



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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COMMITTEE OF THE WHOLE

Chair: K. Theoharides
Vice-Chair: J. Carroll
Secretary: A. Pappastergion
Board Members:
C. Cook
K. Cotter
P. Flanagan
J. Foti
B. Peña
H. Vitale
J. Walsh
J. Wolowicz

HEARINGS ON THE DRAFT FINAL FY2020 CAPITAL IMPROVEMENT PROGRAM AND CURRENT EXPENSE BUDGET

to be held on

Wednesday, May 29, 2019

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

Time: 9:00 a.m.

AGENDA

- Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY2020 CIP and CEB
- MWRA's FY2020 Draft Final Budget Hearings Presentation



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PERSONNEL & COMPENSATION COMMITTEE MEETING

to be held on

Wednesday, May 29, 2019

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

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

Time: Immediately following Budget Hearings

AGENDA

A. Approvals

1. PCR Amendments – May 2019
2. Appointment of Deputy Contracts Manager
3. Appointment of Program Manager, Engineering and Construction

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Personnel and Compensation Committee

April 17, 2019

A meeting of the Personnel and Compensation Committee was held on April 17, 2019 at the Authority headquarters in Charlestown. Committee Chair Wolowicz presided. Present from the Board were Messrs. Carroll, Cook, Foti, Pappastergion, Peña, Vitale and Walsh. Messrs. Cotter and Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Andrea Murphy and Kristin MacDougall. The meeting was called to order at 10:28 a.m.

Information

Proposed Organizational Changes in the Operations Division

Staff made a verbal presentation. There were questions and answers. (Mr. Carroll joined the meeting during discussion.)

Approvals

* PCR Amendments - April 2019

Staff made a verbal presentation.

The Committee recommended approval (ref. P&C B.1).

The meeting adjourned at 10:38 a.m.

* Committee recommendation approved by the Board on April 17, 2019

STAFF SUMMARY

TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: May PCR Amendments



COMMITTEE: Personnel and Compensation

Andrea Murphy, Director of Human Resources
Preparer/Title

 INFORMATION

 X VOTE



Michele S. Gillen
Director, Administration

RECOMMENDATION:

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

DISCUSSION:

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

May PCR Amendments

There are three PCR Amendments this month.

The amendments are:

Organizational Changes

1. Title change to one vacant position in the Operations Administration department from Manager, Contract Administration Unit 6 Grade 12, to Communications Manager Unit 6 Grade 12 to address communication staffing needs for the Metropolitan Tunnel Redundancy Program.
2. Title and grade change to one filled position in the Treatment & Transmission department, from Senior Transmission and Treatment Operator, Unit 3 Grade 19, to Supervisor, Brutsch Treatment Plant, Unit 3 Grade 21 per union settlement.
3. Title and Grade change to one vacant Assistant to Board of Directors position in the Board of Directors department from Confidential Unit 1 Grade 20 to Confidential Unit 6 Grade 10 to more accurately reflect the enhanced level of responsibilities.

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

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will be a maximum cost of \$23,484. 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 2019

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - May 29, 2019

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated		Estimated Annual		Reason For Amendment
											New Salary		\$ Impact		
P21	Operations Administration 5210059	V	T	Manager, Contract Administration	6	12	Communications Manager	6	12	\$113,864	\$75,143	\$113,864	-\$38,721	\$0	To address communication staffing needs for the Metropolitan Tunnel Redundancy Program.
PERSONNEL & COMPENSATION COMMITTEE TOTAL=										1	TOTAL:		-\$38,721 - \$0		

PCR AMENDMENTS REQUIRING BOARD APPROVAL - May 29, 2019

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated		Estimated Annual		Reason For Amendment
											New Salary		\$ Impact		
B16	Operations Treatment and Transmission 3392047	F	T, G	Senior Transmission and Treatment Operator	3	19	Supervisor, Brutsch Treatment Plant	3	21	\$85,001	\$92,855	\$92,855	\$7,854	\$7,854	Per union settlement.
B17	Executive Board of Directors 1110001	V	G	Assistant to Board of Directors	C1	20	Assistant to Board of Directors	C6	10	\$78,445	\$62,083	\$94,076	-\$16,362	\$15,630	To provide staffing at appropriate grade due to enhanced level of responsibilities.
BOARD TOTAL =					2	TOTAL ESTIMATED COSTS:					-\$8,508 - \$23,484				
GRAND TOTAL =					3	TOTAL ESTIMATED COSTS:					-\$47,230 - \$23,484				

MWRA
POSITION DESCRIPTION

OLD

POSITION: Manager, Contract Administration

PCR#:

DIVISION: Operations

DEPARTMENT: Operations Administration

BASIC PURPOSE:

May either direct the oversight and management of administrative aspects of the Authority's professional service & technical assistance contracts, develop and oversee administrative and financial policies and procedures to ensure that contracts are administered in compliance with MWRA policies and applicable federal and state laws, or manage the Quality Assurance/Quality Control (QA/QC) programs for Engineering and Construction projects as established by the Authority.

SUPERVISION RECEIVED:

Works under the general supervision of the Deputy Chief Operating Officer

SUPERVISION EXERCISED:

Exercises supervision of office staff, professionals, technical staffs and administrative personnel as assigned.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops, maintains and revises policies and procedures for the procurement, tracking, administration and management of professional service, consultant and construction contracts.
- Reviews contract amendments and change orders; participates in closeout and final payment of contracts; and assists in the defense of contract claims and in dispute resolution procedures.

For Professional Services and Technical Assistance Contracts:

- Manages administrative functions related to the preparation, review and processing of professional service contract requisitions and amendments, including the preparation of staff summaries.
- Works with Assistant Contract Managers (ACM) to procure and manage professional service contracts.
- Assists Project Managers through the contract closeout of professional service contracts.

- Prepare analysis of E-Tables submitted for professional service contracts.
- Attends selection committee meeting and performs the duties of committee secretary.
- Receive and route Board and Delegated staff summaries with accompanying précis.
- Performs reference checks and provides findings to selection committee.
- Represents the division, as delegated, on various committees related to administrative issues (i.e., Authority-wide Business Procedure Review Committee).
- Advises senior management on procurement/contract related matters.

For QA/QC Programs:

- Designs and administers contract administration and procurement management systems.
- Develops and maintains databases and systems to maintain contract logs, and to track contract progress and advertising, bidding and contract award phases.
- Manages the preparation and updates the provisions of current/future MWRA standard specifications and contract provisions.
- Negotiates professional service consultant contracts in financial and administrative areas.
- Develops contract documents with design and construction managers.
- Maintains current wage rates applicable to state and federal contracts.
- Reviews invoices and audit payments.
- Conducts performance audits, in concert with Internal Audit of contractors as required.
- Reviews provisions, consults with appropriate MWRA staff and ensures compliance in legal, financial and affirmative action areas.

SECONDARY DUTIES:

Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in business administration or related field. Graduate degree in law, business or public administration is preferred; and
- (B) Understanding of contract administration acquired by at least seven (7) to nine (9) years contract management experience; or

(C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of and experience with MGL Chapters 149 and 30 and construction procedures.
- (B) Knowledge and experience with automated systems for tracking change orders and other contract management information.
- (C) Familiarity with personal computers and working knowledge of standard MWRA office automation products; Excel, Microsoft Windows, Microsoft Word, Access.
- (D) Experience in federal and state government contracting preferred.
- (E) Excellent written and oral communication skills are 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 essential functions.

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

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

WORK ENVIRONMENT:

The work 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 may occasionally work in outside weather conditions. The employee may occasionally work near moving mechanical parts, and may occasionally be exposed to wet and/or humid conditions and vibrations. The employee may

occasionally work in high precarious places and may occasionally be exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock. While performing the duties of this job, the employee may occasionally work in various field settings and in an office environment.

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

September 2012

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Communications Manager

PCR#:

DIVISION: Executive

DEPARTMENT: Tunnel Redundancy Department

BASIC PURPOSE:

Manages the communication program for the Metropolitan Tunnel Redundancy Program to keep various groups of interested parties and audiences informed throughout the entire project.

SUPERVISION RECEIVED:

Works under the general supervision of the Special Assistant to the Executive Director in coordination with the Director, Tunnel Redundancy Program.

SUPERVISION EXERCISED:

Exercises close supervision of intern(s) as required.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the Communications Plan for the Tunnel Redundancy Program to maintain support of the project from ratepayers, elected officials, regulators and industry associations.
- Develops and manages web pages and social media accounts, fact sheets, newsletters, brochures and other publications for media or public distribution to provide ongoing project updates.
- Coordinates response to public and media inquiries about the Program. Prepares news releases and monitors the press for issues regarding the Program. Ensures consistent delivery of information.
- Coordinates meetings with and develops working relationships with relevant external constituent groups.
- Assists with the preparation of staff summaries and presentation materials for Board of Directors and MWRA Advisory Board meetings.

- Manages the preparation of public presentations, speeches, etc. for Tunnel Redundancy Program staff and other senior managers.
- Maintains photographic archive for the Program in accordance with existing agency standards.
- Reviews and edits documents for internal and external distribution.
- Coordinates special events.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Analytical and writing skills as normally attained through a four (4) year college program in communications, public administration, journalism or a related field. A master's degree preferred; and
- (B) Understanding of media and community relations for a large public or governmental agency dealing with complicated issues as acquired through six (6) to eight (8) years of experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency with a variety of software applications including word processor, databases, spreadsheets, graphics, desktop publishing, HTML and multi-media.
- (B) Proficiency in production development including Internet/Intranet pages, automated programming, templates and macros.
- (C) Knowledge of the principles and practices of graphic arts.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

●ffice equipment as normally associated with the use of telephone, personal computers including word processing and other software, copy and fax machines, and digital camera.

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 ●f this job, the employee is regularly required to sit, talk or hear. The employ●ee 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 require● to stand and walk.

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

WORK ENVIRONMENT:

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

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

April 2019

**MWRA
POSITION DESCRIPTION**



POSITION: Senior Transmission and Treatment Operator

PCR#:

DIVISION: Operations

DEPARTMENT: Treatment & Transmission

BASIC PURPOSE:

Acts as Lead Operator for an assigned facility for safe and proper control of key transmission and treatment facilities for all of western operations.

SUPERVISION RECEIVED:

Works under the general supervision of the Sr. Program Manager T&T Operations, Sr. Program Manager Process Engineering, and Supervisor T&T Operations.

SUPERVISION EXERCISED:

Exercises close supervision over T&T Operators.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as responsible person for all facility operations at assigned facility during shift. Supervises others in the operation and maintenance of various Transmission and Treatment facilities in order to maintain proper flow and water treatment.
- Monitors hydraulic situation; directs valve changes necessary to ensure proper water flow for water supply, storage tank elevations and routine hydro-electric generator operation throughout the transmission and treatment system according to established Standard Operating Procedures (SOPs).
- Monitors treatment plant performance and makes treatment changes to meet disinfection and/or corrosion control treatment targets.
- Supervisors the monitoring of SCADA, Telog, and other control systems including the downloading of information as requested by treatment personnel as necessary to modify treatment processes.

- Supervises and assists in the application of algacide at various reservoirs as necessary.
- Acts as on-call operator, as needed, to respond to SCADA alarms during off-shifts; diagnosis alarm situations, assesses needed corrective action and serves as incident commander until relieved.
- Conducts field tests for chlorine residual, pH, temperature, alkalinity, UV absorbency and other operational parameters, and makes treatment decisions based on testing results. Conducts chlorine decay studies.
- Monitors bulk chemical status, schedules chemical deliveries, inspects bulk water treatment chemical deliveries and tests quality of chemicals to ensure that they meet drinking water requirements before authorizing loading of bulk chemicals to MWRA facilities.
- Maintains treatment related equipment at any facility within the Section or as assigned. Has direct responsibility for any required maintenance at a given facility such as chlorine analyzers, turbidimeter, flow pacing equipment, process control equipment as normally found in a water treatment facility such as equipment normally used in the fluoridation, pH control, ozonation and chlorinating processes.
- Supervises operators in a lower grade in maintenance of water treatment related equipment.
- Acts as liaison between Operations personnel for the issuance of work orders on a maintenance management system in order to schedule planned maintenance requiring the service of facilities maintenance staff.
- Calibrates field instruments to ensure that all level, pressure, and water quality on-line measurements are operating within performance ranges.
- Maintains the facility handbook and trains off-shift operators in proper SOPs for the assigned facility to ensure that water supply and treatment facilities are operated correctly and in accordance with established MWRA policies.
- Acts as MetroWest Sit-Sat coordinator with Chelsea O.C.C. and the E.O.C. in the event Section needs to activate Emergency Response Status.
- Maintains attendance records, initiating disciplinary actions and employee evaluations for employees assigned as direct reports.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An undergraduate degree in civil, chemical, biology, or related field; and
- (B) A minimum of seven (7) years working at a major water supply facility with at least three (3) years working in a supervisory capacity. Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability in the use and operation of SCADA, Telog and other monitoring equipment.
- (B) Demonstrated ability to perform water treatment process laboratory procedures, including: pH, chlorine residual, alkalinity, acid-base titration, turbidity, color, and bulk chemical acceptance tests.
- (C) Knowledge of Safety procedures as related to HydroElectric and Treatment facilities.
- (D) Excellent interpersonal, oral and written communications skills.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D Motor Vehicle Operators License.

Valid Massachusetts Grade III Treatment operator-in-training and Grade III Distribution operator-in-training license.

Ability to obtain a Commonwealth of Massachusetts Pesticide Certification License.

TOOLS AND EQUIPMENT USED:

Motor vehicle, power and hand tools, mobile radio, telephone and beeper.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable

accommodations may be made to enable individuals with disabilities to perform the essential duties.

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities, required by this job include close vision, distance vision, color vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

The noise level in the work environment is very loud in field settings, and moderately loud at other work locations.

January 2013

**MWRA
POSITION DESCRIPTION**



POSITION: Supervisor, Brutsch Treatment Plant

PCR#:

DIVISION: Operations

DEPARTMENT: Treatment & Transmission, Brutsch Facility

BASIC PURPOSE:

Serves as primary Facility Supervisor for the remote William A. Brutsch Water Treatment Facility in Ware. Responsible for safe, efficient, and compliant operations including proper flow and water treatment. Serves as facility liaison to the MWRA Occupational Health and Safety Department, Department of Fish and Game hatchery, Massachusetts Department of Environmental Protection for site visits, and vendors who perform maintenance activities.

SUPERVISION RECEIVED:

Works under the direct supervision of the Operations Supervisor, Transmission and Treatment Operations and general supervision of the Senior Program Manager, Transmission and Treatment Operations and Senior Program Manager, Process Control.

SUPERVISION EXERCISED:

Exercises close supervision over T&T Operators at the facility and functional supervision over vendors.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Water Turbine

- Visits the separate hydroelectric building at least twice a day to do a walk through to visually inspect the operation of the turbine and/or by-pass valve that brings untreated water from the Quabbin to the DCR state-operated McLaughlin Fish Hatchery in Belchertown.
- Contacts Massachusetts Department of Fish and Game as necessary to coordinate and discuss flow status and facility requirements or adjustments.
- Logs turbine readings and performs a physical monitoring walk through to visually inspect the operation of the turbine and record various measures to include in reports.
- Notifies MWRA maintenance managers in Southborough if the turbine isn't operating properly.

- Tracks and monitors key operating parameters of the water turbine on their SCADA computer monitoring screens in the main facility to track water flow and usage, power generation and other critical elements related to the water supply to the hatchery.

Relationships with other state agencies

- Maintains a positive working relationship with the Massachusetts Department of Fish and Game connected to the partnership related to the state hatchery.
- Accompanies Massachusetts Department of Environmental Protection staff during routine site visits, arranged by supervisors.

Safety and Security

- Serves as the primary site safety liaison to the Safety Program Coordinator, MWRA Department of Occupational Health and Safety
- Responds to personal assistance alarms in Ludlow.
- Performs security checks (doors, locks, fences) at Brutsch and at the Chicopee Valley Aqueduct (CVA.)
- Conducts periodic inspection of life safety equipment in Authority facilities including fire extinguisher, first aid station, Automatic External Defibrillator (AED), and emergency eyewash station. Reports deficiencies.
- Maintains and updates safety data sheets.
- Completes Weekly log form on emergency generator.

Vendor and trades management

- Accompanies vendors who perform quarterly inspections of fire alarm system and annual inspections of fire extinguishers and AED equipment.
- Receives, verifies, and processes waste tank haulers weekly paperwork.
- Signs the DEP Tank inspection forms.
- Accompanies vendors on repair visits.
- Schedules planned maintenance requiring the service of facilities maintenance staff.

Administrative

- Reviews bills for cell phones assigned to Brutsch staff.
- Charges services or products to MWRA credit card upon approval by supervisor.
- Maintains inventory of available personal protective equipment.
- Initiates work orders.
- Oversees data collection for proper reporting.
- Oversees input into MAXIMO System.

Supervisory

- Maintains attendance records, initiating disciplinary actions and employee evaluations for employees assigned as direct reports.
- Supervises others in the operation and maintenance of Brutsch and water treatment related equipment.

- Partners with the Program Manager, Training to develop and update the Brutsch facility handbook and the standard operation procedures (SOP) specific to Brutsch, the hydroelectric turbine, and the connection between Brutsch and the turbine.
- Trains operators in proper SOPs for Brutsch.

Operations

- Coordinates and oversees the proper operation of chlorine disinfection and ultra-violet (UV) disinfection systems.
- Monitors hydraulic situation; directs valve changes necessary to ensure proper water flow for water supply, storage tank elevations and routine hydro-electric generator operation.
- Monitors treatment plant performance and makes treatment changes with approval or under direction of supervisor to meet disinfection treatment targets.
- Supervise the monitoring of SCADA, Telog, and other control systems including the downloading of information as requested by treatment personnel as necessary to modify treatment processes.
- Conducts field tests for chlorine residual, pH, temperature, alkalinity, UV absorbency and other operational parameters, and makes treatment decisions based on testing results and direction from supervisor. Conducts chlorine decay studies.
- Maintains and calibrates field instruments and treatment related equipment with other MWRA employees or vendors as needed.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An undergraduate degree in civil engineering, chemical engineering, biology, or related field; and
- (B) A minimum of seven (7) years working at a major water supply facility with at least three (3) years working in a supervisory capacity. Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability in the use and operation of SCADA, Telog and other monitoring equipment.

- (B) Basic knowledge of computer systems with a demonstrated knowledge of personal computer, SCADA and TEL●G systems.
- (C) Demonstrated ability to perform water treatment process laboratory procedures, including: pH, chlorine residual, alkalinity, acid-base titration, turbidity, color, and bulk chemical acceptance tests.
- (D) Knowledge of safety procedures as related to hydroelectric and water treatment facilities.
- (E) Excellent interpersonal, oral and written communications skills.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D Motor Vehicle Operators License.

Valid Massachusetts Grade II Treatment Operator and Grade III Distribution operator-in-training license.

TOOLS AND EQUIPMENT USED:

Motor vehicle, power and hand tools, mobile radio, telephone and beeper.

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities, required by this job include close vision, distance vision, color vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

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

The noise level in the work environment is very loud in field settings, and moderately loud at other work locations.

April 2019

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Assistant to Board of Directors

PCR#: 1110001

DIVISION: Executive Office

DEPARTMENT: Board of Director

BASIC PURPOSE:

Provides complete administrative and secretarial support to eleven (11) Board of Directors.
● Oversees an operating budget of approximately \$100,000.

SUPERVISION RECEIVED:

Reports to the Deputy Director and to the Chairman and Secretary of the Board.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as liaison between Board of Directors and MWRA executive staff. Coordinates Board and Committee agenda topics and meeting times with Chairman, Committee Chairman and MWRA executive staff subsequent to receiving preparatory material from staff.
- Coordinates the reproduction and assembly of Board and Committee agenda materials for timely distribution to Board of Directors and MWRA staff.
- Records, transcribes and distributes minutes of Board and Committee meetings. Assures that Board votes are duly recorded (with assistance from Law Division) and transmitted to Divisions.
- Organizes and maintains all official Authority records as well as Board of Directors' files.
- Composes and edits correspondence, reports, special projects and other materials on word processor. Calculates departmental budget and affirmative action goals/reporting.

- Answers phones, processes internal and external official informational requests tactfully and in accordance with the Freedom of Information Act and other applicable laws, records messages and routes calls. Sorts and distributes mail.
- Schedules appointments, meetings and conferences. Makes travel arrangements and prepares expense reports for Board members.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of administrative and secretarial procedures as normally attained through a two (2) year college degree in a secretarial or business school program. Undergraduate degree is preferred; and
- (B) Understanding of administrative and office procedures as acquired through three (3) to five (5) years secretarial/administrative experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Word processing and personal computer experience required.
- (B) Typing and shorthand capability at 60-70 WPM required.
- (C) Excellent organization, communication and interpersonal skills, including ability to handle confidential information 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 use hands to finger, handle, feel 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.

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.

November, 1999

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Assistant to the Board of Directors

PCR#: 1110001

DIVISION: Executive

DEPARTMENT: Board of Directors

BASIC PURPOSE:

Executes all administrative responsibilities to provide professional level support to the eleven-member MWRA Board of Directors. Serves as the Authority's Public Records Access Officer.

SUPERVISION RECEIVED:

Works under the daily supervision of the Special Assistant to the Executive Director, and functionally reports to the Chairman and Secretary of the Board of Directors.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as liaison between Board of Directors and MWRA executive staff. Coordinates Board and Committee agenda topics and meeting times.
- Coordinates the reproduction and assembly of Board and Committee agenda materials for timely distribution to Board of Directors and MWRA staff.
- Posts meeting notices in accordance with Secretary of State guidelines. Distributes Board materials and agendas in a timely manner to an internal and external distribution list.
- Tracks requests by Board members for information and coordinates follow-up by staff.
- Records, transcribes and distributes minutes of Board and Committee meetings. Assures that Board votes are duly recorded, with oversight from Law Division, and transmitted to interested parties.
- Organizes and maintains all official Board of Directors' files and maintains a database of staff summaries and presentation materials.

- Serves as liaison to the Executive Office of Energy and Environmental Affairs on issues related to the Board, such as swearing-in ceremonies, or other related topics.
- Schedules appointments, meetings and conferences. Makes travel arrangements and prepares expense reports for Board members.
- Serves as the Authority's Public Records Access Officer and coordinates all requests for information with the Law Division. Tracks requests and responses monthly and develops an annual report which is submitted to the Secretary of State's Office.
- Acts as the Document Retention Officer for the Board and the Executive Office.
- Processes invoices and purchases supplies and materials.
- Performs administrative functions including preparing correspondence, fielding phone calls, managing files, maintaining calendars, and arranging conferences.

SECONDARY DUTIES:

- Coordinates special projects as needed.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An Associate's or Bachelor's degree in any field; and
- (B) Organizational and administrative skills as attained through five (5) to seven (7) years professional, legal, business, or administrative experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft Office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Familiarity of database and HRIS software
- (C) Demonstrated experience in planning, organizing, and supervising projects.
- (D) Ability to meet deadlines and work under tight time constraints.

- (E) Excellent analytical, interpersonal, oral and written communication skills, including ability to handle confidential and sensitive information.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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


WORK ENVIRONMENT:

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

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

C6, Grade 10
April 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Appointment of Deputy Contracts Manager, Administration Division

COMMITTEE: Personnel & Compensation

VOTE
 INFORMATION

Andrea Murphy, Director, Human Resources
Douglas J. Rice, Director, Procurement
Preparer/Title


Michele S. Gillen
Director of Administration

RECOMMENDATION:

That the Board approve the appointment of Ms. Evelma Strother to the position of Deputy Contracts Manager, Administration Division (Unit 6, Grade 13) at an annual salary of \$120,130.72 commencing on a date to be determined by the Executive Director.

DISCUSSION:

One of the six Deputy Contracts Manager positions recently became vacant upon the retirement of the incumbent. Organizationally, this position reports to the Director of Procurement.

The Deputy Contracts Manager works closely with all staff to facilitate the procurement of construction and professional and non-professional service contracts. This position implements Authority-wide policies and procedures, and applicable laws, for all elements of contracting, including the creation, review and/or evaluation of contract documents, RFQs, RFPs, proposals and bids, and the review and analysis of amendments, change orders and contract close-out documents. The Deputy Contracts Manager assists the Director of Procurement in the defense of contract claims and the dispute resolution process and advises the Law Division and Authority senior staff on contract matters as required. This position also reviews, drafts and/or negotiates contract terms and conditions, oversees the preparation and updating of standard forms and other contract provisions and participates in the close-out and final payment stages of contracts. The Deputy Contracts Manager directs Assistant Contract Managers in the performance of similar duties and functions on certain projects.

Selection Process

This position was posted internally and externally. 41 external candidates applied; there were no internal candidates. Nine qualified candidates were referred for an interview. The Director of Administration, Director of Procurement, Special Assistant for Affirmative Action and Chief

Engineer interviewed candidates. The interview team determined that Ms. Strother was very qualified to fill this position based on her experience, abilities, knowledge, and education.

Ms. Strother is currently the Deputy General Counsel of the Massachusetts Department Conservation and Recreation (DCR) where she represents the DCR as its in-house counsel focusing on construction related matters. Among other duties, Ms. Strother oversees the development, review and approval of construction and service contracts, including bid documents and requests for proposals. Ms. Strother also reviews contract documents for both Chapter 30 and Chapter 149 construction projects and advises the Planning and Engineering staff, and the Director of Contracts and Procurement - both before and after award - on various issues to ensure compliance with applicable laws. In addition, Ms. Strother advises staff on bid issues, represents the DCR before the Office of the Attorney General at bid protest proceedings and is responsible for direct payment issues, working with contractors and subcontractors to address payment issues in accordance with statutory law.

Prior to her position at DCR, Ms. Strother served as Legal Counsel at the Commonwealth of Massachusetts Department of Transportation where she provided counsel to the Accelerated Bridge Program (ABP). In this role, Ms. Strother was responsible for identifying and analyzing legal issues, drafting key documents and assuring legal compliance on Bridge projects including the use of various contracting methods. Ms. Strother served as an Associate at the law firm of Morisi & Oatway, P.C. where she advised clients in general business, corporate, non-profit, real estate acquisition and contract matters. Finally, Ms. Strother clerked for Superior Court Justices for the Trial Court of Massachusetts.

Ms. Strother holds a BA in Political Science from the University of Massachusetts Boston and a JD from Northeastern University School of Law.

BUDGET/FISCAL IMPACT:

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

ATTACHMENTS:

- Evelma Strother Resume
- Position Description
- Procurement Department Organization Chart

EVE STROTHER

10/11 to present Commonwealth of Massachusetts, Department of Conservation and Recreation, Boston, MA, Office Of The General Counsel, Deputy General Counsel.

As a Deputy General Counsel, advise and assist General Counsel and senior staff on various matters as assigned internally and at the request of the Executive Office of Energy and Environmental Affairs or members of the legislature including matters requiring urgent response such as oversight agency investigations, public records requests, constituent calls, and press inquiries. Primary responsibility for directly drafting and negotiating complex license agreements for use of commonwealth property with various types of parties (counsels and staff of municipalities, state and city agencies, private parties, and advocacy groups) and conducting competitive processes for such uses and opportunities. Assist the Long Term Permits and Leases staff in the administration of statutory agreements and legislatively authorized leases. Directly supervise the Telecommunications staff as well as draft, review and complete telecomm and utility permits. Directly supervise the Manager of the Long Term Permits and Leases Unit, the Manager of Legal Services and, two other paralegals in the Office of General Counsel. Prior to other counsel hires, assisted and advised DCR Engineering staff and Contract and Administration staff on construction contract matters including procurement processing and issues related to the acquisition of goods and services and G.L. c. 149 and c. 30 construction projects including specification drafting and interpretation, veteran and minority contract compliance, direct demand processing and negotiation, insurance and bond requirements, canvassing, bid opening, communication with contractors, etc., and settlements. Member of DCAMM Construction Law Working Group 2012-2013.

11/09 - 10/11 Commonwealth of Massachusetts, Department of Transportation, Boston, MA, General Counsel's Office, Legal Counsel.

As a staff counsel within the Accelerated Bridge Program (ABP), provided direct counsel to all levels of staff including executive staff on Highway Division ABP projects; provided counsel to, and worked with, all levels of staff in other Highway Division departments (design, environmental, utility), MassDOT Civil Rights, and Contracts and Administration, Right of Way, on various construction contract matters including from procurement to compliance. Assisted in several Employee Relations, Railroad, and Aeronautics issues. Responsible for identifying and analyzing legal issues, drafting key documents, presenting clear recommendations, and assuring legal compliance on ABP projects including the use of various contracting methods and project construction contracts (drafted and finalized the Design-Build contract for the Fast-14 - I-93 Rehabilitation Project - 14 bridges done by DOT and its contractors within less than 6 months). Advised engineers of the Accelerated Bridge Program on all aspects of Regulatory and Administrative law. Assisted the department on public records and press responses. Led the effort on new department wide procedures on document retention leading to a final policy. Prepared script and documents for multi-agency federal compliance seminar for construction industry.

1/09 - 11/09 Commonwealth of Massachusetts, Department of Conservation and Recreation, Boston, MA, Office of General Counsel, Assistant General Counsel II.

As an Assistant General Counsel provided a variety of legal services to the Commissioner, General Counsel, program staff including specialized assistance to Accelerated Bridge Program (ABP) staff in all facets of public construction projects, including review of design service and construction contracts. Additional

duties included: real estate transactions negotiation of acquisition and disposition land transactions with landowners, private and public counsel in conjunction with the Department Land Agents; consulting professionals such as real estate title examiners, appraisers, and engineers for conservation targeted parcels of open space. Provided assistance to Department program staff with the negotiation and development of licenses, contracts, and easements; provided advise on procurement, labor and contract related matters; represented the Department in procurement (bid) protests, labor grievance investigations, forestry license violations, environmental hearings, and other administrative proceedings and negotiations; worked with the Department's Human Resources, IT, and Finance staff in the course of providing advice and information to internal staff on a range of legal matters; drafted, reviewed, and analyzed bills, legislation and regulations; assisted in the review and development of department policies; represented the General Counsel at meetings; responded to Commissioners correspondence inquiries; and acted as agency representative before the Office of the Attorney General Bid Protest Unit and the Inspector General. Managed other tasks as assigned by the office of General Counsel and the Department.

8/02 - 12/08 Morisi & Oatway, P.C., Quincy, MA, Associate, Transactional and Litigation Departments.

As a transactional associate, advised clients in general business, corporate, non-profit, real estate acquisition, and contract matters. Drafted, reviewed, and advised clients on commercial and residential leases and other documents. Advised and assisted non-profit organizations in establishment and procuring tax exempt status. Reviewed, drafted, and negotiated commercial agreements and other contracts (outsourcing and manufacturing agreements, shareholder agreements, condominium management agreements, construction prime and subcontractor contracts). Drafted technology agreements and business contracts. Conducted due diligence and draft documents for mergers and acquisitions, dissolutions, and buyouts of closely held businesses. Advised clients on creation of asset protection vehicles such as trusts and limited liability companies. Conducted and completed a variety of commercial and residential real estate and corporate transactions for buyers, sellers, developers, management companies and banks. Prepared title information for First American Title Insurance Company. Drafted loan documents, settlement statements, and conduct closings for commercial and private lenders. Assisted clients in establishing residential and commercial condominiums. Assisted clients with licensing and administrative applications.

As a litigation associate, represented clients in Superior and District Court matters; attended and assisted at trial; performed investigative work for various matters; conducted legal research, prepared discovery and motions, subpoenas, trial documents and exhibits, deposition outlines, mechanic's lien documents; settlement agreements. Prepared and advised clients on construction (contractor and subcontractor agreements) and real estate matters (lis pendens, adverse possession, contractor/owner disputes; and other real estate related disputes).

9/00 - 8/02 Trial Court of Massachusetts, Superior Court, Boston, MA, Law Clerk to the Justices.

Assisted the court in all phases of civil and criminal litigation; prepared and assisted in the drafting of case decisions, legal memoranda, and proposed jury instructions; worked extensively with Judges and chamber clerks in preparing for trials, hearings and motion sessions. As a Second Year/Senior Law Clerk,

mentored and assisted new 1st year clerks in addition to maintaining a regular case load and court attendance.

Licenses

Admitted to Massachusetts Bar, January 2001; Admitted to U.S. District Court, October 2002; Massachusetts Real Estate Broker, July 2001 to present; Massachusetts Notary Public, 1988 to present.

**MWRA
POSITION DESCRIPTION**

POSITION: Deputy Contracts Manager

DIVISION: Administration

DEPARTMENT: Procurement

BASIC PURPOSE:

Manages all aspects of construction and professional and non-professional service contracts from initial submission of contract documents through contract closeout.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Procurement.

SUPERVISION EXERCISED:

Exercises close supervision of assigned Assistant Contracts Manager(s).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Under the direction of the Director, Procurement, develops and implements Authority-wide policies and procedures for all elements of the contract function, including creation, review and/or evaluation of RFQs, RFPs, proposals, bids and contracts as well as the negotiation of contracts and terms and the review of contract amendments, change orders, contract close-out and final payment.
- Reviews bids, contract processes and documents for format and substance as well as compliance with Authority standards and applicable law, especially MGL Chapters 149 and 30; directs assigned Assistant Contracts Manager(s) in performance of these same functions.
- Oversees and administers advertising programs and systems to open bids and award and execute contracts in compliance with Authority standards and Commonwealth law; works with administrative staff on these issues.
- Assists the Director, Procurement in the defense of contract claims and the dispute resolution process; participates in and directs Assistant Contract Manager(s) in similar activities as appropriate.
- Advises Law Division and Senior Authority staff on contract matters as required; represents Authority before Commonwealth Attorney General's Office; directs Assistant Contracts Manager(s) in performance of these functions.

- Directs Assistant Contracts Manager(s) in the review and evaluation of consultant proposals, emphasizing compensation analysis and cost control.
 - Participates with administrative staff in the establishment and maintenance of a contract database that tracks progress through the advertising, bidding and award stages as well as through the life of the contract.
 - Reviews, drafts and helps negotiate contract terms and conditions; oversees the preparation and updating of standard forms and other contract provisions; supervises Assistant Contracts Manager(s) and directs and assists Authority staff in performance of these functions.
 - Reviews contract amendments and change orders; participates in contract close-out and final payment stages; directs Assistant Contracts Managers in performance of these same functions.
 - Participates in Consultant/Contractor Selection Committees as required.
 - Participates with technical personnel in presentations to the Board.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in business administration or a related field; and
- (B) A masters degree in a related field or a degree in law is strongly preferred; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Understanding of contract administration as acquired through six (6) to eight (8) years contract management experience, of which at least two (2) years should be in a supervisory capacity.
- (B) Knowledge of and experience with MGL Chapters 149 and 30 and with design and other professional and nonprofessional service contracts required; governmental contract experience preferred.
- (C) Excellent written and oral communication skills are required.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Operators License.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

While performing the duties of this job, the employee is regularly required to 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.

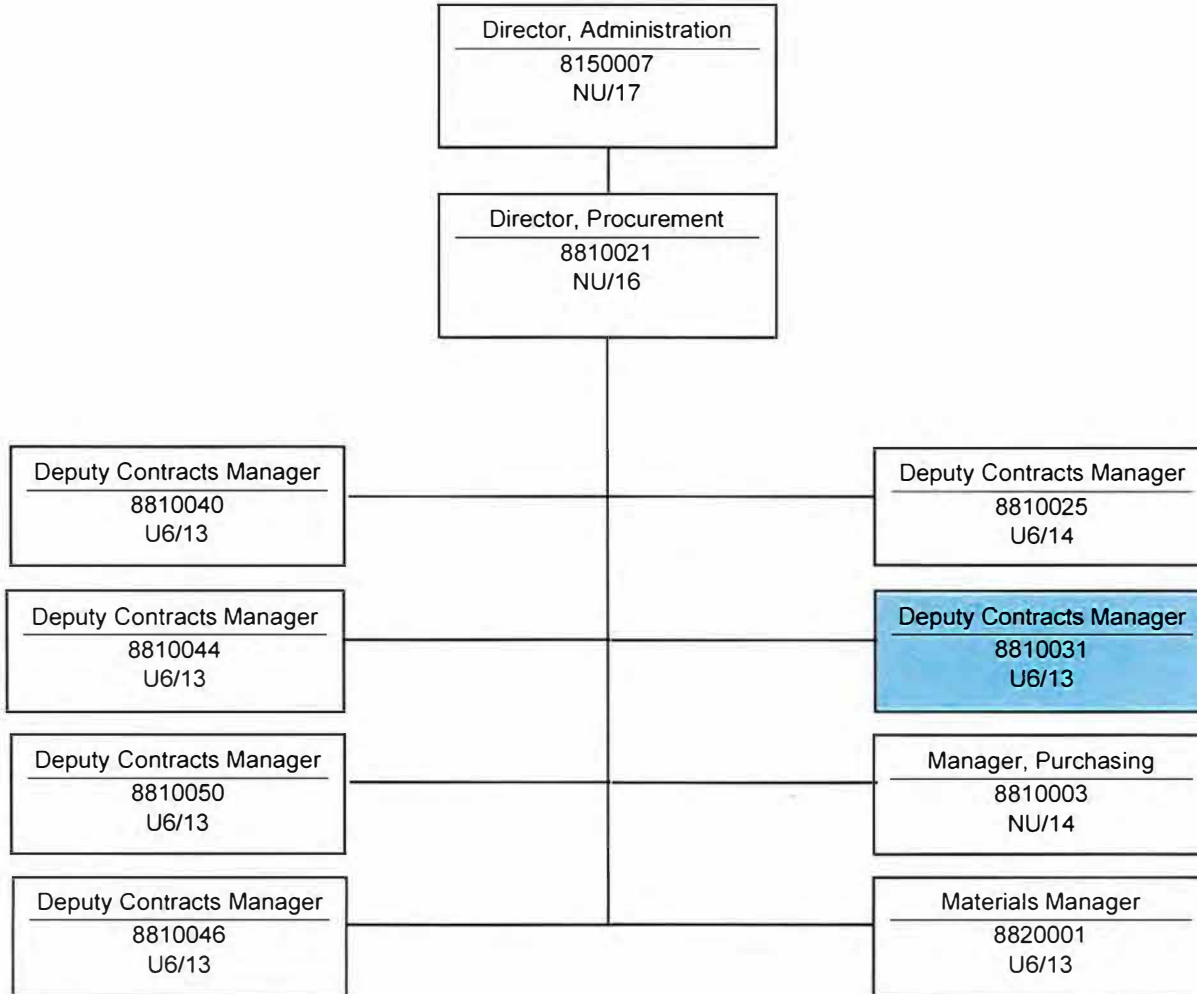
WORK ENVIRONMENT:

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.

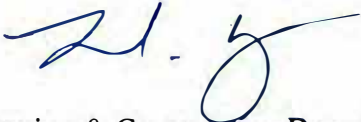
The noise level in the work environment is usually a moderately quiet office setting.

Administration Procurement

May 2019




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Appointment of Program Manager, Engineering & Construction Department

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Andrea Murphy, Director, Human Resources
John Colbert, P.E., Chief Engineer
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Ms. Patricia Mallett to the position of Program Manager (Unit 9, Grade 29) in the Engineering & Construction Department, at an annual salary of \$94,922.98, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Program Manager in the Engineering & Construction Department became vacant in March 2019 as a result of the promotion of the incumbent. The Program Manager position works under the general supervision of the Senior Program Manager and manages in-house engineering staff. This position manages projects in assigned programs from conceptual planning through construction contract award, including conformance to standards and procedures, staffing assignments, project scheduling and prioritization, and work product quality. The position oversees the work of professional engineering consultants under contract to the MWRA including quality of outputs, budget and schedule compliance and conformance to contract terms. The position is also responsible for preparing annual and supplementary requests for projects in the Capital Improvement Program.

Selection Process

This position was posted internally. A total of eight candidates applied for the position. Seven internal candidates were determined to be qualified and were referred for an interview. The Assistant Director, Engineering, Senior Program Manager, and the Manager, Operations Support conducted the interviews. Upon completion of the interviews, Ms. Patricia Mallett was determined to be the best candidate based on her experience, knowledge, skills and education.

Ms. Mallett has 15 years of engineering experience. Before joining the MWRA in 2017, she held progressively more responsible positions up to a Senior Project Manager for the San Francisco

Public Utilities Commission in California where she managed large complex capital improvement projects and directly supervised four staff engineers. She managed a \$60 million chloramine conversion project and a \$54 million Water Treatment Plant improvement project. She has experience with water planning, water treatment, water distribution, water supply, multi-disciplinary efforts and planning, as well as design and implementation of water supply capital projects. Ms. Mallett has over 10 years of project management experience. She has 5-plus years of direct supervisory experience, including hiring, training and providing feedback to assigned staff engineers. Since joining MWRA in the Engineering & Construction Department as a Project Manager Ms. Mallett has earned the respect of her colleagues and supervisors.

Ms. Mallett has a Bachelor of Science in Civil Engineering from the University of Maine and a Master of Science in Environmental Engineering from Johns Hopkins University. She is a registered Professional Engineer in Massachusetts and California.

BUDGET/FISCAL IMPACT:

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

ATTACHMENTS:

Resume of Patricia Mallett

Position Description

Engineering and Construction Department Organization Chart

OBJECTIVE To obtain a project management position in the civil engineering field.

PROFESSIONAL PROFILE

Experienced project manager with an outstanding career in capital program/project management, environmental/watershed management and customer/stakeholder communications with the San Francisco Public Utilities Commission. Supplemental experience as an engineer and project manager for consulting engineers to large utilities. An excellent communicator with a proven track record of working collaboratively on large complicated projects with a broad variety of internal and external stakeholders and governing boards.

Demonstrated achievements in:

- Engineering studies
- Strategic planning
- Watershed protection and environmental management
- Customer/stakeholder/media communication
- Regulatory negotiations
- Contract management
- Mentoring of professional engineers

PROFESSIONAL LICENSE

Registered Civil Engineer in California, License No. 50308
Registered Civil Engineer in Massachusetts, License No. 53888

PROFESSIONAL EXPERIENCE

Project Manager, Engineering and Construction

Massachusetts Water Resources Authority (MWRA) September 2017 -- Present

• **Wachusett Dam Lower Gate House (LGH) and Bastion Improvements**

Responsibilities include managing the multiple design efforts associated with the rehabilitation of the Wachusett Dam Bastion and LGH. Wrote the scope of work and am currently managing the consultant contract to prepare a structural evaluation of the Bastion. The final consultant report will be used as the basis for the design scope of work. Managed the consultant contract which produced the preliminary engineering for the building upgrades at the LGH. Currently managing the consultant contract for the LGH piping modifications and working with management to identify the contracting mechanisms to complete the LGH building upgrades design and construction.

• **Hayes Pump Station Condition Assessment**

Responsibilities include management of the code compliance evaluation completed by an outside consultant. Worked with operations and maintenance to identify deficiencies through interviews with staff and review of MAXIMO records. In the process of

preparing a Condition Assessment Report to be used as the basis for the detailed design scope of work.

- **Union Park Pump Station Fuel Upgrade**

Responsibilities included managing the conceptual engineering effort to determine the recommended chemical storage to replace the leaking generator fuel storage tank. Managed the detailed design effort completed by a consultant, and currently managing the consultant ESDC contract during the construction phase.

- **Rehabilitation of Sections 191 and 192, Charles River Valley Sewer**

Responsibilities include preparation of the contract drawings and specifications for the rehabilitation of approximately 1200 feet of Sections 191 and 192 of the Charles River Valley Sewer.

- **North Metropolitan Sewer (Sections 4, 5, 6, and 186) Study**

Responsibilities included managing the conceptual engineering phase to determine the optimal rehabilitation method for the aging North Metropolitan Sewer.

Senior Project Manager, Regional Water

San Francisco Public Utilities Commission (SFPUC) September 1997 -- January 2003
As Senior Project Manager directed four staff engineers on regional water supply capital projects included in the SFPUC's \$3.6 billion Capital Improvement Program.

- ***Calaveras Dam Project***

Responsibilities included all aspects of the project, including the environmental review process, detailed design, and construction. Calaveras Dam was determined to be seismically unsound which required repair or replacement. The estimated capital cost for the project ranged from \$150 million for repair to \$500 million for replacement with a new, expanded dam. Coordinated the project with the SFPUC's East Bay Habitat Conservation Plan.

- ***Hetch Hetchy Water Treatment Project (HHWTP), Chloramine Conversion.***

Responsibilities for the HHWTP included conceptual engineering, the environmental review process, detailed design, and the design/implementation of the public outreach program for chloramine conversion. The chloramine conversion was successfully completed in February 2004. The capital cost for the overall program was approximately \$60 million.

- ***Sunol Valley Water Treatment Plant Improvement Project (SIP)***

Responsibilities for the SIP included conceptual engineering and environmental review/permitting. Additional responsibilities included overseeing a Project Manager 2 during the detailed design and construction phases. The SIP was developed to address deficiencies in the treatment plant that resulted in the issuance of a Compliance Order

from the California Department of Health Services due to a treatment failure. Phase 1 focused on the improvements to the plant to regain its full 160 mgd capacity. Phase 1 was designed and construction was completed in 2003 with a capital cost of approximately \$54 million. Phase 2, the Future Facilities Plan, focused on the long term needs of the Sunol Valley. The first projects to be implemented from Phase 2 include the construction of a treated water reservoir, with an estimated cost of \$47 million, and further expansion of the plant to 240 mgd, with an estimated cost of \$82 million.

Sanitary Engineer

SFPUC

July 1995 – August 1997

• ***Hetch Hetchy Watershed Working Group (WWG)***

Responsibilities included managing the WWG. The primary objective of the WWG was to obtain a Memorandum of Understanding with the National Park Service regarding management of the Hetch Hetchy watershed as a condition to maintaining Filtration Avoidance.

Other project engineer work included the following:

- *HHWTP Preliminary Engineering*
- *SIP Preliminary Engineering*
- *Hetch Hetchy Watershed Management Strategic Plan*
- *Hetch Hetchy Sanitary Survey*

Senior Civil Engineer

Uribe & Associates

July 1993 – June 1995

Project manager for the following projects.

- *Water Quality/Quantity Studies for the Central California Regional Water Recycling Project*
- *Environmental Compliance Audits for the East Bay Municipal Utilities District*
- *Base Realignment and Closure Environmental Impact Statement for the Expansion of Lemoore Naval Air Station*

Senior Engineer

MWH

July 1989 – June 1993

Project Manager – *Source Control Study for the City of Honolulu*

Assistant Project Engineer - *Water Reclamation Master Plan for the City and County of San Francisco*

Associate Engineer for the following projects.

- *Export of Reclaimed Water from the Bay Area Study for the City of San Francisco*

- *Local Limits Justification Report for the City of Gilroy, CA*
- *Industrial Wastewater Treatment Studies*

EDUCATION

The Johns Hopkins University, M.S.E. in Environmental Engineering, May 1989.
University of Maine, B.S. in Civil Engineering, May 1988.

HONORS AND AWARDS

Mayor's Fiscal Advisory Committee **Public Managerial Excellence Award** Nominee
2001. SPARC Water Quality Planning Unit.

PUBLICATIONS

"Preparation of a RWQCB Audit", February 1991 CWPCA Industrial and Hazardous Waste Conference and Exhibition, February 1991.

"Source Water Quality Challenges in an Unfiltered System", 1996 California/Nevada Section, American Water Works Association Fall Conference.

"Parasite Sampling and Disease Surveillance Used to Evaluate Treatment Alternatives for an Unfiltered Water Source", 1996 American Water Works Association Water Quality Technology Conference.

"San Francisco PUC Source Water Protection Program", January 1997 EPA/AMWA Source Water Protection Workshop – Portland, OR.

"Strategic Watershed Planning for an Unfiltered System", 1997 American Water Works Association Annual Conference.

"Impacts of Filtration Avoidance on San Francisco's Water Supply Planning", 1997 American Water Works Association Water Resources Conference.

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

Supervises project teams in the department to oversee professional engineering and design projects related to the rehabilitation and capital improvement of waterworks and wastewater facilities and infrastructure from conceptual planning through construction. Additionally, manages engineering and design projects related to the rehabilitation and capital improvement of water and wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of a senior manager in the Engineering and Construction Department.

SUPERVISION EXERCISED:

Exercises close supervision of a staff of professional and technical employees and or consultants.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees projects, including the planning and design of rehabilitation and capital engineering projects for waterworks and wastewater facilities and pipelines. Additionally, manages the planning and design phases of assigned water and wastewater engineering and or maintenance projects including, feasibility and environmental impact reports, detailed plans and specifications, permitting, project schedules, technical assistance, progress review and evaluation.
- Oversees the work of professional engineering consultants, including all work products for quality of work, budget, schedule, and compliance with contractual terms and MWRA objectives and policies.
- Supervises and manages professional staff, including assignment of projects, evaluation of performance, and staff development planning. Provides technical and administrative assistance to staff in the development and management of projects which include design and

engineering services during construction of new and rehabilitation water and wastewater projects, development of maintenance and operations procedures and working closely with MWRA Safety staff, development of safety procedures.

- Supervises professional multi-discipline engineering work of substantial difficulty and importance, requiring application of professional engineering principles and the exercise of independent engineering judgment.
- Oversees and coordinates cooperative project development with other MWRA divisions and departments to ensure complete and coordinated projects. Coordinates projects with communities, government agencies and other MWRA departments. Provides technical information and assistance. Addresses professional and community groups and initiates outreach projects as required.
- Participates in consultant selection procedures and contract negotiations for projects. Additionally, oversees all phases of consultant selection for assigned projects including development of scope of services, specifications, cost estimates, work schedules, negotiations, and preparations of contract award recommendations. Ensures compliance with contract budgets, schedules and terms.
- Prepares annual and supplementary budget requests for the projects in the Capital Improvement Program. Oversees and reviews projects' budgets and schedules for compliance with established department, division, and MWRA program goals.
- Ensures compliance with MWRA procedures and policies, regulatory requirements and applicable engineering standards. Ensures all project activities are coordinated with MWRA divisions and departments, outside regulatory and permitting agencies and communities, as appropriate.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil or related engineering field; and
- (B) Seven (7) to nine (9) years of civil engineering experience of which three (3) years must be in a supervisory capacity and three (3) years in project management; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of engineering.
- (B) Understanding of issues related to design, construction and operation of water and wastewater facilities and infrastructure.
- (C) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.
- (D) Knowledge of Massachusetts bidding laws, including M.G.L Chapter 30 and Chapter 149 construction bidding regulations.
- (E) Familiarity with computer software such as Word and Excel
- (F) Proven interpersonal, managerial, written and oral communications skills are required.

SPECIAL REQUIREMENTS:

Registered Massachusetts 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 fax machine, measuring equipment, light tools and mobile radio.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable 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 and to use hands to finger, handle, feel or operate objects, tools or controls. The employee is frequently required to talk or hear. The employee is occasionally required to stand, walk, and reach with hands and arms.

The employee must occasionally lift and/or move up to 10 pounds. There are no special visual requirements for this job.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee

encounters while performing the essential functions of this job.

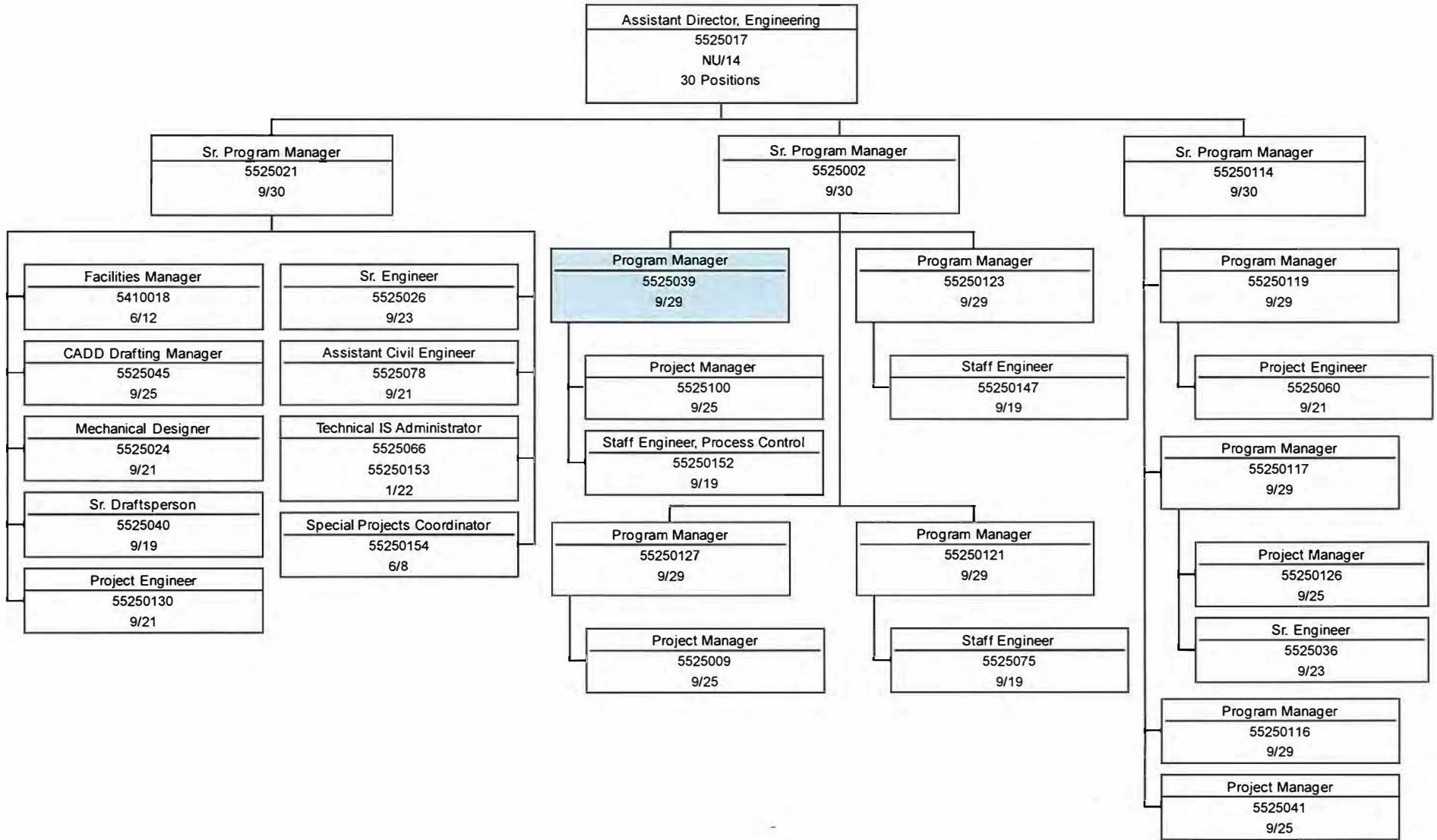
While performing the duties of this job, the employee is not exposed to any unusual environmental conditions.

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

January 2013

Water/Wastewater Engineering

May 2019





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

Wednesday, May 29, 2019

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

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

Time: Immediately Following P&C Committee

AGENDA

A. Information

1. FY2019 Third Quarter Orange Notebook
2. Delegated Authority Report – April 2019
3. FY2019 Financial Update and Summary as of April 2019
4. MWRA Green Bond Issuances

B. Approvals

1. Bond Defeasance of Future Debt Service

C. Contract Awards

1. MWRA FY 2020 Insurance Program Renewal

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

April 17, 2019

A meeting of the Administration, Finance and Audit Committee was held on April 17, 2019 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cook, Flanagan, Foti, Pappastergion, Peña and Walsh. Mr. Cotter was absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Thomas Durkin, Michele Gillen, Bethany Card, Katherine Ronan, Douglas Rice, David Duest, David Coppes, James Halloran, Michael Cole, Paula Weadick and Matthew Horan. The meeting was called to order at 11:05 a.m.

Information

2018 Annual Update on New Connections to the MWRA System

Staff made a verbal presentation. (Mr. Flanagan joined the meeting during the presentation.) There were questions and answers.

Delegated Authority Report – March 2019

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

FY2019 Financial Update and Summary as of March 2019

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

MWRA Retirement System Update

Staff made a presentation. There was discussion and questions and answers. (Mr. Foti left the meeting during discussion.)

* Committee recommendation approved by the Board on April 17, 2019

Contract Awards

*** Sole Source Purchase Order for One Year of Maintenance and Support of the Integrated Financial, Procurement and Human Resources/Payroll Management System, Infor Inc.**

Staff made a verbal presentation. There was discussion and questions and answers. (Mr. Cook temporarily left the meeting during discussion.)

The Committee recommended approval (ref. AF&A B.1).

*** Arbitrage Rebate Compliance Services, PFM Asset Management LLC, Contract F251**

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

The Committee recommended approval (ref. AF&A B.2).

The meeting adjourned at 12:06 p.m.

* Committee recommendation approved by the Board on April 17, 2019

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: FY19 Third Quarter Orange Notebook



COMMITTEE: Administration, Finance & Audit

X INFORMATION
 — VOTE

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


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

RECOMMENDATION:

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

DISCUSSION:

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

Laboratory Services

The MWRA laboratory was one of the early adopters of the eDEP system for electronically reporting drinking water quality data directly to DEP. Recently, MWRA celebrated its ten-year anniversary of using the system and DEP notified MWRA that it had submitted over one million water quality records. Use of the eDEP system means that MWRA's data is immediately available to DEP for review, and with recent improvements in DEP web portal, much of the data is now easily available to the public as well. Of particular note is that all of the lead data from school samples analyzed by MWRA is now easily accessible in DEP's searchable data portal. (Page 15)

Distribution System Valves

MWRA reached a water distribution system milestone this quarter, meeting all four of its goals for valve operability. MWRA's aggressive goals are to have at least 95 percent of each type of valve operable. Nationally, only about 50 percent of valves are operable. When MWRA began to evaluate its distribution system in the early 1990s, only half of MWRA's valves were operable making emergency and planned shutdowns difficult and disruptive to customers. Since that time, there has been an aggressive effort to exercise valves on a regular basis, and to replace or repair inoperable ones. Hundreds of valves have been replaced through pipeline and CIP valve contracts,

as well as by in-house staff. Annual targets for operability have increased over time and all efforts are tracked in the Yellow and Orange Notebooks.

Main line valves are used to isolate a segment of pipe to allow it to be shut down for maintenance or repair: 96.6 percent of the 2,159 main line valves are operable. Blow off valves are used to drain a segment of pipe and also must be properly constructed and maintained to avoid the possibility of back flow contamination: 98.5 percent of the 1,317 are operable. Air release valves allow air to exit or enter pipelines as they are filled or drained: 95 percent of the 1,380 are operable. Control valves regulate the flow between pressure zones: all 49 of these critical valves are operable. (Page 7)

Siphon Inspections and Cleaning

Last quarter, staff highlighted the fact that siphon cleaning was significantly ahead of target, but inspections were lagging. The staff summary indicated that having the siphons already cleaned would allow inspections to proceed quickly. Additional progress was made this quarter on cleaning, substantially exceeding this year's annual target, and staff made good progress on inspections having nearly caught up with that target. (Page 8)

Toxics Reduction and Control

This quarter's TRAC report shows substantial progress toward annual goals for inspections and permitting. Earlier issues with staffing have largely been resolved, and more notably, staff identified and corrected a database issue that was preventing some sampling data from being logged correctly. As of the third quarter, 380 of 398 significant industrial user (SIUs) connections have been sampled; TRAC staff are now focusing on completing the non-SIU monitoring events. While only just over half (39 of 70) of SIU permits have been renewed thus far this fiscal year, most expire toward the end of the year, and staff anticipate meeting the goal. (Page 12)

Reservoir Operations

So far this fiscal year, watershed system yields have been higher than the long-term average in all but one month. This has resulted in both Quabbin and Wachusett Reservoirs being substantially above their typical levels for this time of year. Quabbin Reservoir has been spilling since mid-October, sending over 32 billion gallons into the Swift River by the end of the third quarter. During the same period, releases over the crest gate at Wachusett Reservoir sent almost 24 billion gallons down the Nashua River. (Page 26) Since the end of the quarter, levels at both reservoirs have risen.

As discussed last quarter, staff would like to send additional higher quality Quabbin water east to Wachusett Reservoir to improve the water going to the Carroll Water Treatment Plant, but cannot if Wachusett Reservoir levels remain high. MWRA's ability to release more water from Wachusett is currently hampered by the piping failure in the Lower Gate House that is limiting the use of the sleeve valve to half its capacity. In addition, hydraulic problems with the crest gate prevented its operation until it was repaired in early May. The repair work for the Lower Gate House piping is currently under design. With reasonably drier conditions, vegetation leaf out, and higher community demand, staff hope to commence Quabbin transfers soon.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

for

Third Quarter FY2019

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
May 29, 2019

Board of Directors Report on Key Indicators of MWRA Performance

3rd Quarter FY19

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

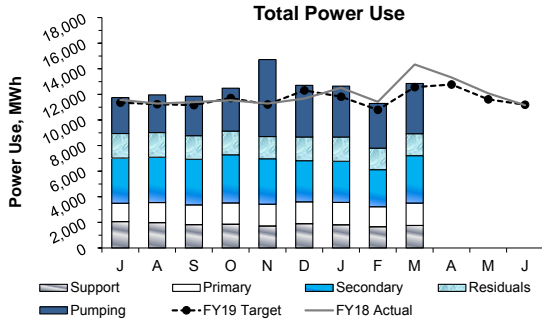
Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
May 22, 2019

OPERATIONS AND MAINTENANCE

Deer Island Operations

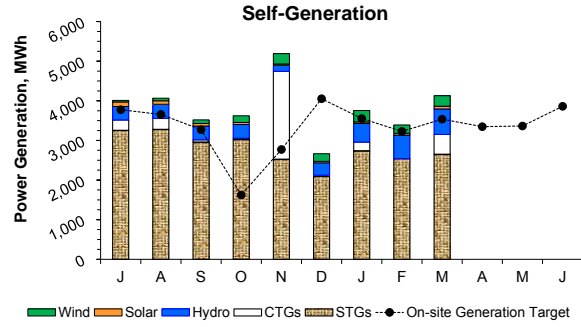
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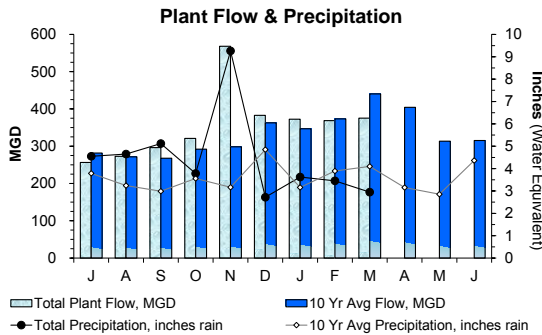


Total power usage in the 3rd Quarter was 4.6% above target as Total Plant Flow was 6.9% above target with the 3 year average plant flow. Power usage for a number of plant processes were similar to or above target as a result of the higher plant flow, including power used for raw wastewater pumping which was 7.8% above target. Power used for raw wastewater pumping from the north influent system was 3.4% higher-than-target and was 19.1% higher-than-target for pumping the wastewater from the south influent system.

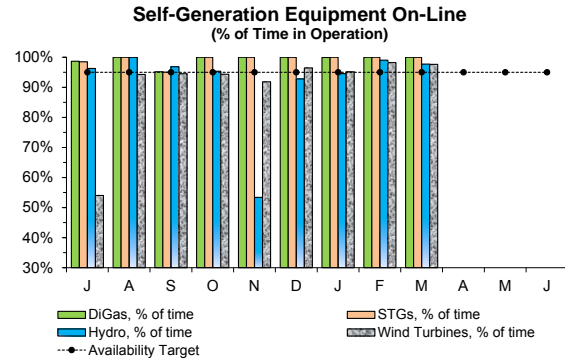
Note: Power usage projections are based on 3 year averages.



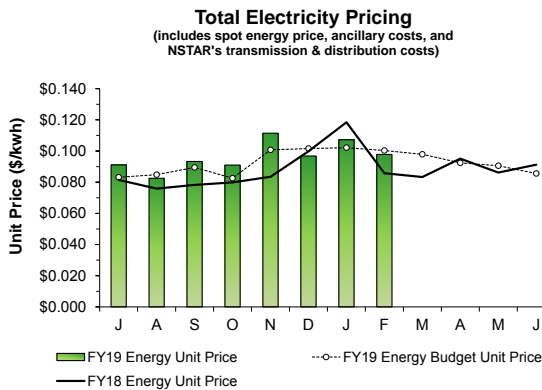
Power generated on-site during the 3rd Quarter was 9.3% above target. This was partly due to the 17 hour CTGs operation in January, as a precaution during a nor'easter storm event with high winds from January 24 to January 25, and the 22 hour operation for compliance testing in March. As a result, power generated by the CTGs was 77.2% higher than expected during Quarter 3. Power generated by the STGs and the Solar Panels were both 5% higher -than-target. Power generated by the Hydro Turbines was 15.3% higher than target as the newly repaired, more efficient, Hydro Turbine #1 was returned to operation in mid-January. Generation by the Wind Turbines also exceeded the target by 3.9%.



Total Plant Flow for the 3rd Quarter was 3.8% below the budgeted 10 year average plant flow (372.2 MGD actual vs. 386.9 MGD expected) as precipitation was 11.2% below target (10.02 inches actual vs. 11.15 inches expected). However, Total Plant Flow was 6.9% higher than the 3 year average plant flow used for energy budget projections. Total Plant Flow and precipitation was above the 10 year target in January but was below target during the months of February and March.

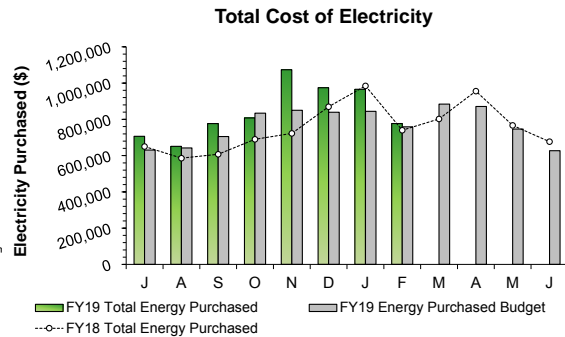


The DiGas system, STGs, Hydro Turbines, and Wind Turbines all met or exceeded the 95% availability target for the 3rd Quarter.



Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price in February (the most current invoice available) was 2.5% below target with budgetary estimates. The actual total energy unit price in March is not yet available as the complete invoices have not been received. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

Note: Only the actual energy prices are reported. Therefore, the dataset lags by one (1) month due to the timing of invoice receipt and review.



The Electricity cost data for Electricity Purchased in March is not yet available. Year-to-date Total Cost of Electricity is \$628,237 (10.3%) higher than budgeted through February as the Total Energy Unit Price and the Total Electricity Purchased were both higher than target by 4.2% and 5.8%.

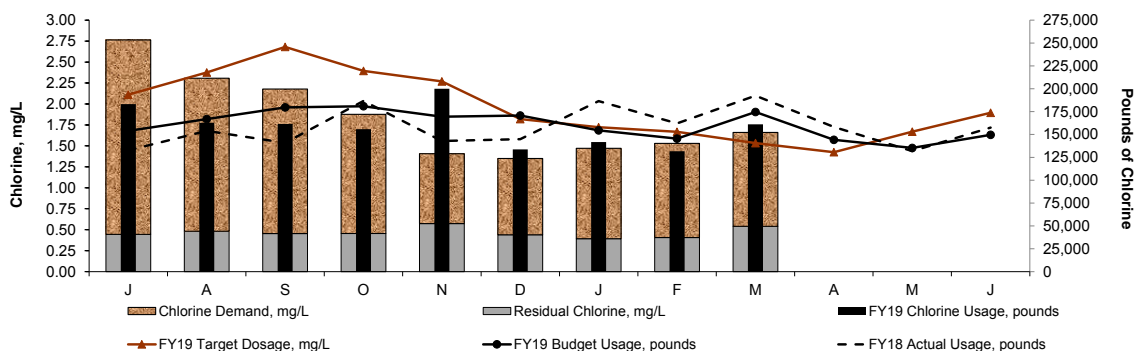
Note: Only months with complete Electricity Purchased data are reported. Therefore, the dataset lags by one (1) month due to the timing of invoice receipt and review.

Deer Island Operations

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Deer Island Sodium Hypochlorite Use



The disinfection dosing rate in the 3rd Quarter was 5.3% below target with budgetary estimates. Actual sodium hypochlorite usage in pounds of chlorine was also 8.4% lower than expected. The lower sodium hypochlorite dosage and usage is indicative of a lower chlorine demand in the wastewater. DITP maintained an average disinfection chlorine residual of 0.45 mg/L this quarter with an average dosing rate of 1.55 mg/L (as chlorine demand was 1.11 mg/L).

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

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
J	1	1	0	99.5%	6.02
A	1	1	0	99.9%	2.96
S	2	2	0	99.4%	7.81
O	3	3	0	99.5%	9.58
N	12	12	0	96.2%	100.05
D	2	2	0	99.9%	9.68
J	1	1	0	98.9%	12.37
F	0	0	0	100.0%	0.00
M	0	0	0	100.0%	0.00
A					
M					
J					
Total	22	22	0	99.0%	148.47

99.6% of all flows were treated at full secondary during the 3rd Quarter. There was one (1) secondary blending event due to high plant flow resulting from heavy rain. This blending event resulted in a total of 12.37 hours of blending and 129.63 MGal of primary-only treated effluent with secondary effluent. The Maximum Secondary Capacity for the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 3rd Quarter.

Deer Island Operations & Maintenance Report

Environmental/Pumping:

The plant achieved an instantaneous peak flow rate of 1,163.0 MGD during the evening of January 24. This peak flow occurred during a storm event that brought 1.00 inch of rain to the metropolitan Boston area combined with already elevated plant flows from a significant rain event on January 20. Overall, Total Plant Flow in the 3rd Quarter was 3.8% below the 10 year average plant flow target for the quarter.

Work on the Winthrop Terminal Headworks Facility (WTF) VFD (Variable Frequency Drive) and Synchronous Motor Replacement project was started by the contractor in 2018 and entails the demolition of existing older obsolete equipment (electrical systems, motors and VFDs on each of the six (6) raw wastewater pumps). The pumps are currently powered by 600 volts service and will be changed to 4,160 volts, consistent with other major pumps in both the South System Pump Station (SSPS) and the North Main Pump Station (NMPS). Work and all performance testing was successfully completed for WTF Pump #6 by early December. The contractor began working on WTF Pump #2 on December 10 and performance testing on this pump began in February and continued through the remainder of the quarter.

The 15 kVA uninterruptible power supply (UPS) that provides near-instantaneous protection from input power interruptions to the raw wastewater pumps in the Winthrop Terminal Headworks Facility was replaced in early January. This UPS protects the VFDs, that control the pump's motor speed, from occasional power fluctuations on the grid which can occur several times each year.

Deer Island Operations

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Deer Island Operations & Maintenance Report (continued)

Odor Control:

The Residuals Odor Control (ROC) Facility, which is responsible for treating the process airflows from the primary gravity thickeners and the secondary centrifuge thickeners, was taken offline for a total of 8 hours and 59 minutes on February 6. This odor control treatment shutdown was necessary to allow staff to replace the airflow fan and fan assembly for wet chemical scrubber #2. During this shutdown, stray process air was contained within the buildings served by this odor control treatment area and there were no odor complaints associated with this work. Fan performance testing on February 12 was successfully completed while a representative from the fan manufacturer was onsite.

The gravity thickener airflow treatment portion of the ROC Facility was taken for a total shutdown of 6 hours and 30 minutes to allow contractors to replace the damper in the facility that serves Gravity Thickener #1. This damper replacement is part of a Gravity Thickener Rehabilitation project. The remaining five (5) gravity thickener dampers are scheduled to be replaced later this year. The centrifuge thickener odor control treatment portion of the ROC Facility was not impacted and continued to operate and treat the air from the centrifuge thickeners. Stray process air was contained within the buildings served by this odor control treatment area and there were no resident odor complaints received as a result of this shutdown.

Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 30.6% of Deer Island's total power use for the quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 28.7% of Deer Island's total electrical power use for the quarter.

Contractors and staff from Eversource continued their work in preparation for the installation of the new cross-harbor power cable, specifically the on-island components of the cable. This work involved trenching from the Eversource building (Station 132) down the roadway inside the perimeter fence line ending at the northwestern section of parking lot #1 which took place at the end of 2018 and continued into the early part of Quarter 3. This new cross-harbor power cable will replace the existing cross-harbor power cable that serves as the primary means of transmitting electricity to Deer Island, and is expected to be available near the end of calendar year 2019.

Hydro Turbine #1 was successfully returned to operation on January 15 following a lengthy period of downtime that included a major repair of the turbine's rotating assembly which was completed by the contractor. The turbine has continued to operate without issue and there has been a significant improvement in the power generation efficiency since the turbine has been in operation as demonstrated by the 15.3% higher-than-target generation in the 3rd Quarter. Hydro Turbine #2 was taken offline for much needed maintenance when Hydro Turbine #1 was returned to operation.

Routine non-invasive annual maintenance and inspections were conducted on CTG-1A during the week of March 4. CTG-2B remained available for operation during this work. The maintenance included non-invasive inspections, instrument calibrations and system checks. After the maintenance work was completed, CTG-1A was test operated which revealed the under/over voltage relay associated with this CTG unit was not working correctly. The identical relay associated with CTG-2B was installed into CTG-1A's electrical system to ensure the CTG unit was able to operate properly and provide full power. Several suppliers were identified and relays were immediately procured with expedited shipment. A new relay was received and installed into CTG-2B's electrical system on March 21 and this unit was successfully test operated the same day once the new relay was installed.

Stack Emissions Testing was conducted in March for both CTGs as required by Deer Island's Title V Air Permit. Emissions testing for CTG-1A was performed on March 12 and March 13 and testing was performed on March 27 and March 28 for CTG-2B. Complete emissions testing is required once every five (5) years and was last conducted in March 2014. Emissions testing was conducted on the exhaust stacks of both CTGs (one unit at a time) and also reestablishes parametric emissions curves for CTG operation at various operating loads to full load to allow for nitrogen oxides (NOx) emission rate reporting under the Federal NOx Budget Trading Program. In addition to the development of new emissions curves, the test program also collected measurements to demonstrate compliance with the emission limits as listed in the Title V Air Permit including particulates testing and smoke reader evaluations. The emissions were tested for NOx, carbon monoxide (CO), and non-methane hydrocarbons (NMHC) at four (4) operating load conditions (30%, 50%, 70%, and 100%), and for specified operating durations. Non-methane hydrocarbons is also referred to as volatile organic compounds (VOC). Filterable particulate matter (FPM) and condensable particulate matter (CPM) were tested at the 100% load operating condition. The purpose of this test program is to quantify the controlled emissions of NOx, CO, NMHC, FPM, and CPM and to compare the results to the applicable emission limits as promulgated by the Massachusetts Department of Environmental Protection (MADEP) and the United States Environmental Protection Agency (USEPA). The contractor is in the process of preparing the final report.

Clinton AWWTP:

- #1 Elevator: Replaced buckets, shafts, gears, and cables.
- #1 Grit Screw: Replaced packing.
- #1 Primary Clarifier: Repaired cross collector and longitudinal drives.
- #2 Final Clarifier: Replaced 10" RAS valve.
- #2 Belt Filter Press Sludge Supply Pump: Replaced rotor and stator.

Phosphorus Reduction Facility:

Work completed or in progress during the Second Quarter:
Added vacuum breakers to chemical piping.
Started plant and chemical flow to Phosphorus Reduction Facility
Acid washed and inspected #1,2, &3 disk filters.

Painting and Coatings contract:

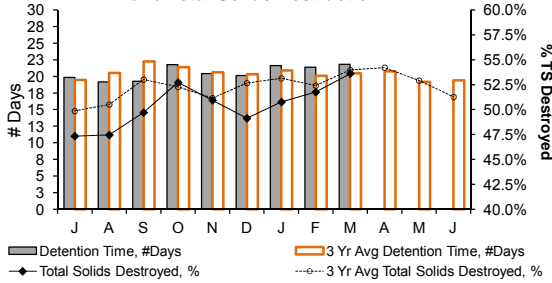
Contractor has completed bead blasting and painting piping in the Chemical Building Basement.

Deer Island Operations and Residuals

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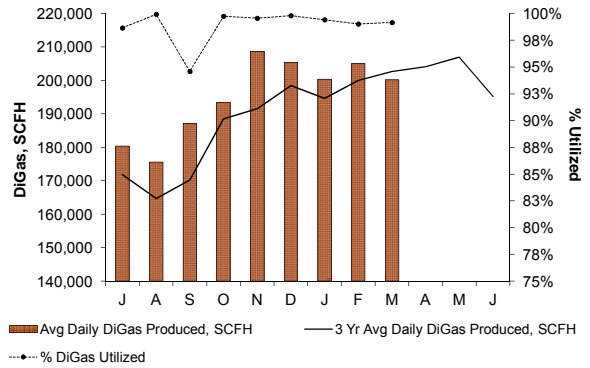
Sludge Detention Time in Digesters and Total Solids Destruction



Total solids (TS) destruction following anaerobic sludge digestion averaged 51.9% during the 3rd Quarter, 2.4% below the 3 year average of 53.2% even though the sludge detention time in the digesters was 5.5% above target at 21.6 days. DI operated with an average of 8.0 digesters similar to the 3 year average. TS destruction was lower than expected partially due to a higher secondary waste sludge content than was expected which reduces the overall destruction of the sludge during the digestion process.

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

Digester Gas Production and % Utilized

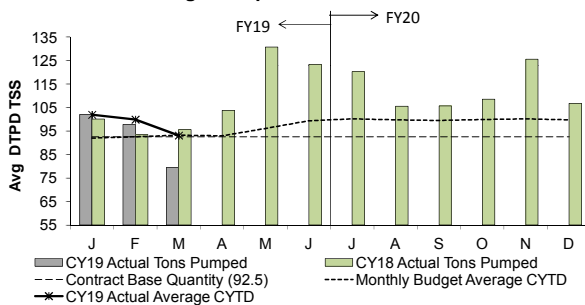


The Avg Daily DiGas Production in the 3rd Quarter was 1.4% above target with the 3 Year Avg Daily DiGas Production. On average, 99.2% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant.

Residuals Pellet Plant

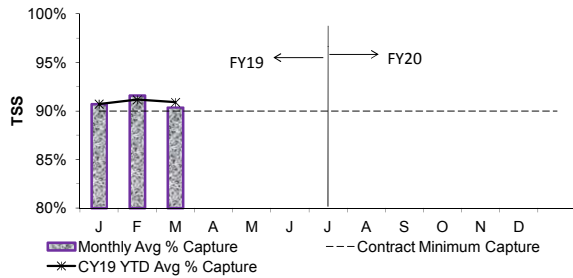
New England Fertilizer Company (NEFCO) operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 92.5 DTPD/TSS as an annual average. The monthly invoice is based on 92.5 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 92.5 DTPD/TSS each year (FY19's budget is 98.9 DTPD/TSS and FY20's preliminary budget is 100.9 DTPD/TSS).

Sludge Pumped From Deer Island



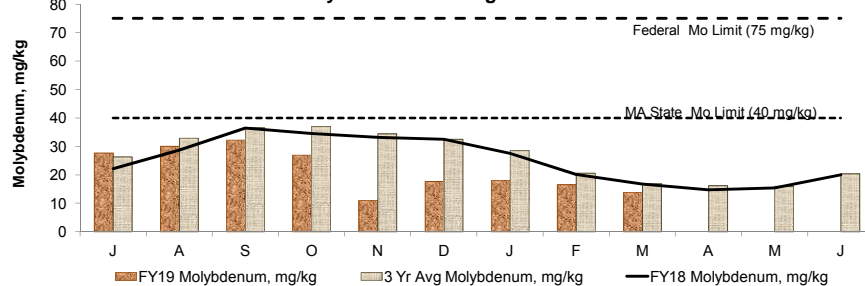
The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 3rd Quarter and for CY19 to date was 93.1 TSS Dry Tons Per Day (DTPD) - on target (-0.1%) with the FY19 budget of 93.2 TSS DTPD for the same period. Sludge delivered to the BPF was higher than expected in January and February but was lower than expected in March.

Monthly Average % Capture of Processed Sludge



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 3rd Quarter and for CY19 to date was 90.9%.

Molybdenum in Sludge Fertilizer Pellets



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

The levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 3rd Quarter averaged 14.6 mg/kg, 34% below the 3 year average, 64% below the MA State Limit, and 81% below the Federal Limit.

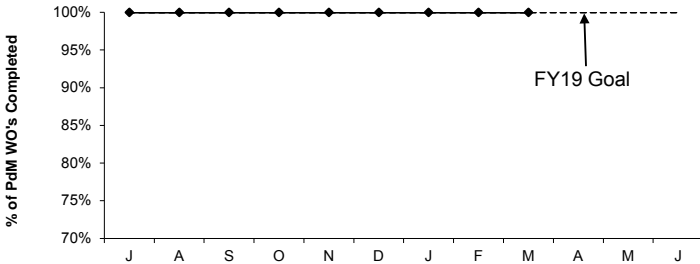
Deer Island Maintenance

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Productivity Initiatives

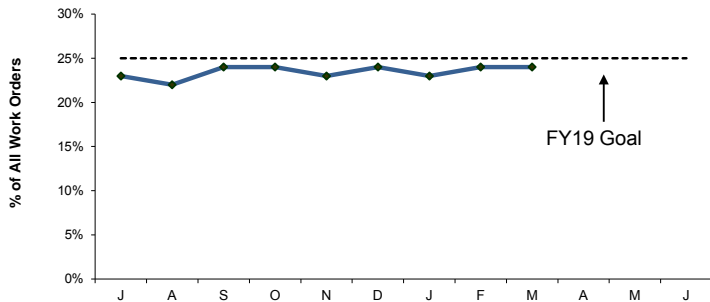
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

Predictive Maintenance Compliance



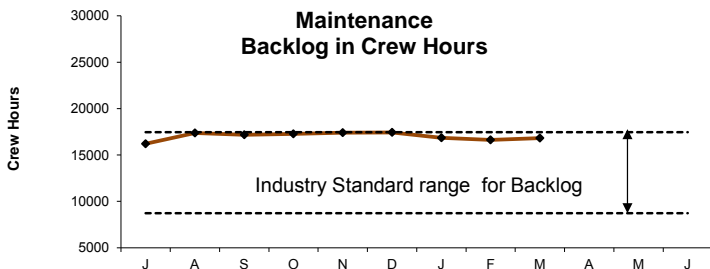
Deer Island's FY19 predictive maintenance goal is 100%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.

Predictive Maintenance



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

Maintenance Backlog in Crew Hours

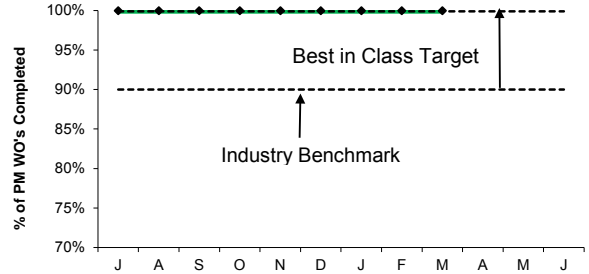


DITP's maintenance backlog at Deer Island is 16,810 hours this quarter. DITP is at the upper end of the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by six vacancies; (1) HVAC Technician, (2) Plumber, (2) Electricians and (1) Instrument Technician. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

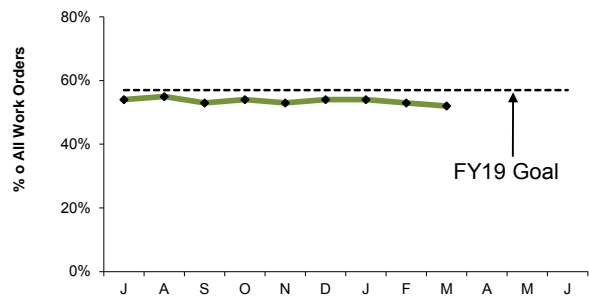
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

Preventive Maintenance Compliance



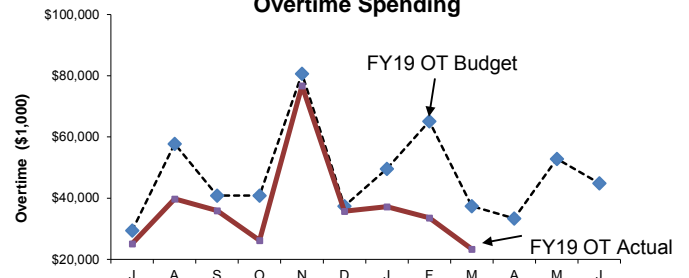
Deer Island's FY19 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 100% of all PM work orders this quarter.

Maintenance Kitting



Deer Island's increased FY19 maintenance kitting goal is 57% of all work orders to be kitted. 53% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

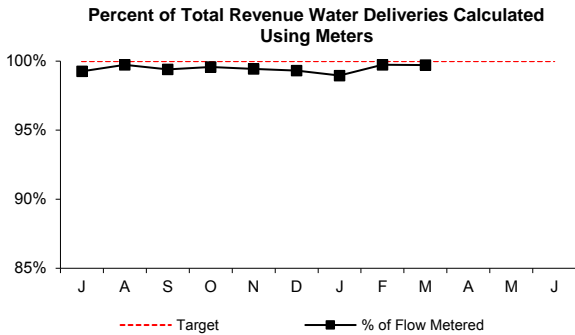
Overtime Spending



Maintenance overtime was under budget by \$55K this quarter and \$104k under for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime was predominately used for Storm Coverage/High Flows, Discharge Piping Repair for South Main Pump Station Raw Wastewater Pump #8 (SMPS AB:RWW.P-8), Residuals Odor Control Fan #2, and Cryo Multi Stage Compressor 3B/C Repairs.

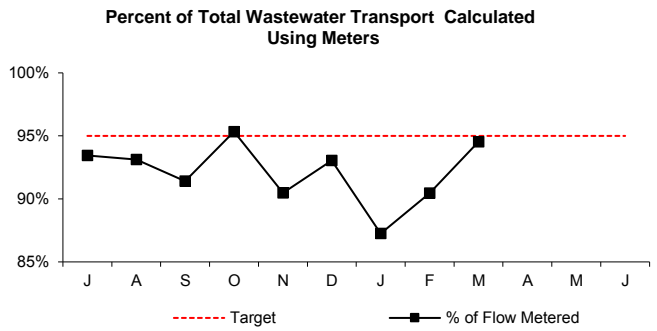
Operations Division Metering & Reliability 3rd Quarter - FY19

WATER METERS



The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 3rd quarter of FY19, meter actuals accounted for 99.47% of flow; only 0.53% of total revenue water deliveries were estimated. The following is the breakdown of reasons for estimations:
In-house and Capital Construction Projects - 0.25%
Instrumentation Failure - 0.26%

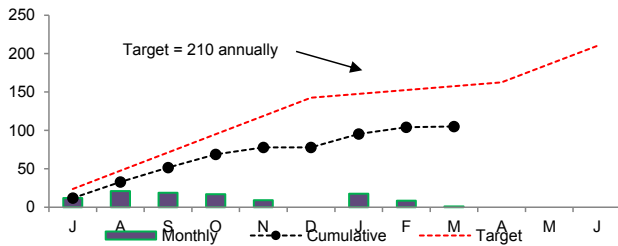
WASTEWATER METERS



The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions. During the 3rd quarter of FY19, meter actuals accounted for 90.75% of flow. Due to instrumentation failures, 9.25% of wastewater transport flow was estimated. 23% of the estimated flow (2.15% of total flow) was calculated using Mannings formula based on measured depth of flow where only velocity measures were missing.

WATER DISTRIBUTION SYSTEM PIPELINES

Miles Surveyed for Leaks



During the 3rd Quarter, 27.3 miles of water mains were inspected. The total inspected for the fiscal year to date is 105.18

Leak Backlog Summary													
Month	J	A	S	O	N	D	J	F	M	A	M	J	Totals
Leaks Detected	1	4	4	1	0	1	3	2	1				17
Leaks Repaired	0	1	3	7	2	1	1	1	4				20
Backlog	10	13	14	8	6	6	8	9	6				n/a

During the 3rd Quarter, six new leaks were detected, six leaks were repaired. Refer to FY19 Leak Report below for details. Also, community service ranging from individual leak location to hydrant surveys were conducted for: Arlington, Chelsea, Framingham, Lynn, Marlborough, Medford, Milton, Newton, Revere, Saugus, Somerville, Somerville-Alewife Sewer P.S., Swampscott and Wellesley. (Note: An August 2018 leak repair was inadvertently omitted until last month. *Chart updated above)

3rd Quarter - FY 19 Leak Report

Date Detected	Location of Leaks	Repaired
04/20/18	#634 Mystic Ave. @ Mt. Vernon, Somerville	08/03/18
07/16/18	683 Boylston St., @ Lee St. Brookline	09/11/18
09/03/18	#2 Lynn Fells Pkwy., exit. Stoneham	09/05/18
09/07/18	Waverly Oaks Road. Waltham	09/15/18
11/20/17	Peabody St. @ Washington St., Newton	10/24/18
11/26/17	Nonantum Rd. @ Maple St., Newton	10/24/18
08/01/18	Morton St. @ Forest Hills Ave., W. Roxbury	10/25/18
08/08/18	Morton St. @ Forest Hills Cemetary, W. Roxbury	10/31/18
09/21/18	Felton St. @ Water St., Waltham	10/02/18
09/27/18	Morton St. @ Norfolk St., Dorchester	10/31/18
10/20/18	Morton St. @ Norfolk St., #2, Dorchester	10/23/18
08/26/18	West St. @ Neponset River, Hyde Park	11/15/18
08/28/18	Morton St. @ Harvard St., Mattapan	11/19/18
12/16/18	Hicks Ave. @ Mystic Ave., Medford	12/17/18
01/02/19	Main St. @ Maddison St., Malden	01/09/19
01/25/19	#1105 Lexington St., Waltham/Lexington	02/14/19
02/19/19	Morton St. @ W. Main St., Mattapan	03/01/19
01/23/19	#286 Quinobequin Road, Newton	03/11/19
02/21/19	American Legion Highway, Mattapan	03/14/19
03/21/19	Alewife Brook Sewer P.S., Somerville	03/27/19

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

Water Distribution System Valves

3rd Quarter - FY19

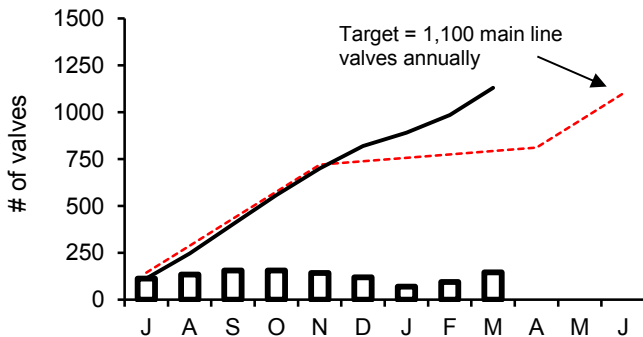
Background

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

Type of Valve	Inventory #	Operable Percentage	
		FY19 to Date	FY19 Targets
Main Line Valves	2,159	96.6%	95%
Blow-Off Valves	1,317	98.5%	95%
Air Release Valves	1,380	95.0%	95%
Control Valves	49	100.0%	95%

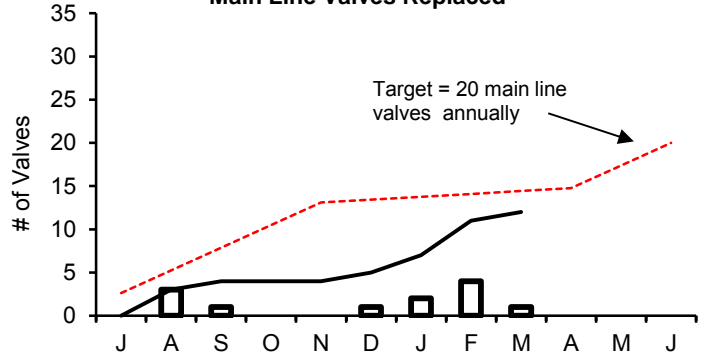


Main Line Valves Exercised



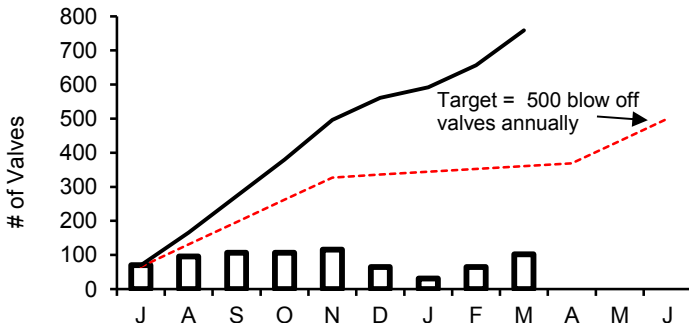
During the 3rd Quarter of FY19, 310 main line valves were exercised. The total exercised for the fiscal year to date is 1,130. Main Line Valves Exercised have exceeded the target due to full staffing and CIP projects coming to completion.

Main Line Valves Replaced



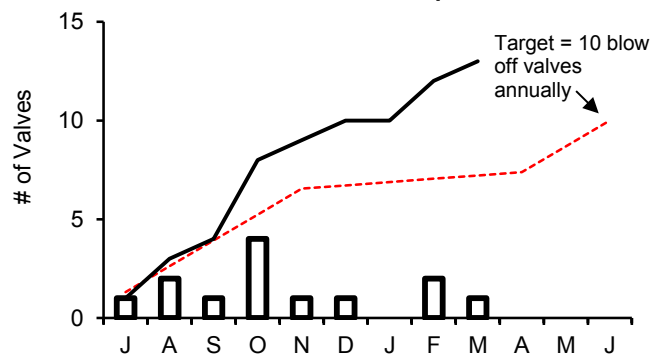
During the 3rd Quarter of FY19, there were seven main line valves replaced. The total replaced for the fiscal year to date is twelve. Focus has been on Blow-Off valve replacements related to available pipeline isolations.

Blow-Off Valves Exercised



During the 3rd Quarter of FY19, 198 blow off valves were exercised. The total exercised for the fiscal year to date is 759. Valve exercising has exceeded the target due to full staffing and CIP projects coming to completion.

Blow-Off Valves Replaced



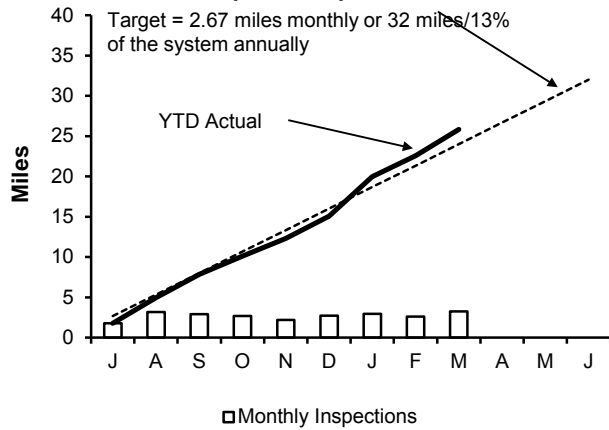
During the 3rd Quarter of FY19, there were three blow off valves replaced. The total replaced for the fiscal year to date is thirteen. Blow off valve retrofit project schedules have been driven by requested community roadway reconstruction projects.

Wastewater Pipeline and Structure Inspections and Maintenance

3rd Quarter - FY19

Inspections

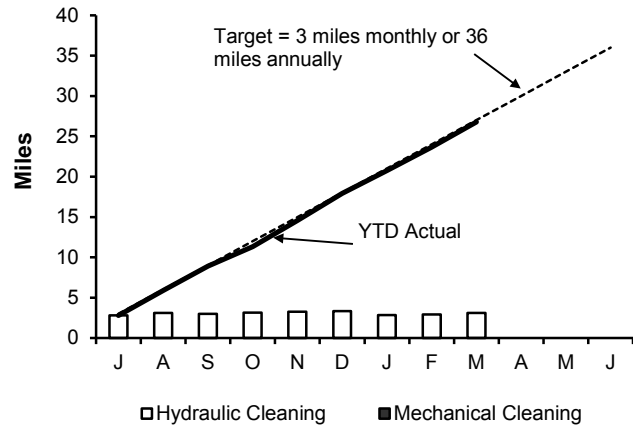
Pipeline Inspections



Staff internally inspected 8.79 miles of MWRA sewer pipeline during this quarter. The year to date total is 25.83 miles. No Community Assistance was provided this quarter.

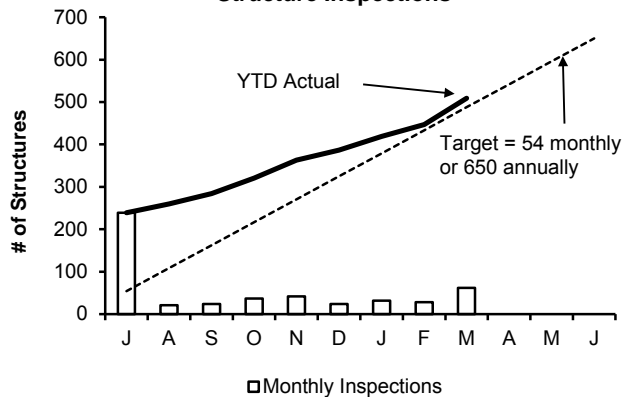
Maintenance

Pipeline Cleaning



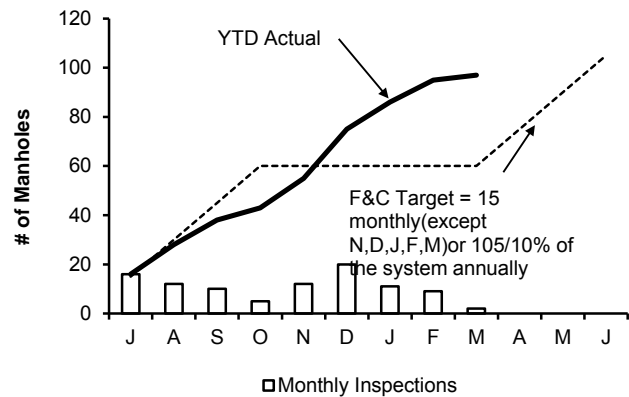
Staff cleaned 8.85 miles of MWRA's sewer system and removed 37 yards of grit and debris during this quarter. The year to date total is 26.78 miles. No Community Assistance was provided this quarter.

Structure Inspections



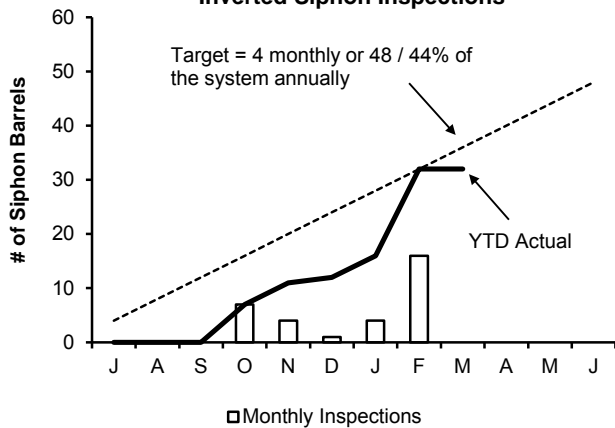
Staff inspected the 36 CSO structures and performed 86 additional manhole/structure inspections during this quarter. The year to date total is 509 inspections.

Manhole Rehabilitation



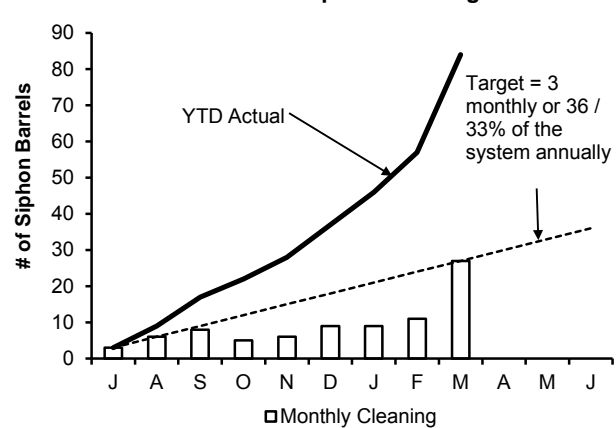
Staff replaced 22 frames & covers during this quarter. The year to date total is 97.

Inverted Siphon Inspections



Staff inspected 20 siphon barrels this quarter. Year to date total is 32 inspections.

Inverted Siphon Cleaning

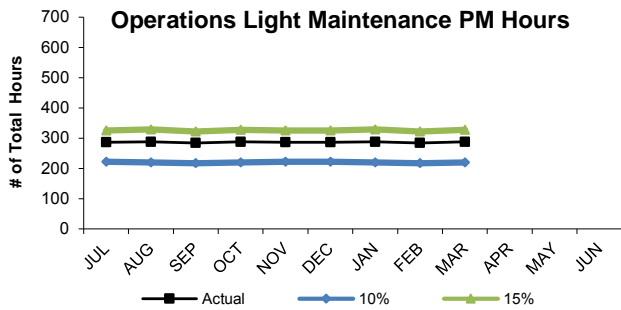


Staff cleaned 47 siphon barrels during this quarter. Year to date total is 84.

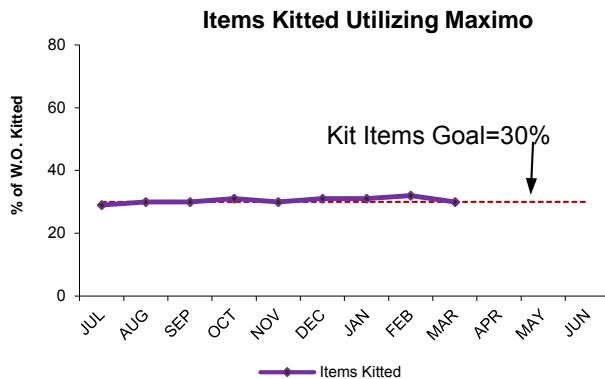
Field Operations' Metropolitan Equipment & Facility Maintenance

3rd Quarter - FY19

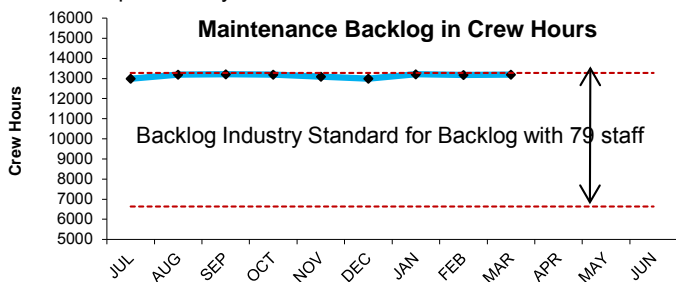
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus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



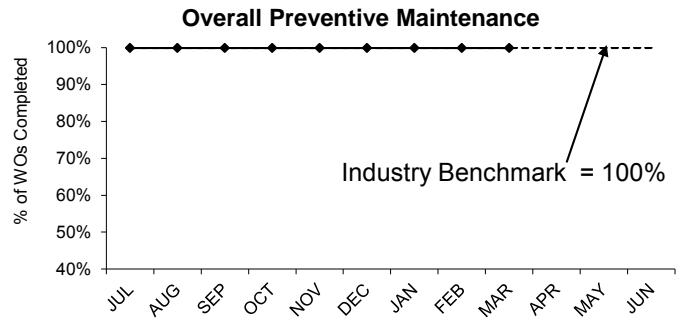
Operations staff averaged 287 hours of preventive maintenance during the 3rd Quarter, an average of 14% of the total PM hours for the 3rd Quarter, which is within the industry benchmark of 10% to 15%.



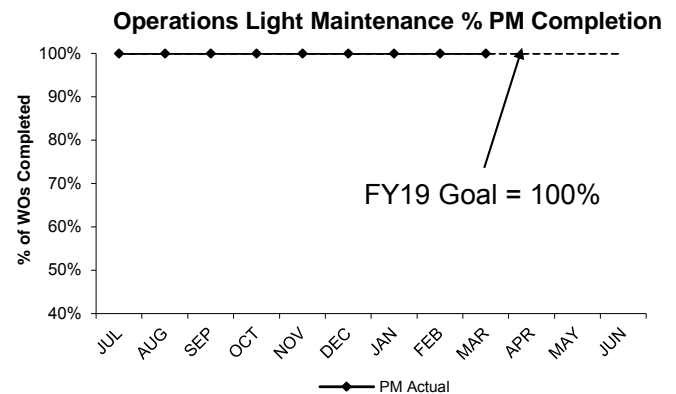
Operation's FY19 maintenance kitting goal has been set at 30% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 3rd Quarter, 31% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



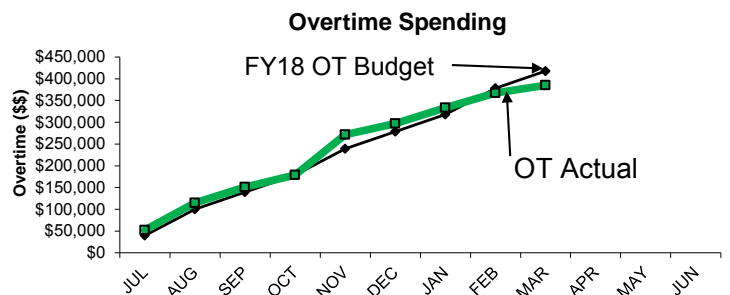
The 3rd Quarter backlog average is 13196 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6636 to 13275 hours.



The Field Operations Department (FOD) preventive maintenance goal for FY19 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 3rd Quarter.



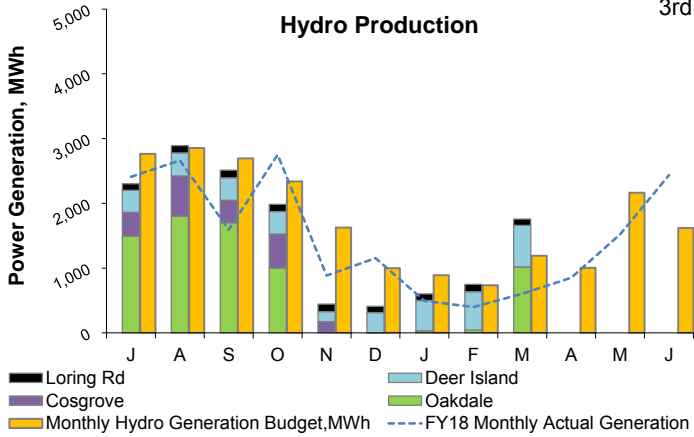
Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY19 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 3rd Quarter.



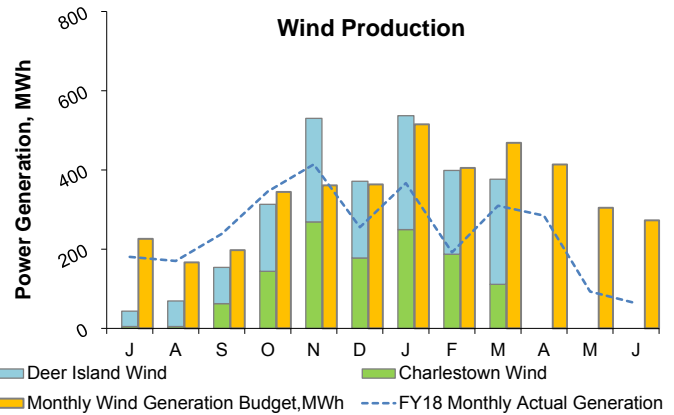
Maintenance overtime was \$29k under budget for the 3rd Quarter. Overtime was used for critical maintenance repairs. Overtime for FY19 is \$385k which is currently \$33k under budget for the fiscal year.

Renewable Electricity Generation: Savings and Revenue

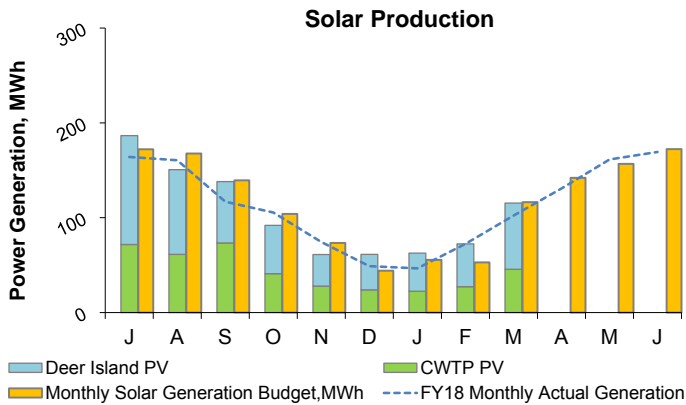
3rd Quarter - FY19



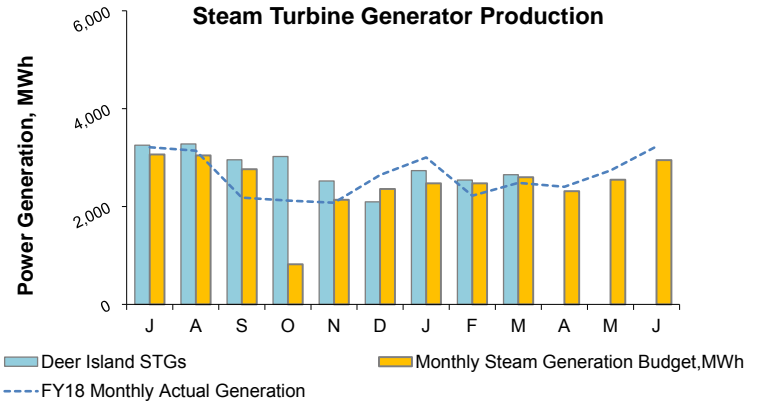
In the 3rd Quarter, the renewable energy produced from all hydro turbines totaled 3,107 MWh; 10% above budget³. The total energy produced to date in FY19 is 13,655 MWh; 15% below budget³ primarily due to Cosgrove generation values having been underestimated by the utility company and Oakdale being offline. The utility data for Cosgrove is typically corrected and reconciled in later months of the year. The total savings and revenue² to date in FY19 (actuals through December¹) is \$615,372; 11% below budget³, due to the reasons stated above. The savings and revenue value does not include RPS REC revenue (see next page).



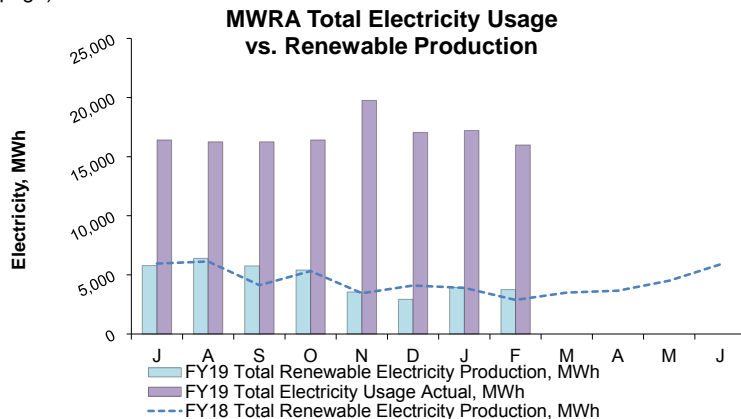
In the 3rd Quarter, the renewable energy produced from all wind turbines totaled 1,312 MWh; 5% below budget³. The total energy produced to date in FY19 is 2,794 MWh; 8% below budget³, mostly due to Charlestown Wind generation values being underestimated by the utility company. The total savings and revenue² to date in FY19 (actuals through December¹) is \$216,759; 6% below budget³, due to the reasons stated above. The savings and revenue value does not include RPS REC revenue (see next page).



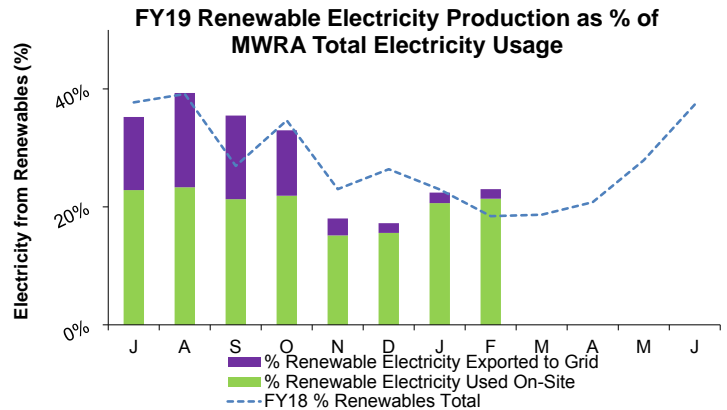
In the 3rd Quarter, the renewable energy produced from all solar PV systems totaled 250 MWh; 11% above budget³. The total energy produced to date in FY19 is 940 MWh; 2% above budget³. The total savings and revenue² to date in FY19 (actuals through December¹) is \$90,162; 7% above budget³. The savings and revenue value does not include RPS REC revenue (see next page).



In the 3rd Quarter, the renewable energy produced from all steam turbine generators totaled 7,923 MWh; 5% above budget³. The total energy produced to date in FY19 is 25,051 MWh; 15% above budget³. The total savings and revenue² to date in FY19 (actuals through December¹) is \$1,601,724; 32% above budget³. The savings and revenue value does not include RPS REC revenue (see next page).



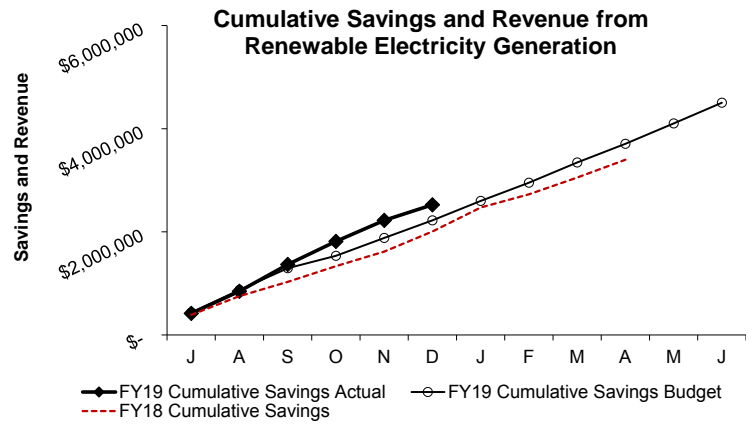
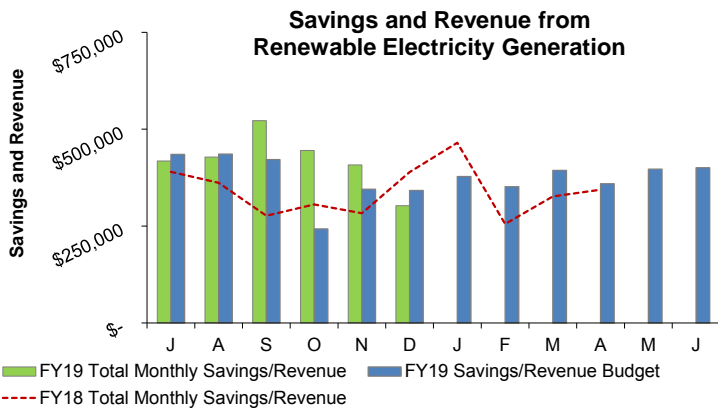
In the first 8 months of FY19, MWRA's electricity generation by renewable resources totaled 37,543 MWh. MWRA's total electricity usage was approximately 135,345 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget. In the first 8 months of FY19, green power generation represented approximately 28% of total electricity usage. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.



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

Renewable Electricity Generation: Savings and Revenue

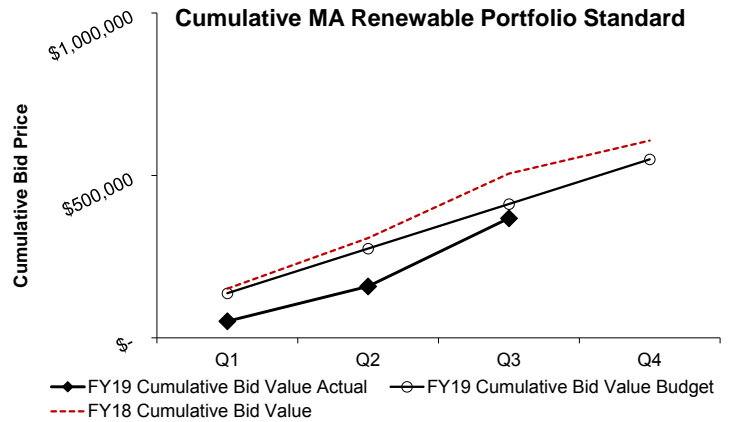
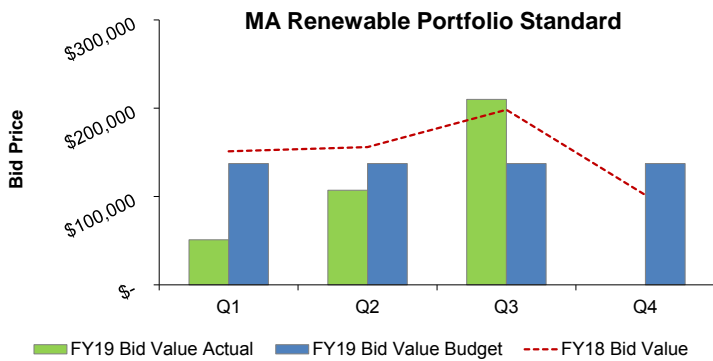
3rd Quarter - FY19



Savings and revenue from MWRA renewable electricity generation in the first half of FY19 (actuals only through December¹) is \$2,524,017; which is 14% above budget³.

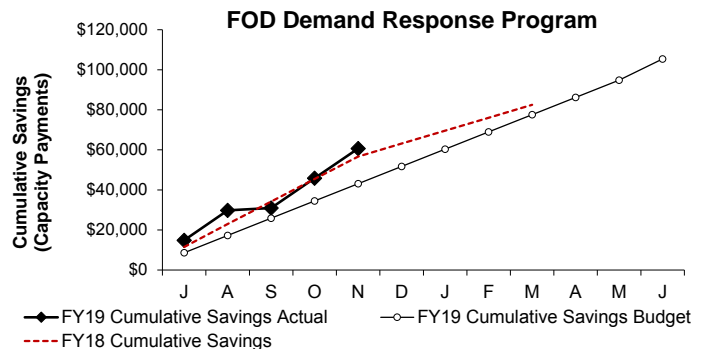
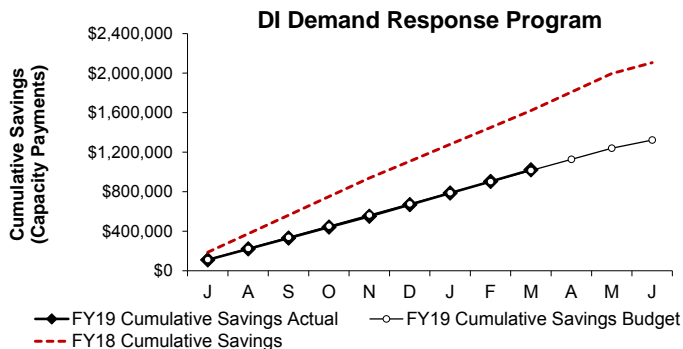
Savings and revenue² from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs).

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



Bids were awarded during the 3rd Quarter¹ from MWRA's Class 1, Class 2, and Solar REC renewable energy assets; 8,319 Q3 CY2018 Class I Renewable Energy Certificates (RECs), 5,031 Q3 CY2018 Class 2 RECs, and 95 Q3 CY2018 Solar RECs (SRECs) were sold for a total value of \$209,943 RPS revenue; which is 53% above budget³ for the Quarter. This is mainly due to Class 2 REC production being 87% over budget for the Quarter.

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



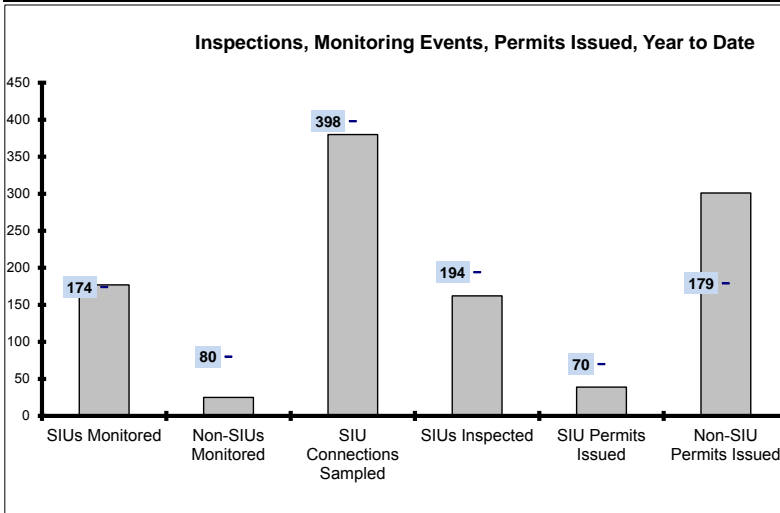
Currently Deer Island, JCWTP, and Loring Rd participate in the ISO-New England Demand Response Programs⁴. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from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

FY19 Cumulative savings (Capacity Payments only) total \$1,021,522 for Deer Island through March and \$60,684 for FOD through November¹.

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

Toxic Reduction and Control

3rd Quarter - FY19



EPA Required SIU Monitoring Events for FY19: 174
YTD : **177**

Required Non-SIU Monitoring Events for FY19: 80
YTD : **25**

SIU Connections to be Sampled For FY19: 398
YTD: **380**

EPA Required SIU Inspections for FY19: 194
YTD: **162**

SIU Permits due to Expire In FY19: 70
YTD: **39**

Non-SIU Permits due to Expire for FY19: 179
YTD: **301**

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

During the compilation of monitoring events for March, an error was identified. Samples collected by two sample associates were not showing in TRAC's reports; as a result, monitoring events for this fiscal year have been under reported. This error has been corrected for the third quarter. TRAC has completed almost all of its EPA required SIU monitoring events and connections. TRAC is focusing on completing the required non-SIU monitoring events during the last quarter of the fiscal year, as only about one third of those events have been completed.

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

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

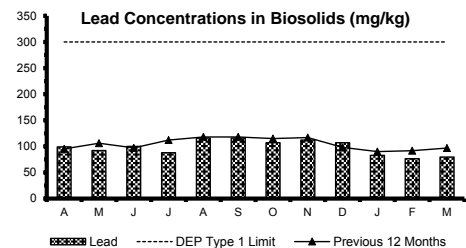
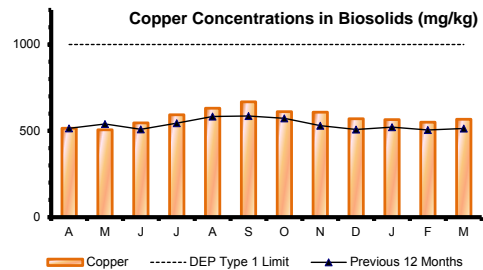
	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	11	0	1	1	3	2	15
Aug	2	122	1	1	0	2	3	125
Sep	2	14	0	2	1	5	3	21
Oct	3	16	0	7	0	14	3	37
Nov	2	10	0	2	0	7	2	19
Dec	5	4	0	4	0	2	5	10
Jan	3	12	0	3	0	3	3	18
Feb	9	18	0	2	0	4	9	24
Mar	9	24	0	2	0	6	9	32
Apr								
May								
Jun								
% YTD	92%	77%	3%	8%	5%	15%	39	301

In the 3rd Quarter of FY19, 95 permits were issued, 21 of which were SIUs. All twenty-one of the SIU permits were issued within 120 days. EPA requires MWRA to issue or renew 90% of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10% of SIU permits to be issued within 180 days. TRAC anticipates that it will meet both its target for SIU permit issuance and that the remaining SIU permits will be ready for issuance within the 120 day timeframe.

79% of all permits issued during the third quarter were issued in the 120 day timeframe, 7% in the 120-180 days timeframe, and the remaining 14% after 180 days. The workflow issues resulting from staff turnover earlier in the fiscal year have been addressed and any future permit issuances exceeding 180 days should be attributable to circumstances out of the control of TRAC, such as: waiting for data from an industry, approval from the municipality in which the industry was operating or intended to operate, or the late payment of a permit fee.

Two SIU permits for the Clinton Sewerage Service area were issued during the third quarter of this fiscal year, both within the 90 day timeframe.

Although TRAC has only issued 39 SIU permits to date (56% of fiscal year goal), it is anticipated that TRAC will meet this goal. A majority of the SIU permits expiring in FY19 are expiring at the end of the fiscal year.



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

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

Field Operations Highlights

3rd Quarter – FY19

Western Water Operations and Maintenance

Carroll Water Treatment: Staff completed the half plant operations, flushed the upper MetroWest tunnel system, and placed the treatment process in full plant operations in preparation.

Wachusett Reservoir and Lower Gatehouse: Management Staff, along with Reservoir Operations Staff, operated the crest gate to control the reservoir elevation. Staff worked with Engineering and Consultants to address concerns within the piping and structure of the lower gatehouse and Bastion Buildings. Staff installed a temporary fence along River Road access to decrease travel to one lane.

Reservoir Operations: Staff continued to monitor the seep discovered at Schencks Pond Dam in January. Response included lowering Schencks operating band by closing transfers and adjusting outlet releases. Staff also responded to a new seepage condition discovered at Chestnut Hill Reservoir in March. Response included lowering operating band, and lowering pool. Seep *in situ* controls were placed and water quality was monitored

Metro Water Operations and Maintenance

Valve Program Section 57 was refilled, flushed, and disinfected after the completion of the internal inspection in December. The disinfection was performed by segmenting the water main in half using isolation valves. The eastern portion of the main was returned to service in late January, and the western portion of the main returned to service in February. Valve operations were provided for in-house, CIP, and 8M permit work. Also included was the isolation of Section 29 and the 60" Spot Pond bypass line to support the Section 110 CIP Contract. The isolation of the Spot Pond bypass line required that the Spot Pond covered storage tanks be placed in float operation as opposed to normal flow-through operation. Service in the Northern Extra Low Service are remained normally through the isolation and following system reconfiguration. Activation of the Spot Pond Bypass Line allowed for the return of the Northern Extra Low Service system to its normal configuration and the flow-through operation of the Spot Pond covered storage tanks in mid-March.

Water Pipeline Program: Six leaks were repaired during this quarter. Staff excavated a suspected leak on Section 80 near Recreation Road in Weston. The leak was found on the insulating flange and is covered under warranty. The contractor mobilized and repaired the leak. Six valves were replaced or installed, and blow-off retrofit work was completed on two BOVs at the Cassidy Field at Cleveland Circle. Leak detection was performed on 27.3 miles of MWRA water main, and community assistance was provided to Arlington, Alewife Brook Pump Station (MWRA wastewater), Chelsea, Framingham, Lynn, Marlboro, Medford, Milton, Newton, Revere, Saugus, Somerville, Swampscott, and Wellesley.

Northern Extra High Service/Park Circle/Turkey Hill Tanks: The Turkey Hill Tanks are being painted this season. To provide service during construction, the Park Circle Tank (normally inactive) has been reactivated. Piping and valve work was performed at Park Circle during the first part of this quarter to prepare the tank to enter service. The Park Circle Tank was filled, disinfected, sampled, and placed into service on February 20. Turkey Hill Tank was isolated, drained, and turned over to the contractor for painting in March. Activation of the Park Circle Tank maintains two active tanks in the Northern Extra High Service area as the Walnut Hill Tank remains in service. The Park Circle Tank will remain in service until the Turkey Hill Tank is returned to service with the completion of its painting. Northern Extra High service remains normal.

Operations Engineering

Control System Upgrades PLC: Operations Engineering continues to work to upgrade Control Systems PLC at the Carroll Water Treatment Plant, the Brusch Treatment Plant, Boston 19 and Framingham. The manufacturer no longer supports these systems and upgrades are necessary. Arcadis was awarded the contract for the upgrade design at the Carroll Water Treatment Plant. They completed an extensive site evaluation in March.

Community Emergency Response Training Program: Emergency response training required by DEP, is being provided by MWRA staff and is being delivered to local staff from the MWRA water communities and MWRA.

Community Water Quality Meetings: Operations Engineering, Planning and Water Quality Assurance meet with the communities to discuss current DEP policies, water quality, hydraulics, lead and MWRA loan programs. This quarter we met with the City of Revere.

Wastewater Operations & Maintenance

Wastewater Operations

Remote Headworks Upgrades: Wastewater Operations Staff continues to work with Engineering & Construction Staff and the Contractor on the Remote Headworks Upgrades Project. Operations Staff attended biweekly construction coordination meetings with Construction & Engineering Staff, the Contractor and the Consultants. Channel #1 was turned over to the contractor for rehabilitation at the beginning of January 2018. Operations Staff attended multiple review meetings in FY19 3rd Quarter, including reviews on the grit pod cut-in plan and the odor control system. Staff attended a Channel #1 Startup Meeting on 03/15/19 and a Channel #1 Punch List Walk-Through Meeting at the facility on 03/27/19. Vendor training for Channel #1 started in January 2019 and continued throughout the quarter. The installation of the #1 Influent Gate started in January 2019 and was completed in March.

Alewife Brook Pump Station Rehabilitation-Contract: Wastewater Operations Staff is working with Construction Staff and the Contractor for this project. The bypass pumping system was placed in service and the facility pumps were taken out of service on 01/02/18. Operations Staff attended the monthly coordination meeting onsite at the facility. Operations staffed the facility when the facility pumps were placed in service and the bypass pumping system was decommissioned in February 2019. Staff also remotely monitored the operation of the bypass pumping system during the rain events at the beginning of the quarter. Facility training was ongoing in March 2019.

DeLauri Pump Station Replacement of Bar Screens and Security Upgrades: Wastewater Operations Staff continues to work with Engineering & Construction Staff on this project. Channel #1 was turned over to the contractor for screen replacement in October 2018. Operations Staff attended the biweekly coordination meetings onsite at the facility. The 14-day Wet Test for Screen #1 was completed successfully in January and the 14-day Wet Test for Screen #2 was completed successfully in March.

- SOP Development for Wastewater Operations: Operations Staff continued to work with the Process Control Staff to develop "simple" SOPs for Wastewater Operators during FY19 3rd Quarter.
-
- Nut Island Isolation Testing: Operations Staff worked with the Process Control Staff to develop procedures to test the isolation of Nut Island. The isolation testing is scheduled to take place in May 2019.
-
- Braintree Weymouth Pump Station Rehabilitation Project-Contract #7435: Staff attended monthly progress meetings throughout the quarter. Operations Staff attended an onsite meeting with Engineering & Construction Staff and the Consultant on 01/10/19 to review the project scope. Operations Staff went to the Greater Lawrence Sanitary District and the Nashua, NH WWTP with the Engineering Staff and the Consultant (Wright Pierce) inspected screens and screening presses that may be proposed for this project on 02/27/19.
-
- Nut Island Safety Audit: Operations Staff took part in a voluntary safety audit of Nut Island Headworks with the Massachusetts Department of Labor Standards (DLS) and Authority Safety Staff. Overall, the DLS Representative thought the facility was in great condition and recommended a few minor corrective actions. Operations Staff reviewed the DLS Audit report with the Manager of Occupational Health & Safety on 02/13/19 to ensure all action items have been addressed.
-
- Shaft Inspection Project: Operations Staff attended meetings on 02/13/19 and 02/25/19 to review the proposed shutdown plan for inspecting the effluent shaft at the Chelsea Creek Headworks during low flow conditions (early a.m. hours).
-
- Flood Protection Meeting with FM Global: Operations Staff attended a meeting on 02/15/19 with MWRA's insurance provider, FM Global, to review the flood protection program for MWRA facilities.

Field Operations Highlights

3rd Quarter – FY19

North Dorchester Bay Storage Tunnel: Operations Staff attended a meeting with internal staff and AECOM to plan the internal inspection of the North Dorchester Bay Storage Tunnel on 03/05/19.

Union Park SCADA Security: Operations Staff met with the security company that is reviewing SCADA security at the Union Park CSO Facility with Woodard & Curran on 03/29/19.

Metro Equipment and Facility Maintenance

Chelsea Maintenance Facility: HVAC Technicians installed a split A/C unit in the office area of the Chelsea Maintenance Facility.

Prison Point CSO and Gillis Pump Station: Mechanics replaced the engine start batteries for the emergency generators.

Ward Street Headworks: Mechanics repaired the rake for the #2 Screen.

IPS and Nut Island: Machinists fabricated spare shafts for the facility grit and screening conveyors.

Lexington Street Pump Station: MWRA electricians replaced and repaired all emergency lights at the Lexington Street Pump Station.

DeLauri Pump Station: MWRA machinist and welders fabricated and installed a safety screen for the #1 Screen.

New Neponset Pump Station: MWRA electrician, machinist and mechanic install and laser aligned a new motor for the #2 Pumping Unit.

Chelsea Administration Building: MWRA plumber working with wastewater pipeline staff unclogged the main drain for the Administration Building.

Chelsea Maintenance Building: Electrical and Plumbing Crews built a new welding area in the machine shop.

Nut Island: MWRA electricians installed a new ultra sonic level transmitter to control the operation of the dewatering pumps. This work required extensive conduit runs, hole coring and wire pulls.

Hyde Park Pump Station: MWRA HVAC specialists installed a new split A/C unit in the Facility Control Room.

Nut Island: MWRA mechanics replaced the #4 Scour Pump.

Prison Point: MWRA plumbers rehabilitated the #2 Tank washdown piping. This work consisted of removal of the existing piping and hangers to install new grooved stainless steel piping and pipe hangers.

Metering

Community Assistance: On 22 separate occasions, staff contacted member communities to inform them of increased water usage possibly indicative of underground leakage.

TRAC

During this quarter, TRAC issued 3 Cease and Desist Orders, 1 Demand Letter, 2 Enforcement Orders, 16 Notices of Noncompliance, 65 Notices of Violation, 1 Notice of Proposed Permit Suspension, 4 Return to Permit Letters, and 3 Penalty Assessment Notices.

During this quarter, TRAC issued a total of 53 MWRA 8(m) Permits allowing companies to work within an easement or other property interest held by the Authority. Permits issued this quarter were issued in an average of 88 days from the date the application for 8(m) Permit was received by the MWRA.

TRAC Staff conducted 61 Annual SIU Inspections and 310 other inspections. Annual SIU Inspections are required under TRAC's EPA-approved Industrial Pretreatment Program. Other inspections include inspections for enforcement, permit renewal, NonSIU, followup, temporary construction dewatering sites, group/combined permit audits, out-of-business facility reviews, and surveys.

TRAC monitored the septage receiving sites a total of 33 times. Staff conducted 287 inspections of existing gasoline/oil separators, 21 new

construction gasoline/oil separators and 2 septage hauler permit-related inspections. 95 MWRA Sewer Use Discharge Permits (Permits) were issued and/or renewed to its sewer users.

Two Permits were issued to industries located in Clinton and one Permit was issued to an industry located in Lancaster. These permits were issued within 90 days of the expiration date of the company's previous permit.

TRAC issued 36 annual permits to municipalities in the Authority's sewerage service area.

Environmental Quality-Water

- Planning began for MWRA's biennial drinking water sampling training. EnQual and Department of Lab Services staff will train community samplers from MWRA's fully and partially served communities. Several sessions will be offered discussing chlorine residual testing, bacteriological sampling technique, and sample site investigations. DEP Drinking Water Program staff will also participate.
- ENQUAL Staff, in conjunction with other departments, met with DEP and EPA on March 12th. Status updates were provided on source and finished water quality and coliform trends. Other topics included changes to the CWTP UV action spectra correction factor and MWRA's storage tank cleaning or painting projects.

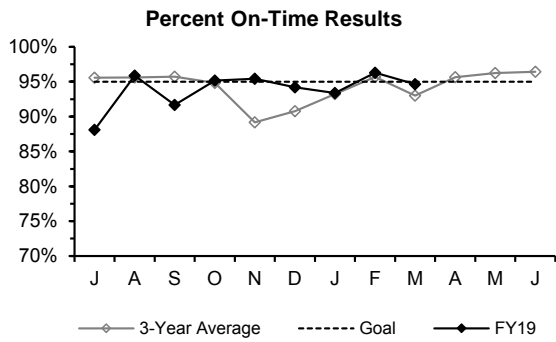
Staff trained Western Operations Staff for fuel oil delivery acceptance at the Southborough, Norumbega and Weston Facilities.

Environmental Quality-Wastewater

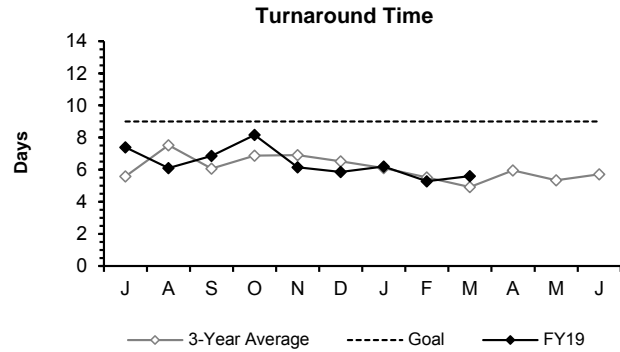
- Ambient Monitoring: Analysis of samples from 2018 monitoring was completed and the remaining Contingency Plan Threshold Tests were run (there were no exceedances). Analysis of the results from 2018 is underway, with an internal meeting scheduled for early April to evaluate the results. A meeting of EPA and DEP's Outfall Monitoring Science Advisory Panel is scheduled for April. This meeting will follow up on the November 2018 Ambient Monitoring Review Workshop and establish a framework for modifying MWRA's permit-attached Ambient Monitoring Plan. Field monitoring for 2019 has begun as has sample analysis.
- Harbor/CSO Monitoring: CSO receiving water monitoring in support of the water quality standards variance and the CSO assessment continued with wintertime shoreline sampling. No storm sampling was conducted. Biweekly harbor-wide monitoring continued.
- Permitting and Compliance Reporting: Completed routine monthly/quarterly discharge monitoring reporting. Submitted the annual O&M report/status sheets of key O&M indicators and the annual Nitrogen Removal Technologies Report, both as required by the Deer Island permit, reports on Deer Island and Clinton residuals, as well as a permit-required status report on optimization of the Phosphorus Removal Facility at Clinton. The O&M report for the Clinton collection system was also submitted. Staff assisted in the revision of the Clinton Operations and Maintenance Manual with Clinton and DITP Staff, as well as commenting specifically on the landfill portion of the manual. Posted near-real-time web updates for wet weather CSO discharges.
- Coordination with Other MWRA Departments: Continued to work with Engineering & Construction and the DCOO to address regulatory agency questions and concerns about the receiving water quality analysis portion of the CSO Post-Construction Monitoring & Performance Assessment Project. Worked with Laboratory Services to add a sampling location in the Charles to better characterize potential CSO impacts on water quality.
- Cooperation with Other Agencies: Provided letters of support for two UMass research proposals. Staff attended the NEWEA Annual Conference in Boston, as well as a MCWRS Workshop on PFAS/PFOA and CSO notification. Provided data to researchers at UMass, Dartmouth Division of Marine Fisheries, and a local yacht club interested in water quality. Participated in regional harmful algal bloom meeting with researchers and shell fishing regulators from Maine to Rhode Island to evaluate the results of 2018 studies and discuss research and monitoring plans for 2019. Participated in a DEP workshop on water quality standard updates.

Laboratory Services

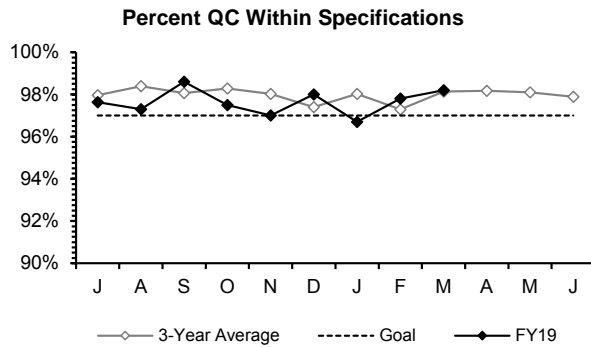
3rd Quarter - FY19



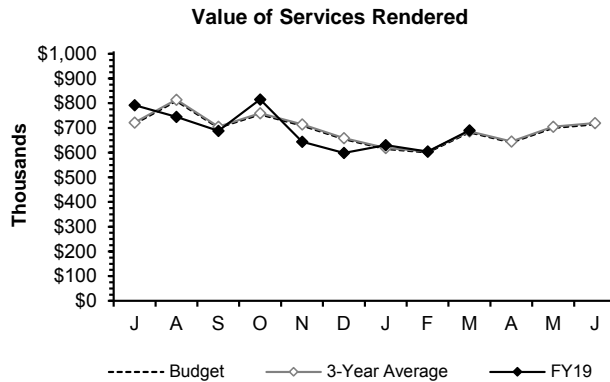
The Percent On-Time measurement was at or near the 95% goal.



Turnaround Time was faster than the 9-day goal.



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



Value of Services Rendered met the seasonally adjusted budget projection.

Highlights:

DEP Reporting:

MWRA Department of Laboratory Services completed our 10th year of electronic reporting of drinking water testing results to DEP via their eDEP interface. DEP recently ran a count and indicated that we have submitted >1,050,000 individual results in that time. We are the most active lab entity using the eDEP reporting system.

Proficiency Testing:

Passed >99% of annual chemistry proficiency tests required by DEP in our first round of testing for 2019 (378 out of 380 tests passed).

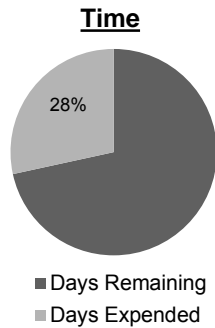
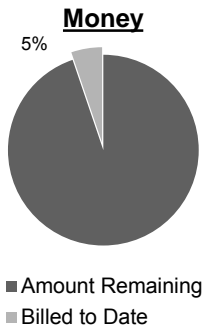
QA:

The Central Laboratory was accredited under the National Environmental Laboratory Accreditation Program by New Hampshire Department of Environmental Services. This is one part of a process required to allow our fecal coliform results for fertilizer pellets to be accepted by the state of Pennsylvania.

CONSTRUCTION PROGRAMS

Projects In Construction

3rd Quarter – FY19

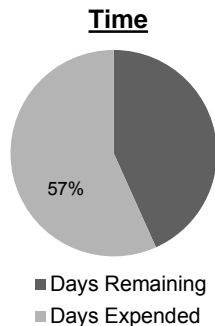
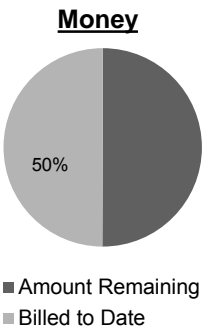


Southern Extra High Pipeline Section 111

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

Notice to Proceed: 10-Aug-2018 **Contract Completion:** 7-Nov-2020

Status and Issues: As of March the Contractor installed erosion control on Rustcraft Road and set up Mobile Message Units for traffic information.

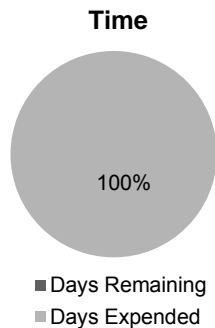
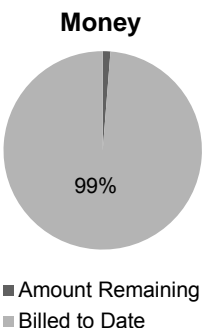


Chelsea Creek Headworks Upgrade

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

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

Status and Issues: As of March, the Contractor conducted Operational Readiness Testing and vendor training and Application Software Operational Readiness Testing for Channel 1. The Operators' SCADA and Facility Training for Channel 1 has been completed.

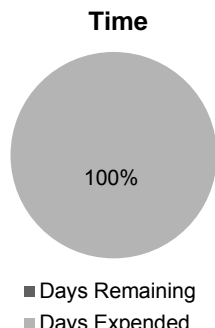
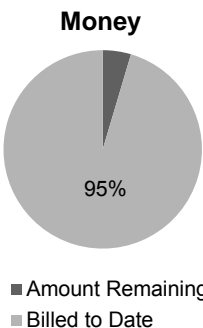


Wachusett Aqueduct Pumping Station

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

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

Status and Issues: Substantial completion was declared during February. The Contractor continues to work on punch list items.



Alewife Brook Pump Station Improvements

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

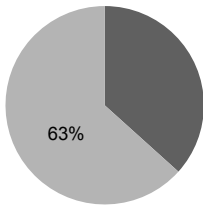
Notice to Proceed: 29-Jan-2016 **Contract Completion:** 14-Dec-2018

Status and Issues: As of March, the Contractor continued submitting shop drawings (O&Ms & 1080s), and completed the removal of the bypass pumping system. The subcontractors have continued demobilizing from the site.

Projects In Construction

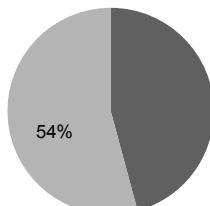
3rd Quarter – FY19

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

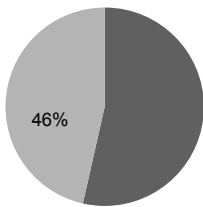
NIH Section 110 - Stoneham

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

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

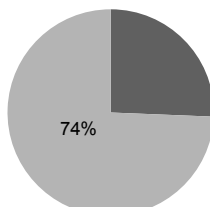
Status and Issues: As of March, the Contractor installed 225-LF of 48" DIP water main along Pond Street. They completed the Gillis Pump Station pipe installation and completed various structure work along the pipeline.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

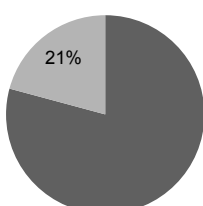
Winthrop Terminal VFD and Motor

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

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

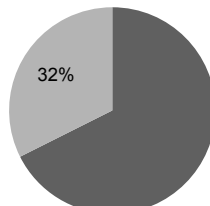
Status and Issues: VFD/Motor No. 2 commission testing is on-going.

Money



■ Amount Remaining
■ Billed to Date

Time



■ Days Remaining
■ Days Expended

Gravity Thickener Rehabilitation

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

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

Status and Issues: As of March, the Contractor completed the installation of the FRP cover and completed the installation of approximately 90% of the Gravity Thickener #1 mechanism.

CSO CONTROL PROGRAM

3rd Quarter – FY19

All 35 projects in the Long-Term CSO Control Plan were complete as of December 2015 in compliance with Schedule Seven. Of the \$910.1 million budget in the FY19 CIP for the CSO Control Program, approximately \$6.7 million remain to be spent. On April 17, 2019, the MWRA Board of Directors authorized Amendment 1 to CSO Contract 7572 in the amount of \$931,490 (described below), increasing the remaining amount to be spent on CSO control to approximately \$7.6 million.

Project/Item	Status as of March 31, 2019
<p>BWSC Dorchester Interceptor Inflow Removal</p>	<p>MWRA’s CIP and the MOU/FAA with BWSC included \$5.4 million for additional inflow removal from the BWSC Dorchester Interceptor system in the South Dorchester Bay Sewer Separation area, of which \$1.7 million was transferred to the BWSC MOU/FAA CSO account and \$1.6 million of that was withdrawn by BWSC to fund related design and construction work. On May 17, 2017, MWRA’s Board of Directors authorized removing the remaining \$3.8 million from the BWSC MOU/FAA (which ended on June 30, 2017) and including this funding amount in a separate, 4-year financial assistance agreement with BWSC effective July 1, 2017. The new agreement limits MWRA financial assistance to reimbursement of the eligible costs of BWSC construction work reviewed and approved by MWRA, up to \$3.8 million.</p> <p>BWSC recently completed sewer system evaluations and is preparing a construction contract for inflow removal that it plans to submit to MWRA for eligibility approval this fall.</p>
<p>City of Cambridge Memorandum of Understanding and Financial Assistance Agreement</p>	<p>The City of Cambridge attained substantial completion of its last project, CAM004 Sewer Separation, in December 2015 in compliance with Schedule Seven, and attained substantial completion of related surface restoration work by the end of 2017. MWRA made a final transfer of funds to the Cambridge CSO account in December 2017, in the amount of \$1,254,551, to cover eligible costs through June 30, 2018, when the 22 year-old, \$100.2 million MOU/FAA ended.</p> <p>Cambridge continues to support ongoing MWRA review of Cambridge’s completed construction contracts towards final eligibility certification by June 30, 2019.</p>
<p>MWRA CSO Performance Assessment – Contract 7572</p>	<p>MWRA issued the Notice to Proceed with the contract for CSO Post-Construction Monitoring and Performance Assessment to AECOM Technical Services, Inc., in November 2017. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality compliance assessments culminating in the submission of a report verifying attainment of court-ordered levels of CSO control to EPA and DEP in December 2020, in compliance with the last milestone in Schedule Seven. MWRA issued the first of five planned progress reports on November 30, 2018 and plans to issue the second progress report in April 2019. The progress reports present the analyses of rainfall and CSO meter data collected in the periods April 15 - June 30, 2018 and July 1 – December 31, 2018, respectively. The remaining progress reports will cover subsequent six-month data collection periods, as well as describe hydraulic model related activities. AECOM is making progress with the recalibration and verification of MWRA’s hydraulic model using CSO and sewer system data collected in 2018. Model recalibration and verification will bring the meter results and model predictions closer together to gain assurance of the accuracy of the model in predicting CSO discharges and verifying attainment of the Long Term Control Plan’s typical year levels of CSO control.</p> <p>AECOM is also conducting investigations at several outfalls where metered CSO discharges differ from historical model predictions.</p> <p>[On April 17, 2019, the MWRA Board of Directors approved Amendment 1 to Contract 7572 in the amount of \$931,470. The amendment adds receiving water quality modeling of the Lower Charles River/Charles Basin and the Alewife Brook/Upper Mystic River in lieu of water quality data statistical analyses; extends temporary CSO metering to June 2020 at 36 CSO regulators; and provides for the eventual transfer of the temporary meters at regulators tributary to MWRA CSO outfalls for MWRA’s long-term use in complying with expected CSO public notification requirements.]</p> <p>MWRA staff continue to collect water quality data in CSO affected waters, with emphasis in the Charles River and Alewife Brook/Upper Mystic River, in part to support AECOM’s receiving water modeling.</p>

CIP Expenditures

3rd Quarter – FY19

FY19 Capital Improvement Program Expenditure Variances through March by Program (\$ in thousands)				
Program	FY19 Budget Through March	FY19 Actual Through March	Variance Amount	Variance Percent
Wastewater	56,975	56,860	(115)	-0%
Waterworks	49,317	55,968	6,651	14%
Business and Operations Support	4,941	1,749	(3,192)	-65%
Total	\$111,233	\$114,576	\$3,343	3%

Project underspending within Wastewater was due to delays in Channel 1 work, odor control equipment delivery, and redesign of the lower roofs for the Chelsea Creek Headworks Upgrade Construction, DI HVAC Equipment Replacement schedule change, delay in city of Somerville design and construction awards for the Somerville Marginal In-System Storage, motor commission testing problem for the Winthrop Terminal Facility Variable Frequency Drives Replacements, delay in the notice to proceed for the Residuals Electrical and Mechanical contracts due to a combined scope of services, temporary meter work and police details were less than anticipated for the Metering Study/Design, and timing of final work for the Alewife Brook Pump Station. This was partially offset by greater than anticipated community requests for grants and loans, progress on Deer Island Gravity Thickener Rehabilitation, and FY18 work completed in FY19 for the Reading Extension Sewer contract. Project overspending in Waterworks was due to greater than anticipated requests for community loans, progress for the Southern Extra High Section 111 Construction 2, Section 56 Pipe Demolition, Southern Extra High Section 111 Construction 2, Northern Intermediate High Section 89 & 29 construction Phase 1C, Wachusett Aqueduct Pump Station, timing of Watershed Land purchases, and scheduled FY18 work invoiced in FY19 for the Rosemary Brook Building Repair. This was partially offset by SEH Section 111 Construction 3 delay in notice-to-proceed and issue with MBTA crossing, Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budget and behind schedule due to additional structural repairs and antenna relocation, schedule delay for the Maintenance Building/Garage Washbay/Storage Building contract, delay in CP3 Sections 23, 24, 47 Design/CA/RI due to utility relocations, and Peabody Pipeline Design/ESDC due to project being terminated.

Budget vs. Actual CIP Expenditures

(\$ in thousands)

Total FY19 CIP Budget of \$178,856

Construction Fund Management

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

Cash Balance as of 3/30/2019	\$50.8 million
Unused capacity under the debt cap:	\$1.48 billion
Estimated date for exhausting construction fund without new borrowing:	MAY-19
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$128 million
Commercial paper capacity / Revolving Loan	\$350 million
Budgeted FY19 Cash Flow Expectancy*:	\$188 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

3rd Quarter – FY19

Source Water – Microbial Results

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

Sample Site: Quabbin Reservoir

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

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

Sample Site: Wachusett Reservoir

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

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

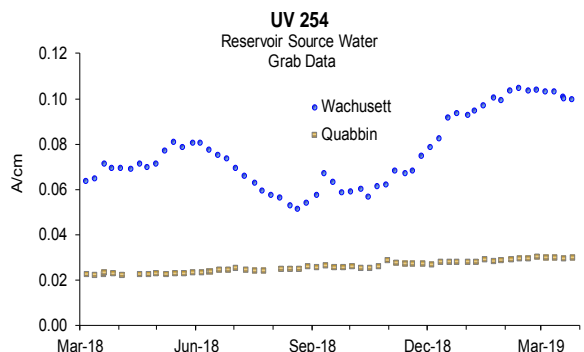
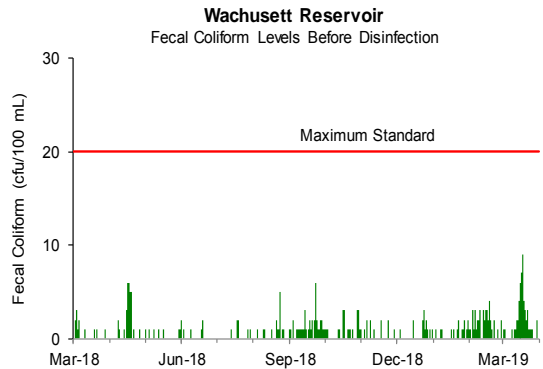
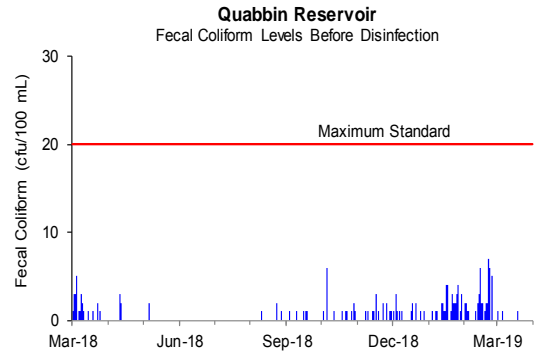
All samples collected during the 3rd Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

Source Water – UV Absorbance

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

Quabbin Reservoir UV-254 levels are currently around 0.030 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.100 A/cm.



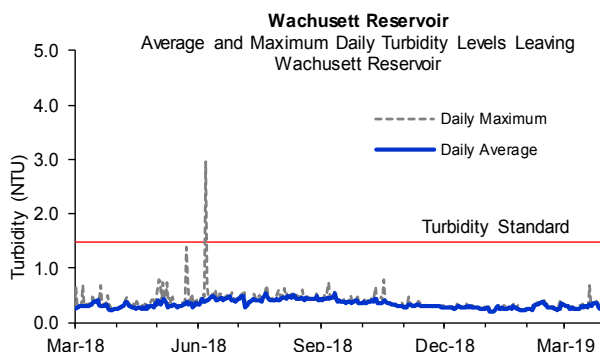
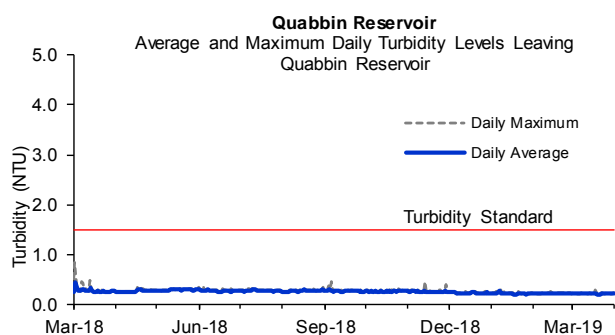
Source Water – Turbidity

3rd Quarter – FY19

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

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

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

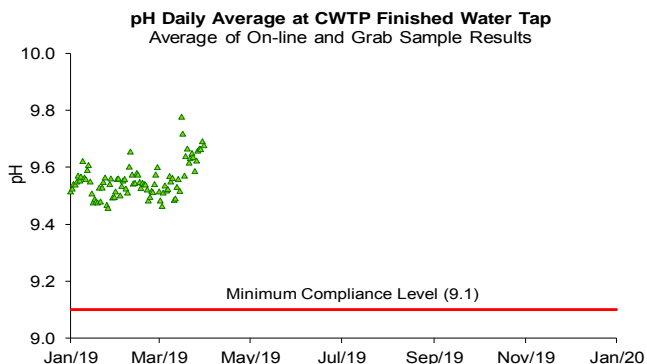
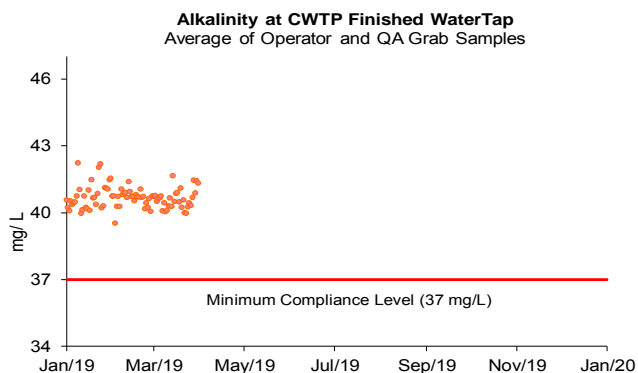


Treated Water – pH and Alkalinity Compliance

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

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

Distribution system samples were collected on March 13 and 14, 2019. Distribution system sample pH ranged from 9.4 to 9.7 and alkalinity ranged from 39 to 42 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

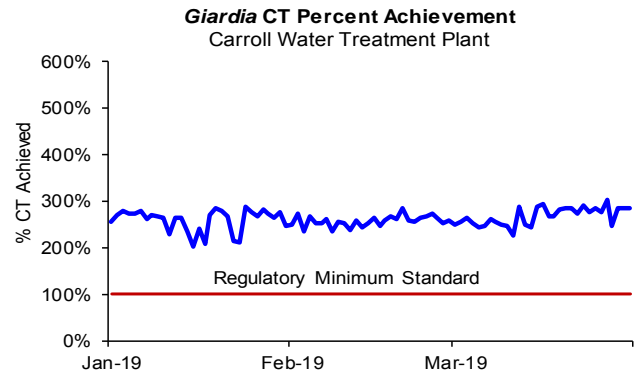
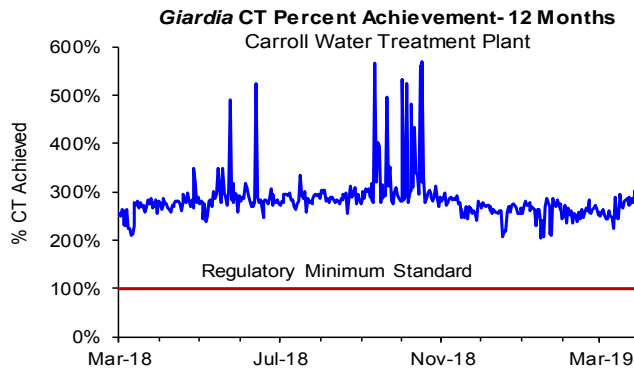
3rd Quarter – FY19

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

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

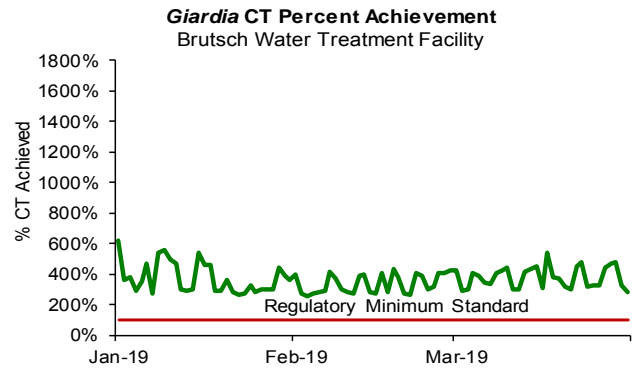
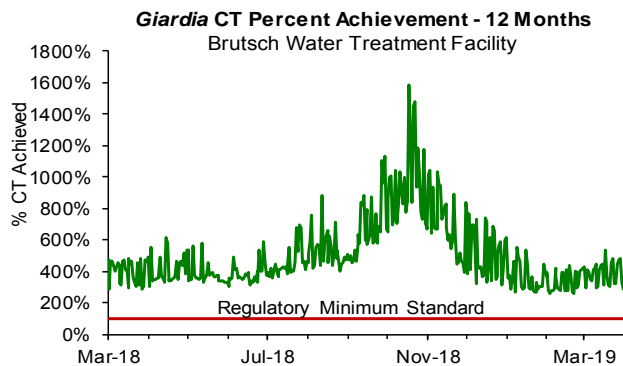
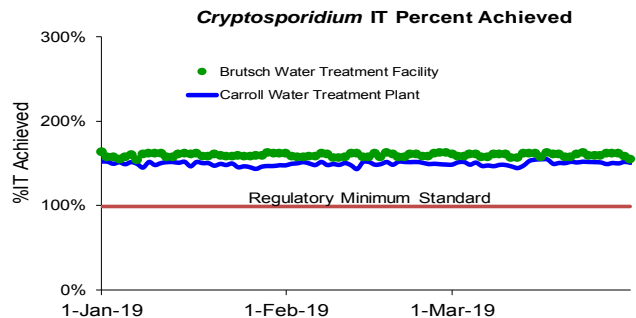
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- Ozone dose at the CWTP varied between 2.6 to 3.0 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.
- The Wachusett Aqueduct Pump Station (WAPS) will improve redundancy in the MWRA water system. WAPS testing was initiated in June 2018 and continued through October 2018. Prior to and during WAPS testing, CWTP proactively increased the ozone dose and "CT achievement". This is visible in the top left graph.



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

- The chlorine dose at BWTF is adjusted in order to achieve MWRA's seasonal target of >0.75 mg/L (November 01 – May 31) and >1.0 mg/L (June 1– October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.5 to 1.6 mg/L for the quarter.
- *Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- *Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.



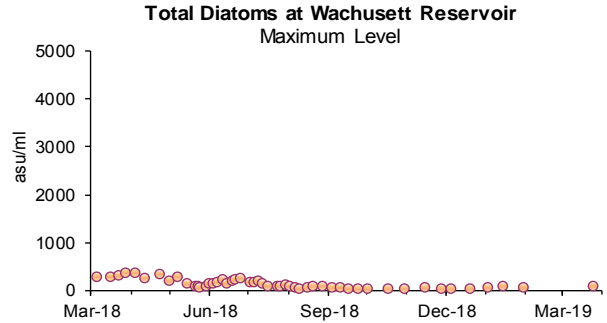
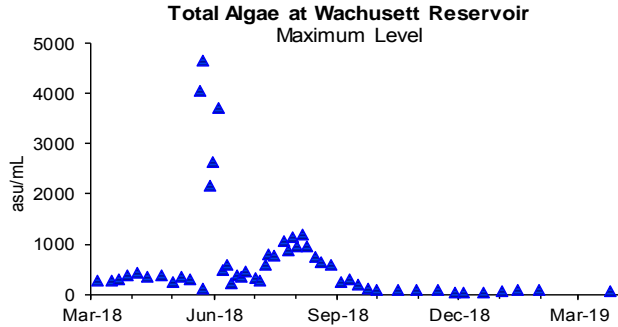
Source Water - Algae

3rd Quarter – FY19

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

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

In the 3rd Quarter, one complaint which may be related to algae was reported from a local water department.



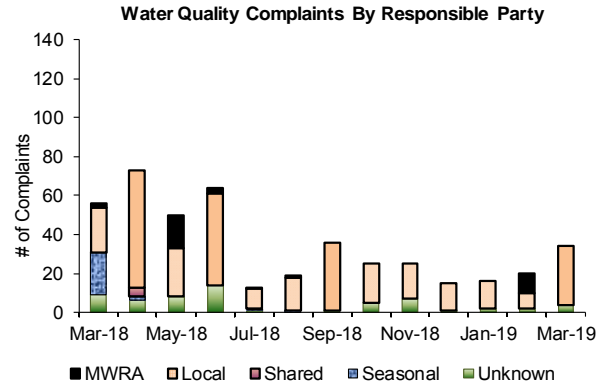
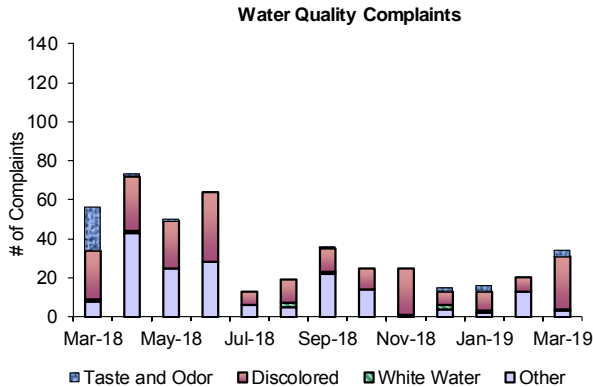
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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

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

Communities reported 70 complaints during the quarter compared to 120 complaints from 3rd Quarter of FY18. Of these complaints, 44 were for "discolored water", 6 were for "taste and odor", 2 were for "white water", and 18 were for "other". Of these complaints, 52 were local community issues, ten were MWRA related issues, and 8 were unknown in origin.

On February 15, Arlington reported 10 low pressure complaints when MWRA staff were in the area performing routine maintenance on a meter.



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

3rd Quarter – FY19

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

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

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

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

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

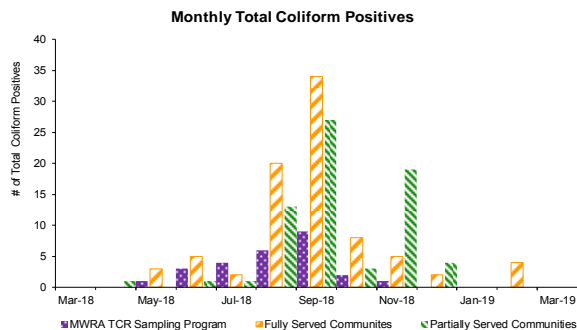
A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

In the 3rd Quarter, 4 of the 6,221 community samples (0.06% system-wide) submitted to MWRA labs for analysis tested positive for total coliform (Milton, Southborough, Swampscott – February). None of the 1,888 Shared community/MWRA samples (0.00%) tested positive for total coliform. Only 0.2% of the Fully Served community samples had chlorine residuals lower than 0.2 mg/L for the quarter.

NOTES:

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



	Total Coliform		E. coli # Positive	Assessment Required
	# Samples (b)	# (%) Positive		
MWRA	MWRA Locations	319	0 (0%)	0
	Shared Community/MWRA sites	1569	0 (0%)	0
	Total: MWRA	1888	0 (0%)	0
Fully Served	ARLINGTON	169	0 (0%)	0
	BELMONT	104	0 (0%)	0
	BOSTON	765	0 (0%)	0
	BROOKLINE	224	0 (0%)	0
	CHELSEA	169	0 (0%)	0
	DEER ISLAND	52	0 (0%)	0
	EVERETT	169	0 (0%)	0
	FRAMINGHAM	237	0 (0%)	0
	LEXINGTON	108	0 (0%)	0
	LYNNFIELD	18	0 (0%)	0
	MALDEN	216	0 (0%)	0
	MARBLEHEAD	72	0 (0%)	0
	MEDFORD	221	0 (0%)	0
	MELROSE	117	0 (0%)	0
	MILTON	108	2 (1.85%)	0
	NAHANT	30	0 (0%)	0
	NEWTON	276	0 (0%)	0
	NORTHBOROUGH	48	0 (0%)	0
	NORWOOD	99	0 (0%)	0
	QUINCY	338	0 (0%)	0
	READING	130	0 (0%)	0
	REVERE	195	0 (0%)	0
	SAUGUS	104	0 (0%)	0
	SOMERVILLE	273	0 (0%)	0
	SOUTHBOROUGH	33	1 (3.03%)	0
	STONEHAM	91	0 (0%)	0
	SWAMPSCOTT	57	1 (1.75%)	0
	WALTHAM	216	0 (0%)	0
	WATERTOWN	130	0 (0%)	0
	WESTON	45	0 (0%)	0
WINTHROP	72	0 (0%)	0	
Total: Fully Served	4886	3 (0.08%)	0	
Partially Served	BEDFORD	57	0 (0%)	0
	CANTON	87	0 (0%)	0
	HANSCOM AFB	28	0 (0%)	0
	MARLBOROUGH	126	0 (0%)	0
	NEDHAM	123	0 (0%)	0
	PEABODY	208	0 (0%)	0
	WAKEFIELD	159	0 (0%)	0
	WELLESLEY	114	0 (0%)	0
	WILMINGTON	87	0 (0%)	0
	WINCHESTER	91	0 (0%)	0
CVA	WOBURN	195	0 (0%)	0
	SOUTH HADLEY FD1	60	0 (0%)	0
Total: CVA & Partially Served	1335	0 (0.00%)	0	
Total: Community Samples	6221	4 (0.06%)	0	

Chlorine Residuals in Fully Served Communities

	2018											2019		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
% <0.1	0.1	0.0	0.2	0.0	0.3	0.7	0.5	0.7	0.7	0.2	0.3	0.2	0.1	
% <0.2	0.2	0.3	0.2	0.4	0.5	1.0	1.5	1.9	1.6	1.0	0.3	0.2	0.1	
% <0.5	0.8	0.7	0.4	0.7	1.5	3.4	4.6	5.8	3.8	2.3	1.1	0.6	0.4	
% <1.0	1.4	1.5	1.3	1.6	3.2	8.9	11.9	11.2	8.3	5.2	2.8	1.8	1.7	
% >1.0	98.6	98.5	98.7	98.4	96.8	91.1	88.2	88.8	91.7	94.8	97.2	98.2	98.4	

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

3rd Quarter – FY19

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

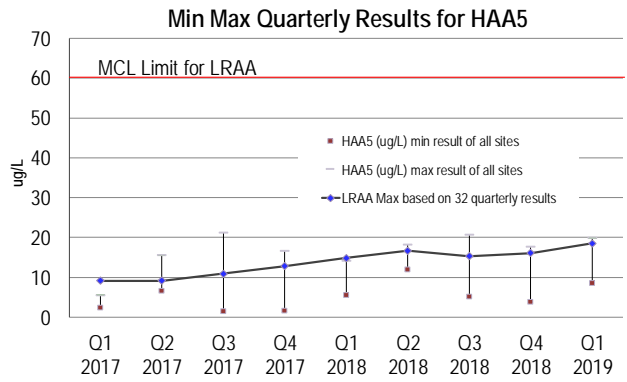
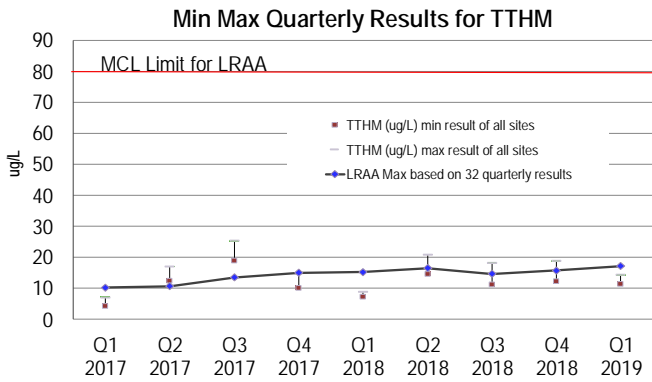
The locational running annual average at each individual sampling location must be below the standard. The charts below show the highest and lowest single values for all sites, and the LRAA of the highest location each quarter.

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

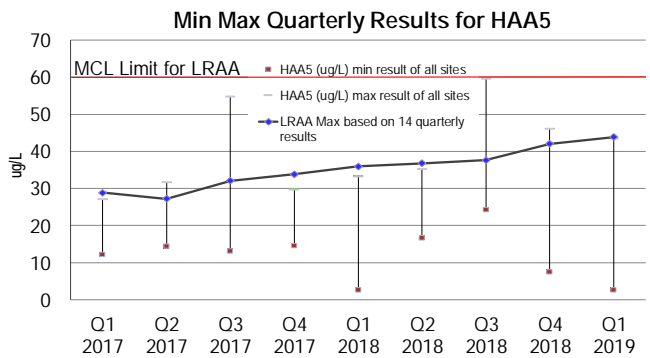
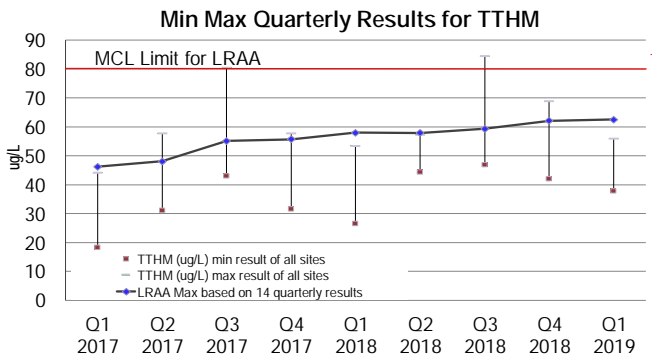
Bromate is tested monthly per DEP requirements for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA’s RAA MCL standard for bromate is 10 µg/L.

The LRAA for TTHMs and HAA5s for MWRA’s Compliance Program (represented as the line in the top two graphs below) remain below current standards. The Max LRAA in the quarter for TTHMs = 17.1 µg/L; HAA5s = 18.5 µg/L. The current RAA for Bromate = 0.0 µg/L. CVA’s DBP levels continue to be below current standards.

MetroBoston Disinfection By-Products



CVA Disinfection By-Products (Combined Results)



Water Supply and Source Water Management

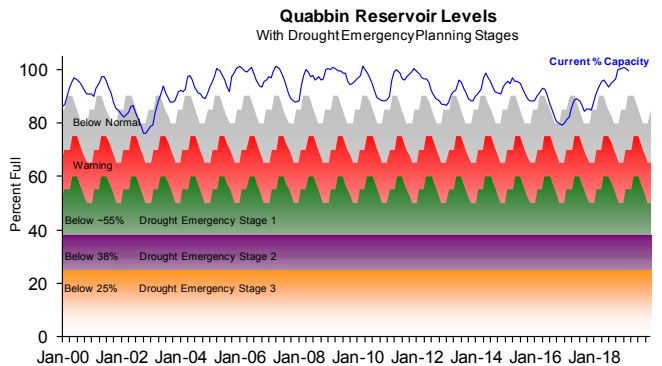
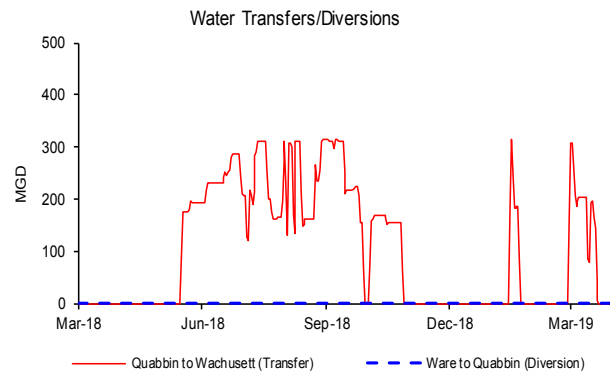
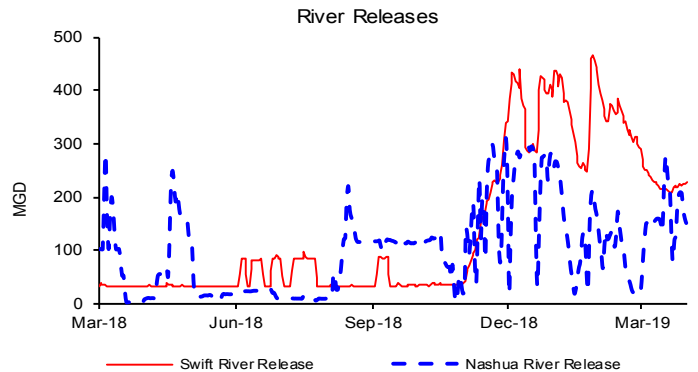
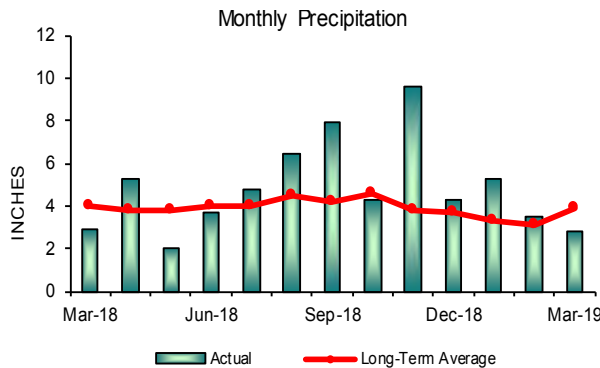
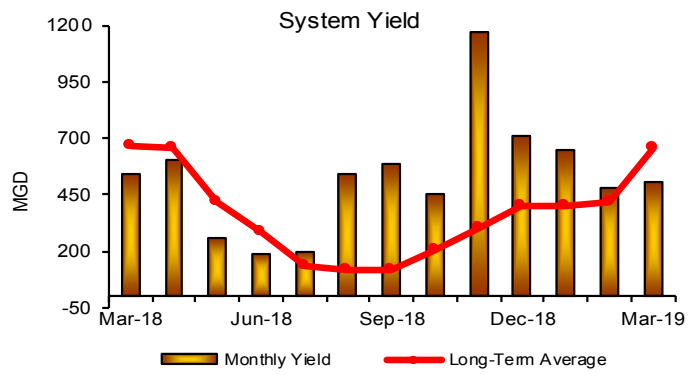
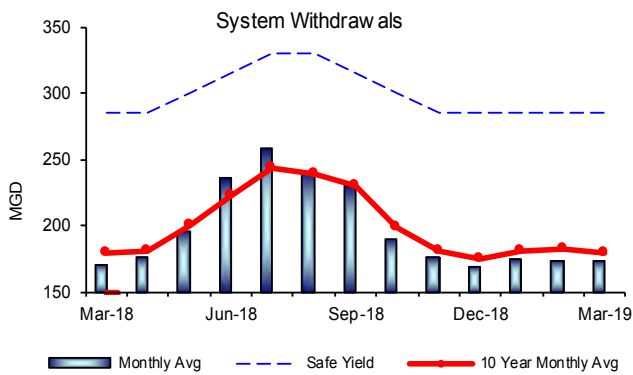
3rd Quarter – FY19

Background

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

Outcome

The volume of the Quabbin Reservoir was at 99.5% as of March 31, 2019; a 1.1% decrease for the quarter, which represents a loss of more than 4.4 billion gallons of storage and a decrease in elevation of 0.55' for the quarter. Quabbin level is in "normal" operating range. Precipitation and yield for the quarter were above their respective long term averages. System withdrawal for the quarter was below the 10 year monthly average.



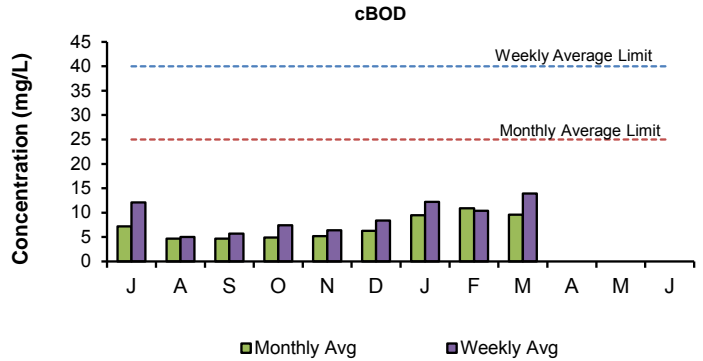
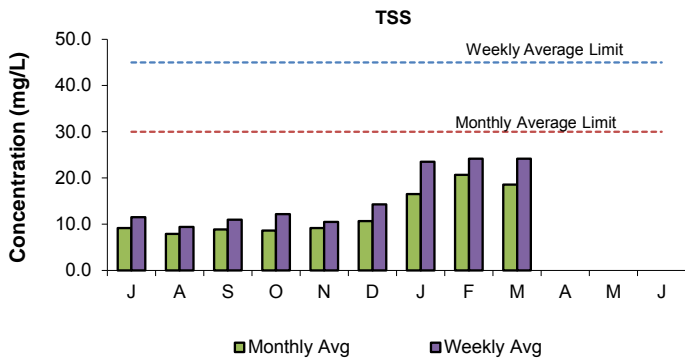
WASTEWATER QUALITY

NPDES Permit Compliance: Deer Island Treatment Plant 3rd Quarter - FY19

NPDES Permit Limits

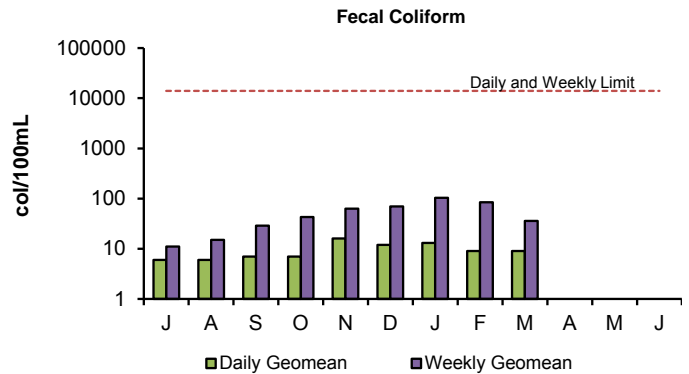
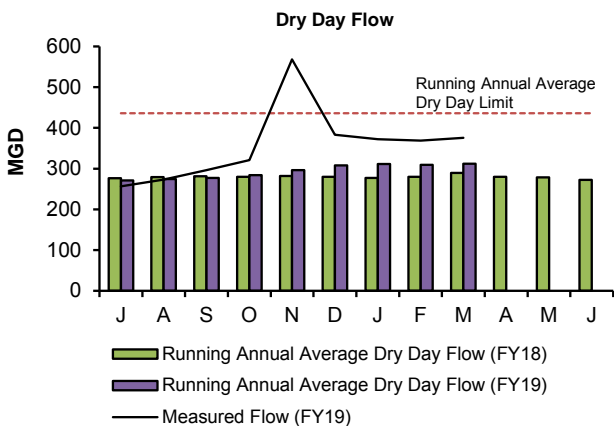
Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY19 YTD Violations
Dry Day Flow (365 Day Average):		mgd	436	311.2	309.5	312.0	0	0
cBOD:	Monthly Average	mg/L	25	9.5	10.9	9.6	0	0
	Weekly Average	mg/L	40	12.2	10.4	13.9	0	0
TSS:	Monthly Average	mg/L	30	16.5	20.7	18.6	0	0
	Weekly Average	mg/L	45	23.5	24.2	24.2	0	0
TCR:	Monthly Average	ug/L	456	0	0	0	0	0
	Daily Maximum	ug/L	631	0	0	0	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	13	9	9	0	0
	Weekly Geometric Mean	col/100mL	14000	103	85	36	0	0
	% of Samples >14000	%	10	0	0	0	0	0
	Consecutive Samples >14000	#	3	0	0	0	0	0
pH:		SU	6.0-9.0	6.4-7.1	6.4-6.9	6.3-6.9	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
	Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	≥1.5	100	100	100	0	0
	Inland Silverside	%	≥1.5	100	50	50	0	0

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



Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 3rd Quarter were within permit limits.

Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 3rd



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 3rd Quarter was well below the permit limit of 436 MGD.

Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 3rd Quarter, all permit conditions for fecal coliform were met.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant 3rd Quarter - FY19

NPDES Permit Limits

Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY19 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	3.30	3.27	3.23	3 ¹	5
BOD:	Monthly Average:	mg/L	20	5.5	2.6	1.5	0	0
	Weekly Average:	mg/L	20	7.1	3.7	2.1	0	0
TSS:	Monthly Average:	mg/L	20	7.9	4.1	3.6	0	0
	Weekly Average:	mg/L	20	10.9	5.9	4.4	0	1
pH:		SU	6.5-8.3	7.0-7.6	7.1-7.7	6.9-7.4	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	9.2	9.8	9.9	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	6.0	7.0	6.0	0	0
	Daily Geometric Mean:	cfu/100mL	409	26.0	667.0	12.0	1 ²	1
TCR:	Monthly Average:	ug/L	17.6	0.0	0.0	0.2	0	0
	Daily Maximum:	ug/L	30.4	0.0	0.0	4.0	0	0
Copper:	Monthly Average:	ug/L	11.6	5.4	4.9	5.9	0	1
	Daily Maximum:	ug/L	14.0	5.4	4.9	7.6	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	2.0 / 10.0	0.09	0.81	0.25	0	0
	Daily Maximum:	mg/L	3.0 / 35.2	0.29	1.54	1.14	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	mg/L	1.0 / RPT*	0.27	0.17	0.07	0	0
	Daily Maximum:	mg/L	RPT*	0.33	0.27	0.12	0	0
Acute Toxicity*	Daily Minimum:	%	≥100	N/A	N/A	>100	0	0
Chronic Toxicity*	Daily Minimum:	%	≥62.5	N/A	N/A	62.5	0	0

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

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

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

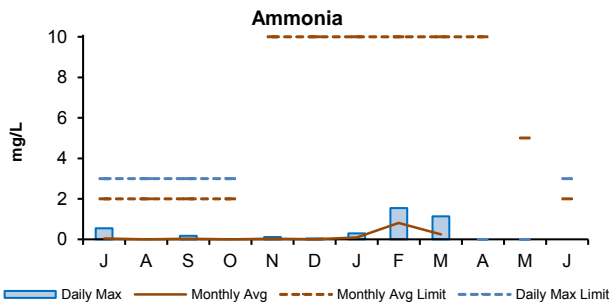
3rd Quarter: There were four permit violations in the third quarter.

¹The 12-month rolling average flow exceeded the limit of 3.01 MGD from January through March, due to excessive rains in the region in November and December 2018.

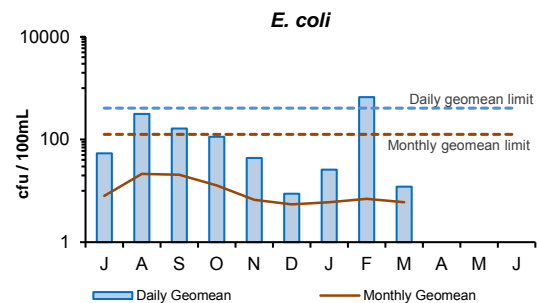
²See *E. coli* figure below.

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

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

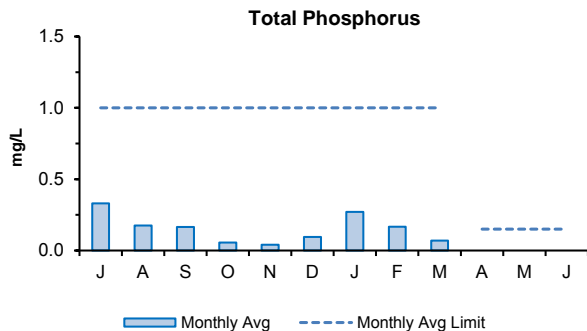


The 3rd Quarter's monthly average and daily maximum concentrations of ammonia were below the permit limits. The monthly average and daily maximum limits for the 3rd Quarter are 10 and 35.2 mg/L respectively. The permit limits are most stringent from June to October when warm weather conditions are most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

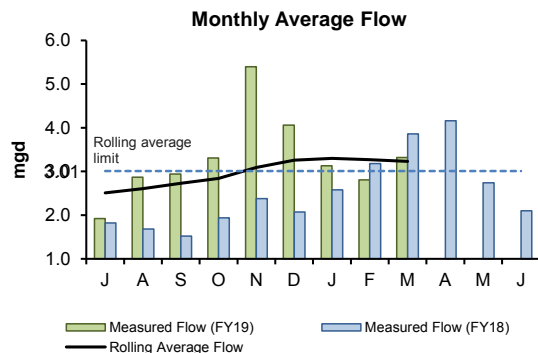


E. coli is an indicator for the possible presence of pathogens.

²The *E. coli* daily geomean on February 15th was 667 cfu/100mL, exceeding the permit limit of 409 cfu/100mL. A return activated sludge valve failure on February 13th in Final Clarifier 2 ultimately led to this exceedance. *E. coli* levels were very low during February outside of this incident, reflected by the monthly geometric mean of 7 cfu/100mL.



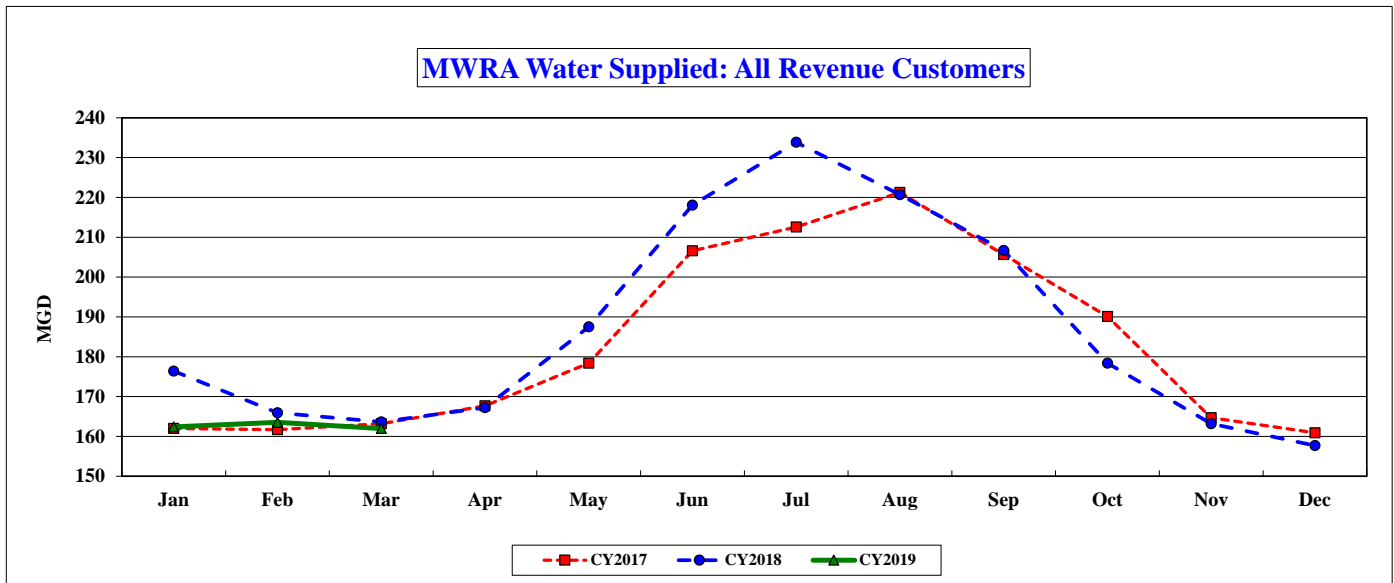
The 3rd Quarter's monthly average concentrations for total phosphorus were below permit limits. The new permit limit of 0.15 mg/L from April through October goes into effect April 1st, 2019. The new permit limit of 1.0 mg/L from November through March goes into effect. November 1st, 2019.



The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 3rd quarter exceeded the limit of 3.01 due to excessive rains in the region during November and December 2018.

COMMUNITY FLOWS AND PROGRAMS

Total Water Use 3rd Quarter - FY19



MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2017	162.004	161.672	163.192	167.676	178.393	206.603	212.595	221.238	205.641	190.115	164.673	160.915	162.310	183.032
CY2018	176.393	165.940	163.638	167.203	187.521	218.075	233.842	220.725	206.719	178.404	163.188	157.695	168.748	186.758
CY2019	162.393	163.534	161.969	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	162.602	162.602

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2017	5,022.12	4,526.82	5,058.94	5,030.27	5,530.20	6,198.09	6,590.45	6,858.38	6,169.23	5,893.58	4,940.18	4,988.37	14,607.87	66,806.63
CY2018	5,468.19	4,646.32	5,072.79	5,016.09	5,813.16	6,542.25	7,249.11	6,842.47	6,201.58	5,530.52	4,895.65	4,888.56	15,187.30	68,166.70
CY2019	5,034.17	4,578.96	5,021.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14,634.16	162.60

Calendar year 2019 water use will be used to allocate the FY21 water utility rate revenue requirement to MWRA water communities. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement.

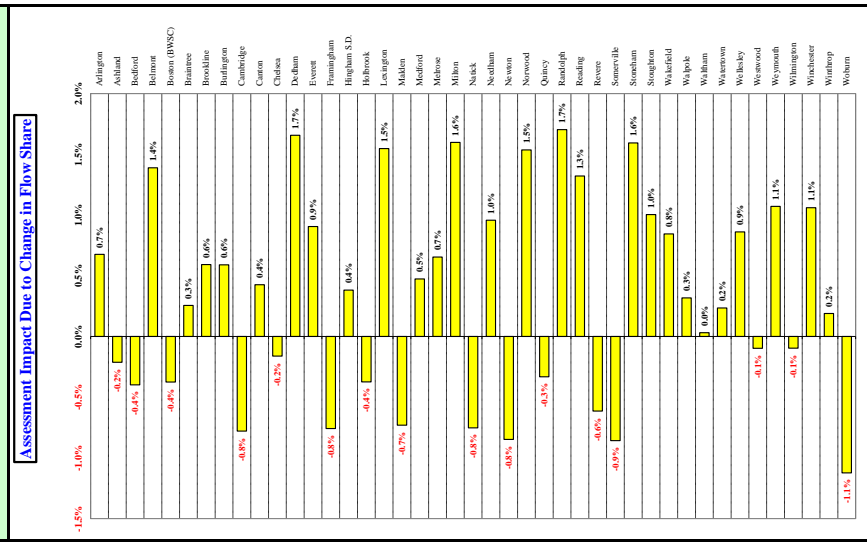
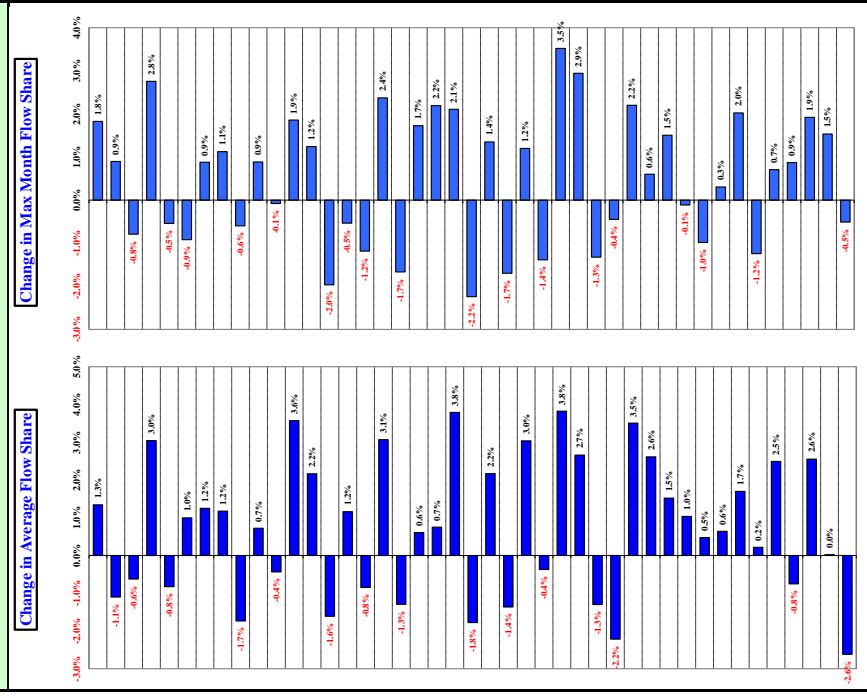
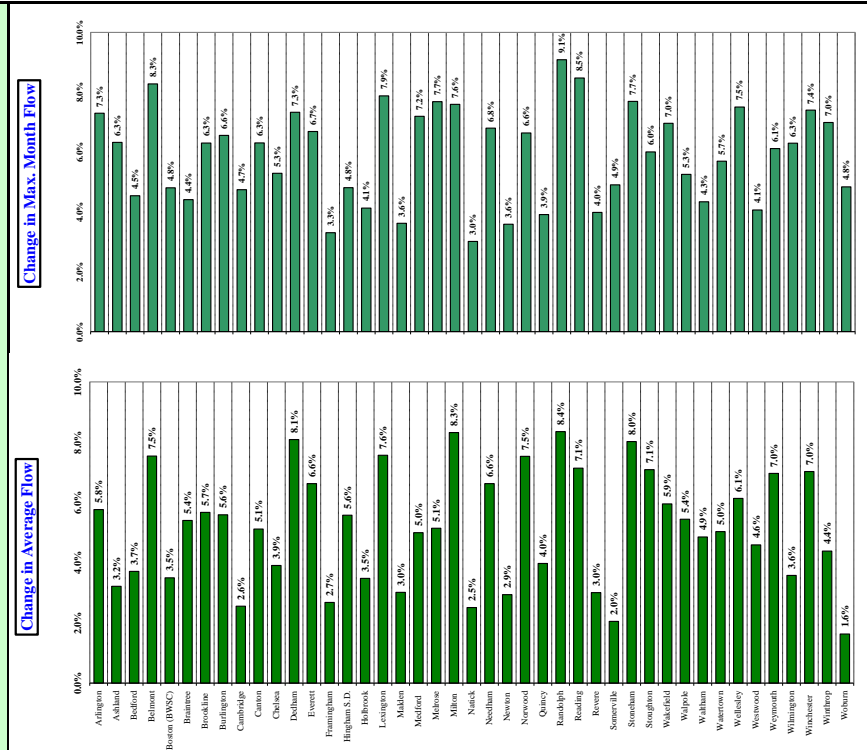
Through March year to date water use for revenue generating users totaled 162.6 mgd, and is 6.1 mgd or

Community Wastewater Flows

3rd Quarter - FY19

How Projected CY2019 Community Wastewater Flows Could Effect FY2021 Sewer Assessments 1,2,3

The flow components of FY2021 sewer assessments will be calculated using a 3-year average of CY2017 to CY2019 wastewater flows compared to FY2020 assessments that used a 3-year average of CY2016 to CY2018 wastewater flows.



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

Assessment Impact Due to Change in Flow Share

But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2019 flow share compared to CY2016 to CY2018 flow share, compared to all other communities in the system.

Change in Max. Month Flow Share

Change in Average Flow Share

Notes:
 1 MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative flow share.
 2 Based on CY2016 to CY2019 average wastewater flows as of 04/08/19. Flow data is preliminary and subject to change pending additional MWRA and community review.
 3 CY2016 to CY2018 wastewater flows based on actual meter data for January to February, and project flows for March to December.
 4 Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

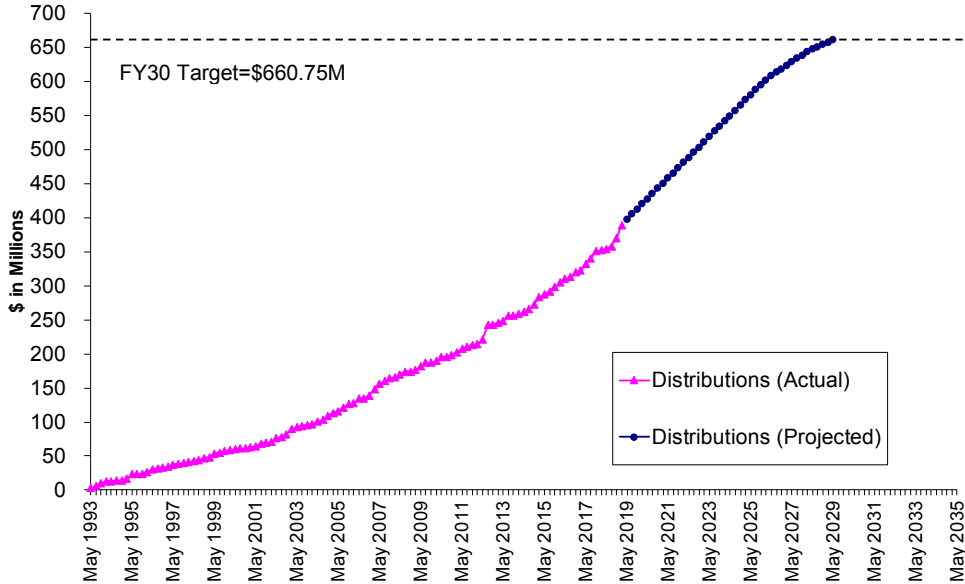
Community Support Programs

3rd Quarter – FY19

Infiltration/Inflow Local Financial Assistance Program

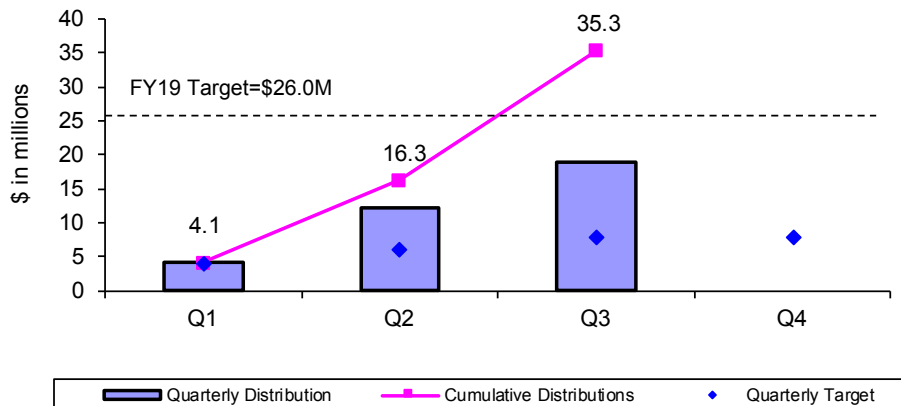
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$660.75 million in grants and interest-free loans (average of about \$18 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned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

I/I Local Financial Assistance Program Distribution FY93-FY30



During the 3rd Quarter of FY19, \$19.0 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Braintree, Cambridge, Framingham, Melrose, Stoneham, Watertown, Winthrop and Woburn. Total grant/loan distribution for FY19 is \$35.3 million. From FY93 through the 3rd Quarter of FY19, all 43 member sewer communities have participated in the program and \$390 million has been distributed to fund 565 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY19 Quarterly Distributions of Sewer Grant/Loans



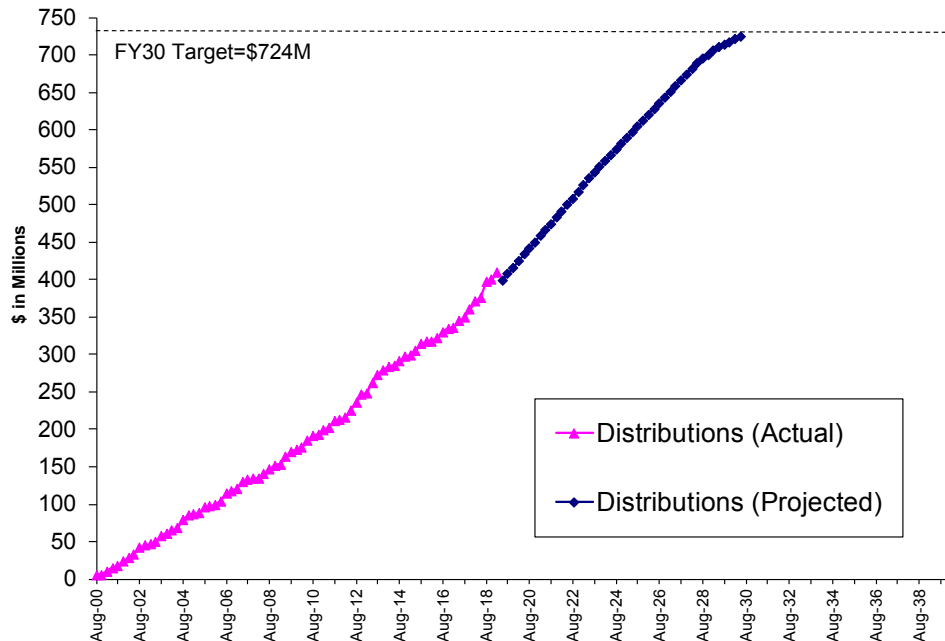
Community Support Programs

3rd Quarter – FY19

Local Water System Assistance Program

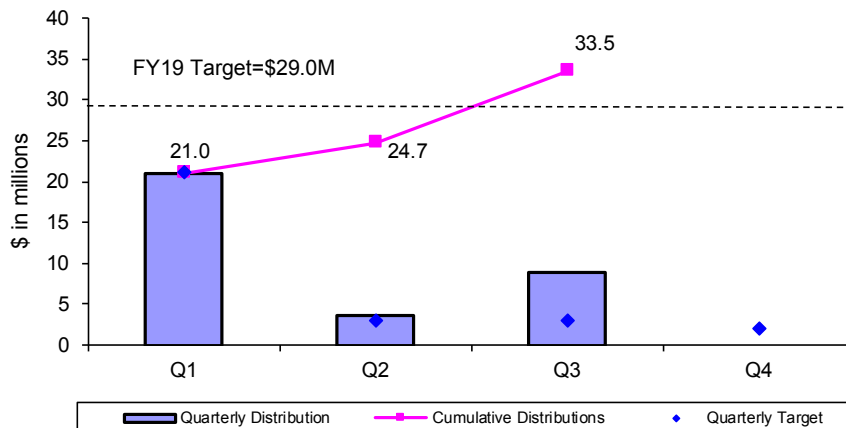
MWRA's Local Water System Assistance Programs (LWSAP) provides \$724 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There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

Local Water System Assistance Program Distribution FY01-FY30



During the 3rd Quarter of FY19, \$8.8 million in interest-free loans was distributed to fund local water projects in Framingham, Lynnfield, Revere and Watertown. Total loan distribution for FY19 is \$33.5 million. From FY01 through the 3rd Quarter of FY19, \$409 million has been distributed to fund 446 local water system rehabilitation projects in 42 MWRA member water communities. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY19 Quarterly Distributions of Water Loans



Community Support Programs

3rd Quarter – FY19

Lead Service Line Replacement Loan Program

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

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

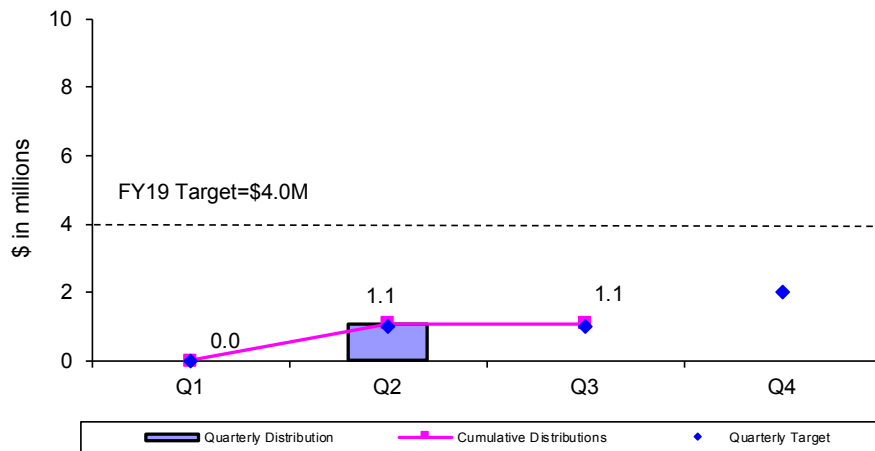
FY18 was the second year of the Lead Loan Program. During FY18, MWRA made five Lead Loan Program distributions as noted in the table below.

FY19 is the third year of the Lead Loan Program. Two Lead Loans were made during the second quarter of FY19: \$100,000 to Chelsea and \$1.0 Million to Everett. No lead loans were made in the third quarter of FY19.

Summary of Lead Loans:

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

FY19 Quarterly Distributions of Lead Service Line Replacement Loans

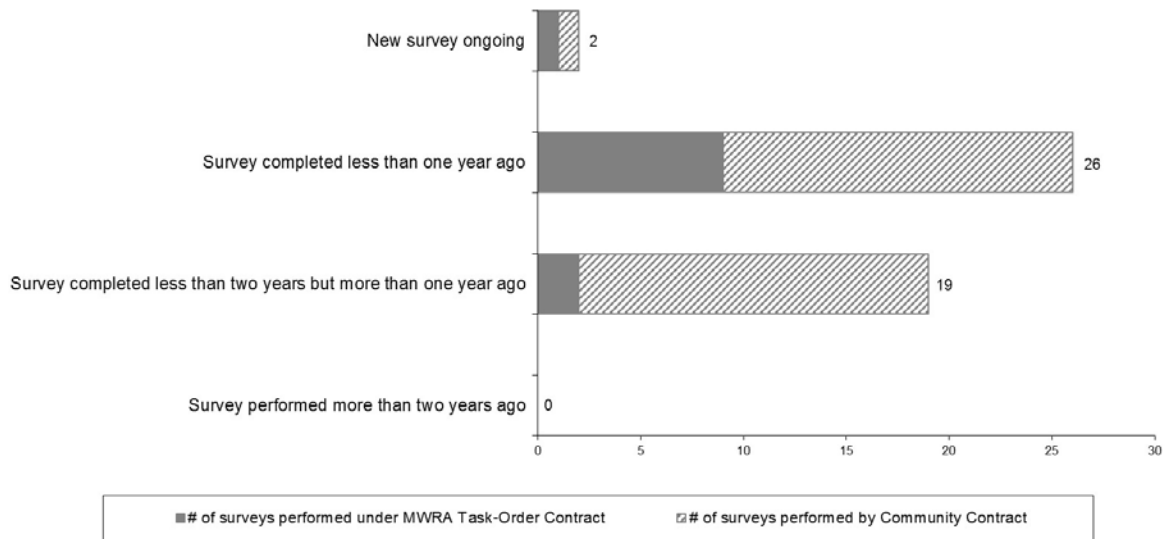


Community Support Programs

3rd Quarter – FY19

Community Water System Leak Detection

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



Community Water Conservation Outreach

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

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	690	10,753	61,917		73,360
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,738	1,635	3,042		6,415
Toilet Leak Detection Dye Tablets	-----	15,202	352	5,008		20,562

BUSINESS SERVICES

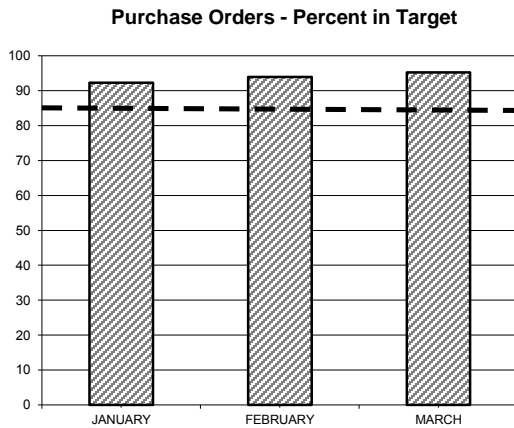
Procurement: Purchasing and Contracts

Third Quarter - FY19

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

Outcome: Processed 94% of purchase orders within target; Average Processing Time was 4.63 days vs. 4.92 days in Qtr 3 of FY18. Processed 69% (9 of 12) of contracts within target timeframes; Average Processing Time was 146 days vs. 119 days in Qtr 3 of FY18.

Purchasing



	No.	TARGET	PERCENT IN TARGET
\$0 - \$500	574	3 DAYS	90.5%
\$500 - \$2K	696	7 DAYS	95.4%
\$2K - \$5K	484	10 DAYS	97.3%
\$5K - \$10K	78	25 DAYS	93.5%
\$10K - \$25K	59	30 DAYS	81.3%
\$25K - \$50K	14	60 DAYS	78.5%
Over \$50K	28	90 DAYS	96.4%

The Purchasing Unit processed 1933 purchase orders, 47 less than the 1980 processed in Qtr 3 of FY18 for a total value of \$8,926,753 versus a dollar value of \$10,080,673 in Qtr 3 of FY18.

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

Contracts, Change Orders and Amendments

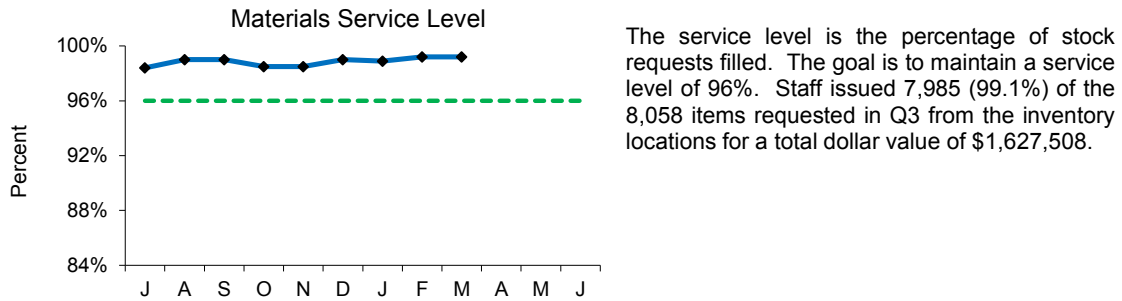
Three contracts were not processed within the target timeframes. One contract was delayed due to decisions regarding the type of procurement process to use. Once determined, the development of the scope took longer than anticipated and the RFQ/P was re-issued twice due to minimal responses. In addition, vetting and security clearances were required. Another contract was delayed due to staff retirement and re-assignment. Also, a portion of the contract had to be re-bid (electrical) and approval of the award was required by the Department of Environmental Protection due to funding by the State Revolving Fund, resulting in further delays. The final contract required special Division of Capital Asset Management and Maintenance (DCAMM) certification from Contractors. This special certification process took substantially longer than anticipated. However, this allowed for increased competition with contractors who possessed the requisite experience to perform the work.

Procurement processed twelve contracts with a value of \$28,529,202 and nine amendments with a value of \$893,507. Twenty four change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY19 was \$2,535,323 and the value of credit change orders was (\$83,393).

Staff reviewed 48 proposed change orders and 33 draft change orders.

Materials Management

3rd Quarter - FY19



Inventory Value - All Sites

Inventory goals focus on:

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

The FY19 goal is to reduce consumable inventory from the July '18 base level (\$8.4 million) by 2.0% (approximately \$168,025), to \$8.2 million by June 30, 2019 (see chart below).

Items added to inventory this quarter include:

- Deer Island –sealing compound, circuit breakers, racking screws, relays, cord caps, relay overloads, swing valves, cable jumpers and cable sensors for Electric Shop; card rack, current/volt alarms, flowmeters, connectors, transmitters, vibration monitor and signal modules for I&C; unions, sheaves, batteries, solenoid valves and solenoid coils for HVAC; flex couplings, and filters for Power and Pump; actuator for Liquid Train.
- Chelsea – sample probes and sample probe repair kits for Safety; v-belts, blower kits, filters and circulating pump for Work Coordination; filters, gaskets, rotors, brake pads, oil filters, idler arms, and exhaust sensors for Fleet Services; free ammonia, total chlorine and free chlorine for Enquad;
- Southboro – toners for Administration; valve repair kit for plumbing shop; PH electrode for Water Quality Assurance; buckets for Facilities Maintenance.

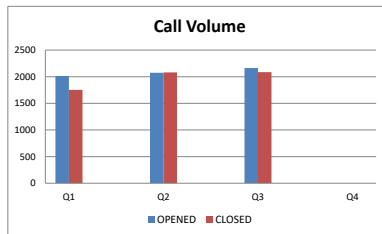
Property Pass Program:

- Seven audits were conducted during Q3.
- Scrap revenue received for Q3 amounted to \$15,516. Year to date revenue received amounted to \$35,812.
- Revenue received from online auctions held during Q3 amounted to \$43,136. Year to date revenue received amounted to \$357,260.

Items	Base Value July-18	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	8,401,259	8,246,390	-154,869
Spare Parts Inventory Value	8,884,367	9,025,417	141,050
Total Inventory Value	17,285,626	17,271,807	-13,819

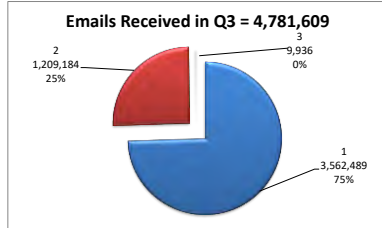
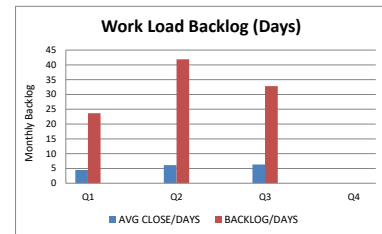
Note: New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

MIS Program
3rd Quarter FY19



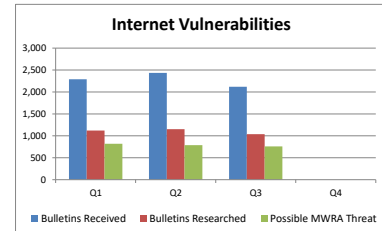
Performance & Backlog for Q3

- 96.44% of open calls were closed.
- Call closure averaged 6.4 days.
- Priority 1 & 2 Service Level Agreements (SLA) were not met because of priorities and delayed closure. Workarounds provided.



Information Security for Q2

- In Q3, pushed security fixes/updates to desktops/servers protecting against 505 vulnerabilities.
- McAfee quarantined 3 distinct viruses from 3 PCs. PCs are current with antivirus signatures for known malware.



Infrastructure:

Desktop Refresh: Three production images finalized. As a pilot, rolled out 16 new PC's into production. Chelsea will be the first site for rollouts beginning April 8th.

Windows 10 Print Servers: Completed implementation and testing.

Audio/Visual Upgrades: Chelsea Muster Room has been completed. CNY Boardroom upgrade is being procured. Designs are being reviewed for balance of conference rooms.

External Facing Server Hardware Replacement: Continue to test communications over private wireless.

Router Replacement: Seven of eleven sites are completed. Remaining four are being scheduled in April.

Network Switch Upgrades: Completed.

iPhone Upgrades: Completed 66% of iPhone 8 upgrades.

Applications/Library & Records Center/Training:

Enterprise Content Management (ECM)/e-Construction: Continued working on business process workflows and/or use case documentation of existing E&C Department processes. Presented a PowerPoint presentation to the Senior E&C and Tunnel Redundancy Managers showing a conceptual management dashboard design and refined requirements. The current list of 47 use cases and 86 workflows is 83% complete. 21 related databases have been identified 91% have been documented.

Contracts Management: Began meeting regularly with users to design the configuration for Professional Services Contracts. Began reviewing legacy Contract Management System with users to identify remaining contract types not implemented in the Infor/Lawson system including Professional Service Contracts and No-bid contracts. Started working on requirements for Bid Tab changes to support Professional Services and testing various options.

Application Custom Development: Deployed 25 in-house web applications that were developed using .NET Framework version 2.0. They have been upgraded to version 4.7 for maintaining Microsoft support, taking advantage of new features and improved web application performance.

GIS: A new Future Pipes layer was added that displays planned pipe locations. Added six new fields for the Planning Department to be able to capture water pressure zone information related to each sample location. Applied an ESRI security patch to ArcGIS preventing a vulnerability that allowed ordinary authenticated users to elevate their permissions.

LIMS/ELN: To support MWRA marketing fertilizer pellets outside of Massachusetts, the Corrective Action Report (C.A.R) template was updated. This update satisfies the National Environmental Laboratory Accreditation Program (NELAP) requirements.

PIMS: Upgraded PIMS production database to Oracle 11g on Oracle Data Appliance (ODA), Two associated unsupported Windows, OS version 2003, servers were retired.

Maximo-Crystal Reports: The Rutland Holden report, used by Field Operations (FOD) to bill the towns of Rutland and Holden, had a feature added to make accessing detailed billing information easier. The new feature enables MWRA staff to verify all billable activity as the work is completed. This on-demand feature eliminates the need to wait for the final billing report.

Library & Records Center: Library: Fulfilled 18 research requests, acquired 12 new books, loaned 188 books and reports, provided 10 articles and 9 new standards. The MWRA Library Portal supported 593 end-user searches. Research topics included Dorchester and City Tunnels Geotechnical data, horizontal directional drilling, and historic Brookline sewer construction.

Record Center (RC): added 126 new boxes, handled 258 total boxes, fulfilled 11 rush requested, scanned/mailed 110 pages, shredded 15 sixty-five gallon bins of confidential documents and inventoried 900 geo-samples. Searches included boring logs and geo mapping. RC manager attended 3 RCB meeting and taught 3 records management classes.

IT Training: For the quarter, 49 staff attended 10 classes. 17% of the workforce have attended at least one class year-to-date. A Windows 10 presentation was developed highlighting some important interface differences and new features. Job-aids and handouts were developed and published for Searching Messages in Outlook, File Management – Best Practices, Setting Default Line Spacing, and Adding a Printer.

Legal Matters

3rd Quarter - FY19

PROJECT ASSISTANCE

Real Estate, Contract, Environmental and Other Support:

- **8(m) Permits:** Reviewed sixty-three (63) 8(m) permits.
- **Real Property:** Reviewed Wachusett Watershed Fee Acquisition, W-001209, related to the Hulick Property on South Nelson Road in Sterling, MA, Quabbin Watershed Preservation Restriction, W-001198, related to the Pope property on New Salem Road in Petersham, MA, Quabbin Watershed Preservation Restriction, W-001199, related to the Clark property on Amidon Drive in Petersham, MA, and Wachusett Watershed Preservation Restriction, W-001205, related to the Cranson property on South Nelson Road in Sterling, MA. Reviewed plans for proposed temporary and permanent easements from MBTA for MWRA Section 111 redundant 36-inch pipeline through Boston, Dedham, and Westwood (MWRA Contract No.7505) located at MBTA Dedham Corporate Station, Allied Drive. Reviewed DCR license and drafted two licenses and two temporary easement documents for Dorchester Interceptor Sewer Rehabilitation (MWRA Contract No. 7279) located at Baker Square Condominium, Rite Aid, Extra Space Properties, the Cedar Grove Cemetery, and DCR property in Dorchester, MA. Reviewed MWRA property rights for MWRA Section 613 (Neponset Valley Sewer) and Section 676 (Neponset Valley Force Main) located at 777 Dedham street in Canton, MA. Reviewed MWRA property rights related to Chestnut Hill Emergency Pump Station. Reviewed MWRA property rights in the area of the Ball Square MBTA station in Somerville. Recorded Extension Permit for Order of Conditions DEP File No. 297-0383 related to MWRA Project No. 7067 – NIH Pipeline in Stoneham. Recorded Certificate of Compliance at Middlesex South Registry of Deeds for Order of Conditions DEP 270-0647 for work in Reading, MA related to MWRA Contract 7471. Recorded Certificates of Compliance for Orders of Conditions in Braintree related to work on the Fore River Railroad. Drafted 4th Amendment to J. F. White License for use of MWRA Cleverly Court property located in Quincy. Reviewed T-Mobile wireless agreement for Turkey Hill water tank in Arlington, MA. Reviewed and revised letters to wireless companies relative to the relocation of their equipment on water tanks to facilitate the painting of the water tanks.
- **Environmental:** Reviewed MA land application of sludge and septage regulations related to labeling of product that contains molybdenum.
- **Loring Road Hydro – Federal Incentive.** Assisted with securing U.S. Department of Energy grant funding for the Authority’s Loring Road Hydroelectric facility for energy produced during calendar year 2017.
- **Loring Road Hydro and Brutch Hydro Facilities – Transfer to Commonwealth’s Small Hydroelectric Net Metering Program.** Assisted with the transfer of the Loring Road and Brutch hydroelectric facilities from the “Qualifying Facility” rate for energy to the Commonwealth’s Small Hydroelectric Net Metering program. Enrollment in the Net Metering program provides for a higher compensation amount to the Authority for the energy produced by these hydroelectric facilities.

- **Public Records Requests:** During the third quarter of FY 2019, one hundred and forty-six (146) public records requests were received and one hundred and thirty-seven (137) public records request were closed.

LABOR, EMPLOYMENT AND ADMINISTRATIVE

New Matters

One demand for arbitration was filed.

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

A union filed a Charge of Prohibited Practice at the Division of Labor Relations alleging the MWRA did not bargain in good faith with respect to a reclassification of an employee.

Matters Concluded

Received a dismissal from the MCAD for lack of probable cause of a charge of discrimination on the basis of age, gender and race.

Received a Department of Unemployment Assistance decision in favor of MWRA denying claimant unemployment benefits, which was upheld by the Board of Review on the claimant's appeal.

LITIGATION/CLAIMS

New lawsuits/claims: Law Offices of Burton J. Hass v. MWRA, Frederick A. Laskey, et al: Suffolk Superior Court, C.A. No. 1984-CV-634H: Plaintiff law firm seeks attorney's fees in connection with its representation of a former employee whose application for disability retirement benefits to the MWRA Employee Retirement Board was denied. On appeal, the Division of Administrative Law Appeals reversed the denial, and the employee was paid retroactive benefits by the Retirement Board in accordance with M.G.L. Chapter 32. MWRA has moved to dismiss the Complaint on the grounds that: (1) MWRA and Mr. Laskey are not proper parties to the action; and (2) Plaintiff has no viable cause of action to recover its fees under the statute.

Significant Developments

DaPrato v. MWRA: C.A. No. 2015 CV 3687 D: On February 7, 2019, MWRA filed a reply brief for the SJC's consideration. In advance of oral argument scheduled to take place on April 4, 2019, the New England Legal Foundation and Associated Industries of Massachusetts jointly filed with the SJC an amicus brief in support of MWRA.

Closed Cases/Claims: No cases or claims have closed.

Subpoenas

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

Wage Garnishments

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

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of March 2019	As of Dec 2018	As of Sept 2018
Construction/Contract/Bid Protest (other than BHP)	3	3	2
Tort/Labor/Employment	5	4	5
Environmental/Regulatory/Other	2	2	2
Eminent Domain/Real Estate	0	0	0
Total	10	9	9
Other Litigation matters (restraining orders, etc.)	1	1	2
Total – all pending lawsuits	11	10	11
Claims not in suit:	1	1	2
Bankruptcy	0	0	0
Wage Garnishment	4	4	4
TRAC/Adjudicatory Appeals	1	1	1
Subpoenas	0	1	1
TOTAL – ALL LITIGATION MATTERS	17	17	19

TRAC/MISC.**New Appeals:**

There is one new appeal:
Howard Johnsons Hotel - Quincy (Giri Hotels)
MWRA Docket No. 19-01

Settlement by Agreement of Parties

No Settlement by Agreement of Parties.

Stipulation of Dismissal

No Joint Stipulation of Dismissals filed.

Notice of Dismissal Fine paid in full

No Notices of Dismissal, Fine Paid in Full.

Tentative or Final Decisions

There are no Tentative or Final Decisions issued in the 3rd Quarter FY 2019.

INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES 3rd Quarter - FY19

Highlights

During the 3rd quarter FY19, IA completed a review of Apollo Safety's contract to determine if monthly invoices and supporting documentation comply with the contract requirements. Recommendations included strengthening controls over required vendor documentation, obtaining authorized signature approvals, and reconciling the vendor's daily job work orders to the monthly invoice. IA also completed a review of the Bay State Fertilizer program with recommendations that included additional invoicing and reconciliation of quantities sold and on hand, as well as the financial results of the program for FY15 to FY18. IA also completed 3 consultant preliminary reviews, 2 incurred cost audits and a construction labor burden review.

Status of Recommendations

During FY19, 13 recommendations were closed of which 6 are from prior fiscal years' audits.

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

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

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
MIS Mobile Equipment Asset Tracking (9/26/16)	1	11	12
Wright Express (WEX) Credit Card Fuel Purchases (11/16/16)	1	12	13
Purchase Card Activity on Deer Island (3/31/17)	2	13	15
Review of Uniform Debit Card Program (3/30/18)	2	4	6
Review of MWRA Procedures on Payments for Police Details (5/23/18)	1	0	1
Overtime & Timesheet Review (6/30/18)	2	14	16
Fleet Services Process Review (6/30/18)	4	1	5
Fuel Use & Mileage Tracking (12/31/18)	7	1	8
Apollo Safety Review (3/19/19)	8	5	13
Total Recommendations	28	61	89

Cost Savings

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

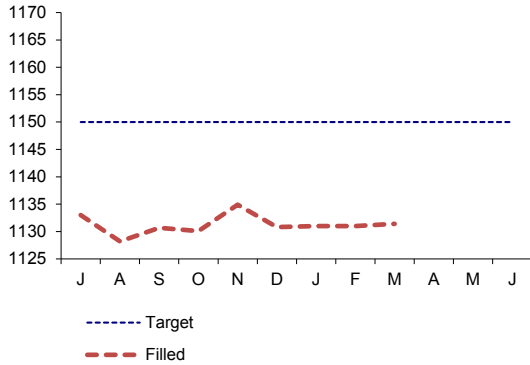
Cost Savings	FY15	FY16	FY17	FY18	FY19 Q3	TOTAL
Consultants	\$87,605	\$88,312	\$272,431	\$118,782	\$111,727	\$678,857
Contractors & Vendors	\$1,146,742	\$1,772,422	\$3,037,712	\$1,323,156	\$3,328,791	\$10,608,823
Internal Audits	\$543,471	\$220,929	\$224,178	\$204,202	\$159,108	\$1,351,888
Total	\$1,777,818	\$2,081,663	\$3,534,321	\$1,646,140	\$3,599,626	\$12,639,568

OTHER MANAGEMENT

Workforce Management

3rd Quarter - FY19

FTE Tracking



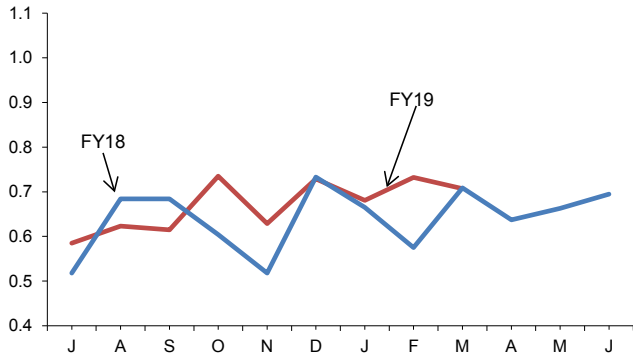
FY19 Target for FTE's = 1150
 FTE's as of MAR 2019 = 1131.4
 Tunnel Redunancy as of MAR 2019 = 6.0



Position Filled by Hires/Promos & Transfer for YTD FY19

	Pr/Trns	Hires	Total
FY17	155 (68%)	72 (32%)	227
FY18	118 (61%)	74 (39%)	192
FY19	96 (64%)	53 (36%)	149

Average Monthly Sick Leave Usage Per Employee

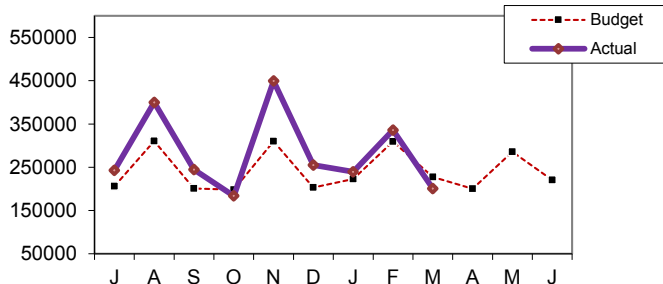


Average monthly sick leave for the 3rd Quarter of FY19 increased as compared to the 3rd Quarter of FY18 (7.83 to 7.68)

	Number of Employees	YTD	Annualized Total	Annual FMLA %	FY18
Admin	138	6.12	8.17	15.7%	6.6
Aff. Action	6	5.33	7.10	0.8%	7.1
Executive	4	5.33	2.43	22.4%	3.3
Finance	34	5.12	6.82	0.0%	6.1
Int. Audit	6	3.12	4.16	3.3%	4.9
Law	14	5.64	7.52	9.2%	6.9
OEP	7	3.53	4.70	70.1%	3.6
Operations	925	6.14	8.19	15.4%	7.7
Tunnel Red	6	6.78	9.05	73.4%	0
Pub. Affs.	11	3.30	4.40	15.5%	10.4
MWRA Avg	1151	1.34	8.05	15.5%	7.7

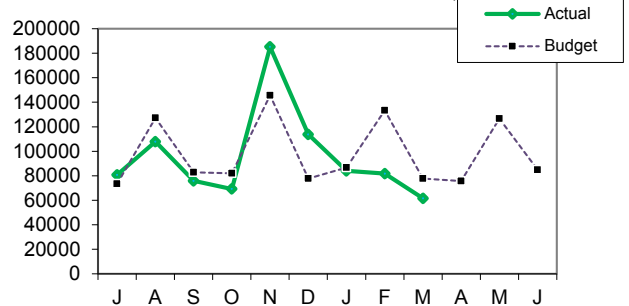
Percent of sick leave usage for FY19, attributable to Family and Medical Leave Act (FMLA) is 15.5% .

Field Operations Current Month Overtime \$



Total Overtime for Field Operations for the third quarter of 2019 was \$774,696 which is \$15k over budget. Emergency overtime was \$357k, which was (\$59k) under budget. Rain events totaled \$158k, Snow Removal was \$121k, emergency maintenance was \$28k. Coverage overtime was \$199k, which was \$53k over budget, reflecting the month's shift coverage requirements. Planned overtime was \$219k or \$21k over budget, approximately \$27k of which was for training for Chelsea Creek and Alewife stations. Maintenance off hours work was \$38k, maintenance work completion at \$28k. YTD, FOD has spent \$2,550,551 on overtime which is \$362k over budget.

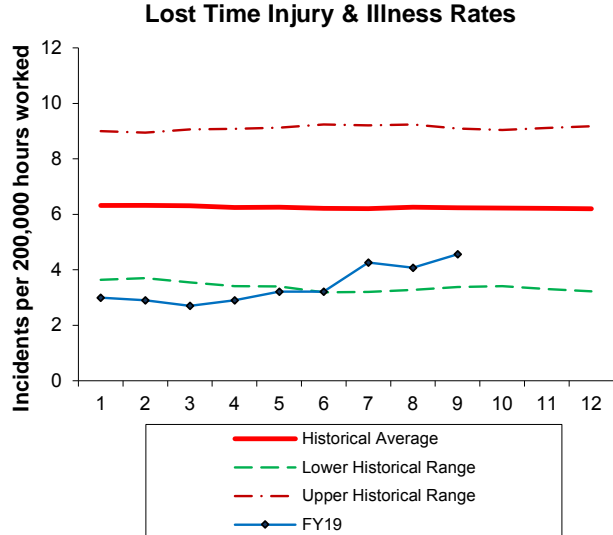
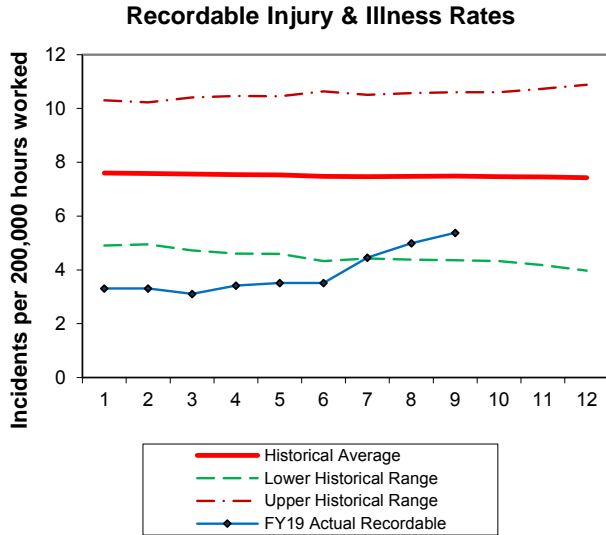
Deer Island Treatment Plant Current Month Overtime \$



Deer Island's total overtime expenditure for the third quarter was \$227,350, which was (\$71k) or 23.7% under budget for the month. During the third quarter Deer Island experienced lower than anticipated planned/unplanned overtime of (\$60k), and shift coverage of (\$11k). Storm coverage was virtually on budget for the third quarter. YTD Deer Island's overtime spending is \$859,877 which is (\$27k) or 3.1% under budget mostly due to lower planned/unplanned overtime of (\$189k), offset by higher spending for storm coverage of \$148k primarily in November and December

Workplace Safety

3rd Quarter - FY19



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

WORKERS COMPENSATION HIGHLIGHTS

	3rd Quarter Information		Open Claims
	New	Closed	
Lost Time	15	15	64
Medical Only	15	22	21
Report Only	18	18	
	QYTD		FYTD
Regular Duty Returns	13		28
Light Duty Returns	0		0

COMMENTS:

Regular Duty Returns

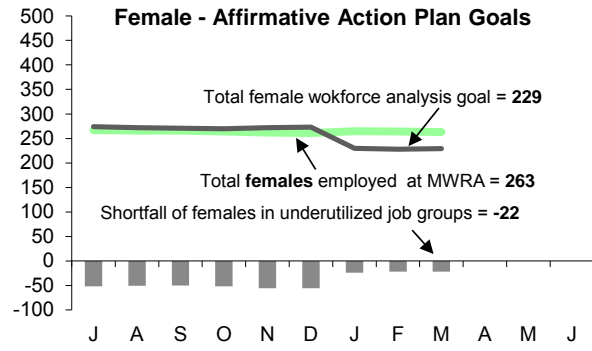
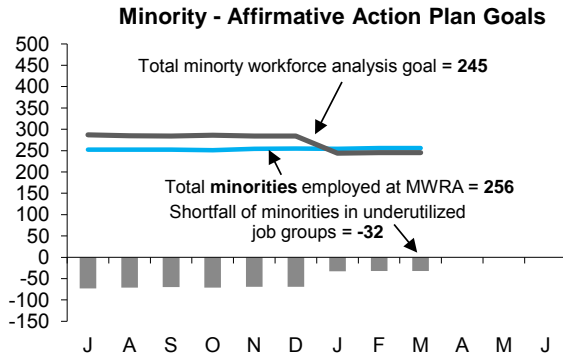
- JAN** 5 Employee returned to full duty/no restrictions
- FEB** 4 Employees returned to full duty/no restrictions
- MAR** 4 Employee returned to full duty/no restrictions

Light Duty Returns

- JAN** N/A
- FEB** N/A
- MAR** N/A

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

MWRA Job Group Representation 3rd Quarter - FY19



Highlights:

At the end of Q3 FY19, 7 job groups or a total of 32 positions are underutilized by minorities as compared to 9 job groups for a total of 44 positions at the end of Q3 FY18; for females 6 job groups or a total of 22 positions are underutilized females as compared to 7 job groups or a total of 62 positions at the end of Q3 FY18. During Q3, 4 minorities and 6 females were hired. During this same period 2 minorities and 3 females were terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 3/31/2019	Minorities as of 3/31/2019	Achievement Level	Minority Over or Under Underutilized	Females As of 3/31/2019	Achievement Level	Female Over or Under Underutilized
Administrator A	25	2	3	-1	10	7	3
Administrator B	24	1	4	-3	7	5	2
Clerical A	31	12	7	5	26	20	6
Clerical B	26	8	6	2	8	10	-2
Engineer A	77	28	16	12	17	18	-1
Engineer B	62	17	14	3	13	12	1
Craft A	118	20	23	-3	0	3	-3
Craft B	145	21	28	-7	2	7	-5
Laborer	70	20	16	4	3	3	0
Management A	95	18	23	-5	30	37	-7
Management B	43	9	9	0	10	5	5
Operator A	62	3	12	-9	1	1	0
Operator B	69	18	11	7	4	1	3
Professional A	29	3	7	-4	18	14	4
Professional B	159	43	42	1	79	59	20
Para Professional	55	16	11	5	27	15	12
Technical A	53	14	12	2	7	11	-4
Technical B	7	3	1	2	1	1	0
Total	1150	256	245	43/-32	263	229	56/-22

AACU Candidate Referrals for Underutilized Positions

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/Transfers	AACU Ref. External	Position Status
Administrative B	Director, Metro (Ops & Maintenance)	1	Int	1	0	Promo =WM
Administrative B	Director, Wastewater Ops & Maint.	1	Int	1	0	Promo =WM
Craft A	WSS Foreman	1	Int	1	0	Promo =WM
Craft A	M & O Specialist	1	Ext	1	1	Promo =WM
Craft B	Instrument Technician	1	Int	1	0	Promo =BM
Craft B	Instrumentation Specialist	1	Ext	1	0	Promo =WM
Engineer A	Program Manager, Data Management	1	Ext	0	0	NH =
Engineer A	Program Manager, Meter & Data Eng.	1	Ext	0	0	NH =WM
Laborer	Building and Grounds Worker	2	Ext	0	0	2NH =(BM) (WM)
Laborer	OMC Laborer	1	Ext	0	0	NH =WM
Management A	Deputy Contracts Manager	1	Ext	0	0	NH =WM
Management A	Sr. Program Manager	1	Int/Ext	1	0	Promo =BF
Management A	Manager, Employment	1	Int	1	0	Promo =BF
Management A	Warehouse Manager	1	Int	1	0	Promo =WM
Management A	Program Manager, Water Quality	1	Int	1	0	Promo =TM
Management B	Assistant Contracts Manager	1	Ext	1	0	Promo =BF
ParaProfessional	TIC Clerk	1	Int/Ext	1	1	NH =WM
Operator A	Area Supervisor	2	Int/Ext	1	0	LT =(WM) NH =(WM)
Operator A	Sr & Transmission & Treatment Operator	2	Int/Ext	2	0	Promo =(HM) (WM)
Operator B	Operations Supervisor-Clinton AWWTP	1	Int	1	0	Promo =WM

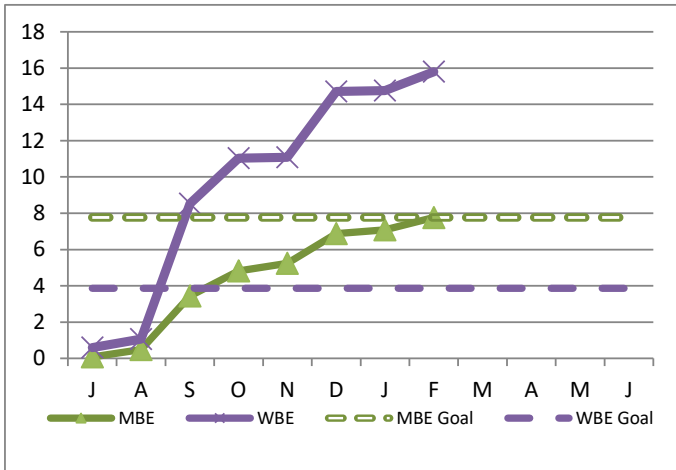
MBE/WBE Expenditures

3rd Quarter - FY19

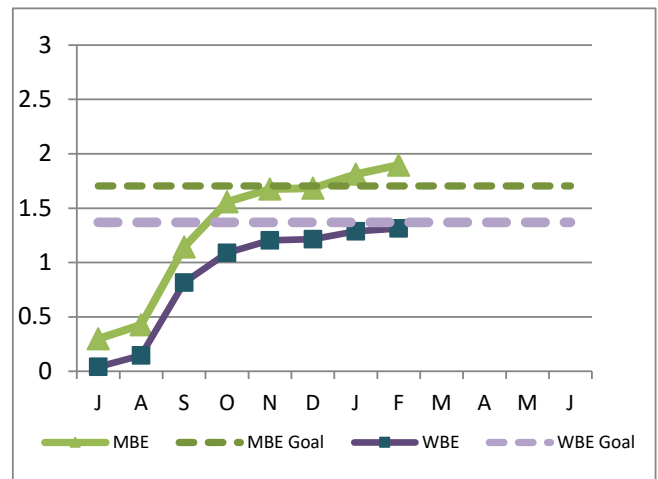
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY19 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they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

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

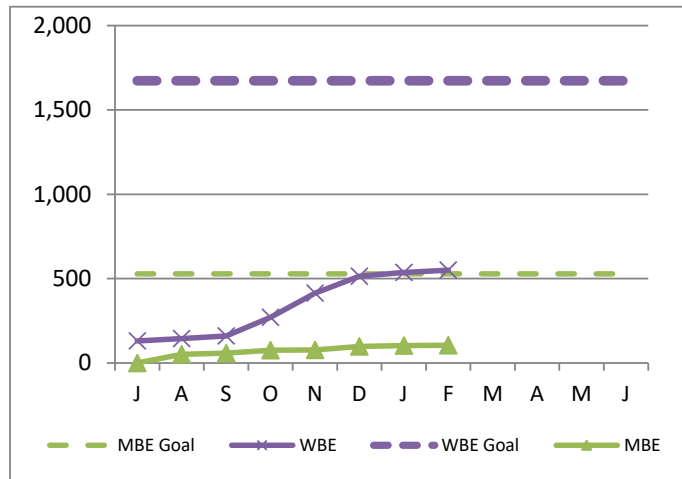
Construction (millions \$)



Professional Services (millions \$)



Goods/Services (Thousands \$)



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

MBE			
FY19 YTD		FY18	
Amount	Percent	Amount	Percent
8,613,161	110.9%	12,337,140	169.4%
2,033,037	119.3%	1,680,583	89.2%
121,855	23.1%	183,744	39.8%
10,768,053	107.7%	14,201,467	298.4%

WBE			
FY19 YTD		FY18	
Amount	Percent	Amount	Percent
16,825,812	435.7%	15,875,719	438.4%
1,332,436	97.3%	1,196,643	79.0%
632,717	37.8%	786,485	78.9%
18,790,965	272.1%	17,858,847	596.3%

Construction
Prof Svcs
Goods/Svcs
Totals

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

MWRA - CEB Expenses

3rd Quarter – FY19

As of March 2019, total expenses are \$554.3 million, \$4.9 million or 0.9% lower than budget, and total revenue is \$578.7 million, \$2.8 million or 0.5% over budget, for a net variance of \$7.7 million.

Expenses –

Direct Expenses are \$170.1 million, \$4.4 million or 2.5% under budget.

- **Wages & Salaries** are under budget by \$3.5 million or 4.5%. Regular pay is \$3.5 million under budget, due to lower head count, and timing of backfilling positions. At the end of March, the average Full Time Equivalent (FTE) positions was 1,135, twenty fewer than the 1,155 FTE's budgeted.
- **Utilities** expenses are \$1.3 million or 7.7% over budget due to overspending of \$1.2M on electricity primarily at Deer Island, \$732k, reflecting a new contract retroactive to November 2018.
- **Ongoing Maintenance** expense \$1.2 million under budget or 5.3%, reflecting the timing of projects.
- **Professional Services** expense \$1.1 million under budget or 20.5%, primarily due to under spending for Other Professional Services, Engineering Services, and Lab Testing & Analysis of \$394k, 212k, and \$181k, respectively. Additionally, Computer System Consulting was \$247k under budget while Legal expenses were under budget by \$163k.
- **Fringe Benefits** expenses are \$721k or 4.6% under budget reflecting lower health insurance cost of \$678k again due to lower head count.
- **Other Materials** expenses are \$787k or 18.5% under budget reflecting delayed spending on computer hardware of \$873k and lower spending on equipment & furniture of \$251k. Computer hardware purchases have been delayed.
- **Other Services** expenses are \$754k or 4.4% over budget reflecting higher processing volume at pelletization plant of \$1.1 million, partially offset by lowering spending on Telephone Services of \$236k.
- **Overtime** expenses are \$433k or 12.9% over budget due to wet weather events.

Indirect Expenses are \$31.6 million, \$468k or 1.5% under budget reflecting lower than budgeted Watershed Reimbursement of \$239k and lower HEEC related charge due to delay of the low voltage switchgear upgrade project of \$463k partially offset by increased HEEC Capacity charges of \$230k.

Debt Service Expenses totaled \$352.6 million. Budgeted expenses in debt service have been accrued in a defeasance account.

Revenue and Income –

Total Revenue and Income is \$578.7 million, \$2.8 million higher than budget, primarily due to greater than budgeted investment income reflecting higher returns of \$2.1 million and Disposal of Equipment \$396k, and Miscellaneous Revenue \$169k over budget.

	March 2019 Year-to-Date			
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	\$ 78,629,796	\$ 75,128,632	\$ (3,501,164)	-4.5%
OVERTIME	3,359,399	3,792,488	433,089	12.9%
FRINGE BENEFITS	15,577,183	14,855,936	(721,247)	-4.6%
WORKERS' COMPENSATION	1,816,957	1,957,403	140,446	7.7%
CHEMICALS	7,989,766	8,295,445	305,679	3.8%
ENERGY AND UTILITIES	16,890,625	18,191,484	1,300,859	7.7%
MAINTENANCE	22,984,226	21,775,115	(1,209,111)	-5.3%
TRAINING AND MEETINGS	340,099	359,688	19,589	5.8%
PROFESSIONAL SERVICES	5,477,127	4,356,738	(1,120,389)	-20.5%
OTHER MATERIALS	4,254,868	3,467,696	(787,172)	-18.5%
OTHER SERVICES	17,130,868	17,884,849	753,981	4.4%
TOTAL DIRECT EXPENSES	\$ 174,450,914	\$ 170,065,474	\$ (4,385,437)	-2.5%
INSURANCE	\$ 1,574,294	\$ 1,577,605	\$ 3,311	0.2%
WATERSHED/PILOT	19,804,820	19,566,035	(238,785)	-1.2%
HEEC PAYMENT	1,040,122	807,420	(232,702)	-22.4%
MITIGATION	1,210,696	1,210,696	-	0.0%
ADDITIONS TO RESERVES	1,411,351	1,411,351	-	0.0%
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
TOTAL INDIRECT EXPENSES	\$ 32,041,283	\$ 31,573,108	\$ (468,176)	-1.5%
STATE REVOLVING FUND	\$ 64,600,419	\$ 62,991,084	\$ (1,609,335)	-2.5%
SENIOR DEBT	203,282,304	203,282,304	-	0.0%
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%
CURRENT REVENUE/CAPITAL	10,649,994	10,649,994	-	0.0%
SUBORDINATE MWRA DEBT	69,060,609	69,060,609	-	0.0%
LOCAL WATER PIPELINE CP	3,562,797	3,562,797	-	0.0%
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%
DEBT PREPAYMENT	-	-	-	---
VARIABLE DEBT	-	(5,529,876)	(5,529,876)	---
DEFEASANCE ACCOUNT	-	7,139,211	7,139,211	---
TOTAL DEBT SERVICE	\$ 352,624,192	\$ 352,624,192	\$ -	0.0%
TOTAL EXPENSES	\$ 559,116,389	\$ 554,262,774	\$ (4,853,613)	-0.9%
REVENUE & INCOME				
RATE REVENUE	\$ 554,281,650	\$ 554,281,650	\$ -	0.0%
OTHER USER CHARGES	6,804,314	6,889,897	85,583	1.3%
OTHER REVENUE	5,009,021	5,644,492	635,471	12.7%
RATE STABILIZATION	-	-	-	---
INVESTMENT INCOME	9,786,619	11,881,071	2,094,452	21.4%
TOTAL REVENUE & INCOME	\$ 575,881,604	\$ 578,697,110	\$ 2,815,506	0.5%

Cost of Debt

3rd Quarter – FY19

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

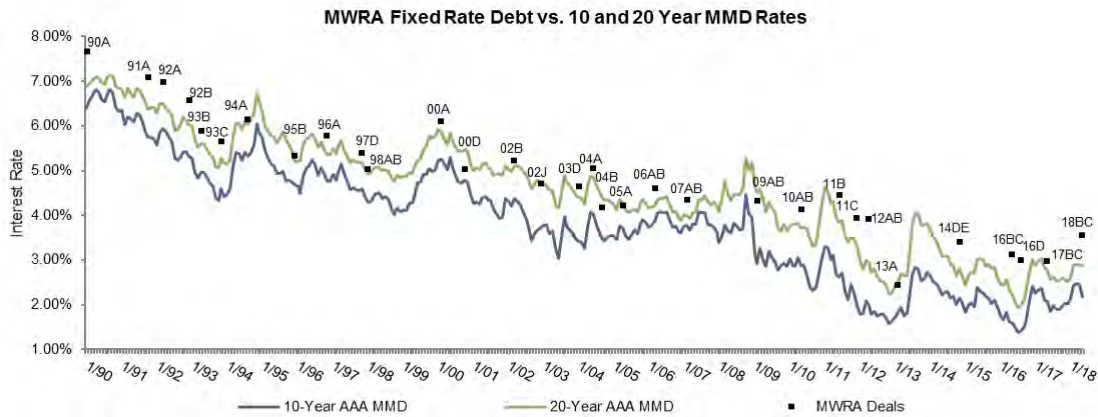
Average Cost of MWRA Debt FYTD

Fixed Debt (\$3.40 billion)	3.77%
Variable Debt (\$418.9 million)	2.07%
SRF Debt (\$979.9 million)	1.51%

Weighted Average Debt Cost (\$4,755 billion) 3.16%

Most Recent Senior Fixed Debt Issue May 2018

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

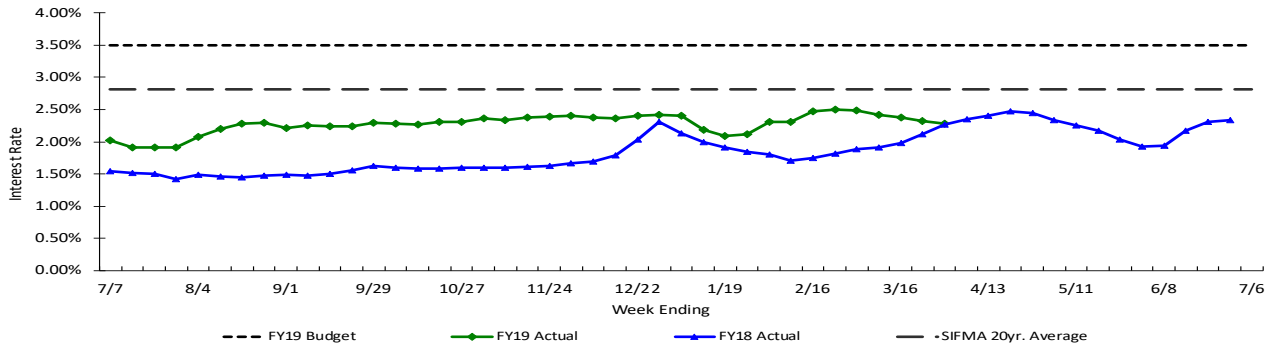


Bond Deal	1993B	1993C	1994A	1995B	1996A	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B
Rate	5.89%	5.66%	6.15%	5.34%	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%
Avg Life	19.8 yrs	19.1 yrs	19.5 yrs	20.5 yrs	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6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

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

Weekly Average Variable Interest Rates vs. Budget

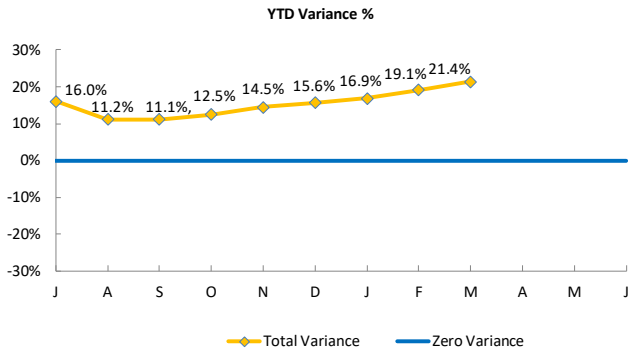
MWRA currently has eleven variable rate debt issues with \$782.2 million outstanding, excluding commercial paper. Of the eleven outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In February, SIFMA rates ranged from a high of 1.74% to a low of 1.50% for the month. MWRA’s issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate risk as compared to fixed rate debt.



Investment Income

3rd Quarter – FY19

Year To Date



	YTD BUDGET VARIANCE			
	(\$000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	\$17	\$6	23	2.1%
Construction	(\$15)	\$409	394	35.5%
Debt Service	\$35	\$852	887	41.3%
Debt Service Reserves	\$3	\$114	117	4.1%
Operating	\$34	\$145	179	19.9%
Revenue	\$2	\$488	490	41.0%
Redemption	\$0	\$3	3	0.7%
Total Variance	\$76	\$2,018	\$2,094	21.4%

YTD Average Balances Budgeted vs. Actual

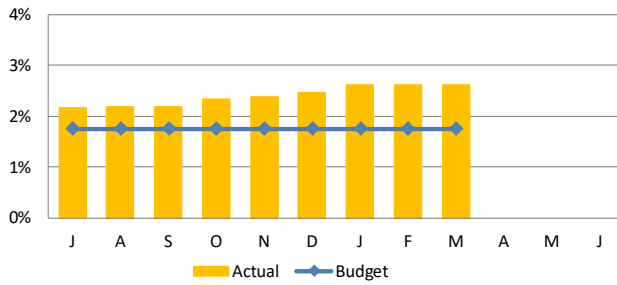


YTD Average Interest Rate Budgeted vs. Actual

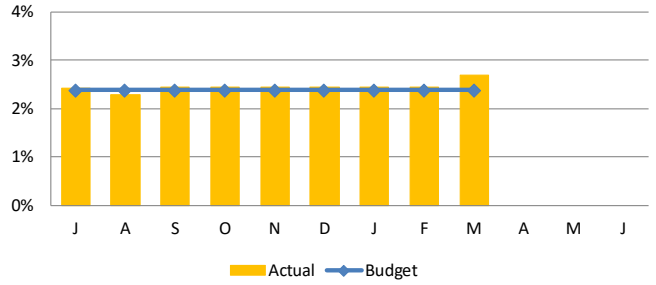


Monthly

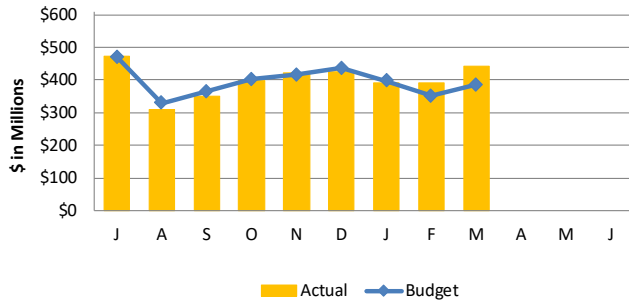
Short -Term Interest Rates



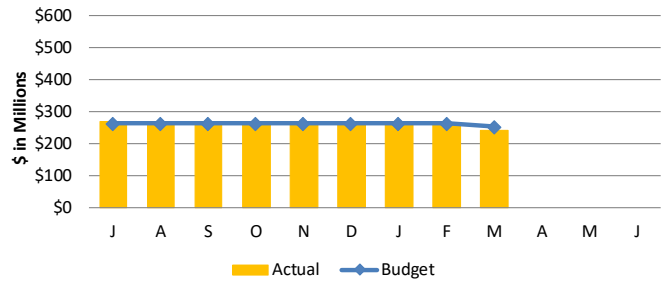
Long -Term Interest Rates



Short-Term Average Balances



Long-Term Average Balances



STAFF SUMMARY


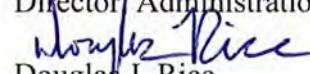
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: Delegated Authority Report – April 2019



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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


Michele S. Gillen
Director Administration

Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period April 1 – 30, 2019.

This report is broken down into three sections:

- Awards of Construction, non-professional and professional services contracts and change orders and amendments in excess of \$25,000, including credit change orders and amendments in excess of \$25,000;
- Awards of purchase orders in excess of \$25,000; and
- Amendments to the Position Control Register, if applicable.

BACKGROUND:

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

Construction Contract Awards:

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

Change Orders:

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

Professional Service Contract Awards:

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

Non-Professional Service Contract Awards:

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

Purchase or Lease of Equipment, Materials or Supplies:

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

Amendments:

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

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

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


CONSTRUCTION/PROFESSIONAL SERVICES DELEGATED AUTHORITY ITEMS APRIL 1 - 30, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	04/01/19	FIRE ALARM SYSTEM SERVICE METRO BOSTON AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR FIRE ALARM SYSTEM TESTING AND MONITORING SERVICES, NON-EMERGENCY AND EMERGENCY REPAIR SERVICES AND REPLACEMENT PARTS FOR EQUIPMENT LOCATED AT VARIOUS MWRA FACILITIES FOR A TERM OF 730 CALENDAR DAYS.	OP-380	AWARD	SULUVAN & McLAUGHLIN COMPANIES, INC.	\$323,955.00
C-2.	04/03/19	WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVICES FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: LAWN MOWING AND TRIMMING, UNSCHEDULED GROUNDSKEEPING SERVICES AND REPLACEMENT PLANT MATERIAL.	OP-350	1	M. NEVES, INC.	(\$36,664.50)
C-3.	04/03/19	ALEWIFE BROOK PUMP STATION RENABILITATION REMOVE, REPLACE AND RELOCATE EXISTING CONDUITS AND WIRE; FURNISH AND INSTALL CONDUIT AND WIRE TO LOCAL CONTROL PANEL AND A BREAKER IN MOTOR CONTROL CENTER; FURNISH AND INSTALL PRIMARY CABLE FROM THE METERING ENCLOSURE TO THE TRANSFORMER.	6797	9	BARLETTA ENGINEERING CORP.	\$27,728.00
C-4.	04/03/19	WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVICES AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR GROUNDSKEEPING SERVICES AT THE JOHN J. CARROLL WATER TREATMENT PLANT, NORUMBEGA COVERED STORAGE FACILITY AND FRAMINGHAM RESERVOIR 3 FOR A TERM OF 610 CALENDAR DAYS.	OP-381	AWARD	M. NEVES, INC.	\$110,000.00
C-5.	04/03/19	PRISON POINT CSO FACILITY IMPROVEMENTS ADD THE FOLLOWING OUT-OF-SCOPE DESIGN IMPROVEMENTS: e-CONSTRUCTION ORION SOFTWARE, HIGH PERFORMANCE SCADA HMI GRAPHICS, VARIANCE ASSISTANCE, TOTAL CHLORINE RESIDUALS ANALYZER IMPROVEMENTS, RADIO SYSTEM MODIFICATIONS, TOWABLE GENERATOR QUICK CONNECT AND UNINTERRUPTIBLE POWER SUPPLY MODIFICATIONS.	7359	2	ARCADIS U.S., INC.	\$233,760.00
C-6.	04/08/19	ELECTRICAL TESTING AND TECHNICAL SERVICES - METROPOLITAN BOSTON FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: UNSCHEDULED TECHNICAL SERVICES, EMERGENCY UNSCHEDULED TECHNICAL SERVICES, PARTS AND MARK-UP, SWITCHGEAR MAINTENANCE SERVICES AT GILLIS PUMP STATION.	OP-237	1	INFRA-RED BUILDING AND POWER SERVICE CO., INC.	(\$146,641.19)
C-7.	04/08/19	WACHUSETT AQUEDUCT PUMPING STATION FURNISH AND INSTALL A PROGRAMMABLE LOGIC CONTROLLER PROCESSOR; FURNISH AND INSTALL TWO BAR RACKS, BRACING AND STIFFENERS; FURNISH AND INSTALL NEW ELECTRIC WATER HEATER; FURNISH AND INSTALL CONDUIT AND CABLE AND CONNECT TO NEW AUTOMATIC TEMPERATURE CONTROL PANEL; FURNISH AND INSTALL CARBON STEEL PIPE.	7157	56	BHD/BEC JV 2015, A JOINT VENTURE	\$50,507.00
C-8.	04/08/19	DEMOLITION OF SECTION 56 WATER MAIN GENERAL EDWARDS BRIDGE REVISE THE MASSDOT TRAFFIC MANAGEMENT, FURNISH AND INSTALL ROAD PLATES DAILY, PERFORM ISOLATION AT ALTERNATE LOCATION, REMOVE AND REINSTALL TOP OF VALVE VAULT STRUCTURE AND RESTORE PAVEMENT, EXTEND CONTRACT TERM BY 60 CALENDAR DAYS FROM MARCH 16, 2019 TO MAY 15, 2019.	7536	1	R. ZOPPO CORP.	\$70,000.00
C-9.	04/09/19	MONITORING AND MAINTENANCE OF INTRUSION ALARM SYSTEMS AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR MONITORING AND MAINTENANCE OF INTRUSION ALARM SYSTEMS FOR A TERM OF 730 CALENDAR DAYS.	EKE-042	AWARD	INTELLIGENT SYSTEMS AND CONTROL CONTRACTORS, INC. d/b/a FTG SECURITY	\$68,300.00
C-10.	04/17/19	BOILER AND WATER HEATER SERVICE INCREASE NON-EMERGENCY ON CALL SERVICES AT VARIOUS FACILITIES AND REPLACEMENT PARTS ALLOWANCE.	OP-355	1	COOLING & HEATING SPECIALISTS, INC.	\$48,600.00
C-11.	04/18/19	WIND TURBINE MAINTENANCE AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR MAINTENANCE OF TWO 600 KW WIND TURBINES LOCATED AT DEER ISLAND TREATMENT PLANT AND THE 1,500 KW CHARLESTOWN WIND TURBINE LOCATED AT THE DeLAURI PUMP STATION FOR A TERM OF 730 CALENDAR DAYS.	5582	AWARD	BALDWIN ENERGY, LLC	\$371,904.00
C-12.	04/24/19	MISCELLANEOUS FENCING AND GATES FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: MATERIALS ALLOWANCE, CREW FOREMAN WITH TRUCK AND TOOLS, LABORERS.	6760X	2	PREMIER FENCE, LLC	(\$251,776.51)

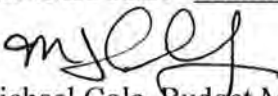
PURCHASING DELEGATED AUTHORITY ITEMS APRIL 1 - 30, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1	04/01/19	SUPPLY AND DELIVERY OF CARBON DIOXIDE AWARD OF A ONE-YEAR PURCHASE ORDER FOR THE SUPPLY AND DELIVERY OF CARBON DIOXIDE TO THE JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-4633		MESSER, LLC	\$312,468.00
P-2	04/05/19	INVASIVE PLANT CONTROL AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR INVASIVE PLANTS CONTROL AT WARE RIVER-SHAFT 8 INTAKE POOL	WRA-4662Q		DAVEY RESOURCE GROUP, INC.	\$36,700.00
P-3	04/05/19	PURCHASE OF A CONSOLE AND WORKPLACE SYSTEM AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 6 CONSOLES, 3 WORKSTATIONS, 1 ADJUSTABLE HEIGHT WORKBENCH AND 2 STORAGE CABINETS FOR THE MARLBOROUGH MAINTENANCE FACILITY.	WRA-4612		COMMUNICATIONS SUPPLY CORPORATION	\$76,015.90
P-4	04/05/19	ASSIGNMENT AND ASSUMPTION ASSIGNMENT OF A TWO-YEAR PURCHASE ORDER FOR THE SUPPLY AND DELIVERY OF LIQUID OXYGEN TO THE JOHN J. CARROLL WATER TREATMENT PLANT FROM UNDE TO MESSER, LLC.	WRA-4383		MESSER, LLC	\$173,900.83
P-5	04/08/19	PURCHASE OF TWO 30-TON ROOFTOP CONDENSING UNITS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO 30-TON CONDENSING UNITS FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4649		HTS ENGINEERING INC.	\$43,595.00
P-6	04/10/19	PURCHASE OF 12 POWER LINE CONDITIONERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 12 POWER LINE CONDITIONERS FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4654		U.S. ELECTRICAL SERVICES, INC.	\$33,653.00
P-7	04/10/19	CRYPTOSPORIDIUM AND GIARDIA TESTING AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR CRYPTOSPORIDIUM AND GIARDIA TESTING .	WRA-4666		ANALYTICAL SERVICES, INC.	\$48,140.00
P-8	04/10/19	PURCHASE OF 240 LED REPLACEMENT EMERGENCY LIGHTING FIXTURES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 240 LED REPLACEMENT EMERGENCY LIGHTING FIXTURES FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4655		GRAYBAR ELECTRIC COMPANY, INC.	\$81,747.50
P-9	04/11/19	SUPPLY AND DELIVERY OF 420,000 GALLONS 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-4682		GLOBAL MONTELLO GROUP CORPORATION	\$904,008.00
P-10	04/16/19	MAINTENANCE AND SUPPORT FOR IVANTI AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT IT558 TO THE LOWEST RESPONSIVE BIDDER FOR MAINTENANCE AND SUPPORT FOR IVANTI ENTERPRISE MANAGEMENT SUITE FOR THE TIME PERIOD MAY 21, 2019 THROUGH MAY 20, 2020.	WRA-4671Q		INSIGHT DIRECT, USA	\$55,601.51
P-11	04/18/19	PURCHASE OF A COOLING TOWER FAN ASSEMBLY AWARD OF A CRITICAL NEED PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF A COOLING TOWER FAN ASSEMBLY FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4686		EASTERN BEARINGS, INC.	\$31,000.00
P-12	04/18/19	PURCHASE OF COMPONENTS TO UPGRADE THREE ALLEN BRADLEY VARIABLE FREQUENCY DRIVES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR COMPONENTS TO UPGRADE THREE ALLEN BRADLEY 250 HORSEPOWER VARIABLE FREQUENCY DRIVES FOR THE DELAURI PUMP STATION.			NORTHEAST ELECTRICAL DISTRIBUTORS, INC.	\$45,538.20
P-13	04/18/19	PURCHASE OF REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE ACTIVATED SLUDGE PUMPS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4656		CORROSION PRODUCTS & EQUIPMENT, INC.	\$77,628.00
P-14	04/18/19	PURCHASE OF COMPONENTS TO UPGRADE THREE ALLEN BRADLEY VARIABLE FREQUENCY DRIVES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR COMPONENTS TO UPGRADE THREE ALLEN BRADLEY 450 HORSEPOWER VARIABLE FREQUENCY DRIVES FOR THE FRAMINGHAM PUMP STATION.			NORTHEAST ELECTRICAL DISTRIBUTORS, INC.	\$140,861.08
P-15	04/25/19	PURCHASE OF ONE 80VA UNINTERRUPTABLE POWER SUPPLY AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE UNINTERRUPTABLE POWER SUPPLY FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4668		NEEDHAM ELECTRIC SUPPLY CORPORATION	\$109,675.00
P-16	04/25/19	SUPPLY AND DELIVERY OF SODIUM HYDROXIDE AWARD OF TWO SEPARATE ONE-YEAR PURCHASE ORDERS TO THE LOWEST RESPONSIVE BIDDERS FOR SUPPLY AND DELIVERY OF SODIUM HYDROXIDE TO THE DEER ISLAND TREATMENT PLANT.	WRA-4669		BORDEN & REMINGTON CORPORATION UNIVAR USA, INC.	\$228,366.50 \$37,590.00
P-17	04/25/19	SUPPLY AND DELIVERY OF LIQUID OXYGEN AMENDMENT NO. 1 TO PURCHASE ORDER FOR SUPPLY AND DELIVERY OF LIQUID OXYGEN TO THE JOHN J. CARROLL WATER TREATMENT PLANT.			MESSER, LLC.	\$284,115.23

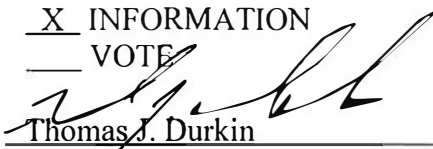
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: FY19 Financial Update and Summary Through April 2019

COMMITTEE: Administration, Finance & Audit


Michael Cole, Budget Manager
Preparer/Title

INFORMATION
 VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

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

DISCUSSION:

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of using these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority's multi-year rate management strategy. As such, in April the year-to-date debt related savings of \$8.7 million was transferred to the Defeasance Account. This favorable variance is largely driven by the lower than budgeted variable rates. It is noteworthy to mention that the favorable budget variance from the variable rate bonds is reduced this year relative to past years due to rising interest rates. Staff are requesting Board approval at this meeting of the FY19 planned defeasance, which will be built into the Final FY20 Budget.

The total Year-to-Date variance for the FY19 CEB is \$7.7 million, due to lower direct expenses of \$3.5 million and indirect expenses of \$0.5 million; and higher revenue of \$3.6 million. The year-end favorable variance is projected at \$26.3 million, of which \$16.7 million is related to debt service. Beyond debt service savings, staff project a surplus of approximately \$9.6 million at year-end of which \$4.6 million would be from lower direct expenses, \$2.0 million from lower indirect expenses, and \$3.0 million from greater than budgeted revenues.

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

FY19 Current Expense Budget

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

- Net Lower Direct Expenses of \$3.5 million or 1.8% under budget. Spending was lower for Wages & Salaries, Maintenance, Professional Services, Fringe Benefits, and Other Materials. This is offset by higher spending on Utilities, Other Services, Overtime, Chemicals, Worker's Compensation, and Training and Meetings.
- Lower Indirect Expenses of \$0.5 million or 1.5%, due to lower expenses for the low voltage switchgear upgrades related to the HEEC cable and lower Watershed reimbursements due to a FY2018 year-end over accrual.

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

	FY19 Budget YTD	FY19 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$193.2	\$189.6	-\$3.5	-1.8%
Indirect Expenses	\$34.6	\$34.1	-\$0.5	-1.5%
Capital Financing	\$390.7	\$390.7	\$0.0	0.0%
Total	\$618.5	\$614.4	-\$4.0	-0.7%

Totals may not add due to rounding

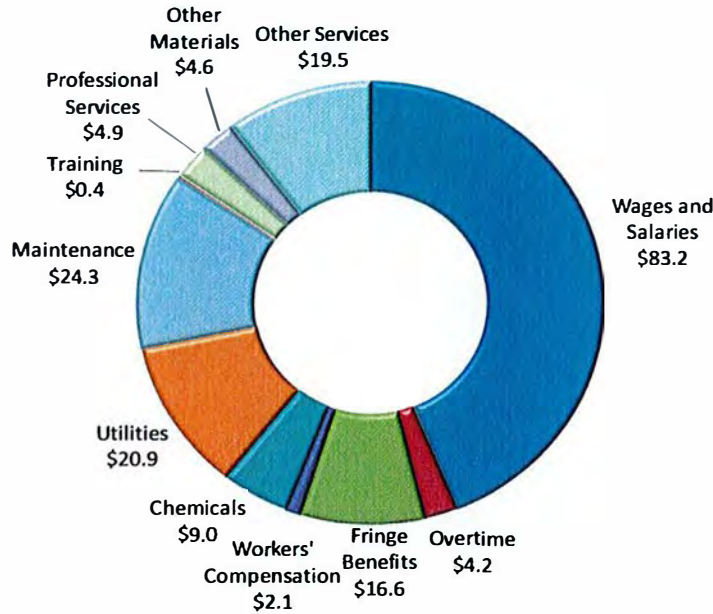
Total Revenues of \$639.3 million were \$3.6 million or 0.6% over budget. The majority of the variance is pertaining to the favorable short-term rates for investment income.

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

Direct Expenses

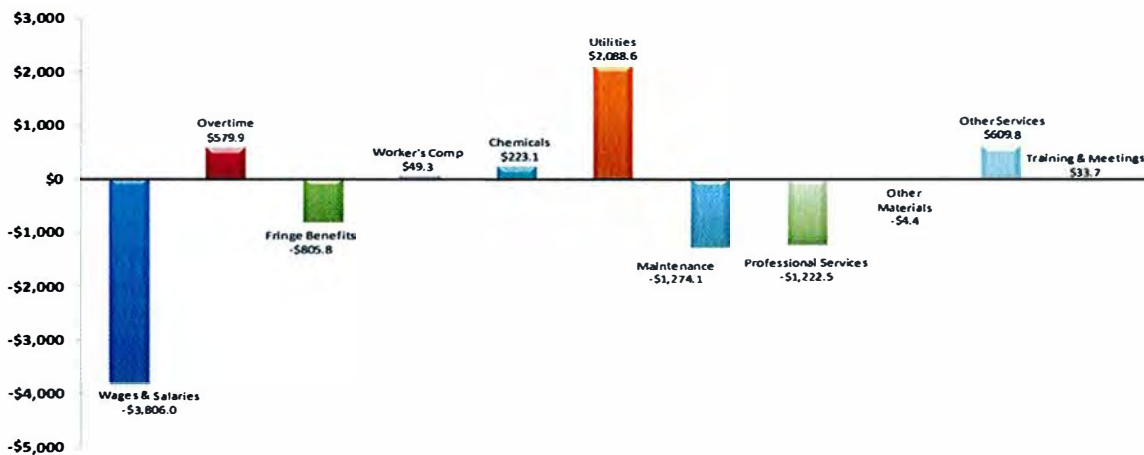
Year-to-date direct expenses totaled \$189.6 million, which was \$3.5 million or 1.8% less than budgeted.

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



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

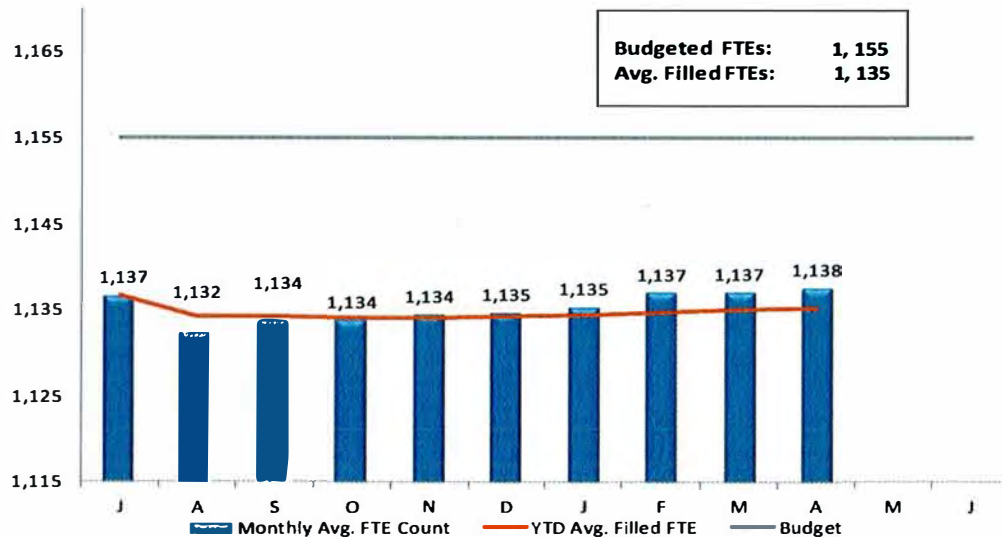
**FY19 Year-to-Date Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries are under budget by \$3.8 million or 4.4%. Year to date, there have been 20 fewer average FTEs (1,135 versus 1,155 budget) or 1.7% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions and lower leave balance accruals also contributed to Regular Pay being under budget.

FY19 MWRA Full Time Equivalent (FTE) Position Trend



Maintenance

Maintenance was under budget by \$1.3 million or 5.0%, largely driven by Field Operations (\$1.1 million). Much of the underspending in Field Operations is due to the timing delays for projects that will be completed later in FY19 than budgeted or due to the shift of projects from the CEB to the CIP after reassessing the scope and costs.

Professional Services

Professional Services were under budget by \$1.2 million or 20.1%. The overall underspending year-to-date is due to Other Professional Services in Human Resources, Law, Operations, and Finance; Computer System Consultants in MIS; Engineering Services in Operations; Lab Testing and Analysis in EnQual and Lab Services; Legal Services in Law and Human Resources; and Engineering Services.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$0.8 million or 4.6%. This is primarily driven by lower Health Insurance costs of \$0.8 million due to fewer employees and retirees participating in health insurance plans, the change to the ratio of employee contribution for past employees

versus new hires that contribute at a higher percentage, and change from family to individual plans which are less costly.

Other Materials

Other Materials were under budget by \$4,000 or 0.1%, largely driven by the timing of purchases related to Computer Hardware and Equipment/Furniture, offset by overspending for Vehicle Purchases/Replacements in Operations, and Lab and Testing Supplies in the Department of Laboratory Services.

Utilities

Utilities were overspent by \$2.1 million or 11.1%. Electricity overspending of \$1.1 million is driven by Deer Island (\$0.7 million) and Field Operations (\$0.5 million), due to new contract pricing retroactive to November 2018. In addition, Diesel Fuel was over budget by \$0.9 million or 4.8% due to the timing of deliveries at Deer Island.

Other Services

Other Services were over budget by \$0.6 million or 3.2%. The main area of overspending was for Sludge Pelletization (\$0.9 million) due to higher year-to-date quantities. This overage was offset by lower spending for Telephones (\$0.3 million) in MIS and Field Operations and in Other Services (\$0.1 million) for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for lead issues in Planning.

Overtime

Overtime expenses were higher than budget by \$0.6 million or 15.8%. The over spending for the fiscal year was mainly in Wastewater Operations due to wet weather events.

Chemicals

Chemicals were higher than budget by \$0.2 million or 2.5%. The majority of the variance for Chemicals was the result of higher Ferric Chloride at Deer Island and Clinton; higher Sodium Hypochlorite usage at Deer Island and Wastewater Operations due to wet weather; higher Activated Carbon at Nut Island Headworks and Braintree-Weymouth Intermediate Pump Station; higher Sodium Bisulfite usage at Deer Island and in Wastewater Operations; and higher Sodium Hypochlorite at the Carroll Water Treatment Plant due to higher usage of Wachusett Reservoir water versus the higher quality water from the Quabbin Reservoir, which required higher dosages to disinfect the water. This is offset by lower spending for Soda Ash at Carroll Water Treatment Plant and lower Hydrogen Peroxide at Deer Island. Through March, Deer Island flows are 7.4% greater than budget and the Carroll Plant flows are 3.4% less than budgeted.

Worker's Compensation

Worker's Compensation expenses were higher than budget by \$49,000 or 2.4%. The higher expenses were primarily due to higher compensation payments and net reserves changes (\$162,000), offset by lower administrative expenses (\$67,000) and medical payments and net reserve changes (\$45,000).

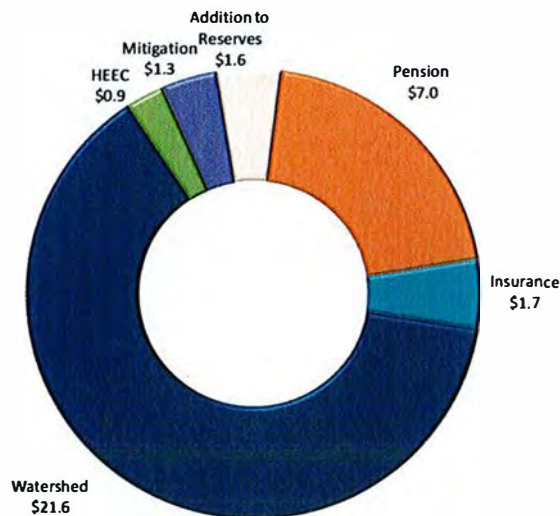
Training & Meetings

Training & Meetings expenses were slightly higher than budgeted by \$34,000 or 9.5% driven by higher spending in Field Operations, offset by lower spending in MIS.

Indirect Expenses

Year-to-date Indirect Expenses totaled \$34.1 million, which is \$0.5 million or 1.5% under budget. There are variances within the lines that comprise Indirect Expenses, including lower Watershed and HEEC cable costs. Watershed costs are lower than budget by \$0.3 million due to an over-accrual at the end of FY18 on Watershed operating expenses. Staff typically need to close the fiscal year prior to receiving the final invoice from DCR, so an estimated amount is accrued based on recent history. HEEC charges are under budget by \$0.2 million for the low voltage switchgear upgrades.

**FY19 Year-to-date Indirect Expenses-YTD
(in millions)**

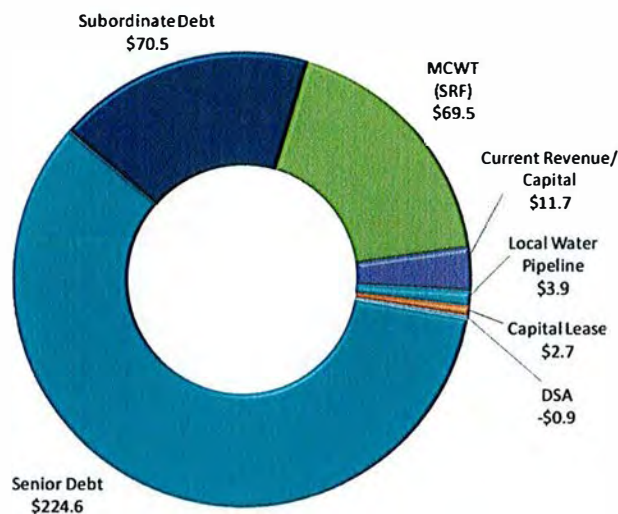


Capital Financing

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

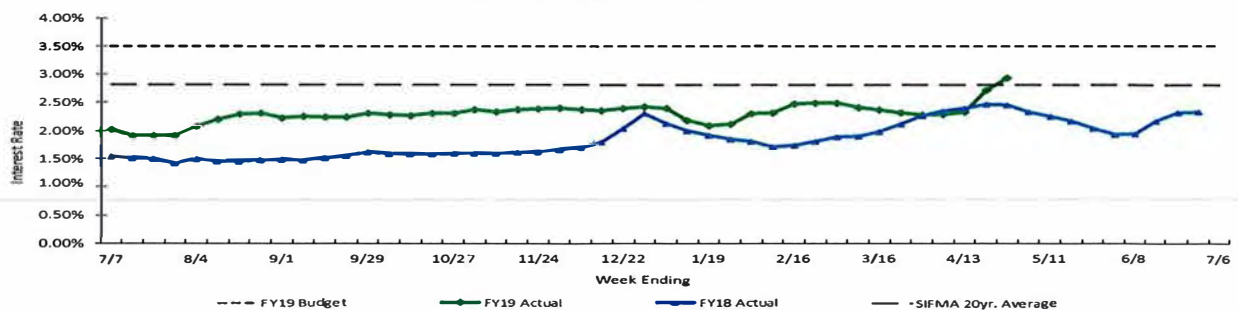
Year-to-date Capital Financing expenses for FY19 totaled \$390.7 million, which is right on budget after the transfer of \$8.7 million of year-to-date surplus to the Defeasance Account. The surplus is primarily attributable to short-term variable rates. As in the past, staff have already identified candidates for the Proposed FY19 defeasance which will have favorable impacts in the FY20-22 period.

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



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

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



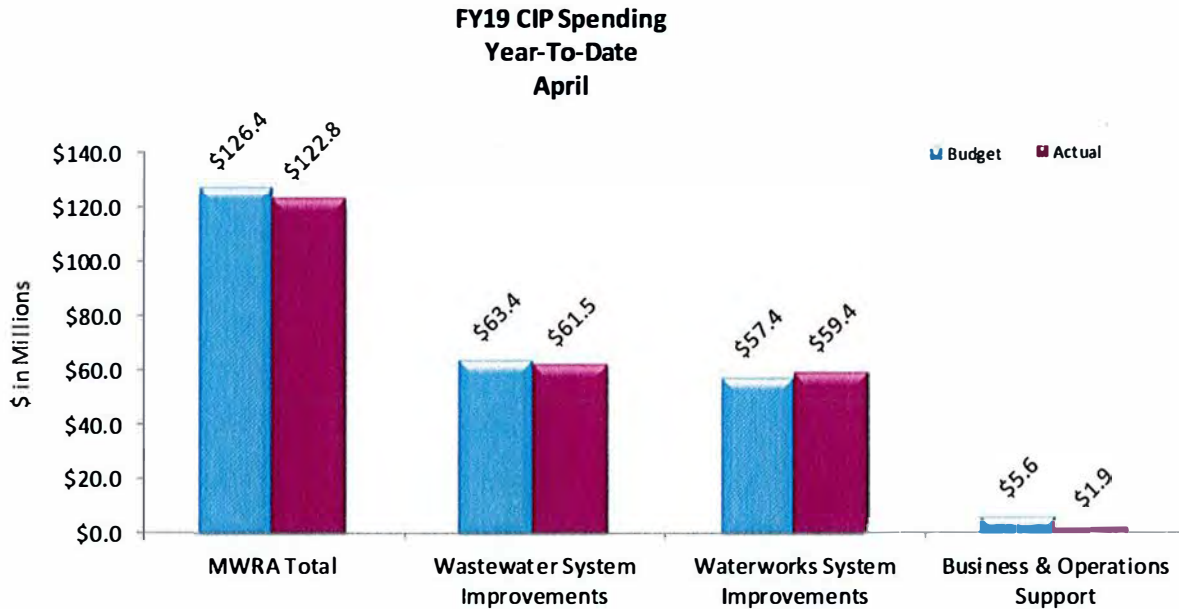
Revenue & Income

Year-to-date Revenues of \$639.3 million were over budget by \$3.6 million or 0.6%. Investment income was over budget by \$2.4 million due to favorable returns on investment income (average short-term rates were higher than budgeted: 2.42% vs. 1.75%). In addition, Special Assessment Revenue was greater than budget by \$0.6 million which is due to accruing the Clinton charge coinciding with the timing of the invoice. Staff expect to receive this in June as was budgeted (\$0.5 million). Lastly, Other User Charges were also favorable to budget due to the income from the disposal of equipment (\$0.4 million), and for Miscellaneous Revenue (\$0.2 million).

FY19 Capital Improvement Program

Capital expenditures in Fiscal Year 2019 through April total \$122.7 million, \$3.7 million or 2.9% under budget.

After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$77.5 million, \$31.8 million or 30.5% under budget.



Overall, CIP spending reflects the overspending in Waterworks Improvements (\$2.0 million) offset by underspending in Business and Operations Support (\$3.8 million) and Wastewater Improvements (\$1.8 million). Major variances in Waterworks are primarily due to greater than anticipated community requests for loans as well as contractor progress on the Southern Extra High (SEH) Section 111 Construction Phase 2, Section 56 Pipe Demolition Construction, timing of watershed land purchases, partially offset by Bellevue Tank 2/Turkey Hill Painting contract awarded less than budget, additional structural repairs and antenna relocation delay, Deer Island Water Tank Painting award less than budget and schedule shift, delay in notice to proceed and MBTA crossing issues for Southern Extra High (SEH) Section 111 Construction 3, and Maintenance Garage/Washbay/Storage Building due to delay in schedule.

Wastewater variances are primarily due to construction delays for the Chelsea Creek Headworks Upgrades for Channel 1 work, odor control equipment delivery and redesign of lower roofs, Deer Island HVAC Equipment Replacement due to schedule change and re-scoping of project, Somerville Marginal In-System Storage project due to delay in Somerville design and construction awards, and Residuals Electrical and Mechanical Upgrades due to revised scope and schedule, partially offset by greater than anticipated community requests for grants and loans for the I/I Local

Financial Assistance Program, and greater than anticipated contractor progress for the Gravity Thickener Rehabilitation contract.

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

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	33.3	20.0	(13.3)	-39.9%
Treatment	11.1	8.0	(3.0)	-27.4%
Residuals	2.2	0.4	(1.8)	-80.4%
CSO	2.4	1.0	(1.3)	-56.3%
Other	14.4	32.0	17.6	122.1%
Total Wastewater System Improvements	\$63.4	\$61.5	(\$1.8)	-2.9%
Waterworks System Improvements				
Drinking Water Quality Improvements	1.4	0.7	(0.7)	-48.5%
Transmission	10.9	7.9	(2.9)	-27.0%
Distribution & Pumping	30.0	30.3	0.4	1.2%
Other	15.2	20.4	5.2	34.6%
Total Waterworks System Improvements	\$57.4	\$59.4	\$2.0	3.5%
Business & Operations Support	\$5.6	\$1.9	(\$3.8)	-67.1%
Total MWRA	\$126.4	\$122.8	(\$3.6)	-2.9%

Totals may not add due to rounding

FY19 Year-to-date Spending by Program:

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

Other Wastewater: Net overspending of \$17.6 million

- \$17.6 million for Community I/I due to greater than budgeted requests for grants and loans.

Interception & Pumping: Net underspending of \$13.3 million

- \$12.1 million for Chelsea Creek Headworks Upgrades construction due to delays for odor control equipment delivery, commissioning Channel 1, and redesign of lower roofs.
- \$0.5 million for Wastewater Metering Planning/Study/Design due to police details and temporary meter work were less than anticipated.
- \$0.5 million for Remote Headworks and Deer Island Shaft Study due to delay in notice to proceed.
- \$0.5 million for Nut Island Odor Control and HVAC Design due to delay in completion of design documents.
- This underspending was partially offset by \$0.4 million for Reading Extension Sewer and \$0.3 million for Prison Point Piping Rehabilitation for FY18 scheduled work that was completed in FY19, and \$0.4 million for Alewife Brook Pump Station construction due to timing of final work.

Other Waterworks: Net overspending of \$5.2 million

- \$10.5 million for the Local Water System Assistance Program due to greater than anticipated loan requests,
- This overspending was partially offset by \$2.8 million for Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budgeted, additional structural repairs needed and antenna relocation delays, \$1.8 million for Deer Island Water Tank Painting due to a delay in the notice to proceed and the contract awarded less than budgeted, and \$0.4 million for a delay in the start of work for the Cosgrove Intake Roof Repair contract. Also, \$0.3 million for the Generator Docking Station contract due to a delay in the award.

Business & Operations Support: Net underspending of \$3.8 million

- \$1.7 million for timing of MIS initiatives, \$1.4 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to timing of task order work, and \$0.2 million for Vehicle Purchases and \$0.2 million for Lab Instrumentation due to timing of purchases.

Wastewater Treatment: Net underspending of \$3.0 million

- \$2.4 million for HVAC Equipment Replacement Construction and \$0.5 million for Chemical Tanks and Digester Pipe Replacement due to schedule changes and projects being re-scoped.
- \$0.6 million for Winthrop Terminal Facility VFD Replacement Construction due to motor commissioning testing problem.
- \$0.6 million for Clinton Roofing Rehabilitation due to delay in start of work.
- \$0.3 million for Radio Repeater System Upgrade 1 due to delayed award and specifications change.
- This underspending was partially offset by overspending of \$2.0 million for Gravity Thickener Rehabilitation due to better than anticipated contractor progress, and \$0.2 million for Clinton Phosphorus Reduction Construction for work scheduled for FY18 performed in FY19.

Waterworks Transmission: Net underspending of \$2.9 million

- \$1.8 million for Maintenance Garage/Wash Bay/Storage Building due to schedule delay.
- \$0.4 million for Commonwealth Avenue Pumping Station Design Construction Administration/Resident Inspection and \$0.3 million for construction due to change in construction notice to proceed.
- \$0.6 million for Chestnut Hill Emergency Pumping Design/CA due to delay in award
- \$0.4 million for Wachusett Aqueduct Pumping Station Design due to less than anticipated resident engineering services.
- \$0.3 million for WASM 3 MEPA/Design/CA/RI for test pit work that was delayed.
- This underspending was partially offset by overspending of \$0.6 million for timing of Watershed Land purchases, \$0.4 million for Rosemary Brook Siphon Building Repair for timing of final payment, and \$0.1 million for Wachusett Aqueduct Pumping Station Construction due to contractor progress.

Residuals: Net underspending of \$1.8 million

- Underspending of \$1.6 million for Electrical and Mechanical Improvements due to delay in award as a result of combining electrical and mechanical contracts and adding drum dryer replacements to scope of work, \$0.3 million for Pellet Conveyance Piping Relocation due to schedule change, partially offset by \$0.1 million for Sludge Tank and Silo Coating due to work scheduled for FY18 completed in FY19.

Combined Sewer Overflow: Net underspending of \$1.3 million

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

Drinking Water Quality Improvements: Net underspending of \$0.7 million

- \$0.5 million for timing of task order work and \$0.2 million primarily due to updated schedule for Cosgrove Boat Storage work.

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

- Overspending of \$2.0 million for Southern Extra High (SEH) Section 111 Construction 2, \$0.2 million for Construction 1, \$1.7 million for Section 56 Pipe Demolition, \$0.4 million for Northern Intermediate High (NIH) Section 89 & 29 Phase 1C, and \$0.1M for Phase 1B due to contractor progress.
- \$0.2 million NIH Section 89 & 29 Replacement Design and \$0.1 million for Section 50/57 Water and Sections 21/20/10 Sewer Design ESDC/REI due to consultant progress of work.
- \$0.3 million for Cathodic Protection Shafts E & L due to contractor progress.
- This overspending was partially offset by underspending of \$2.2 million for SEH Construction 3 due to delay in notice to proceed and issue with MBTA crossing, \$0.6 million for Section 23, 24, 47 Final Design CA/RI due to pending City of Newton MOA for pipe replacement and delayed gas line relocation, \$0.6 million for Peabody Pipeline Design/ESDC due to contract terminated, \$0.5 million for Section 89 & 29 Redundancy Phase 2 construction due to slower progress due to winter moratorium, and \$0.2 million for Section 14 Water Main Relocation (Malden) due to FY19 scheduled work completed in FY18, and \$0.2 million for Section 53 and 99 Design/Construction Administration due to schedule change.

Construction Fund Balance

The construction fund balance was \$44.5 million as of the end of April. Commercial Paper/Revolving Loan availability was \$222 million to fund construction projects.

ATTACHMENTS:

Attachment 1 – Variance Summary April 2019

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY19 Year-End Projections

FY19 Actuals vs. FY19 Budget

	April 2019 Year-to-Date				
	Period 10 YTD Budget	Period 10 YTD Actual	Period 10 YTD Variance	%	FY19 Approved
EXPENSES					
WAGES AND SALARIES	\$ 86,981,262	\$ 83,175,230	\$ (3,806,032)	-4.4%	\$ 107,032,021
OVERTIME	3,663,079	4,242,950	579,871	15.8%	4,447,554
FRINGE BENEFITS	17,379,801	16,574,018	(805,783)	-4.6%	21,173,571
WORKERS' COMPENSATION	2,018,841	2,068,150	49,309	2.4%	2,422,609
CHEMICALS	8,792,138	9,015,253	223,115	2.5%	10,830,452
ENERGY AND UTILITIES	18,808,823	20,897,391	2,088,568	11.1%	22,868,632
MAINTENANCE	25,611,661	24,337,549	(1,274,112)	-5.0%	32,258,727
TRAINING AND MEETINGS	354,400	388,105	33,705	9.5%	455,770
PROFESSIONAL SERVICES	6,074,749	4,852,279	(1,222,470)	-20.1%	7,675,976
OTHER MATERIALS	4,599,449	4,595,043	(4,406)	-0.1%	7,381,098
OTHER SERVICES	18,891,198	19,500,979	609,781	3.2%	23,065,411
TOTAL DIRECT EXPENSES	\$ 193,175,401	\$ 189,646,947	\$ (3,528,453)	-1.8%	\$ 239,611,821
INSURANCE	\$ 1,735,760	\$ 1,706,187	\$ (29,573)	-1.7%	\$ 2,099,064
WATERSHED/PILOT	21,836,084	21,571,119	(264,965)	-1.2%	26,406,427
HEEC PAYMENT	1,155,692	935,610	(220,082)	-19.0%	1,386,832
MITIGATION	1,334,870	1,334,871	1	0.0%	1,614,262
ADDITIONS TO RESERVES	1,556,105	1,556,105	-	0.0%	1,881,797
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%	7,000,000
POST EMPLOYEE BENEFITS	-	-	-	---	5,574,152
TOTAL INDIRECT EXPENSES	\$ 34,618,511	\$ 34,103,892	\$ (514,619)	-1.5%	\$ 45,962,534
STATE REVOLVING FUND	\$ 72,225,017	\$ 69,525,458	\$ (2,699,559)	-3.7%	\$ 89,380,363
SENIOR DEBT	224,621,282	224,621,282	-	0.0%	272,633,982
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%	(944,726)
CURRENT REVENUE/CAPITAL	11,742,301	11,742,301	-	0.0%	14,199,991
SUBORDINATE MWRA DEBT	76,463,822	76,463,822	-	0.0%	92,032,292
LOCAL WATER PIPELINE CP	3,928,212	3,928,212	-	0.0%	4,750,396
CAPITAL LEASE	2,660,261	2,660,261	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	7,100,000
VARIABLE DEBT	-	(5,992,427)	(5,992,427)	---	-
DEFEASANCE ACCOUNT	-	8,691,986	8,691,986	---	-
TOTAL DEBT SERVICE	\$ 390,696,169	\$ 390,696,169	\$ -	0.0%	\$ 482,369,358
TOTAL EXPENSES	\$ 618,490,081	\$ 614,447,008	\$ (4,043,072)	-0.7%	\$ 767,943,713
REVENUE & INCOME					
RATE REVENUE	\$ 611,131,050	\$ 611,131,050	\$ -	0.0%	\$ 739,042,200
OTHER USER CHARGES	8,381,163	8,980,294	599,131	7.1%	9,328,768
OTHER REVENUE	5,343,341	5,988,098	644,757	12.1%	6,013,635
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	10,838,942	13,229,865	2,390,923	22.1%	13,559,110
TOTAL REVENUE & INCOME	\$ 635,694,496	\$ 639,329,307	\$ 3,634,811	0.6%	\$ 767,943,713

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	86,981,262	83,175,230	(3,806,032)	-4.4%	Wages and Salaries are under budget by \$3.8 million. Year to date, there have been 20 fewer average FTEs (1,135 versus 1,155 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions, and lower leave balance accruals contributed to Regular Pay being under budget.
Overtime	3,663,079	4,242,950	579,871	15.8%	Higher spending mainly in Wastewater Operations for wet weather events.
Fringe Benefits	17,379,801	16,574,018	(805,783)	-4.6%	Lower than budget mainly in Health Insurance of \$760,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	2,018,841	2,068,150	49,309	2.4%	The higher expenses were due to an unfavorable budget variance in Compensation payments and reserves of \$162,000, offset by favorable budget variances for Administrative Expenses of \$67,000 and Medical payments and reserves of \$45,000. Due to the uncertainties of when spending will happen, the budget is spread evenly through out the year.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Chemicals	8,792,138	9,015,253	223,115	2.5%	Overspending on Ferric Chloride of \$268,000 at DITP and Clinton; Sodium Hypochlorite of \$236,000; DITP & Wastewater Ops due to wet weather and at CWTP due to rainy fiscal year, we have been using more water from Wachusett Reservoir vs. the higher quality water from Quabbin Reservoir, which has required higher dosing to disinfect the water; Activated Carbon of \$77,000 for the unbudgeted replacement of carbon at Nut Island Headworks and Braintree Weymouth IPS for odor control; Sodium Bisulfite of \$65,000 at DITP and Wastewater Ops. This is offset by underspending in Soda Ash of \$302,000 at CWTP and Clinton; and Hydrogen Peroxide of \$127,000 at DITP. DITP flows are 7.4% higher than the budget and CWTP flows are 3.4% less than the budget through April. It is important to note that Chemicals variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	18,808,823	20,897,391	2,088,568	11.1%	Overspending in Electricity of \$1.1 million primarily at DITP (\$693,000) and Field Operations (\$463,000) due to pricing; Diesel Fuel of \$927,000 primarily at DI (\$950,000) due to timing of deliveries.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Maintenance	25,611,661	24,337,549	(1,274,112)	-5.0%	<p>Services were underspent by \$680,000 and Materials were underspent by \$504,000.</p> <p>Services: Underspending in Building & Grounds Services of \$827,000 is driven by FOD (\$915,000); Electrical Services of \$212,000 driven by Deer Island (\$153,000); Pipeline Services of \$203,000 driven by Metro Maintenance for the timing of manhole rehab work (\$232,000). These are offset by overspending in P&M Services of \$502,000 driven by DITP (\$466,000).</p> <p>Materials: Underspending in Electrical Materials of \$440,000 driven by Deer Island (\$319,000) and Metro Maintenance (\$110,000); HVAC Materials of \$228,000 driven by Deer Island (\$247,000); and P&M Materials of \$181,000 driven by Water Operations (\$289,000) and Deer Island (\$253,000), and offset by overspending in Metro Maintenance (\$265,000) and FOD Admin (\$52,000). These are offset by overspending in Computer Services of \$123,000 driven by Operations Support (\$155,000); Special Equipment Materials of \$78,000 driven by FOD (\$182,000) and offset by underspending in OEP (\$104,000); and B&G Materials of \$66,000 driven by DITP (\$99,000) and offset by underspending FOD (\$34,000).</p>
Training & Meetings	354,400	388,105	33,705	9.5%	Driven by overspending in Field Operations, offset by underspending in MIS.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Professional Services	6,074,749	4,852,279	(1,222,470)	-20.1%	Underspending in Other Professional Services of \$456,000 in HR for Training and the Pay Equity Study, Law, Operations, and Finance; Computer System Consultants of \$298,000 in MIS; Lab & Testing Analysis of \$227,000 in EnQual Wastewater and Lab Services; Legal Services of \$189,000 in Law and HR; and Engineering Services of \$136,000 in Operations primarily at Reservoir Ops for timing of dam asset maintenance plans and DITP for timing of study of biosolids exemptions for MWRA pellets as relative to MDAR regulations.
Other Materials	4,599,449	4,595,043	(4,405)	-0.1%	Lower than budgeted spending in Equipment/Furniture of \$217,000 in Operations for timing of water quality equipment and furniture at DITP; Computer Hardware of \$198,000 in MIS for timing of the roll out of PC replacements; and Health/Safety Materials of \$30,000 primarily at DITP. This is offset by higher than budgeted spending in Vehicle Purchases/Replacements of \$362,000 in Ops Admin; and Lab & Testing Supplies of \$79,000 in Laboratory Services.
Other Services	18,891,198	19,500,979	609,781	3.2%	Higher than budgeted spending for Sludge Pelletization of \$946,000 due to higher year-to-date quantities. This is offset by lower spending for Telephone/Data Services of \$266,000 in MIS and FOD, and Other Services of \$131,000 for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for Lead issues in Planning.
Total Direct Expenses	193,175,401	189,646,947	(3,528,453)	-1.8%	

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,735,760	1,706,187	(29,573)	-1.7%	Higher claims than budgeted of \$30,000, offset by lower premiums of \$60,000.
Watershed/PILOT	21,836,084	21,571,119	(264,965)	-1.2%	Lower Watershed Reimbursement of \$265,000 due to over accrual at the end of FY18 as compared to the actual amount paid in the first quarter of FY19.
HEEC Payment	1,155,692	935,610	(220,082)	-19.0%	Lower than budgeted spending on special projects related to the HEEC cable.
Mitigation	1,334,870	1,334,871	1	0.0%	
Addition to Reserves	1,556,105	1,556,105	-	0.0%	
Pension Expense	7,000,000	7,000,000	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	34,618,511	34,103,892	(514,619)	-1.5%	
Debt Service					
Debt Service	391,640,895	391,640,895	-	0.0%	\$8.7 million for lower than budgeted variable rate, and a combination of lower cost of borrowing, assumed versus actual borrowing terms, and timing for SRF funds.
Debt Service Assistance	(944,726)	(944,726)	-	0.0%	
Total Debt Service Expenses	390,696,169	390,696,169	-	0.0%	
Total Expenses	618,490,081	614,447,008	(4,043,072)	-0.7%	

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD April	FY19 Actuals YTD April	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	611,131,050	611,131,050	-	0.0%	
Other User Charges	8,381,163	8,980,294	599,131	7.1%	Driven by Clinton Assessment (\$500,000) due to timing and higher DITP water costs (\$87,000).
Other Revenue	5,343,341	5,988,098	644,757	12.1%	\$403,000 for disposal of surplus materials; \$195,000 for Emergency Water Surcharges for the town of Burlington; and Miscellaneous Revenue of \$78,000 primarily associated with worker's compensation reimbursement for older claims.
Investment Income	10,838,942	13,229,865	2,390,923	22.1%	Investment Income is over budget mostly due to short term rates higher than budget (2.42% vs.1.75% budget).
Total Revenue	635,694,496	639,329,307	3,634,811	0.6%	
Net Revenue in Excess of Expenses	17,204,416	24,882,299	7,677,883		

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

	FY19 Budget YTD April	FY19 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$33,278	\$20,001	(\$13,277)	-39.9%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$12.3M (due to timing of odor control equipment delivery, delay in commissioning channel 1 and redesign of lower roofs) Remote Headworks & Deer Island Shaft Study: \$545k (schedule shift) Wastewater Meter System Planning/Study/Design: \$520k (police details and temporary meter work were less than anticipated) Nut Island Odor Control & HVAC Design/CA/REI: \$519k (delay in completion of design documents) Wastewater Central Monitoring Design and Programming Services, and Equipment/Hardware: \$338k (timing of work and purchases) Sections 4, 5, 6, 186 - Study: \$114k (work completed in FY18) Sections 4, 5, 6, 186 - Design CA/RI: \$111k (schedule shift) Meter Modems-Antenna Replacement: \$100k (project to be funded through the CEB) <u>Offset Overspending</u> Alewife Brook Pump Station Rehab - Construction and CA/REI: \$538k (due to timing of final work) Interceptor Renewal I, Reading Extension Sewer - Construction: \$428k, Prison Point Piping Rehabilitation: \$262k and DeLauri Pump Station Screens & Security Upgrades: \$199k (work scheduled for FY18 performed in FY19) Alewife Brook Pump Station Final Design/CA/REI: \$134k (greater than anticipated resident engineering services)

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

	FY19 Budget YTD April	FY19 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Treatment	\$11,056	\$8,026	(\$3,030)	-27.4%	<u>Underspending</u> HVAC Equipment Replacement - Construction: \$2.4M (contract being re-scoped) WTF VFD Replacement - Construction: \$592k (due to motor commissioning testing problem) Chemical Tank Relining & Pipe Replacement: \$500k (project zeroed out and renamed as Chemical Tank and Digester Pipe Replacement \$167k (schedule change) Clinton Roofing Rehabilitation: \$582k (schedule shift) Radio Repeater System Upgrades - Phase 1: \$250k (award delayed and specifications changed) Gas Protection System Replacement Phase 1: \$108k (schedule shift) <u>Offset Overspending</u> Gravity Thickener Rehab: \$2.0M (contractor progress) Phosphorus Removal - Construction: \$170k (work scheduled for FY18 performed in FY19)
Residuals	\$2,245	\$439	(\$1,806)	-80.4%	<u>Underspending</u> Electrical Improvements \$896k and Mechanical Improvements \$750k (scope of work incorporated into Electrical, Mechanical, & Drum Replacements contract and schedule shift) Pellet Piping Relocation: \$275K (schedule shift) <u>Offset Overspending</u> Sludge Tank & Silo Coating: \$115k (due to work scheduled for FY18 completed in FY19)
CSO	\$2,388	\$1,043	(\$1,345)	-56.3%	<u>Underspending</u> Somerville Marginal In-System Storage: \$1.4M (shift in Somerville design and construction schedule) <u>Offset Overspending</u> CSO Performance Assessment: \$120k (timing of executed task orders)
Other Wastewater	\$14,426	\$32,038	\$17,612	122.1%	<u>Overspending</u> I/I Local Financial Assistance: \$17.6M (greater than budgeted requests for grants and loans)
Total Wastewater	\$63,393	\$61,547	(\$1,846)	-2.9%	

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

	FY19 Budget YTD April	FY19 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$1,361	\$701	(\$661)	-48.5%	<u>Underspending</u> Technical Assistance: \$545k (timing of task order work)
Transmission	\$10,891	\$7,947	(\$2,944)	-27.0%	<u>Underspending</u> Maintenance Garage/Wash Bay/Storage Building: \$1.8M (schedule shift) Wachusett Aqueduct Pump Station - Design/ESDC/RI: \$428k (less than anticipated resident engineering services) Commonwealth Avenue Pump Station Improvements - Design/CA/RI: \$393k and Construction: \$281k (CA & RI services delayed as a result of change in construction notice to proceed) WASM 3 - MEPA/Design/CA/RI: \$340k (test pits work delayed) Chestnut Hill Emergency Pump Station Improvements - Design/CA/RI: \$578k (delay in award) Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review: \$167k (schedule shift) <u>Offset Overspending</u> Watershed Land Acquisition: \$600k (timing of land purchases) Rosemary Brook Siphon Building Repair: \$386k (timing of final payment) Wachusett Aqueduct Pump Station - Construction: \$130k (due to project progress)

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

	FY19 Budget YTD April	FY19 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$29,962	\$30,325	\$364	1.2%	<p><u>Overspending</u> NHS - Revere & Malden Pipeline Section 56 Pipe Demolition - Construction: \$1.7M, NIH Section 89 and 29 Redundancy Phase 1B and 1C: \$552k, and Section 89/29 Replacement - Design: \$159k, SEH Redundancy Pipeline Section 111 - Construction Phase 1 & 2: \$2.1M, and Sections 50 & 57 Water & 21/20/19 Sewer Rehab - Design/CA/RI: \$141k, Cathodic Protection of Shafts E & L: \$348K (all due to project progress)</p> <p><u>Offset Underspending</u> SEH Redundancy Pipeline Section 111 - Construction Phase 3: \$2.2M (due to delay in notice to proceed and issue with MBTA crossing) New Connecting Mains CP3 (Sect 23,24,47) - Final Design/CA/RI: \$586k (pending City of Newton MOA for pipe replacement and delayed utility relocation) Peabody Pipeline Design/ESDC/REI: \$568k (contract terminated) Section 89 & 29 Redundancy - Construction Phase 2: \$500k (delays due to winter moratorium) Sections 53 and 99 Connections - Design/CA/RI: \$222k (schedule shift) Section 14 Water Pipe Relocation (Malden): \$180k (work scheduled for FY19 performed in FY18)</p>
Other Waterworks	\$15,157	\$20,407	\$5,250	34.6%	<p><u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$10.5M (greater than budgeted requests for loans), and Carroll Water Treatment Plant SCADA Upgrades - Design/Programming RE services: \$169K (consultant progress)</p> <p><u>Offset Underspending</u> Bellevue II & Turkey Hill Water Tanks Repainting: \$2.8M (award less than budgeted) Deer Island Water Tank Repainting : \$1.8M: Delay in notice to proceed and contract award less than budgeted) Cosgrove Intake Roof Replacement: \$405k (delay in start of work) Generator Docking Station: \$285k and Gillis Pump Station/Cottage Farm CSO Facility Roof Replacements: \$140k (schedule shifts)</p>
Total Waterworks	\$57,371	\$59,380	\$2,009	3.5%	

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

	FY19 Budget YTD April	FY19 Actuals YTD April	YTD Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support					
Total Business & Operations Support	\$5,640	\$1,854	(\$3,787)	-67.1%	<u>Underspending</u> MIS Projects: \$1.7M (due to timing of work) As-Needed Technical Assistance: \$1.4M (due to timing of task order work) FY19-23 Major Lab Instrumentation: \$194k and Vehicle Purchases: \$183k (timing of purchases)
Total MWRA	\$126,405	\$122,781	(\$3,624)	-2.9%	

ATTACHMENT 4

FY19 Budget vs FY19 Projection

TOTAL MWRA	FY19 Budget	FY19 Projection	Change FY19 Budget vs FY19 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 107,032,021	\$ 101,960,858	\$ (5,071,163)	-4.7%
OVERTIME	4,447,554	4,952,646	505,092	11.4%
FRINGE BENEFITS	21,173,571	20,256,723	(916,848)	-4.3%
WORKERS' COMPENSATION	2,422,609	2,422,609	-	0.0%
CHEMICALS	10,830,452	10,942,534	112,082	1.0%
ENERGY AND UTILITIES	22,868,633	24,491,122	1,622,489	7.1%
MAINTENANCE	32,258,727	31,619,639	(639,088)	-2.0%
TRAINING AND MEETINGS	455,770	484,135	28,365	6.2%
PROFESSIONAL SERVICES	7,675,976	6,952,719	(723,257)	-9.4%
OTHER MATERIALS	7,381,098	6,969,797	(411,301)	-5.6%
OTHER SERVICES	23,065,411	23,952,108	886,697	3.8%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 235,004,891	\$ (4,606,931)	-1.9%
INSURANCE	\$ 2,099,064	\$ 2,967,643	868,579	41.4%
WATERSHED/PILOT/DEBT	26,406,427	23,695,654	(2,710,773)	-10.3%
COMMONWEALTH DEBT PREPAYMENT	-	-	-	
HEEC PAYMENT	1,386,832	1,203,255	(183,577)	-13.2%
MITIGATION	1,614,262	1,614,262	-	0.0%
ADDITIONS TO RESERVES	1,881,798	1,881,798	-	N/A
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%
ADDITIONAL PENSION DEPOSIT	-	-	-	
POSTEMPLOYMENT BENEFITS	5,574,152	5,574,152	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 43,936,763	\$ (2,025,771)	-4.4%
STATE REVOLVING FUND	\$ 89,380,358	\$ 84,227,800	(5,152,558)	-5.8%
SENIOR DEBT	272,633,979	270,379,599	(2,254,380)	-0.8%
SUBORDINATE DEBT	92,032,294	92,032,294	-	0.0%
LOCAL WATER PIPELINE CP	4,750,393	3,077,647	(1,672,746)	-35.2%
CURRENT REVENUE/CAPITAL	14,200,000	14,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	7,100,000	-	0.0%
VARIABLE RATE SAVINGS	-	(6,746,532)	(6,746,532)	
DEFEASANCE ACCOUNT	-	-	-	
DEBT SERVICE ASSISTANCE	(944,726)	(1,834,965)	(890,239)	N/A
HEEC CABLE CAPACITY RESERVE FUND	-	-	-	
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 465,652,903	\$ (16,716,455)	-3.5%
TOTAL EXPENSES	\$ 767,943,713	\$ 744,594,557	\$ (23,349,157)	-3.0%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 739,042,200	-	0.00%
OTHER USER CHARGES	9,328,768	9,328,768	-	0.0%
OTHER REVENUE	6,013,635	6,444,796	431,161	7.2%
RATE STABILIZATION	-	-	-	
INVESTMENT INCOME	13,559,110	16,119,110	2,560,000	18.9%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 770,934,874	\$ 2,991,161	0.4%

Variance:

\$ (26,340,317) \$ (26,340,318)

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: MWRA Green Bond Issuances



COMMITTEE: Administration, Finance & Audit

X INFORMATION
 ___ VOTE

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


 Thomas J. Durkin
 Director of Finance

RECOMMENDATION:

For information only.

DISCUSSION:

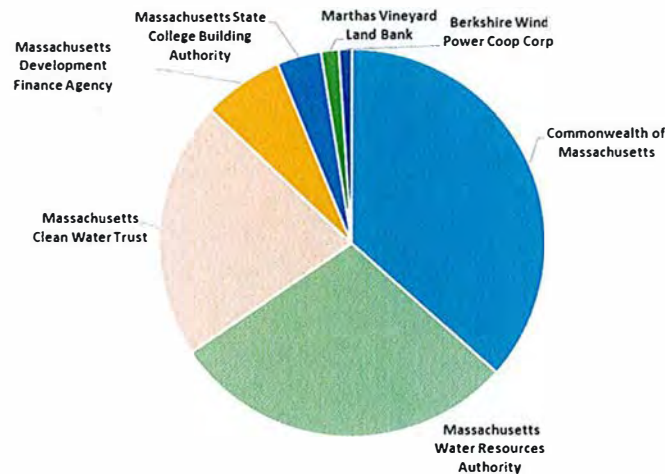
Over the last several years, there has been increased focus on socially responsible investing. Many interested investors use the general environmental, social and governance criteria (ESG) to evaluate where best to make investments. These criteria are utilized to determine if the entity is environmentally responsible, if it is concerned about its employees and the communities where it is located, and the quality of its leadership, and internal controls. One type of ESG investment is Green Bonds, which fund environmentally friendly projects. While there are a variety of ESG investments available in the market, this staff summary focuses on tax-exempt Green Bonds.

Green Bonds were first issued by the World Bank in 2008, and have steadily increased in volume in both the taxable and tax-exempt markets. The Commonwealth of Massachusetts became the first state to issue Green Bonds in July 2013. MWRA is currently the 10th largest tax-exempt Green Bond issuer in the United States. The following table details the top 25 tax-exempt Green Bond issuers in the country.

	Issuer	Par Issued (in millions)		Issuer	Par Issued (in millions)
1	Metropolitan Transport Authority (MTA)	\$ 6,034	14	District of Columbia Water & Sewer Authority	\$ 850
2	NYC Housing Development Corporation	\$ 4,869	15	Massachusetts Clean Water Trust	\$ 807
3	Indiana Finance Authority	\$ 1,550	16	Connecticut	\$ 690
4	San Francisco City/Co Public Utilities Commission	\$ 1,446	17	Arizona Board of Regents	\$ 581
5	California Infrstr & Eco Dev Bank	\$ 1,394	18	San Fran Bay Area Rapid Trans Dt	\$ 542
6	Commonwealth of Massachusetts	\$ 1,369	19	Illinois Finance Authority	\$ 450
7	Central Puget Sound Reg Tran Authority	\$ 1,343	20	Aurora City-Colorado	\$ 437
8	NYS Housing Fin-Mortgage Agency	\$ 1,125	21	California Health Facs Fin Authority	\$ 408
9	Iowa Finance Authority	\$ 1,090	22	Greater Chicago Metro Watr Reclamation District	\$ 400
10	Massachusetts Water Resources Authority	\$ 1,082	23	Honolulu City & Co-Hawaii	\$ 348
11	Los Angeles City-California	\$ 960	24	California Pollution Control Finance Authority	\$ 345
12	NYS Environmental Facs Corporation	\$ 918	25	American Municipal Power Inc	\$ 345
13	Los Angeles Co Metro Trans Authority	\$ 890			

Since 2016, MWRA has issued approximately \$1.1 billion in Green Bonds. In addition to being one of the largest tax-exempt Green Bond issuers in the county, MWRA is the second largest issuer of Green Bonds in Massachusetts.

Massachusetts Tax-Exempt Green Bond Issuers



MWRA is able to issue bonds with the “green” designation because the projects being financed adhere to the standards of the Clean Water Act and Safe Drinking Water Act. Attached to this staff summary are excerpts from MWRA’s most recent Official Statement related to the Green Bonds. The bonds are labeled green to allow investors to invest directly in bonds which finance environmentally beneficial projects. MWRA’s goal in issuing Green Bonds is to reinforce its status as an environmental agency to the tax-exempt market to attract new buyers. While MWRA has observed green funds purchasing its bonds, to date that has not directly translated into lower interest rates. As a result, MWRA currently only labels its refunding bonds as green to avoid creating a new reporting requirement and the associated costs for the new money portion without an economic benefit. Staff actively monitor the Green Bond market place for an economic benefit of Green Bonds. When it becomes cost effective, staff will include the new money bonds as Green Bonds. MWRA does note in its offering documents that it expects the projects funded with the new money will also likely meet the standards of the Clean Water and Safe Drinking Water Acts.

MWRA’s most recent bond transaction, which closed on May 22, 2019, also included Green Bonds. The transaction was met with strong demand including \$206.2 million in retail offers and \$342.3 million in total offers for the \$144.2 million in bonds available. Overall, the bonds were 2.4 times oversubscribed with a total of \$342.3 million in offers to purchase the bonds. The strong demand for the bonds allowed MWRA to price the bonds tight to AAA yields, with several maturities priced at the AAA level. The refunding transaction resulted in \$1.6 million or 7.6% in present value savings between FY19 and FY23. The total transaction carried an All-in True Interest Cost of 2.82% with an average life of 12 years. This is the second lowest All-in True Interest Cost MWRA has observed and the lowest cost for a transaction with an average life over 10 years.

BUDGET/FISCAL IMPACT:

There is currently no budget impact associated with Green Bonds. Staff anticipate that as the demand for Green Bonds increases MWRA might experience lower debt costs.

ATTACHEMENTS:

Attachment 1 – MWRA Official Statement excerpts

NEW ISSUE – BOOK-ENTRY ONLY SYSTEM

Ratings[†]

In the opinion of Bond Counsel, under existing law and assuming continued compliance with the Internal Revenue Code of 1986, as amended, interest on the 2019 Bonds is not included in gross income for federal income tax purposes and is not an item of tax preference for the purpose of computing the alternative minimum tax imposed on individuals. In the opinion of Bond Counsel, the 2019 Bonds, their transfer and the income therefrom, including any profit made on the sale thereof, are exempt from Massachusetts personal income taxes and the 2019 Bonds are exempt from Massachusetts personal property tax. For federal and Massachusetts tax purposes, interest includes original issue discount. See “Tax Exemption” herein.



MASSACHUSETTS WATER RESOURCES AUTHORITY
\$125,000,000 General Revenue Bonds, 2019 Series B
\$19,190,000 General Revenue Refunding Bonds, 2019 Series C (Green Bonds)

Dated: Date of Initial Delivery

Due: As shown on the inside cover

The Massachusetts Water Resources Authority (the “Authority”) will issue its General Revenue Bonds, 2019 Series B (the “Series B Bonds”) and its General Revenue Refunding Bonds, 2019 Series C (Green Bonds) (the “Series C Bonds,” and together with the Series B Bonds, the “2019 Bonds”) as fully registered bonds in the name of Cede & Co., as nominee for The Depository Trust Company (“DTC”), New York, New York. Purchases of the 2019 Bonds will be made in book-entry form only, in the denominations of \$5,000 or any integral multiple thereof, and no physical delivery of the 2019 Bonds will be made to purchasers. So long as Cede & Co. is the registered owner of the 2019 Bonds, principal and interest on the 2019 Bonds are payable to DTC by U.S. Bank National Association, as Trustee. See “The 2019 Bonds - Book-Entry-Only System.”

The 2019 Bonds will bear interest at the fixed rates and mature in the years and in the principal amounts set forth on the inside cover hereof. Interest on the 2019 Bonds will accrue from their date of delivery. Interest on the 2019 Bonds will be payable on February 1 and August 1, commencing on August 1, 2019. The Series B Bonds will be subject to optional and mandatory sinking fund redemption prior to maturity, as more fully described herein. The Series C Bonds will not be subject to redemption prior to maturity.

The 2019 Bonds will constitute general obligations of the Authority. In addition, the 2019 Bonds will be secured by a lien on and pledge of certain revenues and other moneys of the Authority, as described herein. Neither The Commonwealth of Massachusetts (the “Commonwealth”) nor any political subdivision thereof shall be obligated to pay the principal of, premium, if any, or interest on any 2019 Bond, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof is pledged to such payment. The Authority has no taxing power.

The 2019 Bonds are offered when, as and if issued by the Authority and received by the Underwriters, subject to the approval of legality by McCarter & English, LLP, Boston, Massachusetts, Bond Counsel, and certain other conditions. Certain legal matters will be passed upon for the Authority by its Disclosure Counsel, Greenberg Traurig, LLP, Boston, Massachusetts, and for the Underwriters by their counsel, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts. Delivery of the 2019 Bonds to DTC or its custodial agent is expected in New York, New York on or about May 22, 2019.

Morgan Stanley

BofA Merrill Lynch

Barclays

Citigroup

J.P. Morgan

Goldman, Sachs & Co. LLC

Jefferies

Ramirez & Co., Inc.

RBC Capital Markets

Wells Fargo Securities

May 8, 2019

[†]See “Ratings” herein.

Designation of Green Bonds. The Authority is issuing the Series C Bonds as “Green Bonds” due to the adherence of the projects being refinanced through the issuance of the Series C Bonds to the standards of the Clean Water Act and the SDWA. See Appendix F - “Description of Green Bonds Projects.” The purpose of labeling the Series C Bonds as Green Bonds is to allow investors to invest directly in bonds which finance environmentally beneficial projects. Holders of Green Bonds do not assume any specific risk with respect to any of the funded projects. The Authority expects that the projects being financed with the proceeds of the Series B Bonds will likely also meet the standards of the Clean Water Act and the SDWA; however, the final spending plan for these proceeds has not been determined.

Appendices. Attached hereto as Appendix A are the Authority’s audited financial statements at June 30, 2018 and 2017 and for the Fiscal Years then ended. Attached hereto as Appendix B is the Consulting Engineer’s Financial Feasibility Report, dated April 23, 2019 (the “April 2019 Report”), prepared by CDM Smith Inc., the Authority’s consulting engineer (the “Consulting Engineer”), relating to certain financial matters and projections of the Authority, including the Authority’s estimated future rates and charges for Fiscal Years 2020 through 2024. Attached hereto as Appendix C is a Summary of Certain Provisions of the General Resolution prepared by Bond Counsel to the Authority. Attached hereto as Appendix D is the proposed form of legal opinion of Bond Counsel. Attached hereto as Appendix E is a table of Refunded Bonds prepared by Bond Counsel to the Authority. Attached hereto as Appendix F is a Description of the Green Bonds Projects.

Documents. Copies of the General Bond Resolution and the Current Expense Budget and Capital Improvement Program for Fiscal Year 2019 can be obtained from the Authority’s website at www.mwra.com.

THE 2019 BONDS

The following is a summary of certain provisions of the 2019 Bonds. Reference is hereby made to the 2019 Bonds and the General Resolution, each in their entirety, for detailed provisions of the 2019 Bonds. For definitions of certain terms and additional detailed information relating to the 2019 Bonds, see Appendix C - “Summary of Certain Provisions of the General Resolution.”

GENERAL

The 2019 Bonds will be issued in the aggregate principal amount of \$144,190,000, comprising the Series B Bonds in the aggregate principal amount of \$125,000,000, and the Series C Bonds in the aggregate principal amount of \$19,190,000. The 2019 Bonds will be dated as of the date of their initial delivery and will mature in the years and in the principal amounts set forth on the inside cover of this Official Statement. The 2019 Bonds will be offered in Authorized Denominations of \$5,000 and integral multiples thereof.

Interest on the 2019 Bonds will be payable on February 1 and August 1, commencing August 1, 2019, at the interest rates set forth on the inside cover of this Official Statement. The record date for payment of interest on the 2019 Bonds is the 15th day of the calendar month preceding the date on which interest is to be paid. Interest will accrue on the basis of a 360-day year consisting of 12 months of 30 days each.

REDEMPTION

Mandatory Sinking Fund Redemption. The Series B Bonds maturing on August 1, 2044 will be subject to mandatory sinking fund redemption and will be redeemed by sinking fund installments on August 1 of each of the years and in the amounts set forth in the following table at a redemption price equal to 100% of the principal amount thereof plus accrued interest to the date of redemption.

DESCRIPTION OF GREEN BONDS PROJECTS

WASTEWATER PROJECTS

Interception and Pumping	<p>Construction and replacement of trunk and relief sewers.</p> <p>Construction and rehabilitation of pump stations in MWRA's north and south systems.</p>
Treatment and Residuals	<p>Deer Island Wastewater Treatment Plant Project: construction of primary and secondary treatment facilities; ancillary modifications and asset protection of the DITP. Rebuilding of Clinton Wastewater Treatment Plant.</p>
Combined Sewer Overflows	<p>Construction of and improvements to CSO treatment facilities, sewer separation projects and a CSO storage tunnel to improve water quality in Boston Harbor, Dorchester Bay, the Charles, Mystic and Neponset Rivers, and Alewife Brook.</p>

WATERWORKS PROJECTS

Drinking Water Quality Improvements	<p>Construction and asset protection of John J. Carroll Water Treatment Plant to provide disinfection and corrosion control to the drinking water supplied to the Authority's metropolitan waterworks system.</p> <p>Construction of the William A. Brutsch Water Treatment Plant to provide disinfection to the communities serviced by the Chicopee Valley Aqueduct.</p>
Transmission System	<p>Construction and rehabilitation of aqueducts, including the MetroWest Water Supply Tunnel and the Hultman Aqueduct.</p> <p>Construction and replacement of water supply, connecting and distribution mains.</p>
Distribution and Pumping	<p>Construction and rehabilitation of water pump stations.</p> <p>Construction of covered storage facilities to eliminate the use of open reservoirs.</p>

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: Bond Defeasance of Future Debt Service



COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

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


Thomas J. Durkin
Director of Finance

Consistent with MWRA's multi-year rates management strategy, MWRA staff are recommending the execution of an approximately \$24.4 million defeasance in June 2019 to reduce future year rate increases. The \$24.4 million in available funds is derived from the use of \$17.3 million of the projected FY19 surplus, and the \$7.1 million Debt Prepayment included in the FY19 CEB. These funds will be used to prepay debt service coming due in FY20 through FY22 (\$24.2 million in principal and \$0.2 million in interest). The defeasance of debt, coupled with diligent management of operational expenses, have been the keys to MWRA's ability to keep assessment increases sustainable and predictable.

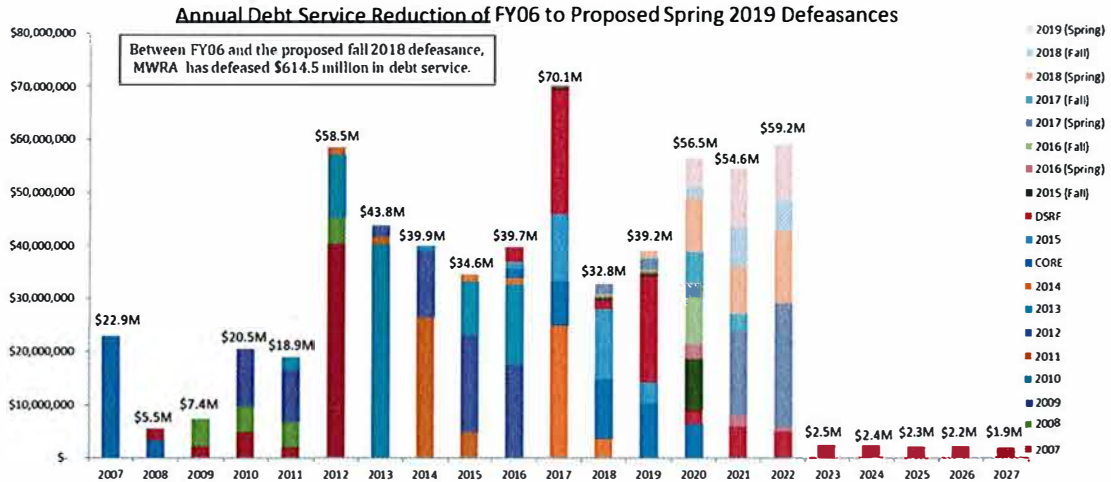
RECOMMENDATION:

To authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$24,150,000 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 \$26,878,250 in the FY20 through FY22 timeframe.

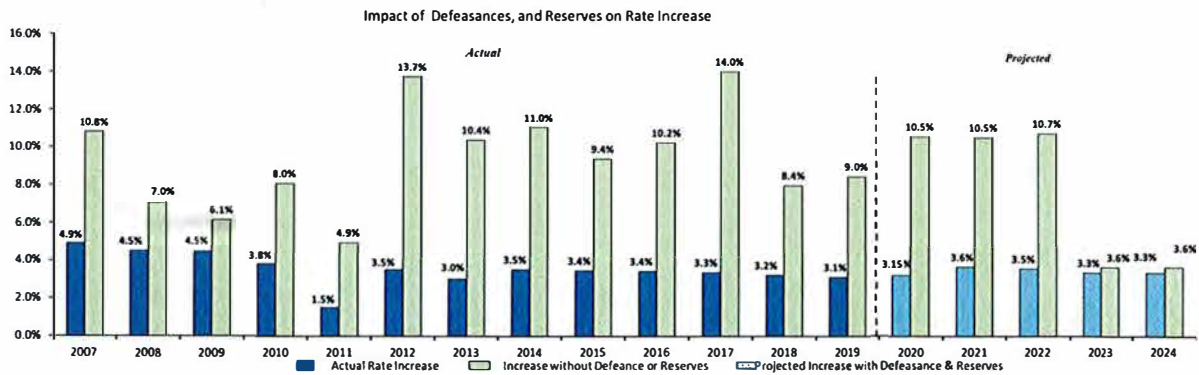
DISCUSSION:

Since FY12, the MWRA has utilized the budgetary defeasance account strategy to set aside surplus funds associated with the capital finance budget to defease outstanding debt. In order to mitigate rate increases, staff reflected the impact of a \$15.0 million defeasance in the Proposed FY19 CEB comprised of the projected FY19 surplus as well as the FY19 CEB Debt Prepayment. Now, based on current year-end projections, the proposed defeasance has increased by \$9.4 million to approximately \$24.4 million, consisting of \$17.3 million from FY19, and \$7.1 million of FY19 Debt Prepayment for even greater debt service reductions in future years.

MWRA’s ongoing use of defeasances has had a significant impact in lowering future debt service payments and limiting annual rate revenue increases. From 2006 through this proposed transaction, MWRA has defeased \$614.5 million in debt service to reduce future year rate revenue requirements. The following chart details the multi-year impact of those defeasances.



The application of these defeasances has had a significant impact on rate increases. The chart below shows the estimated rate increase without the application of the defeasances.



Staff reviewed all bonds available to be defeased, and have identified the maturities of the bonds in the following table as the most advantageous defeasance candidates.

Series	Maturity	Call Date	Principal	Defeasance Cost ¹
2002J	August 1, 2020	August 1, 2020	\$ 4,150,000	\$ 4,378,250
2009B	August 1, 2021	August 1, 2019	\$ 10,000,000	\$ 10,000,000
2009B	August 1, 2022	August 1, 2019	\$ 10,000,000	\$ 10,000,000
Total			\$ 24,150,000	\$ 24,378,250

(1) Defeasance costs is only anticipated funds from surplus and does not included current year deposits. Assumes no interest earned on escrow

The following table details the annual budget savings by fiscal year for the proposed FY19 defeasance.

Budget Reduction by Fiscal Year			Total CEB Savings
2020	2021	2022	
\$ 5,378,250	\$ 11,000,000	\$ 10,500,000	\$ 26,878,250

The proposed defeasance would reduce debt service by a total of \$26.9 million between FY20 and FY22. The total debt service reduction attributable to the defeasance is approximately \$2.5 million higher than the defeasance cost because the 2009 Series B bonds are callable prior to their maturity date. The payment of these bonds on the call date will yield interest savings, as a result of paying off the bonds prior to maturity without interest accruing. Since 2006, MWRA has avoided \$34.1 million in interest by defeasing callable bonds.

The funds will be utilized to purchase governmental securities in an amount sufficient to make all future interest and principal payments on the bonds to be defeased, offset by the interest earned on the securities.

The governmental securities purchased will be deposited with an escrow agent (bond trustee). Once established, an escrow is irrevocable, replacing any future debt service payments due for the bonds being escrowed, and therefore reducing the rate revenue requirement. Establishing an escrow reduces debt service requirements for each fiscal year from the time it is executed until the defeased bonds mature.

Establishing an escrow to defease debt requires that MWRA’s bond counsel draft an agreement to this effect and an independent verification agent must certify that the funds in the escrow are sufficient to pay the remaining debt service. Bonds that are escrowed to maturity are not included in the MWRA’s debt cap or debt service coverage calculations. Staff will continue to monitor market conditions and the maturities available to be defeased to ensure that the bonds selected provide MWRA with the highest available debt service savings.

BUDGET/FISCAL IMPACT:

The defeasance of these bonds will decrease the FY20 through FY22 debt service requirement by \$26.9 million. The cost associated with bond counsel and financial advisory services will be paid out of the Treasury Department’s professional services budget.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: MWRA FY20 Insurance Program Renewal



COMMITTEE: Administration, Finance & Audit

 INFORMATION

 X VOTE



Michele S. Gillen

Director of Administration



Thomas J. Durkin

Director of Finance

Paul F. Whelan, Risk Manager 

Douglas J. Rice DR

Director of Procurement

MWRA's Insurance Program is renewed on an annual basis at the beginning of each fiscal year. Annual renewals are required due to the insurance industry's reluctance to provide firm pricing for more than a one-year period. All policies expire on June 30, 2019 and require renewal. All policies, except Treasurer's Bond and Excess General Liability, were solicited under a competitive bid process and are discussed below. Significant premium increases were received for general liability and property coverages reflecting current market conditions which, when combined with other program costs, results in a 37% increase over the FY19 program. This year's recommended program renewal totals \$2,249,851.

RECOMMENDATION:

To approve awards to the lowest eligible and responsive proposers for insurance policies, bonds, and related broker services for MWRA's FY20 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 \$2,249,851:

- (1) Workers' Compensation Excess Policy with Safety National Casualty Corporation, submitted by broker Willis of Massachusetts, Inc. (Willis of Massachusetts), for the period beginning July 1, 2019, through June 30, 2020, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$214,008;
- (2) Property Policy (including Boiler & Machinery coverage) with Factory Mutual Insurance Co. (FM Global), for the period beginning July 1, 2019, through June 30, 2020, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a FY20 premium of \$1,056,442;

- (3) General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution, and Employment Practice Liability) with Lexington Insurance Company and Berkshire Hathaway Specialty Insurance, submitted by broker Richards Robinson Sheppard Insurance, LLC (Richards Robinson Sheppard), for the period beginning July 1, 2019 through June 30, 2020, with a combined \$25 million limit and a \$2.5 million self-insured retention, for a combined premium of \$410,235;
- (4) Excess General Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2019, through June 30, 2020, providing a combined total of \$75 million of excess liability coverage for a total combined premium not to exceed \$425,000;
- (5) Public Official's Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc. (Arthur J. Gallagher), for the period beginning July 1, 2019, through June 30, 2020, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$69,779, including broker commission;
- (6) Fiduciary Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher, for the period beginning July 1, 2019, through June 30, 2020, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$6,957 including broker commission;
- (7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2019, through June 30, 2020, with a \$1 million limit and a \$25,000 deductible for a premium of \$4,680;
- (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 2020; and
- (9) Broker contracts with Richards Robinson Sheppard 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, 2020.

BACKGROUND:

MWRA's insurance program consists of various types of coverage including: Excess Workers' Compensation, Property (including Boiler and Machinery coverage), General Liability, Excess Liability, Public Official's Liability, Fiduciary Liability, Public Official's/Crime Bond, and Treasurer's Bond. The Excess Workers' Compensation policy is required by state statute and is a prerequisite for MWRA to operate as a self-insured entity for Workers' Compensation benefits. Insurance coverage required by MWRA's Enabling Act includes Public Official's/Crime Bond and Treasurer's Bond which serve to protect the Authority against losses due to fraudulent or dishonest acts, failure to perform duties faithfully or improper accounting of monies or property by employees.

Other policies are maintained in order to protect MWRA assets and limit MWRA's financial exposure to loss. In addition, policies are maintained to comply with covenants contained within MWRA's General Revenue Bond Resolution. All policies under the current program (except Treasurer's Bond) expire on June 30, 2019, and require renewal.

DISCUSSION:

MWRA's insurance program has been renewed on an annual basis for more than ten years due to the reluctance on the part of insurance companies to price policies for more than a one-year term. For FY20, staff again conducted a full competitive process for all lines of coverage in an effort to obtain the most competitive pricing and coverage available. Staff anticipated single digit increases in rates and premiums on all lines of coverage for FY20 based on general market condition. While insurance companies have continued to benefit from a favorable stock market performance, their gains have been offset by increased losses due to a number of major catastrophic events. For example, MWRA's incumbent property insurance carrier, FM Global, posted two years of back to back unfavorable loss ratios which has contributed to the unavailability of a Membership Credit and has contributed to upward pressure on property rates. Additionally, underwriters in the general liability category have been limiting and diversifying their risk exposure to any one event. When combined with variables specific to MWRA, such as the increased replacement value of insured property due to inflation, additional facilities (Wachusett Aqueduct Pumping Station and Quabbin Administrative Building), and increased estimated payrolls, staff anticipated a moderate increase in the overall insurance program cost.

This year, staff again made an effort to attract multi-year policies, but none were received. Premiums for Excess Workers Compensation, Public Officials and Property Insurance increased in part, due to changes in MWRA rating factors including increased payroll, claim activity, increased replacement values, additional facilities, and the unavailability of a Membership Credit. The premium for General Liability coverage increased substantially due to the reluctance of the incumbent carrier, Lexington Insurance, to offer the full \$25 million limit of coverage currently provided. Only \$10 million was offered at about the same pricing as last year's \$25 million in coverage. This reduction in limit is the result of Lexington's corporate decision to reduce and diversify its exposure to major loss events. This required the broker to fill the remaining \$15 million with another carrier, thereby adding to the total premium cost. Our Insurance Consultant reported seeing similar reductions in limits with other liability insurers in the marketplace. As mentioned above, the property premium offered by FM Global increased sharply as well. There were no increases in Broker Fees. Overall, the cost of the insurance program recommended, including increased renewal rates and increased rating factors unique to MWRA, is about 37% higher than the FY19 program.

PROCUREMENT PROCESS:

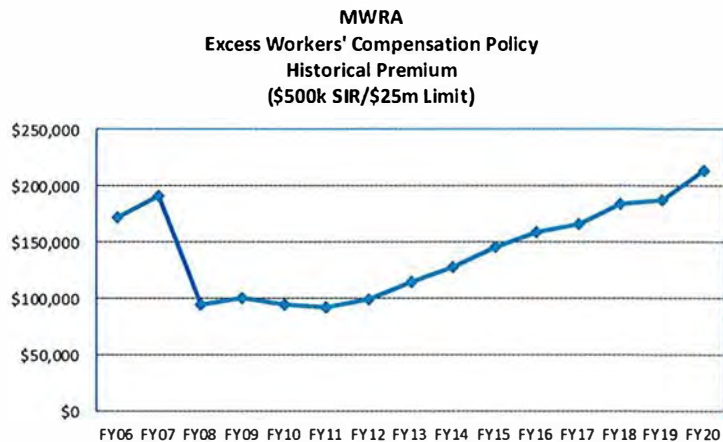
In February, staff began the procurement process by advertising a Request for Letters of Interest from

insurance brokers and direct writers.¹ In addition, staff sent direct solicitations to 20 brokers that were known to staff as having an interest or had participated in previous MWRA insurance procurements. In response to the solicitation, six brokers and one direct writer submitted Letters of Interest listing their requested insurance markets. Staff, with the assistance of MWRA’s Insurance Consultant, reviewed all requests and assigned more than 30 insurance companies to the brokers. A Request for Qualifications/Proposals, including technical specifications and rating data, was sent to all participants along with their market assignments. On May 3, 2019, four of the seven firms submitted proposals.

Proposals received varied with respect to the lines of coverage offered. As shown on the attached table, while multiple proposals were received for Fiduciary Liability and Crime Bond, the other lines of coverage each had only one proposal. This response is similar to previous years and not surprising due to the competitive pricing of MWRA current program. The proposals were reviewed by MWRA’s Insurance Consultant, KFPA Advisors, for adherence to MWRA’s technical specifications and then ranked by cost. The approvals requested herein represent those recommended by MWRA’s Insurance Consultant for each line of coverage sought. The attached table provides a summary of all lines of coverage with the limits, deductibles, and premiums comparing the expiring FY19 premiums with the proposed FY20 premiums. A brief summary of each line of coverage follows.

Workers’ Compensation Excess –

One proposer submitted two options for this line of coverage with Safety National Casualty Co. A quote for a policy with a \$500,000 self-retention level and a \$25 million limit, for an annual premium of \$214,008 was provided. This quote is \$26,138 more than the FY19 policy for this same coverage. This increase in premium is the result of a 12.5% rate increase applied to a 3.5% increase in estimated payroll for FY20. A second quote was also provided for a policy



with a \$750,000 self-insured retention. This premium was \$194,573, or \$19,435 less than the premium with a \$500,000 self-insured retention. Staff have reviewed historical workers’ compensation claims data and have concluded that the potential premium savings do not justify assuming the risk of an additional \$250,000 for each claim or occurrence, as just one catastrophic claim could eliminate and exceed more than 12 years of accumulated premium savings. In addition, the maximum self-retention level currently allowed by the Division of Insurance is \$500,000. Staff recommend the purchase of the policy from Safety National Casualty Co. with a \$500,000 per occurrence self-insured retention and \$25 million limit through broker Willis of Massachusetts, for the specified premium above and an associated broker fee of \$20,250. The chart above shows

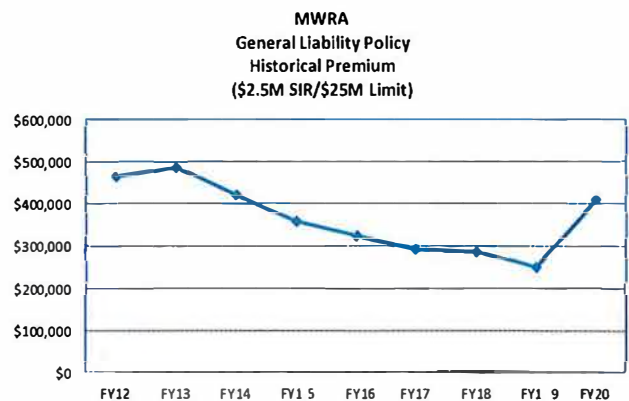
¹ A direct writer is an insurance company that deals directly with customers and does not require a broker as an intermediary.

MWRA's historical premium cost for this line of coverage over the past fourteen years.

Property Insurance (including Boiler & Machinery) – One proposal was received for this line of coverage from direct writer FM Global, the incumbent provider. The FM Global proposal contained various policy options with a \$2.5 and \$5.0 million self-retention level with limits ranging from \$200 million to \$500 million in coverage. The option shown on the attached table and recommended by staff includes a policy limit of \$300 million with a \$2.5 million self-retention for a total premium of \$1,056,442. This premium is based on a fixed rate applied to MWRA's Total Insured Value (TIV), which has increased approximately 4% with the additional facilities such as the Wachusett Aquaduct Pumping Station and Quabbin Administrative Building. The fixed rate offered by FM Global increased approximately 20% from FY19; however, last year's rate was the second year of a two year fixed rate policy. Such rate increases are not unique to MWRA and are reflective of market conditions for property coverage. MWRA's Insurance Consultant has seen similar increased renewal rates with other clients. FM Global also submitted pricing options with a higher self-retention level of \$5 million. These options were not deemed to be cost effective since they exposed the Authority to an additional \$2.5 million of risk exposure in return for relatively small annual premium savings that would quickly evaporate with just one claim in excess of the \$2.5 million level. Because FM Global is a direct writer, there are no broker fees associated with this policy.

General Liability – One proposal was received for the General Liability coverage offering the specified \$25 million in coverage from broker Richards Robinson Sheppard. The proposal included a combined quote from the incumbent carrier, Lexington Insurance Co, with a limit of \$10 million and a quote from Berkshire Hathaway Specialty Co. with the next \$15 million. This year, Lexington Insurance Co. was not willing to provide the whole \$25 million in coverage but instead offered only \$10 million. This reduction in limit by Lexington Insurance Co. contributed to the significant increase in this coverage. MWRA's Insurance Consultant, KFDA Advisors, indicates that the marketplace is seeing similar limit reductions as underwriters attempt to limit and diversify their exposures to loss. This required the broker to seek another company to provide the remaining \$15 million in coverage. The combined proposal cost for the offered policies was \$410,235 with an associated broker fee of \$40,000, which also includes fees associated with placement of the excess liability coverage.

The premium cost for this level of coverage is significantly higher than the expiring policy in part due to the need for two insurance companies. The graph at right provides historical premium cost for this coverage over the past eight years.



While the proposed amount is significantly higher than last year, it is still lower than premiums paid for the same coverage back in the FY12 through FY14 timeframe. Staff recommend the acceptance of this proposal from Richards Robinson Sheppard including an associated broker fee of \$40,000, which includes fees associated with placement of the Excess Liability policies outlined below.

Excess General Liability – The recommended broker for General Liability coverage, Richards Robinson Sheppard, has been directed to solicit quotes from insurance companies for the additional excess layers of liability coverage.² The companies and final premium costs for the additional \$75 million of excess liability coverage were still being developed and negotiated, and were not available in time for this Board meeting. In order to keep all insurance-related items together in one staff summary, staff are recommending a not to exceed amount of \$425,000 for this item. This amount represents an increase in premium from the FY19 policies. Such increase would be expected as the excess layer policy pricing is based upon the underlying policy pricing which, as described above, has increased significantly. Staff will report back to the Board on the status of this item as part of the FY20 Final Current Expense Budget staff summary presentation on June 19, 2019.

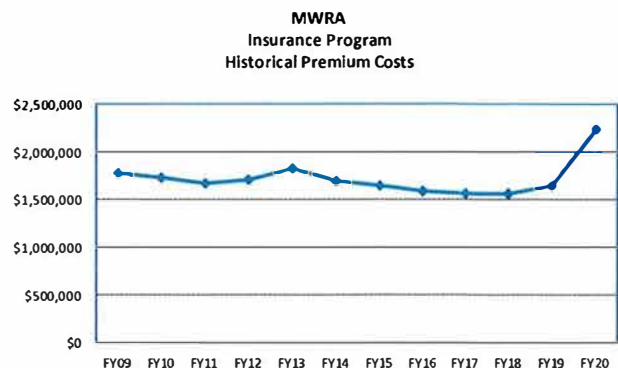
Public Official’s Liability – One proposal was received for this line of coverage with the specified \$5 million limit and \$1 million self-retention, from the incumbent, Chubb/ACE USA, submitted through Arthur J. Gallagher, for a premium of \$69,779. This represents an increase of \$18,736 from the FY19 policy. Recent loss activity specific to the MWRA has contributed to the increase in this premium. Staff recommend the placement of this coverage for the specified premium, which includes broker commission.

Fiduciary Liability – Two proposals were received for this line of coverage with the specified \$5 million limit and \$1 million self-retention, one from the incumbent, Chubb/ACE USA, submitted through Arthur J. Gallagher, for a premium of \$6,957 and one from AXIS Insurance, also submitted by Arthur J. Gallagher, for a premium of \$14,833. Staff recommend the placement of this coverage with Chubb/ACE USA for the specified premium, which includes broker commission.

Public Official’s/Crime Bond – Two proposals were received for this line of coverage with the specified \$1 million limit, one from incumbent, Great American Insurance Company, submitted through Richards Robinson Sheppard, for a premium of \$4,680, and one from Travelers Casualty and Surety also submitted by Arthur J. Gallagher, for a premium of \$7,100. Staff recommend the placement of this coverage with Great American for the specified premium.

Treasurer’s Bond – The Treasurer’s Bond is required by the MWRA Enabling Act and is written in the name of the person holding the position of Treasurer. This bond is off-cycle from the rest of the insurance program and does not expire until January 2020. To keep all insurance program approvals consolidated in one staff summary, staff included a not-to-exceed amount of \$2,500 for the renewal of this bond upon its expiration. The broker fee associated with placement or renewal of this bond is included in the FY20 broker scope of services.

Staff recommend the renewal of MWRA’s insurance program for FY20, with the various coverages, limits and self-insured retention levels from various



² Excess liability policies cannot be purchased until the underlying policy is first established.

brokers and insurance companies as outlined above and as included in the attached table. If approved, the FY20 total insurance cost will be \$2,249,851. The chart on the prior page provides MWRA's Insurance Program Historical Premium costs for the past 11 fiscal years.

BUDGET/FISCAL IMPACT:

The Draft Final FY20 CEB includes \$2.6 million for the total cost of maintaining MWRA's insurance program, consisting of premiums and fees and for payment of estimated claims and damages in FY20. The budget contains sufficient funds for the renewal of the insurance program outlined above.

MBE/WBE PARTICIPATION:

There were no minimum MBE and WBE participation requirements established for this procurement, as the nature of the services being provided does not allow for subcontracting.

MWRA FY20 INSURANCE PROPOSALS

EXPIRING FY19

PROPOSED FY20

Item #	Coverage	Deductible/ Limit	Actual FY19 Premium	Current (FY19) Insurance Co (Broker)	FY20 Bids (See Note 1)	FY20 Insurance Co. (Broker)	Notes
1	Excess Workers Comp.	\$500K / \$25M \$750K/\$25M	187,870	N.Y. Marine (Willis of Massachusetts)	214,008 194,573	Safety National Casualty Corp. (Willis) Safety National Casualty Corp. (Willis)	Premium increase of \$26,138 resulting from 12.5% rate increase applied to 3.5% payroll increase. The \$500K deductible option is maximum allowed by Division of Insurance. Savings from higher (\$750K) deductible not feasible.
2	Property Insurance (including Boiler & Machinery)	\$2.5M / \$300M \$5.0M/\$300M	861,490	FM Global (No Broker)	1,056,442 1,015,358	FM Global (No Broker) FM Global (No Broker)	FY20 bid based on 20% increase in rate applied to a 4% increase in TTV. New facilities added including Wachusett Pump Station and Quabbin Administration Bldg. No Membership Credit available. Increased retention level not feasible.
3	General Liability (Incl., Auto, Marine, Wharfingers, Limited Pollution and Employment Practice Liability)	\$2.5M/\$25M	248,000	Lexington Insurance Co. (Richards Robinson Sheppard)	410,235	Lexington Insurance Co. and Berkshire Hathaway Specialty Ins. (Richards Robinson Sheppard)	Lexington only offered \$10M vs \$25M. Berkshire provided \$15M to reach \$25 M total limit. Significant premium increase from FY19. Price increase reflects current market conditions. Premium includes Surplus Lines charge of 4%.
4	Excess Liability	\$25M/\$75M	237,250	Ironshore, Great American, ACE (Richards Robinson Sheppard)	425,000	To be determined. (Richards Robinson Sheppard)	Premium shown is not to exceed amount. This coverage is based on the General Liability policy above which must be finalized first.
5	Public Official's Liability	\$1M / \$5M	51,043	Chubb/ACE (Arthur J. Gallagher)	69,779	Chubb/ACE (Arthur J. Gallagher)	Premium increase of \$18,736. Increase in number of claims filed and increased court awards both nationally and specific to MWRA. Bid amount includes 15% broker commission.
6	Fiduciary Liability	\$1M / \$5M	6,604	Chubb/ACE (Arthur J. Gallagher)	6,957 14,833	Chubb/ACE (Arthur J. Gallagher) AXIS (Arthur J. Gallagher)	Premium increase of 5%. Bid amounts include broker commissions.
7	Public Official's/Crime Bond	\$25K / \$1M	4,500	Great American (Richards Robinson Sheppard)	4,680 7,100	Great American (Richards Robinson Sheppard) Travelers Casualty and Surety (Arthur J. Gallagher)	Premium increase of 4%.
8	Treasurer's Bond	\$0/\$1M	1,656	Travelers Casualty & Surety (Richards Robinson Sheppard)	2,500	To Be Determined. (Richards Robinson Sheppard)	Renews in January 2020. Amount shown is not-to-exceed amount.
9	Broker Fees -Various		60,250	Various	60,250	Various - See Note 2	No change in Broker fees.
Total Program Cost			\$ 1,639,918		\$ 2,249,851		

Note 1: Proposed for approval shown in bold.

Note 2: Broker Fees are \$40,000 for Richards Robinson Sheppard and \$20,250 for Willis of Massachusetts.

Arthur J. Gallagher's commission for Public Official and Fiduciary Policies are included in premiums shown.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, May 29, 2019

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

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

Time: Immediately following AF&A Committee

AGENDA

A. Approvals

1. Admission of Crescent Ridge Dairy to the MWRA Sewer System

B. Contract Awards

1. Wastewater Advisory Committee Contract

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Wastewater Policy and Oversight Committee

April 17, 2019

A meeting of the Wastewater Policy and Oversight Committee was held on April 17, 2019 at the Authority headquarters in Charlestown. Committee Chair Flanagan presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cook, Pappastergion, Peña, Vitale and Walsh. Messrs. Cotter and Foti were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, David Duest, Larry Thomas, Carl Pawlowski, Brian Rozowski, Richard Adams, Betsy Reilly and Kristin MacDougall. The meeting was called to order at 12:38 a.m.

Information

Compliance with New NPDES Permit Phosphorus Requirements at the Clinton Wastewater Treatment Plant

Staff made a presentation. (Mr. Cook returned to the meeting, and Mr. Pappastergion temporarily left the meeting during the presentation.) There was brief discussion and questions and answers.

Operations and Maintenance of the Fore River Pelletizing Plant

Staff made a presentation. (Mr. Pappastergion returned to the meeting during the presentation.) There were questions and answers.

Contract Awards

* Preferred Service Agreement for the Combustion Turbine Generators at the Deer Island Treatment Plant, PW Power Systems, Inc.

Staff made a verbal presentation.

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

* Committee recommendation approved by the Board on April 17, 2019

Contract Amendments/Change Orders

*** Technical Assistance Consulting Services - Deer Island Treatment Plant AECOM Technical Services, Inc., Contract 7503, Amendment 1**

Staff made a presentation. (Mr. Cook temporarily left and returned to the meeting during the presentation.)

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

*** CSO Post-Construction Monitoring and Performance Assessment AECOM Technical Services, Inc. Contract 7572, Amendment 1**


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

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

The meeting adjourned at 12:38 p.m.

* Committee recommendation approved by the Board on April 17, 2019


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Approval for Crescent Ridge Dairy Admission to the MWRA Wastewater System

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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


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

RECOMMENDATION:

Pursuant to MWRA Operating Policy 11, that the Board approve the admission of the Crescent Ridge Dairy, in the Town of Sharon, to the MWRA wastewater system to discharge up to 10,000 gpd of milk-house wastewater via a connection to the Town of Stoughton.

DISCUSSION:

Crescent Ridge Dairy is located at 335 Bay Road in the Town of Sharon, directly adjacent to the municipal boundary with the Town of Stoughton. Crescent Ridge Dairy is seeking admission to the MWRA wastewater system to discharge up to 10,000 gpd via a connection to the Town of Stoughton wastewater system. Pursuant to Operating Policy 11 (OP.11), MWRA has found that the proposed connection and associated wastewater discharges will not jeopardize the quantity or quality of service that MWRA is committed to provide to existing sewer service communities.

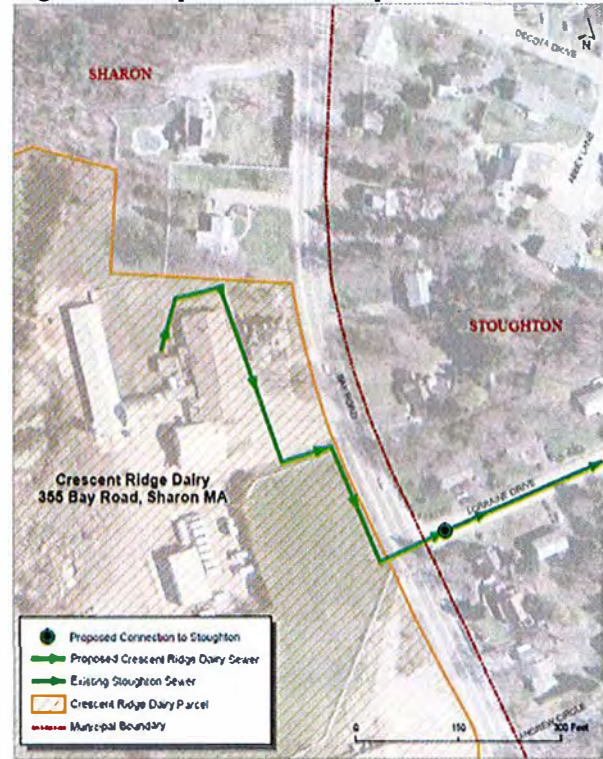
All wastewater generated by Crescent Ridge Dairy is currently treated by an on-site septic system and discharged into groundwater. However, water quality concerns have arisen and Crescent Ridge Dairy has had difficulty meeting MassDEP groundwater discharge permit requirements. The Town of Sharon does not have sewer infrastructure in the vicinity of the site and the Stoughton sewer system is situated just over the municipal boundary, as shown in Figure 1. Crescent Ridge Dairy proposes to construct sewer pipes to convey wastewater flows from the property and make a connection to the Stoughton system in Lorraine Street, as shown in Figure 2.

Only milk-house wastewater from the facility would be discharged to the MWRA system, while sanitary wastewater would continue to be managed under a MassDEP ground water discharge permit. Crescent Ridge Dairy currently receives water from the Town of Sharon and there is no increase in water usage at the facility associated with this project.

Figure 1: Crescent Ridge Dairy



Figure 2: Proposed Sewer Pipe & Connection



Community Support

Pursuant to OP.11, admission to MWRA for a location outside of the sewer service area must be approved by both the community of origin and the transporting community. In this case, Sharon is the community of origin and Stoughton is the transporting community to which Crescent Ridge Dairy will directly connect and which will ultimately direct flows to the MWRA wastewater system. Support for this connection is codified in a Sewer Connection Agreement dated May 22, 2018, among the Town of Sharon, The Town of Stoughton and Crescent Ridge Dairy. This Agreement outlines the details of the wastewater connection and addresses requirements of OP.11, including the following:

- The connection is limited to wastewater generated by the Crescent Ridge Dairy parcel.
- The connection is limited to a maximum of 10,000 gpd.
- Crescent Ridge Dairy is responsible for construction, installation, maintenance and repair costs and expenses of the sewer pipes and connection, as approved by the Town of Stoughton.
- The connection is limited to wastewater from the existing facility, which uses have been approved by both the Town of Stoughton and MWRA's Toxic Reduction and Control (TRAC) program.
- Crescent Ridge Dairy will cause to abate at least 40,000 gpd (4:1) peak design storm inflow from Stoughton's wastewater system. Payment of an inflow mitigation inspection fee into escrow will be applied to the identification and removal of infiltration and inflow (I/I).
- The agreement also references a separate agreement, called the Sharon Agreement, between the Town of Sharon and Crescent Ridge Dairy in which Crescent Ridge Dairy

agrees to perform all construction and installation of the sewer line and connection as well as to pay for all associated costs, fees and expenses.

- Crescent Ridge Dairy will be billed by the Town of Stoughton at its local sewer rate, estimated based on water meter data from the Town of Sharon.

Approvals

All approvals pursuant to MWRA OP.11 have been obtained prior to seeking Board approval.

- Legislation was passed, signed by the Governor and enacted in Chapter 391 of the Acts of 2016 to authorize MWRA to supply sewer services to the Crescent Ridge Dairy located in the Town of Sharon via a connection with the Town of Stoughton wastewater system upon approval by both the MWRA Advisory Board and Board of Directors.
- On April 11, 2019 the Water Resource Commission (WRC) issued a Determination of Insignificance under the Interbasin Transfer Act, M.G.L. Chapter 21 §§ 8B-8D. Water supply is provided to Crescent Ridge Dairy by the Town of Sharon, which has sources in the Neponset River Basin and Taunton River Basin. WRC staff determined that 65% of Sharon's water supply originates in the Neponset River Basin, which would be transferred to a different basin (Mass Coastal Basin) than where it originates. Water from the Taunton River Basin is already discharged into a different basin than where it originates (the Neponset River Basin). Therefore, 6,500 gpd of Crescent Ridge Dairy's total maximum 10,000 gpd proposed connection is subject to the Interbasin Transfer Act. The Commission found that no environmental impacts were anticipated as a result of the proposed transfer of less than 10,000 gpd. It will not have an increased impact on Sharon's water supply sources and will not significantly change the environmental conditions where the wastewater is currently being discharged. The Commission noted that if Crescent Ridge Dairy's water supply connection with the Town of Sharon or wastewater connection with Stoughton needs to be increased or enlarged, additional Interbasin Transfer Act review may be necessary.
- On April 18, 2019 the MWRA Advisory Board voted to approve Crescent Ridge Dairy to join the MWRA wastewater system via a connection with the Town of Stoughton.

Sewer Connection Agreement & Annual Reporting Requirements

Upon approval by the Board and admission to the system, the relationship between MWRA and Crescent Ridge Dairy will be governed by a Sewer Connection Agreement. This agreement will set forth appropriate terms and conditions related to the entrance fee, inflow reduction requirements, limitations on further connections, maintenance responsibilities, compliance with MWRA regulations and annual reporting requirements. Pursuant to OP.11, Crescent Ridge Dairy will be required to annually report wastewater flows, estimated based on water meter data, to MWRA for the Annual Report on New Connections. MWRA will require Crescent Ridge Dairy to complete a Sewer User Discharge Permit, which will be issued in addition to any other applicable permits, prior to discharge.

BUDGET/FISCAL IMPACT:

Upon approval by the Board and before the connection is made, Crescent Ridge Dairy will pay an entrance fee estimated to be approximately \$24,000. Pursuant to OP.11, the entrance fee is calculated based on either the new user's fair share of the cost of the sewer system in place at the time of request for admission, or based on the cost to repair or replace a failed septic system, whichever is greater. This fee aims to provide equitability by recovering the new user's proportional share of the sewer system's asset base that has already been paid for by existing users.

ATTACHMENTS:

Town of Sharon and Town of Stoughton Sewer Connection Agreement
Water Resource Commission Determination of Insignificance
Chapter 391 of the Acts of 2016
Advisory Board Approval

TOWN OF SHARON
and
TOWN OF STOUGHTON
SEWER CONNECTION AGREEMENT

AGREEMENT made this 22nd day of May, 2018, by and between the Town of Sharon, County of Norfolk ("SHARON"), the Town of Stoughton, County of Norfolk ("STOUGHTON"), Parrish Family, LLC, a Massachusetts limited liability company with an address of 355 Bay Road, Sharon, MA 02067, and Crescent Ridge Dairy, Inc., a Massachusetts corporation with an address of 355 Bay Road, Sharon, MA 02067 (collectively the "SEWER USER"), the owner and operator, respectively, of the real property known and numbered as 355 Bay Road, Sharon, Massachusetts (the "Property"). The Property is more particularly shown as Lot 1 on Sharon Assessors' Map 114, and is more particularly described in the Deed recorded with the Norfolk County Registry of Deeds in Book 15288, Page 263, and the Plan entitled "Plan of land in Sharon, Massachusetts" prepared for Robert E. and Stanley E. Parrish, by Dunn Engineering Company, Inc., recorded with said Deeds in Plan Book 400 as Plan Number 514.

WHEREAS, the SEWER USER operates a commercial dairy processing facility and accessory uses (the "Facility") on the Property, which Property and Facility are currently served by an on-site subsurface sewage disposal system; and

WHEREAS, SHARON has no existing common sewer system at the Property and SHARON desires the connection of the proposed sewer outlet at the Property in SHARON to the common sewer system in STOUGHTON under the terms and conditions herein stated, and

WHEREAS, the Sewer User desires to connect a proposed sewer outlet at the Property to the common sewer system of STOUGHTON, and

WHEREAS, STOUGHTON is agreeable to the aforesaid connection to its common sewer system upon the terms and conditions hereinafter stated, and

WHEREAS, the SEWER USER has entered into a separate agreement (the "SHARON AGREEMENT") with SHARON wherein it agrees to perform all construction and installation of the sewer line and connection in SHARON, and pay all costs, fees and charges and expenses in connection therewith, all as set forth in the SHARON AGREEMENT, and to further indemnify SHARON from the same.

NOW, THEREFORE, in consideration of the mutual promises and agreements contained herein, and for other valuable consideration, the receipt of which is herein acknowledged by the respective parties, SHARON and STOUGHTON, pursuant to the authority contained in Section 4 and 4A of Chapter 40 of the General Laws of the Commonwealth of Massachusetts, and the SEWER USER, do agree and covenant as follows:

1. STOUGHTON agrees and hereby permits the connection of said sewer outlet and pipes crossing the boundary line of SHARON into STOUGHTON and to the common sewer system of STOUGHTON via a pipe on Bay Road in SHARON. In addition, the SEWER USER agrees to comply with the regulations and permit procedures of STOUGHTON and its Engineering Department and Public Works Department regarding excavation and the opening of street surfaces and shall ensure that all construction locations in STOUGHTON are restored to their pre-construction conditions to the reasonable satisfaction, and in compliance with the regulations of STOUGHTON and its Public Works Department. The location of the area in SHARON from which sewerage will originate is limited to the existing Facility at the Property as shown on Exhibit A and no other location.
2. The volume of sewage to be conveyed from the Property and existing Facility as shown on the aforesaid Exhibit A to STOUGHTON is limited to a maximum of 10,000 gallons for any one day, which such gallonage shall be solely from the Property and existing Facility as shown on the aforesaid Exhibit A.
3. This agreement is limited to sanitary sewage from the existing Facility which uses have been approved by STOUGHTON and the Massachusetts Water Resources Authority ("MWRA"). Characteristics of wastes delivered to the STOUGHTON sewer system from SHARON shall conform to the requirements of STOUGHTON and the MWRA, and MWRA's TRAC program as applicable, as may be amended from time to time.
4. No other wastes, properties or facilities, except as expressly provided herein, shall be connected to that portion of the SHARON system connected to the STOUGHTON system.
5. The discharge of sanitary sewage into the STOUGHTON system shall be subject to all the rules and regulations of STOUGHTON and its Engineering Department including any future amendments thereto. If a violation occurs, STOUGHTON reserves the right, after 72-hours advance, written notice to both the SEWER USER and SHARON and a reasonable opportunity for the SEWERS USER to cure, to exercise appropriate self-help measures to ensure the enforcement of the applicable rules and regulations. In the event of a continuing violation following notices, the SEWER USER shall be assessed a penalty of \$500.00 per day for as long as the metered flow exceeds 10,000 gallons per day. If the violation continues for a period of more than thirty (30) days, "self-help" shall include the right of STOUGHTON to terminate this agreement and reject any future flow.
6. Construction plans and specifications for all sewerage facilities in SHARON to be connected to the STOUGHTON system pursuant to this Agreement shall be submitted the STOUGHTON Engineering Department for approval prior to making connection to the system. This requirement also applies to any future extension in SHARON which is proposed to tie into the original system.

7. It is agreed that all sewer construction in SHARON which will tie into the STOUGHTON system shall be subject to periodic field inspections by authorized representatives of STOUGHTON. Not less than 72-hours notice, or such additional time as reasonably required by STOUGHTON, shall be given to the STOUGHTON Engineering Department prior to making a connection to the STOUGHTON system. All connections shall meet the approval of the STOUGHTON Engineering Department. No connection shall be allowed for any properties other than the Property and existing facility identified on Exhibit A absent the written authorization of SHARON, STOUGHTON and the SEWER USER.
8. The SEWER USER agrees to make infiltration and/or exfiltration tests on all pipelines installed in SHARON which are connected to the STOUGHTON system, with leakage limits to be in accordance with acceptable standards, and all tests to be witnessed by, and written reports available to, representatives of the STOUGHTON Engineering Department.
9. This agreement and permission is made upon the express condition and understanding that STOUGHTON and SHARON assume no liability whatsoever for payment of the construction, installation, maintenance or repair costs and expenses of laying out such sewer pipes and of connecting the proposed sewer outlet of the aforesaid SHARON to the common sewer system of STOUGHTON. The SEWER USER agrees to perform, at its sole cost and expense, all construction relating to the sewer connection to the satisfaction of the STOUGHTON Engineering Department and said construction, installation, maintenance and repair work shall be accomplished upon such terms as herein stated and shall be approved by the STOUGHTON Engineering Department.
10. The SEWER USER shall submit to the STOUGHTON Engineering Department for its review both the completed application for the Sewer Use Discharge (SUD) Permit and the SUD Permit itself. The SUD Permit should expressly state the sampling and testing requirements for discharge from the SEWER USER'S Facility. The SEWER USER shall conform to all MWRA requirements for sampling and testing and shall provide STOUGHTON with all reports required by and/or prepared in accordance with the MWRA's requirements.
11. STOUGHTON shall disclose to the SEWER USER its most recent closed-circuit television (CCTV) inspection results of the sewer infrastructure, (i.e., the gravity trunk sewers located on Lorraine Avenue in Stoughton to the connection at the intersection of Central Street in Stoughton), if said inspection was conducted within the last one year, and/or at STOUGHTON's expense, conduct a new CCTV inspection within the first six months after this agreement is executed, and supply the result of that inspection to the SEWER USER. After this initial inspection/disclosure, a second inspection shall be conducted by STOUGHTON approximately two years after the initial inspection. Thereafter, STOUGHTON shall conduct CCTV inspection of these sewers as part of its regular inspection program which will occur approximately, but no more frequently than, every five years. The SEWER USER shall reimburse STOUGHTON in the amount of \$7,800 for the cost of those subsequent inspections following the initial inspection. The SEWER USER shall only bear the cost of those subsequent regular inspections and, if STOUGHTON elects

to undertake additional inspections or to undertake more frequent inspections beyond the regular inspections, STOUGHTON shall bear that cost of those additional inspections.

12. The SEWER USER shall pay for the replacement of the three water meters owned by SHARON in accordance with SHARON's specifications. Water use data from the three water meters shall be provided by SHARON to the STOUGHTON Public Works Department on a quarterly basis for review and billing purposes. Billing shall be based upon 100% of the flow measured by meter one (bottle washer meter) and the flow measured by meter two (meter on the left in the break room). This percentage will be determined by subtracting historical water use data for juice production from the total water use measured at meter two. The SEWER USER shall provide the historical data, percentage and calculations to the STOUGHTON Public Works Department for review and approval. Flow measured by meter three (meter on the right in the break room) shall be provided to STOUGHTON for review but will not be used for billing purposes because the water use will not enter the common sewer system. Billing flows are subject to review and adjustment at any time by STOUGHTON. The SEWER USER agrees to replace SHARON's meters if STOUGHTON deems them not to be in satisfactory working order, which replacement shall be done as soon as practical and which the new meters may also be inspected by STOUGHTON to confirm that they are functioning properly. The SEWER USER agrees to allow STOUGHTON access to the Property for the purpose of inspecting present water meters located on the Property. The SEWER USER agrees to install any and all other equipment reasonably required by STOUGHTON to ensure that the water consumption can be accurately determined and properly monitored, including, but not limited to, any backflow prevention device or similar such equipment if necessary.
13. No other private land owner shall have the right to connect into or extend the Bay Road sewer main installed by the SEWER USER without the written consent of both the SEWER USER and STOUGHTON and SHARON.
14. The SEWER USER shall cause to be abated at least 40,000 gallons-per-day of peak design storm inflow as defined by MWRA's Policy #OP.11 into STOUGHTON's sewer system. The SEWER USER agrees to the proposal of Weston & Sampson Engineers, Inc., dated January 27, 2017 regarding identifying potential inflow sources, a copy of which is attached and incorporated herein. The SEWER USER shall pay an inflow mitigation inspection fee into escrow to be applied to the identification of potential inflow sources in accordance with the proposal of Weston & Sampson Engineers, Inc., dated January 27, 2017 in the amount of \$39,000. If sufficient peak design storm inflow is not identified through this project, the SEWER USER is responsible for additional investigations to identify sufficient inflow sources to comply with MWRA's Policy #OP.11. The SEWER USER is responsible for all costs associated with the identification of potential inflow sources and the removal of same in an amount sufficient to comply with MWRA's Policy #OP.11.
15. The SEWER USER shall submit to STOUGHTON a Sewer Connection Permit Application, and to SHARON and STOUGHTON a Trench Permit Application, and Roadway Opening Permit, and shall pay the applicable fees for this project prior to commencing construction. The SEWER USER agrees to perform, at its sole cost and expense, all construction relating to the sewer connection as set forth in the sewer connection plans entitled "Sewer Connection

Plan, Crescent Ridge Dairy, Inc., 355 Bay Road, Sharon, MA" dated May 24, 2017, to the satisfaction of STOUGHTON's Town Engineer and Public Works Superintendent.

16. The SEWER USER shall pay sewerage fees assessed at the sewer rates established by the STOUGHTON Board of Selectmen applicable generally to businesses in STOUGHTON. All sewer bills, inspection fees, and other expenses charged to the SEWER USER by STOUGHTON shall be paid within 30-days of receipt. All sewer rates shall be paid for by the SEWER USER upon receipt of an itemized bill or bills from STOUGHTON billed to the SEWER USER through the STOUGHTON billing department.
17. The SEWER USER agrees to pay STOUGHTON an administrative sewer tie in fee of \$14,800 representing a reasonable cost estimate of the Stoughton's expenses in connection with the establishment of the Sewer Connection Agreement including but not limited to professional consultations, legal fees, inspections, plan reviews, reporting and future administration.
18. The SEWER USER shall pay to STOUGHTON a sewer connection fee in accordance with the standard sewer connection fee policy of Stoughton $\{(\$250 + (\$3/\text{gallon}) = 250 + (\$3/\text{gallon} \times 10,000 \text{ GPD}) = \$30,250\}$.
19. Any other costs, not included in the other identified costs above (including, but not limited to Section 11), incurred by STOUGHTON for reviewing plans and specification and for time spent witnessing infiltration and leakage tests in SHARON, in relation to the construction program to sewer the above-mentioned Property and existing facility shall be paid for by the SEWER USER upon receipt of an itemized bill or bills from STOUGHTON billed to the SEWER USER through the STOUGHTON billing department.
20. The SEWER USER shall indemnify STOUGHTON from any and all fees, costs, expenses, or charges of any nature which may be assessed by MWRA because of this Agreement.
21. The term of this agreement shall be for the maximum 25-year period allowable in accordance with G.L. c.40, §4A, unless sooner terminated as herein provided.
22. This Agreement, including all documents incorporated herein by reference, constitutes the entire integrated agreement between the parties with respect to the matters described. This Agreement supersedes all prior agreements, negotiations and representations, either written or oral, and it shall not be modified or amended except by a written document executed by the parties hereto.
23. SEWER USER shall prepare and submit a parking management plan for the Property to the STOUGHTON Engineering Department for its review and approval.
24. All notices required or permitted by this Agreement shall be in writing and shall be delivered in hand and/or sent by registered or certified mail, postage prepaid:

For STOUGHTON, addressed to:

*Town Manager
Stoughton Town Hall
10 Pearl Street
Stoughton, MA 02072*

with a copy delivered to:

*Town Engineer
Stoughton Town Hall
10 Pearl Street
Stoughton, MA 02072*

and

*Water & Sewer Assistant Superintendent
Town of Stoughton DPW
950 Central St.
Stoughton, MA 02072*

For SHARON, addressed to:

*Town Administrator
Sharon Town Hall
90 South Main Street
Sharon, MA 02067*

with a copy delivered to:

*Department of Public Works
217R South Main Street
Box 517
Sharon, MA 02067*

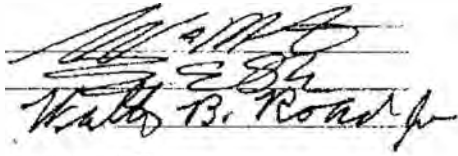
For SEWER USER, addressed to:

*Crescent Ridge Dairy, Inc.
355 Bay Road
Sharon, MA 02067*

Either Party may change its respective address by delivering written notice to the other at least ten days prior to the effective date of the change.

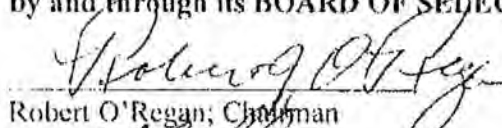
This agreement shall be executed in triplicate, one original to each party, to take effect as a sealed instrument; each copy thereof to be deemed an original.

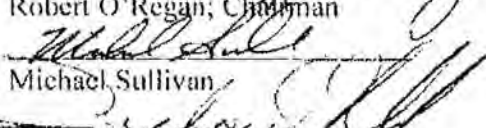
TOWN OF SHARON,
by and through its BOARD OF SELECTMEN,

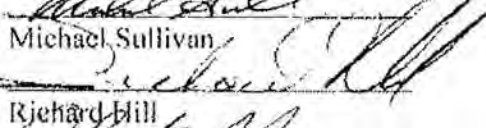

Walter B. Rowland

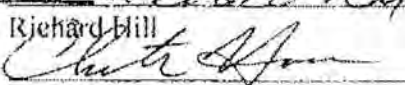
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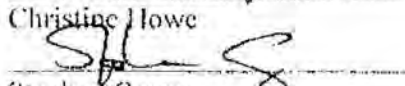
TOWN OF STOUGHTON,
by and through its BOARD OF SEDECTMEN


Robert O'Regan; Chairman


Michael Sullivan


Richard Hill


Christine Howe


Stephen Cavey

PARRISH FAMILY LLC

By: 

Name: Mark J. Parrish

Title: Manager

Dated: 6/7/18

By: 

Name: Brenda Carroll

Title: Manager

Dated: 6/11/18

CRESCENT RIDGE DAIRY, INC.

By: *Mark J. Parrish*

Name: Mark J. Parrish

Title: President and Treasurer

Dated: *6/7/18*



THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Request for Determination of Insignificance Under the Interbasin Transfer Act MGL Chapter 21 Sections 8B - 8D

Crescent Ridge Dairy Sewer Connection To the Town of Stoughton's Wastewater Collection System

**WRC Decision
April 11, 2019**

Decision

On April 11, 2019, the Massachusetts Water Resources Commission (WRC), voted unanimously of those present (9-0), to find that Crescent Ridge Dairy's (CRD) request to transfer 6,500 gallons per day (gpd) of milk waste from its facility in Sharon, in the Neponset River basin, to the Massachusetts Water Resources Authority's (MWRA) Deer Island Treatment Plant for discharge to the Massachusetts Coastal basin, was insignificant under the Interbasin Transfer Act (M.G.L. Chapter 21 §§ 8B-8D).

Background

On January 29, 2019, the WRC received a Request for Determination of Insignificance from Crescent Ridge Dairy (CRD), for a wastewater transfer from their farm in the town of Sharon, in the Neponset River basin. CRD operates a milk processing facility on Bay Road, in the town of Sharon. The physical location of the facility is within the Neponset River basin. CRD receives its potable water supply from the town of Sharon, which has sources within the Neponset River basin and Taunton River basin. Wastewater is currently discharged to the Neponset River basin via an on-site septic system. This septic system is now proving inadequate to treat the milk plant processing waste being generated by the facility, due to water quality concerns. Therefore, CRD requested to discharge this wastewater across town and basin lines to the Massachusetts Coastal basin through the MWRA system, via the Town of Stoughton. The town line between Sharon and Stoughton runs down the middle of Bay Road (Figure 1).

Proposed Transfer

CRD applied for this Request for Determination of Insignificance under 313 CMR 4.08(2)(b), of the Interbasin Transfer Act regulations, which governs reviews of transfers of less than 10,000 gpd.

CRD has entered into a Sewer Connection Agreement with the town of Stoughton to transfer up to 10,000 gpd. The Agreement limits the connection to the CRD site (i.e., no surrounding properties can hook into this connection). As stated above, the town of Sharon

has water supply sources in both the Neponset and Taunton River basins. However, water currently originating in the Taunton basin is already being discharged to another basin (the Neponset River basin) and is not being returned to the basin of origin (Taunton River basin). Transferring some of this wastewater to the MWRA system (Mass Coastal Basin), will not change the amount transferred out of the Taunton River basin, i.e. water will still not return to the Taunton River basin. No additional water from the Taunton River basin will be able to be transferred out of basin as a result of this request. Also, CRD has stated that it will not be increasing its existing water supply connection with the Town of Sharon. Based on WRC interpretations for wastewater transfers going back to 1987 and recently enshrined in the revised Interbasin Transfer Act regulations (313 CMR 4.05(9)), water that originates in the Taunton River basin is considered exempt for the purposes of this project.

Based on the capacity of the Sharon water supply sources, Staff has determined that 65% of Sharon's water supply originates in the Neponset River Basin. Therefore the jurisdictional transfer amount for this project is 65% of the transfer volume, i.e. 6,500 gallons per day (gpd).

Potential Environmental Concerns

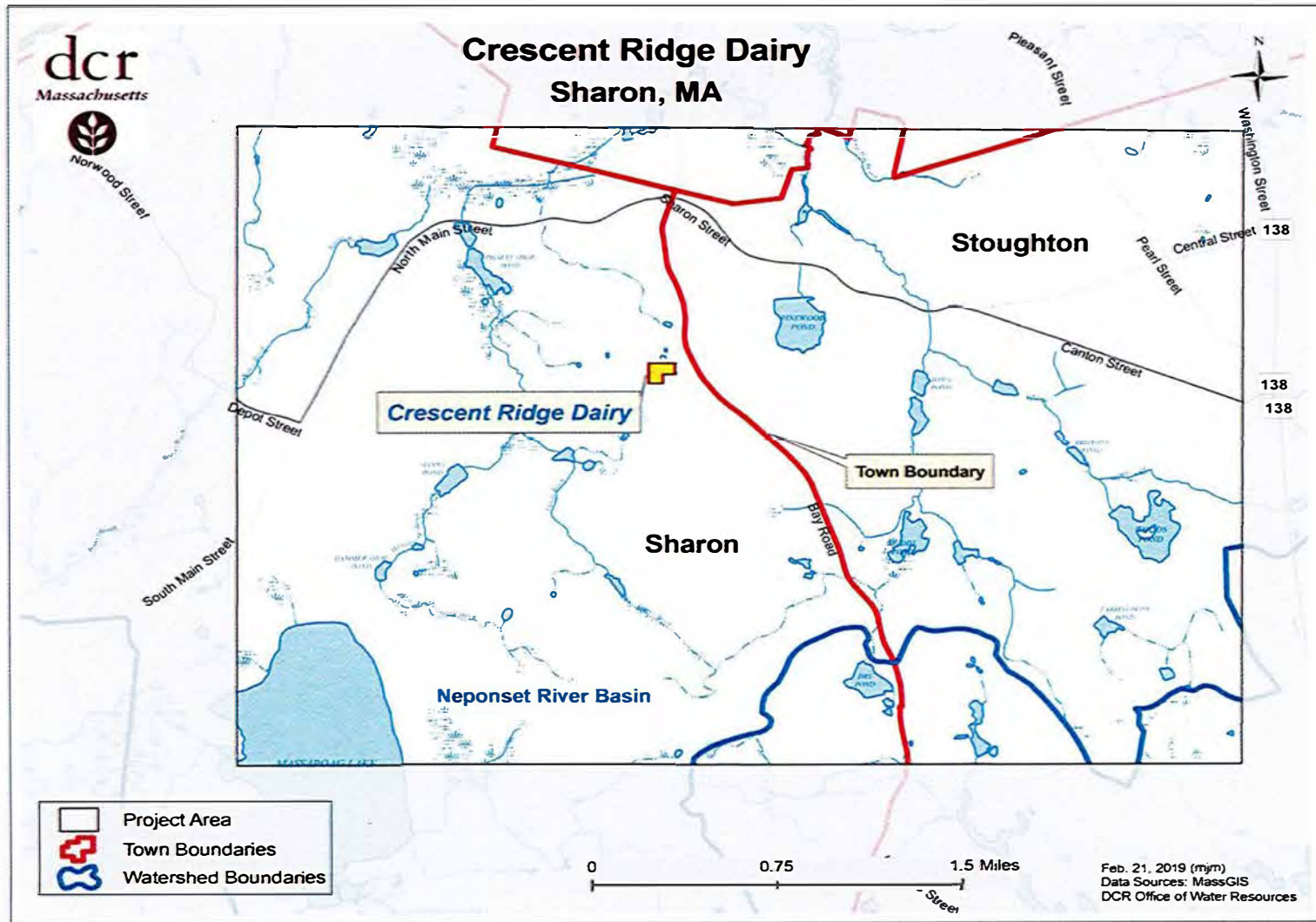
According to CRD, the wastewater to be transported to the MWRA will strictly be milk plant processing waste. No human wastewater will be transferred. Human sanitary wastewater will continue to be discharged through CRD's on-site septic system. CRD currently has a groundwater discharge permit, but has been experiencing issues associated with the milk plant processing waste, including high biochemical oxygen demand (BOD) and pH. CRD investigated alternatives to the MWRA sewer, including Massachusetts Department of Agricultural Resources' Dairy Waste project, but was not eligible for this program because CRD does not engage in the actual milking of cows at this facility. Water quality concerns eliminated the option of an up-graded on-site groundwater discharge system.

Because there will be no expansion of the water supply connection with the Town of Sharon, this transfer will not affect any resource values at the site of the Town's wells. The area surrounding the CRD facility consists of open fields and residential developments. No special resource values at the site will be affected by this transfer.

WRC Decision

After reviewing the proposal, the WRC determined that the volume of the transfer is less than 10,000 gpd, and that no environmental impacts are anticipated from this transfer: i.e. it will not have an increased impact on Sharon's water supply sources and it will not significantly change the environmental conditions of the area where wastewater is currently being discharged. Therefore, **the WRC finds that this project is insignificant under the Interbasin Transfer Act.** If, in the future, CRD (or its successor) determines that either the water supply connection with the Town of Sharon needs to be enlarged, or the proposed wastewater connection with Stoughton needs to be increased, additional ITA review may be needed.

Figure 1



Chapter 391
of the Acts of 2016

T H E C O M M O N W E A L T H O F M A S S A C H U S E T T S

In the One Hundred and Eighty-Ninth General Court

AN ACT AUTHORIZING THE MASSACHUSETTS WATER RESOURCES AUTHORITY TO PROVIDE SEWER SERVICES TO A CERTAIN PARCEL OF LAND IN THE TOWN OF SHARON.

Whereas, The deferred operation of this act would tend to defeat its purpose, which is to authorize the Massachusetts Water Resources Authority to supply sewer services to a certain parcel of land in the town of Sharon, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public health. _____

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Subject to receipt of all approvals required under section 2 and following satisfaction of all procedures adopted by the Massachusetts Water Resources Authority, including the payment to the authority of an entrance fee, the authority may provide sewer services through the town of Stoughton to the parcel of property owned by Parrish Family LLC, the land with the buildings thereon, now known and numbered as 355 and 407 Bay road in the town of Sharon, consisting of 44.13 acres of land located at the intersection of Bay road and East street which is more particularly described in a plan of land entitled 'Plan of Land in Sharon Massachusetts' prepared for Robert E. and Stanley E. Parrish by Dunn Engineering Company, Inc., dated November 15, 1990, which is recorded in the Norfolk county registry of deeds in plan book 400, plan 514; provided, however, that discharges shall not exceed 10,000 gallons per day unless an additional volume is approved by the authority. The authority may allow the property to be used and serviced by the sewer system to the same extent as parcels of property located within the district currently served by the authority. All costs and expenses incurred for engineering, design and construction, inclusive of all supervision, labor, equipment and materials, relative to the sewer tie-in shall be paid by the property owner.

SECTION 2. The sewer connection to the town of Stoughton's infrastructure and the provision of sewer services by the authority for any discharges shall commence only after the authority's board of directors has voted to approve the connection after having first made the findings set forth in paragraph (c) of section 8 of chapter 372 of the acts of 1984 and having made such other determinations in accordance with applicable policies of the authority and after all required approvals have been received including, as

applicable, the approval of the community of origin, transporting community, all other regulatory bodies where required and the authority's advisory board.

House of Representatives, January 3, 2017.

Preamble adopted,

Paul Donato Speaker.

In Senate, January 3, 2017.

Preamble adopted,

Ed Blum President.

House of Representatives, January 3, 2017.

Bill passed to be enacted,

Paul Donato Speaker.

In Senate, January 3, 2017.

Bill passed to be enacted,

Steve Rowley President.

Jan 4, 2017.

Approved,
at 4 o'clock and 04 minutes, P. M.

Chris Ober
Governor.



Advocacy & Accountability

Representing Over 3 Million People in Massachusetts Communities Since 1985

Mr. Fred Laskey
Massachusetts Water Resources Authority
100 First Avenue, Building 39
Boston, MA 02129

May 2, 2019

RE: Crescent Ridge Dairy

Dear Mr. Laskey,

At the April 18th Advisory Board meeting in Boston with a quorum present, the Advisory Board approved the motion to allow Crescent Ridge Dairy to tie into the MWRA system from their location at 355 Bay Road, Sharon, MA, via a 750 linear foot 8-inch line connecting to an existing sewer on Lorraine Drive, Stoughton, MA.

The motion is subject to the parameters set forth in 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." This includes provisions that:

- 1) The applicant will be responsible for pipe maintenance and for assuring that no connections will be made to the pipe without prior approval by the MWRA, and
- 2) All sewer system connections shall receive approval from the community of origin, transporting community, other regulatory bodies (where required), MWRA Advisory Board, MWRA Board of Directors, and the Governor and General Court (as specified in Section 8C).

The applicant will seek to limit maximum daily flows to 6,500 gallons per day (gpd) into Stoughton's sewer system. The applicant, working with the Town of Stoughton, must realize a removal of 40,000 gpd during peak storm inflow. The applicant will pay a connection fee, based on the average daily flow of 6,500 gpd, of \$25,000.

It is our expectation that the MWRA Board of Directors will take up this matter at their May meeting. If you have any questions, please do not hesitate to contact me.

Sincerely,

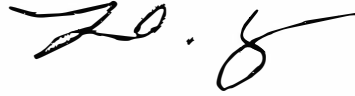


Joseph E. Favaloro
Executive Director, MWRA Advisory Board

CC: Beth Card

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: Wastewater Advisory Committee Contract



COMMITTEE: Wastewater Policy & Oversight

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

INFORMATION
 VOTE

Sean Navin 
Director, Intergovernmental Affairs

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Wastewater Advisory Committee for a term of one year, from July 1, 2019 to June 30, 2020, for a total contract cost of \$75,122.00.

DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Wastewater Advisory Committee (WAC) and the Water Supply Citizens Advisory Committee (WSCAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WSCAC for FY20.

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

The proposed FY20 WAC contract is 3.25% higher than FY19 contract. Hourly salary increased 3% and health insurance increased 3.3%. Reimbursable expense items were increased by \$200, for a total net increase of 3.25% from the FY19 contract. Health insurance is budgeted at 80% reimbursement for the Executive Director only, not to exceed \$10,163, with an optional health insurance buy-out program similar to that offered to MWRA employees who do not use MWRA's health insurance benefit. Office space and support services for WAC are provided by MWRA at the Charlestown Navy Yard Headquarters. The proposed total FY20 WAC funding is \$75,122.00.

WAC's monthly meetings are geared towards engendering discussion and facilitating timely recommendations to MWRA's Board of Directors and staff on wastewater policies, projects, and program initiatives directly related to MWRA, and public concerns. Current topics of interest to WAC include operations and maintenance, NPDES delegation, climate change adaptation, receiving water monitoring, residuals management, and wastewater/water policy and funding initiatives in Massachusetts.

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

BUDGET/FISCAL IMPACT:

Sufficient funds for the WAC contract are included in the Draft Final FY20 Current Expense Budget.

ATTACHMENT:

Agreement between Massachusetts Water Resources Authority and Wastewater Advisory Committee.

AGREEMENT
BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
WASTEWATER ADVISORY COMMITTEE

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

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

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

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

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

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

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

ARTICLE 1. EFFECTIVE DATE

This Agreement shall be effective from July 1, 2019 through June 30, 2020, inclusive.

ARTICLE 2. COMPENSATION, BUDGET, PAYMENT, AND EXPENSES

2.1 The Authority shall make funds available as follows:

(a) Executive Director Salary.

In order to minimize the WAC's expenses and for the WAC's convenience, the Authority shall make direct payments to the WAC for the WAC Executive Director salary. Such payments shall not exceed \$63,134 from July 1, 2019 through June 30, 2020, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$43.63 with annual total hours of 1,447 (average 30 hours per week for 49 weeks).

(b) Reimbursable expenses.

The Authority shall reimburse the WAC for 80% of the non-employer-sponsored health insurance for the WAC Executive Director (not to exceed \$10,163), and for stationery, payroll services expenses, bank expenses, and for mileage costs, public transportation costs, highway tolls and parking expenses for meeting attendance by WAC's Executive Director and membership, and for other miscellaneous expenses of the WAC staff approved by the Authority on a case-by-case basis. Such expenses will be reimbursed when submitted to the Public Affairs Unit. Mileage costs will be reimbursed at the prevailing Authority rate per mile.

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

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

The total annual expense reimbursement to WAC, excluding health insurance reimbursements or buy-out, shall not exceed \$1,825.00.

(c) Non-reimbursable expenses.

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

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WAC.

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

ARTICLE 4. RESPONSIBILITIES OF THE WAC STAFF.

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

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

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

ARTICLE 5. MEMBERSHIP, MEETINGS, TERMS.

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

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

ARTICLE 6. WAC TASKS.

The WAC shall undertake the following tasks:

6.1 Wastewater Policies and Programs Review.

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

6.2 Outreach and Education.

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

6.3 Working Group Representation.

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

6.4 Recommendations on Long Term Public Involvement.

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

6.5 Recommendations and Discussion Documents.

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

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity

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

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract.

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

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

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

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

8.2 Assignability.

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

8.3 Integration Clause.

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

8.4 Amendment.

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

8.5 Severability of Provisions.

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

8.6 Massachusetts Law to Govern.

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

8.7 Duplicate Originals.

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

8.8 Notices.

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

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

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

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

IN WITNESS WHEREOF, this Agreement is executed as of this ____th day of
June, 2019.

FOR; WASTEWATER ADVISORY COMMITTEE

By: _____
Karen Lachmayr, Chair

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____
Frederick A. Laskey, Executive Director



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, May 29, 2019

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

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

Time: Immediately following Wastewater Committee

AGENDA

A. Information

1. Update on May 3, 2019 Water Main Break, Section 89, Winchester
2. 2018 Annual Water Quality Report (Consumer Confidence Report)

B. Contract Awards

1. Water Supply Citizens Advisory Committee Contract
2. Flow Testing Services for MWRA's Revenue Water Meters: Complete Control Services, Inc., WRA-4679
3. Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility: Univar USA, Inc., WRA-4681
4. Section 22 Rehabilitation Alternative Analysis and Environmental Permitting: Black & Veatch Corporation, Contract 7155

C. Contract Amendments/Change Orders

1. Southern Extra High Pipeline – Section 111 (Dedham North): P. Gioioso and Sons, Inc., Contract 7504, C.O. 7

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Water Policy and Oversight Committee

April 17, 2019

A meeting of the Water Policy and Oversight Committee was held on April 17, 2019 at the Authority headquarters in Charlestown. Committee Chair Peña presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cook, Foti, Pappastergion, Vitale and Walsh. Messrs. Cotter and Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, John Colbert, Jorge Silva, Frederick Brandon, Kathleen Murtagh and Kristin MacDougall. The meeting was called to order at 10:15 a.m.

Contract Awards

* Resident Engineering and Inspection Services for Towable Generator Docking Stations, Arcadis U.S., Inc., Contract 7024

Staff made a presentation. There was discussion and questions and answers. The Committee recommended approval (ref. W B.1).

The meeting temporarily adjourned at 10:28 a.m. and resumed at 10:38 a.m.

Information

Metropolitan Tunnel Redundancy Program Update on Tunnel Hydraulics and Program Support Services Consultant Key Personnel, Contract 7655

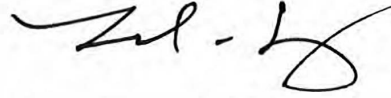
Staff made a presentation. (Ms. Wolowicz left and returned to the meeting during the presentation.) There were questions and answers.

The meeting adjourned at 11:05 a.m.

* Committee recommendation approved by the Board on April 17, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: Update on May 3, 2019 Water Main Break, Section 89, Winchester



COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Mark Johnson, Director of Waterworks
Valerie Moran, Deputy Director, Waterworks
Preparer/Title



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

RECOMMENDATION:

For information only.

DISCUSSION:

On Friday May 3, 2019, a geotechnical contractor drilled through MWRA's Section 89, a 48-inch pre-stressed concrete cylinder pipeline that is the primary means of supply for the Northern Intermediate High service area and the communities of Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn. The contractor was part of the design team preparing plans and specifications to replace this critical pipeline.

The affected section of pipeline is located in a wooded easement on the Winchester/Woburn town line and caused a geyser of water that ran down the access road along the easement to a nearby wetland without causing significant property damage or creating a public safety concern. This allowed staff to size-up system service options before the pipeline had to be shutdown, thereby preventing loss of service.

MWRA staff immediately mobilized pipeline repair and valve crews and opened the emergency operations center in Chelsea. Notices sent from MWRA caught the attention of media outlets that dispatched video crews to the area. Working closely with the water departments of the impacted communities, staff were able to identify and set up a reconfiguration of the Northern Intermediate High service area.



This plan relied on several key components:

- Partially served communities (the Towns of Winchester, Woburn, and Wilmington) could come off the MWRA system completely and utilize their local supplies entirely due to the low water demand at this time of year. In higher summer time demands, these supplies would not have been adequate and these communities would have had to utilize emergency connections to and mobile pumping from other, non-affected communities.
- The Town of Wakefield maximized use of its local supply and was able to reconfigure its system to be supplied by MWRA's Fells Reservoir in the Northern High service area and a pumping station they maintain for this purpose. A small portion of Wakefield continued to rely on Northern Intermediate High service area for water.
- Emergency by-passes around MWRA supply meters for the Town of Stoneham were opened which allowed flow for Stoneham, Reading, and a portion of Wakefield to pass through Stoneham's distribution system. Water flowed north through the community distribution network and then continued back onto MWRA's new Section 110 pipeline to supply Reading and Wakefield. This section of pipeline had been constructed and placed into service as part of the Northern Intermediate High redundancy initiative; without this pipeline and the fact that total water demand is lower at this time of year, the headloss through the Stoneham system would have been excessive resulting in inadequate service pressure for Reading and Wakefield. These communities would have required mobile pump set-ups to neighboring unaffected communities as well.
- The damaged section of pipeline was downstream of the pipeline connection to the Bear Hill Tank. As a result, it was possible to isolate the pipeline while allowing the tank to remain in service. This helped stabilize pressures and allow continued supply to Stoneham from the new Spot Pond pump station, which was utilized because of its variable speed pumps and lower pump capacity. It would have been harder to control pressure and flow from the old Gillis pumping station with its larger capacity constant speed pumps.

Multiple MWRA valve crews were dispatched throughout the service area and directed from the EOC to perform the necessary valve operations required to reconfigure the system, assure that isolated sections were protected, and finally to shut down the damaged section of pipeline. The EOC was prepared to answer rusty water and low pressure complaints due to the system reconfiguration, however, very few calls were received.

As soon as the flow stopped, MWRA pipeline staff began restoration of the dirt roadway into the damaged pipe section and excavated and prepared the pipeline for repair. This work was completed late Friday night. Meanwhile, staff had located a repair saddle, in Florida, designed especially for this type and size pipeline and made arrangements for its purchase and delivery. In addition, a technician specializing in installation of the repair saddle was located in Ohio. The technician and his tools arrived in his vehicle on Saturday afternoon and the saddle arrived via truck delivery to the site early Saturday evening.




Within two hours the repair was completed, and MWRA valve crews began refilling the line for pressure testing. Reactivation was completed by 1:00 a.m. Sunday, May 5, 2019.

BUDGET/FISCAL IMPACTS:

The costs related to this incident are being calculated for the repair part and technician, staff overtime and equipment costs. Subject to cost recovery, the costs will be absorbed in the FY 19 CEB.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: 2018 Annual Water Quality Report (Consumer Confidence Report)

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Joshua Das, Program Manager Water Quality
Ria Convery, Special Asst. to the Executive Director
Stephen Estes-Smargiassi, Director, Planning & Sustainability
Preparer/Title


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

RECOMMENDATION:

For information only. The 2018 Annual Water Quality Report will be mailed to every household in MWRA’s service area between May 31 and June 26, 2019 to meet EPA’s Consumer Confidence Report Rule annual deadline of July 1st. This staff summary highlights the report’s key findings and features. Depending on the timing, staff hope to have printed copies available at the Board meeting.

DISCUSSION:

EPA’s Consumer Confidence Report (CCR) program has been an important national initiative that has promoted better information and education for consumers about their drinking water. The CCR has been an integral part of MWRA’s drinking water communication program since 1999, along with monthly on-line water quality reports.

MWRA staff have again produced three separate versions of the CCR: one for each of the fully-supplied communities in metropolitan Boston and MetroWest, one for each of the partially-supplied communities in metropolitan Boston and MetroWest, and one for the three Chicopee Valley Aqueduct communities.¹ A Spanish translation and a large print version are also produced. All communities that use MWRA’s CCR again took the opportunity to provide a community-specific letter to report additional local information. This year, the report for partially-supplied communities includes additional information on the community’s local water supplies, including the percentage of water that comes from MWRA and from community sources.

As in prior years, the 2018 CCR emphasizes MWRA’s excellent source water, state of the art treatment, and test results from the reservoir to the tap. This year’s theme is emergency preparedness. Both the Executive Director’s letter and one page of the report describe how the MWRA is ready for all types of situations, and has extensive monitoring, testing, and infrastructure

¹ The partially-supplied communities of Dedham, Stoughton, Wellesley, and Westwood send their own CCR geared toward local source water quality, with additional information on MWRA water provided in their reports by MWRA staff. All other partially-supplied communities use the MWRA report, with some providing additional information on-line or in a separate mailing.

improvements to ensure the reliable delivery of water. As in past reports, it also includes a discussion of the upcoming Metropolitan Tunnel Redundancy project.

There are two pages concentrating on lead in drinking water. These pages highlight lead service line information, how to find out if you have a lead service line, and how to get it replaced. These pages also emphasize how to get your water tested for lead, steps customers can take to make sure there is no lead in their tap water, and a brief summary of the school lead testing program and where to find more information.

The report is printed on paper which is recycled and certified by the Forest Stewardship Council and Sustainable Forestry Initiative, with appropriate logos included on the cover.

Consistent with past efforts, MWRA will conduct an outreach effort to increase awareness of the CCR, including e-mailing copies to local officials, health care professionals, and other interested parties, and sending press releases to more than 50 weekly publications and all regional newspapers. It will also be promoted through social media. Information and pictures of the CCR, with links to MWRA's website, community web pages, and local public health and environmental organizations.


Mailing of the CCR will begin on May 31, 2019 and the reports should be arriving in customers' mailboxes through the last week of June. Certification of the CCR to DEP is due by July 1, 2019. MWRA provides certification materials to DEP on behalf of each community.

MWRA is using the flexibility offered by EPA under its eCCR guidance to include web links to additional more comprehensive information on unregulated contaminants. Several partially supplied communities also included a web-link in their printed letter to a longer on-line letter with additional information about local issues

BUDGET/FISCAL IMPACT:

The FY19 Current Expense Budget includes sufficient funds for the estimated \$100,000 for printing and mailhouse services, and the estimated \$140,000 for postage. Production and graphic design are performed in-house by MWRA staff. The cost of printing and mailing almost 900,000 copies of the 2018 CCR is approximately \$0.27 per copy.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Water Supply Citizens Advisory Committee Contract

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

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

Sean Navin, Director 
Intergovernmental Affairs

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Water Supply Citizens Advisory Committee for a one-year period beginning July 1, 2019 to June 30, 2020, with a total contract cost of \$110,186.00.

DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Water Supply Citizens Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WAC for FY20.

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

The proposed FY20 WSCAC contract is 2.7% greater than the FY19 budget. Hourly salaries increased 3% and health insurance increased 3.3%. Reimbursable expense items were not changed, for a total net increase of 2.7% from the FY19 contract. Health insurance is budgeted at 80% reimbursement for the Executive Director only, not to exceed \$10,163, with an optional health insurance buy-out program similar to that offered to MWRA employees who do not use MWRA's health insurance benefit. The proposed total FY20 WSCAC funding is \$110,186.00.

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

WSCAC's office is located at Quabbin Reservoir in a Department of Conservation and Recreation (DCR) building, and most meetings are held at MWRA's Southborough facility. WSCAC's Executive Director is Lexi Dewey (selected by WSCAC's Executive Committee), and the current chairman is Michael Baron, elected from among the members.

BUDGET/FISCAL IMPACT:

Sufficient funds for the WSCAC contract are included in the proposed FY20 Current Expense Budget.

ATTACHMENT:

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

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

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

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

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

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

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

Article 1. Effective Date.

This Agreement shall be effective from July 1, 2019 through June 30, 2020, inclusive.

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

2.1 The Authority shall make funds available as follows:

(a) Salaries and Duties.

Director. An Executive Director shall be chosen by WSCAC members at a salary not to exceed \$72,689 for the year commencing on July 1, 2019 through June 30, 2020, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$43.63 with annual total hours of 1,666 (average 34 hours per week for 49 weeks). The duties of the Executive Director shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

Administrative Assistant. A part-time Administrative Assistant shall be chosen by the WSCAC Executive Director in consultation with the Executive Committee of WSCAC at a salary not to exceed \$15,250 for the year commencing on July 1, 2019 through June 30, 2020, inclusive. The hourly salary rate shall be \$22.69 (inclusive of payroll taxes) with annual total hours of 672 (average 14 hours per week for 48 weeks). The duties of the Administrative Assistant shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

(b) Reimbursable Expenses.

- (1) The Authority shall reimburse the WSCAC for 80% of the non-employer-sponsored health insurance for the WSCAC Executive Director (not to exceed \$10,163). The percentage rate for reimbursement of health insurance costs shall be changed to that of Authority staff if the Group Insurance Commission changes the rate.
- (2) Health insurance buy-out: The WSCAC Executive Director may elect a monetary allowance in lieu of reimbursement of health insurance costs, provided he or she has health insurance coverage through another employer-sponsored plan that meets Internal Revenue Service "minimum value" criteria, throughout that six-month period. The amount of the allowance will be \$1000 to waive family coverage or \$700 for waiving individual coverage. The WSCAC Executive Director is responsible for any withholding taxes on these payments with WSCAC being responsible for the employer share of payroll taxes.
- (3) Mileage costs, public transportation costs, highway tolls and parking expenses incurred by WSCAC staff and members from attendance at WSCAC meetings, pertinent conferences and seminars, or while performing other functions directly related to its scope of services. Mileage costs will be reimbursed at the prevailing Authority rate per mile.
- (4) Office supplies (such as letterhead, envelopes, pencils, paper clips), postage, office telephone and internet access, meeting expenses, and general administrative and office expenses;
- (5) The purchase or rental by WSCAC staff of books, films, cassettes, tapes, etc., if specifically approved by the Authority in advance, except that single copies of individual publications, books, and other written documents may be purchased for the WSCAC library use without prior approval, provided that the cost per item does not exceed \$200. All materials purchased under this section shall be considered property of the Authority.
- (6) Other miscellaneous expenses of the WSCAC staff approved by the Authority on a case-by-case basis. When possible, approval of the Authority should be received in advance of incurring such expenditures.

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

The annual total reimbursement to WSCAC for annual and miscellaneous expenses combined shall not exceed \$22,247 from July 1, 2019 through June 30, 2020, inclusive.

(c) Non-reimbursable expenses.

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

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WSCAC.

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

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

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

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

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

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

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

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

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

ARTICLE 4. RESPONSIBILITIES OF THE WSCAC STAFF.

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

(a) aiding WSCAC in its tasks under Article 6, managing the WSCAC office, educating the public, and acting as liaison with the Authority and its staff;

(b) preparing monthly progress reports for submission to the WSCAC Executive Committee, the WSCAC members, and the Authority;

(c) maintaining financial records, minutes of the WSCAC meetings, and other WSCAC records;

(d) assuring that at least every other meeting be held in Eastern Massachusetts at a location to be jointly agreed upon by WSCAC and the Authority where Authority attendance is expected.

(e) providing to the Authority copies of the notices for and minutes of all meetings of WSCAC and of all the WSCAC correspondence as soon as such materials are available.

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

ARTICLE 5. MEMBERSHIP

5.1 Membership of WSCAC

(a) Membership of WSCAC shall maintain parity between those individuals representing the interests of the communities listed in section 8(d) of the Authority's Enabling Act, c. 372 of the Acts of 1984, ("User Representatives") and those individuals representing the interests of the watershed communities ("Donor Representatives") and those individuals representing the interests of statewide or other appropriate interests as mutually agreed upon by WSCAC and the MWRA ("Other Representatives").

(b) In order to maintain WSCAC membership status, members must be active participants, as defined in the WSCAC by-laws.

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

ARTICLE 6. WSCAC TASKS.

WSCAC shall undertake the following tasks:

6.1 Water Supply Programs Review.

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

6.2 Outreach and Education.

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

6.3 Working Group Representation.

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

6.4 Recommendations on Long Term Public Involvement.

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

6.5 Recommendations and Discussion Documents.

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

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity.

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

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

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

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract.

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

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

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

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

8.2 Ownership of Property.

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

8.3 Assignability.

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

8.4 Integration Clause.

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

8.5 Severability of Provisions.

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

8.6 Massachusetts Law to Govern.

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

8.7 Duplicate Originals.

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

8.8 Notices.

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

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

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

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

IN WITNESS WHEREOF, this Agreement is executed as of this day of , 2019.

FOR: WATER SUPPLY CITIZENS ADVISORY COMMITTEE

By: _____
Title: Chair, Water Supply Citizens
Advisory Committee

Dated:

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____
Title: Executive Director

Dated:

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: May 29, 2019
SUBJECT: Flow Testing Services for MWRA's Revenue Water Meters
Complete Control Services, Inc.
Bid WRA-4679



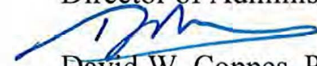
COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration



David W. Coppes, P.E.

Chief Operating Officer

Steve Estes-Smargiassi, Dir. of Planning & Sustainability
Douglas J. Rice, Director, Procurement
Preparer/Title

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4679 for flow testing services for MWRA's revenue water meters, to the lowest responsive bidder, Complete Control Services, Inc., and authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not-to-exceed \$265,900 for the time period June 1, 2019 through May 31, 2022.

DISCUSSION:

Because the amount of water used by each community is the basis for the allocation of the water rate revenue requirement to each community, delivery of water to the cities and towns in MWRA's service area must be measured with a great degree of accuracy. Most of these meters are Venturi-style meters and are installed in pipes ranging in size from eight inches to 48 inches in diameter. As an integral part of MWRA's quality control processes, staff regularly use an outside contractor to independently verify the accuracy of some of MWRA's 190 revenue meters.



Venturi-style meter

MWRA has been using an outside contractor to verify meter accuracy for many years. Typically, MWRA procures these services with three-year on-call style contracts. Meters are evaluated on an as-needed basis, and MWRA pays only for services used.

The testing performed under this contract, which is in accordance with accepted American Water Works Association standards, will help to verify that all of MWRA's water meters are functioning properly and calibrated accurately, thus resulting in reliable calculations of rate charges. MWRA typically tests about 85 to 90 meters per year. The flow test includes inserting a pitot rod into the water main to measure the flow being recorded on the revenue meter. A 20-hour comparison is made so that the meter is checked for accuracy at different rates of flow.

Procurement Process

Bid WRA-4679 was advertised in the following publications: Boston Herald, Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 3833), and three potential bidders were solicited through the e-Portal.

On April 9, 2019, Event 3833 closed with the following results:

BIDDER	BID AMOUNT
Complete Control Services, Inc.	\$265,900
M.E. Simpson Company, Inc.	\$338,625

Under the existing contract with Complete Control Services, Inc., which expires on May 31, 2019, MWRA is paying \$274,935 for similar services. Complete Control Services, Inc.'s existing unit price for each 20-hour meter test is \$928.00; the new unit bid price for the same test is \$895.00, representing approximately a 4% decrease from current contract prices.

Staff have reviewed Complete Controlled Services, Inc.'s bid and have determined that it meets all requirements of the specifications. Despite the cost decrease, staff are of the opinion that the bid price is reasonable. Therefore, staff recommend the award of this contract to Complete Control Services, Inc. as the lowest responsive bidder.

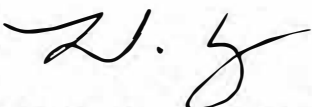
BUDGET/FISCAL IMPACT:

There are sufficient funds available for the first portion of this purchase order contract in the FY19 Current Expense Budget. Appropriate funding will be included subsequent Proposed CEB requests for the remaining term of the contract.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: 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-4681

COMMITTEE: Water Policy & Oversight

Mark H. Johnson, P.E., Director Waterworks
Douglas J. Rice, Director, Procurement
Preparer/Title

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration


David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4681, 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 \$1,632,660 for a period of one year, from July 17, 2019 through July 16, 2020.

DISCUSSION:

MWRA uses sodium hypochlorite at 15% solution at the Carroll Plant in combination with aqua ammonia, to form monochloramines for secondary disinfection. Monochloramines provide a stable and persistent disinfectant residual throughout MWRA's entire water distribution system. Staff estimate that approximately 2,100,000 gallons will be required during this one-year contract period.

MWRA also uses sodium hypochlorite for primary disinfection at the William A. Brutsch Water Treatment Facility. At Brutsch, MWRA uses sodium hypochlorite at 11% solution because it is less prone to degradation over long periods of storage. The by-product of degradation is gas bubbles which can block the supply of chemical by the positive displacement pumps, which in turn reduce process reliability. Since this facility is unstaffed for 16 hours each day, the lower concentration hypochlorite is used to reduce the risk of an interruption in water treatment while unstaffed. Based upon reasonable assumptions and historic usage, staff estimate that Brutsch will use approximately 48,000 gallons of sodium hypochlorite during the one-year contract term. The anticipated usage is an estimate only. MWRA will only pay for chemical that is received.

Procurement Process

Bid WRA-4681 was advertised in the following publications: Boston Herald, Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA’s e-procurement system (Event 3835) and five vendors were solicited through the e-Portal.

On April 9, 2019, Event 3835 closed with the following results:

Bidder	Facility	Estimated Gallons	Percent Solution	Unit Price Per Gallon	Extended Bid Price
Univar USA, Inc.	Brutsch Facility	48,000	11% Solution	\$1.42	\$68,160.00
	Carroll Plant	2,100,000	15% Solution	\$0.745	\$1,564,500.00
				Total Bid	\$1,632,660.00
H. Krevit Co., Inc.	Brutsch Facility	48,000	11% Solution	NO BID	NO BID
	Carroll Plant	2,100,000	15% Solution	\$0.89	\$1,869,000.00
				Total Bid	\$1,869,000.00
Borden & Remington Corporation	Brutsch Facility	48,000	11% Solution	NO BID	NO BID
	Carroll Plant	2,100,000	15% Solution	\$0.9056	\$1,901,760.00
				Total Bid	\$1,901,760.00

Under the current contract with Univar, USA, Inc., which will expire on July 16, 2019, MWRA is paying a fixed price of \$0.783 per gallon for the Carroll Plant and \$1.482 for the Brutsch Facility. The new bid prices represent a \$0.038-per-gallon decrease at Carroll Plant and a \$0.062-per-gallon decrease at Brutsch.

Sodium hypochlorite is manufactured from two different products in approximately equal parts, chlorine and caustic soda. The caustic soda market has historically been very volatile. However, during this past year, the global market demand for caustic soda has remained stable. The slight decreases from the current contracts is the result of an aggressive bidding approach taken by Univar USA, Inc.

Staff have reviewed Univar USA, Inc.’s bid and have determined that it meets all of the requirements of the bid specifications. Univar’s performance on prior contracts has been good, with one exception. In 2016, Univar offloaded Sodium Hypochlorite into a chemical tank at the Clinton Wastewater Treatment Plant containing an incompatible chemical which caused a chlorine gas release and MWRA direct damages of \$61,937.45, which Univar paid MWRA in full.

Given Univar's overall performance on MWRA contracts, and satisfaction of the Authority's direct damages on the Clinton Plant claim, staff recommend the award of this purchase order contract to Univar USA, Inc., as the lowest responsive bidder.


BUDGET/FISCAL IMPACT:

There are sufficient funds available for the contract in the FY20 Current Expense Budget. Appropriate funding will be included in subsequent Proposed CEB Requests for the remaining term of the contract.

MBE/WBE PARTICIPATION:

Univar USA, Inc. is not a certified Minority- or Women-owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting
Black & Veatch Corporation
Contract 7155

COMMITTEE: Water Policy & Oversight

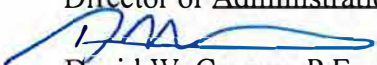
John P. Colbert, P.E., Chief Engineer
Paul T. Rullo P.E., Program Manager
Preparer/Title

____ 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 7155, Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting, to Black & Veatch Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$2,870,000 for a contract term of 36 months from the Notice to Proceed.

BACKGROUND:

MWRA's Section 22 is part of the Southern High service area that provides drinking water to five Quincy revenue meters and one Boston revenue meter and delivers water to the Blue Hills Covered Storage facility. The northern portion of Section 22 is the focus of this project which is a 48-inch diameter steel water main installed in 1957. In addition to the 16,000 linear feet of the northern portion of Section 22, this project also includes 6,000 linear feet of Section 21 which is a 24-inch diameter cast iron water main installed in 1896. Section 21 provides an operational interconnection between the northern portion of Section 22 and Section 107 (see attached map).

Black & Veatch was the Consultant on the Southern Spine Distribution Mains Project, Contract 6290, which included redundant pipeline Section 107 and rehabilitation of the entire length of Section 22. However due to an alternatives analysis and environmental permitting issues it was decided that the work of this project, the northern portion of Section 22, would be bid at a later date.

Under this contract, the consultant will perform a pipeline condition assessment and evaluation to identify options for rehabilitation, or replacement, of the pipelines. Approximately 6,400 linear feet of this portion of Section 22 is located within DCR's Neponset River Estuary which is designated by the Commonwealth as an Area of Critical Environmental Concern (ACEC). Depending upon the recommendations of the alternatives analysis, an Environmental Impact Report will likely be required which is included in the scope of services of this Contract.

Procurement Process

On March 2, 2019, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publicly advertised in the Central Register, Boston Herald, Banner Publication and El Mundo. The RFQ/P included the following evaluation criteria and points: Cost (25 points); Qualifications and Key Personnel (25 points); Experience/Past Performance on Similar Non-Authority Projects and Past Performance on Authority Projects (25 points); Technical Approach, Capacity, and Organizational & Management Approach (20 points); Minority/Woman Business Enterprise (5 points).

On April 11, 2019, MWRA received proposals from the following three firms: Black & Veatch, Hazen and Sawyer, and Kleinfelder. The following represent the cost and level of effort proposed by each firm:

Proposer	Proposed Cost	Other Direct Costs**	Proposed Hours
Black & Veatch	\$2,870,000.00	\$1,633,636	8,863
Kleinfelder	\$3,108,086.80*	\$2,043,288	8,070
Hazen Sawyer	\$4,395,884.00	\$2,166,427	14,498
<i>engineer's estimate</i>	<i>\$2,160,000.00</i>	<i>\$1,260,000</i>	<i>6,400</i>

* Reflects corrections due to mathematical errors.

** Consultant's Other Direct Costs include subcontractor's costs for the pipeline condition assessment program (geotechnical and environmental borings, leak detection survey, test pits, nondestructive internal pipe testing, pipeline coupon sampling, and laboratory analysis) and allowances.

The Selection Committee met on May 8, 2019 to evaluate and rank the proposals; the results are presented below.

Proposer	Total Final Score	Order of Preference* Points	Ranking
Black & Veatch	408.0	6	1
Kleinfelder	376.0	9	2
Hazen and Sawyer	340.5	15	3

*Order of Preference represents the sum of the individual Selection Committee member's 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.

Black & Veatch presented the lowest price, approximately 7.7% lower than the second-ranked Kleinfelder, while providing nearly 800 more hours than Kleinfelder. Staff also reviewed Black & Veatch's proposal against the engineer's estimate. While all three proposals significantly exceeded the engineer's estimate, Black & Veatch's price was closest at \$710,000 above the engineer's estimate. Upon review, staff attribute the price difference to three areas: engineering costs associated with the pipeline condition assessment (\$400,000), specialty subcontractor costs to perform the pipeline condition assessment (\$250,000), and project management (\$60,000). The scope of services has been expanded to require the Consultant's project engineer be on site when subcontractors are performing field work and to include additional borings in the Neponset River Estuary. The engineer's estimate was not updated to include the cost for this additional scope. Staff also underestimated the project management hours required to supervise the large project

team of engineering firms and utility subcontractors. Also, the pipeline condition assessment program was underestimated. Correcting for these variances, and considering the substantially higher hours offered, the Consultant Selection Committee considered the overall cost presented by Black & Veatch reasonable.

Black & Veatch offered well-qualified personnel who have extensive and relevant experience in performing pipeline condition assessments, planning, environmental permitting, design of large diameter pipelines, and significant knowledge of the operational requirements of the MWRA system. A subconsultant to Black & Veatch, VHB, has extensive experience with the MEPA process and is currently the lead environmental permitting firm for MassDOT's South Coast Rail project.

The Black & Veatch team provided extensive documentation of its experience and past performance. In addition to positive references for performance on significant similar out of state projects, the firm has successfully managed several pipeline projects for MWRA including the Southern Spine Distribution Mains Section 107 located in Boston, Milton, and Quincy, and the rehabilitation of the southern portion of Section 22. Black & Veatch has also successfully worked on other MWRA water main and pump station projects. The Selection Committee determined that Black & Veatch proposed a highly qualified team with appropriate past experience. Black & Veatch also demonstrated a full understanding of the project requirements in its Technical Approach, and has the capacity, organization and management approach necessary to manage and complete the project.

The Selection Committee concluded that both the Kleinfelder team and the Hazen and Sawyer team, although capable of performing the work, do not have the depth and experience offered by the Black & Veatch team, and their costs were less competitive.

Based on the voting of the Selection Committee, staff recommend the award of this contract to Black & Veatch Corporation in the amount of \$2,870,000.

BUDGET/FISCAL IMPACT:

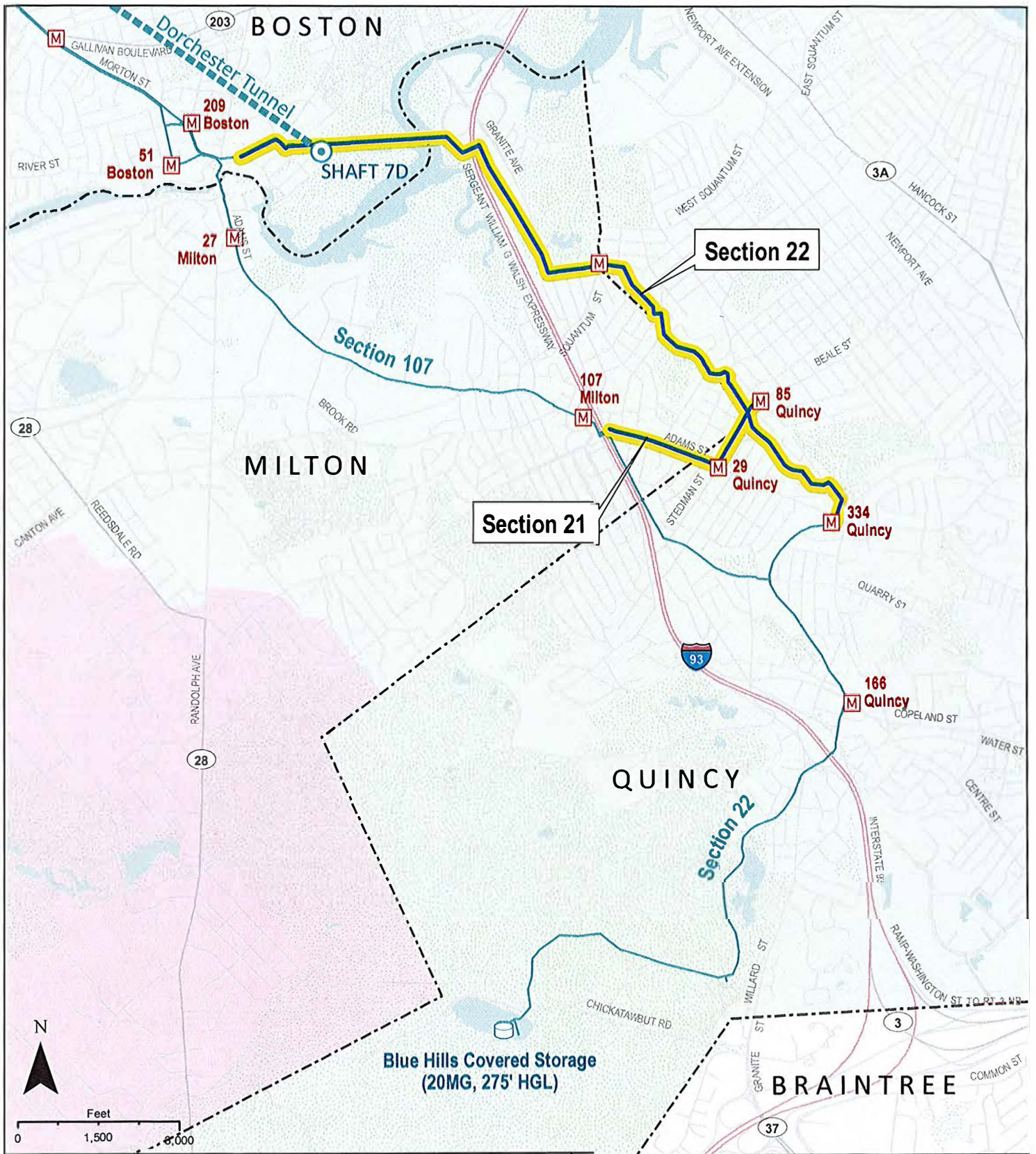
The FY19 CIP includes a budget of \$1,000,000 for Contract 7155; the recommended contract amount is \$2,870,000 or \$1,870,000 over budget. This amount will be covered within the five year CIP spending cap. The Draft Final FY20 CIP includes a budget of \$2,900,000.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.18% and 5.77%, respectively. Black & Veatch included 25.4% MBE and 15.6% WBE participation which becomes a requirement for this contract.

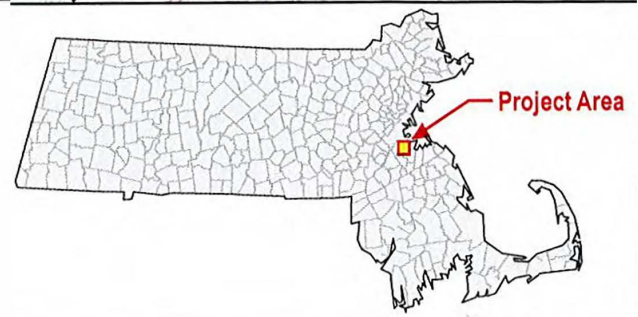
ATTCHMENT:

Section 22 – Project Map




Section 22 Project Location Schematic

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



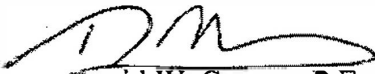
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: May 29, 2019
SUBJECT: Southern Extra High Pipeline - Section 111 (Dedham North)
P. Gioioso and Sons, Inc.
Contract 7504, Change Order 7

COMMITTEE: Water Policy and Oversight

INFORMATION
 VOTE

Corinne M. Barrett, Director, Construction
Terry Flynn, P.E. Construction Coordinator
Preparer/Title


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 7 to Contract 7504, Southern Extra High Pipeline - Section 111 (Dedham North), with P. Gioioso and Sons, Inc., for an amount not to exceed \$848,991.05, increasing the contract amount from \$17,551,281.92 to \$18,400,272.97, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7504 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:

MWRA's Southern Extra High service area includes Canton, Dedham, Norwood, Stoughton, Westwood, portions of Brookline and Milton, and the Roslindale and West Roxbury sections of Boston. The five communities in the southern portion of the service area (Canton, Norwood, Dedham, Westwood and Stoughton) are served by a single 36-inch diameter transmission main (Section 77), which is five miles long. Canton and Stoughton are served by a branch (Section 88) off of Section 77. Although several of these communities are partially supplied by MWRA, the loss of Section 77 would result in a rapid loss of service in Norwood and Canton and potential water restrictions for Stoughton and the Dedham/Westwood Water District. Correction of this deficiency has been assigned a Priority One in MWRA's Water Master Plan due to the potential critical impact to public health that could result from a failure in this single transmission main.

Contract 7504, Section 111 (Dedham North) consists of 10,000 linear feet of 36-inch water main of which 3,000 linear feet is within Department of Conservation and Recreation (DCR) Stony Brook Reservation in Dedham, with the remaining 7,000 linear feet within residential neighborhoods of Dedham. This contract includes a new pipe bridge across Mother Brook on Sawmill Lane and coordination with MassDOT for work adjacent to its bridge on Walnut Street.

This Change Order

Change Order 7 consists of the following four items:

Increase in Police Detail Services

Not to Exceed \$250,000.00

The contract included an allowance in Line Item 2 for Police Detail Services in the amount of \$600,000 for the actual amount invoiced by cities, towns and the State Police. The Design Engineer developed construction zone safety plans for work along the DCR parkway, major Town of Dedham roadways, and quiet neighborhood streets where the nearly 10,000 linear feet of the pipeline is being installed. The plan depicted extensive detours for closed roadways along with alternating traffic on partially closed roadways when applicable. After construction began, the estimated rate of production was less than anticipated because of difficulty in removing ledge with adjacent and conflicting utilities that required support or replacement. To date, this allowance has been 100% expended and the contract does not expire until November 25, 2019. Based on the schedule of remaining work, staff estimate that an additional \$250,000 for police details are necessary.



Police Detail on Walnut Street Bridge, photo left. Police Vehicle on Mother Brook Bridge, photo right.

This item has been identified by staff as an overrun in quantities. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$250,000 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Furnish and Install Additional Temporary Asphalt on Dedham Boulevard

Not to Exceed \$90,000.00

The contract requires the installation of approximately 2,500 linear feet of 36-inch ductile iron water main and approximately 1,650 linear feet of 24-inch reinforced concrete drain pipe in the DCR parkway of Dedham Boulevard. The contract also specifies that the DCR roadways must be restored with 4 inches of temporary paving prior to permanent paving and a final mill and overlay. The trench widths were specified at 5 feet, 6 feet or 8 feet, depending on pipe diameters and/or depth of trench.

After commencement of the contract, the DCR drain was installed followed by the 36-inch MWRA water main. During installation of these pipes, ledge not anticipated just beneath the roadway

pavement was encountered resulting in the lack of proper roadway bedding. Between the lack of proper roadway bedding and the removal of ledge, the trench extended beyond the contract limits.

Additionally, the two specified pipes being installed created a small unstable gap between the two trenches requiring additional temporary pavement. This change is to furnish and install the additional temporary pavement necessary to properly restore the DCR roadway following installation of the pipelines.



Paving on Dedham Boulevard

This item has been identified by staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$90,000 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

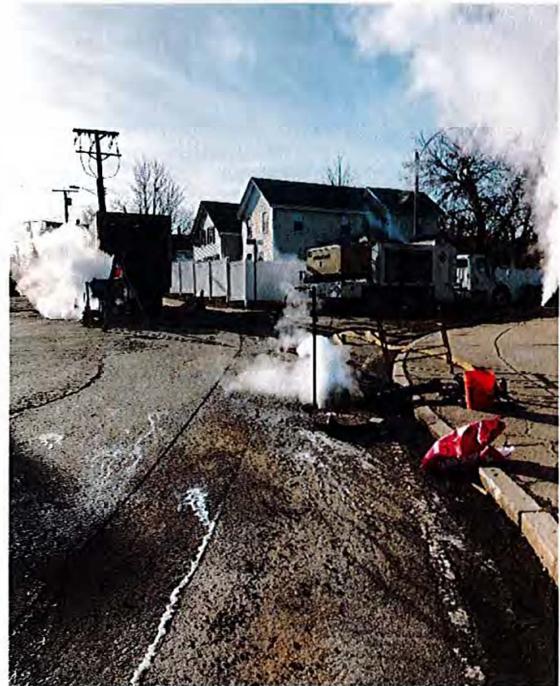
Furnish and Install Cured in Place Sewer Lining
Within Town of Dedham Sewer Mains

Not to Exceed \$75,000.00

During the design phase, conflicts between existing Town of Dedham sewers and the new MWRA Section 111 were identified. Based on these conflicts, the contract requires these Dedham sewers be removed and replaced with new polyvinyl chloride (PVC) pipe. After the award of the contract, the Town of Dedham informed MWRA that any sewer that has previously been internally lined to control infiltration is required to have a short liner installed within the new PVC pipe so as not to allow additional infiltration. Dedham is reviewing its records to determine which sewers were lined for structural integrity and which sewers were lined for infiltration control. The cured in place lining work will be completed once Dedham has completed this determination.



Typical Sewer Lining



Walnut Street

This item has been identified by staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$75,000 for this additional work with no increase in contract term. The work has not commenced.

Repair a Water Service and then Remove and Relocate Two Service Connections

\$33,991.05

The contract documents require the Contractor to install MWRA's new 36-inch ductile iron pipe along Walnut Street crossing in front of Commerce Way. When the Contractor began excavating around the marked-out service to the businesses on Commerce Way, a second unmarked 2-inch water service was accidentally damaged. This damaged pipe was isolated and immediately repaired in an attempt to limit the service interruption to the businesses on Commerce Way. The drawings, provided by the Town and Dedham Westwood Water District, showed only a single service, and the Dig Safe mark was also for a single service. The mark out was over the 8-inch line. After the repair was completed, it was determined that both the 2-inch and 8-inch service connections to Commerce Way were in direct conflict with the elevation of the new 36-inch pipe. As a result of these direct conflicts, the services had to be removed and relocated over the top of the new 36-inch ductile iron pipe; and this work had to be performed overnight so as not to adversely impact the businesses. This proposed change is for both the emergency repair of the unmarked 2-inch service line and the overnight removal and relocation of the 2-inch and 8-inch services.



Relocated water lines on Walnut Street at Commerce Way

This item has been identified by staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to a lump sum amount of \$33,991.05 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Provide Full Width Road Reconstruction Including Pulverization in Lieu of Specified Full Width Mill and Overlay Not to Exceed \$400,000.

The contract requires the installation of temporary pavement, permanent trench patch, and full width mill and overlay for pavement restoration on all Town of Dedham roadways excavated for the installation of the new MWRA Section 111 36-inch ductile iron pipe. After commencement of the contract, the Town Engineer and Department of Public Works noted that multiple trenches required for the relocation of adjacent utilities and the installation of the new 36-inch main have resulted in the majority of each roadway to have been excavated and temporarily patched. These utility relocations by our Contractor included a Dedham drain line, a Dedham Westwood Water District water main, and installation of a new water main for Dedham Westwood Water District as well as gas mains moved by others. Because of the size and number of the trenches, the specified full width mill and overlay could result in an unstable roadway that may not be as durable as pre-existing conditions. In order to complete the road restoration work with a stable and durable roadway surface, a pulverization of the top 12-inches of roadway followed by an asphalt overlay will be required.



This item has been identified by staff as unforeseen condition. MWRA staff and the Contractor have agreed to an amount not to exceed \$400,000 for this additional work with no increase in contract term.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$17,226,350.00	780 Days	10/06/17
Change Orders:			
Change Order 1*	\$24,723.51	0 Days	09/10/18
Change Order 2*	\$10,203.74	0 Days	11/19/18
Change Order 3*	\$43,621.75	0 Days	12/17/18
Change Order 4*	\$159,986.58	0 Days	02/11/19
Change Order 5*	\$5,671.12	0 Days	03/05/19
Change Order 6	\$80,725.22	0 Days	04/26/19
Change Order 7	<u>\$848,991.05</u>	<u>0 Days</u>	Pending
Total Change Orders:	\$1,173,922.97	0 Days	
Adjusted Contract:	\$18,400,272.97	780 Days	

*Approved under delegated authority

If Change Order 7 is approved, the cumulative value of all change orders to this contract will be \$1,173,922.97 or 6.8% of the original contract amount. Work on this contract is approximately 72% complete.

BUDGET/FISCAL IMPACT:

The FY19 Capital Improvement Program includes a budget of \$17,381,350 for Contract 7504. Including this change order for \$848,991.05, the adjusted subphase total is \$18,400,272.97 or \$1,018,922.97 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The D/MBE and 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

BOARD OF DIRECTORS' MEETING

Chair: K. Theoharides
Vice-Chair: J. Carroll
Secretary: A. Pappastergion
Board Members:

C. Cook
K. Cotter
P. Flanagan
J. Foti
B. Peña
H. Vitale
J. Walsh
J. Wolowicz

to be held on

Wednesday, May 29, 2019

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

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. PCR Amendments – May 2019 (ref. P&C A.1)
2. Appointment of Deputy Contracts Manager, Administration (ref. P&C A.2)
3. Appointment of Program Manager, Engineering and Construction (ref. P&C A.3)
4. Bond Defeasance of Future Debt Service (ref. AF&A B.1)
5. Admission of Crescent Ridge Dairy to MWRA Sewer System (ref. WW A.1)

B. Contract Awards

1. MWRA FY 2020 Insurance Program Renewal (ref. AF&A C.1)
2. Wastewater Advisory Committee Contract (ref. WW B.1)

B. Contract Awards (continued)

3. Water Supply Citizens Advisory Committee Contract (ref. W B.1)
4. Flow Testing Services for MWRA's Revenue Water Meters: Complete Control Services, Inc., WRA-4679 (ref. W B.2)
5. Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility: Univar USA, Inc., WRA-4681 (ref. W B.3)
6. Section 22 Rehabilitation Alternative Analysis and Environmental Permitting: Black & Veatch Corporation, Contract 7155 (ref. W B.4)

C. Contract Amendments/Change Orders

1. Southern Extra High Pipeline – Section 111 (Dedham North): P. Gioioso and Sons, Inc., Contract 7504, C.O. 7 (ref. W C.1)

V. OTHER BUSINESS

VI. CORRESPONDENCE TO THE BOARD

Letter: Advisory Board Recommendation on Massport \$8M Easement

VII. EXECUTIVE SESSION

A. Real Estate:

1. Watershed Land Acquisition
2. MBTA Ball Square Green Line Station Medford/Somerville

B. Litigation:

1. May 3, 2019 Water Main Break, Section 89, Winchester: Cost Recovery/Litigation Strategy (verbal)
2. Richard DaPrato v. MWRA, Suffolk Superior Court. No. 2015CV3687D: Supreme Judicial Court No. 12651: Update/Litigation Strategy (verbal)

C. Collective Bargaining

1. Massachusetts Paid Family and Medical Leave Law Collective Bargaining Negotiations Strategy

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

April 17, 2019

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on Wednesday, April 17, 2019 at the Authority headquarters in Charlestown. Vice Chair Carroll presided. Present from the Board were Ms. Wolowicz and Messrs. Cook, Flanagan, Pappastergion, Peña, Vitale and Walsh. Messrs. Beaton, Cotter and Foti were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Carolyn Francisco Murphy, General Counsel, David Coppes, Chief Operating Officer, Carolyn Fiore, Deputy Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, Bethany Card, Director of Environmental and Regulatory Affairs, Stephen Cullen, Director of Wastewater, Mark Johnson, Director of Waterworks and Assistant Secretaries Ria Convery and Kristin MacDougall. The meeting was called to order at 1:18 p.m.

APPROVAL OF MARCH 20, 2019 MINUTES

Upon a motion duly made and seconded, it was

Voted: to approve the minutes of the Board of Directors' meeting of March 20, 2019 as presented and filed with the records of the meeting.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey noted that MWRA employees provided assistance for the 2019 Boston Marathon in checking manholes. He also reported that MWRA received, for the second consecutive year, the Government Finance Officers Associations' Distinguished Budget Presentation Award and updated the Board on the progress of the HEEC Cable work. He reminded the Board of two meetings on May 22, 2019: Budget hearings and a meeting of the Personnel and Compensation Committee, independent of management, as required by the 2011 Authority Accountability and Transparency Act. Finally, Mr. Laskey updated the Board on the status of the Wachusett Crest Gate.

APPROVALS

April 2019 PCR Amendments

Upon a motion duly made and seconded, it was

Voted: to approve an amendment to the Position Control Register (PCR) as presented and filed with the records of the meeting.

CONTRACT AWARDS

Resident Engineering and Inspection Services for Towable Generator Docking Stations, Arcadis U.S., Inc., Contract 7024

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7024, Resident Engineering and Inspection Services for Towable Generator Docking Stations at Various Water and Wastewater Locations, to Arcadis U.S. Inc. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount of \$209,063.30, for a contract term of 10 months from the Notice to Proceed.

Sole Source Purchase Order for One Year of Maintenance and Support of the Integrated Financial, Procurement and Human Resources/Payroll Management System, Infor Inc.

Upon a motion duly made and seconded, it was

Voted: to approve the award of a sole source purchase order for the annual maintenance and support of the integrated financial procurement and human resources/payroll management system to Infor Inc. and to authorize the Executive Director to execute said purchase order contract in an amount not to exceed \$452,792.57 for a period of one year, from June 1, 2019 through May 31, 2020.

Arbitrage Rebate Compliance Services PFM Asset Management LLC, Contract F251

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract F251 to PFM Asset Management LLC for Arbitrage

Rebate Compliance Services, and to authorize the Executive Director, on behalf of the Authority, to execute Contract F251 in an amount not to exceed \$124,500 and for a term of three years from the Notice to Proceed.

Preferred Service Agreement for the Combustion Turbine Generators at the Deer Island Treatment Plant, PW Power Systems, Inc.

Upon a motion duly made and seconded, it was

Voted: to approve the award of a Preferred Service Agreement to provide technical support, emergency repair services and spare parts for the combustion turbine generators at the Deer Island Treatment Plant to the original equipment manufacturer, PW Power Systems, Inc. (formally Pratt & Whitney), and to authorize the Executive Director, on behalf of the Authority, to execute said contract for an amount not to exceed \$490,760.00 for a period of three years.

CONTRACT AMENDMENTS/CHANGE ORDERS

Technical Assistance Consulting Services - Deer Island Treatment Plant, AECOM Technical Services, Inc., Contract 7503, Amendment 1

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7503, Technical Assistance Consulting Services - Deer Island Treatment Plant, with AECOM Technical Services, Inc., extending the contract term by 639 calendar days, from July 1, 2019 to March 31, 2021, with no increase in contract amount.

CSO Post-Construction Monitoring and Performance Assessment AECOM Technical Services, Inc. Contract 7572, Amendment 1

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7572, CSO Post-Construction Monitoring and Performance Assessment with AECOM Technical Services, Inc., in the amount of \$931,490, increasing the contract amount from \$2,921,215 to an amount not to

exceed \$3,852,705 and increasing the contract term by 365 days from April 7, 2021 to April 7, 2022.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and security and thereafter to return to open session solely for the purpose of adjournment. Upon a motion duly made and seconded, a roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Cook		
Carroll		
Flanagan		
Pappastergion		
Peña		
Vitale		
Walsh		
Wolowicz		

Voted: to enter executive session for the purpose of discussing strategy with respect to litigation, in that such discussions may have a detrimental effect upon the negotiating positions of the Authority.

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session and adjourned at 1:43 p.m.

Approved: May 22, 2019

Attest:

Andrew M. Pappastergion, Secretary



Advocacy & Accountability

Representing Over 3 Million People in Massachusetts Communities Since 1985

MWRA Board of Directors

Chair – Kathleen A. Theoharides, Secretary of Energy and Environmental Affairs

Vice-Chair – John J. Carroll, Advisory Board

Secretary – Andrew M. Pappastergion, Advisory Board

Christopher Cook, City of Boston

Kevin L. Cotter, City of Boston

Paul E. Flanagan, Town of Winthrop

Joseph C. Foti, Advisory Board

Brian Pena, Merrimack River Basin

Henry F. Vitale, City of Boston

John J. Walsh, City of Quincy

Jennifer L. Wolowicz, Connecticut River Basin

To whom it may concern,

The Advisory Board would like to bring to your attention an important matter related to the cross-harbor cable project (i.e. HEEC cable), which replaces the electric cable that powers the Deer Island Treatment Plant.

As you know, the impetus of the cross-harbor cable project, which projects to cost MWRA ratepayers over \$150 million, was a Massachusetts Port Authority (Massport) dredging project designed to deepen Boston Harbor and allow for larger tankers and passenger ships to enter the City of Boston.

While this dredging project is good for the local economy and the Commonwealth of Massachusetts, the Advisory Board has been monitoring the developments closely given that this project is costing ratepayers a significant sum of money and only benefiting Massport coffers through new revenue.

Needless to say, the **Advisory Board was outraged to learn that Eversource (on behalf of the MWRA) negotiated to pay \$8 million to Massport for an easement** to lay the cable across parts of Conley Terminal (Massport-owned) in an effort to complete the cross-harbor cable project. A portion of this \$8 million cost will also be magnified by the charges that Eversource is allowed to collect on top (an additional 9% for their own profit), as Eversource answers to its shareholders, first and foremost.

The Advisory Board would like to point out the absurdity of this situation with three (3) questions:

1. Why would Massport indirectly charge MWRA ratepayers over \$8 million to complete a project (HEEC cable replacement) that is only being done to directly benefit Massport?
2. Why is Eversource in a position to “negotiate” with Massport over an easement that is being paid for by MWRA ratepayers without representation from the MWRA in the “negotiation”?
3. What is the basis of the \$8 million; i.e. was an appraisal done?



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In answering questions 1 and 2, please see our recommendations below. To get an answer to question 3, the Advisory Board sent a Public Information Request to Massport to determine how the \$8 million was determined. While Massport technically complied with the request, they only provided the MOU between Massport and Eversource without any appraisal information or analysis that would justify \$8 million in ratepayer money being extorted.

The next step of the Advisory Board, as approved at the May 16, 2019 Advisory Board meeting, is to recommend the following possible actions be taken by the MWRA:

1. The Advisory Board recommends: (1) the MWRA officially request that Massport rescind their easement charges; (2) the MWRA request that the Legislature withhold final bond authorized payment for the dredging until resolved, and/or; (3) the MWRA jointly file a bill with the Advisory Board to add a surcharge on all tonnage to be assessed on all cargo and assess a per head charge for cruise ships until such time that the cable costs have been recovered.
2. The Advisory Board recommends: (1) the MWRA assess Massport for the Operations and Maintenance (O&M) of the Wiggins Pump Station dating back to the inception of the MWRA which would be \$280,000 in inflation-adjusted dollars, and to begin charging Massport for O&M costs on a monthly basis moving forward, and (2) the MWRA remove the Wiggins Pump Station capital improvements project from its 5-year CIP until such time that an MOU is in place between the MWRA and Massport in which Massport agrees to pay for the design, construction and project management of the Wiggins Pump Station capital improvements.

Background information on the Wiggins Pump Station (attached) shows that Massport constructed and operated the pump station prior to asking the MDC to take over operation in the 1960s; it subsequently ended up in the MWRA's hands in 1985.

This agreement absolutely does not say that the MDC or the MWRA would provide O&M services free of charge or perform any capital improvements to the pump station in the future. To this end, the cost incurred by the MWRA for the O&M of the facility since 1985 has been approximately \$280,000; this was paid for by ratepayers and should be paid back to the MWRA by Massport immediately. Additionally, the Authority should begin billing Massport for all O&M costs going forward. Finally, because the pump station is in need of replacement, the MWRA's legal staff should sit with Massport to put an MOU in place that details how Massport will cover all capital improvement costs.

We ask that the MWRA Board of Directors support the Advisory Board recommendations above and direct the Authority to take immediate action.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
AGREEMENT FOR ENTRY TO PUMPING STATION OF
MASSACHUSETTS PORT AUTHORITY
CASTLE ISLAND, SOUTH BOSTON

THIS AGREEMENT made and entered into this 12th day of May, 1964, by and between the Commonwealth of Massachusetts, acting herein through its Metropolitan District Commission, hereinafter sometimes referred to as the "Commission", and the Massachusetts Port Authority, a body politic and corporate and having an usual place of business in Boston in said Commonwealth, hereinafter sometimes referred to as the "Authority".

WHEREAS, the Commission proposes to construct a sanitary sewer structure at Castle Island, South Boston District of Boston, and WHEREAS, there is no City of Boston sewer system conveniently servicing the aforesaid area, and WHEREAS, the Authority has an existing pumping station near its Station 14 on Gardner Way, according to a plan attached hereto, entitled, "Commonwealth of Massachusetts, Metropolitan District Commission, Parks Division, Castle Island, South Boston, Sanitary Sewer Site Plan, Scale 1" = 100', April 27, 1964, Benjamin W. Fink, Director, Park Engineering," being accession number 42260, and WHEREAS, engineers of the Commission and of the Authority have conducted explorations to insure the parties that the existing sewer is in a satisfactory condition, NOW THEREFORE, the parties hereto undertake and agree in consideration of the covenants hereinafter set forth for the joint use of the aforesaid pumping station:

1. The Authority will supply two (2) new pumps for installation by the Commission.
2. The Commission shall undertake responsibility for a complete rehabilitation and repair of the Authority's pumping station. Said rehabilitation and repairs are to consist of doors and windows to be replaced, roof to be repaired and structure to be painted. Piping,

valves, controls and electrical equipment shall be inspected and all defective or worn parts shall be replaced.

3. The Commission shall assume full responsibility for continuing maintenance and operation of the pumping station and sewage outfall line.

4. The Commission shall apply to the Boston Edison Company for metered electrical service to the pumping station.

5. The Commission shall have the right to build a gravity sewer system, which would enter upon the property of the Authority at Station 14 on Gardner Way, and discharge into the wet well of the pumping station at about elevation 5.2 (City of Boston Base) which elevation is some five and 8/10 (5.8) feet above the bottom of the wet well.

IN WITNESS WHEREOF, the Commonwealth of Massachusetts has caused these presents to be executed in three counterparts by a majority of its Metropolitan District Commission, including the Commissioner, who do, therefore, hereunto set their hands and seals without, however, incurring any possible personal liability by reason of the execution hereof or of anything herein contained, and the Massachusetts Port Authority has caused these presents to be executed in three counterparts in its name and on its behalf by Edward J. King, its Executive Director, hereunto duly authorized, all on the day and year first above written.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION

Arthur M. Donnelly
Commissioner

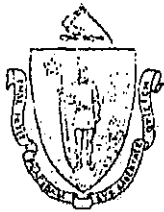
William J. Higgins
Associate Commissioner

Vincent P. O'Brien
Associate Commissioner

James J. [unclear]
Associate Commissioner

Thomas J. [unclear]
Associate Commissioner

MASSACHUSETTS PORT AUTHORITY
BY *Edward J. King*
Executive Director



The Commonwealth of Massachusetts
Metropolitan District Commission

P O L I C E

Old Colony Division
Wm J. Day Boulevard
South Boston, Mass.
August 4, 1965.

Howard Whitmore, Jr., Commissioner
Metropolitan District Commission,
20 Somerset Street,
Boston, Massachusetts.

Dear Sir:

The Metropolitan District Commission has entered into an agreement with the Massachusetts Port Authority on May 12, 1964 to maintain a sewerage pumping station on their land, as this structure services a sanitary sewer line from Castle Island, South Boston, Mass.

I discussed this situation with both Mr. Edward Sulesky, MDC Sewerage Division and engineers of the MDC Park System and both parties are in agreement that I have not the qualified personnel to maintain this pumping station.

I recommend that this problem be discussed with the sewerage division and MDC Parks engineers so that arrangements can be made for the proper maintenance of this sewerage pumping station.

Very truly yours,

Peter D. Bille
Peter D. Bille,
Captain.

Ref: - Castle Island

Station should check for screenings & operation of pump & try perhaps daily?

*Circled - { 2 on pump
1 " study bearing
1 " Note Thread bearing*

Pump glands tightened or repacked when necessary

Commonwealth of Massachusetts

COMMISSIONERS OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION

AND

MASSACHUSETTS PORT AUTHORITY

AGREEMENT FOR ENTRY TO
PUMPING STATION, CASTLE ISLAND

COUNTERPART NO. II

studies

- see*
- (1) MASS PORT AUTHORITY
 - (2) VAWVT
 - (3) PARK FENCE
 - (4) GADSDEN'S DIV.
 - (5) H. D. FINLEY HALL

FROM THE OFFICE OF

JOHN J. SULLIVAN, JR.

ATTORNEY AT LAW
11 BEACON STREET
BOSTON 8, MASS.