budget parameters and Divisional requirements.
- Provides expert testimony on laboratory procedures, practices, methods, and results in administrative and judicial hearings.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Analytical and research skills through a graduate degree in chemistry, biology, environmental sciences, or related field. Doctoral degree is preferred; and
- (B) Understanding of environmental research principles and practices, laboratory analytical methods and operations, quality control procedures and instrumentation, and budget development and implementation, as acquired through eight (8) to ten (10) years experience, of which five (5) years must be in a supervisory capacity; and
- (C) Experience in applying technical information to water supply and distribution, wastewater conveyance and treatment and pollution-assessment and control; or

Necessary Knowledge, Skills and Abilities:

- (A) Excellent administrative, interpersonal, management and written and oral communication skills required.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operator's License.

**TOOLS AND EQUIPMENT USED:**

Laboratory equipment and instruments, telephone, personal computer including word processing and other software, copy and fax machines.

**PHYSICAL DEMANDS:**

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

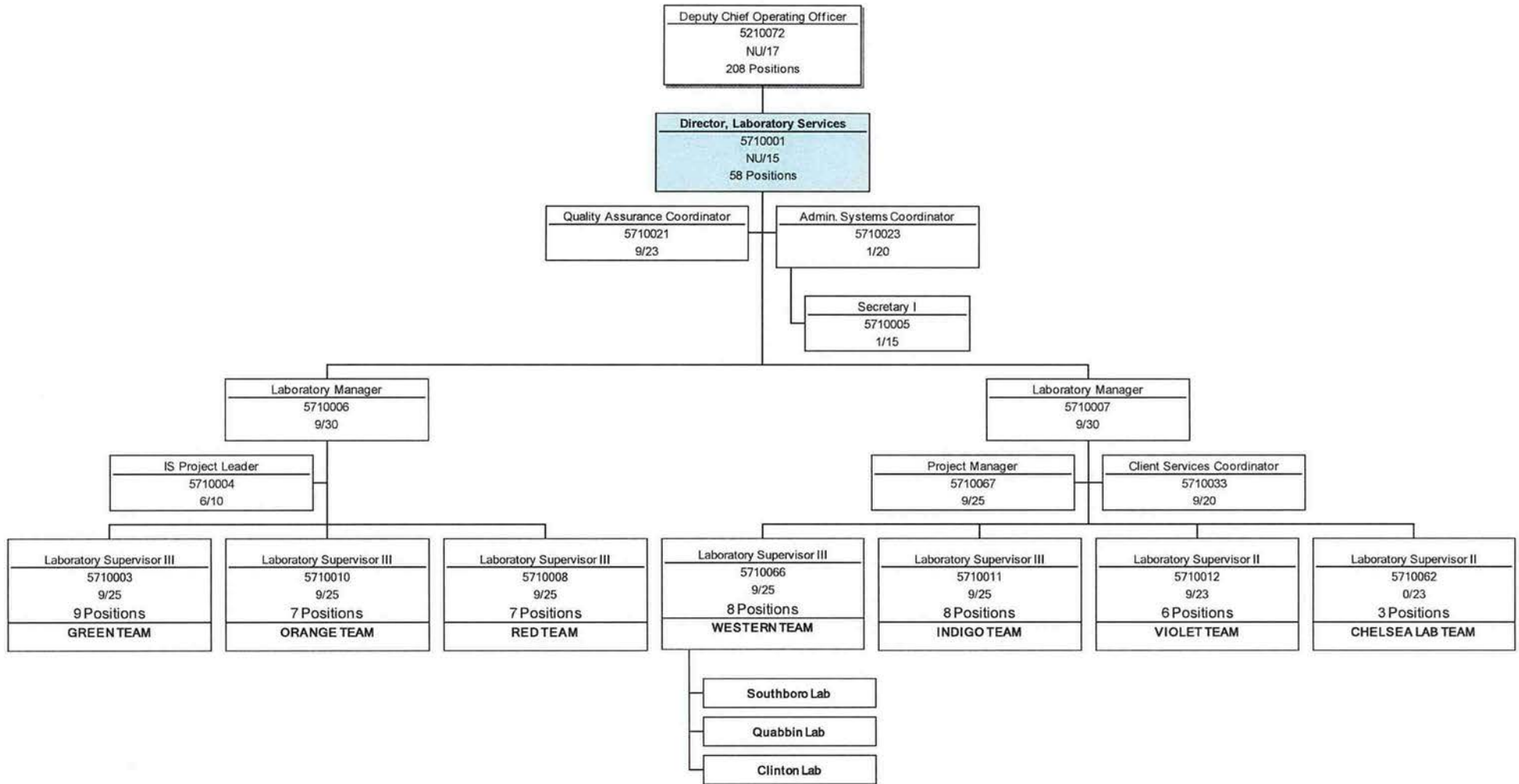
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job the employee regularly works in an office and/or laboratory environment and will also frequent field, plant and operating facilities of the Authority.

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

April 2018

**Programs, Policy & Planning**  
**Laboratory Services**  
 June 2018



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Appointment of Director of Waterworks




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**COMMITTEE:** Personnel & Compensation

         INFORMATION  
  X   VOTE

Karen Gay-Valente, Director, Human Resources  
Preparer/Title



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

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### RECOMMENDATION:

To approve the appointment of Mr. Mark H. Johnson to the position of Director of Waterworks (Non-Union, Grade 16) in the Operations Division, at the recommended annual salary of \$156,650, commencing on a date to be determined by the Executive Director.

### DISCUSSION:

The Director of Waterworks manages the entire Waterworks System - Metropolitan Water Operations, Western Water Operations, the John J. Carroll Water Treatment Plant, the William A. Brutsch Water Treatment Facility, and the Department of Water Operations Engineering, and is the liaison to DCR's Department of Watershed Management, including reservoir operations. This position previously reported to the Deputy Chief Operating Officer for Operations, Engineering and Construction, but will now report directly to the Chief Operating Officer, as reported to the Board of Directors at the May 2018 Board meeting.

### Selection Process

The position of Director of Waterworks was posted internally; a total of four qualified candidates submitted applications and all were referred for interviews. The Chief Operating Officer, the Deputy Chief Operating Officer for Operations, Engineering and Construction, and the Special Assistant for Affirmative Action conducted the interviews. Mr. Johnson was selected as the best candidate for the position based on his qualifications and extensive experience.

Mr. Johnson has 40 years of engineering, operations and maintenance experience, including 29 years at MWRA. He worked for five years in MWRA's Program Management Division, on the Boston Harbor Project, including management of the design of 24,000 feet of water line to Deer Island through Winthrop. For the last 24 years, he has managed MWRA's Metropolitan water system and is responsible for improvements in distribution valve operability, system sanitary improvements, and pumping and tank operations. Mr. Johnson has demonstrated leadership at



MWRA through many water system emergencies and recognizes the importance of water operations role in the Metropolitan Tunnel Redundancy Program. He is an acknowledged leader in New England Waterworks Association as a member and past chair of committees, recipient of awards (Award of Merit 2016 and the Dexter Brackett Award 2009), regular conference presenter, and author of publications. He has close working relationships with water department staff from all MWRA member communities and with the Department of Environmental Protection.

Mr. Johnson holds a Bachelor of Science in Civil Engineering from the University of New Hampshire and a Master of Science in Civil Engineering from Northeastern University. He is a Massachusetts Registered Professional Engineer and holds a Grade 4 Water Distribution System Operators license.

**BUDGET/FISCAL IMPACTS:**

There are sufficient funds in the Operations Division's FY19 Current Expense Budget to fund this position.

**ATTACHMENTS:**

Resume of Mark H. Johnson  
Position Description  
Organizational Chart

## **MARK H. JOHNSON**

### **EDUCATION**

University of New Hampshire, Durham, New Hampshire  
Bachelor of Science in Civil Engineering - May, 1977

Northeastern University, Boston, Massachusetts  
Master of Science in Civil Engineering - June, 1988

### **ACHIEVEMENTS**

Registered Professional Engineer - Maine, 1982  
Registered Professional Engineer - Massachusetts, 1983  
Grade 4D Drinking Water Supply Facilities Full Operator - Massachusetts, 1997

### **EXPERIENCE**

- 9/98-Present    MASSACHUSETTS WATER RESOURCES AUTHORITY  
OPERATIONS DIVISION, FIELD OPERATIONS DEPARTMENT  
DIRECTOR, METROPOLITAN OPERATIONS  
Responsible for all elements of the distribution system listed below, and in addition, added responsibility for 12 pump stations. Supervise a staff of 99. Managing the turnover of several new pumping and covered storage facilities, including the automation and associated reduction in staffing at the pumping facilities. Manage Inspection, Operations (24/7 operation) SCADA, Valve, and Water Pipeline programs.
- 4/94-9/98      MASSACHUSETTS WATER RESOURCES AUTHORITY  
WATERWORKS DIVISION  
SUPERINTENDENT, DISTRIBUTION SECTION  
Responsible for the operation and maintenance of 300 miles of water main covering 9 pressure zones, 5000 valves, 12 covered storage facilities totaling 82.2 million gallons, and 40 pressure reducing valves serving 2.5 million customers. Supervise a staff of 78; responsible for an annual budget of \$4.5 million. Greatly improved the planned maintenance of the system, including the rehabilitation of the majority of the pressure reducing valves which were in disrepair and did not function. Successfully managed the development of the MWRA's first DEP-approved Cross Connection Program.

- 8/90-4/94 MASSACHUSETTS WATER RESOURCES AUTHORITY  
PROGRAM MANAGEMENT DIVISION  
SENIOR DESIGN MANAGER  
Responsible for the management of MWRA, Construction Management, Lead Design Engineer, and Project Design Engineer Staff for the Boston Harbor Project. Successfully managed the design to the bid and award stage of: 24,000 linear feet of water line through the Town of Winthrop; a thermal/power plant to provide primary heat and back-up power; and a 2.0 million-gallon water tank. Managed the bid and award cycle for over \$1 billion worth of construction contracts.
- 1/89-8/90 MASSACHUSETTS WATER RESOURCES AUTHORITY  
PROGRAM MANAGEMENT DIVISION  
DESIGN MANAGER  
Responsible for the management of Lead Design Engineer staff in the development of standard specifications; for the management of Construction Management and Lead Design Engineer staff in the successful development of an equipment standardization program; and for the management of the bid and award cycle for construction contracts for the Boston Harbor Project.
- 8/88-1/89 METCALF & EDDY ENGINEERS, WAKEFIELD, MASSACHUSETTS  
PROJECT MANAGER  
Provided program management support to the US Air Force for a \$2.5 billion radar program. Responsibilities included management of site development concepts, contract and budget management, and management of sub consultants.
- 4/87-8/88 METCALF & EDDY ENGINEERS, WAKEFIELD, MASSACHUSETTS  
SENIOR PROJECT ENGINEER  
Responsible for the development of one of four sites (Central United States) for a US Air Force radar program. Coordinated with US Army Corps of Engineers District (Omaha), various Air Force commands, and state and local authorities. Managed FAA noise study for local Massachusetts airport.
- 12/82-4/87 METCALF & EDDY ENGINEERS, BOSTON/WAKEFIELD, MA  
PROJECT ENGINEER  
Provided program management support for US Air Force radar program. Served as Project Manager for major National Weather Service project involving site surveys to support new weather radar installations at over 60 sites nationwide. Responsible for team of 6 site surveyors, survey schedules, and final report preparation for details including utilities, access, ownership, and land use. Served as Project Engineer for runway reconstruction and taxiway/aircraft apron construction projects. Work

included preliminary and final design, coordination with FAA and state aeronautics commission, weekly attendance at construction progress meetings over three construction seasons, and administration of state and federal grants in excess of \$3 million.

7/78-12/82 METCALF & EDDY ENGINEERS, BOSTON, MASSACHUSETTS  
STAFF ENGINEER  
Responsible for roadway alignment projects, preparation of right-of-way plans, drainage design, construction cost estimates, and preparation of contract documents, for a variety of projects including Mass DPW projects, two bridge approaches for Rhode Island DOT, and roadway and drainage design in No. Quincy, MA, Gloucester, MA, and Manchester, NH. Served as Acting Project Engineer for preliminary utility design on the Central Artery North Area Project in Charlestown, MA. Work included drainage design of overhead ramps, surface streets, and tunnels, as well as coordination with a multitude of public and private utility agencies.

7/77-7/78 STORCH ENGINEERS, BOSTON, MASSACHUSETTS  
JUNIOR ENGINEER  
Responsible for contacting various utility agencies and reviewing their existing utility plans of the entire Central Artery area. Plotted utility locations and verified the locations in the field.

#### **AWARDS**

Massachusetts Water Resources Authority, "Excellence in Performance", Fiscal Year 1992, for the award of \$1 billion in construction contracts in a twelve month period for the Boston Harbor Project.

Dexter Brackett Award, September, 2009, NEWWA for "Water Storage Tank Operation and Maintenance" publication

Award of Merit, New England Waterworks Association, 2016

#### **PUBLICATIONS**

"Water Storage Tank Operation and Maintenance", Journal NEWWA, June, 2008

"Recognizing the Distribution System Asset/Water Quality Management Nexus", AWWA Opflow, December, 2014 (co-author)

"Water Quality and Distribution System Asset Management – The Importance of Valve Exercising", Journal, NEWWA, March, 2016

### **AWWA WEBCAST PRESENTATIONS**

Water Storage Tanks: Operations and Maintenance. Presented on December 10, 2008; September 15, 2009; and September 22, 2010 (co-presenter)

Water Quality and Asset Management. Presented on September 24, 2014 (co-presenter)

### **PROFESSIONAL ORGANIZATIONS**

Member - American Water Works Association (AWWA), and New England Waterworks Association (NEWWA)

Member - American Society of Civil Engineers (ASCE), and Boston Society of Civil Engineers Section (BSCES)

Past Chairman – NEWWA Distribution and Storage Committee

Member – AWWA Distribution Operations & Maintenance Committee

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Director, Waterworks  
**DIVISION:** Operations  
**DEPARTMENT:** Operations, Engineering and Construction

**BASIC PURPOSE:**

Directs 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.

**SUPERVISION RECEIVED:**

Reports to the Deputy Chief Operating Officer, Operations, Engineering and Construction

**SUPERVISION EXERCISED:**

Exercises close supervision of Senior Managers.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Develops 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.
- Directs all water system operations and operations engineering to achieve safe and optimum operating efficiency of the water delivery systems.
- Directs all maintenance activities for supply reservoirs, aqueducts, power generation, flood control, treatment facilities and certain storage facilities.
- Provides input and direction for the long-term planning of modernizing, rehabilitating and upgrading the Authority's water facilities.
- Provides input and direction for the design and construction of rehabilitating and upgrading the Authority's waterworks facilities.

- Confers with consultants, local officials from member communities and state and federal officials on matters relating to operations and maintenance of the Waterworks.
- Reviews and evaluates managers' performance according to MWRA procedures.
- Recommends, develops and implements policies and procedures for Operations Engineering.
- Administers the application of collective bargaining provisions and personnel policies in the work place. Serves as Step I grievance Hearing Officer.
- Participates in collective bargaining negotiations.
- Directs safety programs, strategic planning and policy development, employee involvement programs and supports MWRA-wide safety programs.
- Provides opportunities for technical, supervisory and managerial training and education for all department employees.
- Represents Waterworks and the Operations Division as required with the Authority's Division Directors, Executive Director and the Board of Directors.
- Acts as interagency liaison with regard to operations of the Waterworks Facilities.
- Administers personnel policies; and provides direction and coordinates the selection, supervision, training and evaluation of department personnel.
- Coordinates preparation of departmental staffing plan, budget and schedule; and monitors the implementation of departmental objectives in keeping with budget parameters.

**SECONDARY DUTIES:**

- Performs other related duties as required

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Bachelor's degree in civil or environmental engineering or a related technical discipline; and
- (B) Twelve (12) to fifteen (15) years of related experience, of which six (6) must be in the design or management of a large waterworks system or other similar large operational 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/treatment system and associated systems and equipment, or of a similar complex hydraulic and treatment system operation.
- (B) Experience in a union environment.
- (C) Knowledge of computerized maintenance management systems and procedures.
- (D) Personal computer experience and familiarity with associated software programs.

**SPECIAL REQUIREMENTS:**

Valid Massachusetts Grade I Water Treatment Operator's license OIT (or ability to obtain within 12 months).

Valid Massachusetts Grade IV Water Distribution Operator's license (or ability to obtain within 12 months).

Registered Professional Engineer preferred.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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



While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

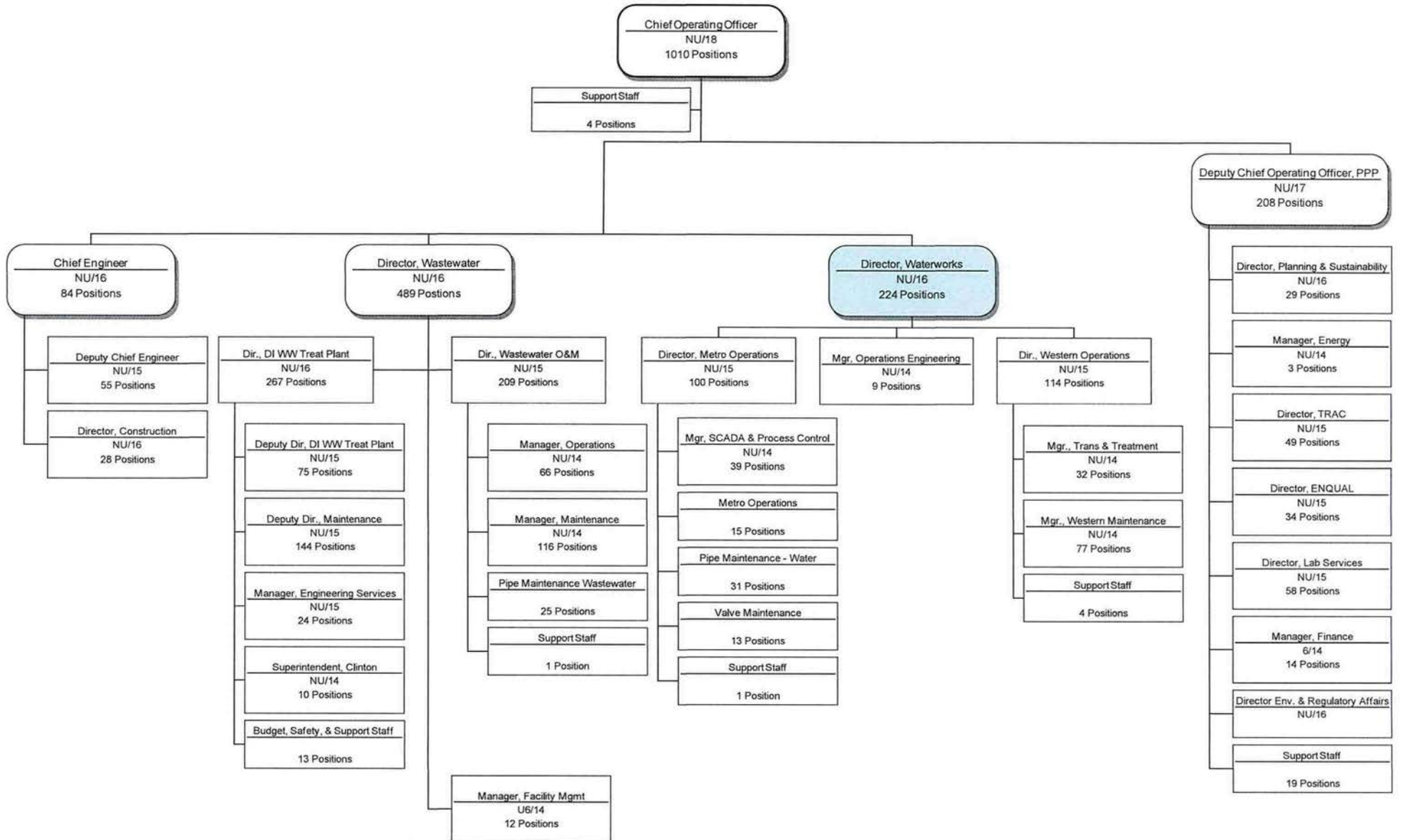
**WORK ENVIRONMENT:**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.

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

**April 2018**

**Operations Division  
Proposed Organization Chart  
June 2018**



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Appointment of Director of Wastewater



**COMMITTEE:** Personnel & Compensation

         INFORMATION  
  X   VOTE

Karen Gay-Valente, Director, Human Resources  
Preparer/Title



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

**RECOMMENDATION:**

To approve the appointment of Mr. Stephen D. Cullen to the position of Director of Wastewater (Non-Union, Grade 16) in the Operations division, at the recommended annual salary of \$156,650, commencing on a date to be determined by the Executive Director.

**DISCUSSION:**

The Director of Wastewater is a new position that was created and approved by the Board of Directors in May 2018 to oversee the entire wastewater system including the Deer Island and Clinton treatment facilities, the wastewater pump stations, the head works, the combined sewer overflow facilities, and the wastewater collection system. The position is responsible for the operation, maintenance, and ongoing development of MWRA's wastewater system, and compliance with regulations governing all discharges and applicable water quality standards. In addition, it will be responsible for the upkeep and maintenance of MWRA's Chelsea facility. The position manages the Director, Deer Island Wastewater Treatment Facility, the Director, Wastewater Operations and Maintenance, and the Manager of Facilities Management. It will report directly to the Chief Operating Officer.

**Selection Process**

The position of Director of Wastewater was posted internally; a total of three qualified candidates submitted applications and all were referred for interviews. The Chief Operating Officer, the Deputy Chief Operating Officer for Operations, Engineering and Construction, and the Special Assistant for Affirmative Action conducted the interviews. Mr. Cullen was selected as the best candidate for the position based on his qualifications and experience.

Mr. Cullen has 29 years of experience at MWRA working in engineering, planning, operations and maintenance of the MWRA wastewater system. He was hired initially as an intern working at the Clinton wastewater treatment plant. He started his full time MWRA experience working on the infiltration and inflow program in the engineering and sewerage facility development groups where he spent 13 years with increasing project management responsibility. In 2002, he was promoted to Program Manager in Wastewater Operations and in 2006 to Wastewater Operations Manager where he coordinated operations and maintenance activities for MWRA's 13 wastewater pump stations, three combined sewer overflow facilities, the CSO storage facility, and four head works. From 2008 to 2011, as Deputy Director of Maintenance at the Deer Island Treatment Plant, he managed all in-house and service contract maintenance activities in accordance with MWRA's Facilities Assets Management Plan. Since 2011, Mr. Cullen has served as the Director of Wastewater Operations & Maintenance overseeing wastewater operations activities out of the Chelsea OCC and all metropolitan water and wastewater equipment maintenance. Mr. Cullen has a good relationship with wastewater operations staff in MWRA member communities and has directed wastewater operations through many storms.

Mr. Cullen has a Bachelor of Science degree in Industrial Technology from the University of Lowell. He holds a Grade 7 Wastewater Treatment Plant Operators license and a Grade 4 Collection System Operators license.

**BUDGET/FISCAL IMPACTS:**

There are sufficient funds in the Operations Division's FY19 Current Expense Budget to fund this position.

**ATTACHMENTS:**

Resume of Stephen D Cullen  
Position Description  
Organizational Chart

# STEPHEN D. CULLEN

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## EXPERIENCE

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### MASSACHUSETTS WATER RESOURCES AUTHORITY

#### *Director, Wastewater Operations & Maintenance, January 2011 to Present*

Manages and directs the efficient, cost effective operation and process control for all wastewater operations facilities and infrastructure in the Metropolitan Boston area, as well as the maintenance of all water and wastewater facilities in the Metropolitan Boston area. Directs the continual upgrading and improvement of the computerized maintenance management program, service contracts and the Facilities Assets Management Program. Responsible for the management of 205 employees and a \$30 million dollar budget. Responsible for administering labor contract policies and applicable agency-wide wastewater policy

#### *Deputy Director, Maintenance, Deer Island Treatment Plant, July 2008 to January 2011*

Manages and directs the efficient, cost effective maintenance programs for the Deer Island facility. Directs the continual upgrading and improvement of the computerized maintenance management program, service contracts and the Facilities Assets Management Program. Responsible for ensuring all equipment, facilities and staff are prepared/functional so to meet all regulatory requirements including but not limited to the NPDES, Air and Hazardous Material Handling Permits issued by EPA, DEP, Coast Guard or other Regulatory agencies. Responsible for the management of 139 employees and a \$20 million dollar budget, 4.5 million of which is for service contracts. Responsible for administering labor contract policies and processing all Step 2 grievances

#### *Wastewater Operations Manager, Field Operations, January 2006 to July 2008*

Manages and directs efficient, cost effective operational and maintenance activities for the MWRA's thirteen (13) wastewater pump stations, three (3) combined sewer overflow (CSO) facilities, four headworks, one Screenhouse and one CSO Storage facility. Responsible for providing the necessary resources and support to meet the operational needs and applicable regulatory requirements of the MWRA's National Pollutant Discharge Elimination System (NPDES) permit. Coordinates all operational activities related to new wastewater facility construction and existing wastewater facility rehabilitation. Prepares managerial reports for operational, control, fiscal and personnel matters for all of Wastewater Operations. Responsible for the management of 76 employees and an \$11 million dollar budget. Responsible for administering labor contract policies and processing all Step 2 grievances. Acts as interagency liaison and public relations contact with regard to the operation of all Wastewater Operations facilities.

*Program Manager, Operations, Field Operations, July 2002 to January 2006*

Assisted with the day to day operation and management of the twenty-two (22) wastewater facilities. Coordinated and prioritized all maintenance activities to ensure successful facility operation. Established and updated operational procedures in accordance with control strategies for all wastewater facilities. Coordinated operational activities for all construction projects. Implemented short term security improvements to critical/key MWRA facilities as a member of the MWRA Security Task Force.

*Project Manager, I/I, Sewerage Facility Development, February 1995 to July 2002*

Managed and administered the MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program for eleven communities. Performed wastewater flow data analysis in preparation of wholesale rate calculations. Coordinated I/I reduction projects within the MWRA sewer system and sewer service area communities. Provided technical assistance and engineering support to the Transport department.

*Project Engineer, I/I, Sewerage Facility Development, February 1991 to February 1995*

Performed wastewater flow analysis and report preparation, coordinated I/I reduction projects, managed portions of the MWRA I/I Local Financial Assistance and System Optimization Plan Funding Program. Assisted the Project Manager in the management of the comprehensive wastewater metering program for all forty-three sewer service area communities.

*Staff Engineer, I/I Management Program, Engineering, February 1989 to February 1991*

Managed the North System Sewer System Evaluation Survey (SSES). Assisted the Project Manager in the management of the comprehensive wastewater metering program for all forty-three sewer service area communities.

## EDUCATION

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UNIVERSITY OF LOWELL, LOWELL, MASSACHUSETTS  
*Bachelor of Science, Industrial Technology, 1988*

## LICENSES AND CERTIFICATION

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Massachusetts Wastewater Plant Operators License Grade 7 # 12616  
Massachusetts Collections Systems Operators License Grade 4 # C-4254  
Massachusetts Water Distribution License Grade 4 #23609  
Federal Emergency Management Agency (FEMA) National Incident Management Systems (NIMS) IS-0700

## PROFESSIONAL AFFILIATIONS

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Water Environment Federation - Member  
American Water Works Association - Member

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Director of Wastewater

**DIVISION:** Operations

**DEPARTMENT:** Wastewater

**BASIC PURPOSE:**

Directs, supervises, and manages staff responsible for the operation of the authority's wastewater infrastructure. Responsible for all local, state and federal regulations governing all discharges and water quality standards.

**SUPERVISION RECEIVED:**

Reports to the Chief Operating Officer.

**SUPERVISION EXERCISED:**

Exercises close supervision of the Director of Deer Island, the Director of Wastewater Operations and facility support staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Directs and manages the operation and maintenance of all wastewater collections, headworks, CSO, and pumping facilities; the Deer Island and Clinton Treatment Plants; the Fore River pellet plant; and support facilities to ensure compliance with all federal and state laws and regulations.
- Oversees maintenance of MWRA physical and plant wastewater and metropolitan assets. Develops and implements systems and programs that properly maintain the Authority's wastewater operating facilities and metropolitan facilities. Promotes a positive working environment of the workforce by maintaining an active "field" presence.
- Provides input and direction for the long-term planning, engineering and construction of modernizing, rehabilitating and upgrading of the Authority's wastewater facilities.

- Confers with consultants, local officials from member communities and state and federal officials on matters relating to operations and maintenance of the wastewater system.
- Reviews and evaluates managers' performance according to MWRA procedures.
- Participates with senior managers and Labor Relations staff in the development of collective bargaining strategies. Supports as needed the implementation of collective bargaining agreements. Fosters productive labor/management relationships.
- Works collegially with other MWRA divisions and departments to ensure the goals, objectives, and strategies of the MWRA business plan are achieved.
- Directs safety programs, strategic planning and policy development, employee involvement programs and supports MWRA-wide safety programs.
- Provides opportunities for technical, supervisory and managerial training and education for all department employees.
- Represents the Operations Division as required with the Authority's Division Directors, Executive Director and the Board of Directors.
- Acts as interagency liaison with regard to operations of Wastewater Facilities.

**SECONDARY DUTIES:**

- Performs other related duties as required

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Bachelor's degree in sanitary, civil, environmental or mechanical engineering, business, management, or associated field; and
- (B) Detailed understanding of wastewater operations, plants and programs, operating and maintenance systems, and construction and engineering as acquired through twelve (12) to fifteen (15) years demonstrated success in progressively responsible management positions in operations, maintenance, engineering design, or technical planning relating to wastewater service delivery and major wastewater facilities; or



(C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of engineering.
- (B) Expert familiarity and management competence in the planning, regulation, operation and maintenance of large wastewater collection and treatment facilities and associated systems and equipment.
- (C) Demonstrated analytical, writing and organization skills.
- (D) Ability to work with personnel at various organizational levels, to balance competing priorities and to manage personnel and resources as required.
- (E) Ability to provide technical leadership to subordinate employees, as well as the proven ability to inspire confidence customers and the general public.

**SPECIAL REQUIREMENTS:**

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A valid Class D Massachusetts Motor Vehicle Operators License

Massachusetts Registered Professional Engineer or eligibility for acceptance by reciprocity desirable.

Massachusetts Wastewater Treatment Plant Operators license, Grade VII, or equivalent from another jurisdiction required.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

While performing the duties of this job, the employee is regularly required to sit, talk or hear. The employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment, or controls and reach with hands and arms. The employee frequently is required to stand and walk.

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

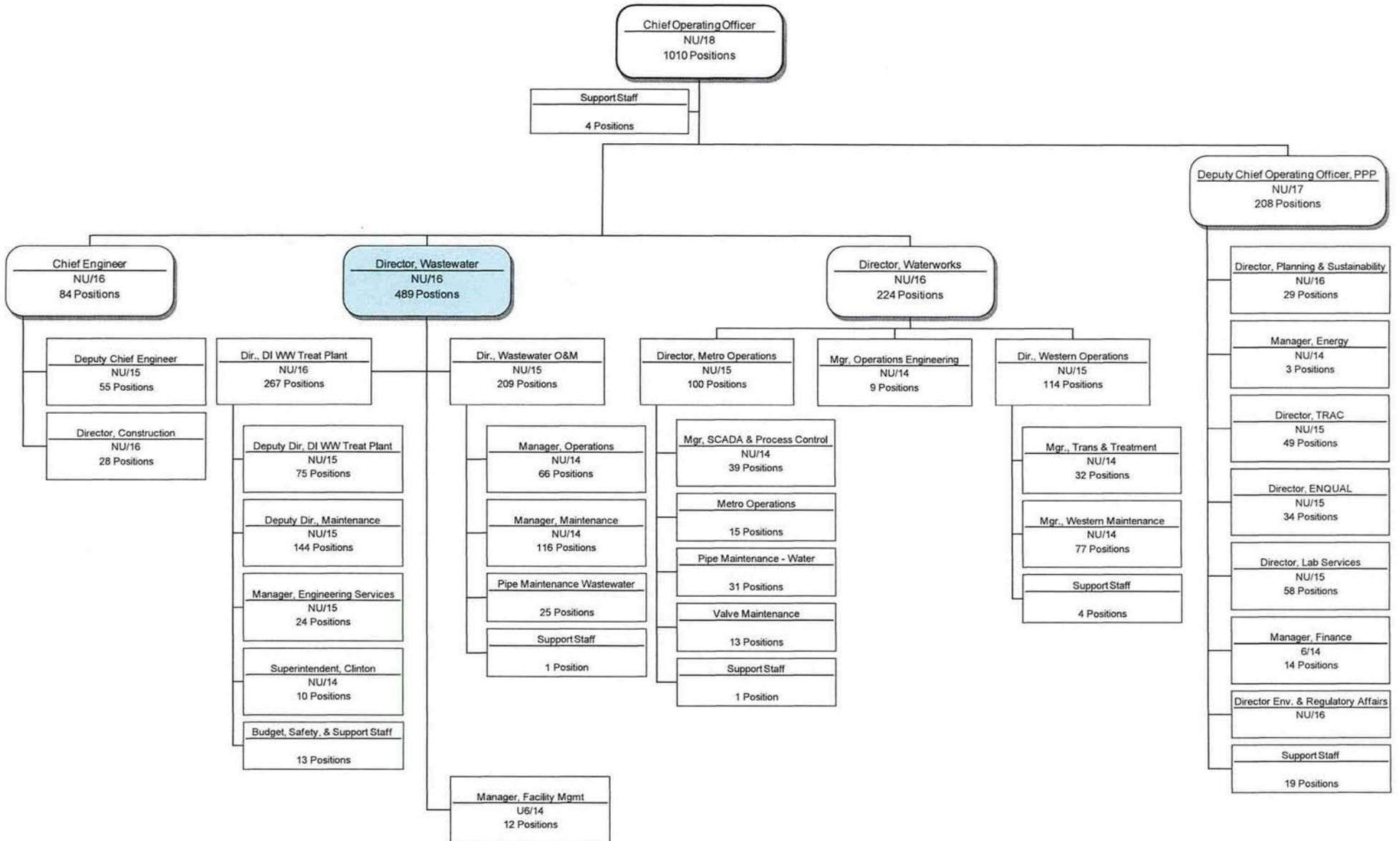
**WORK ENVIRONMENT:**

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.


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

**May 2018**

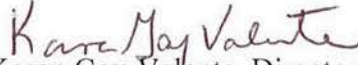
**Operations Division  
Proposed Organization Chart  
June 2018**



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 20, 2018  
**SUBJECT:** Appointment of Director, Human Resources

COMMITTEE: Personnel & Compensation

  
Karen Gay-Valente, Director, Human Resources  
Preparer/Title

         INFORMATION

  X   VOTE  
  
Michele S. Gillen  
Director, Administration

**RECOMMENDATION:**

To approve the appointment of Ms. Andrea Murphy to the position of Director, Human Resources, (Non-Union, Grade 16) in the Administration Division, at the recommended annual salary of \$136,600.00, commencing on a date to be determined by the Executive Director.

**DISCUSSION:**

The position of Director, Human Resources will become vacant upon the retirement of the incumbent in July 2018. The position reports to the Director, Administration and is responsible for all human resource policies and programs, directing all personnel and labor relations functions and implementing human resource activities that support MWRA's organizational goals and objectives. The Director manages the employment, compensation and benefits programs, collective bargaining and union contract administration, human resource information systems, training and development and workers' compensation programs.

**Selection Process**

The position of Director, Human Resources was posted internally and only one candidate, Ms. Andrea Murphy, applied for this position. She was determined to be qualified and was referred for an interview. The Director, Administration, the Special Assistant for Affirmative Action and the Deputy Chief Operating Officer, Programs, Policy and Planning conducted the interview. Upon completion of the interview, Ms. Murphy was recommended for the position based on her qualifications and experience.

Ms. Murphy has more than thirty years of progressively responsible human resources experience in the public sector. Ms. Murphy has been working in Human Resources at the MWRA since the agency's inception in 1985. Ms. Murphy has held various positions in Human Resources, each subsequent position with increased responsibility. Ms. Murphy previously served as the Manager of Benefits & HRIS where she was responsible for researching and recommending changes and improvements to the MWRA Benefits Program and Policies and oversaw data, information and

systems coordination for the department. Ms. Murphy has also served as Acting Compensation Manager. She currently serves as the Employment Manager and oversees all facets of the employment process including hiring qualified candidates for vacant positions. Over the past few years, there has been a significant increase in attrition and hiring given the large number of retirements, and Ms. Murphy has successfully managed the replacement of critical operational positions including the promotion of several internal candidates, which is a key component of MWRA's succession planning.

Ms. Murphy has a wealth of knowledge in all facets of Human Resources and was largely involved with the implementation and subsequent upgrades to the Lawson system's human resources modules as well as the implementation of the on-line application and onboarding system which significantly increased the number of applicants. Ms. Murphy has worked closely with representatives from the bargaining units on a number of Human Resources matters and has been significantly involved with collective bargaining negotiations. She has the respect of MWRA management and staff.

Ms. Murphy holds a Bachelor of Arts degree in Business Administration from St. Michael's College and a certificate in Pension and Employee Benefits from Bentley College.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds in the FY19 CEB for this position.

**ATTACHMENTS:**

Resume of Andrea Murphy  
Position Description  
Organizational Chart

## ANDREA M. MURPHY

### MASSACHUSETTS WATER RESOURCES AUTHORITY 1985- Present

The MWRA is an independent Authority that provides water and sewer services to 60 communities in Massachusetts with an active employee population of 1100+ (1130 union and 64 managerial employees).

**Positions held:**            **Employment Manager** 2014 - present  
                                      **Manager of Benefits & HRIS** 2000 - 2014  
                                      **Benefits Manager** 1991 - 2000  
                                      **Employee Benefits Coordinator** 1985 - 1991

### **Employment**

- Managed the employment process
- Posted and filled positions at all levels
- Implemented online application system and onboarding system
- Managed the temporary/intern employee program
- Recruited candidates through advertising, social media and attending job fairs
- Analyzed the hiring process and recommended improvements

### **Benefits**

- Managed MWRA benefit programs (health, life, dental, disability, and benefit time)
- Managed MWRA FMLA program
- Conducted competitive selection process and negotiate with benefit vendors
- Researched, reviewed and recommended new benefit programs
- Designed and implemented new benefits
- Developed and delivered employee benefit seminars
- Managed MWRA unemployment compensation program
- Managed the workers' compensation program
- Managed MWRA employee assistance program
- Designed comparison studies, participated in surveys for benefits and compensation

### **Data & HRIS**

- Managed the MWRA HRIS function
- Served as HR project leader for the development and implementation of initial Lawson system and three subsequent upgrades
- Managed MWRA records retention function

### **Labor Relations**

- Negotiated new programs and policies with 5 unions
- Participated in collective bargaining negotiations, grievance and disciplinary hearings
- Investigated incidents for potential discipline
- Interpreted union contracts and advise and assist management and unions
- Developed and managed the CDL program
- Managed MWRA Employee Health issues including fitness for duty and ADA issues

## **HR Administration**

- Developed and implemented policies and procedures
- Provided expert guidance for department directors and supervisors
- Managed department budget
- Supervised staff of five

## **Employee Relations**

- Managed MWRA employee recognition program
- Managed Employee Discount Program

## **Compensation**

- Served as Compensation Manager
- Recommended staffing and compensation levels
- Reviewed internal and external equity and recommended salaries
- Managed salary administration program
- Developed job descriptions

## **Training**

- Delivered training for CDL drivers and supervisors
- Developed and delivered training for employees and retirees
- Designed the new employee orientation program
- Developed and implemented new MWRA drug and alcohol policy
- Developed orientation materials

## **EDUCATION**

**St. Michael's College**, B.A., Business Administration  
Winooski Vermont

## **PROFESIONAL DEVELOPMENT**

Certificate in Pension and Employee Benefits  
Bentley College, Waltham Massachusetts

Post Graduate Business courses  
University of Massachusetts, Lowell, Massachusetts

Computer Skills: Proficient in Microsoft Office Suite, Lawson HR/PR System

Skill Development: Seminars on ADA, HIPPA, FMLA, COBRA, Section 125

## **PROFESSIONAL ASSOCIATIONS**

NAGE Health & Welfare Fund Trustee  
MOSES Health & Welfare Fund Trustee  
World at Work Member  
New England Employee Benefits Council Member  
The Survey Group Member

MWRA  
POSITION DESCRIPTION

**POSITION:** Director, Human Resources

**DIVISION:** Administration

**DEPARTMENT:** Human Resources

**BASIC PURPOSE:**

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

**SUPERVISION RECEIVED:**

Works under the general supervision of the Director, Administration.

**SUPERVISION EXERCISED:**

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

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Manages the operations and administration of the HR department and its various units including supervising staff, preparing and administering department budgets, establishing goals and objectives, and tracking measurable performance indicators and related activities.
- Formulates and recommends personnel policies and human resource programs. Directs the interpretation and ensures consistent and fair application of personnel and labor relations policies throughout the Authority. Ensures human resource programs are internally equitable and externally competitive that comply with federal and state laws and regulations.
- Directs the wage and salary programs, classification and job evaluation process, performance appraisal, and employee benefits programs.
- Oversees fair recruitment and employment programs and ensures compliance with Equal Employment Opportunity regulations and the Authority's Affirmative Action Plan.
- Establishes a work environment where all employees feel safe, valued, and respected.
- Partners with department heads and other managers in recruiting, selecting and onboarding key leaders. Interviews and reviews candidates for top management positions.
- Develops and implements workforce planning and succession planning to ensure MWRA has the



right employees with the right skills in the right place at the right time. Projects anticipated retirement and turnover and strategizes methods to preserve institutional knowledge and promote cross-training. Builds pipeline of internal candidates by enhancing internship, job shadowing, and career development programs.

- Directs collective bargaining negotiations, contract administration and grievance proceedings for five bargaining units and manages employee relations for Non Union managers.
- Oversees the Authority's workers' compensation and health and safety programs to ensure a safe work environment and minimize injury and maximize productivity.
- Ensure staff provide safety and workplace violence instruction to all employees.
- Directs the maintenance of the HRIS system and electronic and printed personnel files as well as recommendations, development, and implementation of any HRIS system upgrades or major changes.
- Directs organizational and employee development efforts including needs assessment and delivery of managerial, supervisory, technical and non-technical training programs to equip staff to meet operations, engineering, and management challenges. Provides continuing education and occupation-specific training to ensure staff maintain the required licenses and certifications necessary. Tracks employee completion of periodic mandatory training such as ethics and sexual harassment prevention.
- Conducts research relating to new, progressive or innovative techniques or approaches to employee issues and problems and evaluates their application to the Authority. Advises department managers on applying personnel policies and procedures, taking into account their business needs and requirements. Advises managers on sensitive topics such as performance, discipline, and allegations of harassment or misconduct.
- In conjunction with the Law Division and the Affirmative Action & Compliance Unit (AACU) directs investigations into allegations of violation of policies regarding conduct (i.e. sexual harassment, discrimination, workplace violence, etc.). Recommends final resolution of the complaints.
- Alerts Director, Administration and Authority legal staff of any situations that need elevating. Works with Law Division to interpret and implement new laws or mandates.
- Assesses HR and employee impact of any proposed changes such as reorganization, staff reassignment, and new working conditions.
- Works closely with peer senior managers on Human Resources matters.
- Presents employment, labor relations and other Human Resources recommendations to the MWRA Board of Directors.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

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

Necessary Knowledge, Skills and Abilities:

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

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.

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

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

While performing the duties of this job, the employee is regularly required to use hands to feel, finger, handle or operate objects, including office equipment or controls and reach with hands and arms. The employee is occasionally required to stand and walk. The employee is regularly required to sit, and talk or hear.

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

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

**WORK ENVIRONMENT:**

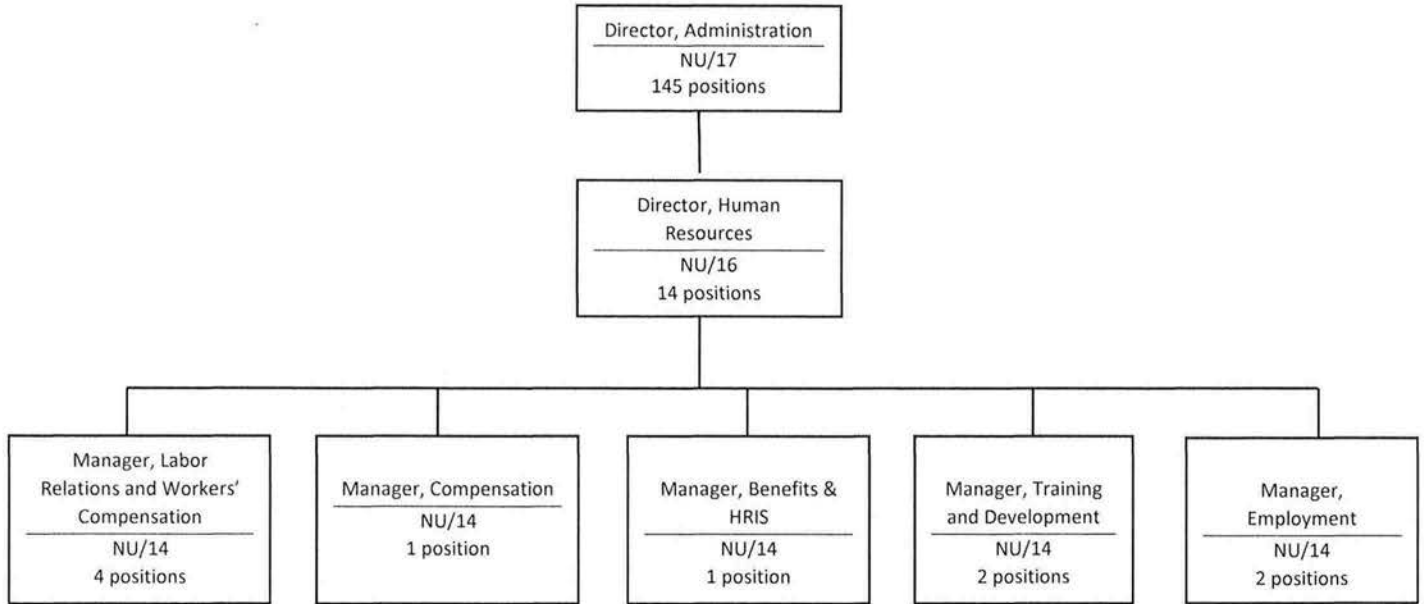
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

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

The noise level in the normal office work environment is quiet but is usually loud in field settings.

**May 2018**

Human Resources  
Organizational Chart  
June 2018





# 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

## ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

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

Wednesday, June 20, 2018

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

Time: Immediately following P&C Committee

### AGENDA

#### **A. Information**

1. 2017 Annual Update on New Connections to the MWRA System
2. Delegated Authority Report — May 2018
3. Employee Reimbursements and Payouts
4. FY18 Financial Update and Summary as of May 2018

#### **B. Approvals**

1. Final FY 2019 Capital Improvement Program
2. Final FY 2019 Current Expense Budget
3. Final FY 2019 Water and Sewer Assessments
4. Surplus Sewer Easement of the Abandoned Upper Neponset Valley Sewer

## MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

May 30, 2018

A meeting of the Administration, Finance and Audit Committee was held on May 30, 2018 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Messrs. Blackmon, Carroll, Cotter, Flanagan, Pappastergion, Peña, Walsh and Ms. Wolowicz. Among those present from the Authority staff were Fred Laskey, Steven Remsberg, David Coppes, Carolyn Fiore, Bethany Card, Thomas Durkin, Stephen Estes-Smargiassi, Carolyn Francisco Murphy, Matthew Horan, Kathy Soni, Paul Whelan and Kristin MacDougall. The meeting was called to order at 10:40 a.m.

### **Report of the Chair**

Vice-Chair Carroll noted that as the FY19 budget hearings had just concluded, the AF&A Committee meeting would commence.

### **Information**

There was general discussion and brief questions and answers on the following informational items:

- Delegated Authority Report – April 2018
- FY18 Financial Update and Summary as of April 2018. (Ms. Wolowicz temporarily left the meeting and returned during discussion.)
- FY18 Third Quarter Orange Notebook.

### **Approvals**

#### \* Lease Extension with Springfield Water and Sewer Commission

Staff summarized the need to extend a lease agreement with Springfield Water and Sewer Commission. There was general discussion and questions and answers.

The Committee recommended approval (ref. agenda item B.1.)

#### \* Bond Defeasance of Future Debt Service

Staff recommended that MWRA execute a bond defeasance transaction as presented and filed with the records of the meeting. There was general discussion and questions and answers.

\* Approved as recommended at the May 30, 2018 Board of Directors meeting.

The Committee recommended approval (ref. agenda item B.2.)

\* MWRA FY19 Insurance Program Renewal

Staff recommended the approval of awards for proposers for insurance policies, bonds and related broker services for MWRA's FY19 Insurance Program, and to execute contracts for broker services for the terms, premiums and fees as presented and filed with the records of the meeting. There was discussion and questions and answers (Mr. Pappastergion temporarily left the meeting.)

The Committee recommended approval (ref. agenda item B.3.)

\* Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for the Deer Island Treatment Plant

Staff described the proposed purchase as presented and filed with the records of the meeting. There was discussion and questions and answers. (Mr. Pappastergion returned to the meeting.)

The Committee recommended approval (ref. agenda item B.4.)

**Contract Awards**

\* Main Line Adjustment Project, Fore River Railroad, J.F. White Contracting Co., Contract FRR32


Staff recommended the approval of the contract award as presented and filed with the records of the meeting. There was discussion and questions and answers. (Mr. Cotter left the meeting during discussion.)

The Committee recommended approval (ref. agenda item C.1.)

The meeting adjourned at 11:09 a.m.

\* Approved as recommended at the May 30, 2018 Board of Directors meeting.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 20, 2018  
**SUBJECT:** 2017 Annual Update on New Connections to the MWRA System

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**COMMITTEE:** Administration, Finance & Audit

X  INFORMATION  
  VOTE

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

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

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### RECOMMENDATION:

For information only. This *2017 Annual Update on New Connections to the MWRA System* has been prepared pursuant to the "Annual Update" requirements of MWRA's system expansion policies.

### DISCUSSION:

MWRA's system expansion policies require an annual update on the status of any new connections (connections approved within the preceding five years) into the MWRA from outside the water and sewer service areas. Calendar year 2002 was the first year that MWRA system expansion policies prescribed update requirements. This *2017 Annual Update* addresses post-2002 connections to the MWRA. A summary of each connection's compliance with requirements stipulated in its water supply or sewer use agreement is provided. For water connections, requirements include compliance with water withdrawal limits and entrance payments due to the MWRA. For wastewater connections, requirements address inflow removal, ongoing stipulations regarding management of wet weather flows, compliance with discharge limits, and entrance payments due to the MWRA. An update on inquiries from potential applicants for admission and other system expansion considerations is also included.

The MWRA operating policies listed below govern system expansion. A more detailed summary of each policy is provided in Attachment A.

- OP.04, Sewer Connections Serving Property Partially Located in a Non-MWRA Community (the "Sewer Straddle" policy)
- OP.05, Emergency Water Supply Withdrawals
- OP.09, Water Connections Serving Property Partially Located in a Non-MWRA community (the "Water Straddle" policy)
- OP.10, Admission of New Community to MWRA Water System
- OP.11, Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area.



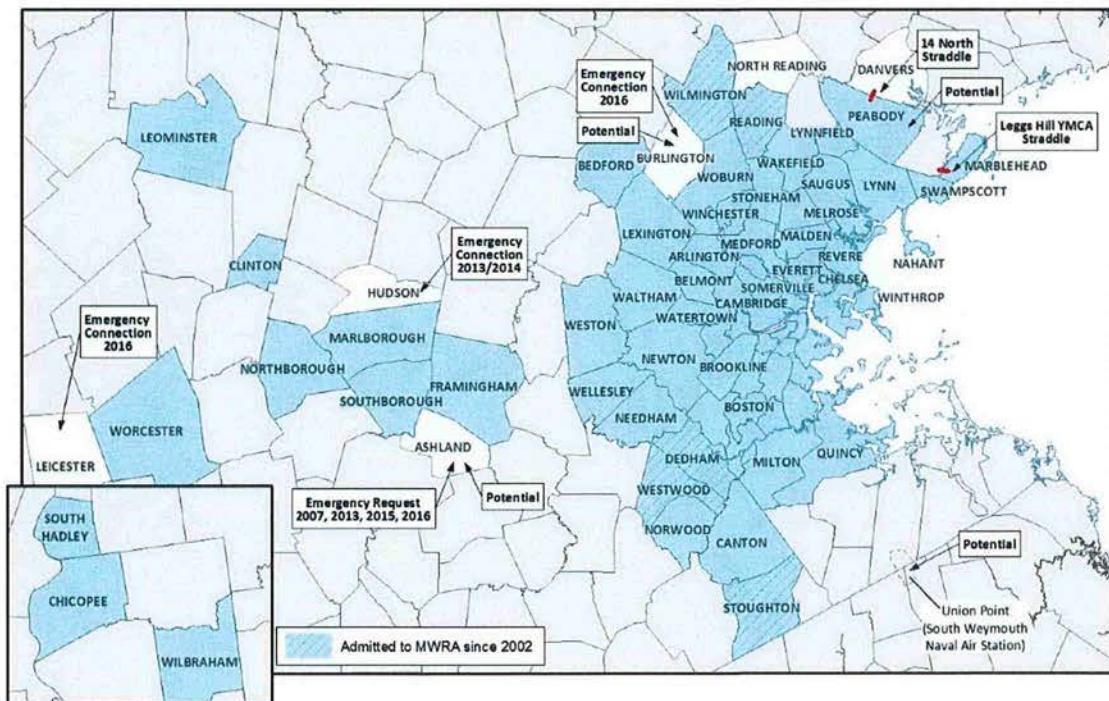
## Summary of Approved Connections to the MWRA System

### Water

In 2017, the Executive Office of Energy and Environmental Affairs and its agencies through the Massachusetts Drought Management Task Force, continued to assess hydrologic conditions throughout the Commonwealth. Above normal rainfall in the Spring of 2017 resulted in all hydrologic indices returning to normal conditions across the state and these conditions remained steady for the balance of the year. Unlike 2016 when the Commonwealth experienced the most severe drought on record since the 1960s, causing three communities to seek emergency water supplies from the MWRA, in 2017 no requests for withdrawals under OP.5, Emergency Water Supply Withdrawals, were received. Further, there were no formal applications to the MWRA in 2017 under OP.09 or OP. 10 – “water straddle” or admission of a new community, respectively.

Since 2002, Stoughton, Reading, the Dedham-Westwood Water District, and Wilmington have become MWRA water-supplied communities. (Bedford was admitted into the MWRA system prior to 2002 before firm water withdrawal limits were established for new communities.) There Have also been two “straddle connections” since 2002: Avalon in Peabody/Danvers (now called 14 North), and the YMCA in Marblehead/Salem. The connections are shown on the map in Figure 1 and information pertaining to these connections is provided in Table 1.

*Figure 1: New Water Connections Since 2002 and Potential New Communities*



**Table 1 - Approved Connections to MWRA Water System Since 2002**

<b>Applicant</b>	<b>Applicable MWRA Policy</b>	<b>Approval Date or Emergency Period</b>	<b>Entrance Fee or Payment of Charges Under the Emergency Policy</b>	<b>MWRA Approved withdrawal</b>	<b>Actual 2017 MWRA Withdrawal</b>
Burlington	OP.05 Emergency	9/30/16- 3/29/17	0	.7 mgd	0
Cherry Valley & Rochdale Water District	OP.05 Emergency	10/27/16- 4/6/17	0	No maximum	0
Ashland	OP.05 Emergency	8/22/16- 2/22/17	0	.75 mgd	0
Hudson	OP.05 Emergency	6/13 12/13 6/14	For 3 six-month emergency withdrawal periods, MWRA received a total of \$1,033,787.	N/A in 2017	0
Dedham-Westwood W.D  (partially supplied)	OP.10, New	12/05 12/14	Entrance fee (\$548,748) for first .1 mgd paid. Fee of \$566,727 for additional 0.1 mgd to be paid in 5 annual installments, first 4 received.	0.2 mgd	0.107 mgd
Wilmington  (partially supplied)	OP.10, New	5/09	Net Entrance Fee of \$2,809,320 w/ 20 year payment schedule. On-time payments.	0.6 mgd	0.348 mgd

Reading	OP.10, New	11/05  10/07	\$3,285,242 (first 0.6 mgd)  \$7,799,606 (for additional 1.5 mgd). Paid in full.	2.1 mgd	1.588 mgd
YMCA Salem Marblehead	OP.09, Straddle	11/06	\$70,823 paid in full	0.0127 mgd	0.0095 mgd
14 North Danvers Peabody	OP.09 Straddle	05/03	\$64,063 paid in full	0.012 mgd	0.007mgd
Stoughton (partially supplied)	OP.10, New	6/02	Net Entrance Fee of \$5,657,117. 20-year payment schedule. On time payments.	1.15 mgd	0.112 mgd

The highlights of Table 1 include:

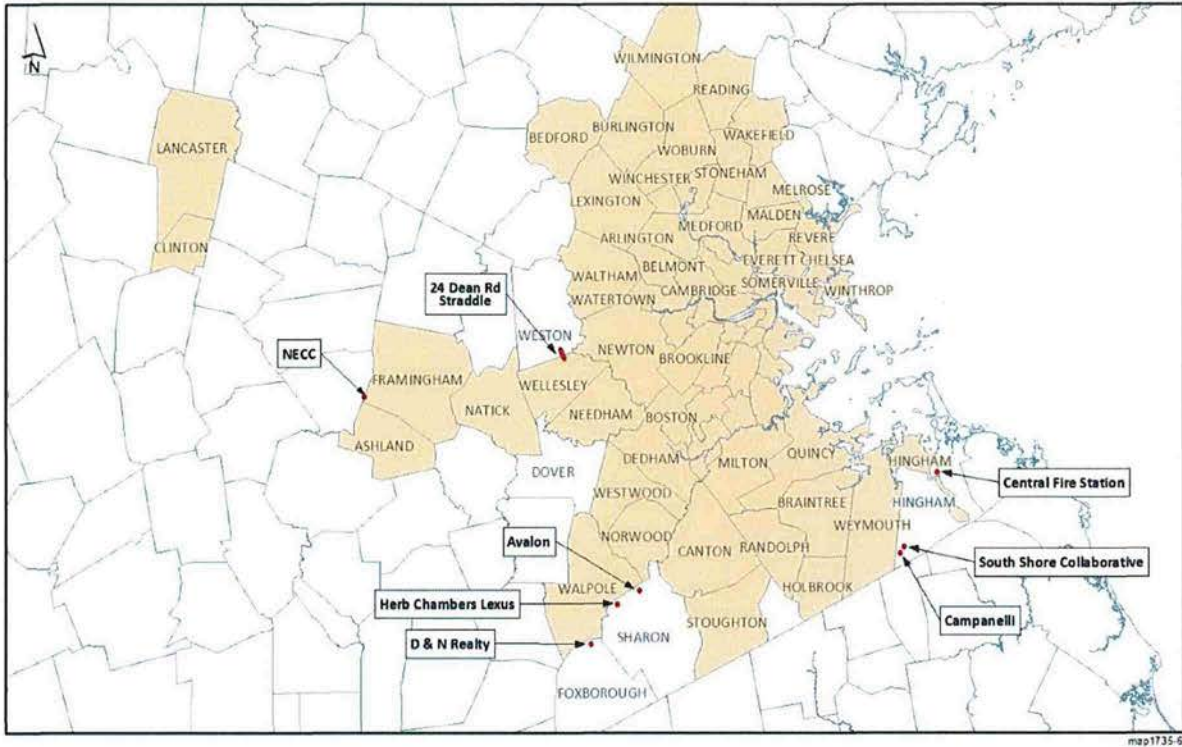
- All water supply withdrawals are below their contract limits.
- For permanent connections, all entrance fees have been paid pursuant to agreed-upon schedules of payments included in the communities' Water Supply Agreements.
- At this time, Cherry Valley and Rochdale Water District has not executed the Emergency Water Supply Agreement.
- Stoughton's 2016 and 2017 MWRA withdrawals are substantially below the volume they projected when they joined MWRA. They have rehabilitated local wells and decreased reliance on MWRA.

### Sewer System

In 2017, there were no applications to MWRA for sewer connections under either #OP.11, *Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area*, or #OP.4, the "Sewer Straddle" policy.

Figure 2 and Table 2 display summary data on connections to the MWRA sewer system since 2002 when annual reporting requirements were established.

**Figure 2: New or Increased Volume Sewer Connections Since 2002**



**Table 2**  
**Approved Connections to MWRA Sewer System Since 2002**

<b>Applicant</b>	<b>MWRA Policy</b>	<b>Approval Date</b>	<b>Entrance Fee Payment</b>	<b>Status of Inflow Removal/Other Contract Requirements</b>	<b>MWRA Approved discharge</b>	<b>Estimated Discharge to MWRA in 2017*</b>
New England Center for Children	OP.11	7/15	\$24,228 Paid in full	Inflow removal completed.	12,500 gpd	6,125 gpd**
FoxRock Realty South Shore Collab. Hingham	OP.11	4/12	\$9,133 + \$ 12,750 paid in full	Inflow removal completed.	5,536 gpd	6,732 gpd

**Table 2**

**Approved Connections to MWRA Sewer System Since 2002**

<b>Applicant</b>	<b>MWRA Policy</b>	<b>Approval Date</b>	<b>Entrance Fee Payment</b>	<b>Status of Inflow Removal/Other Contract Requirements</b>	<b>MWRA Approved discharge</b>	<b>Estimated Discharge to MWRA in 2017*</b>
24 Dean Road, Weston Wellesley	OP.04	3/11	\$18,033 paid in full	Inflow removal completed.	575 gpd	527 gpd
D&N Realty, Foxborough	OP.11	6/07	\$168,391 paid in full	Inflow removal completed.	13,000 gpd (average) 22,750 gpd (max day)	3,504 gpd***
Avalon Bay Sharon	OP.11	6/07	\$105,586 paid in full	Inflow removal completed.	16,120 gpd	15,525 gpd
Herb Chambers Lexus Sharon	OP.11	5/07	\$40,750 paid in full.	Inflow removal completed	6,400 gpd (average) 10,500 gpd (max)	5,757 gpd***
Hingham Fire Station Hingham	OP.11	4/07	\$8,429 paid in full	Inflow removal completed.	782 gpd	222 gpd

\* Wastewater discharges are estimated based on water meter readings.

\*\* NECC's daily discharge based on July-December Wastewater discharge likely less than that calculated, as discharge is estimated based on water bills and water use in summer included landscaping.

\*\*\*Water consumption figures are adjusted downward by 5% to account for a certain percentage of water that is used by the facility and not returned as wastewater (such as landscaping, water consumed).

The key findings of Table 2 include:

- South Shore Collaborative in Hingham is over its approved discharge. Communications are beginning with regard to whether a modification to the entrance fee payment is appropriate;
- All other connections reported that wastewater discharges in 2017 were below their approved agreement limits; and
- Entities reported compliance with ongoing obligations that relate to sewer system operations.

### **Potential Future Connections and Expansions**

In 2017, several communities and other potential applicants inquired about the process and feasibility of connecting to the MWRA or expanding existing service volumes. The status of these inquiries is as follows:

#### *Communities*

**Ashland:** In May 2018 Ashland filed an FEIR with MEPA and is continuing to explore MWRA as a supplemental water source. The Town is potentially seeking approximately 0.3 mgd. Ashland relies on three wells in a well field adjacent to the Hopkinton State Reservoir and is developing a plan to diversify its water sources.

**North Reading:** In 2018, the Towns of North Reading and Andover each voted to finalize a 99-year agreement under which Andover will sell water to North Reading. On average, North Reading purchases approximately 1 mgd of water from Andover and derives another 0.5 mgd from its wells in the Ipswich River Basin. In order to provide a long-term, reliable, and sustainable water source and to reduce stress on Ipswich River, North Reading had previously planned to become a fully served MWRA water community. No further discussions regarding North Reading's water supply coming from the MWRA are anticipated.

**Walpole:** In May 2018, the Town of Walpole voted not to pursue purchasing MWRA water. The Town had previously expressed interest in supplementing their water by about 0.5 mgd with MWRA water to be wheeled through Norwood. MWRA participated in a meeting of the Walpole Water Commissioners in September, 2017 and answered questions about the process for becoming an MWRA customer.

**Sharon:** In early 2018, MWRA learned that Sharon was still moving slowly along and had some questions related to water quality compatibility for a potential interconnection. Sharon has indicated interest in pursuing an emergency interconnection with MWRA and has secured money to construct a pump station. The interconnection would go through Norwood in order to access MWRA water. A meeting in 2017 took place in which representatives and consultants for Norwood and Sharon discussed options.

**Brockton:** The City of Brockton has been faced with challenges related to its public water supply sources which are (in-part) Silver Lake and Monponsett Pond. Some in the community have also explored purchasing the desalination plant, however a vote on the purchase of the plant has been postponed indefinitely. There are many financial and logistical challenges related to supplying Brockton with MWRA water which were explained in August 2017 when MWRA staff met with the Brockton City Council finance committee. MWRA provided information regarding prior studies and pipeline routing, general pipeline costs, and our current rates to various parties including local officials, the Metro South Chamber of Commerce, and the Mayor's office. There has not been any further discussion on this matter since the Fall of 2017.

**Burlington:** At its May 2018 Town meeting, members voted to approve Article 15 which provides \$5.3 million in funding to begin the process of joining the MWRA. In June 2018, MWRA staff met with Town representatives to discuss the next steps for the Town related to the MWRA approval process, environmental permitting, construction of additional water mains, and the creation of a water stabilization fund. Options associated with sharing some of the connection costs, particularly if Burlington were to construct a direct connection to MWRA as opposed to wheeling MWRA water through Lexington as they have done in emergencies is being considered. A flow test has been conducted for the calibration of a hydraulic model. This flow test and calibration involved opening a connection between Burlington and Lexington and tracking pressures and flow rates at key locations. Coordination with Burlington will be on-going in the year ahead.

**Peabody:** Peabody has met with MWRA over the last year to discuss increased and changing demand associated with challenges at the City's Coolidge and Winona Treatment plants. As a result, MWRA has committed to and has proceeded with a design contract for a pipe that will bring an increased volume through a new connection. Specifically, the work is to design a 24-inch diameter pipeline that will extend the MWRA's Section 109 from the Lynnfield/Saugus town line to the Peabody/Lynnfield town line on Route 1. The most recent proposal is an agreement that has Peabody commit to a minimum of 2.4MGD which will provide service to customers that are currently served by its Winona Treatment Plant. Implementation of this agreement and construction of the pipeline will allow MWRA with additional options related to serving communities on the North Shore, specifically in the Ipswich River basin. Negotiations are on-going.

**Union Point:** Union Point is a mixed-use community being developed at the site of the former Weymouth Naval Air Station, which lies in Weymouth, Abington, and Rockland (Weymouth hosts a large part of the development). There have been on-going discussions with communities and the Southfield Redevelopment Authority as the project has had starts and stops throughout the MEPA process. Union Point representatives met with MWRA on several occasions, and staff provided information and insights to assist in Union Point's evaluations. A notice and project change filed with MEPA in March 2017 continued to cite MWRA options related to water and wastewater. In January 2018, a team representing the Southfield Redevelopment Authority met with MWRA to discuss their plans and questions regarding water expansion opportunities. That dialogue is likely to continue in the year ahead. There are challenges associated with the most direct route which involves piping water through Braintree. Most recently MWRA has responded to inquiries from legislators about the Authority's ability to supply water to Union Point and beyond on the South Shore.

**Lynnfield Center Water District:** The LCWD distribution system is not far from the new pipeline being proposed in Peabody and a blind flange can be provided to supply water to LCWD in the event that pipeline project goes forward. In late 2017, MWRA heard from a consultant representing the Lynnfield Center Water District that they were interested in a connection to the Authority to supplement their well sites during the summer months. The Town has approximately 8,600 residents and a preliminary demand estimate is a max day of about 0.750 mgd, which when annualized over the year is 0.16 mgd.

*Non- Communities*

**Sagamore Springs:** Certain zoning articles needed in order for this residential development and golf course project to advance did not pass the zoning board in Lynnfield. The project had been proposed to be located in Lynnfield on the Peabody city line. Project proponents had previously inquired about MWRA's ability to provide water for the residential portion of the development through Peabody. Information about MWRA's expansion policies were provided. No further discussion is anticipated.

**Wilbraham on behalf of Great Horse Golf Course:** The DPW Director for the Town of Wilbraham inquired as to whether Wilbraham could sell water to the Great Horse Golf Course which is located in the Town of Hampden. MWRA's expansion policies were shared with the DPW Director in Wilbraham and it was noted that there is not a clear path to sell water in accordance with our existing policies given the location of the course and its distance from Wilbraham. To date there has not been further discussion.

**ATTACHMENT: Attachment A: Policies for Admission to the MWRA**



## ATTACHMENT A

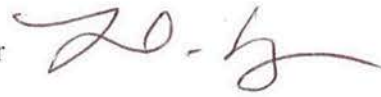
### Policies for Admission to the MWRA

- **OP. #04, Sewer Connections Serving Property Partially Located in a Non-MWRA Community.** This policy applies to persons seeking sewer services for building/structures that are located partially within an MWRA sewer community and partially outside an MWRA sewer community (the actual structures, not just the parcel of land on which the structure is located, must straddle the municipal boundary). It is also known as the "Sewer Straddle" policy.
- **OP#05. Emergency Water Supply Withdrawals.** This policy applies to communities outside MWRA's Water Service Area that are seeking MWRA water on an emergency basis. The MWRA may approve emergency withdrawals for no more than six months at a time, and typically, the emergency withdrawal period coincides with a DEP Declaration of Emergency for the Community.
- **OP#09, Water Connections Serving Property Partially Located in a Non-MWRA community.** This policy applies to persons seeking to obtain water for a location, building or structure located on a parcel of land, under single ownership and which is subject to an integrated plan for use of development, that is located partially within an MWRA water community and partially outside an MWRA water community. It is also known as the "Water Straddle" policy.
- **OP#10, Admission of New Community to MWRA Water System.** This policy applies to communities seeking admission to the MWRA water system. OP#10 also applies to any local body, institution, agency or facility of the Commonwealth or federal government seeking MWRA water for a location outside MWRA's Water Service area. Connections and withdrawals by private entities outside the water service area are prohibited, except for those that are eligible under either the water straddle policy (OP#9), or that are located contiguous to or in the vicinity of local community-owned water supply pipelines that extend from the MWRA's Chicopee Valley Aqueduct (CVA) and that receive the appropriate approvals from the CVA, host communities, and applicable regulatory bodies.
- **OP#11, Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area.** This policy applies to communities seeking admission to the MWRA sewer system and to all parties seeking sewer service for locations outside the MWRA service area that are not eligible under the Sewer Straddle Policy.

MWRA must approve all extension of service to entities outside the service area pursuant to the applicable policy noted above, with the exception of connections to local community owned water supply pipelines that extend from the Chicopee Valley Aqueduct. This is the case even when an entity outside the service area is not directly connected to the MWRA, but instead to a community local system that is part of the MWRA service area.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Delegated Authority Report – May 2018



COMMITTEE: Administration, Finance & Audit

INFORMATION  
 VOTE

Linda D'Addario, Admin. Systems Coordinator  
Barbara Aylward, Administrator A & F  
Preparer/Title

  
Michele S. Gillen

Director, Administration



Carolyn Francisco Murphy  
Director of Procurement

**RECOMMENDATION:**

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period May 1 – 31, 2018.

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 MAY 1 - 31, 2018

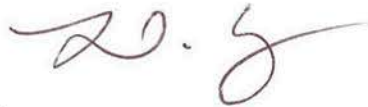
NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	05/07/18	<b>GROUNDKEEPING SERVICES DEER ISLAND TREATMENT PLANT</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR GROUNDKEEPING SERVICES AT THE DEER ISLAND TREATMENT PLANT FOR A TERM OF 730 CALENDAR DAYS.	5574	AWARD	LEAHY LANDSCAPING, INC.	\$189,390.00
C-2.	05/08/18	<b>VALVE AND PIPING REPLACEMENTS VARIOUS FACILITIES DEER ISLAND TREATMENT PLANT</b> DEMOLISH, FURNISH AND INSTALL SIX 16-INCH ELBOWS ON PIPING SYSTEM; FURNISH AND INSTALL ONE REDUCER AND PIPING ON PUMP NO. 8; FURNISH AND INSTALL FOUR WET-TAP SADDLES ON DEWATERING SYSTEM; DEMOLISH, FURNISH AND INSTALL CONCRETE PIPE SUPPORT.	7275	8	CARLIN CONTRACTING COMPANY, INC.	\$28,177.19
C-3.	05/08/18	<b>INSTRUMENTATION SYSTEMS SERVICES</b> INCREASE REPLACEMENT PARTS/RENTAL EQUIPMENT ALLOWANCE AND HOURS FOR NON-EMERGENCY AND EMERGENCY ON-CALL SERVICES FOR SUPPLY AND INSTALLATION OF GAS TRANSMITTERS AND CONTROLLERS.	OP-330	1	APOLLO SAFETY, INC.	\$48,330.00
C-4.	05/08/18	<b>WACHUSETT AQUEDUCT PUMPING STATION CONSTRUCTION</b> FURNISH AND INSTALL FIBER JUNCTION PANEL, FIBER OPTIC CABLE AND PVC CONDUIT; FURNISH AND INSTALL METAL STUDS AND GYPSUM WALL BOARD IN LIEU OF SPECIFIED CONCRETE MASONRY BLOCK; FURNISH AND INSTALL CEILING JOIST HANGERS IN LIEU OF SPECIFIED WOOD BLOCKING AND INSTALL PLYWOOD; FURNISH AND INSTALL ADDITIONAL CEILING JOISTS AND HANGERS; FURNISH AND INSTALL ADDITIONAL METAL FRAMING AND GYPSUM WALL BOARD.	7157	31	BHD/BEC 2015, A JOINT VENTURE	\$141,686.00
C-5.	05/08/18	<b>SOUTHERN EXTRA HIGH PIPELINE - SECTION 111 (BOSTON)</b> REMOVE, HANDLE, TRANSPORT AND DISPOSE OF ADDITIONAL ROCK AND BOULDER EXCAVATION; FURNISH AND INSTALL TWO DUCTILE IRON BENDS; INCREASE ALLOWANCE FOR FIRE DEPARTMENT SERVICES.	6454	4	P. GIOIOSO & SONS, INC.	\$226,515.35
C-6.	05/10/18	<b>HVAC SYSTEMS MAINTENANCE JOHN J. CARROLL WATER TREATMENT PLANT</b> FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: MAINTENANCE/REPAIR SERVICES; REPLACEMENT PARTS AND MARK-UP; FACTORY AUTHORIZED SERVICE REPRESENTATIVE; AND COOLING TOWER TREATMENT SERVICES.	OP-321	3	US AIR CONDITIONING-HEATING, INC.	(\$39,197.27)
C-7.	05/10/18	<b>VALVE AND PIPING REPLACEMENTS VARIOUS FACILITIES DEER ISLAND TREATMENT PLANT</b> FINAL BALANCING CHANGE ORDER TO DELETE THE FOLLOWING WORK NOT PERFORMED: PERFORM VALVE INSTALLATION NIGHT WORK, INSTALLATION OF SIX DASHPOTS; PROVIDE A HYDRAULIC ACTUATOR PROOF-OF-DESIGN TEST; PROVIDE HEX BOLTS STAMPED WITH F594 DESIGNATION; AND DECREASE FIRE DEPARTMENT SERVICES ALLOWANCE.	7275	9	CARLIN CONTRACTING COMPANY, INC.	(\$110,336.53)
C-8.	05/18/18	<b>THERMAL/POWER PLANT FUEL OIL SYSTEM UPGRADE DEER ISLAND TREATMENT PLANT</b> FINAL BALANCING CHANGE ORDER TO DECREASE THE ULTRA-LOW SULFUR DIESEL FUEL ALLOWANCE.	7061A	6	J.F. WHITE CONTRACTING CO.	(\$28,942.68)
C-9.	05/18/18	<b>CHELSEA CREEK HEADWORKS UPGRADE</b> PROVIDE PCB AWARENESS TRAINING AND PERFORM CONCRETE DRILLING, CORING, CHIPPING AND SAW CUTTING WITH PROPER CONTAINMENT, COLLECTION AND DISPOSAL OF PCB DUST AND PARTICLES.	7161	11	BHD/BEC 2015, A JOINT VENTURE	\$200,000.00
C-10.	05/21/18	<b>SUCTION AND DISCHARGE PIPING REHABILITATION AT PRISON POINT CSO FACILITY</b> REDUCTION IN SCOPE OF WORK: CLEANING AND EPOXY COATING OF INTERIOR OF DISCHARGE PIPING, REMOVAL OF EXISTING ELBOW AT STORM WATER PUMP AND EXISTING DRESSER COUPLING AND INSTALLATION OF NEW COUPLING; DECREASE STORM DEMOBILIZATION/REMOBILIZATION; DECREASE ALLOWANCE FOR COMMODITY PRICE ADJUSTMENT.	7459	8	JOHN W. DANFORTH, INC.	(\$117,447.97)

## PURCHASING DELEGATED AUTHORITY ITEMS MAY 1 - 31, 2018

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	05/03/18	SUPPLY AND DELIVERY OF ULTRA-LOW-SULFUR #2 DIESEL FUEL AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF 420,000 GALLONS OF ULTRA-LOW-SULFUR, #2 DIESEL FUEL FOR THE DEER ISLAND THERMAL/POWER PLANT.	WRA-4527		GLOBAL MONTELLO GROUP CORPORATION	\$925,596.00
P-2	05/08/18	CONTINUOUS MONITORING OF CHLOROPHYLL AWARD OF A SOLE SOURCE PURCHASE ORDER FOR PERMIT-REQUIRED CONTINUOUS CHLOROPHYLL (ONLY) MONITORING FROM CAPE ANN BUOY FOR THE PERIOD JULY 1, 2018 TO JUNE 30, 2019.			BOWDOIN COLLEGE	\$48,500.00
P-3	05/08/18	CONTINUOUS OCEANOGRAPHIC MONITORING (NOT INCLUDING CHLOROPHYLL) AWARD OF A SOLE SOURCE PURCHASE ORDER FOR PERMIT-REQUIRED CONTINUOUS OCEANOGRAPHIC MONITORING OF OXYGEN, SALINITY, AND TEMPERATURE FROM THE CAPE ANN BUOY FOR THE PERIOD JULY 1, 2018 TO JUNE 30, 2019.			UNIVERSITY OF MAINE	\$60,000.00
P-4	05/14/18	PURCHASE OF CISCO ROUTERS AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT ITT50 TO THE LOWEST RESPONSIVE BIDDER FOR TWENTY-THREE CISCO ROUTERS AND RELATED HARDWARE TO SUPPORT THE SCADA NETWORK.	WRA-4514Q		EPLUS TECHNOLOGY INC.	\$43,406.00
P-5	05/14/18	REPLACEMENT OF ACTIVATED CARBON AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF ACTIVATED CARBON AT THE NUT ISLAND HEADWORKS.	WRA-4519		CARBON ACTIVATED CORPORATION	\$143,000.00
P-6	05/18/18	MAINTENANCE AND SUPPORT FOR DATA CENTER ENVIRONMENTAL SYSTEMS AWARD OF A THREE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER TO PROVIDE PREVENTATIVE MAINTENANCE AND SUPPORT FOR ENVIRONMENTAL SYSTEMS FOR THE MIS DATA CENTER AND OPERATIONS CONTROL CENTER AT THE CHELSEA FACILITY.	WRA-4503		ELECTRONIC ENVIRONMENTAL CO.	\$85,872.00
P-7	05/18/18	PURCHASE OF PLUMBING SUPPLIES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR PLUMBING SUPPLIES FOR THE WASH DOWN DETENTION TANKS AT AT PRISON POINT CSO FACILITY.	WRA-4504		METROPOLITAN PIPE & SUPPLY COMPANY	\$134,570.65
P-8	05/29/18	INSTALLATION OF BIRD EXCLUSION NETTING AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE INSTALLATION OF BIRD EXCLUSION MESH NETTING AT THE DEER ISLAND TREATMENT PLANT.	WRA-4535Q		RENTOKIL NORTH AMERICA, INC.	\$34,960.00
P-9	05/29/18	RESERVOIR EMERGENCY SPILL RESPONSE TRAINING AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR RESERVOIR EMERGENCY SPILL RESPONSE TRAINING.	WRA-4501		TIGER TRAINING CORPORATION	\$50,000.40
P-10	05/29/18	PURCHASE OF ONE AUTOMATED SOLID PHASE EXTRACTION SYSTEM AWARD OF A PURCHASE ORDER TO A LOWEST RESPONSIVE BIDDER (TIE BID) FOR ONE AUTOMATED SOLID PHASE EXTRACTION SYSTEM FOR THE DEPARTMENT OF LABORATORY SERVICES.	WRA-4512		HORIZON TECHNOLOGY, INC.	\$80,000.00
P-11	05/29/18	MAINTENANCE AND SUPPORT FOR THE DEER ISLAND PROCESS INFORMATION SOFTWARE AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR PROCESS INFORMATION SOFTWARE FOR THE TIME PERIOD JULY 1, 2018 TO JUNE 30, 2019.			OSI SOFTWARE INC.	\$81,247.50

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Employee Reimbursements and Payments



**COMMITTEE:** Administration, Finance & Audit

     VOTE  
  X   INFORMATION

Robert Belkin, Controller  
Preparer/Title



Thomas J. Durkin  
Director of Finance



*The state comptroller has launched a review of untaxed benefits given to some state employees. Below is a discussion of all the benefit programs provided by MWRA to its employees and the MWRA's compliance with the Internal Revenue Service code.*

**RECOMMENDATION:**

For information only.

**DISCUSSION:**

MWRA has a variety of employee programs for which taxability has been evaluated by management. Generally, when an employer such as MWRA provides a benefit to an employee that has a personal monetary value it must be treated carefully as it might be considered income and subject to income tax. MWRA continues to monitor both federal and state income tax requirements in order to treat the various benefits consistent with U.S. Internal Revenue Service and Massachusetts Department of Revenue requirements.

**Domicile Vehicle Program**

MWRA has a domicile vehicle program, Policy #: ADM.11, that provides domicile vehicles to employees whose position requires a 24-hour emergency response or whose position requires them to spend a significant portion of their time away from the facility to which they are assigned. Policy #: ADM.11 stipulates that both the Division Director and the Executive Director, or his designate, approve all requests for motor vehicle domicile assignments. MWRA follows the rules for taxability of vehicle use in Internal Revenue Service (IRS) code section 61. MWRA employs the IRS Commuting Rule for most of the approximately 40 MWRA domicile vehicles. MWRA employees with a domicile vehicle make a full accounting each tax year to the MWRA documenting daily commuting mileage and odometer readings. This documentation is the basis

for an amount, calculated at \$3.00 per day, added to the employee's IRS Form W-2. MWRA also employs the IRS Lease Value Rule for employees with domicile vehicles whose annual compensation exceeds a threshold amount set by the IRS. This threshold amount was \$151,700 for calendar year 2017. Under the Lease Value Rule, the IRS provides a table that matches up the vehicle fair market value with an assigned annual lease value. The amount of the taxable benefit is based on the assigned annual lease value, as well as commuting mileage. Five senior managers had amounts added to their IRS Form W-2, based on the Lease Value Rule.

### **Car Allowances**

The Executive Director and Chief Operating Officer had contractually stipulated car allowances in calendar year 2017, in an amount of \$700 per month, respectively. These amounts were fully taxable and included in their Form W-2.

### **Parking and Transit Passes**

MWRA provides a pre-tax deduction to employees for parking and transit passes. MWRA complies with IRS code section 132 (f), which provides a non-taxable benefit up to \$260 per month for each of commuter highway vehicle transportation and transit passes and for qualified parking. Qualified parking is parking the employer provides to employees on or near the business premises.

### **Travel Reimbursement**

Employees are reimbursed for expenses they incur on behalf of the employer. Travel is pre-approved and all expenses must be substantiated by receipts. Business related expenses are not taxable to the employee.

### **Work Clothes Program**

These items are not included in the employees' taxable income:

Logo wear – MWRA provides employees work clothes with the MWRA logo. Employees who are required to comply with the MWRA uniform program are granted individual access to a vendor website to acquire MWRA t-shirts, sweatshirts, rain jackets and other logo items. This clothing is intended for use while working and is not suitable for use out of the workplace due to the prominent MWRA logo. Most employees in the program receive an annual allowance of \$325. A limited number of employees who require specialized clothing, such as fire retardant clothing, can receive as much as \$680 per fiscal year.

Debit card for safety boots and work pants – MWRA provides employees that are required to comply with the MWRA uniform program a debit card for the purchase of safety boots and work pants, as well as other miscellaneous items. Upon receipt of the debit card, each employee signs an acknowledgement which certifies their receipt of the debit card and their understanding of the requirement to adhere to the intended purpose of the debit card solely for the purpose of purchasing steel-toe work boots/safety shoes and work pants. Failure to adhere to this requirement may lead

to disciplinary action. Due to the nature of our mission and working environment, MWRA deems these items as not suitable for everyday wear.

### **Tuition Reimbursement and Remission**

MWRA policy #: HR.04 provides assistance to employees to receive 80% reimbursement, up to \$2,500 per fiscal year, for courses related to the employee's current job or to a job to which the employee may aspire. All requests must be pre-approved by both the department and division director. The tuition remission programs allow MWRA employees to receive a waiver of a percentage of the tuition cost when attending a state college or university. The percentage is determined by the specific college or university. MWRA policy is in compliance with IRS code section 117 as to the taxability of this program.

### **Group-Term Life Insurance Coverage**

IRS regulations allows for exclusion of the cost of up to \$50,000 of group-term life insurance from the wages of an insured employee. Coverage beyond the \$50,000 limit, reduced by the amount the employee pays toward the insurance, is included in the employee's wages.

Staff will continue to monitor the applicable income tax regulations and the various employee benefits to ensure continued compliance in all respects.



**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** FY18 Financial Update and Summary Through May



COMMITTEE: Administration, Finance & Audit

INFORMATION  
 VOTE

~~Kathy Sorn, Budget Director~~  
~~Louise L. Miller, Budget Manager~~  
Preparer/Title

  
Thomas J. Durkin  
Director, Finance

**RECOMMENDATION:**

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2018 through May, comparing actual spending to the budget.

**DISCUSSION:**

The total Year-to-Date variance for the FY18 CEB is \$13.2 million, due to lower direct expenses of \$6.4 million offset by higher indirect expenses of \$62,000, and higher revenue of \$6.9 million.

In May, MWRA set aside \$3.5 million in favorable Capital Finance variance 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 of May, the defeasance account balance is \$11.9 million. This favorable variance is the result of the lower than budgeted variable rates and timing of the SRF (State Revolving Funds) borrowing, and the favorable impact of new money borrowing and refunding transactions.

The year-end favorable variance is projected to be at \$26.4 million, of which \$15.1 million is related to debt service. Beyond debt service savings, staff project a surplus of approximately \$11.3 million at year-end of which \$3.2 million would be from lower direct expenses, \$375,000 from lower Indirect Expenses, \$6.8 million from greater than budgeted revenues, and the receipt of \$0.9 million in Debt Service Assistance from the Commonwealth. The higher than budgeted revenue is related to a \$4.2 million receipt from the settlement between various State Attorneys General and Barclays PLC for attempting to manipulate the LIBOR market, and higher investment income of approximately \$2.0 million.

Total year-to-date variance for the FY18 CIP is \$25.9 million or 16.5% under budget.

**FY18 Current Expense Budget**

The CEB expense variances for Fiscal Year 2018 through May by major budget category were:

- Net Lower Direct Expenses of \$6.4 million, or 3.1% under budget. Spending was lower for Wages & Salaries, Maintenance, Fringe Benefits, Other Materials, Chemicals, Professional Services, Worker’s Compensation, and Training and Meetings. This is offset by higher spending on Utilities, Overtime, and Other Services.
- Net Higher Indirect Expenses of \$62,000, or 0.2%, due to higher spending for Insurance offset by lower Watershed reimbursements and lower expenses for the existing HEEC cable.
- Debt spending is at budget level after transferring \$11.9 million to the defeasance account, representing the favorable year-to-date variance.

**FY18 Budget and FY18 Actual Year-to-Date Variance by Expenditure Category  
(in millions)**

	<b>FY18 Budget YTD</b>	<b>FY18 Actual YTD</b>	<b>\$ Variance</b>	<b>% Variance</b>
Direct Expenses	\$206.0	\$199.6	-\$6.4	-3.1%
Indirect Expenses	\$31.5	\$31.5	\$0.1	0.2%
Capital Financing	\$416.9	\$416.9	\$0.0	0.0%
<b>Total</b>	<b>\$654.4</b>	<b>\$648.0</b>	<b>-\$6.3</b>	<b>-1.0%</b>

*Totals may not add due to rounding*

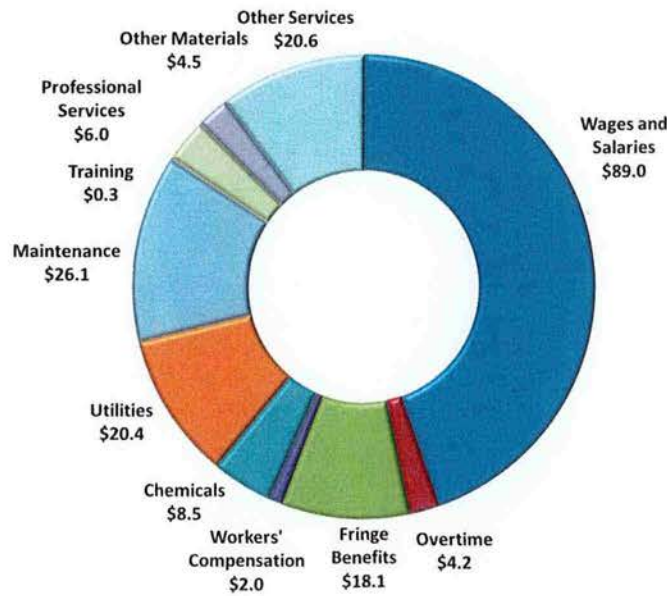
Year-to-date Revenues of \$693.0 million were \$6.9 million, or 1.0% over budget, reflecting a \$4.2 million receipt from the settlement between various State Attorneys General and Barclays PLC for attempting to manipulate the LIBOR market. LIBOR is a standard financial index used to set the cost of various variable-rate loans. Revenues were also over budget by \$2.0 million for favorable returns on investment income (average short-term rates were higher than budgeted: 1.52% vs. 1.05%), \$244,000 for disposal of surplus material, \$228,000 for the final payment of a class action lawsuit settlement for derivative agreements, and \$141,000 for energy reimbursements. This is offset by lower than budgeted revenue of \$125,000 for the sale of RPS credits.

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

**Direct Expenses**

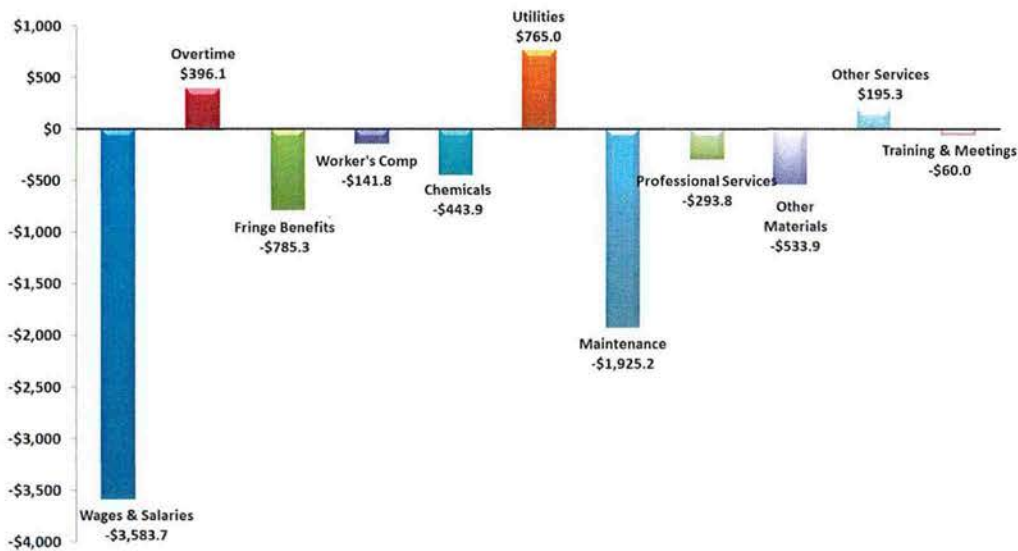
Year-to-date direct expenses totaled \$199.6 million, \$6.4 million, or 3.1%, less than budgeted.

**FY18 Year-to-Date Direct Expenses  
(in millions)**



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

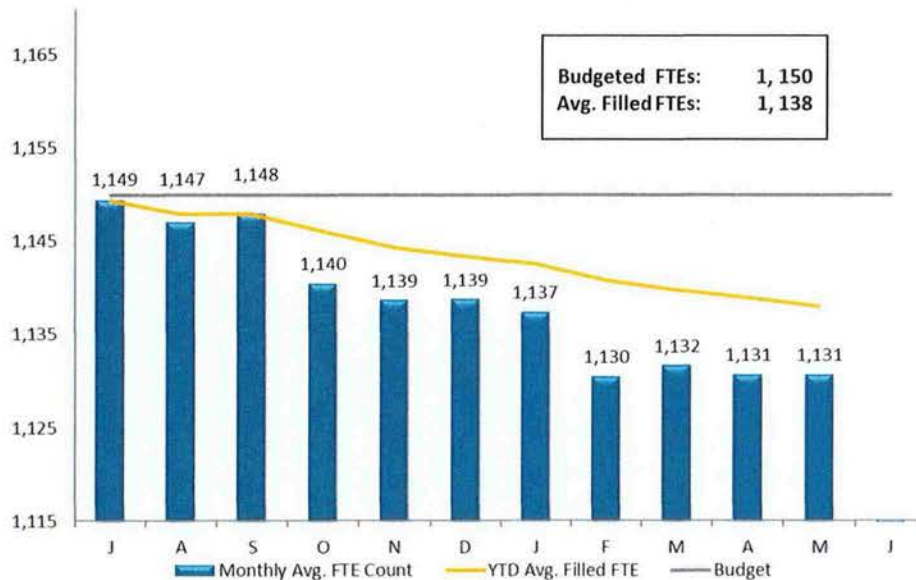
**FY18 Year-to-Date Direct Expense Variance  
(in thousands)**



## Wages and Salaries

Wages and Salaries are under budget by \$3.6 million, or 3.9%. Year to date, there have been 12 fewer average FTEs (1,138 versus 1,150 budget), lower average new hire salaries versus retirees' as well as the timing of backfilling vacant positions, and lower leave balance accruals contributed to Regular Pay being under budget.

**FY18 MWRA Full Time Equivalent (FTE) Position Trend**



## Maintenance

Maintenance was under budget by \$1.9 million, or 6.9%. While there were numerous components to the underspending for Maintenance year-to date, underspending at Deer Island included timing of the door replacement project and of instrumentation upgrades and motor replacements, offset by overspending for emergency repairs to gravity thickeners #5 and #6. Underspending in Field Operations was due in part to timing of the HVAC upgrades at the Braintree-Weymouth Pump Station and Chelsea facility, offset by overspending for Pipeline Materials primarily for Water Pipeline Maintenance, Pipeline Services for timing of manhole replacement contract, and timing of cleaning of Headworks HVAC ducts.

## Fringe Benefits

Fringe Benefit spending was lower than budgeted by \$785,000, or 4.2%, primarily for lower Health Insurance costs of \$657,000 due to fewer employees and retirees than budgeted participating in health insurance plans, and the shift from family to individual plans, which are less expensive. Medicare payments were also lower than budgeted by \$56,000, and Dental Insurance was lower by \$39,000.

## **Other Materials**

Other Materials were less than budgeted by \$534,000, or 10.5%. There were various items under budget, including Vehicle Purchases due to timing of delivery of purchases, Health and Safety Materials at Deer Island, Vehicle Expenses due to lower than budgeted fuel prices, and Computer Software in SCADA due to timing of purchases, offset by overspending for postage associated with the unbudgeted Environmental Water Quality Brochure.

## **Chemicals**

Year-to-date, Chemicals were lower than budget by \$444,000, or 5.0%. The majority of the variance for Chemicals was the result of lower flows both at Deer Island and the Carroll Plant, 13% and 6% respectively, the quality of the influent at Deer Island and the water quality at the Carroll Plant. The underspending was offset by higher than budgeted spending on Hydrogen Peroxide and Ferric Chloride at Deer Island due to odor control and struvite control respectively. It is important to note that Chemicals variances are also based on the timing of deliveries which in general reflect the usage patterns.

## **Professional Services**

Professional Services were under budget by \$294,000, or 4.6%. The overall underspending year-to-date is due to timing of Legal Services in Administration and Treasury and as-needed Engineering Services in Operations.

## **Worker's Compensation**

Through May, Worker's Compensation expenses were lower than budget by \$142,000, or 6.7%. The lower Worker's Compensation expenses were primarily due to reductions in medical payments and reserves of \$136,000 resulting from resolution of a number of claims through return to work. Compensation payments and reserves were higher than budgeted by \$29,000 for settlement of seven claims, offset by a reduction of \$35,000 for administrative fees associated with these claim. It is important to note that, while spending is spread evenly during the year, monthly expenses can vary significantly depending on new claims and severity of cases.

## **Training & Meetings**

Training & Meetings expenses were less than budgeted by \$60,000, or 17.4% due to timing.

## **Utilities**

Utilities were overspent by \$765,000, or 3.9%. Diesel fuel overspending is a net of \$853,000 resulting from overspending of \$1.0 million for two purchases at Deer Island for more fuel than budgeted and earlier than budgeted, offset by \$185,000 underspending in Field Operations due to favorable pricing earlier in the fiscal year. It should be noted that the price of diesel fuel has been increasing in the last few months. Diesel Fuel overspending is offset by underspending in Water of \$102,000 due to slightly less use of water at Deer Island and installation of waterless seals at

wastewater pump stations. Spending for electricity, the largest component of the utilities budget, is at budget. However, at Deer Island, the transmission and distribution charges from Eversource are higher than budgeted by \$245,000, offset by \$256,000 for earlier in the year favorable pricing for electricity supply in Field Operations and lower consumption at Nut Island and Spot Pond.

### **Overtime**

Overtime expenses year-to-date were higher than budgeted by \$396,000, or 10.4%, which has been decreasing since April. The overspending year-to-date was mainly in Metro Maintenance and Water Operations for maintenance and emergency leak repairs, wet weather and snow removal; and Wastewater Operations for wet weather events. Field Operations performed off-hours maintenance work, reported in prior monthly financial staff summaries, to alleviate project backlogs due to staff vacancies in Western Water Operations, replaced manhole covers and frames prior to a major repaving project, and replaced an HVAC unit at the Chelsea facility. The overspending was offset by year-to-date lower spending for Laboratory Services, Administration, and Clinton.

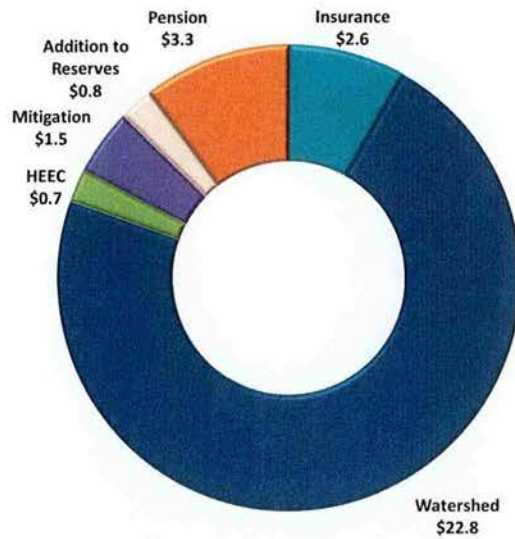
### **Other Services**

Other Services were slightly over budget by \$195,000, or 1.0%. There were numerous components over budget, including Sludge Pelletization of \$368,000 due to higher year-to-date quantities related in part to struvite control during the cleaning of one digester and the gravity thickener emergency repairs. This was offset by lower spending in Other Services of \$208,000 for a number of services, including timing of remediation projects managed by Real Property/Environmental Management and timing of Technical Assistance for Lead issues.

### **Indirect Expenses**

Year-to-date Indirect Expenses totaled \$31.5 million, which is \$62,000, essentially on budget. There are variances within the lines that comprise Indirect Expenses, including higher Insurance claims of \$776,000 resulting from the outcome of a recent litigation, offset by lower Insurance premiums of \$62,000. Watershed costs are lower than budget by \$466,000 resulting from an over-accrual at the end of FY17 of Watershed operating expenses of \$286,000 and lower than budgeted PILOT payments of \$180,000. HEEC charges are under budget by \$166,000 for the existing cross-harbor cable.

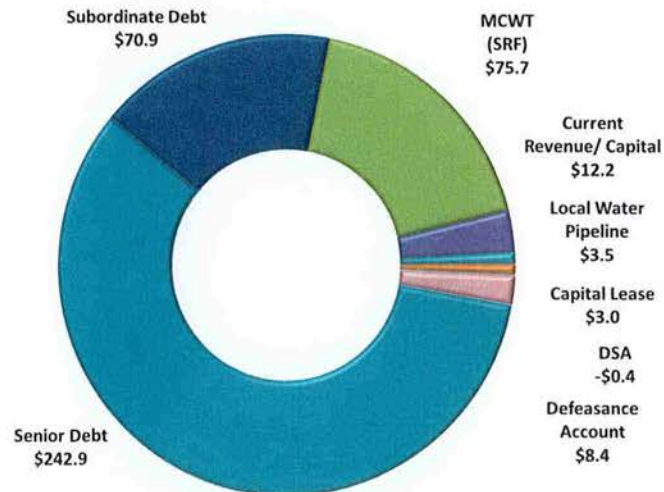
**FY18 Year-to-date Indirect Expenses-YTD  
(in millions)**



**Capital Financing**

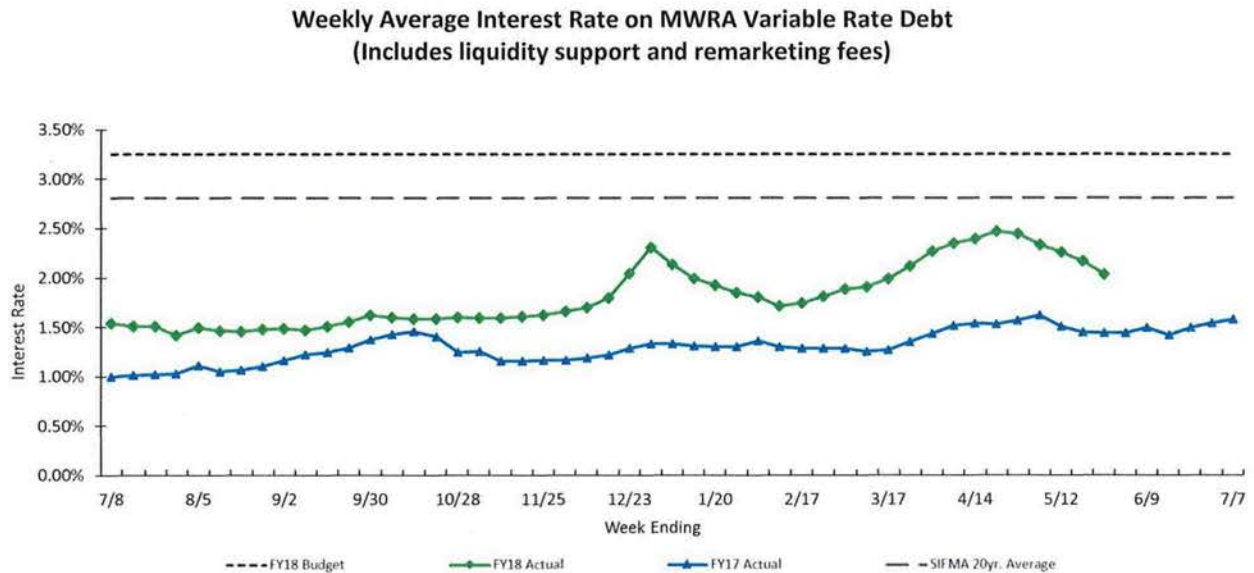
Capital Financing expenses include the principal and interest payment for fixed debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, and the Chelsea facility lease payment.

**Year-to-date FY18 Capital Finance  
(in millions)**



Year-to-date Capital Financing expenses for FY18 totaled \$416.9 million, which was on budget after the transfer in May of \$3.5 million to the Defeasance Account, which brings the balance of the Defeasance Account to \$11.9 million year-to-date. The favorable impact of the short-term variable rates is \$7.1 million year-to-date, \$3.3 million relates to the timing of SRF borrowing, and \$1.6 million relates to lower costs of borrowing than budgeted for the issuance of senior debt.

The graph below reflects the FY18 actual variable rate trend by week year-to-date against the FY18 Budget.



### Revenue & Income

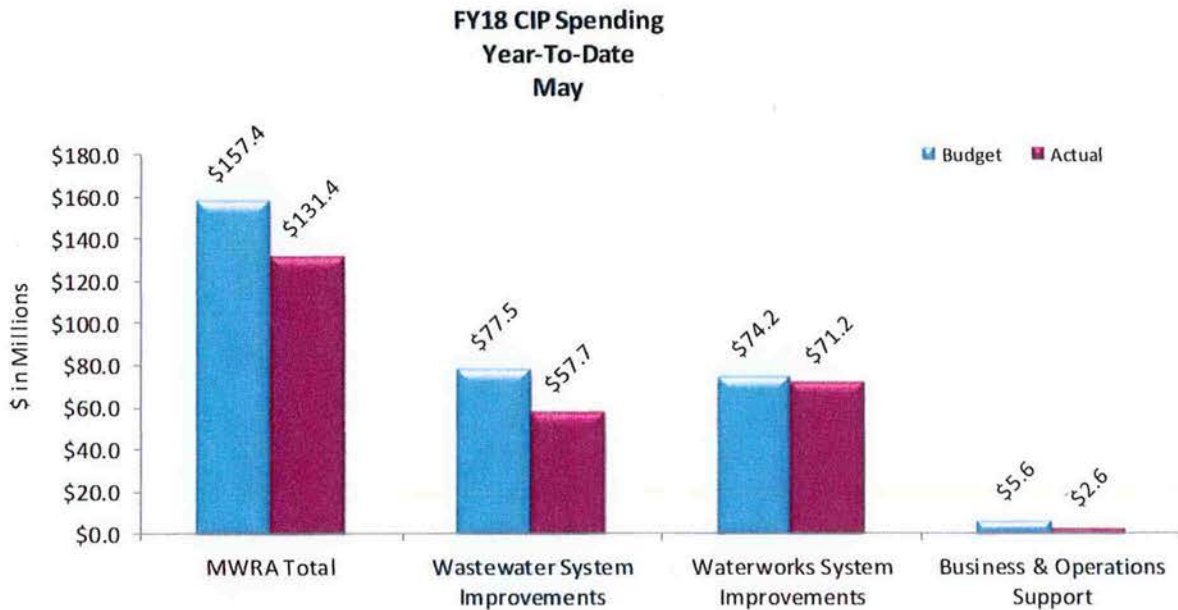
Year-to-date Revenues of \$693.0 million were \$6.9 million, or 1.0% over budget, reflecting a \$4.2 million receipt from the settlement between various State Attorneys General and Barclays PLC for attempting to manipulate the LIBOR market. LIBOR is a standard financial index used to set the cost of various variable-rate loans. Revenues were also over budget by \$2.0 million for favorable returns on investment income (average short-term rates were higher than budgeted: 1.52% vs. 1.05%), \$244,000 for disposal of surplus material, \$228,000 for the final payment of a class action lawsuit settlement for derivative agreements, and \$141,000 for energy reimbursements. This is offset by lower than budgeted revenue of \$125,000 for the sale of RPS credits.



## FY18 Capital Improvement Program

Capital expenditures in Fiscal Year 2018 through May total \$131.4 million, \$25.9 million, or 16.5%, under budget.

After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water Pipeline loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$112.5 million, \$12.9 million, or 10.3%, under budget.



Overall CIP spending reflects the underspending of \$19.9 million in Wastewater Improvements, \$3.1 million in Business and Operations Support, and \$3.0 million in Waterworks Improvements. Major variances in Wastewater are primarily due to less than anticipated community requests for grants and loans for the Infiltration/Inflow (I/I) Local Financial Assistance Program, and construction delays in both the Alewife Brook Pump Station Rehabilitation due to bypass pumping issues, and Chelsea Creek Headworks Upgrades due to water main and fuel storage tank installations, and a later award for the Deer Island Chemical Bulk Storage Relining Construction. Waterworks variances are primarily due to later timing of distributions for Local Water System Assistance Program loans which are now expected in June rather than May, a later award for Southern Extra High Section 111 Phase 3 Construction, partially offset by contractor progress on the Wachusett Pump Station Construction, Northern Intermediate High Section 89 & 29 Redundancy Construction Phase 1C, Southern Extra High Redundancy Section 111 Phase 1, as well as timing of watershed land purchases.

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	43.2	36.5	(6.7)	-15.4%
Treatment	11.5	7.7	(3.7)	-32.6%
Residuals	2.1	0.3	(1.8)	-86.9%
CSO	1.8	1.8	0.0	1.9%
Other	19.1	11.4	(7.7)	-40.5%
<b>Total Wastewater System Improvements</b>	<b>\$77.5</b>	<b>\$57.7</b>	<b>(\$19.9)</b>	<b>-25.6%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	3.4	3.6	0.2	6.6%
Transmission	21.6	24.3	2.7	12.7%
Distribution & Pumping	36.6	36.8	0.3	0.7%
Other	12.6	6.4	(6.2)	-49.5%
<b>Total Waterworks System Improvements</b>	<b>\$74.2</b>	<b>\$71.2</b>	<b>(\$3.0)</b>	<b>-4.1%</b>
<b>Business &amp; Operations Support</b>	<b>\$5.6</b>	<b>\$2.6</b>	<b>(\$3.1)</b>	<b>-54.2%</b>
<b>Total MWRA</b>	<b>\$157.4</b>	<b>\$131.4</b>	<b>(\$25.9)</b>	<b>-16.5%</b>

*Totals may not add due to rounding*

### **FY18 Year-to-date Spending by Program:**

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

#### **Other Wastewater:** Net underspending of \$7.7 million

- \$7.7 million for Community Infiltration/Inflow (I/I) due to less than budgeted requests for grants and loans.

#### **Interception & Pumping:** Net underspending of \$6.7 million

- \$2.4 million for Alewife Brook Pump Station Construction due to bypass pumping delays.
- \$2.2 million for Chelsea Creek Upgrades Construction due to delays with water main and fuel oil system installations which, in turn, delayed Channel 1 work.
- \$0.5 million for Pump Stations and CSO Condition Assessment due to delay in award, \$0.4 million for Wastewater Metering/Study/Design due to the contract award being less than budgeted, \$0.3 million for Interceptor Renewal #7 Reading Extension Sewer due to issues with liner, \$0.1 million for DeLauri Pump Stations Screens and Security due to later than budgeted notice-to-proceed, and \$0.1 million for Cambridge Branch Sections 23, 24, 26, and 27 Study due to being completed under budget.
- This underspending was partially offset by overspending of \$0.2 million for final work for the Caruso Pump Station Construction and \$0.1 million for Prison Point Design/Construction Administration/Resident Inspection due to project progress.

#### **Other Waterworks:** Net underspending of \$6.2 million

- \$5.1 million due to timing for loans for Local Water System Assistance Program due to less than anticipated community requests for loans due to timing.
- \$0.3 million for the Cosgrove Roof Replacement and \$0.3 million for the Steel Tank Improvements Design and \$0.3 million for Carroll Water Treatment Plant SCADA Design and Programming contracts due to delay in contract awards, and \$0.1 million for Quabbin Power, Communication & Security – Construction partially due to reimbursement from

DCR Office of Watershed Management for work at the boat cove and less than anticipated engineering services during construction.

**Wastewater Treatment:** Net underspending of \$3.7 million

- Clinton: \$0.4 million for Clinton Roofing Rehabilitation due to delay in contract award and \$0.3 million for Phosphorus Reduction Construction due to less than anticipated progress including testing delays.
- Deer Island: \$0.9 million for Chemical Bulk Storage Tanks Relining due to delay in award, \$0.5 million for Miscellaneous VFD Replacements and \$0.2 million for Winthrop Terminal VFD Replacements due to long lead time for equipment to be received, \$0.4 million for Digester Sludge Pump Replacement Phase 2 and \$0.3 million for Fuel System Upgrades for work scheduled for FY18 performed in FY17, and \$0.2 million for South System VFD Replacement Design and \$0.1 million for Expansion Joint Repair Construction due to schedule changes.
- The underspending was partially offset by overspending of \$0.2 million for Personnel Dock Rehabilitation due to additional work required.

**Business & Operations Support:** Net underspending of \$3.1 million

- \$1.6 million for Security Equipment due to a delay in implementing equipment initiatives.
- \$1.5 million for MIS Projects due to timing of the IT Strategic Plan implementation.
- The underspending was partially offset by overspending of \$0.3 million due to timing of vehicle purchases.

**Waterworks Transmission:** Net overspending of \$2.7 million

- \$3.0 million for Wachusett Aqueduct Pump Station Construction and Engineering Services due to contractor progress, \$0.8 million for Watershed Land due to timing of land purchases, and \$0.8 million for WASM 3 MEPA/Design/CA/RI for timing of boring work.
- This overspending was partially offset by underspending of 0.4 million for Shaft 12 Isolation Gate Design due to contract being terminated, \$0.2 million for CVA Motorized Screen Replacement due to work scheduled for FY18 performed in FY17, and \$0.1 million for time extension for the Evaluation of Farm Pond Buildings and Waban Arches.

**Residuals:** Net underspending of \$1.8 million

- Underspending of \$0.8 million for Mechanical Improvements and \$0.7 million for Electrical Improvements due to delay in contract awards, and \$0.3 million for Sludge Tank & Silo Coating for work that was postponed during the winter.

**Water Distribution and Pumping:** Net overspending of \$0.3 million

- \$1.3 million for SEH Redundancy Pipeline Section 111 Phase 1 Construction, \$1.1 million for Section 89/29 Redundancy Phase 1C Construction, \$0.6 million for NIH Section 89 & 29 Redundancy Phase 2 Construction, \$0.4 million for NIH Section 89 & 29 Redundancy Phase 1B, and \$0.2 million for SEH Redundancy Pipeline Section 111 Construction Phase 2 due to contractor progress.
- The overspending was partially offset by underspending \$1.4 million for SEH Redundancy Pipeline Section 111 Phase 3 due to delay in award as a result of permit issues, \$0.4 million

for Section 53 and 99 Design CA/RI due to delay in award, and \$0.2 million for Chestnut Hill Gatehouse #1 Repairs due contract award being less than budgeted.

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

- \$0.6 million for contractor progress for the Marlborough Maintenance Facility, partially offset by \$0.4 million underspending on a number of small contracts.

**Combined Sewer Overflow:** Net overspending of \$0.1 million

- Overspending of \$0.2 million for CSO Performance Assessment due to consultant progress, partially offset by \$0.2 million for Cambridge Sewer Separation Project due to updated final cost of restoration work.

**Construction Fund Balance**

The construction fund balance was \$110.8 million as of the end of May. Commercial Paper/Revolving Loan availability was \$121.0 million to fund construction projects.

**ATTACHMENTS:**

Attachment 1 – Variance Summary May 2018

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY18 Budget vs. FY18 Projections for the Current Expense Budget

ATTACHMENT 1  
FY18 Actuals vs. FY18 Budget

	May 2018 Year-to-Date				
	Period 11 YTD Budget	Period 11 YTD Actual	Period 11 YTD Variance	%	FY18 Approved
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 92,559,176	\$ 88,975,450	\$ (3,583,726)	-3.9%	\$ 104,286,370
OVERTIME	3,800,878	4,197,014	396,136	10.4%	4,110,637
FRINGE BENEFITS	18,843,308	18,057,990	(785,318)	-4.2%	20,997,975
WORKERS' COMPENSATION	2,129,398	1,987,644	(141,754)	-6.7%	2,322,980
CHEMICALS	8,922,512	8,478,660	(443,852)	-5.0%	9,836,933
ENERGY AND UTILITIES	19,630,003	20,395,051	765,048	3.9%	21,735,222
MAINTENANCE	28,003,856	26,078,633	(1,925,223)	-6.9%	32,200,785
TRAINING AND MEETINGS	344,700	284,723	(59,977)	-17.4%	406,269
PROFESSIONAL SERVICES	6,342,419	6,048,588	(293,831)	-4.6%	7,221,622
OTHER MATERIALS	5,075,395	4,541,486	(533,909)	-10.5%	6,692,660
OTHER SERVICES	20,389,985	20,585,292	195,307	1.0%	22,764,526
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 206,041,630</b>	<b>\$ 199,630,531</b>	<b>\$ (6,411,099)</b>	<b>-3.1%</b>	<b>\$ 232,575,979</b>
INSURANCE	\$ 1,858,571	\$ 2,572,218	\$ 713,647	38.4%	\$ 2,013,452
WATERSHED/PILOT	23,228,313	22,762,593	(465,720)	-2.0%	25,164,006
HEEC PAYMENT	883,795	717,808	(165,987)	-18.8%	957,445
MITIGATION	1,474,108	1,453,745	(20,363)	-1.4%	1,596,950
ADDITIONS TO RESERVES	757,954	757,954	-	0.0%	821,116
RETIREMENT FUND	3,277,369	3,277,369	-	0.0%	3,277,369
POST EMPLOYEE BENEFITS	-	-	-	---	5,035,422
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 31,480,110</b>	<b>\$ 31,541,687</b>	<b>\$ 61,576</b>	<b>0.2%</b>	<b>\$ 38,865,760</b>
STATE REVOLVING FUND	\$ 77,718,632	\$ 74,434,957	\$ (3,283,675)	-4.2%	\$ 84,931,906
SENIOR DEBT	242,923,153	241,375,282	(1,547,871)	-0.6%	264,560,267
CORD FUND	-	-	-	---	-
DEBT SERVICE ASSISTANCE	(391,580)	(391,580)	-	0.0%	(391,580)
CURRENT REVENUE/CAPITAL	12,184,615	12,184,615	-	0.0%	13,200,000
SUBORDINATE MWRA DEBT	77,967,847	77,967,847	-	0.0%	85,443,447
LOCAL WATER PIPELINE CP	3,503,025	3,503,025	-	0.0%	3,794,944
CAPITAL LEASE	2,969,594	2,969,594	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	10,900,000
VARIABLE DEBT	-	(7,067,531)	(7,067,531)	---	-
HEEC CABLE CAPACITY RESERV	-	-	-	---	6,532,146
DEFEASANCE ACCOUNT	-	11,899,077	11,899,077	---	-
<b>TOTAL DEBT SERVICE</b>	<b>\$ 416,875,286</b>	<b>\$ 416,875,286</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 472,188,190</b>
<b>TOTAL EXPENSES</b>	<b>\$ 654,397,026</b>	<b>\$ 648,047,504</b>	<b>\$ (6,349,522)</b>	<b>-1.0%</b>	<b>\$ 743,629,929</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 661,896,000	\$ 661,896,000	\$ -	0.0%	\$ 717,054,000
OTHER USER CHARGES	8,377,421	8,349,712	(27,709)	-0.3%	9,011,070
OTHER REVENUE	6,736,686	11,629,814	4,893,128	72.6%	7,359,078
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	9,049,468	11,051,743	2,002,275	22.1%	10,205,781
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 686,059,575</b>	<b>\$ 692,927,269</b>	<b>\$ 6,867,694</b>	<b>1.0%</b>	<b>\$ 743,629,929</b>

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

Total MWRA	FY18 Budget YTD May	FY18 Actuals YTD May	FY18 YTD Actual vs. FY18 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	92,559,176	88,975,450	(3,583,726)	-3.9%	Wages and Salaries are under budget by \$3.6 million. Year to date, there have been 12 fewer average FTEs (1,138 versus 1,150 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	3,800,878	4,197,014	396,136	10.4%	Higher spending mainly in <b>Metro Maintenance</b> of \$205,000, for off-hours maintenance, wet weather events, and snow removal; <b>Water Operations</b> of \$159,000; and <b>Wastewater Operations</b> of \$88,000 for wet weather events. Some examples of off-hour maintenance work include off-hours work to alleviate a project backlog in western ops due to staff vacancies, replacement of manholes in a community prior to a major repaving job, and crane rigging to hoist replacement HVAC units into place at the Chelsea maintenance facility. The higher spending is offset by lower spending for <b>Laboratory Services</b> of \$41,000; <b>Administration</b> of \$29,000; and <b>Clinton</b> of \$20,000.
Fringe Benefits	18,843,308	18,057,990	(785,318)	-4.2%	Lower than budget mainly in <b>Health Insurance</b> of \$657,000, 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; lower <b>Medicare</b> payments of \$56,000; Lower <b>Dental Insurance</b> of \$39,000; lower <b>Tuition Reimbursement</b> of \$31,000; and lower <b>Unemployment Insurance</b> of \$30,000.
Worker's Compensation	2,129,398	1,987,644	(141,754)	-6.7%	Underspending due to lower <b>Medical Payments</b> of \$136,000, and <b>Management Costs</b> of \$35,000. This is offset by higher <b>Compensation Payments</b> of \$29,000. <b>Medical payments</b> were lower due to adjustments to reserves for claims resolved through return to work. <b>Management Costs</b> were adjusted as well to reflect resolution of outstanding cases. <b>Compensation Payments</b> were higher due to the settlement of seven claims and higher than budgeted compensation payments. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.

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

Total MWRA	FY18 Budget YTD May	FY18 Actuals YTD May	FY18 YTD Actual vs. FY18 Budget		Explanations
			\$	%	
Chemicals	8,922,512	8,478,660	(443,852)	-5.0%	Underspending for <b>Soda Ash</b> of \$328,000 primarily at CWTP; <b>Activated Carbon</b> of \$259,000 at DITP; <b>Hydrofluosilicic Acid</b> of \$93,000 at CWTP; <b>Sodium Hypochlorite</b> of \$88,000 primarily at DITP, offset by over spending at CWTP; <b>Carbon Dioxide</b> of \$71,000 at CWTP; <b>Sodium Bisulfite</b> of \$56,000 primarily at DITP and CWTP; and <b>Liquid Oxygen</b> of \$46,000 at CWTP. This is offset by overspending on <b>Hydrogen Peroxide</b> of \$277,000 at DITP and <b>Ferric Chloride</b> of \$267,000 also at DITP. The majority of underspending for Chemicals is the result of lower flows both at DITP and CWTP, 13% and 6% respectively through May and the quality of the influent both at DITP and CWTP. 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. For instance, the underspending for Activated Carbon is due to the timing of the change out of carbon beds, which will now take place in June, later in the year than budgeted.
Utilities	19,630,003	20,395,051	765,048	3.9%	Overspending in <b>Diesel Fuel</b> of \$853,000. \$1 million overspending in Diesel Fuel at DITP due to timing of delivery in December 2017 versus budgeted in May and June of 2018, offset by \$185,000 underspending in FOD due to favorable pricing YTD. <b>Water</b> is under budget by \$102,000, with \$52,000 in FOD due to change to water seals at wastewater pump stations and over accrual at the end of FY17 for water pump stations, and \$49,000 at DITP due to slightly lower water use (3.3% less use). <b>Electricity</b> is under budget by \$24,000 in FOD due to favorable pricing (approx. 2¢ under budget per kwh through December) and lower electricity usage at Nut Island and Spot Pond resulting in \$256,000 under budget and for CNY of \$14,000, this is offset by overspending at DITP of \$245,000.

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

Total MWRA	FY18 Budget YTD May	FY18 Actuals YTD May	FY18 YTD Actual vs. FY18 Budget		Explanations
			\$	%	
Maintenance	28,003,856	26,078,633	(1,925,223)	-6.9%	<p>Materials were underspent by \$1.4 million and Services were underspent by \$530,000.</p> <p>Underspending in <b>Specialized Equipment Services</b> of \$925,000 in DITP for timing of PIC upgrade, FOD for instrumentation service contract; <b>Building &amp; Grounds Services</b> of \$900,000 for timing of door replacement contract at DITP, timing of the painting contract at Clinton, and at the Chelsea Facility for carpet replacement and service contracts; <b>Plant &amp; Machinery Materials</b> of \$796,000 primarily in DITP for timing on various items like CTG spare parts, and the W3 strainer on the non-potable water system; <b>HVAC Materials</b> of \$694,000 primarily in FOD for the timing of the B/W IPS and Chelsea HVAC upgrades and DITP for timing of condenser purchases; <b>Electrical Materials</b> of \$372,000 primarily in DITP for timing of instrumentation upgrades and motor replacements; <b>Computer Licenses/Upgrades</b> of \$330,000 in MIS for timing of software maintenance agreements; <b>Electrical Services</b> of \$273,000 in DITP resulting from the delay of the lighting upgrade project; <b>Pipeline Services</b> of \$160,000 for paving in Water Pipe Maintenance; and <b>Computer Materials</b> of \$107,000 for an inventory issuance credit in MIS.</p> <p>Overspending in <b>Plant &amp; Machinery Services</b> of \$2.1 million is comprised of emergency repairs to DITP's gravity thickener #5 &amp; 6, timing of CTG maintenance, Cryo services, and refurbishing slide gates, Metro Maintenance for timing of cleaning of the Headwork air ducts; and <b>Pipeline Materials</b> of \$139,000 in Water Pipe and Valve maintenance groups.</p>



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

Total MWRA	FY18 Budget YTD May	FY18 Actuals YTD May	FY18 YTD Actual vs. FY18 Budget		Explanations
			\$	%	
Training & Meetings	344,700	284,723	(59,977)	-17.4%	Underspending in Operations at DITP and FOD due to timing of training.
Professional Services	6,342,419	6,048,588	(293,831)	-4.6%	<b>Other Professional Services</b> was underspent by \$176,000 primarily in Treasury and Law for timing of legal services, and Operations Admin for timing of Mystic River Modeling Project and Energy Advisory services, offset by over spending in MIS due to the transfer of spending from the CIP budget; <b>Engineering Services</b> were underspent by \$78,000 in Operations primarily at DITP, as well as <b>Legal Services</b> by \$63,000 in HR.
Other Materials	5,075,395	4,541,486	(533,909)	-10.5%	Lower than budgeted spending for <b>Vehicle Purchase/Replacement</b> of \$455,000 due to timing of receipt of purchases; <b>Health and Safety</b> of \$130,000 primarily at DITP, DLS, and Op Support; <b>Vehicle Expenses</b> of \$103,000 due to lower prices for fuel than budgeted; and <b>Computer Software</b> of \$61,000 in SCADA Maintenance both due to timing. This is offset by \$152,000 over spending for postage associated with the unbudgeted Wastewater Consumer Confidence Report.
Other Services	20,389,985	20,585,292	195,307	1.0%	Higher than budgeted spending for <b>Sludge Pelletization</b> of \$368,000 due to higher year to date quantities related to Struvite control and the gravity thickener emergency repairs; <b>Space Lease/Rentals</b> of \$156,000 primarily due to Internal Audit's completing their annual audit of CY16 operating expenses and FY17 property taxes which determined we owe the landlord \$41,000 and increased the common area maintenance and property taxes portions of the monthly bill for FY18; <b>Membership/Dues/ Subscriptions</b> of \$39,000 primarily for timing of payment to Boston Harbor Association (spread in June); and <b>Telephone</b> of \$31,000 in MIS. This is offset by lower spending in <b>Other Services</b> of \$208,000 for a number of services, including timing of remediation projects managed by Real Property/Environmental Management and timing of Technical Assistance for Lead issues; and <b>Police Details</b> of \$77,000 primarily in Water Pipeline Maintenance and Meter Maintenance.
<b>Total Direct Expenses</b>	<b>206,041,630</b>	<b>199,630,531</b>	<b>(6,411,099)</b>	<b>-3.1%</b>	

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

Total MWRA	FY18 Budget YTD May	FY18 Actuals YTD May	FY18 YTD Actual vs. FY18 Budget		Explanations
			\$	%	
<b>Indirect Expenses</b>					
Insurance	1,858,571	2,572,218	713,647	38.4%	Higher claims than budgeted of \$776,000 due to an adverse court case decision, offset by lower premiums of \$62,000.
Watershed/PILOT	23,228,313	22,762,593	(465,720)	-2.0%	Lower Watershed Reimbursement of \$286,000 due to over accrual at the end of FY17 as compared to the actual amount paid in the first quarter of FY18 and \$180,000 in lower PILOT payments.
HEEC Payment	883,795	717,808	(165,987)	-18.8%	Lower than budgeted charges for O&M charges for existing HEEC cable.
Mitigation	1,474,108	1,453,745	(20,363)	-1.4%	Actual inflation rate was 2.08% vs. 2.5% used for the budget.
Addition to Reserves	757,954	757,954	-	0.0%	
Pension Expense	3,277,369	3,277,369	-	0.0%	
Post Employee Benefits	-	-	-		
<b>Total Indirect Expenses</b>	<b>31,480,110</b>	<b>31,541,687</b>	<b>61,577</b>	<b>0.2%</b>	
<b>Debt Service</b>					
Debt Service	417,266,866	417,266,866	-	0.0%	Through May staff have transferred \$3.5 million of a favorable YTD variance to the Defeasance Account. The short-term rates related variance is \$7.1 million lower YTD, \$3.3 million related to the timing of SRF borrowing, and \$1.5 million for senior bond refunding and lower than budgeted costs for issuance of new bonds.
Debt Service Assistance	(391,580)	(391,580)	-	0.0%	
<b>Total Debt Service Expenses</b>	<b>416,875,286</b>	<b>416,875,286</b>	<b>-</b>	<b>0.0%</b>	
<b>Total Expenses</b>					
<b>Total Expenses</b>	<b>654,397,026</b>	<b>648,047,504</b>	<b>(6,349,522)</b>	<b>-1.0%</b>	
<b>Revenue &amp; Income</b>					
Rate Revenue	661,896,000	661,896,000	-	0.0%	
Other User Charges	8,377,421	8,349,712	(27,709)	-0.3%	
Other Revenue	6,736,686	11,629,814	4,893,128	72.6%	\$4.4 million for two settlements, \$4.2 million receipt for settlement between various State Attorneys General and Barclays PLC for attempting to manipulate the LIBOR market and \$228,000 for the final payment of a class action lawsuit settlement for derivative agreements; \$244,000 for disposal of surplus material; and \$17,000 for revenue attributable to renewable energy credits and energy rebates.
Rate Stabilization	-	-	-		
Investment Income	9,049,468	11,051,743	2,002,275	22.1%	Investment Income is over budget mostly due to short term rates higher than budget (1.52% vs. 1.05% budget).
<b>Total Revenue</b>	<b>686,059,575</b>	<b>692,927,269</b>	<b>6,867,694</b>	<b>1.0%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>31,662,549</b>	<b>44,879,765</b>	<b>13,217,216</b>		

**ATTACHMENT 3  
FY18 CIP Year-End Variance Report (000's)**

	FY18 Budget YTD May	FY18 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$43,170	\$36,512	(\$6,658)	-15.4%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction, Design/CA and REI: \$2.2M (delays of water main installation due to pile testing and the concrete channel lining due to service preparation. Also, exterior paneling work delayed due to timing of materials) Alewife Brook Pump Station Rehab - Construction: \$2.4M (testing of dry and wet weather bypass pumps was delayed resulting in a six month time extension. Construction is now progressing on revised schedule) Wastewater Meter System Planning/Study/Design: \$431k (less than budget award) Pump stations and CSO condition assessment: \$458k, and Nut Island Mechanical & Electrical Upgrades - Design/CA: \$150k (schedule changes) Remote Headworks & Deer Island Shafts Rehab - Study: \$167k (contracts not yet awarded) Reading Extension Sewer - Construction: \$307k (work delayed pending correction of lining deficiency) DeLauri Pump Station Screens and Security: \$141k (later than budgeted notice-to-proceed) Cambridge Branch Section 27, 26, and 24: \$144k (completed under budget) <u>Offset Overspending</u> Caruso Pump Station Improvements - Construction: \$165k (additional change order work) Nut Island Odor Control & HVAC Improvements - Design/CA/REI: \$150k (consultant progress) Sections 4, 5, 6, 186 - Study: \$106k (consultant progress)

**ATTACHMENT 3**  
**FY18 CIP Year-End Variance Report (000's)**

	FY18 Budget YTD May	FY18 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Treatment	\$11,466	\$7,729	(\$3,737)	-32.6%	<u>Underspending</u> Chemical Bulk Storage Tanks Relining: \$882k (contract not yet awarded) Miscellaneous VFD Replacements FY18: \$500k (custom manufactured with long lead times and timing of installation. Anticipate receipt of a portion of these drives by year-end.) Digested Sludge Pump Replacement - Phase 2: \$396k and Power System Improvements - Construction: \$311k (for work scheduled for FY18 performed in FY17) Clinton Wastewater Treatment Plant Phosphorus Reduction - Construction: \$296k (six-month time extension due to delays including preliminary testing) Clinton Roofing: \$439k (contract not yet awarded) WTF VFD Replacement - Construction: \$206k (custom manufactured with long lead times and timing of installation) SSPS VFD Replacement - Design/ESDC/REI: \$114k, and Expansion Joint Repair - Construction 3: \$112K (schedule changes) <u>Offset Overspending</u> Phosphorus Removal - Design/ESDC: \$325k (due to amendment for additional work and time extension) Personnel Dock Rehab: \$156k (additional rehab work required)
Residuals	\$2,050	\$269	(\$1,781)	-86.9%	Mechanical Improvements and Electrical improvements: \$1.5M (delay in contract awards) Sludge Tank & Silo Coating: \$319k (commencement of work delayed)
CSO	\$1,753	\$1,787	\$34	1.9%	<u>Underspending</u> Cambridge Sewer Separation: \$198k (pending final cost reconciliation) <u>Offset Overspending</u> CSO Performance Assessment: \$231k (consultant progress greater than planned)
Other Wastewater	\$19,097	\$11,358	(\$7,739)	-40.5%	<u>Underspending</u> I/I Local Financial Assistance: \$7.7M (less than budgeted requests for grants and loans)
<b>Total Wastewater</b>	<b>\$77,536</b>	<b>\$57,655</b>	<b>(\$19,881)</b>	<b>-25.6%</b>	

**ATTACHMENT 3**  
**FY18 CIP Year-End Variance Report (000's)**

	FY18 Budget YTD May	FY18 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$3,423	\$3,649	\$225	6.6%	<u>Overspending</u> Marlborough Maintenance Facility: \$673k (contractor progress) <u>Offset Underspending</u> Miscellaneous contracts totaling \$448k
Transmission	\$21,558	\$24,302	\$2,744	12.7%	<u>Overspending</u> Wachusett Aqueduct Pump Station - Design/ESDC and Construction: \$3.0M (due to project progress) Watershed Land Acquisition: \$834k (timing of land purchases) WASM 3 - MEPA/Design/CA/RI: \$846k (field work scheduled for FY17 performed in FY18) <u>Offset Underspending</u> Shaft 12 Isolation Gates - Design/CA/RI: \$354k (preliminary design report indicates construction costs to be greater than anticipated and therefore project to be reevaluated) Hatchery Pipeline - Construction: \$321k (reconciliation of final cost) Maintenance Garage/Wash Bay/Storage Building: \$307k (construction contract not yet awarded) CVA Motorized Screens Replacement - Construction: \$208k (work scheduled for FY18 performed in FY17) Quabbin Aqueduct and Winsor Power Station - Final Design/CA/RI: \$133k (schedule change) Evaluation of Farm Pond Buildings & Waban Arches: \$132k (project is substantially complete and will be less than budgeted. Decision pending on demolition vs. rehabilitation as next phase.)

**ATTACHMENT 3**  
**FY18 CIP Year-End Variance Report (000's)**

	FY18 Budget YTD May	FY18 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$36,581	\$36,846	\$265	0.7%	<u>Overspending</u> NIH Section 89/29 Redundancy Phase 1B and 1C and Phase 2 : \$2.1M, and SEH Redundancy Pipeline Section 111 Phase 1 - Design/CA/RI and Construction: \$1.3M (all due to project progress) Redundancy Pipeline Section 111 Phase 2 - Construction: \$235k (contractor progress) <u>Offset Underspending</u> SEH Redundancy Pipeline Section 111 Phase 3 - Construction: \$1.4M (contract award later than anticipated) Sections 53 and 99 Connection -Design/CA/RI: \$400k (contract not yet awarded) Chestnut Hill Gatehouse No. 1 Repair - Construction: \$207k (award less than budget) Sections 50 & 57 Water & 19/20/21 Sewer Rehab - Design/ESDC: \$237k (delay in field testing due to weather. Work has resumed and expect to be on schedule by year-end.) Sections 23, 24, 47 Rehab - Final Design/CA/RI: \$200k (Delay due to coordination of field work to determine pipe condition and establish test pits.
Other Waterworks	\$12,620	\$6,374	(\$6,246)	-49.5%	<u>Underspending</u> Local Water System Assistance Program: \$5.1M (less than budgeted community requests for loans) CWTP SCADA Upgrades - Design, Programming/REI: \$250k (schedule change) Cosgrove Intake Roof Replacement: \$338k (contract not yet awarded) Steel Tank Improvements - Design/CA/RI: \$313k (due to schedule shift) Quabbin Power, Communication & Security - Construction: \$122k (partially due to reimbursement from DCR Office of Watershed Management for work at boat cove)
<b>Total Waterworks</b>	<b>\$74,183</b>	<b>\$71,171</b>	<b>(\$3,013)</b>	<b>-4.1%</b>	

**ATTACHMENT 3**  
**FY18 CIP Year-End Variance Report (000's)**

	FY18 Budget YTD May	FY18 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	\$5,643	\$2,586	(\$3,056)	-54.2%	<u>Underspending</u> Security Equipment: \$1.6M (delay in implementing equipment initiatives) MIS Projects: \$1.5M (timing of IT Strategic Plan implementation) <u>Offset Overspending</u> Vehicle Purchases: \$261k ( timing of vehicle purchases) Fish Hatchery Pipeline Hydroelectric: \$199k (reconciliation of final cost)
<b>Total MWRA</b>	\$157,362	\$131,412	(\$25,950)	-16.5%	

**ATTACHMENT 4**


**FY18 Budget vs FY18 Projection**

TOTAL MWRA	FY18 Budget	FY18 Projection	Change	
			FY18 Budget vs FY18 Projection	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 104,286,370	\$ 100,782,302	\$ (3,504,068)	-3.4%
OVERTIME	4,110,637	4,577,713	467,076	11.4%
FRINGE BENEFITS	20,997,975	20,149,975	(848,000)	-4.0%
WORKERS' COMPENSATION	2,322,980	2,572,308	249,328	10.7%
CHEMICALS	9,836,933	9,692,216	(144,717)	-1.5%
ENERGY AND UTILITIES	21,735,222	22,253,248	518,026	2.4%
MAINTENANCE	32,200,786	32,673,083	472,297	1.5%
TRAINING AND MEETINGS	406,269	402,531	(3,738)	-0.9%
PROFESSIONAL SERVICES	7,221,622	6,896,945	(324,677)	-4.5%
OTHER MATERIALS	6,692,659	6,472,686	(219,973)	-3.3%
OTHER SERVICES	22,764,526	22,932,606	168,080	0.7%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 232,575,979</b>	<b>\$ 229,405,613</b>	<b>\$ (3,170,366)</b>	<b>-1.4%</b>
INSURANCE	\$ 2,013,452	\$ 2,805,581	792,129	39.3%
WATERSHED/PILOT	25,164,006	24,157,126	(1,006,880)	-4.0%
HEEC PAYMENT	957,445	819,191	(138,254)	-14.4%
MITIGATION	1,596,950	1,574,890	(22,060)	-1.4%
ADDITIONS TO RESERVES	821,116	821,116	-	0.0%
RETIREMENT FUND	3,277,369	3,277,369	-	0.0%
POSTEMPLOYMENT BENEFITS	5,035,422	5,035,422	-	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 38,865,760</b>	<b>\$ 38,490,695</b>	<b>\$ (375,065)</b>	<b>-1.0%</b>
STATE REVOLVING FUND	\$ 84,931,906	\$ 80,637,871	(4,294,035)	-5.1%
SENIOR DEBT	264,560,267	263,760,267	(800,000)	-0.3%
SUBORDINATE DEBT	85,443,447	85,443,447	-	0.0%
LOCAL WATER PIPELINE CP	3,794,944	1,482,833	(2,312,111)	-60.9%
CURRENT REVENUE/CAPITAL	13,200,000	13,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	10,900,000	10,900,000	-	
VARIABLE RATE SAVINGS	-	(7,727,273)	(7,727,273)	
DEFEASANCE ACCOUNT	-	15,133,419	15,133,419	
DEBT SERVICE ASSISTANCE	(391,580)	(1,336,306)	(944,726)	241.3%
HEEC CABLE CAPACITY RESERVE FUND	6,532,146	6,532,146	-	0.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 472,188,190</b>	<b>\$ 471,243,464</b>	<b>\$ (944,726)</b>	<b>-0.2%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 743,629,929</b>	<b>\$ 739,139,772</b>	<b>\$ (4,490,157)</b>	<b>-0.6%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 717,054,000	\$ 717,054,000	-	0.0%
OTHER USER CHARGES	9,011,070	9,011,070	-	0.0%
OTHER REVENUE	7,359,078	12,159,078	4,800,000	65.2%
RATE STABILIZATION	-	-	-	
INVESTMENT INCOME	10,205,781	12,183,869	1,978,088	19.4%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 743,629,929</b>	<b>\$ 750,408,017</b>	<b>\$ 6,778,088</b>	<b>0.9%</b>

VARIANCE: \$ (11,268,245) \$ (11,268,245)




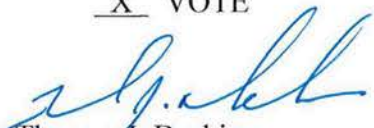
## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 20, 2018  
**SUBJECT:** FY19 Final Capital Improvement Program

**COMMITTEE:** Administration, Finance & Audit

     INFORMATION  
  X   VOTE

  
Kathy Soni, Budget Director  
Louise Miller, Budget Manager  
 Preparer/Title

  
Thomas J. Durkin  
 Director, Administration and Finance

*The FY19 Capital Improvement Program represents a milestone as FY19 is the first year of the next five-year Cap. The proposed five-year spending of \$985 million over the FY19-23 horizon is \$193 million higher than the prior Cap. This reflects the higher anticipated spending for asset protection and water redundancy projects. Total bonded indebtedness is expected to continue to decline during the Cap period.*

**RECOMMENDATION:**

1. To approve the Final FY19 Capital Improvement Program with a total budget of \$179.2 million for FY19 including \$151.7 million in project spending and \$27.5 million in community assistance.
2. To approve a five-year capital budget Cap spending for the period FY19 through FY23 of \$984.8 million with the following annual cash flows:

	FY19	FY20	FY21	FY22	FY23	FY19-23
Cap Spending in (millions)	\$162.3	\$262.8	\$242.0	\$179.6	\$138.1	\$984.8

Cap spending includes total budget spending, contingency, and inflation, and is offset by community assistance and Chicopee Valley Aqueduct adjustments.

In the event that the five-year spending projection exceeds the five-year base-line Cap in any of the Proposed or Final Capital Improvement Program budget cycles, the Executive Director may request approval from the Board of Directors for higher spending.

3. To approve the responses to the Advisory Board's Combined Recommendations and Comments on the MWRA's FY19 Capital Improvement and Current Expense Budgets.

**DISCUSSION:**

The FY19 Final Capital Improvement Program represents an update to the FY19 Proposed program presented to the Board in December 2018. The FY19-23 cap spending is \$984.8 million, a \$216.2 million decrease from Proposed cap spending. The cap presented today slightly exceeds the Advisory Board recommendation that capital spending within the FY19-23 timeframe not exceed \$950 million.

Most of the reduction in the cap spending was achieved by carefully reviewing project schedules and adjusting construction start dates. The spending projections set forth here are the result of prioritizing the planned projects, establishing realistic cost estimates based on the latest information, ensuring there is adequate support for MWRA’s core operations, and meeting all regulatory requirements.

**FY19-23 Cap Spending**

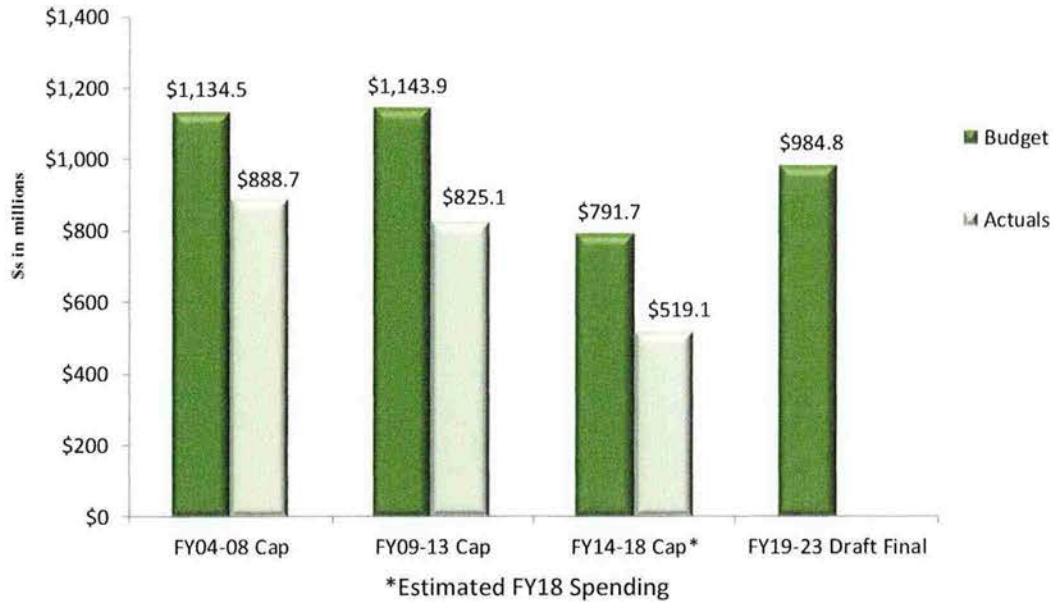
MWRA spending during the FY19-23 timeframe is planned to be \$984.8 million, with additional spending of \$123.2 million for the community I/I loan and grant program and \$32.4 million for the community water pipeline loan program.

Annual cash flows for the FY19-23 cap period are shown below in millions:

FY19 Draft Final		FY19	FY20	FY21	FY22	FY23	Total FY19-23
	Projected Expenditures	\$179.2	\$276.1	\$251.3	\$194.9	\$150.4	\$1,051.8
I/I Program	(19.2)	(25.7)	(24.3)	(27.9)	(26.1)	(123.2)	
Water Loan Program	(8.3)	(8.4)	(7.2)	(5.6)	(2.8)	(32.4)	
<b>MWRA Spending</b>	<b>151.7</b>	<b>241.9</b>	<b>219.7</b>	<b>161.4</b>	<b>121.4</b>	<b>\$896.2</b>	
Contingency	9.9	15.9	14.5	11.0	8.2	59.4	
Inflation on Unawarded Construction	0.7	5.0	7.8	7.2	8.5	29.3	
Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)	
<b>FY19-23 Cap Spending</b>	<b>\$162.3</b>	<b>\$262.8</b>	<b>\$242.0</b>	<b>\$179.6</b>	<b>\$138.1</b>	<b>\$984.8</b>	

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

The proposed FY19-23 cap cash flow totals \$984.8 million, an increase of \$193.1 million over the FY14-18 cap, but less than the FY04-08 and FY09-13 caps which both exceeded \$1.1 billion.



The FY14-18 Cap period marked the substantial completion of the last of the MWRA’s court-mandated projects. The primary driver for the increase in spending between the FY14-18 cap and the FY19-23 cap is the shift in spending to asset protection and water system redundancy.

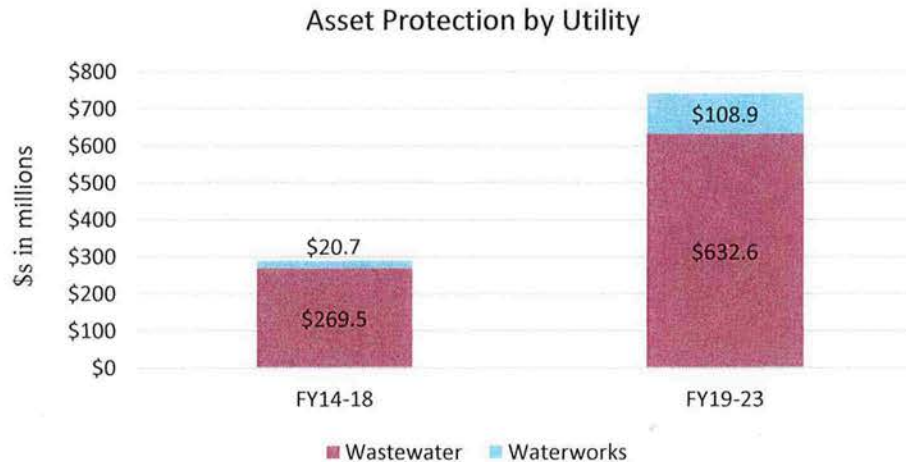
The FY19-23 timeframe is dominated by several large projects with the top seven projects totaling nearly \$354 million and accounting for 33.6% of FY19-23 spending. Large initiatives include the Clarifier Rehabilitation at Deer Island and Chelsea Creek Upgrades at \$134.1 and \$54.0 million, respectively.

Project	Phase	FY19-23 (\$s in millions)
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2	\$134.1
Facility Asset Protection	Chelsea Creek Upgrades	\$54.0
DI Treatment Plant Asset Protection	HVAC Equipment Replacement	\$42.8
Corrosion & Odor Control	NI Odor Control & HVAC Improvements	\$41.5
Facility Asset Protection	Prison Point Rehabilitation	\$33.5
Metropolitan Tunnel Redundancy Interim Improvements	WASM 3 Construction Project 1	\$26.3
DI Treatment Plant Asset Protection	Fire Alarm System Replacement	\$21.3

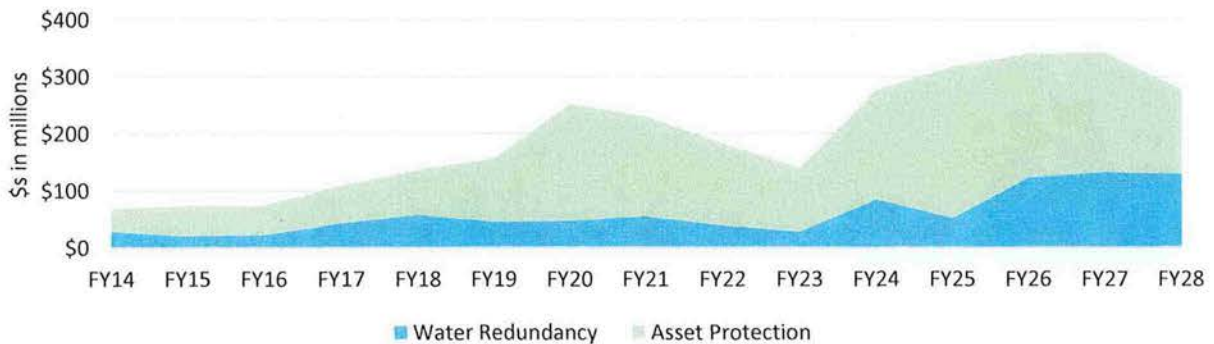
**Top 7 Spenders FY19-23**

**\$353.5**

In terms of utility spending, wastewater asset protection accounts for more than 60% of the FY19-23 projected spending at \$632.6 million of which \$305.3 million is designated for the Deer Island Wastewater Treatment Plant and \$288.3 million for headworks and pipelines. The \$108.9 million targeted for waterworks includes over \$60.1 million for water pipeline.



As illustrated by the following graph, the next two waves of spending over the FY19-23 Cap period and the FY24-28 Cap period will be for asset protection and water redundancy. This reflects MWRA's commitment to maintaining its physical plant and addressing the need for water system redundancy in some critical service areas. Total asset protection spending for FY19-23 is projected at \$751.1 million or over 71% of projected spending. Similarly, water redundancy spending for FY19-23 is projected at \$213.7 million or 20.3% of projected FY19-23 spending.



**FY19 Final CIP Future Expenditures**

The FY19 Final CIP contains future spending estimated at \$3.9 billion. It should be noted that the FY19 Final CIP was increased by \$68.3 million from the FY19 Proposed CIP due primarily to additional I/I Program phases and increased Corrosion and Odor Control at Nut Island, which increased nearly \$60 million and \$14.5 million, respectively, offset by smaller reductions to a number of projects.

The table below represents the projected spending by the major project categories:

	Projected Spending After FY17	FY19	FY20	FY21	FY22	FY23	Total FY19-23	Beyond 23
<b>Wastewater System Improvements</b>	<b>\$1,607.5</b>	<b>\$93.8</b>	<b>\$183.2</b>	<b>\$157.5</b>	<b>\$120.4</b>	<b>\$88.2</b>	<b>\$643.2</b>	<b>\$890.3</b>
Interception & Pumping	553.5	46.9	71.7	47.0	12.9	10.1	188.7	322.8
Treatment	725.6	21.9	78.7	82.0	78.6	50.9	312.1	402.8
Residuals	103.0	3.2	4.3	1.8	1.0	1.1	11.5	90.9
CSO	9.6	2.6	2.7	2.4	-	-	7.7	-
Other Wastewater	215.8	19.2	25.7	24.3	27.9	26.1	123.2	73.7
<b>Waterworks System Improvements</b>	<b>\$2,225.3</b>	<b>\$77.1</b>	<b>\$80.9</b>	<b>\$82.5</b>	<b>\$71.1</b>	<b>\$58.5</b>	<b>\$370.1</b>	<b>\$1,771.5</b>
Drinking Water Quality Improvements	57.5	1.7	2.2	1.9	1.8	0.5	8.1	45.3
Transmission	1,485.4	7.2	6.1	5.9	4.1	7.2	30.5	1,430.2
Distribution & Pumping	752.1	48.6	60.0	60.8	50.1	39.0	258.5	452.0
Other Waterworks	(69.8)	19.6	12.6	13.9	15.0	11.8	72.9	(156.0)
<b>Business &amp; Operations Support</b>	<b>54.1</b>	<b>8.3</b>	<b>11.9</b>	<b>11.3</b>	<b>3.4</b>	<b>3.6</b>	<b>38.6</b>	<b>11.7</b>
<b>Total MWRA</b>	<b>\$3,886.8</b>	<b>\$179.2</b>	<b>\$276.1</b>	<b>\$251.3</b>	<b>\$194.9</b>	<b>\$150.4</b>	<b>\$1,051.8</b>	<b>\$2,673.5</b>

### Community Loan Programs

The MWRA offers its water and wastewater communities loan and grant opportunities for infrastructure preservation. Community loans are repaid to MWRA over a 5-year or a 10-year period. On the water side, the program's goal is to improve local water system pipeline conditions to help maintain high water quality distribution from MWRA's treatment plant through local pipelines to customers' taps. The water loan program was established in 1988 and over 527 miles of pipeline have been improved. Similarly, on the wastewater side, the I/I Local Financial Assistance Program provides MWRA sewer communities funding to perform local infiltration and inflow "I/I" reduction and sewer rehabilitation. The I/I program was established in 1993 and funds are currently approved for distribution through Fiscal Year 2025.

In FY19, \$300 million was added to the I/I Program, including I/I Phases 11 and 12 of \$100 million each plus an additional \$100 million loan only program.

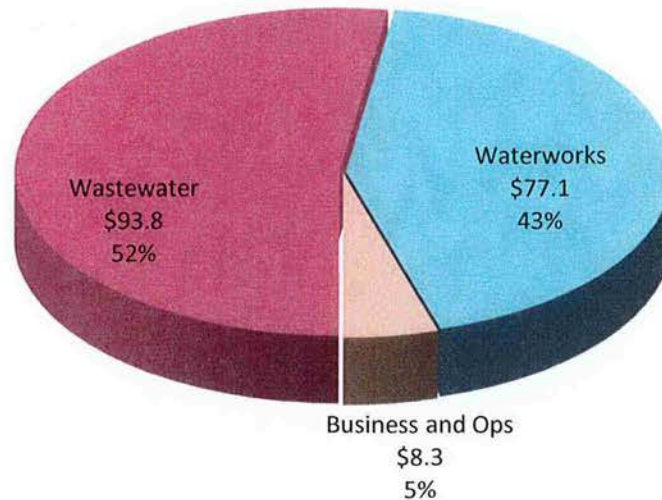
Over the FY19-23 timeframe \$123.2 million in funding is projected to be distributed to MWRA wastewater communities and \$32.4 million is projected to be distributed to MWRA water communities.

	FY19	FY20	FY21	FY22	FY23	FY19-23
I/I Local Financial Assistance (net of repayments)	\$19.2	\$25.7	\$24.3	\$27.9	\$26.1	\$123.2
Local Water Pipeline Improvements (net of repayments)	\$8.3	\$8.4	\$7.2	\$5.6	\$2.8	\$32.4

### FY19 Spending

The FY19 Proposed CIP forecasts \$179.2 million spending for FY19, of which \$93.8 million supports Wastewater System Improvements, \$77.1 million supports Waterworks System Improvements, and \$8.3 million is for Business and Operations Support. Included in the \$179.2

million are net expenditures of \$27.5 million for community assistance programs: \$19.2 million for the local I/I program and \$8.3 million for the local water pipeline program.



Project contracts with spending greater than approximately \$5 million in FY19, excluding local community assistance programs, total \$71.4 million and account for nearly 40% of the total annual projected annual spending.

Project	Contract	Projected FY19 Expenditures \$s in millions
145 Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$27.2
765 Local Water Pipeline Improvement	Phase 2 Loan Distributions	\$20.0
722 NIH Redundancy & Storage	Section 89 & 29 Redundancy Construction Phase 2	\$12.8
727 SEH Redundancy & Storage	Redundancy Pipeline Sect 111 - Construction 2	\$8.2
765 Local Water Pipeline Improvement	Phase 3 Loan Distributions	\$8.0
727 SEH Redundancy & Storage	Redundancy Pipeline Sect 111 - Construction 3	\$7.6
128 I/I Local Financial Assistance	Phase X Grants	\$7.5
128 I/I Local Financial Assistance	Phase IX Grants	\$7.5
766 Waterworks Facility Asset	Paint Bellevue II, Turkey Hill Tanks	\$5.6
132 Corrosion & Odor Control	Nut Island Odor Control HVAC Improvement Construction	\$5.2
206 DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$4.9
	<b>Total Contracts &gt; \$5.0 million</b>	<b>\$114.4</b>
	<b>% of FY19 Spending</b>	<b>63.8%</b>
	<b>Excluding Community Loan Programs</b>	<b>\$71.4</b>
	<b>% of FY19 Spending</b>	<b>39.8%</b>
	<b>Total Projected FY19 Spending</b>	<b>\$179.2</b>

**Chelsea Creek Headworks Upgrade Construction** - \$27.2 million (\$80.5 million total construction cost). This major rehabilitation project includes replacement/upgrade to the screens, grit collection system, grit and handling systems, odor control systems, HVAC, mechanical, plumbing and instrumentation. Solids handling systems are being automated and the building's egress and fire suppressions systems are also being upgraded.

**Northern Intermediate High Section 89 & 29 Redundancy Construction Phase 2** - \$12.8 million (\$22.7 million total construction cost). This is a redundancy project for MWRA's Northern Intermediate High service area. Currently, this area is primarily supplied by a single 48-inch diameter pipeline, the Gillis Pump Station, and water distribution storage from the Bear Hill Tank. This project includes a new seven-mile redundant pipeline under four construction phases. This project will provide uninterrupted water supply to the service area in the event of a failure of the existing single supply pipe and will allow the existing pipe to be removed from service for inspection, maintenance, and repair. Phase 1A was completed; Phase 1B has reached substantial completion. Phase 1C and Phase 2 commenced in January 2017 and September 2017, respectively.

**Southern Extra High Redundancy Section 111 Phase 2 & 3 Construction** - \$15.8 million (\$36.4 million total construction cost). This is a redundancy project for MWRA's Southern Extra High service area. This project will provide redundancy to Sections 77 and 88 serving Boston, Norwood, Stoughton, and Dedham-Westwood, through construction of a redundant pipeline. Phase 1 will be substantially complete in September 2018. Phase 2 began in October 2017 and Phase 3 was awarded in May 2018.

**Nut Island Odor Control and HVAC Improvements - Construction Phase 2** - \$5.2 million (\$38.2 million total construction cost). Improvements to the Nut Island Headworks odor control, HVAC and energy management systems. These are the long-term improvement projects that arose following the January 2016 fire and the odor control, HVAC and energy management systems evaluation contract completed in February 2017.

**Steel Tanks Repainting: Bellevue 2, Turkey Hill** - \$5.6 million (\$5.7 million total construction cost). This contract includes the repainting of two (Bellevue 2 and Turkey Hill) out of six steel water distribution storage tanks. The remaining four steel tanks (Deer Island, Bellevue 1, Arlington Heights and Walnut Hill) require structural and SCADA improvements and repainting will be included with these improvements under future contracts. The Deer Island water tank repainting and improvements will be a done under a separate contact.

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

**Clarifier Rehabilitation Phase 2 Construction** - \$4.9 million (\$129.9 million total construction cost). This project will rehabilitate the sludge removal system in the primary tanks and the aeration/recirculation systems in the secondary tanks. The influent gates, effluent launders and aeration systems, and concrete corrosion in primary clarifiers will also be addressed and repaired. This contract is expected to commence in November 2018.

## Major Planned Contract Awards for FY19:

In Fiscal Year 2019, 55 contracts totaling \$405.7 million are projected to be awarded. The largest fifteen projected contract awards total \$343 million and account for nearly 85% of expected awards and are presented in the following table.

Program / Project	Subphase	Total Contract Amount
206 DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	\$129.9
206 DI Treatment Plant Asset Protection	HVAC Equipment Replacement - Construction	\$40.2
132 Corrosion & Odor Control	Nut Island Odor Control HVAC Improvements Construction Phase 2	\$38.2
145 Facility Asset Protection	Prison Point Rehabilitation - Construction	\$31.7
206 DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	\$20.0
618 Peabody Pipeline Project	Peabody Pipeline Construction	\$15.2
702 New Connect Mains-Shaft 7 to WASM 3	CP3-Sect 23,24,47, Rehabilitation	\$14.3
206 DI Treatment Plant Asset Protection	Motor Control Center & Switchgear Replace Construction	\$10.6
625 Metropolitan Tunnel Redundancy	Conceptual Design Environmental Impact Report	\$9.0
628 Metropolitan Tunnel Redundancy Interim Improvements	Commonwealth Ave Pump Station Improvements Construction	\$7.0
628 Metropolitan Tunnel Redundancy Interim Improvements	Chestnut Hill Emergency Pump Station Design/Construction Administration/Resident Inspection	\$6.7
766 Waterworks Facility Asset Protection	Paint Bellevue II and Turkey Hill Tanks	\$5.7
145 Facility Asset Protection	Inter Ren 3, Dorchester Interceptor Sewer - Construction	\$5.6
693 NHS - Revere & Malden Pipeline Improvements	Section 53 and 99 Connections-Design CA/RI	\$4.8
206 DI Treatment Plant Asset Protection	South System Pump Station VFD Replacement Design/Engineering Services During Construction/Resident Engineer Inspection	\$4.5
<b>Top 15 Contract Awards</b>		<b>\$343.4</b>

## CIP Review and Adoption Process

In December, the MWRA transmitted the FY19 Proposed Capital Improvement Program to the Advisory Board for its review and comment. The Advisory Board issued its Integrated Comments and Recommendations in May. Please refer to Attachment D for the Authority's responses to the Advisory Board's Comments and Recommendations.

## ATTACHMENTS:

- A. New Capital Projects Added to the FY19 CIP
- B. FY19 Final Expenditure Forecast at Project Level
- C. Comparison of the FY19 Final CIP and the FY18 Final CIP
- D. MWRA Responses to Advisory Board's FY19 Integrated CIP and CEB Comments and Recommendations



**Attachment A**  
**FY19 New Capital Projects Added to the FY19 CIP (\$000s)**

Program	Project	Subphase	Total Contract Amount	NTP	SC	FY14-18	FY19	FY20	FY21	FY22	FY23	FY19-23	Beyond FY23	
Treatment	DITP Asset Protection	Hydroturbine Replacements Design/ESDC/REI	\$ 1,860	Jun-20	Sep-26			\$ 390	\$ 260	\$ 267	\$ 320	\$ 1,237	\$ 623	
		Hydroturbine Replacements Construction	\$ 9,300	Mar-22	Sep-25							\$ 1,191	\$ 1,191	\$ 8,109
		DI Radio Repeater System Upgrade 1	\$ 500	Apr-18	Aug-18	\$ 250	\$ 250						\$ 250	
		DI Radio Repeater System Upgrade 2	\$ 2,500	Apr-19	Dec-19		\$ 313	\$ 2,187					\$ 2,500	
Other Wastewater	I/I Local Financial Assistance Program	Phases 11 and 12	\$ 150,000	Aug-18	Aug-35		\$ 4,000	\$ 9,900	\$ 13,650	\$ 17,300	\$ 18,850	\$ 63,700	\$ 86,300	
		I/I Loans Only	\$ 100,000	Jul-23	Jun-30									\$ 100,000
		I/I Loans Only Repayment	\$ (100,000)	Jul-24	Jun-40									\$ (100,000)
Drinking Water Quality Improvements	Carroll Water Treatment Asset Protection	HVAC Equipment Replacement	\$ 1,750	Jul-19	May-22			\$182	\$757	\$811		\$ 1,750	\$ -	
		CWTP Chemical Pipe System Pipe, Pumps and Tank Replacement	\$ 4,000	Jul-27	Jun-29								\$ -	4,000
		CWTP Water Pump Replacement	\$ 2,000	Jul-27	Jul-30								\$ -	2,000
		Ozone Generator Replacement	\$ 20,000	Oct-27	Oct-30								\$ -	20,000

**Attachment A**  
**FY19 New Capital Projects Added to the FY19 CIP (\$000s)**

Program	Project	Subphase	Total Contract Amount	NTP	SC	FY14-18	FY19	FY20	FY21	FY22	FY23	FY19-23	Beyond FY23	
Drinking Water Quality Improvements	Carroll Water Treatment Asset Protection	Ultra Violet Reactor Replacement	\$ 10,000	Oct-32	Oct-34							\$ -	10,000	
Transmission	Dam Projects	Sudbury/Foss Dam Impr/Wach North Dike Overtopping Protection Design CA/RI	\$ 210	Jul-18	Jun-20		79	105	26			\$ 210		
		Sudbury/Foss Dam Impr/Wach North Dike Overtopping Protection Construction	\$ 1,600	Oct-19	Sep-20			800	800				\$ 1,600	
Transmission	Sudbury/West on Aqueduct Repairs	Waban Arches Bridge - Rehabilitation Design CA/RI	\$ 300	Oct-23	Oct-28							\$ -	300	
		Waban Arches Bridge - Rehabilitation Construction	\$ 1,200	Oct-25	Oct-27								\$ -	1,200
		Farm Pond Inlet Chamber and Gate House - Rehabilitation Design CA/RI	\$ 400	Oct-24	Oct-29								\$ -	400
		Farm Pond Inlet Chamber and Gate House - Rehabilitation Construction	\$ 2,000	Oct-26	Oct-28								\$ -	2,000
	Watershed Land	Watershed Land Acquisition	\$ 5,000	Jul-19	Jun-23		1,000	1,000	1,000	1,000	1,000	1,000	\$ 5,000	
Distribution and Pumping	Cathodic Protection	Cathodic Protection (Western System) Design CA/RI	\$ 930	Jul-19	Jun-23			186	248	248	227	\$ 909	21	

**Attachment A**  
**FY19 New Capital Projects Added to the FY19 CIP (\$000s)**

Program	Project	Subphase	Total Contract Amount	NTP	SC	FY14-18	FY19	FY20	FY21	FY22	FY23	FY19-23	Beyond FY23	
Distribution and Pumping	Cathodic Protection	Cathodic Protection (Western System) Construction	\$ 4,300	Jul-21	Jun-23					941	941	\$ 1,882	2,418	
		Cathodic Protection (Metro System) Design CA/RI	\$ 9,207	Jul-20	Jun-26				1,234	1,523	1,523	\$ 4,280	4,927	
		Cathodic Protection (Metro System) Construction	\$ 47,100	Jan-23	Dec-26							3,551	\$ 3,551	43,549
	NHS Revere & Malden Pipeline Improvements	Sections 13 & 48 Rehabilitation Design CA/RI	\$ 2,150	Jul-24	Jul-29								\$ -	2,150
		Sections 13 & 48 Rehabilitation Construction	\$ 10,750	Jul-26	Jul-28								\$ -	10,750
	Other Waterworks	Waterworks Facility Asset Protection	New Roofs at Water Pumping Stations Design CA/RI	\$ 100	Jul-24	Jun-27							\$ -	100
New Roofs at Water Pumping Stations Construction			\$ 500	Jul-25	Jun-26								\$ -	500
Generator Docking Station			\$ 820	Sep-18	Mar-20		400	420					\$ 820	
Distribution System Facilities Mapping		Water System Hydraulic Model	\$ 500	Jul-19	Jun-20			375	125				\$ 500	
Business & Operations Support	Capital Maintenance Planning & Support	As-Needed CA/REI Contract 1	\$ 1,500	Sep-18	Sep-21		284	486	486	244		\$ 1,500		
		As-Needed CA/REI Contract 2	\$ 1,500	Sep-18	Sep-21		284	486	486	244		\$ 1,500		

**Attachment A**  
**FY19 New Capital Projects Added to the FY19 CIP (\$000s)**

Program	Project	Subphase	Total Contract Amount	NTP	SC	FY14-18	FY19	FY20	FY21	FY22	FY23	FY19-23	Beyond FY23
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**SUMMARY:**

Total Wastewater Projects	S	164,160			S	250	S	4,563	S	12,477	S	13,910	S	17,567	S	20,361	S	68,878	S	95,032
Total Waterworks Projects	S	124,817			S	-	S	1,479	S	3,068	S	4,190	S	4,523	S	7,242	S	20,502	S	104,315
Business & Operations Support	S	3,000					S	568	S	972	S	972	S	488	S	-	S	3,000	S	-
Total Projects	S	291,977			S	250	S	6,610	S	16,517	S	19,072	S	22,578	S	27,603	S	92,380	S	199,347

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
<b>Total MWRA</b>	<b>8,009,084,810</b>	<b>4,122,238,679</b>	<b>3,886,846,131</b>	<b>161,510,969</b>	<b>595,624,733</b>	<b>1,051,829,276</b>	<b>2,673,505,833</b>
<b>Wastewater</b>	<b>3,603,551,846</b>	<b>1,996,065,483</b>	<b>1,607,486,355</b>	<b>74,023,307</b>	<b>334,088,135</b>	<b>643,199,318</b>	<b>890,263,716</b>
<b>Interception &amp; Pumping</b>	<b>1,115,504,219</b>	<b>562,049,109</b>	<b>553,455,111</b>	<b>41,994,456</b>	<b>83,503,501</b>	<b>188,701,158</b>	<b>322,759,499</b>
102 Quincy Pump Facilities	25,907,202	25,907,203	-	-	-	-	-
104 Braintree-Weymouth Relief Facilities	239,377,570	227,704,621	11,672,949	-	689	1,813,500	9,859,448
105 New Neponset Valley Relief Sewer	30,300,303	30,300,303	-	-	-	-	-
106 Wellesley Extension Replacement Sewer	64,358,543	64,358,543	-	-	-	-	-
107 Framingham Extension Relief Sewer	47,855,986	47,855,986	-	-	-	-	-
127 Cummingsville Replacement Sewer	8,998,768	8,998,767	-	-	-	-	-
130 Siphon Structure Rehabilitation	6,167,506	939,770	5,227,736	-	-	5,227,736	-
131 Upper Neponset Valley Sewer System	54,174,078	54,174,078	-	-	-	-	-
132 Corrosion & Odor Control	76,754,148	3,700,377	73,053,771	2,248,065	2,947,036	41,501,712	29,303,995
136 West Roxbury Tunnel	11,313,573	10,313,573	1,000,000	-	-	-	1,000,000
137 Wastewater Central Monitoring	27,482,036	19,782,036	7,700,000	-	(165)	2,200,000	5,500,000
139 South System Relief Project	4,939,244	3,439,244	1,500,000	-	-	-	1,500,000
141 Wastewater Process Optimization	10,305,995	1,501,768	8,804,228	-	296,588	-	8,804,228
142 Wastewater Meter System - Equipment Replacement	28,732,912	5,137,912	23,595,000	974,270	974,270	13,678,884	8,941,846
143 Regional I/I Management Planning	168,987	168,987	-	-	-	-	-

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
145 Facility Asset Protection	472,969,868	57,765,941	415,203,927	38,772,121	79,285,083	123,581,826	252,849,982
146 D.I. Cross Harbor Tunnel	5,000,000	-	5,000,000	-	-	-	5,000,000
147 Randolph Trunk Sewer Relief	697,500	-	697,500	-	-	697,500	-
<b>Treatment</b>	<b>1,017,420,091</b>	<b>291,824,297</b>	<b>725,595,793</b>	<b>10,670,551</b>	<b>117,772,078</b>	<b>312,076,303</b>	<b>402,848,934</b>
182 DI Primary and Secondary Treatment	(957,878)	(957,878)	-	-	-	-	-
200 DI Plant Optimization	33,278,599	33,278,599	-	-	(148,080)	-	-
206 DI Treatment Plant Asset Protection	956,523,317	244,876,489	711,646,827	8,536,170	105,912,084	305,312,299	397,798,354
210 Clinton Wastewater Treat Plant	26,364,379	12,415,413	13,948,966	2,134,381	12,024,074	6,764,004	5,050,580
211 Laboratory Services	2,211,674	2,211,674	-	-	(16,000)	-	-
<b>Residuals</b>	<b>167,642,623</b>	<b>64,642,623</b>	<b>103,000,000</b>	<b>568,400</b>	<b>675,207</b>	<b>11,487,156</b>	<b>90,944,444</b>
261 Residuals	63,810,848	63,810,848	-	-	-	-	-
271 Residuals Asset Protection	103,831,775	831,775	103,000,000	568,400	675,207	11,487,156	90,944,444
<b>CSO</b>	<b>910,119,052</b>	<b>900,500,660</b>	<b>9,618,384</b>	<b>1,906,956</b>	<b>64,701,292</b>	<b>7,711,418</b>	<b>-</b>
<b>MWRA Managed</b>	<b>433,534,309</b>	<b>433,534,308</b>	<b>-</b>	<b>-</b>	<b>3,655,831</b>	<b>-</b>	<b>-</b>
339 North Dorchester Bay	221,509,794	221,509,793	-	-	(110,812)	-	-
347 East Boston Branch Sewer Relief	85,637,164	85,637,164	-	-	(8,831)	-	-
348 BOS019 Storage Conduit	14,287,581	14,287,581	-	-	-	-	-
349 Chelsea Trunk Sewer	29,779,319	29,779,319	-	-	-	-	-
	141,376,507	141,376,508	-	-	-	-	-
350 Union Park Detention Treatment Facility	49,583,406	49,583,406	-	-	-	-	-

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
353 Upgrade Existing CSO Facilities	22,385,200	22,385,200	-	-	-	-	-
354 Hydraulic Relief Projects	2,294,549	2,294,549	-	-	-	-	-
355 MWR003 Gate & Siphon	4,424,219	4,424,219	-	-	3,775,474	-	-
357 Charles River CSO Controls	3,633,077	3,633,077	-	-	-	-	-
Community Managed	423,774,829	418,758,098	5,016,725	1,258,957	61,553,620	3,757,757	-
340 Dorchester Bay Sewer Separation (Fox Point)	55,028,985	55,028,985	-	-	876,689	-	-
341 Dorchester Bay Sewer Separation (Commercial Point)	63,619,398	59,861,640	3,757,758	-	(1,285,510)	3,757,757	-
342 Neponset River Sewer Separation	2,491,746	2,491,746	-	-	47,352	-	-
343 Constitution Beach Sewer Separation	3,731,315	3,731,315	-	-	(37,573)	-	-
344 Stony Brook Sewer Separation	44,319,314	44,319,313	-	-	120,929	-	-
346 Cambridge Sewer Separation	104,552,056	103,297,502	1,254,553	1,254,551	54,067,850	-	-
351 BWSC Floatables Controls	945,936	945,936	-	-	12,957	-	-
352 Cambridge Floatables Controls	1,126,708	1,126,708	-	-	39,783	-	-
356 Fort Point Channel Sewer Separation	11,507,257	11,507,256	-	-	(499,452)	-	-
358 Morrissey Boulevard Drain	32,181,035	32,181,034	-	-	(165,754)	-	-
359 Reserved Channel Sewer Separation	70,524,212	70,519,798	4,414	4,406	10,484,303	-	-
360 Brookline Sewer Separation	24,715,291	24,715,290	-	-	(1,282,073)	-	-
361 Bulfinch Triangle Sewer Separation	9,031,576	9,031,575	-	-	(825,881)	-	-
CSO Planning & Support	52,809,914	48,208,254	4,601,659	647,999	(508,159)	3,953,661	-
324 CSO Support	52,809,914	48,208,254	4,601,659	647,999	(508,159)	3,953,661	-

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
Other Wastewater	392,865,861	177,048,794	215,817,067	18,882,944	67,436,057	123,223,283	73,710,839
128 I/I Local Financial Assistance	392,584,985	176,767,918	215,817,067	18,882,944	67,436,057	123,223,283	73,710,839
138 Sewerage System Mapping Upgrades	280,876	280,876	-	-	-	-	-
Waterworks	4,253,656,670	2,028,390,120	2,225,266,549	83,667,125	237,374,843	370,058,154	1,771,541,243
Drinking Water Quality Improvements	703,467,389	645,948,583	57,518,801	4,103,444	54,844,477	8,115,359	45,300,000
542 Carroll Water Treatment Plant	435,674,807	419,264,339	16,410,468	3,786,110	11,841,924	3,374,359	9,250,000
543 Brutsch Water Treatment Facility	19,972,883	19,972,879	-	-	7,204,638	-	-
544 Norumbega Covered Storage	106,674,146	106,674,146	-	-	-	-	-
545 Blue Hills Covered Storage	40,082,837	40,082,837	-	-	120,000	-	-
550 Spot Pond Covered Storage Facility	60,271,716	59,954,382	317,333	317,334	35,677,915	-	-
555 CWTP Asset Protection	40,791,000	-	40,791,000	-	-	4,741,000	36,050,000
Transmission	2,494,172,685	799,016,095	1,695,156,593	26,530,451	70,508,390	129,438,770	1,539,187,352
597 Winsor Station Pipeline	48,639,861	5,760,423	42,879,439	139,752	4,504,584	149,069	42,590,604
601 Sluice Gate Rehabilitation	9,158,411	9,158,411	-	-	-	-	-
604 MetroWest Tunnel	700,184,180	697,180,659	3,003,521	1,696	1,783,847	-	3,001,822
615 Chicopee Valley Aqueduct Redundancy	8,666,292	8,666,292	-	-	-	-	-
616 Quabbin Transmission System	17,119,694	8,322,493	8,797,201	344,350	1,464,379	1,865,000	6,587,850
617 Sudbury/Weston Aqueduct Repairs	10,287,899	2,580,287	7,707,612	148,581	2,068,920	1,084,500	6,474,531
620 Wachusett Reservoir Spillway Improvements	9,287,460	9,287,461	-	-	-	-	-



**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
621 Watershed Land	29,000,000	20,482,400	8,517,600	2,114,000	5,254,000	5,000,000	1,403,600
622 Cosgrove Tunnel Redundancy	57,495,396	30,106,010	27,389,387	21,815,757	50,746,324	5,573,629	-
623 Dam Projects	5,726,316	3,115,745	2,610,571	571	31,134	2,392,144	217,856
625 Metropolitan Tunnel Redundancy	1,387,909,527	3,442,599	1,384,466,928	13,371	1,789,514	14,483,002	1,369,970,555
628 Metropolitan Redundancy Interim Improvements	192,697,649	913,315	191,784,334	1,652,373	2,565,688	94,081,426	96,050,534
630 Watershed Division Capital Improvements	18,000,000	-	18,000,000	300,000	300,000	4,810,000	12,890,000
<b>Distribution And Pumping</b>	<b>965,830,207</b>	<b>423,476,742</b>	<b>542,353,465</b>	<b>39,647,391</b>	<b>90,420,556</b>	<b>159,642,761</b>	<b>343,063,304</b>
618 Peabody Pipeline Project	18,667,857	30,300	18,637,557	1,133,192	1,163,492	17,504,365	-
677 Valve Replacement	21,401,715	12,016,378	9,385,337	-	-	-	9,385,332
678 Boston Low Service - Pipe & Valve Rehabilitation	23,690,864	23,690,863	-	-	-	-	-
683 Heath Hill Road Pipe Replacement	19,358,036	19,358,036	-	-	-	-	-
689 James L. Gillis Pump Station	33,419,006	33,419,007	-	-	-	-	-
692 Northern High Service - Section 27 Improvement	1,294,099	123,646	1,170,453	250	250	26,750	1,143,453
693 NHS - Revere & Malden Pipeline Improvements	79,094,651	27,057,513	52,037,138	1,346,837	1,571,610	7,618,066	43,072,236
702 New Connecting Mains - Shaft 7 to WASM 3	48,567,272	12,268,490	36,298,782	621,635	1,929,318	20,707,060	14,970,086
704 Rehab of Other Pump Stations	50,257,852	30,057,852	20,200,000	-	-	1,320,834	18,879,166
706 NHS-New Connecting Mains from Section 91	2,360,194	2,360,194	-	-	-	-	-
708 Northern Extra High Service - New Pipelines	10,684,568	3,632,119	7,052,449	12,830	12,830	401,913	6,637,704
712 Cathodic Protection of Distribution Mains	62,715,629	245,869	62,469,760	23,760	128,716	11,530,860	50,915,140
713 Spot Pond Supply Mains Rehabilitation	66,332,803	65,509,308	823,495	23,328	4,550,636	800,167	-

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
714 Southern Extra High - Sections 41 & 42	3,657,243	3,657,243	-	-	-	-	-
719 Chestnut Hill Connecting Mains	33,435,362	17,486,675	15,948,687	816,303	816,303	-	15,132,384
720 Warren Cottage Line Rehab	1,204,822	1,204,821	-	-	-	-	-
721 Southern Spine Distribution Mains	77,400,549	36,683,101	40,717,448	-	(8,547)	1,889,998	38,827,450
722 NIH Redundancy & Storage	118,493,645	27,275,695	91,217,950	20,626,077	41,927,407	42,080,090	28,511,783
723 Northern Low Service Rehabilitation - Section 8	62,365,531	2,320,986	60,044,545	829,067	829,067	18,268,903	40,946,575
725 Hydraulic Model Update	598,358	598,358	-	-	-	-	-
727 SEH Redundancy & Storage	129,604,465	15,416,203	114,188,263	12,546,651	21,205,884	36,806,245	64,835,367
730 Weston Aqueduct Supply Mains	80,463,695	80,488,104	(24,409)	(24,411)	14,420,399	-	-
731 Lynnfield Pipeline	5,625,829	5,625,828	-	-	(51,693)	-	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717,140	2,717,141	-	-	-	-	-
735 Section 80 Rehabilitation	12,419,022	233,012	12,186,010	1,691,872	1,924,884	687,510	9,806,628
<b>Other Waterworks</b>	<b>90,186,389</b>	<b>159,948,700</b>	<b>(69,762,310)</b>	<b>13,385,839</b>	<b>21,601,420</b>	<b>72,861,264</b>	<b>(156,009,413)</b>
753 Central Monitoring System	39,017,210	20,609,110	18,408,100	255,846	5,061,228	9,600,000	8,552,255
763 Distribution Systems Facilities Mapping	2,798,919	1,036,368	1,762,551	-	-	1,662,551	100,000
764 Local Water Infrastructure Rehabilitation	7,487,762	7,487,762	-	-	-	-	-
765 Local Water Pipeline Assistance Program	-	128,447,970	(128,447,970)	13,064,977	14,653,705	32,407,536	(173,920,483)
766 Waterworks Facilities Asset Protection	40,882,498	2,367,490	38,515,009	65,016	1,886,487	29,191,177	9,258,815

**ATTACHMENT B**  
**FY19 Final CIP**  
**Expenditure Forecast at Project Level**

Program / Project	Total Contract Amount	Payments through FY17	Remaining Balance	FY18	FY14-FY18 Expenditures	FY19-FY23 Expenditures	Beyond FY23
<b>Business &amp; Operations Support</b>	<b>151,876,294</b>	<b>97,783,076</b>	<b>54,093,218</b>	<b>3,820,537</b>	<b>24,161,755</b>	<b>38,571,804</b>	<b>11,700,874</b>
881 Equipment Purchase	33,824,876	20,323,331	13,501,545	1,580,296	9,796,299	9,391,247	2,530,000
925 Technical Assistance	1,100,000	-	1,100,000	26,000	26,000	1,074,000	-
930 MWRA Facility - Chelsea	9,812,071	9,812,071	-	-	(1,563)	-	-
931 Business Systems Plan	24,562,604	24,562,603	-	-	111,373	-	-
932 Environmental Remediation	1,478,602	1,478,602	-	-	(200)	-	-
933 Capital Maintenance Planning & Development	23,156,999	13,151,947	10,005,052	1,485,660	4,513,366	8,519,393	-
934 MWRA Facilities Management	2,150,535	370,533	1,780,002	-	-	1,780,002	-
935 Alternative Energy Initiatives	23,475,884	18,052,832	5,423,053	364,733	1,220,760	-	5,058,319
940 Application Improvement Program	12,198,230	2,670,409	9,527,821	230,225	2,827,510	5,337,041	3,960,555
942 Information Security Program (ISP)	3,726,636	1,681,336	2,045,300	-	1,146,146	2,045,300	-
944 Information Technology Management Program	635,640	-	635,640	-	-	635,640	-
946 IT Infrastructure Program	15,754,217	5,679,412	10,074,805	133,623	4,522,064	9,789,181	152,000

**Attachment C**  
**Comparison of the FY18 Final CIP and the FY19 Final CIP**  
**(\$000s)**

Program and Project	FY18 Final			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>Total MWRA</b>	<b>7,383,674</b>	<b>617,006</b>	<b>1,346,792</b>	<b>1,731,752</b>
<b>Wastewater</b>	<b>3,241,687</b>	<b>351,327</b>	<b>745,938</b>	<b>408,417</b>
<b>Interception &amp; Pumping</b>	<b>1,003,457</b>	<b>88,222</b>	<b>281,760</b>	<b>112,936</b>
102 Quincy Pump Facilities	25,907	-	-	-
104 Braintree-Weymouth Relief Facilities	234,493	201	6,588	-
105 New Neponset Valley Relief Sewer	30,300	-	-	-
106 Wellesley Extension Replacement Sewer	64,359	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-
127 Cummingsville Replacement Sewer	8,999	-	-	-
130 Siphon Structure Rehabilitation	6,881	-	5,941	-
131 Upper Neponset Valley Sewer	54,174	-	-	-
132 Corrosion & Odor Control	48,323	3,220	42,102	-
136 West Roxbury Tunnel	11,314	-	1,000	-
137 Wastewater Central Monitoring	27,482	200	2,400	5,100
139 South System Relief Project	4,939	-	1,500	-
141 Wastewater Process Optimization	10,416	297	5,195	3,719
142 Wastewater Meter System-Equipment	28,438	1,000	14,625	7,675
143 Regional I/I Management Planning	169	-	-	-
145 Facility Asset Protection	393,657	83,304	196,659	96,442
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	5,000	-
147 Randolph Trunk Sewer Relief	750	-	750	-
<b>Treatment</b>	<b>917,148</b>	<b>121,222</b>	<b>391,894</b>	<b>219,307</b>
182 DI Primary and Secondary	(958)	-	-	-
200 DI Plant Optimization	33,279	(148)	-	-
206 DI Treatment Plant Asset Protection	859,105	108,305	383,991	219,308
210 Clinton Wastewater Treat Plant	23,494	13,065	7,903	-
211 Laboratory Services	2,228	-	-	-
<b>Residuals</b>	<b>167,643</b>	<b>2,958</b>	<b>13,565</b>	<b>86,583</b>
261 Residuals	63,811	-	-	-
271 Residuals Asset Protection	103,832	2,958	13,565	86,583

Program and Project	FY19 Final			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>Total MWRA</b>	<b>8,009,088</b>	<b>595,622</b>	<b>1,051,829</b>	<b>2,673,508</b>
<b>Wastewater</b>	<b>3,603,553</b>	<b>334,086</b>	<b>643,200</b>	<b>890,263</b>
<b>Interception &amp; Pumping</b>	<b>1,115,506</b>	<b>83,504</b>	<b>188,703</b>	<b>322,759</b>
102 Quincy Pump Facilities	25,907	-	-	-
104 Braintree-Weymouth Relief Facilities	239,378	1	1,814	9,859
105 New Neponset Valley Relief Sewer	30,300	-	-	-
106 Wellesley Extension Replacement Sewer	64,359	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-
127 Cummingsville Replacement Sewer	8,999	-	-	-
130 Siphon Structure Rehabilitation	6,168	-	5,228	-
131 Upper Neponset Valley Sewer	54,174	-	-	-
132 Corrosion & Odor Control	76,754	2,947	41,502	29,304
136 West Roxbury Tunnel	11,314	-	-	1,000
137 Wastewater Central Monitoring	27,482	-	2,200	5,500
139 South System Relief Project	4,939	-	-	1,500
141 Wastewater Process Optimization	10,306	297	-	8,804
142 Wastewater Meter System-Equipment	28,733	974	13,679	8,942
143 Regional I/I Management Planning	169	-	-	-
145 Facility Asset Protection	472,970	79,285	123,582	252,850
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	-	5,000
147 Randolph Trunk Sewer Relief	698	-	698	-
<b>Treatment</b>	<b>1,017,420</b>	<b>117,772</b>	<b>312,076</b>	<b>402,848</b>
182 DI Primary and Secondary	(958)	-	-	-
200 DI Plant Optimization	33,279	(148)	-	-
206 DI Treatment Plant Asset Protection	956,523	105,912	305,312	397,798
210 Clinton Wastewater Treat Plant	26,364	12,024	6,764	5,051
211 Laboratory Services	2,212	(16)	-	-
<b>Residuals</b>	<b>167,643</b>	<b>675</b>	<b>11,487</b>	<b>90,945</b>
261 Residuals	63,811	-	-	-
271 Residuals Asset Protection	103,832	675	11,487	90,945

Program and Project	Change from Final FY18			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>Total MWRA</b>	<b>584,623</b>	<b>(21,384)</b>	<b>(299,704)</b>	<b>905,706</b>
<b>Wastewater</b>	<b>361,866</b>	<b>(17,241)</b>	<b>(102,738)</b>	<b>481,846</b>
<b>Interception &amp; Pumping</b>	<b>112,049</b>	<b>(4,718)</b>	<b>(93,057)</b>	<b>209,823</b>
102 Quincy Pump Facilities	-	-	-	-
104 Braintree-Weymouth Relief Facilities	4,885	(200)	(4,774)	9,859
105 New Neponset Valley Relief Sewer	-	-	-	-
106 Wellesley Extension Replacement Sewer	-	-	-	-
107 Framingham Extension Relief Sewer	-	-	-	-
127 Cummingsville Replacement Sewer	-	-	-	-
130 Siphon Structure Rehabilitation	(713)	-	(713)	-
131 Upper Neponset Valley Sewer	-	-	-	-
132 Corrosion & Odor Control	28,431	(273)	(600)	29,304
136 West Roxbury Tunnel	-	-	(1,000)	1,000
137 Wastewater Central Monitoring	-	(200)	(200)	400
139 South System Relief Project	-	-	(1,500)	1,500
141 Wastewater Process Optimization	(110)	-	(5,195)	5,085
142 Wastewater Meter System-Equipment	295	(26)	(946)	1,267
143 Regional I/I Management Planning	-	-	-	-
145 Facility Asset Protection	79,313	(4,019)	(73,077)	156,408
146 D.I. Cross Harbor Tunnel Inspection	-	-	(5,000)	5,000
147 Randolph Trunk Sewer Relief	(52)	-	(52)	-
<b>Treatment</b>	<b>100,272</b>	<b>(3,450)</b>	<b>(79,818)</b>	<b>183,541</b>
182 DI Primary and Secondary	-	-	-	-
200 DI Plant Optimization	-	-	-	-
206 DI Treatment Plant Asset Protection	97,418	(2,393)	(78,679)	178,490
210 Clinton Wastewater Treat Plant	2,870	(1,041)	(1,139)	5,051
211 Laboratory Services	(16)	(16)	-	-
<b>Residuals</b>	<b>-</b>	<b>(2,283)</b>	<b>(2,078)</b>	<b>4,362</b>
261 Residuals	-	-	-	-
271 Residuals Asset Protection	-	(2,283)	(2,078)	4,362

**Attachment C**  
**Comparison of the FY18 Final CIP and the FY19 Final CIP**  
**(\$000s)**

Program and Project	FY18 Final			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>CSO</b>	<b>910,573</b>	<b>66,260</b>	<b>6,605</b>	<b>-</b>
340 Dorchester Bay Sewer Separation (Fox Point)	54,626	473	-	-
341 Dorchester Bay Sewer Separation (Commercial Point)	64,009	(896)	3,758	-
342 Neponset River Sewer Separation	2,549	105	-	-
343 Constitution Beach Sewer Separation	3,731	(38)	-	-
344 Stony Brook Sewer Separation	44,268	70	-	-
346 Cambridge Sewer Separation	104,552	54,068	-	-
351 BWSC Floatables Controls	946	13	-	-
352 Cambridge Floatables Control	1,127	40	-	-
356 Fort Point Channel Sewer Separation	11,872	(134)	-	-
358 Morrissey Boulevard Drain	32,186	(161)	-	-
359 Reserved Channel Sewer Separation	70,517	10,477	-	-
360 Brookline Sewer Separation	24,715	(1,282)	-	-
361 Bulfinch Triangle Sewer Separation	9,054	(803)	-	-
339 North Dorchester Bay	221,510	(111)	-	-
347 East Boston Branch Sewer Relief	85,637	(9)	-	-
348 BOS019 Storage Conduit	14,288	-	-	-
349 Chelsea Trunk Sewer	29,779	-	-	-
350 Union Park Detention Treatment Facility	49,583	-	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-
354 Hydraulic Relief Projects	2,295	-	-	-
355 MWR003 Gate & Siphon	4,425	3,776	-	-
357 Charles River CSO Controls	3,633	-	-	-
324 CSO Support	52,886	673	2,848	-
<b>Other Wastewater</b>	<b>242,866</b>	<b>72,665</b>	<b>52,114</b>	<b>(10,409)</b>
128 I/I Local Financial Assistance	242,585	72,665	52,114	(10,409)
138 Sewerage System Mapping Upgrade	281	-	-	-
<b>Total Waterworks</b>	<b>4,010,951</b>	<b>236,427</b>	<b>576,515</b>	<b>1,323,338</b>
<b>Drinking Water Quality</b>	<b>666,791</b>	<b>54,972</b>	<b>6,195</b>	<b>10,417</b>
542 Carroll Water Treatment Plant	439,799	11,979	6,195	10,417
543 Quabbin Water Treatment Plant	19,973	7,205	-	-
544 Norumbega Covered Storage	106,674	-	-	-
545 Blue Hills Covered Storage	40,083	120	-	-
550 Spot Pond Storage Facility	60,262	35,668	-	-
555 CWTP Asset Protection	0	0	0	0

FY19 Final			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>910,118</b>	<b>64,699</b>	<b>7,711</b>	<b>-</b>
55,029	877	-	-
63,619	(1,286)	3,758	-
2,492	47	-	-
3,731	(38)	-	-
44,319	121	-	-
104,552	54,068	-	-
946	13	-	-
1,127	40	-	-
11,507	(499)	-	-
32,181	(166)	-	-
70,524	10,484	-	-
24,715	(1,282)	-	-
9,032	(826)	-	-
221,510	(111)	-	-
85,637	(9)	-	-
14,288	-	-	-
29,779	-	-	-
49,583	-	-	-
22,385	-	-	-
2,295	-	-	-
4,424	3,775	-	-
3,633	-	-	-
52,810	(508)	3,954	-
<b>392,866</b>	<b>67,436</b>	<b>123,223</b>	<b>73,711</b>
392,585	67,436	123,223	73,711
281	-	-	-
<b>4,253,659</b>	<b>237,374</b>	<b>370,062</b>	<b>1,771,547</b>
<b>703,468</b>	<b>54,845</b>	<b>8,115</b>	<b>45,300</b>
435,675	11,842	3,374	9,250
19,973	7,205	-	-
106,674	-	-	-
40,083	120	-	-
60,272	35,678	-	-
40,791	-	4,741	36,050

Change from Final FY18			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>(455)</b>	<b>(1,561)</b>	<b>1,106</b>	<b>-</b>
403	404	-	-
(390)	(390)	-	-
(57)	(58)	-	-
-	-	-	-
51	51	-	-
-	-	-	-
-	-	-	-
(365)	(365)	-	-
(5)	(5)	-	-
7	7	-	-
-	-	-	-
(22)	(23)	-	-
-	-	-	-
-	-	-	-
-	-	-	-
(1)	(1)	-	-
-	-	-	-
(76)	(1,181)	1,106	-
<b>150,000</b>	<b>(5,229)</b>	<b>71,109</b>	<b>84,120</b>
150,000	(5,229)	71,109	84,120
-	-	-	-
<b>201,917</b>	<b>947</b>	<b>(211,194)</b>	<b>412,159</b>
<b>(4,114)</b>	<b>(127)</b>	<b>(2,821)</b>	<b>(1,167)</b>
(4,124)	(137)	(2,821)	(1,167)
-	-	-	-
-	-	-	-
10	10	-	-
40,791	-	4,741	36,050

**Attachment C**  
**Comparison of the FY18 Final CIP and the FY19 Final CIP**  
**(\$000s)**

Program and Project	FY18 Final				FY19 Final				Change from Final FY18			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
<b>Transmission</b>	<b>2,423,540</b>	<b>65,671</b>	<b>276,132</b>	<b>1,326,706</b>	<b>2,494,174</b>	<b>70,511</b>	<b>129,441</b>	<b>1,539,191</b>	<b>70,634</b>	<b>4,840</b>	<b>(146,691)</b>	<b>212,485</b>
597 Winsor Station Pipeline	34,243	4,837	24,950	3,061	48,640	4,505	149	42,591	14,397	(332)	(24,801)	39,530
601 Sluice Gate Rehabilitation	9,158	-	-	-	9,158	-	-	-	-	-	-	-
604 MetroWest Tunnel	701,189	1,791	4,000	-	700,184	1,784	-	3,002	(1,005)	(7)	(4,000)	3,002
615 Chicopee Valley Aqueduct Redundancy	8,666	-	-	-	8,666	-	-	-	-	-	-	-
616 Quabbin Transmission System	16,419	1,316	7,900	-	17,120	1,464	1,865	6,588	701	148	(6,035)	6,588
617 Sudbury/Weston Aqueduct Repairs	6,477	2,109	3,248	460	10,288	2,069	1,085	6,475	3,811	(40)	(2,163)	6,015
620 Wachusett Reservoir Spillway Improvement	9,287	-	-	-	9,287	-	-	-	-	-	-	-
621 Watershed Land	24,000	4,732	1,926	-	29,000	5,254	5,000	1,404	5,000	522	3,074	1,404
622 Cosgrove/Wachusett Redundancy	54,316	46,659	6,482	-	57,495	50,746	5,574	-	3,179	4,087	(908)	-
623 Dam Projects	4,066	31	951	-	5,726	31	2,392	218	1,660	-	1,441	218
625 Metro Tunnel Redundancy	1,357,686	1,749	95,972	1,258,298	1,387,910	1,790	14,483	1,369,970	30,224	41	(81,489)	111,672
628 Metro Redundancy Interim Improvement	180,731	1,935	114,161	64,635	192,698	2,566	94,081	96,051	11,967	631	(20,080)	31,416
630 Watershed Division Capital Improvement	17,300	510	16,540	250	18,000	300	4,810	12,890	700	(210)	(11,730)	12,640
<b>Distribution &amp; Pumping</b>	<b>839,544</b>	<b>92,306</b>	<b>208,134</b>	<b>166,403</b>	<b>965,831</b>	<b>90,418</b>	<b>159,644</b>	<b>343,064</b>	<b>126,287</b>	<b>(1,888)</b>	<b>(48,490)</b>	<b>176,661</b>
618 Northern High NW Tran Sections 70 & 71	12,910	1,006	11,904	-	18,668	1,163	17,504	-	5,758	157	5,600	-
677 Valve Replacement	20,115	-	3,558	4,540	21,402	-	-	9,385	1,287	-	(3,558)	4,845
678 Boston Low Service-Pipe & Valve Rehabilitation	23,691	-	-	-	23,691	-	-	-	-	-	-	-
683 Heath Hill Road Pipe Replacement	19,358	-	-	-	19,358	-	-	-	-	-	-	-
689 James L. Gillis Pump Station Rehabilitation	33,419	-	-	-	33,419	-	-	-	-	-	-	-
692 NHS - Section 27 Improvements	1,134	-	1,010	-	1,294	-	27	1,143	160	-	(983)	1,143
693 NHS - Revere & Malden Pipeline Improvement	65,373	2,064	36,409	67	79,095	1,572	7,618	43,072	13,722	(492)	(28,791)	43,005
702 New Connect Mains-Shaft 7 to WASM 3	38,841	2,301	21,691	3,889	48,567	1,929	20,707	14,970	9,726	(372)	(984)	11,081
704 Rehabilitation of Other Pump Stations	50,258	-	1,321	18,879	50,258	-	1,321	18,879	-	-	-	-
706 NHS-Connecting Mains from Section 91	2,360	-	-	-	2,360	-	-	-	-	-	-	-
708 Northern Extra High Service New Pipelines	8,045	56	3,600	757	10,685	13	402	6,638	2,640	(43)	(3,198)	5,881
712 Cathodic Protection Of Distrubution Mains	1,704	218	1,345	-	62,716	129	11,531	50,915	61,012	(89)	10,186	50,915
713 Spot Pond Supply Mains Rehabilitation	66,858	4,551	1,326	-	66,333	4,551	800	-	(525)	-	(526)	-
714 Southern Extra High Sections 41 & 42	3,657	-	-	-	3,657	-	-	-	-	-	-	-
719 Chestnut Hill Connecting Mains	33,094	1,000	14,602	6	33,435	816	-	15,132	341	(184)	(14,602)	15,126
720 Warren Cottage Line Rehabilitation	1,205	-	-	-	1,205	-	-	-	-	-	-	-
721 South Spine Distribution Mains	76,281	69	4,342	35,179	77,401	(9)	1,890	38,828	1,120	(78)	(2,452)	3,649
722 NIH Redundancy & Storage	113,121	41,648	42,516	22,982	118,494	41,927	42,080	28,512	5,373	279	(436)	5,530
723 Northern Low Service Rehabilitation Section 8	56,889	1,028	31,827	21,714	62,366	829	18,269	40,947	5,477	(199)	(13,558)	19,233
724 Northern High Service - Pipeline Rehabilitation	-	-	-	-	-	-	-	-	-	-	-	-
725 Hydraulic Model Update	598	-	-	-	598	-	-	-	-	-	-	-
727 Southern Extra High Redundancy & Storage	109,410	21,928	24,051	56,673	129,604	21,206	36,806	64,836	20,194	(722)	12,755	8,163
730 Weston Aqueduct Supply Mains	80,696	14,573	80	-	80,464	14,420	-	-	(232)	(153)	(80)	-
731 Lynnfield Pipeline	5,626	(52)	-	-	5,626	(52)	-	-	-	-	-	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717	-	-	-	2,717	-	-	-	-	-	-	-

**Attachment C**  
**Comparison of the FY18 Final CIP and the FY19 Final CIP**  
**(\$000s)**

Program and Project	FY18 Final				FY19 Final				Change from Final FY18			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
733 NHS Pipeline Rehabilitation 13-18 & 48	-	-	-	-	-	-	-	-	-	-	-	-
734 Southern Extra High Pipelines-Sections 30, 39,40, & 44	-	-	-	-	-	-	-	-	-	-	-	-
735 Section 80 Rehabilitation	12,185	1,917	8,551	1,717	12,419	1,925	688	9,807	234	8	(7,863)	8,090
<b>Other</b>	<b>81,076</b>	<b>23,478</b>	<b>86,054</b>	<b>(180,190)</b>	<b>90,186</b>	<b>21,600</b>	<b>72,862</b>	<b>(156,010)</b>	<b>9,110</b>	<b>(1,878)</b>	<b>(13,192)</b>	<b>24,180</b>
753 Central Monitoring System	39,040	5,542	5,457	12,237	39,017	5,061	9,600	8,552	(23)	(481)	4,143	(3,685)
763 Distribution Systems Facilities Mapping	2,299	-	1,263	-	2,799	-	1,663	100	500	-	400	100
764 Local Water Infrastructure Rehabilitation Assistance	7,488	-	-	-	7,488	-	-	-	-	-	-	-
765 Local Water Pipeline Improvement Loan Program	-	15,106	51,224	(193,189)	-	14,654	32,408	(173,921)	-	(452)	(18,816)	19,268
766 Waterworks Facility Asset Protection	32,249	2,831	28,110	762	40,882	1,886	29,191	9,259	8,633	(945)	1,081	8,497
<b>Business &amp; Operations Support</b>	<b>131,036</b>	<b>29,250</b>	<b>24,344</b>	<b>-</b>	<b>151,876</b>	<b>24,160</b>	<b>38,572</b>	<b>11,701</b>	<b>20,840</b>	<b>(5,090)</b>	<b>14,228</b>	<b>11,701</b>
881 Equipment Purchase	29,408	11,354	5,946	-	33,825	9,796	9,391	2,530	4,417	(1,558)	3,445	2,530
925 Technical Assistance	1,150	383	767	-	1,100	26	1,074	-	(50)	(357)	307	-
930 MWRA Facility - Chelsea	9,812	(2)	-	-	9,812	(2)	-	-	-	-	-	-
931 Business Systems Plan	24,563	111	-	-	24,563	111	-	-	-	-	-	-
932 Environmental Remediation	1,479	-	-	-	1,479	-	-	-	-	-	-	-
933 Capital Maintenance Planning	15,208	4,505	579	-	23,157	4,513	8,519	-	7,949	8	7,940	-
934 MWRA Facilities Management	2,151	-	1,780	-	2,151	-	1,780	-	-	-	-	-
935 Alternative Energy Initiatives	23,271	1,191	4,883	-	23,476	1,221	-	5,058	205	30	(4,883)	5,058
940 Applicat Improv Program	9,980	4,347	5,560	-	12,198	2,828	5,337	3,961	2,218	(1,519)	(223)	3,961
942 Info Security Program ISP	2,822	1,741	546	-	3,727	1,146	2,045	-	905	(595)	1,499	-
944 Info Tech Mgmt Program	923	-	923	-	636	-	636	-	(287)	-	(287)	-
946 IT Infrastructure Program	10,271	5,621	3,359	-	15,754	4,522	9,789	152	5,483	(1,099)	6,430	152

**ATTACHMENT D**

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>1. The Advisory Board recommends the proposed Phase 11 and 12 funding level of \$120 million be increased to \$200 million. As well as the installation of a \$100 million dollar, 10-year, interest free interim loan program for communities seeking additional funding prior to the conclusion of Phases 11 and 12. The program would have the same allocation methodology of the traditional I/I program and aide communities that aggressively utilize I/I funding before new phases are implemented.</p>	<p>Agree. Given, that the Community Financial Assistance Programs are driven by the request of the communities through the Advisory Board, MWRA historically supported these requests and it is committed to continue the support in the future.</p>
<p>2. The Advisory Board recommends reducing the FY19-23 capital spending cap to no greater than \$950 million.</p>	<p>Partially agree. The MWRA reduced the FY19-23 capital spending cap to \$984.8 million. The FY19-23 cap marks the transition to asset protection and long-term water redundancy as the primary drivers of capital spending. Both asset protection and long-term water redundancy will require increased future investment.</p>
<p>3. The Advisory Board recommends reducing the FY19 Rate Revenue Requirement by \$6,010,531 resulting in a combined wholesale assessment increase of 3.07%, the lowest rate increase in six years.</p>	<p>Agree. The MWRA has reduced the FY19 Rate Revenue Requirement by \$6,038,100 resulting in a combined wholesale assessment increase of 3.07%.</p>
<p>4. The Advisory Board recommends reducing the optional debt pre-payment by \$1.6 million level-fund this line item from FY18.</p>	<p>Partially agree. The MWRA agrees reducing the debt pre-payment for FY19. However, the MWRA proposes reducing debt pre-payment by \$5.4 million. See response to Recommendation #6 below.</p>
<p>5. The Advisory Board recommends reducing the variable rate debt interest rate assumption to 3.25%, and the variable rate debt line item by \$1 million to reflect this change.</p>	<p>Disagree. Current market trends and projections indicated that rates will continue to increase during FY19. The Federal Reserve Open Market Committee members project rates for 2019 ranging from a low of 1.63% to a high of 3.88% before liquidity and remarketing costs are included.</p>
<p>6. The Advisory Board recommends that the Authority explore the potential financial gains from using taxable bonds on appropriate capital projects, such as the Lead Loan Program and the purchase of the railroad near Wachusett Reservoir.</p>	<p>Agree. The MWRA will consider taxable bonds and other funding mechanisms for capital expenditures where tax-exempt funding is not allowed.</p>



**ATTACHMENT D**

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>7. The Advisory Board recommends that the Authority adopt a long term, 40-year, debt structure to fund the Metropolitan Redundancy Tunnel and other projects with long useful lives.</p>	<p>Partially agree. MWRA continually evaluates the structure of its debt repayments based on the impact to rates and charges, interest rates, and useful life of the project.</p>
<p>8. The Advisory Board recommends that the Authority adjusts its attrition/vacancy rate assumptions upward by \$950,000 (includes associated fringe benefits).</p>	<p>Partially agree. The MWRA reduced regular pay by \$200,000.</p>
<p>9. The Advisory Board recommends reducing other post-employment benefits expenses by \$3,681,945, unless a multi-year approach that addresses future pension expenses is adopted.</p>	<p>Disagree. MWRA is leaving the post-employment benefits funding at the Proposed budget level. Please refer to response on Recommendation #10 below.</p>
<p>10. The Advisory Board recommends that MWRA staff recommend to the Retirement Board a schedule extension to 2028 while keeping the assumed rate of return at 7.5%. Should this schedule be adopted, the Advisory Board withdraws its recommendation to reduce OPEB by \$3,681,945, and instead reduce the optional debt payment by an additional \$3,681,945 beyond the Advisory Board's prior recommendation.</p>	<p>Agree. MWRA solicited and received revised funding schedules from our actuary - Segal Consulting. MWRA also formally asked the approval of the MWRA Pension Board of the revised funding schedule, which was approved on May 31st, with 7.5% rate of return and extended funding schedule up to 2028. Consequently, PERAC approved the revised schedule on June 1st.</p>
<p>11. The Advisory Board recommends increasing the "additions to reserves" line item for FY19 by \$45,249 to correspond to the recommended reductions in eligible line items.</p>	<p>Based on the MWRA Spring revisit changes the required "additions to the operating reserves" is \$149,605.</p>

ATTACHMENT D

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>The Advisory Board recommends MWRA not funding for all Watershed Division capital projects – both in the CIP and as part of the Watershed</p> <p><b>12.</b> Reimbursement CEB line item – until either insurance or an insurance reserve funded by the Commonwealth is established for the state buildings in the watershed.</p>	<p>Partially agree. The MWRA is investigating options to address ways in which either insurance or an insurance reserve can be established for buildings in the watershed. Given that DCR as part of the state of Massachusetts - not allowed to purchase property insurance based on MGL Chapter 29 Sec.30, it is highly unlikely to successfully get a legislative waiver only for four DCR buildings. For the state to set-up a reserve fund is also unlikely. MWRA's Enabling Act Section 6 allows for MWRA to purchase insurance if "necessary or convenient". MWRA is evaluating options to 1, roll these buildings into its existing MWRA insurance program, at the current \$2.5 million self-insured retention or 2, roll these buildings into its existing insurance program with a lower self-insured retention, or 3, purchase a separate policy for these buildings for lower limit and lower self-insured retention. The initial feedback from MWRA current insurer is that both option 1 or 2 is feasible.</p>
<p><b>13.</b> The Advisory Board recommends removing treatment of enterococcus from the FY19 budget and reducing the FY19 chemicals budget by \$294,006.</p>	<p>Agree. MWRA anticipates the start-up of the new permit after FY19 but will absorb the expense of additional treatment if the new requirements go into effect before June 2019.</p>
<p><b>14.</b> The Advisory Board recommends that MWRA insist that the final Deer Island permit does not contain any language naming member communities as co-permittees.</p>	<p>Agree. The MWRA intends to vigorously object to any attempt by EPA to include co-permittees in its Deer Island NPDES permit.</p>
<p><b>15.</b> The Advisory Board recommends that the MWRA staff work with Advisory Board staff to determine the best “target” level for cost-recovery of the TRAC program. Additionally, the Advisory Board recommends identifying and implementing an automatic escalator to make fee increases sustainable and predictable for the permittees. The Advisory Board further recommends that the new increased fee structure and automatic escalator be in place by July 1, 2019.</p>	<p>Agree. MWRA will review this program and will get input from the Advisory Board staff.</p>

ATTACHMENT D

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>16. The Advisory Board recommends reducing interest income revenue by \$1 million.</p>	<p>Disagree. MWRA increased the short-term interest for the investment income by 70 basis points from 1.05% in FY18 to 1.75% in FY19 to reflect current market trends and the Federal Reserve projected rate increases, both during 2018, and 2019.</p>
<p>17. The Advisory Board recommends applying the MWRA's debt service assistance share of \$944,726 received in FY18 towards the FY19 budget to reduce community assessments.</p>	<p>Agree.</p>
<p>18. The Advisory Board recommends that the Authority work toward the rate revenue requirement increase levels detailed in the Policy Chapter, and target 2.4% rate increases by the year 2024.</p>	<p>Partially agree. MWRA already recognized the impact of the lower required pension contribution levels, as recommended by the Advisory Board, in the planning estimates. Due to uncertainties and risks, the accuracy of planning estimates beyond five years is questionable. At the same time committing to certain levels, six years out represent significant challenges at utility level. However, as always, MWRA will continue to evaluate all tools available to ensure predictable and sustainable assessments to our member communities.</p>
<p>19. The Advisory Board recommends that MWRA reach out to other entities such as arts councils, non-profits, and perhaps local businesses to donate funding to help install color accent lights on the Deer Island digesters.</p>	<p>Agree. MWRA Public Affairs staff will explore potential grant funding through various Arts Councils, Cultural Councils, and other Foundations that provide funding sources for historic restorations, public art installations, and other projects that enhance public spaces.</p>

ATTACHMENT D

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Comments	MWRA Responses
<p>1. The Advisory Board supports the continued use of the defeasance account strategy, which clearly identifies a use of variable rate debt service savings that is consistent with the original intended use of the funds that were raised.</p>	<p>Agree. This strategy proved to be an effective tool for achieving the multi-year sustainable and predictable community assessment goal.</p>
<p>2. The Advisory Board expects to continue working with MWRA staff and MassWorks to dedicate grant funding for communities looking to join the MWRA waterworks system.</p>	<p>Agree. MWRA: MWRA staff will continue to evaluate opportunities for grants through MassDEP capital budgets such as sustainable water management initiative programs, and appropriations related to Chapter 259 of the Acts of 2014 (“the water infrastructure law”) which has provisions for matching funds for MWRA entry fees. MWRA will also evaluate opportunities that could come to fruition under either the environmental or economic development bond bills annually.</p>
<p>3. The Advisory Board expects the MWRA to propose an increase of \$113,305 in the “wages and salaries” category of expenses in its final FY19 CEB.</p>	<p>Agree. Added funding for planned interns, stand-by pay which was erroneously left out and some minor staffing changes.</p>
<p>4. The Advisory Board supports continued funding for proposed temporary staffing related to the lead program to assist communities.</p>	<p>Agree. The Laboratory Services Department's FY19 CEB includes funds for two contract employees to assist with community lead testing.</p>
<p>5. Based on new data released this spring from the GIC, MWRA projects a decrease of \$601,046 from the proposed FY19 CEB. The Advisory Board expects this reduction to be included in the final FY19 CEB.</p>	<p>Agree. Health Insurance and Dental Insurance were updated based on current pricing and enrollment numbers. Medicare was updated based on more recent payroll cost adjusted with pending contractual agreements.</p>
<p>6. The Advisory Board expects the Authority to increase the “worker’s compensation” category of expense by \$100,000.</p>	<p>Agree. The FY19 CEB was increased base on recent historical spending.</p>

ATTACHMENT D

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Comments	MWRA Responses
7. The Advisory Board expects the MWRA to increase its overtime budget by \$200,000.	Agree. Overtime budget was increased based on recent historical spending.
8. The Advisory Board expects and supports the Authority to reduce the FY19 pension fund expense according to the updated actuarial calculations.	Agree. The FY19 pension fund expense reflects the new valuation which represents a \$110,663 reduction to the Proposed budget.
9. The Advisory Board expects the MWRA to increase its "maintenance" category of expense by \$621,145 in the final FY19 CEB.	Agree. Changes were made for recently identified and/or awarded projects and shifting of project priorities.
10. The Advisory Board expects the Authority will decrease the "other services" category of expense by \$85,282.	Agree. Primarily for reduced SCADA data line costs.
11. The Advisory Board expects the Authority to increase its FY19 CEB "utilities" expenses by an estimated \$839,914.	Agree. Primarily for updated pricing: electricity was increased by \$621k mostly for Deer Island WR rate from Eversource, and diesel fuel was increased by \$219k to reflect the latest price estimates.
12. The Advisory Board expects that the MWRA will increase the "chemicals" category of expense by \$286,602 to reflect updated pricing and usage assumptions.	Agree. Primarily for recently awarded contract pricing mostly on sodium hypochlorite.
13. The Advisory Board expects the MWRA to request an increase of the "professional services" category of expense by \$58,859 in its final budget.	Agree. Primarily for addition of funds for a compensation study required by recent update to the Massachusetts Equal Pay Act (MEPA) which will go into effect on July 1, 2018.
14. The Advisory Board expects to work closely with the MWRA and all stakeholders to help MassDEP assume NPDES delegation.	Agree. MWRA staff will continue to engage with the Advisory Board, MassDEP, and other stakeholders as appropriate to evaluate the best fee structure and regulatory mechanisms that would support MassDEP being authorized by EPA to successfully administer the NPDES program. In relation to its own NPDES permit requirements, the MWRA intends to vigorously object to any attempt by EPA or MassDEP to include co-permittees in its DITP NPDES permit.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Final FY19 Current Expense Budget



**COMMITTEE** Administration, Finance & Audit

       INFORMATION

Kathy Sont, Budget Director  
Louise L. Miller, Budget Manager  
Preparer/Title

VOTE  
Thomas J. Durkin  
Director, Finance

*The Proposed FY19 Current Expense Budget (CEB) submitted to the Advisory Board at the February 2018 Board meeting included a 3.91% combined assessment increase.*

*MWRA received the Advisory Board comments and recommendations in May 2018, which recommended a combined assessment increase of 3.07% representing a \$6.0 million reduction to the Proposed FY19 Rate Revenue Requirement. At the same time, the Authority updated the Proposed Budget with the latest information, incorporated the majority of the Advisory Board recommendations and was able to achieve a 3.07% combined assessment increase which was presented to the Board during the May 30<sup>th</sup> budget hearings.*

*Below is a list of major changes between the Proposed and Draft Final budget:*

- Reduced the Debt Prepayment by \$5.4 million, mostly to preserve the planned \$3.8 million Other Post-Employment Benefit contribution, in agreement with the Advisory Board, contingent upon reduced required pension contribution in future years achieved by keeping a 7.5 % investment return assumption and extending the full funding schedule up to 2028.*
- Increased direct expense funding by \$1.0 million to recognize the higher utility, maintenance, overtime and workers' compensation costs, offset by lower health insurance estimates.*
- Increased the Watershed Management operating expenses by \$0.5 million for the replacement of the New Salem building destroyed by fire.*
- Increased Investment Income by \$1.1 million to reflect the rising short-term interest rates.*

*As every year, the main focus is on next year's budget, but always with the goal of continuing to utilize MWRA's multi-year rate management strategy to provide sustainable, and predictable assessment increases to its member communities. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending and use of historical variable rate assumptions. The combination of these measures resulted in assessments increase projections below 3.7% for the next four years.*

## **RECOMMENDATION:**

1. To adopt the Final FY19 Current Expense Budget (CEB) set forth in Attachment A, B and C with current revenue and expense of \$767,943,713.
2. To adopt the Final FY19 Operating Budget (Trustee's Budget) set forth in Attachment D.

## **DISCUSSION:**

This staff summary presents the Final FY19 CEB. On May 30<sup>th</sup>, the Board of Directors held a hearing on the Draft Final FY19 CEB. Discussions and material provided at the hearing outlined changes to the budget since the transmittal of the FY19 Proposed CEB in February 2018. No additional changes were made since the May 30<sup>th</sup> Board Meeting.

For a line item comparison between the FY19 Proposed CEB and the Final FY19 CEB, please refer to Attachment B.

### **Summary**

The Final FY19 Budget recommends a combined increase in rates and charges of 3.07%. Capital Financing costs remain the largest component of the CEB and account for 62.8% of total expenses. Total expenses are \$767.9 million, an increase of \$24.3 million or 3.3% over the FY18 Budget. The Final FY19 Budget assumes an offset of \$944,726 for the Debt Service Assistance (DSA) received in May 2018.

Total expenses include \$482.4 million for Capital Financing costs and \$285.6 million for operating expenses, of which \$239.6 million is for Direct Expenses and \$46.0 million is for Indirect Expenses. The \$24.3 million increase in total expenses is mainly due to higher Capital Financing costs of \$10.2 million, higher Direct Expenses of \$7.0 million due to contractual salary increases for staff, higher utility costs, higher chemical costs, and higher costs for Other Materials due, in part, to computer hardware replacement throughout the Authority.

The Final FY19 Budget revenues, excluding rate revenue, total \$28.9 million, an increase of \$2.3 million or 8.8% from the FY18 Budget. The Final FY19 Budget for non-rate revenue includes \$15.3 million in Other User Charges and Other Revenue and \$13.6 million for Investment Income.

The Final FY19 Rate Revenue Requirement is \$739.0 million, an increase of \$22.0 million or 3.07% over the FY18 Budget.

*Table 1 on the following page provides a comparison of the Final FY19 CEB and FY18 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**  
**FY19 Final Budget versus FY18 Approved Budget**

(\$ in Millions)	FY18 Approved Budget	Final FY19 Budget	\$ Change	% Change
Directs	\$ 232.6	\$ 239.6	\$ 7.0	3.0%
Indirects	38.9	46.0	7.1	18.3%
<b>Sub-Total Operating Expenses</b>	<b>\$ 271.4</b>	<b>\$ 285.6</b>	<b>\$ 14.1</b>	<b>5.2%</b>
Capital Financing (before Offsets)	472.6	483.3	10.7	2.3%
Offsets: Bond Redemption <sup>1</sup>	-	-	-	
Variable Debt Savings	-	-	-	
Debt Service Assistance	(0.4)	(0.9)	(0.6)	0.0%
<b>Sub-Total Capital Financing</b>	<b>\$ 472.2</b>	<b>\$ 482.4</b>	<b>\$ 10.2</b>	<b>2.2%</b>
<b>Total Expenses</b>	<b>\$ 743.6</b>	<b>\$ 767.9</b>	<b>\$ 24.3</b>	<b>3.3%</b>
Investment Income	\$ 10.2	\$ 13.6	\$ 3.4	32.9%
Non-Rate Revenue	16.4	15.3	(1.0)	-6.3%
Rate Stabilization <sup>1</sup>	-	-	-	
<b>Sub-Total Non-Rate Revenue</b>	<b>\$ 26.6</b>	<b>\$ 28.9</b>	<b>\$ 2.3</b>	<b>8.8%</b>
Rate Revenue	717.1	739.0	22.0	3.1%
<b>Total Revenue &amp; Income</b>	<b>\$ 743.6</b>	<b>\$ 767.9</b>	<b>\$ 24.3</b>	<b>3.3%</b>
<b>FY19 Rate Revenue Increase</b>		<b>3.07%</b>		
<b>Combined Use of Reserves</b>	<b>\$ -</b>	<b>\$ -</b>		

<sup>1</sup> 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

FY19 Direct Expenses total \$239.6 million, an increase of \$7.0 million, or 3.0%, from the FY18 Budget.



FY19 PROPOSED CURRENT EXPENSE BUDGET				
MWRA DIRECT EXPENSES BY LINE ITEM				
LINE ITEM	FY18 Approved Budget	FY19 Proposed Budget	Change FY19 vs FY18	
WAGES AND SALARIES	\$ 104,286,370	\$ 107,032,021	\$ 2,745,651	2.6%
OVERTIME	4,110,637	4,447,554	336,917	8.2%
FRINGE BENEFITS	20,997,975	21,173,571	175,596	0.8%
WORKERS' COMPENSATION	2,322,980	2,422,609	99,629	4.3%
CHEMICALS	9,836,933	10,830,452	993,519	10.1%
ENERGY AND UTILITIES	21,735,222	22,868,633	1,133,411	5.2%
MAINTENANCE	32,200,786	32,258,727	57,941	0.2%
TRAINING AND MEETINGS	406,269	455,770	49,501	12.2%
PROFESSIONAL SERVICES	7,221,622	7,675,976	454,354	6.3%
OTHER MATERIALS	6,692,659	7,381,098	688,439	10.3%
OTHER SERVICES	22,764,526	23,065,411	300,885	1.3%
<b>TOTAL</b>	<b>\$ 232,575,979</b>	<b>\$ 239,611,821</b>	<b>\$ 7,035,843</b>	<b>3.0%</b>

- *Wages and Salaries* – The budget includes \$107.0 million for Wages and Salaries versus \$104.3 million in the FY18 Budget, an increase of \$2.7 million or 2.6%. Regular Pay, which is 98.4% of total Wages and Salaries, increased \$3.1 million primarily for wage increases associated with collective bargaining agreements and additional staff, offset by lower salaries for new hires compared to retirees. The FY19 Budget funds 1,155 FTEs, five more than the FY18 Budget. The five additional FTEs will support the Metrowest Tunnels Long-Term Water Redundancy capital project. As always, new hires and backfilling of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management.
- *Overtime* – The budget includes \$4.4 million for Overtime, an increase of \$337,000 or 8.2% as compared to the FY18 Budget mainly for wage increases associated with collective bargaining agreements and is based on recent historical spending for planned overtime in the Field Operations Division.
- *Fringe Benefits* – The budget includes \$21.2 million for Fringe Benefits, an increase of \$176,000 or 0.8% from the FY18 Budget. Health Insurance premiums total \$18.3 million, an increase of \$139,000 or 0.8% from the FY18 Budget largely due to an increase in the rates for the health plans structure offset by a change to the number and mix of plans based on FY18 enrollment changes.
- *Workers' Compensation* – The budget includes \$2.4 million for Workers' Compensation, an increase of \$100,000 or 4.3% from the FY18 Budget and is based on a three-year average of actual spending.
- *Chemicals* – The budget includes \$10.8 million for Chemicals, an increase of \$994,000 or 10.1% from the FY18 Budget mainly due to increased quantities and prices for Ferric Chloride and Hydrogen Peroxide at the Deer Island Wastewater Treatment Plant, and increased prices for Sodium Hypochlorite primarily at the Carroll Water Treatment

Plant, offset by lower quantities at Deer Island. The FY19 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 \$22.9 million for Utilities, which is an increase of \$1.1 million or 5.3% from the FY18 Budget. The budget funds \$17.1 million for Electricity; \$2.7 million for Diesel Fuel; \$2.3 million for Water; and \$585,000 for Natural Gas. The increase in Utilities includes \$620,000 at Deer Island to account for the new Eversource transmission and distribution rate and an increase in the budget for diesel fuel based on recent cost increases.
- *Maintenance* – The budget includes \$32.3 million for Maintenance projects, basically level funded with FY18.
- *Training and Meetings* – The budget includes \$456,000 for Training and Meetings, an increase of \$50,000 or 12.2% from the FY18 Budget. This reflects the actual costs of programs scheduled for FY19.
- *Professional Services* – The budget includes \$7.7 million for Professional Services, an increase of \$454,000 or 6.3% from the FY18 Budget. The budget reflects funding of \$1.9 million for Security, \$1.7 million for Regulatory Monitoring, and \$1.4 million for Other Professional Services to support items such as professional staff development, financial consultant services, and outside legal services. Computer Systems Consultants total \$700,000, and as-needed engineering services total \$982,000. The increase to the Professional Services budget includes \$350,00 for SCADA upgrades to be implemented in FY19, and \$95,000 for the funding of a pay equity study as required by State law.
- *Other Materials* – The budget includes \$7.4 million for Other Materials, an increase of \$688,000 or 10.3% from the FY18 Budget. \$563,000 of the increase is for MIS desktop PC replacement; and \$158,000 is for furniture replacement at Deer Island and water quality testing equipment for EnQual Water. The budget includes funding of \$1.9 million for Vehicle Purchases; \$1.4 million for Computer Hardware needs; \$904,000 for Lab and Testing Supplies; \$778,000 for Vehicle Expenses mostly for fuel purchases for the fleet; \$757,000 for Equipment/Furniture; \$463,000 for Work Clothes; and \$429,000 for Health and Safety supplies.
- *Other Services* – The budget includes \$23.1 million for Other Services, an increase of \$301,000 or 1.3% from the FY18 Budget. The budget includes funding of \$13.3 million for Sludge Pelletization, \$3.7 million for Space/Lease Rentals and related lease cost for the Charlestown Navy Yard, and Chelsea facilities, \$1.9 million for Voice and Data costs, \$1.3 million for Other Services, and \$1.1 million for Grit & Screenings removal. The increase is for Sludge Pelletization of \$470,000 is due to inflation. This is offset by decreases in Other Rentals for the decision to move from leasing to purchasing the multi-functional devices and Voice and Data costs.

## Indirect Expenses

Indirect Expenses for FY19 total \$46.0 million, an increase of \$7.1 million or 18.3% from the FY18 Budget. Below are the highlights of major changes:

- The budget includes \$2.1 million for Insurance, an increase of \$86,000 or 4.3% from the FY18 Budget. The FY19 Budget was based on actual average spending for claims for the past five years, FY13-17, and bids received for the premiums. It should be noted that at the May 30<sup>th</sup> meeting, the Board of Directors approved the MWRA FY19 Insurance program with a not to exceed estimate of \$237,250 for the excess liability coverage line item. Since then, staff obtained the actual amount for the excess liability coverage which is \$236,586, for a savings of \$664.
- The budget includes \$26.4 million for the Watershed Management budget, an increase of \$1.2 million or 4.9% over the FY18 Budget. The budget includes \$17.9 million for reimbursement of operating expenses net of revenues, and \$8.5 million for Payment in Lieu of Taxes (PILOT). The largest increases are for operating expenses net of revenues of \$1.2 million mainly for contractual increases, healthcare costs, and funds for the replacement of the New Salem Facility, which burnt down in a fire in April 2018. The FY19 operating capital budget includes the Clinton crew headquarters construction.
- The budget includes \$1.4 million for the Harbor Energy Electric Company (HEEC), an increase of \$429,000 or 44.8% from the FY18 Budget to reflect updated calculations for the Operations and Maintenance component of the HEEC payment obligations for the existing cross-harbor cable providing electricity to the Deer Island Wastewater Treatment Plant and for the costs of capital improvements to the associated electrical substations.
- The budget includes \$1.6 million for Mitigation payments to the cities of Quincy and Winthrop in accordance with mitigation agreements which expire in FY25.
- Funding for the Operating Reserve for FY18 is \$1.9 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 FY19 Budget the required balance is \$42.0 million versus the \$40.1 million required in FY18.
- The budget includes \$7.0 million for the Retirement Fund, the minimum required contribution for FY19 based on the May 14, 2018 actuarial report. The FY19 required contribution is an increase of \$3.7 million or 113.6% over the FY18 budget. The increased pension requirement results from lower than assumed returns on pension investments in CY14-16. Based on a January 1, 2017 actuarial report, the minimum required contribution for FY19 was \$7.9 million. Because pension investment returns were favorable in CY17, the Authority obtained a preliminary interim actuarial valuation, which resulted in a lower minimum required contribution of \$7.1 million. Following receipt of the Advisory Board's recommendation to reduce the actuarially

required contributions in future years, the Authority obtained the May 14, 2018 actuarial report, which reduced the required contribution for FY19 to \$7.0 million, maintained the investment return at 7.5%, and extended the full funding period up to 2028. Based on the latest actuarial evaluation on January 1, 2018, MWRA's pension fund is at a 95% funding level.

- The Authority complies 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 our pension liability and upon reaching full funding, move to address the OPEB obligation. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established after Board approval and funding started on April 23<sup>rd</sup>, 2015. The current Trust balance is \$24.4 million. Starting in FY18, GASB 75 is the governing standard for reporting OPEB information. The proposed \$5.6 million budget is based on 50% of the contribution determined in the January 1, 2016 actuarial report.

### Capital Financing

As a result of the Authority's Capital Improvement Program, capital financing as a percent of total expenses (before offsets) has increased steadily from 36% in 1990 to 63.5% in FY18, dropping slightly to 62.8% in the FY19 Budget. Much of the capital financing expenses are for debt service for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA's capital spending, from its inception, had 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, and as the Combined Sewer Overflow (CSO) projects reached substantial completion in December 2015, the majority of spending will be focused on asset protection and water system redundancy initiatives.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the 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. The MWRA also uses tax exempt commercial paper to minimize the financing cost of construction in process.

The FY19 Final Budget capital financing costs total \$482.4 million and remain the largest portion of the MWRA's budget.

The FY19 Proposed Budget includes the benefit of a planned defeasance of \$31.0 million which will reduce debt service by approximately \$1.4 million in FY19, and \$10.2 million in FY20, \$8.7 million in FY21 and \$13.7 million in FY22.

The FY19 Budget assumes a 3.5% interest rate for variable rate debt which is 0.25% higher than the rate in FY18. 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 unusually low interest rates, they are not reflective of historical averages and there are anticipated increases in the future.

The FY19 Final Budget capital financing costs increased by \$10.1 million or 2.2% compared to the FY18 Budget. This increase in the MWRA's debt service is the result of projected FY19 borrowings, the structure of the existing debt, and increased current revenue for capital partially offset by the impact of the defeasance and a reduction in debt prepayment levels as compared to FY18. The FY19 capital financing budget includes:

- \$272.6 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$6.6 million to support issuance of \$100 million in May 2018 and \$3.5 million to support issuances of \$125 million in new money in February 2019. Also it includes a reduction of \$1.4 million for the effect of the FY18 defeasance;
- \$92.0 million in principal and interest payments on subordinate bonds;
- \$89.4 million in principal and interest payments on SRF loans. This amount includes \$8.6 million to support issuances of \$50.0 million of loans during 2018 and \$50 million in 2019;
- \$14.2 million to fund ongoing capital projects with current revenue;
- \$7.1 million in debt prepayment.
- \$4.8 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The budget also includes \$944,726 offset to Debt Service for the Debt Service Assistance received in FY18.

## **Revenue**

FY19 non-rate revenue totals \$28.9 million, which is an increase of \$2.3 million or 8.8% versus the FY18 Budget. The FY19 non-rate revenue budget includes:

- \$6.0 million in Other Revenue, a decrease of \$1.3 million from the FY18 Budget. Other Revenue includes, \$2.7 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 \$1.4 million 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 permits fees and penalties, an increase of \$54,000 over the FY18 Budget.

- \$13.6 million in Investment Income, an increase of \$3.4 million or 32.9% from the FY18 Budget, reflecting higher interest rate assumptions. The short-term interest rate assumption is at 1.75% which is at the 70 basis points above the FY18 Budget level.
- \$9.3 million in Other User Charges, including \$5.0 million for Chicopee Valley Aqueduct (CVA) communities, \$1.8 million for Deer Island water usage, \$727,000 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 \$318,000 or 3.5% more than the FY18 Budget which is mainly due to assessment increases related to increases for the DCR Blue Hills Ski Area, Lancaster and Chicopee.

The Rate Revenue Requirement for FY19 is \$739.0 million, an increase \$22.0 million or 3.07% over the FY18 Budget. The Rate Revenue Requirement is the difference between total expenses of \$767.9 million, less non-rate revenue of \$28.9 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 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 increases enable member communities to adequately plan and budget for future payments to MWRA. In FY14 the Authority tightened certain planning estimate assumptions such as inflation on direct expenses and limiting the annual capital improvement spending.

Table 3 below presents the combined estimated future rate increases and household charges based on the Final FY19 Budget. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth and no use of Rate Stabilization and Bond Redemption reserves through FY25.

**Table 3**

Rates & Budget Projections											
Final FY19 CEB	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Total Rate Revenue (\$000)	\$ 717,054	\$ 739,042	\$ 766,658	\$ 795,319	\$ 824,267	\$ 842,831	\$ 837,082	\$ 846,774	\$ 880,169	\$ 906,476	\$ 916,290
Rate Revenue Change from Prior Year (\$000)	\$ 22,175	\$ 21,988	\$ 27,615	\$ 28,662	\$ 28,948	\$ 18,564	\$ (5,749)	\$ 9,691	\$ 33,395	\$ 26,308	\$ 9,814
Rate Revenue Increase	3.2%	3.07%	3.7%	3.7%	3.6%	2.3%	-0.7%	1.2%	3.9%	3.0%	1.1%
Use of Reserves (\$000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,500	\$ -	\$ -
<i>Estimated Household Bill</i>											
Based on annual water usage of 61,000 gallons	\$1,111	\$1,157	\$1,208	\$1,262	\$1,318	\$1,369	\$1,409	\$1,459	\$1,526	\$1,591	\$1,649
Based on annual water usage of 90,000 gallons	\$1,639	\$1,707	\$1,783	\$1,862	\$1,944	\$2,020	\$2,079	\$2,153	\$2,252	\$2,347	\$2,432

## **CEB Review and Adoption Process**

In February, the MWRA transmitted the Proposed FY19 Budget to the Advisory Board for its review and comment. In May the Advisory Board submitted their *Integrated Comments and Recommendations*. Responses to the Advisory Board's review and comments are attached as Attachment F.

### Attachments

Attachment A	FY19 Final Budget vs. FY19 Proposed Budget
Attachment B	FY19 Final Budget vs. FY18 Approved Budget
Attachment C	FY19 Final Direct Expense Budget by Division
Attachment D	FY19 Final Operating Budget (Trustee's Budget)
Attachment E	FY19 Final Budget vs. FY18 Projections
Attachment F	MWRA Responses to Advisory Board's FY19 Integrated CIP and CEB Comments and Recommendations

**ATTACHMENT A**  
**FY19 Final Budget vs FY19 Proposed Budget**

TOTAL MWRA	FY19 Proposed Budget	FY19 Final Budget	Change FY19 Final Budget vs FY19 Proposed Budget	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 107,118,716	\$ 107,032,021	\$ (86,695)	-0.1%
OVERTIME	4,247,554	4,447,554	200,000	4.7%
FRINGE BENEFITS	21,774,617	21,173,571	(601,046)	-2.8%
WORKERS' COMPENSATION	2,322,609	2,422,609	100,000	4.3%
CHEMICALS	10,855,856	10,830,452	(25,404)	-0.2%
ENERGY AND UTILITIES	22,041,919	22,868,633	826,714	3.8%
MAINTENANCE	31,637,582	32,258,727	621,145	2.0%
TRAINING AND MEETINGS	455,770	455,770	-	0.0%
PROFESSIONAL SERVICES	7,617,117	7,675,976	58,859	0.8%
OTHER MATERIALS	7,381,098	7,381,098	-	0.0%
OTHER SERVICES	23,150,693	23,065,411	(85,282)	-0.4%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 238,603,532</b>	<b>\$ 239,611,821</b>	<b>\$ 1,008,291</b>	<b>0.4%</b>
INSURANCE	\$ 2,099,064	\$ 2,099,064	-	0.0%
WATERSHED/PILOT/DEBT	25,906,427	26,406,427	500,000	1.9%
COMMONWEALTH DEBT PREPAYMENT	-	-	-	-
HEEC PAYMENT	1,386,832	1,386,832	-	0.0%
MITIGATION	1,614,262	1,614,262	-	0.0%
ADDITIONS TO RESERVES	1,732,193	1,881,798	149,605	N/A
RETIREMENT FUND	7,110,663	7,000,000	(110,663)	-1.6%
ADDITIONAL PENSION DEPOSIT	-	-	-	-
POSTEMPLOYMENT BENEFITS	5,574,152	5,574,152	-	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 45,423,594</b>	<b>\$ 45,962,534</b>	<b>\$ 538,942</b>	<b>1.2%</b>
STATE REVOLVING FUND	\$ 89,380,358	\$ 89,380,358	-	0.0%
SENIOR DEBT	273,126,129	272,633,979	(492,150)	-0.2%
SUBORDINATE DEBT	92,032,294	92,032,294	-	0.0%
LOCAL WATER PIPELINE CP	4,750,393	4,750,393	-	0.0%
CURRENT REVENUE/CAPITAL	14,200,000	14,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	12,500,000	7,100,000	(5,400,000)	-43.2%
VARIABLE RATE SAVINGS	-	-	-	-
DEFEASANCE ACCOUNT	-	-	-	-
DEBT SERVICE ASSISTANCE	-	(944,726)	(944,726)	N/A
HEEC CABLE CAPACITY RESERVE FUND	-	-	-	-
<b>TOTAL DEBT SERVICE</b>	<b>\$ 489,206,234</b>	<b>\$ 482,369,358</b>	<b>\$ (6,836,876)</b>	<b>-1.4%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 773,233,360</b>	<b>\$ 767,943,713</b>	<b>\$ (5,289,645)</b>	<b>-0.7%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 745,080,300	\$ 739,042,200	(6,038,100)	-0.81%
OTHER USER CHARGES	9,469,933	9,328,768	(141,165)	-1.5%
OTHER REVENUE	6,225,719	6,013,635	(212,084)	-3.4%
RATE STABILIZATION	-	-	-	-
INVESTMENT INCOME	12,457,408	13,559,110	1,101,702	8.8%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 773,233,360</b>	<b>\$ 767,943,713</b>	<b>\$ (5,289,647)</b>	<b>-0.7%</b>



**ATTACHMENT B**  
**FY19 Final Budget vs FY18 Approved Budget**

TOTAL MWRA	FY17 Actuals	FY18 Approved Budget	FY19 Final Budget	Change	
				FY19 Final Budget vs FY18 Approved Budget	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 98,494,291	\$ 104,286,370	\$ 107,032,021	\$ 2,745,651	2.6%
OVERTIME	4,951,621	4,110,637	4,447,554	336,917	8.2%
FRINGE BENEFITS	19,623,635	20,997,975	21,173,571	175,596	0.8%
WORKERS' COMPENSATION	2,565,336	2,322,980	2,422,609	99,629	4.3%
CHEMICALS	9,262,849	9,836,933	10,830,452	993,519	10.1%
ENERGY AND UTILITIES	20,249,594	21,735,222	22,868,633	1,133,411	5.2%
MAINTENANCE	30,798,709	32,200,786	32,258,727	57,941	0.2%
TRAINING AND MEETINGS	360,115	406,269	455,770	49,501	12.2%
PROFESSIONAL SERVICES	6,698,861	7,221,622	7,675,976	454,354	6.3%
OTHER MATERIALS	5,851,449	6,692,659	7,381,098	688,439	10.3%
OTHER SERVICES	21,865,445	22,764,526	23,065,411	300,885	1.3%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 220,721,905</b>	<b>\$ 232,575,979</b>	<b>\$ 239,611,821</b>	<b>\$ 7,035,843</b>	<b>3.0%</b>
INSURANCE	\$ 1,739,542	\$ 2,013,452	\$ 2,099,064	85,612	4.3%
WATERSHED/PILOT/DEBT	23,911,694	25,164,006	26,406,427	1,242,421	4.9%
HEEC PAYMENT	789,258	957,445	1,386,832	429,387	44.8%
MITIGATION	1,542,800	1,596,950	1,614,262	17,312	1.1%
ADDITIONS TO RESERVES	(167,742)	821,116	1,881,798	1,060,682	N/A
RETIREMENT FUND	4,632,624	3,277,369	7,000,000	3,722,631	113.6%
ADDITIONAL PENSION DEPOSIT	-	-	-	-	-
POSTEMPLOYMENT BENEFITS	4,876,050	5,035,422	5,574,152	538,730	10.7%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 37,324,226</b>	<b>\$ 38,865,759</b>	<b>\$ 45,962,534</b>	<b>\$ 7,096,775</b>	<b>18.3%</b>
STATE REVOLVING FUND	\$ 80,459,851	\$ 84,931,906	\$ 89,380,358	4,448,452	5.2%
SENIOR DEBT	287,931,637	264,560,267	272,633,979	8,073,712	3.1%
SUBORDINATE DEBT	69,997,992	85,443,447	92,032,294	6,588,847	7.7%
LOCAL WATER PIPELINE CP	858,685	3,794,944	4,750,393	955,449	25.2%
CURRENT REVENUE/CAPITAL	12,200,000	13,200,000	14,200,000	1,000,000	7.6%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	10,994,960	10,900,000	7,100,000	(3,800,000)	-34.9%
VARIABLE RATE SAVINGS	(11,027,773)	-	-	-	-
DEFEASANCE ACCOUNT	-	-	-	-	-
DEBT SERVICE ASSISTANCE	(1,265,384)	(391,580)	(944,726)	(553,146)	141.3%
HEEC CABLE CAPACITY RESERVE FUND	-	6,532,146	-	(6,532,146)	-100.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 453,367,028</b>	<b>\$ 472,188,190</b>	<b>\$ 482,369,358</b>	<b>\$ 10,181,168</b>	<b>2.2%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 711,413,158</b>	<b>\$ 743,629,929</b>	<b>\$ 767,943,713</b>	<b>\$ 24,313,786</b>	<b>3.3%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 694,878,500	\$ 717,054,000	\$ 739,042,200	21,988,200	3.07%
OTHER USER CHARGES	8,809,434	9,011,070	9,328,768	317,698	3.5%
OTHER REVENUE	13,087,910	7,359,078	6,013,635	(1,345,443)	-18.3%
RATE STABILIZATION	-	-	-	-	-
INVESTMENT INCOME	9,758,480	10,205,781	13,559,110	3,353,329	32.9%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 726,534,324</b>	<b>\$ 743,629,929</b>	<b>\$ 767,943,713</b>	<b>\$ 24,313,784</b>	<b>3.3%</b>

**ATTACHMENT C**  
**FY19 Final Direct Expense Budget by Division**

Division	FY18 Final Budget	FY19 Final Budget	Change FY19 Final Budget vs. FY18 Final Budget	
			\$	%
Executive	\$1,343,033	\$1,419,176	\$76,143	5.7%
Emergency Preparedness	3,647,508	3,634,962	-\$12,546	-0.3%
Administration	48,426,600	49,485,247	\$1,058,647	2.2%
Finance	4,126,344	4,321,201	\$194,857	4.7%
Law	2,306,866	2,058,972	-\$247,894	-10.7%
Affirmative Action	555,077	570,187	\$15,110	2.7%
Internal Audit	683,128	696,794	\$13,666	2.0%
Public Affairs	1,252,989	1,270,466	\$17,477	1.4%
Operations/Planning	170,234,435	176,154,819	\$5,920,384	3.5%
<b>Total Authority</b>	<b>\$232,575,979</b>	<b>\$239,611,821</b>	<b>\$7,035,843</b>	<b>3.0%</b>

**ATTACHMENT D**

**Massachusetts Water Resources Authority  
Fiscal Year 2019 Operating Budget for Filing with the Trustee  
Pursuant to Section 712 of General Bond Resolution Adopted January 24, 1990**

(\$000s)

Projected Monthly Deposits:

Fund	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Operating	\$19,791	\$24,739	\$19,791	\$19,791	\$24,739	\$19,791	\$19,791	\$24,739	\$19,791	\$19,791	\$24,739	\$19,791	\$257,286
Debt Service & Coverage	37,105	46,382	37,105	37,105	46,382	37,105	37,105	46,382	37,105	37,105	46,382	37,105	482,369
Debt Service Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
CORE	---	---	---	---	---	---	---	---	---	---	---	---	0
Commonwealth Obligations	---	---	4,477	---	---	4,477	---	---	12,977	---	---	4,477	26,406
Operating Reserve	145	181	145	145	181	145	145	181	145	145	181	145	1,882
Insurance Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Renewal & Replacement Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Rate Stabilization Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<u>\$57,041</u>	<u>\$71,302</u>	<u>\$61,518</u>	<u>\$57,041</u>	<u>\$71,302</u>	<u>\$61,518</u>	<u>\$57,041</u>	<u>\$71,302</u>	<u>\$70,018</u>	<u>\$57,041</u>	<u>\$71,302</u>	<u>\$61,518</u>	<u>\$767,944</u>

**ATTACHMENT E**  
**FY19 Final Budget vs FY18 Projection**

TOTAL MWRA	FY18 Projection	FY19 Final Budget	Change	
			FY19 Final Budget vs FY18 Projection	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 100,782,302	\$ 107,032,021	\$ 6,249,719	6.2%
OVERTIME	4,577,713	4,447,554	(130,159)	-2.8%
FRINGE BENEFITS	20,149,975	21,173,571	1,023,596	5.1%
WORKERS' COMPENSATION	2,572,308	2,422,609	(149,699)	-5.8%
CHEMICALS	9,692,216	10,830,452	1,138,236	11.7%
ENERGY AND UTILITIES	22,253,248	22,868,633	615,385	2.8%
MAINTENANCE	32,673,083	32,258,727	(414,356)	-1.3%
TRAINING AND MEETINGS	402,531	455,770	53,239	13.2%
PROFESSIONAL SERVICES	6,896,945	7,675,976	779,031	11.3%
OTHER MATERIALS	6,472,686	7,381,098	908,412	14.0%
OTHER SERVICES	22,932,606	23,065,411	132,805	0.6%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 229,405,613</b>	<b>\$ 239,611,821</b>	<b>\$ 10,206,209</b>	<b>4.3%</b>
INSURANCE	\$ 2,805,581	\$ 2,099,064	\$ (706,517)	-25.2%
WATERSHED/PILOT	24,157,126	26,406,427	2,249,301	9.3%
HEEC PAYMENT	819,191	1,386,832	567,641	69.3%
MITIGATION	1,574,890	1,614,262	39,372	2.5%
ADDITIONS TO RESERVES	821,116	1,881,798	1,060,682	129.2%
RETIREMENT FUND	3,277,369	7,000,000	3,722,631	113.6%
ADDITIONAL PENSION DEPOSIT	-	-	-	N/A
POSTEMPLOYMENT BENEFITS	5,035,422	5,574,152	538,730	10.7%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 38,490,695</b>	<b>\$ 45,962,534</b>	<b>\$ 7,471,840</b>	<b>19.4%</b>
STATE REVOLVING FUND	\$ 80,637,871	\$ 89,380,358	\$ 8,742,487	10.8%
SENIOR DEBT	263,760,267	272,633,979	8,873,712	3.4%
SUBORDINATE DEBT	85,443,447	92,032,294	6,588,847	7.7%
LOCAL WATER PIPELINE CP	1,482,833	4,750,393	3,267,560	220.4%
CURRENT REVENUE/CAPITAL	13,200,000	14,200,000	1,000,000	7.6%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	10,900,000	7,100,000	(3,800,000)	-34.9%
VARIABLE DEBT SAVINGS	(7,727,273)	-	7,727,273	-100.0%
DEFEASANCE ACCOUNT	15,133,419	-	(15,133,419)	N/A
DEBT SERVICE ASSISTANCE	(1,336,306)	(944,726)	391,580	-29.3%
HEEC CABLE CAPACITY RESERVE FUND	6,532,146	-	(6,532,146)	N/A
<b>TOTAL DEBT SERVICE</b>	<b>\$ 471,243,464</b>	<b>\$ 482,369,358</b>	<b>\$ 11,125,894</b>	<b>2.4%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 739,139,772</b>	<b>\$ 767,943,713</b>	<b>\$ 28,803,943</b>	<b>3.9%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 717,054,000	\$ 739,042,200	\$ 21,988,200	3.07%
OTHER USER CHARGES	9,011,070	9,328,768	317,698	3.5%
OTHER REVENUE	12,159,078	6,013,635	(6,145,443)	-50.5%
RATE STABILIZATION	-	-	-	N/A
INVESTMENT INCOME	12,183,869	13,559,110	1,375,241	11.3%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 750,408,017</b>	<b>\$ 767,943,713</b>	<b>\$ 17,535,697</b>	<b>2.3%</b>
VARIANCE	\$ 11,268,245		\$ (11,268,248)	

ATTACHMENT F

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>The Advisory Board recommends the proposed Phase 11 and 12 funding level of \$120 million be increased to \$200 million. As well as the installation of a \$100 million dollar, 10-year, interest free interim loan program for</p> <p>1. communities seeking additional funding prior to the conclusion of Phases 11 and 12. The program would have the same allocation methodology of the traditional I/I program and aide communities that aggressively utilize I/I funding before new phases are implemented.</p>	<p>Agree. Given, that the Community Financial Assistance Programs are driven by the request of the communities through the Advisory Board, MWRA historically supported these requests and it is committed to continue the support in the future.</p>
<p>2. The Advisory Board recommends reducing the FY19-23 capital spending cap to no greater than \$950 million.</p>	<p>Partially agree. The MWRA reduced the FY19-23 capital spending cap to \$984.8 million. The FY19-23 cap marks the transition to asset protection and long-term water redundancy as the primary drivers of capital spending. Both asset protection and long-term water redundancy will require increased future investment.</p>
<p>3. The Advisory Board recommends reducing the FY19 Rate Revenue Requirement by \$6,010,531 resulting in a combined wholesale assessment increase of 3.07%, the lowest rate increase in six years.</p>	<p>Agree. The MWRA has reduced the FY19 Rate Revenue Requirement by \$6,038,100 resulting in a combined wholesale assessment increase of 3.07%.</p>
<p>4. The Advisory Board recommends reducing the optional debt pre-payment by \$1.6 million level-fund this line item from FY18.</p>	<p>Partially agree. The MWRA agrees reducing the debt pre-payment for FY19. However, the MWRA proposes reducing debt pre-payment by \$5.4 million. See response to Recommendation #6 below.</p>
<p>5. The Advisory Board recommends reducing the variable rate debt interest rate assumption to 3.25%, and the variable rate debt line item by \$1 million to reflect this change.</p>	<p>Disagree. Current market trends and projections indicated that rates will continue to increase during FY19. The Federal Reserve Open Market Committee members project rates for 2019 ranging from a low of 1.63% to a high of 3.88% before liquidity and remarketing costs are included.</p>
<p>6. The Advisory Board recommends that the Authority explore the potential financial gains from using taxable bonds on appropriate capital projects, such as the Lead Loan Program and the purchase of the railroad near Wachusett Reservoir.</p>	<p>Agree. The MWRA will consider taxable bonds and other funding mechanisms for capital expenditures where tax-exempt funding is not allowed.</p>

ATTACHMENT F

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>7. The Advisory Board recommends that the Authority adopt a long term, 40-year, debt structure to fund the Metropolitan Redundancy Tunnel and other projects with long useful lives.</p>	<p>Partially agree. MWRA continually evaluates the structure of its debt repayments based on the impact to rates and charges, interest rates, and useful life of the project.</p>
<p>8. The Advisory Board recommends that the Authority adjusts its attrition/vacancy rate assumptions upward by \$950,000 (includes associated fringe benefits).</p>	<p>Partially agree. The MWRA reduced regular pay by \$200,000.</p>
<p>9. The Advisory Board recommends reducing other post-employment benefits expenses by \$3,681,945, unless a multi-year approach that addresses future pension expenses is adopted.</p>	<p>Disagree. MWRA is leaving the post-employment benefits funding at the Proposed budget level. Please refer to response on Recommendation #10 below.</p>
<p>10. The Advisory Board recommends that MWRA staff recommend to the Retirement Board a schedule extension to 2028 while keeping the assumed rate of return at 7.5%. Should this schedule be adopted, the Advisory Board withdraws its recommendation to reduce OPEB by \$3,681,945, and instead reduce the optional debt payment by an additional \$3,681,945 beyond the Advisory Board's prior recommendation.</p>	<p>Agree. MWRA solicited and received revised funding schedules from our actuary - Segal Consulting. MWRA also formally asked the approval of the MWRA Pension Board of the revised funding schedule, which was approved on May 31st, with 7.5% rate of return and extended funding schedule up to 2028. Consequently, PERAC approved the revised schedule on June 1st.</p>
<p>11. The Advisory Board recommends increasing the "additions to reserves" line item for FY19 by \$45,249 to correspond to the recommended reductions in eligible line items.</p>	<p>Based on the MWRA Spring revisit changes the required "additions to the operating reserves" is \$149,605.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
<p>The Advisory Board recommends MWRA not funding for all Watershed Division capital projects – both in the CIP and as part of the Watershed</p> <p>12. Reimbursement CEB line item – until either insurance or an insurance reserve funded by the Commonwealth is established for the state buildings in the watershed.</p>	<p>Partially agree. The MWRA is investigating options to address ways in which either insurance or an insurance reserve can be established for buildings in the watershed. Given that DCR as part of the state of Massachusetts - not allowed to purchase property insurance based on MGL Chapter 29 Sec.30, it is highly unlikely to successfully get a legislative waiver only for four DCR buildings. For the state to set-up a reserve fund is also unlikely. MWRA's Enabling Act Section 6 allows for MWRA to purchase insurance if "necessary or convenient". MWRA is evaluating options to 1, roll these buildings into its existing MWRA insurance program, at the current \$2.5 million self-insured retention or 2, roll these buildings into its existing insurance program with a lower self-insured retention, or 3, purchase a separate policy for these buildings for lower limit and lower self-insured retention. The initial feed-back from MWRA current insurer is that both option 1 or 2 is feasible.</p>
<p>13. The Advisory Board recommends removing treatment of enterococcus from the FY19 budget and reducing the FY19 chemicals budget by \$294,006.</p>	<p>Agree. MWRA anticipates the start-up of the new permit after FY19 but will absorb the expense of additional treatment if the new requirements go into effect before June 2019.</p>
<p>14. The Advisory Board recommends that MWRA insist that the final Deer Island permit does not contain any language naming member communities as co-permittees.</p>	<p>Agree. The MWRA intends to vigorously object to any attempt by EPA to include co-permittees in its Deer Island NPDES permit.</p>
<p>15. The Advisory Board recommends that the MWRA staff work with Advisory Board staff to determine the best “target” level for cost-recovery of the TRAC program. Additionally, the Advisory Board recommends identifying and implementing an automatic escalator to make fee increases sustainable and predictable for the permittees. The Advisory Board further recommends that the new increased fee structure and automatic escalator be in place by July 1, 2019.</p>	<p>Agree. MWRA will review this program and will get input from the Advisory Board staff.</p>

ATTACHMENT F

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Recommendations	MWRA Responses
<p>16. The Advisory Board recommends reducing interest income revenue by \$1 million.</p>	<p>Disagree. MWRA increased the short-term interest for the investment income by 70 basis points from 1.05% in FY18 to 1.75% in FY19 to reflect current market trends and the Federal Reserve projected rate increases, both during 2018, and 2019.</p>
<p>17. The Advisory Board recommends applying the MWRA's debt service assistance share of \$944,726 received in FY18 towards the FY19 budget to reduce community assessments.</p>	<p>Agree.</p>
<p>18. The Advisory Board recommends that the Authority work toward the rate revenue requirement increase levels detailed in the Policy Chapter, and target 2.4% rate increases by the year 2024.</p>	<p>Partially agree. MWRA already recognized the impact of the lower required pension contribution levels, as recommended by the Advisory Board, in the planning estimates. Due to uncertainties and risks, the accuracy of planning estimates beyond five years is questionable. At the same time committing to certain levels, six years out represent significant challenges at utility level. However, as always, MWRA will continue to evaluate all tools available to ensure predictable and sustainable assessments to our member communities.</p>
<p>19. The Advisory Board recommends that MWRA reach out to other entities such as arts councils, non-profits, and perhaps local businesses to donate funding to help install color accent lights on the Deer Island digesters.</p>	<p>Agree. MWRA Public Affairs staff will explore potential grant funding through various Arts Councils, Cultural Councils, and other Foundations that provide funding sources for historic restorations, public art installations, and other projects that enhance public spaces.</p>



ATTACHMENT F

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Comments	MWRA Responses
<p>1. The Advisory Board supports the continued use of the defeasance account strategy, which clearly identifies a use of variable rate debt service savings that is consistent with the original intended use of the funds that were raised.</p>	<p>Agree. This strategy proved to be an effective tool for achieving the multi-year sustainable and predictable community assessment goal.</p>
<p>2. The Advisory Board expects to continue working with MWRA staff and MassWorks to dedicate grant funding for communities looking to join the MWRA waterworks system.</p>	<p>Agree. MWRA: MWRA staff will continue to evaluate opportunities for grants through MassDEP capital budgets such as sustainable water management initiative programs, and appropriations related to Chapter 259 of the Acts of 2014 (“the water infrastructure law”) which has provisions for matching funds for MWRA entry fees. MWRA will also evaluate opportunities that could come to fruition under either the environmental or economic development bond bills annually.</p>
<p>3. The Advisory Board expects the MWRA to propose an increase of \$113,305 in the “wages and salaries” category of expenses in its final FY19 CEB.</p>	<p>Agree. Added funding for planned interns, stand-by pay which was erroneously left out and some minor staffing changes.</p>
<p>4. The Advisory Board supports continued funding for proposed temporary staffing related to the lead program to assist communities.</p>	<p>Agree. The Laboratory Services Department's FY19 CEB includes funds for two contract employees to assist with community lead testing.</p>
<p>5. Based on new data released this spring from the GIC, MWRA projects a decrease of \$601,046 from the proposed FY19 CEB. The Advisory Board expects this reduction to be included in the final FY19 CEB.</p>	<p>Agree. Health Insurance and Dental Insurance were updated based on current pricing and enrollment numbers. Medicare was updated based on more recent payroll cost adjusted with pending contractual agreements.</p>
<p>6. The Advisory Board expects the Authority to increase the “worker’s compensation” category of expense by \$100,000.</p>	<p>Agree. The FY19 CEB was increased base on recent historical spending.</p>

ATTACHMENT F

**MWRA's Responses to the Advisory Board's FY2019 Integrated CIP and CEB Recommendations and Comments**

Advisory Board Comments	MWRA Responses
7. The Advisory Board expects the MWRA to increase its overtime budget by \$200,000.	Agree. Overtime budget was increased based on recent historical spending.
8. The Advisory Board expects and supports the Authority to reduce the FY19 pension fund expense according to the updated actuarial calculations.	Agree. The FY19 pension fund expense reflects the new valuation which represents a \$110,663 reduction to the Proposed budget.
9. The Advisory Board expects the MWRA to increase its "maintenance" category of expense by \$621,145 in the final FY19 CEB.	Agree. Changes were made for recently identified and/or awarded projects and shifting of project priorities.
10. The Advisory Board expects the Authority will decrease the "other services" category of expense by \$85,282.	Agree. Primarily for reduced SCADA data line costs.
11. The Advisory Board expects the Authority to increase its FY19 CEB "utilities" expenses by an estimated \$839,914.	Agree. Primarily for updated pricing: electricity was increased by \$621k mostly for Deer Island WR rate from Eversource, and diesel fuel was increased by \$219k to reflect the latest price estimates.
12. The Advisory Board expects that the MWRA will increase the "chemicals" category of expense by \$286,602 to reflect updated pricing and usage assumptions.	Agree. Primarily for recently awarded contract pricing mostly on sodium hypochlorite.
13. The Advisory Board expects the MWRA to request an increase of the "professional services" category of expense by \$58,859 in its final budget.	Agree. Primarily for addition of funds for a compensation study required by recent update to the Massachusetts Equal Pay Act (MEPA) which will go into effect on July 1, 2018.
14. The Advisory Board expects to work closely with the MWRA and all stakeholders to help MassDEP assume NPDES delegation.	Agree. MWRA staff will continue to engage with the Advisory Board, MassDEP, and other stakeholders as appropriate to evaluate the best fee structure and regulatory mechanisms that would support MassDEP being authorized by EPA to successfully administer the NPDES program. In relation to its own NPDES permit requirements, the MWRA intends to vigorously object to any attempt by EPA or MassDEP to include co-permittees in its DITP NPDES permit.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 20, 2018  
**SUBJECT:** Final FY19 Water and Sewer Assessments



**COMMITTEE:** Administration, Finance & Audit

   INFORMATION  
X VOTE

 Kathy Sorn, Budget Director  
Leo Norton, Assistant Manager, Rates, Revenue  
and Finance  
Preparer/Title

  
Thomas J. Durkin  
Director, Finance

*The FY19 Proposed Current Expense Budget (CEB) submitted to the Advisory Board at the February 2017 Board meeting included a 3.9% combined assessment increase.*

*Based on the Board discussions during the May 30<sup>th</sup> budget hearings and the Advisory Board recommendation, the Authority is putting forth a Rate Revenue Requirement (RRR) of \$739,042,200, resulting in a 3.07% combined assessment increase.*

*MWRA continues to utilize a multi-year rates management strategy to provide sustainable and predictable assessment increases to its member communities. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending and use of historical variable rate assumptions. The combination of these measures results in annual combined utility assessment increase projections of 3.7% or less through FY22.*

**RECOMMENDATION:**

To adopt the following effective July 1, 2018:

- 1) Water system assessments of \$249,855,191 and sewer system assessments of \$489,187,009 for Fiscal Year 2019.
- 2) FY19 sewer assessments of \$500,000 for the Town of Clinton and \$450,278 for the Lancaster Sewer District.
- 3) FY19 charge to the City of Worcester of \$188,387 representing approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant.
- 4) FY19 water assessments of \$3,542,075 for the City of Chicopee, \$710,359 for South Hadley Fire District #1, and \$757,295 for the Town of Wilbraham.
- 5) A wholesale water rate of \$3,963.00 per million gallons.
- 6) A retail sewer rate of \$7,824.67 per million gallons.

**DISCUSSION:**

The Draft Final FY19 Current Expense Budget includes a Rate Revenue Requirement of \$739,042,200, an increase of 3.07% over the FY18 requirement.

	FY19 Draft Final	FY18 Approved	Change from FY18	
			Dollars	Percent
<b>Water</b>	\$249,855,191	\$242,415,557	\$ 7,439,634	3.07%
<b>Sewer</b>	\$489,187,009	\$474,638,443	\$14,548,566	3.07%
<b>Total</b>	\$739,042,200	\$717,054,000	\$21,988,200	3.07%

Attachment 1 summarizes FY19 wholesale water and sewer charges for each MWRA community.

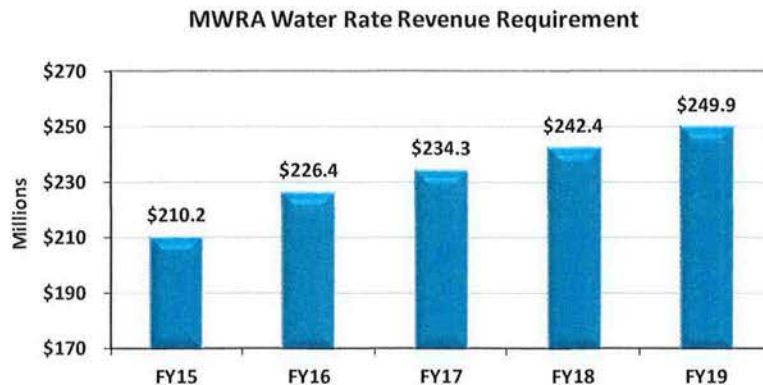
The estimated impact of the FY19 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is less than \$16.

**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. FY19 assessments are based on each community's share of CY17 water use of 63.047 billion gallons, a 6.8% decrease compared to CY16 water use of 67.674 billion gallons. Changes in FY19 water assessments for customer communities compared to FY18 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 CY17 compared to CY16. This is particularly true for communities that receive only part of their water from MWRA.

Since preliminary assessments were calculated in February, staff have also made minor adjustments to CY17 water use for the City of Boston, the Lynnfield Water District, and the Town of Stoneham, resulting in FY19 assessment impacts of less than 0.5%.

The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY18 to FY19 are primarily the result of increased debt service related to water utility rehabilitation and improvements, and increased pension costs.

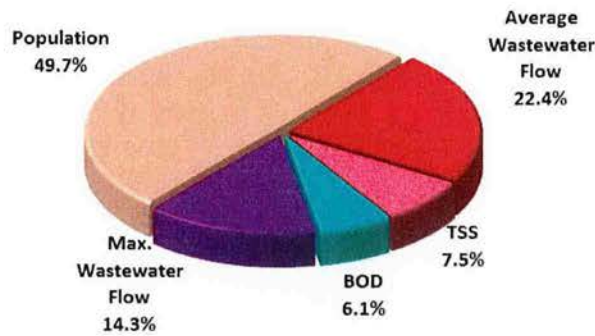


**Sewer Assessments**

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 50% of a community's FY19 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 50% is based on population as illustrated in the next graph.

**Allocation of Total MWRA Sewer Utility Assessment**

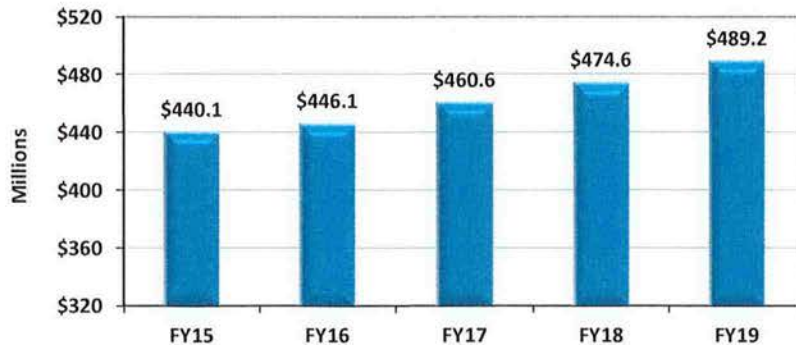


Both the preliminary and final FY19 assessments were calculated using the most recent (July 2016) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service as reported by each MWRA community.

Preliminary FY19 assessments were calculated using the average of CY15, CY16 and CY17 wastewater flows and strength of flows. As a result of ongoing quality assurance and review, staff has made minor adjustments to CY17 wastewater flows for the Towns of Canton, Stoneham and Stoughton, resulting in FY19 assessment impacts of less than 0.4%.

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, and increased pension costs.

**MWRA Sewer Rate Revenue Requirement**



### **Clinton Sewer Service Area Assessments**

Budgeted FY19 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$4,169,706, an increase of 10.6% over FY18 expenses. This includes a 14.4% increase in operating costs, and a 2.2% increase in capital expenses related primarily to the phosphorous removal 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. FY19 direct operating expenses for the plant total \$2,381,331, resulting in an FY19 charge of \$188,387 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 budgeted FY19 expenses and CY17 wastewater flows, Lancaster's FY19 charge is \$450,278, an increase of 9.5% over the FY18 charge of \$411,128.

The FY19 charge for the Town of Clinton is \$3,531,041. 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 Draft Final FY19 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the FY19 system assessment is \$5,009,529, an increase of 1.9% from FY18 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 CY17 water use, FY19 assessments are as follows:

- City of Chicopee: \$3,542,075 (+4.2%)
- South Hadley Fire District #1: \$ 710,359 (-1.5%)
- Town of Wilbraham: \$ 757,295 (-4.4%)

As with the metropolitan water system, changes in FY19 water assessments for each CVA community compared to FY18 assessments vary depending on their water use and how that use factors into their share of the CVA water system in CY17 compared to CY16.

*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 wholesale water rate for FY19 is \$3,963.00 per million gallons. The Draft Final FY19 CEB includes revenue of \$187,767 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 FY19 sewer assessments, the FY19 retail sewer rate will be \$7,824.67 per million gallons. The Draft Final FY19 CEB includes revenue of \$95,250 from these customers.

**ATTACHMENTS:**

1. Final FY19 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant: FY19 Sewer User Charge Determination
3. Chicopee Valley Aqueduct System Assessment: Fiscal Year 2019

MWRA Fully Served Water and Sewer Customers	Final FY18 Water Assessment	Draft Final FY19 Water Assessment	Percent Change from FY18	Final FY18 Sewer Assessment	Draft Final FY19 Sewer Assessment	Percent Change from FY18	Final FY18 Combined Assessment	Draft Final FY19 Combined Assessment	Dollar Change from FY18	Percent Change from FY18
ARLINGTON	5,216,727	5,207,787	-0.2%	8,338,483	8,649,531.00	3.7%	\$13,557,210	\$13,857,318	\$300,108	2.2%
BELMONT	2,906,748	2,845,415	-2.1%	4,923,065	5,092,015	3.4%	7,829,813	7,937,430	107,617	1.4%
BOSTON (BWSC)	85,905,357	90,752,551	5.6%	135,974,820	141,531,379	4.1%	221,880,177	232,283,930	10,403,753	4.7%
BROOKLINE	6,806,844	7,037,965	3.4%	12,978,537	12,898,264	-0.6%	19,785,381	19,936,229	150,848	0.8%
CHELSEA	4,277,382	4,830,322	12.9%	7,717,861	8,305,015	7.6%	11,995,243	13,135,337	1,140,094	9.5%
EVERETT	5,182,465	5,466,023	5.5%	8,378,885	8,876,844	5.9%	13,561,350	14,342,867	781,517	5.8%
FRAMINGHAM	8,003,044	8,205,353	2.5%	13,063,056	13,423,226	2.8%	21,066,100	21,628,579	562,479	2.7%
LEXINGTON	7,246,531	7,128,006	-1.6%	7,402,979	7,572,486	2.3%	14,649,510	14,700,492	50,982	0.3%
MALDEN	6,762,968	7,119,028	5.3%	13,307,655	13,514,306	1.6%	20,070,623	20,633,334	562,711	2.8%
MEDFORD	6,383,291	6,462,326	1.2%	12,118,702	12,356,732	2.0%	18,501,993	18,819,058	317,065	1.7%
MELROSE	2,854,570	2,897,122	1.5%	6,387,893	6,520,195	2.1%	9,242,463	9,417,317	174,854	1.9%
MILTON	3,495,641	3,463,069	-0.9%	5,450,348	5,556,575	1.9%	8,945,989	9,019,644	73,655	0.8%
NEWTON	12,891,560	12,080,214	-6.3%	21,760,724	22,348,192	2.7%	34,652,284	34,428,406	(223,878)	-0.6%
NORWOOD	3,703,392	4,064,489	9.8%	7,436,847	7,628,062	2.6%	11,140,239	11,692,551	552,312	5.0%
QUINCY	12,199,555	11,998,387	-1.6%	20,574,282	20,708,161	0.7%	32,773,837	32,706,548	(67,289)	-0.2%
READING	2,211,234	2,296,922	3.9%	4,939,434	5,090,525	3.1%	7,150,668	7,387,447	236,779	3.3%
REVERE	4,896,715	5,185,345	5.9%	10,775,969	10,761,283	-0.1%	15,672,684	15,946,628	273,944	1.7%
SOMERVILLE	7,928,695	8,055,307	1.6%	16,508,256	17,094,747	3.6%	24,436,951	25,150,054	713,103	2.9%
STONEHAM	3,027,480	3,105,808	2.6%	4,600,334	4,616,825	0.4%	7,627,814	7,722,633	94,819	1.2%
WALTHAM	9,038,537	9,311,252	3.0%	13,521,664	13,800,824	2.1%	22,560,201	23,112,076	551,875	2.4%
WATERTOWN	3,388,389	3,696,371	9.1%	6,103,914	6,357,733	4.2%	9,492,303	10,054,104	561,801	5.9%
WINTHROP	1,615,822	1,698,840	5.1%	3,395,228	3,565,533	5.0%	5,011,050	5,264,373	253,323	5.1%
<b>TOTAL</b>	<b>\$205,944,947</b>	<b>\$212,907,902</b>	<b>3.4%</b>	<b>\$345,658,936</b>	<b>\$356,268,453</b>	<b>3.1%</b>	<b>\$551,603,883</b>	<b>\$569,176,355</b>	<b>\$17,572,472</b>	<b>3.2%</b>

MWRA Sewer and Partial Water Customers	Final FY18 Water Assessment	Draft Final FY19 Water Assessment	Percent Change from FY18	Final FY18 Sewer Assessment	Draft Final FY19 Sewer Assessment	Percent Change from FY18	Final FY18 Combined Assessment	Draft Final FY19 Combined Assessment	Dollar Change from FY18	Percent Change from FY18
CANTON	2,538,303	1,874,192	-26.2%	4,210,854	4,383,915	4.1%	\$6,749,157	\$6,258,107	(\$491,050)	-7.3%
NEEDHAM	1,109,794	856,049	-22.9%	5,889,796	6,173,219	4.8%	6,999,590	7,029,268	29,678	0.4%
STOUGHTON	253,810	161,431	-36.4%	5,031,822	5,072,227	0.8%	5,285,632	5,233,658	(51,974)	-1.0%
WAKEFIELD	2,169,915	2,133,553	-1.7%	6,075,836	6,290,285	3.5%	8,245,751	8,423,838	178,087	2.2%
WELLESLEY	1,742,278	1,485,700	-14.7%	5,601,602	5,745,909	2.6%	7,343,880	7,231,609	(112,271)	-1.5%
WILMINGTON	776,226	503,145	-35.2%	2,804,912	2,913,415	3.9%	3,581,138	3,416,560	(164,578)	-4.6%
WINCHESTER	2,121,826	1,840,674	-13.3%	4,144,555	4,319,099	4.2%	6,266,381	6,159,773	(106,608)	-1.7%
WOBBURN	3,636,173	3,177,148	-12.6%	9,449,446	9,474,524	0.3%	13,085,619	12,651,672	(433,947)	-3.3%
<b>TOTAL</b>	<b>\$14,348,325</b>	<b>\$12,031,892</b>	<b>-16.1%</b>	<b>\$43,208,823</b>	<b>\$44,372,593</b>	<b>2.7%</b>	<b>\$57,557,148</b>	<b>\$56,404,485</b>	<b>(\$1,152,663)</b>	<b>-2.0%</b>

MWRA Sewer-only Customers	Final FY18 Water Assessment	Draft Final FY19 Water Assessment	Percent Change from FY18	Final FY18 Sewer Assessment	Draft Final FY19 Sewer Assessment	Percent Change from FY18	Final FY18 Combined Assessment	Draft Final FY19 Combined Assessment	Dollar Change from FY18	Percent Change from FY18
ASHLAND				2,592,423.00	2,693,503.00	3.9%	\$2,592,423	\$2,693,503	\$101,080	3.9%
BEDFORD				3,546,882	3,655,178	3.1%	3,546,882	3,655,178	108,296	3.1%
BRAINTREE				9,599,185	9,758,859	1.7%	9,599,185	9,758,859	159,674	1.7%
BURLINGTON				5,286,375	5,530,776	4.6%	5,286,375	5,530,776	244,401	4.6%
CAMBRIDGE				24,713,139	25,518,527	3.3%	24,713,139	25,518,527	805,388	3.3%
DEDHAM				5,482,446	5,597,434	2.1%	5,482,446	5,597,434	114,988	2.1%
HINGHAM SEWER DISTRICT				1,846,255	1,902,184	3.0%	1,846,255	1,902,184	55,929	3.0%
HOLBROOK				1,804,666	1,824,554	1.1%	1,804,666	1,824,554	19,888	1.1%
NATICK				5,924,062	5,972,626	0.8%	5,924,062	5,972,626	48,564	0.8%
RANDOLPH				6,339,800	6,530,979	3.0%	6,339,800	6,530,979	191,179	3.0%
WALPOLE				3,821,880	3,988,527	4.4%	3,821,880	3,988,527	166,647	4.4%
WESTWOOD				2,777,442	2,988,061	7.6%	2,777,442	2,988,061	210,619	7.6%
WEYMOUTH				12,036,129	12,584,755	4.6%	12,036,129	12,584,755	548,626	4.6%
<b>TOTAL</b>				<b>\$85,770,684</b>	<b>\$88,545,963</b>	<b>3.2%</b>	<b>\$85,770,684</b>	<b>\$88,545,963</b>	<b>\$2,775,279</b>	<b>3.2%</b>

MWRA Water-only Customers	Final FY18 Water Assessment	Draft Final FY19 Water Assessment	Percent Change from FY18	Final FY18 Sewer Assessment	Draft Final FY19 Sewer Assessment	Percent Change from FY18	Final FY18 Combined Assessment	Draft Final FY19 Combined Assessment	Dollar Change from FY18	Percent Change from FY18
LYNNFIELD WATER DISTRICT	748,610.00	759,983	1.5%				\$748,610	\$759,983	\$11,373	1.5%
MARBLEHEAD	2,469,760	2,531,598	2.5%				2,469,760	2,531,598	61,838	2.5%
NAHANT	537,696	496,315	-7.7%				537,696	496,315	(41,381)	-7.7%
SAUGUS	3,953,935	4,016,971	1.6%				3,953,935	4,016,971	63,036	1.6%
SOUTHBOROUGH	997,207	866,571	-13.1%				997,207	866,571	(130,636)	-13.1%
SWAMPSCOTT	1,892,557	2,021,785	6.8%				1,892,557	2,021,785	129,228	6.8%
WESTON	2,818,905	2,493,163	-11.6%				2,818,905	2,493,163	(325,742)	-11.6%
<b>TOTAL</b>	<b>\$13,418,670</b>	<b>\$13,186,386</b>	<b>-1.7%</b>				<b>\$13,418,670</b>	<b>\$13,186,386</b>	<b>(\$232,284)</b>	<b>-1.7%</b>

MWRA Partial Water-only Customers	Final FY18 Water Assessment	Draft Final FY19 Water Assessment	Percent Change from FY18	Final FY18 Sewer Assessment	Draft Final FY19 Sewer Assessment	Percent Change from FY18	Final FY18 Combined Assessment	Draft Final FY19 Combined Assessment	Dollar Change from FY18	Percent Change from FY18
DEDHAM-WESTWOOD WATER DISTRICT	295,794.00	154,204.00	-47.9%				\$295,794	\$154,204	(\$141,590)	-47.9%
LYNN (LWSC)	326,368	320,031	-1.9%				326,368	320,031	(6,337)	-1.9%
MARLBOROUGH	4,902,062	5,820,947	18.7%				4,902,062	5,820,947	918,885	18.7%
NORTHBOROUGH	1,240,294	1,271,058	2.5%				1,240,294	1,271,058	30,764	2.5%
PEABODY	1,939,097	4,162,771	114.7%				1,939,097	4,162,771	2,223,674	114.7%
<b>TOTAL</b>	<b>\$8,703,615</b>	<b>\$11,729,011</b>	<b>34.8%</b>				<b>\$8,703,615</b>	<b>\$11,729,011</b>	<b>\$3,025,396</b>	<b>34.8%</b>
<b>SYSTEMS TOTAL</b>	<b>\$242,415,557</b>	<b>\$249,855,191</b>	<b>3.07%</b>	<b>\$474,638,443</b>	<b>\$489,187,009</b>	<b>3.07%</b>	<b>\$717,054,000</b>	<b>\$739,042,200</b>	<b>\$21,988,200</b>	<b>3.07%</b>



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

BUDGETED EXPENSES: Final FY2019	
Clinton Direct Operating Expenses:	\$2,381,331
MWRA Support Allocation:	594,482
Subtotal O&M Expenses:	\$2,975,813
Total Debt Service Expenses:	\$1,193,892
Total Clinton Service Area Expenses	\$4,169,706
Less Revenue (City of Worcester Payment)	-188,387
Clinton WWTP Rate Revenue Requirement:	\$3,981,319

WASTEWATER FLOW and FLOW SHARES:	CY2017		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.347	0.299	2.647
Average Flow (MG/YR)	856.816	109.261	966.077
Proportional Share of Flow	88.69%	11.31%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$2,975,813
Less Revenue (City of Worcester Payment)	-188,387
O&M Expenses to be Recovered	\$2,787,426
Clinton's Share of Flow	88.69%
Clinton's Share of O&M Costs	\$2,472,175
<b>Total Clinton O&amp;M Charge</b>	<b>\$2,472,175</b>
Debt Service Costs to be Recovered	\$1,193,892
Clinton's Share of Wastewater Flow	88.69%
<b>Total Clinton Debt Service Charge</b>	<b>\$1,058,866</b>
<b>Total Clinton O&amp;M and Debt Service Charge</b>	<b>\$3,531,041</b>
<b>Less MWRA Water Ratepayer Subsidy</b>	<b>-3,031,041</b>
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	\$2,975,813
Less Revenue (City of Worcester Payment)	-188,387
O&M Expenses to be Recovered	\$2,787,426
Lancaster's Share of Flow	11.31%
Lancaster's Share of O&M Costs	\$315,252
<b>Total Lancaster Sewer District O&amp;M Charge</b>	<b>\$315,252</b>
Debt Service Costs to be Recovered	\$1,193,892
Lancaster's Share of Wastewater Flow	11.31%
<b>Total Lancaster Sewer District Debt Service Charge</b>	<b>\$135,026</b>
<b>Total Lancaster O&amp;M and Debt Service Charge</b>	<b>\$450,278</b>
Billable Charge to Lancaster Sewer District	\$450,278

Billable Sewer User Charges and Payment Schedule

Sewer Customer	Billable Charges
Town of Clinton (billable)	\$500,000
Lancaster Sewer District (before adj.)	\$450,278
Lancaster Sewer District (prior period adj.)	\$0
Lancaster Sewer District (billable)	\$450,278
<b>Total Billable Sewer Charges</b>	<b>\$950,278</b>

Payment 1 on or before Sept 15, 2018	Payment 2 on or before Nov 15, 2018	Payment 3 on or before Feb 15, 2019	Payment 4 on or before May 15, 2019
\$125,000	\$125,000	\$125,000	\$125,000
\$112,570	\$112,570	\$112,570	\$112,570
<b>\$237,570</b>	<b>\$237,570</b>	<b>\$237,570</b>	<b>\$237,570</b>

**Massachusetts Water Resources Authority**  
*Chicopee Valley Aqueduct Water System Assessment*  
**FY2019**

<b>CVA Operating Budget</b>	<b>FY18</b>	<b>FY19</b>
CVA Cost Center Expenses	\$865,568	\$902,430
Allocated Waterworks Expenses	141,017	143,220
Allocated Watershed/PILOT	460,439	482,590
Allocated Watershed Land Acquisition	23,879	25,584
Allocated MWRA Indirect Expenses	552,885	596,737
<b>SUBTOTAL OPERATING BUDGET</b>	<b>\$2,043,789</b>	<b>\$2,150,561</b>

<b>Change from Prior Year</b>	
<b>Dollars</b>	<b>Percent</b>
\$36,862	4.3%
2,203	1.6%
22,151	4.8%
1,705	7.1%
43,851	7.9%
<b>\$106,772</b>	<b>5.2%</b>

<b>CVA Capital Budget</b>	<b>FY18</b>	<b>FY19</b>
Capital Expenses	\$2,947,534	\$3,039,237
<b>TOTAL CVA BUDGET</b>	<b>\$4,991,324</b>	<b>\$5,189,798</b>

<b>Change from Prior Year</b>	
<b>Dollars</b>	<b>Percent</b>
\$91,703	3.1%
<b>\$198,474</b>	<b>4.0%</b>

<b>BASE COMMUNITY ASSESSMENT</b>	<b>FY18<sup>1</sup></b>	<b>FY19<sup>2</sup></b>
Chicopee	\$3,456,846	\$3,670,553
South Hadley Fire District #1	732,988	739,075
Wilbraham	801,490	780,170
<b>CVA BASE SYSTEM ASSESSMENT</b>	<b>\$4,991,324</b>	<b>\$5,189,798</b>

<b>Change from Prior Year</b>	
<b>Dollars</b>	<b>Percent</b>
\$213,707	6.2%
6,087	0.8%
-21,320	-2.7%
<b>\$198,474</b>	<b>4.0%</b>

<b>PRIOR PERIOD ADJUSTMENTS</b>	<b>FY18<sup>3</sup></b>	<b>FY19<sup>3</sup></b>
Chicopee	-\$56,533	-\$128,478
South Hadley Fire District #1	-11,732	-28,716
Wilbraham	-9,115	-22,875
<b>TOTAL ADJUSTMENTS</b>	<b>-\$77,380</b>	<b>-\$180,069</b>

<b>Change from Prior Year</b>	
<b>Dollars</b>	<b>Percent</b>
-\$71,945	127.3%
-16,984	144.8%
-13,760	151.0%
<b>-\$102,689</b>	<b>132.7%</b>

<b>ADJUSTED ASSESSMENT</b>	<b>FY18</b>	<b>FY19</b>
Chicopee	\$3,400,313	\$3,542,075
South Hadley Fire District #1	721,256	710,359
Wilbraham	792,374	757,295
<b>ADJUSTED ASSESSMENT</b>	<b>\$4,913,944</b>	<b>\$5,009,729</b>

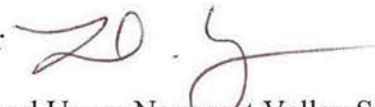
<b>Change from Prior Year</b>	
<b>Dollars</b>	<b>Percent</b>
\$141,762	4.2%
-10,897	-1.5%
-35,079	-4.4%
<b>\$95,786</b>	<b>1.95%</b>

<sup>1</sup> Based on CY2016 water use and before prior period adjustments.

<sup>2</sup> Based on CY2017 water use and before prior period adjustments.

<sup>3</sup> Prior period adjustment to account for budget to actual expenses.

**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 20, 2018  
**SUBJECT:** Surplus Sewer Easement of the Abandoned Upper Neponset Valley Sewer

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COMMITTEE: Administration, Finance & Audit

     INFORMATION

  X   VOTE



Michele S. Gillen

Director, Administration

Michele S. Gillen, Director, Administration  
Preparer/Title



David W. Coppes, PE

Chief Operating Officer

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**RECOMMENDATION:**

To declare as surplus to the Authority's sewer system construction, maintenance, or operation needs and purposes a certain portion of an existing Commonwealth of Massachusetts sewer easement under the care, custody, and control of the Authority and located on a parcel of land with an address of 1515 VFW Parkway in the City of Boston, as shown on the attached plan (Attachment A), and to return it to the control of the Massachusetts Division of Capital Asset Management and Maintenance ("DCAM") in accordance with Section 9(c) of Chapter 372 of the Acts of 1984, as amended ("Enabling Act").

**DISCUSSION:**

Section 9(c) of MWRA's Enabling Act sets forth the procedures by which the Authority may relinquish its jurisdiction and control over Commonwealth-owned water and sewer facilities that are under MWRA's care, control, and jurisdiction and that MWRA finds to be surplus to its water and sewer system needs. MWRA's policy for Disposition of Real Property requires that, for property acquired through the enabling legislation, prior to declaring a site as surplus, the responsible division must first declare it surplus, confirm that it is surplus Authority-wide, obtain Board approval of this surplus designation, and finally, dispose of it by notifying DCAM.

In 1897, the Commonwealth of Massachusetts Board of Sewerage Commissioners acquired sewer easements in the City of Boston and the Towns of Dedham and Milton for the construction of the Neponset River Valley Sewer System, including the Upper Neponset Valley Sewer. The Upper Neponset Valley Sewer, which was constructed between 1896 and 1902, extended approximately four miles through West Roxbury and Newton. The system received wastewater from the communities of West Roxbury, Newton, Brookline and a small portion of Dedham. Over time, it was determined that this system did not have the hydraulic capacity to efficiently transport the volume of wastewater flows during wet weather.

In order to address this inadequacy, beginning in 2005, MWRA replaced approximately 2.3 miles of sewer pipe, which included the construction of the Upper Neponset Valley Replacement Sewer on VFW Parkway, Boston. Portions of the Upper Neponset Valley Sewer were filled, capped, and abandoned in place, including the sewer pipe crossing a parcel of land located at 1515 VFW Parkway.

The approximate parcel of land for 1515 VFW Parkway as shown in Attachment A is being conveyed by the current owner, James E. Claire, Sr. Trust, to Lincoln Parkway, LLC. Both entities have requested that, in order to allow for the development of said parcel, MWRA release a portion of the approximately 20-foot-wide sewer easement that crosses the parcel. The Upper Neponset Valley Replacement Sewer is fully operational and MWRA has no future need for the sewer easement that crosses the parcel. David W. Coppes, Chief Operating Officer, has declared this approximately 20-foot-wide portion of the sewer easement, as surplus to the construction, maintenance, or operational needs of MWRA. Accordingly, it is recommended that the portion of the approximately 20-foot-wide sewer easement located in the parcel with an address of 1515 VFW Parkway, Boston be declared surplus to MWRA's needs.

**BUDGET/FISCAL IMPACT:**

There is no fiscal impact from this transaction.

# Proposed MWRA Easement Relocation

## 1515 VFW Parkway, Boston



6/11/2018 MwaGISmap1963-1

Existing 20'-Wide Easement

0 65 130 Feet  
1 inch = 130 feet

MAP FOR REFERENCE ONLY  
This map is for reference only. Existing 20'-Wide Easement was constructed in parts using distance and bearings from Howard Stein Hudson plan (3-20-2018).



# 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:*  
A. Blackmon  
K. Cotter  
P. Flanagan  
J. Foti  
B. Peña  
H. Vitale  
J. Walsh  
J. Wolowicz

to be held on

Wednesday, June 20, 2018

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

Time: 12:00 p.m.

## **AGENDA**

- I. **APPROVAL OF MINUTES**
- II. **REPORT OF THE CHAIR**
- III. **REPORT OF THE EXECUTIVE DIRECTOR**
- IV. **OTHER BUSINESS**
- V. **BOARD ACTIONS**
  - A. **Approvals**
    1. PCR Amendments (ref. P&C B.1)
    2. Appointment of Director, Laboratory Services (ref. P&C B.2)
    3. Appointment of Director, Waterworks (ref. P&C B.3)
    4. Appointment of Director, Wastewater (ref. P&C B.4)
    5. Appointment of Director, Human Resources (ref. P&C B.5)
    6. Final FY 2019 Capital Improvement Program (ref. AF&F B.1)
    7. Final FY 2019 Current Expense Budget (ref. AF&F B.2)
    8. Final FY 2019 Water and Sewer Assessments (ref. AF&F B.3)

**A. Approvals (cont'd.)**

9. Surplus Easement of the Abandoned Upper Neponset Valley Sewer (ref. AF&F B.4)

**B. Contract Awards**

1. Mechanical Improvements, Biosolids Processing Facility: Daniel O'Connell's Sons, Inc., Contract 7153 (ref. WW A.1)
2. Remote Headworks and Deer Island Shafts Study: Mott MacDonald, LLC, Contract 7237 (ref. WW A.2)

**C. Contract Amendments/Change Orders**

1. Chelsea Creek Headworks Upgrade: BHD/BEC 2015, A Joint Venture, Contract 7161, Change Order 14 (ref. WW B.1)
2. Western Operations Marlborough Maintenance Facility: E. A. Colangeli Construction Co., Inc., Contract 6650B, Change Order 10 (ref. W A.1)

**VI. CORRESPONDENCE TO THE BOARD**

**VII. EXECUTIVE SESSION**

**A. Real Estate:**

1. Chelsea Lease: Silver Line Takings

**B. Litigation:**

1. Univar Chemical Delivery Incident: MassDEP Proposed Admin. Consent Order No. 00004219
2. Richard DaPrato v. MWRA, Suffolk Superior Court, C.A. No. 2015 CV 3687D, Status of Post-Trial Proceedings

**VIII. ADJOURNMENT**

## **MASSACHUSETTS WATER RESOURCES AUTHORITY**

### **Meeting of the Board of Directors**

**May 30, 2018**

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on May 30, 2018 at the Authority headquarters in Charlestown. Vice Chair Carroll presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Cotter, Flanagan, Foti, Pappastergion, Peña, Vitale and Walsh. Chair Beaton was absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, David Coppes, Chief Operating Officer, John Vetere, Deputy Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, Karen Gay Valente, Director of Human Resources, Susan Brazil, Human Resources, Associate General Counsel John Chinian, Ria Convery, Assistant Secretary and Kristin MacDougall Assistant to the Board of Directors. The meeting was called to order at 1:29 p.m.

#### **APPROVAL OF MINUTES**

Upon a motion duly made and seconded, it was

Voted: to approve the minutes of the Board of Directors' meeting of April 18, 2018, as presented and filed with the records of the meeting.

#### **OTHER BUSINESS**

##### **Performance Review and Extension of Contract for Executive Director**

Upon a motion duly made and seconded, it was

Voted: to (1) rate the performance of Frederick A. Laskey, Executive Director, for Fiscal Year 2018 as excellent; (2) extend the term of the Executive Director's employment agreement and his appointment as the Executive Director by one year through June 30, 2021; (3) increase his current salary by 4.5% effective July 1, 2018 (with Messrs. Blackmon and Foti opposed); and, (4)



authorize the inclusion in the Executive Director's annual salary the sum of \$8,400 as salary rather than as an allowance for the use of the Executive Director's personal vehicle for Authority business.

## APPROVALS

### Lease Extension with Springfield Water and Sewer Commission

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a 10-year option to extend a lease between the Massachusetts Water Resources Authority (MWRA) and the Springfield Water and Sewer Commission beginning November 2, 2018 at a cost of \$4,067.67.

### Bond Defeasance of Future Debt Service

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$29,420,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by \$33,962,600 in the FY19 through FY22 timeframe.

### MWRA FY19 Insurance Program Renewal

Upon a motion duly made and seconded, it was

Voted: to approve awards to the lowest eligible and responsive proposers for insurance policies, bonds, and related broker services for MWRA's FY19 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to execute contracts for broker services, for the terms, premiums, and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$1,640,762 for FY19:

- (1) Workers' Compensation Excess Policy with New York Marine

Insurance Co., submitted by broker Willis of Massachusetts, Inc., for the period beginning July 1, 2018 through June 30, 2019, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$187,870;

(2) Property Policy (including Boiler & Machinery coverage) with FM Global Insurance Co., for the second year of the two-year policy, from July 1, 2018 through June 30, 2019, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a FY19 premium of \$842,745;

(3) General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution, and Employment Practice Liability) with Lexington Insurance Company submitted by broker Richards Robinson Sheppard Insurance, LLC, for the period beginning July 1, 2018 through June 30, 2019, with a \$25 million limit and a \$2.5 million self-insured retention, for a premium of \$248,000;

(4) Excess General Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard Insurance, LLC, for the period beginning July 1, 2018 through June 30, 2019, providing a combined total of \$75 million of excess liability coverage for a total combined premium not to exceed \$237,250;

(5) Public Official's Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc., for the period beginning July 1, 2018 through June 30, 2019, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$51,043, including broker commission;

(6) Fiduciary Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc., for the period beginning July 1, 2018 through June 30, 2019, with a \$5 million limit and a \$1 million retention, for a premium of \$6,604, including broker commission;

(7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard Insurance LLC, for the period beginning July 1, 2018 through June 30, 2019, with a \$1 million limit and a \$25,000 deductible for a premium of \$4,500;

(8) Treasurer's Bond with a \$1 million limit with an insurance company to

be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2019; and

(9) Broker contracts with Richards Robinson Sheppard Insurance LLC for an amount of \$40,000, Willis of Massachusetts, for an amount of \$20,250 and Arthur J. Gallagher for the commissions included within the policy premiums, from notice of award through June 30, 2019.

Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for the Deer Island Treatment Plant

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a contract for the supply of electric power to the Deer Island Treatment Plant with the lowest responsive and responsible bidder, for the period and pricing structure determined by staff to be in the MWRA's best interest, and for a contract supply term not to exceed 36 months for the Deer Island Account.

Wastewater Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form presented and filed with the records of the meeting, with the Wastewater Advisory Committee for a term of one year from July 1, 2018 to June 30, 2019, for a total contract cost of \$72,757.92.

Approval of One New Member of the Wastewater Advisory Committee

Upon a motion duly made and seconded, it was

Voted: to approve the addition of one new member, Mr. George Atallah, P.E., to the Wastewater Advisory Committee.

Water Supply Citizens Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Water

Supply Citizens Advisory Committee for a one-year period beginning July 1, 2018 to June 30, 2019, with a total contract cost of \$107,299.76.

PCR Amendments – May 2018

Upon a motion duly made and seconded, it was

Voted: to approve the amendments to the Position Control Register, as presented and filed with the records of the meeting.

Appointment of Superintendent, Clinton Wastewater Treatment Plant

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Mr. Larry Thomas to the position of Superintendent at the Clinton Advanced Wastewater Treatment Plant (Non-Union, Grade 14), at an annual salary of \$120,000, commencing on a date to be determined by the Executive Director.

FY2019 Non-Union Compensation

Upon a motion duly made and seconded, it was

Voted: that the Board of Directors take the following actions for MWRA's FY19 non-union compensation review (1) authorize the Executive Director to implement a 3% across-the-board compensation adjustment for non-union managers effective with the first FY19 payroll; and (2), approve a revision to the non-union salary ranges for FY19 as presented in Attachment A and filed with the records of the meeting.

CONTRACT AWARDS

Award of Main Line Adjustment Project, Fore River Railroad: J. F. White Contracting Co., Contract FRR32

Upon a motion duly made and seconded, it was

Voted: to approve the award of Contract FRR32, Main Line Adjustment Fore River Railroad, to the lowest responsible and eligible bidder, J.F. White Contracting Co., and to authorize the Executive Director, on behalf of the

Authority, to execute said contract in the bid amount of \$2,437,700, with a contract term of 190 calendar days from the Notice to Proceed.

Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility, Univar USA, Inc., Bid WRA-4523

Upon a motion duly made and seconded, it was

Voted: to approve the award of Purchase Order Contract WRA 4523, a one-year contract for the supply and delivery of sodium hypochlorite to the lowest responsive bidder, Univar USA, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$1,612,080.00 for a period of one year, from July 17, 2018 through July 16, 2019.

Technical Assistance Consulting Services for John J. Carroll WTP, Hazen and Sawyer P.C., Contract 7543, and Stantec Consulting Services, Inc., Contract 7544

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award two separate contracts to provide Technical Assistance Consulting Services for the John J. Carroll Water Treatment Plant, and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7543 with Hazen and Sawyer and Contract 7544 with Stantec Consulting Services, Inc. each in an amount not to exceed \$1,000,000, with a contract term of twenty-four months from the Notice to Proceed.

Low Service Pressure Reducing Valve Improvements – Boston/Medford, Design and Engineering Services During Construction, CDM Smith, Inc. Contract 7575

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7575, Low Service Pressure Reducing Valve Improvements – Boston/Medford, Design and Engineering Services During Construction, to CDM Smith, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed

\$2,849,332 for a contract term of 57 months from the Notice to Proceed.

Southern Extra High Pipeline – Section 111 – Dedham South, RJV Construction Corp., Contract 7505

Upon a motion duly made and seconded, it was

Voted: to approve the award of contract 7505, Southern Extra High Pipeline Section 111 - Dedham South, to the lowest responsible and eligible bidder, RJV Construction Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$19,375,000 for a contract term of 820 calendar days from the Notice to Proceed.

Chelsea Creek Headworks Upgrade, BHD/BEC 2015, A Joint Venture, Contract 7161, Change Order 12

Upon a motion duly made and seconded, it was

Voted: to (1) authorize the Executive Director, on behalf of the Authority, to approve Change Order 12 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture, for an amount not to exceed \$1,000,000.00, increasing the contract amount from \$77,653,065.46 to \$78,653,065.46, with no increase in contract term; and (2) 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.

Section 14 Pipeline Relocation, Malden: Albanese Brothers, Inc., Contract 6957, Change Order 5

Upon a motion duly made and seconded, it was

Voted: to (1) authorize the Executive Director, on behalf of the Authority, to approve Change Order 5 to Contract 6957, Section 14 Water Pipeline Relocation – Malden, with Albanese Brothers, Inc., for an amount not to exceed \$152,777.72, increasing the contract amount from \$1,524,243.79 to \$1,677,021.51, and no extension of contract term; and (2) authorize the

Executive Director to approve additional change orders as may be needed to Contract 6957 in an amount not to exceed the aggregate of \$75,000, in accordance with the Management Policies and Procedures of the Board of Directors.

Wachusett Aqueduct Pumping Station, BHD/BEC 2015, A Joint Venture, Contract 7157, Change Order 32

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to (1) approve Change Order 32 to Contract 7157, Wachusett Aqueduct Pumping Station, with BHD/BEC JV 2015, A Joint Venture, for a lump sum amount of \$292,910.00, increasing the contract amount from \$48,966,286.29 to \$49,259,196.29, with no increase in contract term; and (2), 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.

EXECUTIVE SESSION

It was moved to enter executive session to discuss collective bargaining and a litigation settlement.

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>
Blackmon		
Carroll		
Cotter		
Flanagan		
Foti		
Pappastergion		
Peña		
Vitale		
Walsh		
Wolowicz		

Voted: to enter executive session for the purpose of discussing strategy with respect to collective bargaining and litigation, in that such discussions may have a detrimental effect upon the negotiating positions of the Authority.

It was stated that the meeting would return to open session to report on any actions taken regarding collective bargaining and then to adjourn.

\* \* \* \*

EXECUTIVE SESSION

\* \* \* \*

The meeting returned to open session at 2:08 p.m.

OTHER BUSINESS (cont'd.)

Approval and Ratification of Collective Bargaining Agreement for Unit 6

It was reported that the Board had voted in Executive Session to approve and ratify the collective bargaining agreement with Unit 6.

The meeting adjourned at 2:09 p.m.

Approved: (June 20, 2018)

Attest:

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