

MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Boston, MA 02129

Frederick A. Laskey
Executive Director

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PERSONNEL & COMPENSATION COMMITTEE MEETING

to be held on

Wednesday, October 16, 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: 10:00 a.m.

AGENDA

A. Information

1. Proposed Organizational Changes in the Finance Division

B. Approvals

1. PCR Amendments – October 2019
2. Appointment of Manager of Transmission and Treatment, Operations
3. Appointment of Budget Manager, Finance
4. Appointment of Senior Staff Counsel, Law Division
5. Appointment of IT Project Manager III, MIS

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Personnel and Compensation Committee

September 18, 2019

A meeting of the Personnel and Compensation Committee was held on September 18, 2019 at the Authority headquarters in Charlestown. Committee Chair Wolowicz presided. Present from the Board were Messrs. Cook, Cotter, Flanagan, Foti, Peña, Vitale and Walsh. Messrs. Carroll and Pappastergion were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Andrea Murphy, Robert Donnelly and Kristin MacDougall. The meeting was called to order at 11:06 a.m.

Approvals

*** PCR Amendments - September 2019**

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

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

*** Appointment of Program Manager, Process Control and Project Support**

The Committee recommended approval. (ref. P&C A.2)

*** Appointment of Program Manager, Wastewater Operations**

The Committee recommended approval. (ref. P&C A.3)

*** Appointment of Manager, IT Security, Architecture and Engineering, MIS**

The Committee recommended approval. (ref. P&C A.4)

*** Appointment of Communications Manager, Metropolitan Tunnel Redundancy Program**

The Committee recommended approval. (ref. P&C A.5)

*** Appointment of Senior Staff Counsel, Law Division**

* Committee recommendation approved by the Board on September 18, 2019

The Committee recommended approval. (ref. P&C A.6)

Contract Awards


*** Pay Equity Consulting Services: Hirsch Roberts Weinstein LLP, Contract A616, Amendment 1**

Staff made a verbal presentation. There was brief discussion. The Committee recommended approval. (ref. P&C B.1)

The meeting adjourned at 11:17 a.m.

* Committee recommendation approved by the Board on September 18, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Proposed Organizational Changes in the Finance Division

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE


Andrea Murphy, Director, Human Resources
Preparer/Title


Thomas J. Durkin
Director, Finance

This staff summary provides an overview of a plan for a re-organization in the Finance Division. A corresponding PCR change will be presented to the Board for approval in a separate staff summary presented at this meeting.

RECOMMENDATION:

For information only.

DISCUSSION:

The Finance Division is responsible for all fiscal operations of the MWRA including managing adequate funding for capital programs, the development and formulation of financial policy to ensure efficient utilization of resources and control of all monies, a divisional budget of approximately \$3 million and an operating and capital budgets of approximately \$1 billion, and advising the Board of Directors, the Advisory Board and Executive Director on all financial issues.

Staff propose changing the Treasurer's position to the Deputy Director, Finance/Treasurer to allow for development, training and additional oversight of financial operations. This new position will report directly to the Director, Finance and serve as Treasurer and department head of the Treasury Department overseeing the issuance of debt, investments, cash management and grants administration. The position will also provide an additional layer of coordination of the Budget, Controller, Treasury and Risk Management Departments of the Finance Division providing enhanced support of the operations of MWRA. The Deputy Director, Finance will serve as acting Director, Finance in the absence of the Director, Finance.

Mr. Matthew Horan has excelled in every position he has held and is widely respected by MWRA staff and the Bond Ratings Agencies. Mr Horan is a valuable member of the Senior Staff team. Mr. Horan joined the MWRA in 1997 and has served as the Treasurer since 2015. In this capacity,

Mr. Horan has developed long-term financing plans, coordinated the MWRA' s investment strategy and cash management. Prior to that, Mr. Horan was Deputy Treasurer, recommending debt and capital financing plans to the treasurer and senior management. Prior to that promotion, Mr. Horan served as Project Manager, Debt and Finance in the Finance Division and was responsible for coordinating all phases of debt issuance. Before moving into the Finance Division, Mr. Horan was a Project Engineer and a Sampling Associate. He has been instrumental in effectively managing the complexities of the debt market and refunding initiatives.

Mr. Horan has proven himself to be a strong manager who has the ability oversee complex financial projects through to completion. He coordinates effectively with both internal and external parties and provides thoughtful guidance and support to all aspects of MWRA business.

Mr. Horan possesses a Bachelor of Science in Biology from Boston College and a Master of Science in Business from Boston College.

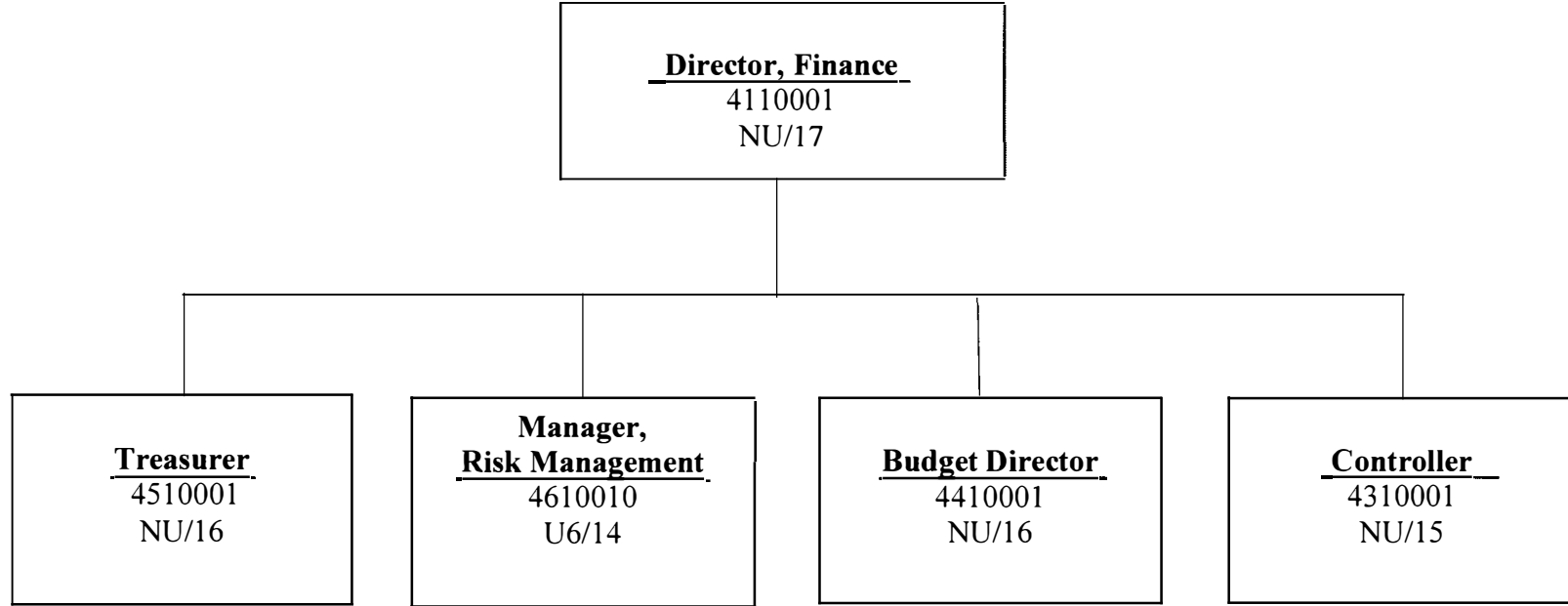
BUDGET/FISCAL IMPACT:

The recommended organizational plan results in a pay adjustment and there are sufficient funds in FY20 Current Expense Budget.

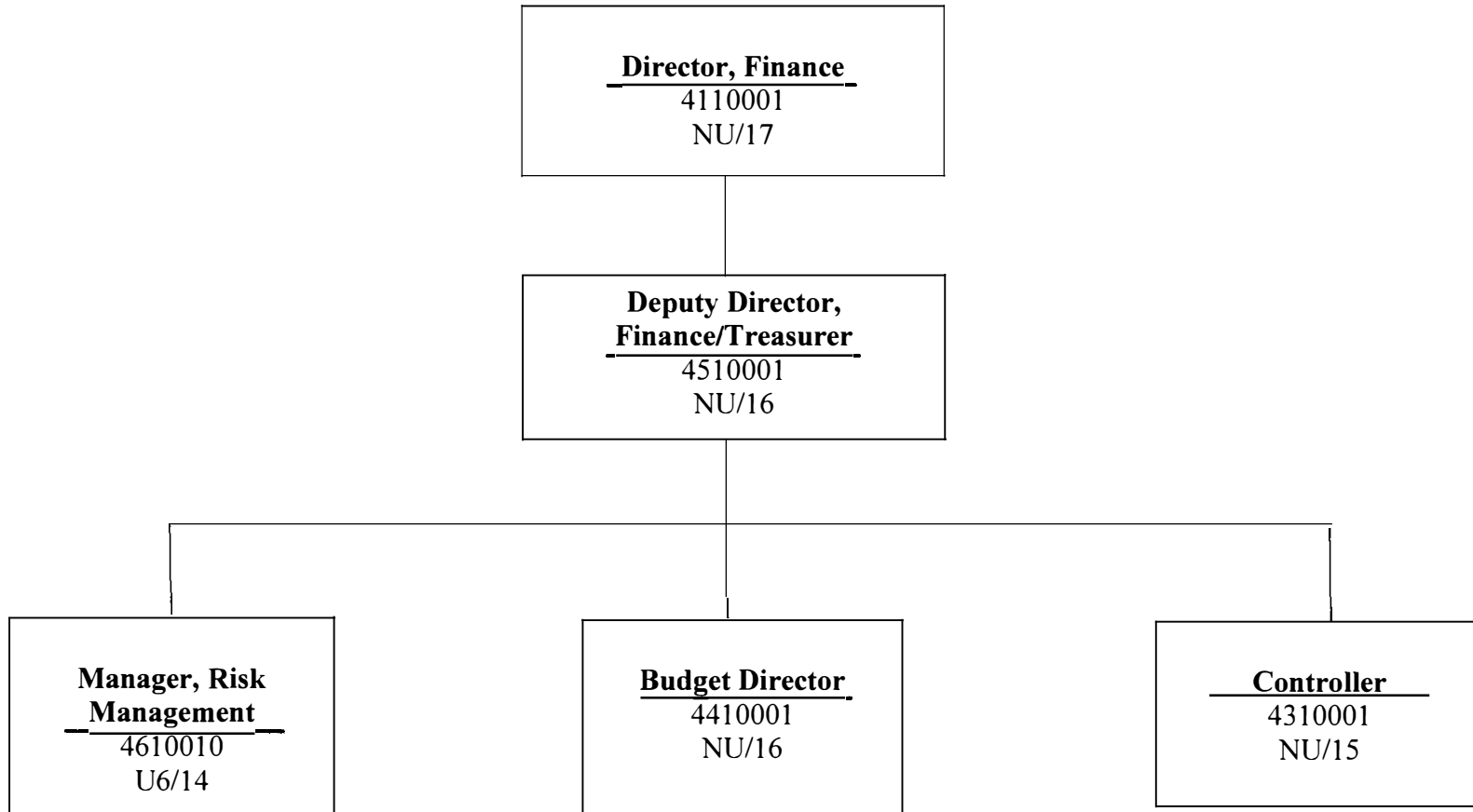
ATTACHMENTS:

Current Organizational Chart
New Organizational Chart

**Finance Division
October 2019**



**Finance Division
October 2019**



STAFF SUMMARY


TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: October 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.

October PCR Amendments

There are five PCR Amendments this month.

The amendments are:

Organizational Changes

1. Title and grade change to one filled position in the Administration Division, MIS department from Information Specialist Unit 1 Grade 14, to Records Center Specialist Unit 1 Grade 17 to align the position with new job requirements, advances in technology and records retention.
2. Title and grade change to one vacant position in the Administration Division, MIS department from Public Information Technician Unit 1 Grade 15, to Records Center Specialist Unit 1 Grade 17 to align the position with new job requirements, advances in technology and records retention.
3. Title change to one filled position in the Finance Division, Director's Office from Treasurer Non-Union Grade 16 to Deputy Director, Finance/Treasurer to ensure the continuance of financial operations.

4. Title and grade change to one vacant position in the Operations Division, Planning Department from Senior Sanitary Engineering Aide Unit 9 Grade 15, to Environmental Planner Unit 9 Grade 21 to assist with conservation, resiliency and master planning.
5. Creation of a new position in the Tunnel Redundancy Department as a Project Controls Specialist Unit 6 Grade 12 to ensure compliance with project control procedures.

The five 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 \$168,717. Staff will ensure that the cost increase associated with these PCR amendments will not result in spending over the approved FY20 Wages and Salaries budget.

ATTACHMENTS:

Old Job Descriptions
New Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2020**

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - October 16, 2019															
Current								Current/Budget		Estimated		Estimated Annual		Reason	
Number	PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Salary	New Salary	\$ Impact		For Amendment	
PERSONNEL & COMPENSATION COMMITTEE TOTAL=					0							TOTAL:		\$0 - \$0	

PCR AMENDMENTS REQUIRING BOARD APPROVAL - October 16, 2019																
assist with energy conservation, resiliency and master planning																
Current								Current/Budget		Estimated		Estimated Annual		Reason		
Number	PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Salary	New Salary	\$ Impact		For Amendment		
B5	Administration MIS 8610071	F	T,G	Information Specialist	1	14	Records Center Specialist	1	17	\$58,439	\$62,207	-	\$62,207	\$3,768	\$3,768	To align with new job requirements, advances in technology and records retention
B6	Administration MIS 8610063	V	T,G	Public Information Technician	1	15	Records Center Specialist	1	17	\$61,895	\$51,739	-	\$69,446	-\$10,156	\$7,551	To align with new job requirements, advances in technology and records retention
B7	Finance Director's Office 4510001	F	T	Treasurer	NU	16	Deputy Director, Finance / Treasurer	NU	16	\$144,612	\$160,000	-	\$160,000	\$15,388	\$15,388	To ensure the continuance of financial operations.
B8	Operations Planning 1510010	V	T,G	Senior Sanitary Engineering Aide	U9	15	Environmental Planner	U9	21	\$67,533	\$66,333	-	\$92,263	-\$1,201	\$24,730	To assist with energy conservation, resiliency and master planning.
B9	Tunnel Redundancy Tunnel Redundancy	N/A	N/A	N/A	N/A	N/A	Project Controls Specialist	6	12	\$0	\$76,646	-	\$117,280	\$76,646	\$117,280	To ensure compliance with project control procedures.
BOARD TOTAL =					5							TOTAL ESTIMATED COSTS:		\$84,445 - \$168,717		
GRAND TOTAL =					5							TOTAL ESTIMATED COSTS:		\$84,445 - \$168,717		



**MWRA
POSITION DESCRIPTION**

POSITION: Information Specialist
DIVISION: Support Services
DEPARTMENT: MIS

BASIC PURPOSE:

Provides administration and information support to the records management program. Assists staff with storing and retrieving records.

SUPERVISION RECEIVED:

Works under the general supervision of the Library & Records Manager.

SUPERVISION EXERCISED:

Exercises close supervision of the records/geology interns.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Performs scheduled and ad-hoc retrieval services utilizing on-line search and retrieval facilities.
- Prepares quarterly reviews with staff on usage of charged out library and record center materials.
- Processes and transfers records for inactive storage or destruction according to retention schedules.
- Performs tests, maintenance and reviews of data on automated computer systems.
- Oversees indexing, storage shelving of receipt of geological samples.
- Assists with the continued implementation of the records' management program.
- Participates in the design and review of automated records management programs.
- Transfers media from/to off-site storage areas.
- Assists in orientation, training and cross training of Department Records Officers (DRO's) and all positions under the direction of the library and records' manager, including intern staff.

- Follows all safety practices lifting boxes, geological samples and operating equipment.
- Supports MWRA library as needed.

SECONDARY DUTIES:

Perform related duties as required.

DESIRED MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A two (2) year college program in computer science, records management or library science.
- (B) One (1) to three (3) years experience in information management systems and practices.
- (C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of the principles and practices of library and records services.
- (B) Working knowledge of Wordperfect or MS-Word; Lotus 123 or Excel; CDROM technology; MS-Access; and awareness of on-line searching and HTML are preferred.
- (C) Excellent analytical, interpersonal, written and oral communication skills are required.

SPECIAL REQUIREMENTS:

Valid Class D Massachusetts driver's license.

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 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, reach with hands and arms, climb or balance and talk or hear. The employee frequently is required to sit, stand, stoop, kneel, crouch, or crawl. The employee is occasionally required to walk, taste or smell.

The employee must frequently lift and/or move up to 50 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include 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 occasionally works in various field settings and in an office environment.

The noise level in the work environment is moderate.

August 1999

**MWRA
POSITION DESCRIPTION**



POSITION: Records Center Specialist

DIVISION: Administration

DEPARTMENT: MIS

BASIC PURPOSE:

Assists Librarian/Records Manager with records administration and support in order to ensure compliance with the Commonwealth of Massachusetts Public Records Retention law and Records Conservation Board schedule. Oversees the efficient, neat, safe and orderly handling, indexing and storage of all documents (electronic and paper) and geological samples. Follows all safety practices while lifting boxes, handling geological samples, and operating equipment.

SUPERVISION RECEIVED:

Works under the general supervision of the Librarian/Records Manager.

SUPERVISION EXERCISED:

Exercises direct supervision of any intern(s).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Transport records between the MWRA facilities and the Records Center (Marlborough) several times per week using a cargo van.
- Inspects records being sent to the Records Center to ensure index accurately reflects the contents and the record retention schedule series number is properly assigned.
- Catalogs records, enters information into the document control system (tracking database), labels boxes and transports the boxes to an assigned bay and shelf in the Records Center warehouse.
- Prepares documents and images for electronic storage which may involve scanning, indexing, naming, and filing in a manner the materials can be easily located.
- Uses the document control system to search, cross-reference, change and update document control records.
- Performs scheduled and ad-hoc retrieval services. Provide MWRA personnel with assistance in locating boxed documents and electronic files and searching electronic database for records.
- Reproduces electronic copies of Records Center documents for MWRA staff, consultants or other MWRA departments via electronic and portable media (memory stick).
- Demonstrates self-service equipment MWRA as engineering printers, plotters and microfilm

- machines to customers needing to use equipment during visit to Records Center.
- Assists customers with charging out (borrowing) records, logs the circulation record, and follows-up to ensure all borrowed materials are returned in a timely manner.
 - Generates monthly report of records reaching their retention expiration period. Retrieves records for disposal or shredding after all approvals and paperwork have been submitted.
 - Assists the Librarian/Records Manager in quarterly orientation sessions for Department Records Officers and Managers. Provides individual training and ongoing technical support of Department Records Officers.
 - Ensures adequate amount of office supplies and storage boxes by monitoring levels and notifying Librarian/Records Manager when supplies need to be replenished.

SECONDARY DUTIES:

Perform related duties as required.

Assists with records retrieval and protection during a disaster or emergency.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An Associate's degree in records management, liberal arts, business, or related field; and
- (B) Three years of experience in records management, image management, warehousing, information management systems or similar field; or
- (C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Working knowledge of MS Office Suite required. Knowledge of CD-ROM technology, on-line searching and HTML are preferred.
- (B) Knowledge of Commonwealth's Public Records Retention law and Record Conservation Board schedule.
- (C) Knowledge of the principles and practices of library and records services.
- (D) Excellent analytical, interpersonal, written and oral communication skills.

SPECIAL REQUIREMENTS:

A Valid Massachusetts Class D driver's license.

TOOLS AND EQUIPMENT USED:

- Office machines as normally associated, with the use of telephone, personal computer including word processing and other software, copy and fax machine. Specialty printers, electronic scanners, microfiche readers, plotters, photo digitizers, laminators, and engineering

copiers are also used.

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 use hands to finger, handle, feel or operate objects, tools or controls, reach with hands and arms, climb or balance, and talk or hear. The employee frequently is required to sit, stand, stoop, kneel, crouch or crawl. The employee is occasionally required to walk, taste or smell.

The employee must frequently lift and/or move up to 40 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employee occasionally works in various field settings and in a warehouse environment. The noise level in the work environment is a moderately loud office setting.

September 2019

**MWRA
POSITION DESCRIPTION**



POSITION: Public Information Technician

DIVISION: Administration & Finance

DEPARTMENT: MIS

BASIC PURPOSE:

Assists Librarian and Records Manager with records administration and support in order to be in compliance with the Commonwealth of Massachusetts Public Records Retention law and Records Conservation Board schedule.

SUPERVISION RECEIVED:

Works under the general supervision of the Librarian and Records Manager

SUPERVISION EXERCISED:

As assigned, supervises Information Specialist and interns

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists with continued implementation of the record's management program in order to be in compliance with the Commonwealth of Massachusetts Records Conservation Board Schedule.
- Assigns assigned projects and utilizes staff resources.
- Assists in orientation, training and support of Department Records Officers.
- Oversees and maintains accurate computer data.
- Performs scheduled and ad-hoc retrieval services.
- Processes and transfers records for inactive storage or destruction in accordance with retention schedules.
- Leads barcoding and scheduled inventories of records.
- Coordinates microfilm, fiche, OCE, and image reproduction services.
- Issues monthly and quarterly reporting.

- Oversees indexing, storage and receipt of geological samples.
- Follows all safety practices lifting boxes, geological samples and operating equipment

SECONDARY DUTIES:

Perform related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in records management, liberal arts or business.
- (B) Three (3) to five (5) years experience in records, image management, warehousing or similar field.
- (C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Skills in PC hardware, peripheral and software operation.
- (B) Knowledge of Commonwealth's Public Records Retention law and Record Conservation Board schedule.
- (C) Excellent analytical, interpersonal, written and oral communication skills are required.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D driver's license

TOOLS AND EQUIPMENT USED:

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

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 use hands to finger, handle, feel or operate objects, tools or controls, reach with hands and arms, climb or balance, and talk or hear. The employee frequently is required to sit, stand, stoop, kneel, crouch or crawl.

The employee is occasionally required to walk, taste or smell.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employee occasionally works in various field settings and in a warehouse environment. The noise level in the work environment is a moderately loud office setting.

April 2007

MWRA
POSITION DESCRIPTION



POSITION: Records Center Specialist

DIVISION: Administration

DEPARTMENT: MIS

BASIC PURPOSE:

Assists Librarian/Records Manager with records administration and support in order to ensure compliance with the Commonwealth of Massachusetts Public Records Retention law and Records Conservation Board schedule. Oversees the efficient, neat, safe and orderly handling, indexing and storage of all documents (electronic and paper) and geological samples. Follows all safety practices while lifting boxes, handling geological samples, and operating equipment.

SUPERVISION RECEIVED:

Works under the general supervision of the Librarian/Records Manager.

SUPERVISION EXERCISED:

Exercises direct supervision of any intern(s).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Transport records between the MWRA facilities and the Records Center (Marlborough) several times per week using a cargo van.
- Inspects records being sent to the Records Center to ensure index accurately reflects the contents and the record retention schedule series number is properly assigned.
- Catalogs records, enters information into the document control system (tracking database), labels boxes and transports the boxes to an assigned bay and shelf in the Records Center warehouse.
- Prepares documents and images for electronic storage which may involve scanning, indexing, naming, and filing in a manner the materials can be easily located.
- Uses the document control system to search, cross-reference, change and update document control records.
- Performs scheduled and ad-hoc retrieval services. Provide MWRA personnel with assistance in locating boxed documents and electronic files and searching electronic database for records.
- Reproduces electronic copies of Records Center documents for MWRA staff, consultants or other MWRA departments via electronic and portable media (memory stick).
- Demonstrates self-service equipment such as engineering printers, plotters and microfilm

- machines to customers needing to use equipment during visit to Records Center.
- Assists customers with charging out (borrowing) records, logs the circulation record, and follows-up to ensure all borrowed materials are returned in a timely manner.
 - Generates monthly report of records reaching their retention expiration period. Retrieves records for disposal or shredding after all approvals and paperwork have been submitted.
 - Assists the Librarian/Records Manager in quarterly orientation sessions for Department Records Officers and Managers. Provides individual training and ongoing technical support of Department Records Officers.
 - Ensures adequate amount of office supplies and storage boxes by monitoring levels and notifying Librarian/Records Manager when supplies need to be replenished.

SECONDARY DUTIES:

Perform related duties as required.

Assists with records retrieval and protection during a disaster or emergency.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An Associate's degree in records management, liberal arts, business, or related field; and
- (B) Three years of experience in records management, image management, warehousing, information management systems or similar field; or
- (C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Working knowledge of MS Office Suite required. Knowledge of CD-ROM technology, on-line searching and HTML are preferred.
- (B) Knowledge of Commonwealth's Public Records Retention law and Record Conservation Board schedule.
- (C) Knowledge of the principles and practices of library and records services.
- (D) Excellent analytical, interpersonal, written and oral communication skills.

SPECIAL REQUIREMENTS:

A Valid Massachusetts Class D driver's license.

TOOLS AND EQUIPMENT USED:

- Office machines as normally associated, with the use of telephone, personal computer including word processing and other software, copy and fax machine. Specialty printers, electronic scanners, microfiche readers, plotters, photo digitizers, laminators, and engineering

copiers are also used.

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 use hands to finger, handle, feel or operate objects, tools or controls, reach with hands and arms, climb or balance, and talk or hear. The employee frequently is required to sit, stand, stoop, kneel, crouch or crawl. The employee is occasionally required to walk, taste or smell.

The employee must frequently lift and/or move up to 40 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

WORK ENVIRONMENT:

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

While performing the duties of this job, the employee occasionally works in various field settings and in a warehouse environment. The noise level in the work environment is a moderately loud office setting.

September 2019

**MWRA
POSITION DESCRIPTION**



POSITION: Treasurer
DIVISION: Administration & Finance
DEPARTMENT: Treasury

BASIC PURPOSE:

Develops sufficient financial resources for MWRA operating and capital needs, and protects the MWRA's assets. Oversees the treasury function of the MWRA. Is directly responsible for \$1 million departmental budget, over \$700 million in investments, management of \$5.6 billion debt portfolio, annual debt issuance of over \$200 million, and approximately \$750 million in annual disbursements.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Administration & Finance.

SUPERVISION EXERCISED:

Exercises close supervision of the Treasury Department with a total of approximately nine (9) employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees the borrowing of funds and collection of rate revenues from cities and towns to insure adequate funding for the MWRA's operations and capital program.
- Directs the investments of the cash assets of the MWRA. Insures adequate funds to meet commitments for arranging lines of credit, working and depository accounts in appropriate banks.
- Provides for the proper signature and endorsement of checks, notes, bonds, mortgages and all MWRA documents authorized by the Board of Directors.
- Recommends long-term financing plans for the MWRA.

- Develops financial statements and presents the MWRA's financial condition in the most appropriate way.
- Represents the MWRA before the investment community, state agencies and advisory boards.
- Directs the MWRA's Revenue Bond program including consultant feasibility studies, ongoing relationships with the financial advisor, bond counsel, trustee, underwriters and rating agencies.
- Oversees the development of accurate and complete financial statements.
- Participates in preparing for collective bargaining and hears Step-One grievances.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of financial investment and accounting principles as normally attained through a four (4) year college program in accounting, business administration, or a related field. An advanced degree or CPA are preferred; and
- (B) Understanding of financial management, including capital financing, asset management and investment strategy as acquired by ten (10) to twelve (12) years experience in a large public or governmental agency of which five (5) years is in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Knowledge of debt issuance, preferably tax exempt bonds, and cash and investment management.
- (B) Excellent oral and written communications 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 machine, and fax machine.

PHYSICAL DEMANDS:

The physical demands described 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 talk or hear. The employee is frequently required to use hands to finger, handle, or operate objects, including office equipment and controls, and reach with hands and arms. The employee is occasionally required to stand and walk.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close 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 moderately quiet.

November 2007



**MWRA
POSITION DESCRIPTION**

POSITION: Deputy Director, Finance/Treasurer

DIVISION: Administration & Finance

DEPARTMENT: Treasury

BASIC PURPOSE:

Plans, organizes, directs, reports and controls the fiscal operations of the Authority in conjunction with the Director, Finance. Acts as the Director, Finance in the Director's absence. Develops sufficient financial resources for MWRA operating and capital needs, and protects the MWRA's assets. Oversees the treasury function of the MWRA. Is directly responsible for \$1 million departmental budget, over \$700 million in investments, management of \$5.6 billion debt portfolio, annual debt issuance of over \$200 million, and approximately \$750 million in annual disbursements.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Finance.

SUPERVISION EXERCISED:

Exercises close supervision of the Treasury Department and assists with supervision of Finance staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the overall financial activities of the Authority, including budget, treasury and accounting activities in conjunction with the Director.

- Directs the preparation and adherence to the Authority and divisional budgets in conjunction with the Director.

- Oversees the borrowing of funds and collection of rate revenues from cities and towns to insure adequate funding for the MWRA's operations and capital program.

- Directs the investments of the cash assets of the MWRA. Insures adequate funds to meet

commitments for arranging lines of credit, working and depository accounts in appropriate banks.

- Provides for the proper signature and endorsement of checks, notes, bonds, mortgages and all MWRA documents authorized by the Board of Directors.
- Recommends long-term financing plans for the MWRA.
- Develops financial statements and presents the MWRA's financial condition in the most appropriate way.
- Represents the MWRA before the investment community, state agencies and advisory boards.
- Directs the MWRA's Revenue Bond program including consultant feasibility studies, ongoing relationships with the financial advisor, bond counsel, trustee, underwriters and rating agencies.
- Oversees the development of accurate and complete financial statements.
- Participates in preparing for collective bargaining and hears Step-One grievances.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of financial investment and accounting principles as normally attained through a four (4) year college program in accounting, business administration, or a related field. An advanced degree or CPA are preferred; and
- (B) Understanding of financial management, including capital financing, asset management and investment strategy as acquired by ten (10) to twelve (12) years experience in a large public or governmental agency of which five (5) years is in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Knowledge of debt issuance, preferably tax exempt bonds, and cash and investment management.
- (B) Excellent oral and written communications 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 machine, and fax machine.

PHYSICAL DEMANDS:

The physical demands described 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 talk or hear. The employee is frequently required to use hands to finger, handle, or operate objects, including office equipment and controls, and reach with hands and arms. The employee is occasionally required to stand and walk.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close 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 moderately quiet.

October 2019

Page 3 of 3

SL 16

**MWRA
POSITION DESCRIPTION**



POSITION: Senior Sanitary Engineering Aide
DIVISION: Operations
DEPARTMENT: Field Operations/ Quality Assurance

BASIC PURPOSE:

Performs laboratory analyses for basic water quality parameters including alkalinity, pH, turbidity, color, UV, fluoride. Conducts field sampling and testing. Enters data into computer database.

SUPERVISION RECEIVED:

Works under the general supervision of the Laboratory Supervisor.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Collects water and wastewater samples.
- Performs routine laboratory and field analysis. Maintains laboratory records.
- Performs in water treatment, water sampling, simple laboratory procedures, watershed inspection and surveys usually under difficult and inclement conditions.
- Performs routine maintenance and housekeeping of laboratory equipment and facilities.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Basic reading, writing, mathematical and oral communication skills as normally attained through a high school education or equivalent; and

- (B) Basic knowledge of water distribution systems similar to that of the MWRA; and
- (C) Knowledge of the procedures for water sampling; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to keep routine laboratory needs.
- (B) Ability to follow oral and written instructions.
- (C) Ability to communicate and work well with others.
- (D) Excellent interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

A valid Class D Massachusetts Driver's License.

TOOLS AND EQUIPMENT USED:

Laboratory equipment such as pH meter, thermometer, chlorine residue analyzer, automobile and minimal office equipment such as computer, fax, copier, etc.

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

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

WORK ENVIRONMENT:

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

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

The noise level in the work area is moderately quiet in a laboratory environment.

January 2008

**MWRA
POSITION DESCRIPTION**



POSITION: Environmental Planner

DIVISION: Operations

DEPARTMENT: Planning and Sustainability

BASIC PURPOSE:

Provides support to projects of the Planning Department. Provides assistance as needed with research, analysis and reporting on planning topics such as master planning, resiliency planning, energy conservation, and emergency response planning.

SUPERVISION RECEIVED:

Works under the direct supervision of the Senior Program Manager, Planning.

SUPERVISION EXERCISED:

May functionally supervise Planning interns.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Gathers information, performs technical analyses, develops graphics, and drafts reports that support MWRA water and wastewater system master planning needs.
- Coordinates with other MWRA staff to develop and analyze data and prepare presentation materials on MWRA's energy use, conservation efforts and greenhouse gas reduction efforts.
- Collaborates on drafting planning reports and analyses for senior management on waterworks and wastewater systems and facilities.
- Researches technical planning or engineering topics such as climate change, sea level rise, and resiliency planning and summarizes the information for review and use by others.
- Assists managers in the preparation of professional services contracts as requested. Drafts scopes of services and participates in consultant selection process and review of consultant performance.
- Supports management in the updating and review of the master plan and the business plan.

- Provides support to managers with emergency planning projects and periodic updates to emergency action plans.
- Attends meetings with outside parties, as requested, as a representative of MWRA.
- Assists, as requested, with the reviews of environmental documents and plans for non-MWRA projects that may affect MWRA facilities and/or planned projects.
- Drafts materials on regulatory permitting or planning related issues for other MWRA staff.
- Supports managers with reviewing and commenting on new or changing environmental regulations or policies.

SECONDARY DUTIES:

- Drafts reports, memoranda and other documents.
- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Bachelor's degree in regional planning, environmental planning, environmental sciences, a related engineering or science discipline or other related field; and
- (B) Working knowledge of water and wastewater planning issues as acquired by two (2) years of experience, preferably working with a water or wastewater utility or in a related planning capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Familiarity with federal and state environmental regulations and policies related to the planning, design and construction of water and wastewater related systems and facilities preferred.
- (B) Knowledge of MWRA operations related to water and wastewater projects is preferred.
- (C) Demonstrated ability to develop and maintain productive working relationships with outside parties and to work effectively as part of an inter-disciplinary team.

- (D) Familiarity with computers, including MS Office Suite and other information systems, and ability to perform data analyses. General familiarity with GIS software is preferred.
- (E) Excellent oral and written communication skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

October 2019

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Project Controls Specialist (Tunnel Redundancy)

DIVISION: Tunnel Redundancy

DEPARTMENT: Tunnel Redundancy

BASIC PURPOSE:

Ensures compliance with Project Controls procedures and processes regarding Cost, Schedule and Change Management for the Metropolitan Tunnel Redundancy Program (Program).

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Tunnel Redundancy or senior manager.

SUPERVISION EXERCISED:

May exercise direct or functional supervision of administrative and project controls staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and adheres to Project Controls Plan.
- Performs and manages all budget and cost control functions, and supports the Program on all levels of cost reporting and forecasting.
- Reviews schedules to determine compliance with all scheduling requirements included in the contract for design engineers, construction managers, and contractors.
- Prepares schedule analysis reports.
- Performs audits of Program schedule and financial information, and develops reports on actuals, variances, and trends and re-forecasts as necessary.
- Prepares, updates, and maintains integrated project/program schedules for engineering/design, procurement, construction, and commissioning/closeout.

- Develops, updates, and maintains cash flow projections, including cost at completion, as well as commitment flow throughout the Program phases.
- Performs analytics and interprets project/program data for continuous improvement.
- Determines costs and schedule impacts associated with risks that have been identified for a project.
- Analyzes project performance data for risk trends. Identifies key risk concerns to future construction projects.
- Administers the use of project management information systems (PMIS) in the areas of budget/cost control, document control, reporting. Serves as a “super user” handling user administration, granting security and permissions management, conducting user training and writing custom reporting queries.
- Keeps and effectively utilizes historical records of project costs.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

EDUCATION AND EXPERIENCE:

- A Bachelor's degree in Engineering, Construction Management, or Business Administration or related field; and
- At least four (4) to seven (7) years of professional experience in business, financial analysis, project management, engineering, or construction management including a minimum of 3-5 years of experience in Project Controls (cost control, estimating and schedule development and management); or
- Any equivalent combination of education and experience.

PREFERRED QUALIFICATIONS:

- (A) A Master’s Degree in Engineering, Business Administration, or Construction/Project Management.

- (B) Experience with SQL /SharePoint, MS Project and Primavera Applications.
- (C) Experience with large design and construction projects and on-site construction.

NECESSARY KNOWLEDGE, SKILLS AND ABILITIES:

- (A) Experience in the management of project and/or program budget and cost control functions including budgeting, commitment management, change management, progress measurement, estimating, forecasting and reporting.
- (B) Understanding of principles and methods related to Earned Value Management or Earned value project/performance management.
- (C) Thorough understanding of project accounting and accrual collection
- (D) Knowledge of project and/or program planning and scheduling.
- (E) Experience in Critical Path Method (CPM) Scheduling. Experience with resource/cost loading schedules is preferred.
- (F) Demonstrated interpersonal, verbal and written communication skills.
- (G) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.
- (H) Excellent organizational and time management skills, and ability to prioritize among competing tasks.
- (I) Expert level proficiency with Microsoft Word and Excel. Proficiency with Microsoft Access preferred. Familiarity with project management software.

SPECIAL REQUIREMENTS:

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

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer including

word processing and other software, copy and machines.

PHYSICAL DEMANDS:

The physical demands described 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 talk or hear and to use hands to finger, handle or operate objects, including office equipment, controls. The employee is frequently required to reach with hands and arms. The employee is occasionally required to stand; walk; sit; climb or balance; and stoop, kneel, crouch or crawl.

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


WORK ENVIRONMENT:

The work 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 frequently works in outside weather conditions. The employee at times works near moving mechanical parts, and is at times exposed to wet and/or humid conditions and vibration. The employee occasionally works in high or underground precarious places and is at times exposed to fumes or airborne particles, extreme heat or extreme cold, and the risk of electrical shock.

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

October 2019


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Appointment of Manager of Treatment and Transmission, Operations Division

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Guy Foss, Director of Western Operations
Valerie Moran, P.E., Deputy Director, Waterworks
Andrea Murphy, Director, Human Resources
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Mr. Eben Nash to the position of Manager, Treatment and Transmission, Operations Division, (Non-Union, Grade 14), at an annual salary of \$142,977.00, commencing on October 21, 2019.

DISCUSSION:

The position of Manager of Treatment and Transmission became vacant in February 2019 as a result of the promotion of the incumbent. This position is responsible for overseeing all treatment and hydraulic operations staff and process control staff responsible for delivery of water from MWRA's source reservoirs to Metropolitan Boston and the Chicopee Valley Aqueduct Systems, including the John J. Carroll Water Treatment Plant, the William A. Brutsch Water Treatment Facility, the water transmission system and reservoir transfers.

Selection Process

This position was posted internally and two candidates applied. The Deputy Director of Waterworks, the Director of Western Operations and Maintenance, and the Associate Special Assistant to Affirmative Action interviewed both candidates. Upon completion of the interview, Mr. Eben Nash was determined to be the best qualified candidate for the position based on his combination of experience, abilities, knowledge, skills and education.

Mr. Nash has over 28 years of engineering operations, and maintenance experience, including 15 years at MWRA serving in several operations and maintenance management roles. Prior to coming to MWRA, Mr. Nash spent seven years as a Field Service Manager providing predictive maintenance services to a variety of industrial customers and manufacturers. During this time, he

became well known as an expert in the field of balancing and vibration of rotating machinery in the New England area.

In 2004, Mr. Nash started at the MWRA in the position of Senior Program Manager, Western Operations, managing all western trade staff and supervisors at the Carroll Water Treatment Plant, the Norumbega Covered Storage Facility, and the Southborough and Barre facilities. During the start-up of the Carroll Water Treatment Plant, Mr. Nash was part of a rotational crew that worked in 12-hour shifts operating the plant for functional testing and for training of staff. Mr. Nash gained extensive knowledge of the plant operations from this experience,

Since 2014, Mr. Nash has held the position of Manager, Western Maintenance (Non-Union, Grade 14), where he is responsible for maintenance of MWRA's tunnels, aqueducts, treatment facilities, and hydroelectric stations. He participated in the start-up of the UV systems at the Carroll Water Treatment Facility and the Brutsch Treatment Facility. During the start-ups of these systems, Mr. Nash again participated in functional testing and training of the operations staff. This experience has furthered Mr. Nash extensive working knowledge of both treatment plants, UV systems and their overall operations. He has provided on-call coverage for Western Operations during the last 15 years, and worked closely with maintenance and plant operations staff, troubleshooting issues as they arose at the plant and along the transmission system. In addition, Mr. Nash has considerable experience managing in a unionized environment including handling staffing issues, discipline issues, grievances and the hiring and selection of employees, while working closely with Labor Relations and Human Resources staff. He is well respected by both management and staff.

Mr. Nash earned a Bachelor of Science degree in Marine Engineering from the Massachusetts Maritime Academy. He holds a Massachusetts Grade 4 D full drinking water operator license and a Massachusetts Grade 2 in-training water treatment operator license.

BUDGET/FISCAL IMPACT:

This position is included in the Operations Division's FY20 Current Expense Budget in SCC 33920 under PCR #3392021.

ATTACHMENTS:

- Resume of Eben Nash
- Position Description
- Western Operations and Maintenance Organization Chart

Eben A. Nash

Objective: To make a significant contribution to the Massachusetts Water Resources Authority in the role of Operations Manager for Western Operations

Education: Bachelor of Science in Marine Engineering, Massachusetts Maritime Academy, 1991. Currently pursuing a Master's Degree in Public Administration, Clark University

Employment History:

2014 – Present – Massachusetts Water Resources Authority – Manager, Western Maintenance Manage the maintenance program for MWRA's waters transmission and treatment systems. Provide supervision of 4 direct engineering support positions as well indirect support of over 70 maintenance personnel. Serve as the hiring manager as well as the hearing officer for step one grievances within the group. Oversee budget management for the maintenance group as periodic assessments of buildings and equipment. Member of the vehicle committee as well as the Apprenticeship working group. Provides engineering review and operations representative for various engineering and construction projects including Wachusett Aqueduct Pump Station, Marlboro Maintenance Facility, Golden Anderson Valve replacement, Hultman Aqueduct Interconnection project, Southboro Lab rehabilitation, as well as many smaller in house or contracted projects.

2004 – 2014 – Massachusetts Water Resources Authority – Senior Program Manager, Western Maintenance Responsible for the maintenance of MWRA's water transmission and treatment system including tunnels, aqueducts, treatment facilities, above ground storage tanks, hydro generation stations and administration buildings. Provide daily supervision of 65 staff members in the grounds, facility and equipment maintenance fields. Participated in the start up of Carroll Water Treatment facility Ozone and UV, shaft 5-leak repair and Shea Ave leak repair on the Chicopee Valley Aqueduct. Strong proponent of the PM optimization plan for Western Operations with a continued goal of maximizing the available maintenance staff and associated PM tasks.

1997 – 2004 Field Service Manager, Lindskog Balancing – Responsible for the daily operation of Field Service Division. Lindskog Balancing is an engineering service provider engaged in the field of mechanical repairs, vibration analysis, dynamic balancing and laser alignment. Responsibilities included the daily schedule of the technicians and engineers in the work group as well as customer relations, sales, recruiting, hiring, discipline, engineering support and report writing.

1991 – 1997 Transoceanic Cable Ship Company – Licensed Operating Engineering starting as Third assistant Engineering and working up to relief First Assistant Engineer. Responsibilities include the operations and maintenance of the ships propulsion and auxiliary cable laying equipment. As First assistant engineer, my responsibilities included the daily work assignment of the engineering department as well as insuring the equipment was properly maintained and ready for service. Also responsible for initiating

vibration based condition monitoring and computerized maintenance management system.

Certifications and Licenses:

Drinking Water Distribution Operators License 4D Full, 2T in Training

Commonwealth of Massachusetts Hoisting Engineer 3A

MWRA – Supervisory Development

Bentley University – Effective Leadership, Leading People, Team and Projects, 2017

Class D Drivers license

Certified Vibration Analyst level II

Certified Substation Technician

Incident Command Level 300/400 Trained

United States Coast Guard Chief Engineer Motor Limited Horsepower and First Assistant Engineer unlimited Horsepower (expired)

References Available upon request

**MWRA
POSITION DESCRIPTION**

POSITION: Manager, Transmission & Treatment

PCR#: 3392021

DIVISION: Operations

DEPARTMENT: Treatment & Transmission

BASIC PURPOSE:

Manages the efficient and effective 24-hour operations of MWRA's Western treatment and hydraulic water operations facilities to ensure delivery of water from the reservoirs to metropolitan Boston, while meeting permit requirements and optimizing performance. Oversees all operations and process engineering staff, and provides them with necessary resources and support. Is required to be part of an on-call rotation for emergencies 24 hours a day, 7 days a week.

SUPERVISION RECEIVED:

Works under the general supervision of the Director, Western Operations.

SUPERVISION EXERCISED:

Exercises close supervision of Senior Program Managers and other assigned managerial, supervisory, technical and operational staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees operation of the John J. Carroll Water Treatment Plant and the William A. Brutsch Water Treatment Facility.
- Oversees monitoring and control of CVA, Oakdale Power Station (West Boylston), Cosgrove Intake, and Shaft 4/E flows for adequate water supply, hydroelectric generation and flood control on a 24-hour basis.
- Oversees intake operation, source water treatment, and distribution reservoir treatment as required.
- Oversees the process engineering staff responsible for optimizing operations for proper treatment and flow control of all Transmission & Treatment Facilities. Oversees the evaluation of long-range process control needs for the water treatment and flow control.

- Works with communities in CVA, Wachusett and MetroWest service areas to ensure reliable service and resolve problems. Works with power company officials regarding hydroelectric operations.
- Coordinates with Western Maintenance Department and establishes priorities to assure successful facility operations.
- Participates in capital project design, construction and start-up to ensure effective integration of new and rehabilitated facilities.
- Oversees the establishment and updating of operational procedures in accordance with control strategies. Works with SCADA and Process Engineering staff to implement the transmission and treatment facility SCADA changes.
- Oversees personnel management and staff hiring for the department. Ensures that major initiative and policy changes are properly communicated to all staff. Identifies organizational needs and proposes re-organization plans to address changing needs.
- Oversees staff productivity monitoring and continual improvement through staff skills development, strategic planning, SOP improvements and research, and implementation of technology advances. Maximizes effective use of the Maximo maintenance software and related computer programs.
- Manages the department safety programs, maximizing employee involvement, supporting the Authority-wide safety program, and making inspections. Acts as liaison to the Manager, Occupational Safety and Health. Immediately notifies Occupational Safety and Health of any safety issues or risks that need attention.
- Oversees development, periodic review, and updating of standard operating procedures (SOPs) and Facility O&M manuals, and ensures all staff are properly trained.
- Oversees budget management for department programs. Ensures that budget resources are allocated appropriately between units. Monitors spending and ensures budget compliance.
- Establishes emergency response procedures and oversees training and practice drills.
- Ensures consistency and uniformity of work rules in accordance with established policies and procedures. Identifies needed improvements to work.
- Manages successful administration of collective bargaining agreement provisions to maintain harmonious labor management relations. Participates in grievance resolution, collective bargaining and contract negotiations. Serves as Step I hearing officer. Hears disciplinary actions.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of engineering principles and practices as normally attained through a Bachelor's degree in civil, mechanical or electrical engineering; and
- (B) Understanding of planning, supervising and implementing the operation and maintenance of all aspects of water treatment and/or water transmission as normally acquired through eight (8) to ten (10) years experience in the water industry, of which at least four (4) years must be in a management or supervisory position; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent working knowledge of the operation and maintenance of a large water treatment and transmission system.
- (B) Excellent interpersonal, written and oral communication skills.
- (C) Demonstrated ability to plan, organize, direct, train and assign duties to subordinates.
- (D) Demonstrated successful experience managing in a union environment with a diverse workforce.
- (E) Proficient in computer hardware and software including Microsoft Office Suite, databases, data presentation, and analysis tools.
- (F) Experience with SCADA systems, statistical process control, and work process continuous improvement preferred.

SPECIAL REQUIREMENTS:

Possession of a valid Massachusetts Class D Motor Vehicle Operators License.

Valid Grade 3D in training and 1T in training Drinking Water Operator licenses are required within one (1) year.

Massachusetts Pesticide Applicator (Core) License is required within one (1) year.

Registered Professional Engineer (P.E.) preferred.

Is required to be part of an on-call rotation for emergencies 24 hours a day, 7 days a week.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

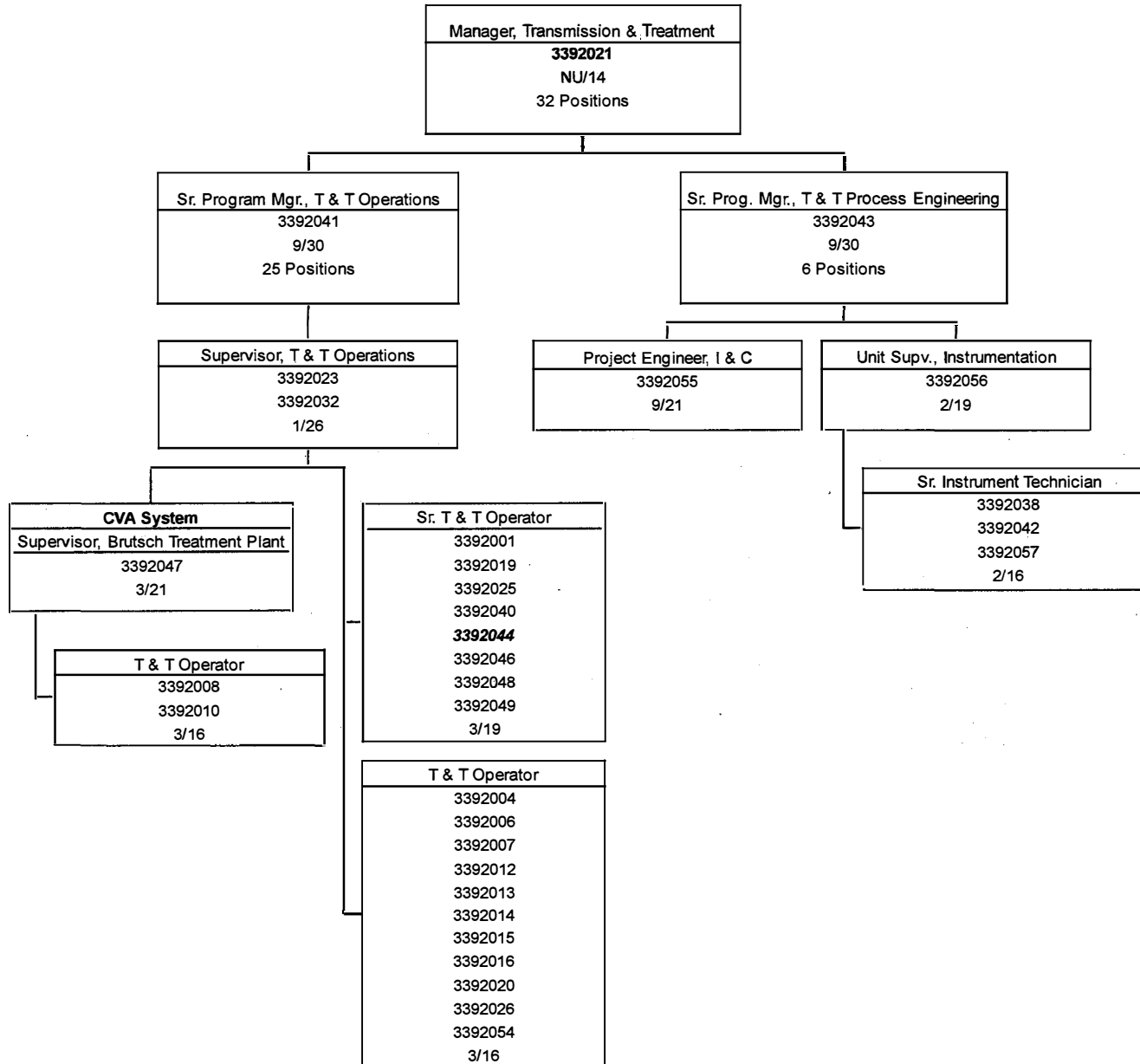
While performing the duties of this job, the employee regularly work in an office environment. The employee occasionally exposed to outdoor weather conditions. The employee is occasionally exposed to fumes and airborne particles including pesticides.

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


NU14

May 2019


Operations-Western Water O&M
Transmission & Treatment
 October 2019




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Appointment of Budget Manager, Finance Division

COMMITTEE: Personnel and Compensation


Andrea Murphy, Director Human Resources
Michael Cole, Budget Director
Preparer/Title

VOTE
 INFORMATION

Thomas J. Durkin
Director of Finance

RECOMMENDATION:

To approve the appointment of Mr. James J. Coyne to the position of Budget Manager, Finance Division (Non-Union, Grade 14) at an annual salary of \$117,300 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Budget Manager works closely with all Divisions and staff, and directs the development of the annual Current Expense Budget and Capital Improvement Program, including development and management of the budget process, formulation of recommendations for the allocation of resources to meet objectives, production of budget documents, and preparing briefings to the Board of Directors on actual results.

Selection Process

This position was posted internally. Two internal candidates applied. Both candidates were interviewed by the Director of Finance, Budget Director, and Associate Special Assistant for Affirmative Action. Upon completion of the interviews, James J. Coyne was selected as the more qualified candidate based on his combination of experience, abilities, knowledge and education.

Mr. Coyne has been employed by MWRA for the last 24 years where he has served in multiple financial roles. When he joined MWRA in 1995, he served as a Financial Analyst where he provided analytical support for the Current Expense and Capital Improvement Program Budgets. In 1997, Mr. Coyne was promoted to the position of Senior CIP Analyst where he assisted with developing, monitoring, and analyzing the Capital Improvement Plan Budget.

Since 2002, Mr. Coyne has served as the Assistant Finance Manager. In that capacity, Mr. Coyne assists with the planning, development, and maintenance of the Capital Improvement Plan Budget. His responsibilities include preparing and reviewing budget deliverables for capital projects

including staff summaries, spending and variance reports, and presentations for the Board of Directors.

Mr. Coyne has been a valuable contributor to the Budget Department. He is often called on to provide in depth analysis of CIP variances. He is an important contributor to the monthly budget update to senior management and the Board.

Mr. Coyne has a Bachelor's degree in Finance from Bentley College.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY20 CEB for this position.

ATTACHMENTS:

Mr. James J. Coyne's resume
Position Description
Rates and Budgets Department Organization Chart

James J. Coyne

EXPERIENCE:

Massachusetts Water Resources Authority
Assistant Finance Manager
Acting Assistant Finance Manager

Boston, Massachusetts
July 2002-Present
August 2000-June 2002

Assists with the planning, development, and reporting of the MWRA Capital Improvement Program including updating and producing summary reports for management. Prepare and review budget deliverables for capital projects including budget submissions and budget documents. Assists in current expense document review and submissions. Monitor and review staff summaries, review and provide variance explanations, and develop Capital Improvement Program Spending Report. Provide assistance with planning estimates, capitalization review and recommendations, and oversight and direction for Senior Financial Analyst.

Senior CIP Analyst

November 1997-July 2000

Assisted in developing, monitoring, and analyzing CIP budget requests, expenditure flow projections, variances, and issues related to projects. Prepared current expense budget requests, variance explanations and projections, and assisted with review and analysis of program objectives and performance reports.

Financial Analyst

June 1995-October 1998

Developed and monitored Current Expense Budgets for three major departments in conformance with established procedures. Developed and analyzed the CIP budgets for Wastewater Engineering & Construction department. Analyzed reasons for budget variances and provided recommendations for quarterly reallocations. Analyzed, researched, and prepared monthly CEB accruals. Prepared financial analysis including projections to support the Sewerage Division's budget. Analyzed, researched, and prepared department performance objectives.

John Hancock Financial Services
Internal Auditor, Auditing Department

Boston, Massachusetts
October 1988-June 1995

Performed audits in all areas of John Hancock Financial Services operations. Analyzed and evaluated internal controls of operating areas. Verified conformance with established policies, procedures, and regulations. Assisted external auditors at interim and year-end audits. Developed comprehensive audit programs. Prepared management reports of the results, which consisted of findings and recommendations.

Sr. Audit Analyst, Auditing Department

Nov. 1997-Sept. 1988

Analyzed policyholder's replies to audit confirmation program. Sent out verification notices to policyholders. Responded to policyholder's dividend and loan balances inquiries. Requested policyholder's documentation in search of fraudulent activities. Documented investigative reports of misappropriated funds.

EDUCATION:

Bentley College
Bachelor of Science: Major – Finance

Waltham, Massachusetts
1987

Catholic Memorial High School
Member of National Honor Society

West Roxbury, Massachusetts
1983

COMPUTER SKILLS:

Hyperion Pillar, Lawson, Microsoft Office

REFERENCES:

Furnished upon request.

**MWRA
POSITION DESCRIPTION**

POSITION: Budget Manager

PCR#: 4410011

DIVISION: Finance

DEPARTMENT: Rates and Budget

BASIC PURPOSE:

Directs development and monitoring of the MWRA's Current Expense Budget (CEB) and Capital Improvement Program and Budget (CIP).

SUPERVISION RECEIVED:

Works under the general supervision of the Budget Director.

SUPERVISION EXERCISED:

Supervises assigned budget staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs development of annual MWRA Current Expense Budget and Capital Improvement Program and Budget (CIP), including development and management of budget processes, formulation of recommendations for the allocation of resources to meet objectives, and production of proposed and final budget documents.
- As part of the CEB, coordinates development of annual performance measures and targets based on measures included in the monthly Yellow Notebook and the quarterly Orange Notebook.
- Directs CEB variance reporting and analysis, CIP project performance monitoring and reporting, and preparation of expense and revenue projections. Participates in the development of monitoring systems.
- Prepares reports on CEB and CIP performance and variances for MWRA management and the Board of Directors.
- Manages computerized, multi-module budget entry and reporting database systems (Hyperion).

- Manages relationships with external constituencies as they review MWRA's CEB and CIP.
- Manages relationships with division directors and staff in the development and monitoring of the CEB and CIP.
- Directs and supervises financial analyses on various aspects of MWRA operations.
- Participates in preparing for collective bargaining and hears Step One grievances.
- Other duties and tasks as required.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college degree in planning, accounting, business administration, or a related field. Graduate degree in related field preferred; and
- (B) Seven (7) to nine (9) years of experience in budgeting, program analysis, and management analysis, preferably in the public sector, of which at least three (3) years is in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Extensive knowledge of and experience with PC spreadsheet programs, word processing programs, model function and design, graphics applications, database development and queries, use of the Internet as a resource/research tool, and interface with other computer applications.
- (B) Knowledge of budgetary and accounting principles.
- (C) Demonstrated skills in planning, analysis, budgeting and problem solving.
- (D) Excellent oral and written communications 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 machine, and fax machine.

PHYSICAL DEMANDS:

The physical demands described 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 talk or hear. The employee is frequently required to use hands to finger, handle, or operate objects, including office equipment and controls, and reach with hands and arms. The employee is occasionally required to stand and walk.

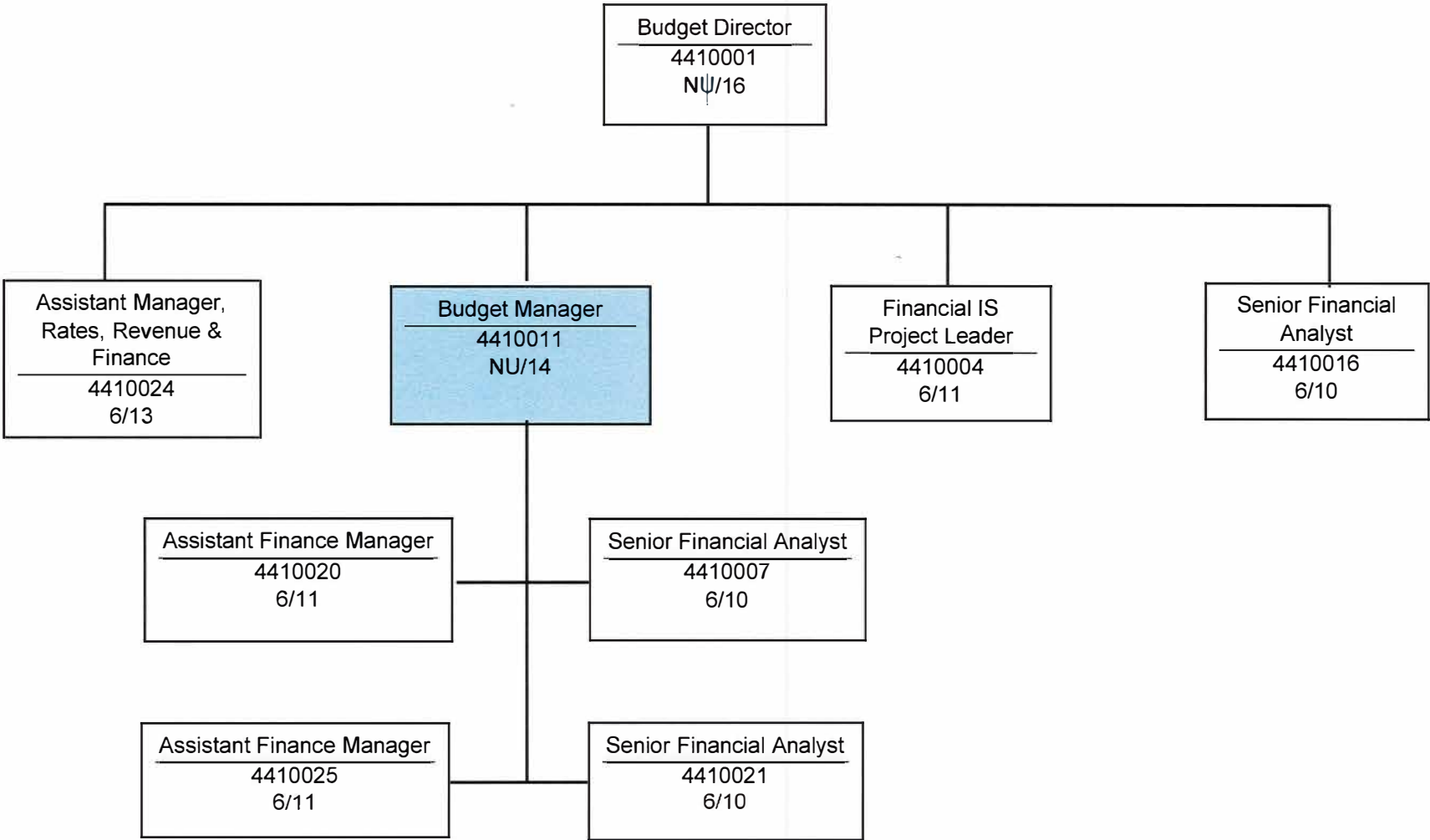
There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close vision and the ability to adjust focus.

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 moderately quiet.


**Finance Division
Rates and Budget Department
October 2019**




STAFF SUMMARY

To: Board of Directors
From: Frederick A. Laskey, Executive Director 
Date: October 16, 2019
Subject: Appointment of Senior Staff Counsel for General Litigation

COMMITTEE: Personnel & Compensation


Andrea Murphy, Director, Human Resources

Meghan L. McNamara, Assoc. General Counsel
Preparer/Title

INFORMATION
X VOTE

Carolyn Francisco Murphy
General Counsel

RECOMMENDATION:

To approve the appointment of Amy B. Hackett to the position of Senior Staff Counsel, General Litigation, Law Division (Unit 6, Grade 13) at an annual salary of \$127,481.99, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Senior Staff Counsel became vacant due to the retirement of the incumbent. The position reports to the Associate General Counsel, Litigation and is responsible for representing the MWRA in both affirmative and defensive litigation efforts by the Authority, including cases which raise a myriad of legal issues in the areas of contract, public construction, real estate and administrative law. Given the continued need for legal representation in these areas, it is necessary to fill the position vacated because of the recent retirement.

This position was posted internally and externally. Forty-five applications were received from which seven candidates were interviewed. The Director of the Affirmative Action and Compliance Unit, Associate General Counsel (Operations), and Associate General Counsel (Litigation) interviewed these candidates and unanimously selected three finalists for follow-up interviews with MWRA's General Counsel. Two of the three finalists participated in the second round of interviews; the third finalist withdrew her application.

Both finalists who were interviewed were considered strong candidates for the position, with one of the candidates having more experience in construction law. After the Board approved that candidate's appointment at the September meeting, the candidate received a promotion at his present employment and withdrew his acceptance of the position. Staff believe that the remaining finalist, Amy B. Hackett, has the requisite qualifications and experience for the position and if appointed would be a valued member of Law Division.

For the past ten years, Ms. Hackett has represented large financial institutions and companies in over 350 cases before state and federal courts throughout New England, handling all aspects of that litigation from initial case assessment, through discovery, mediation, trial and appeal. Attorney Hackett began her career as a litigation associate at Prince Lobel Tye LLP where she

co-managed the firm's consumer financial services practice and represented clients in complex civil litigation for five years. She next worked at McCarter English, LLP for four years where she continued to handle a range of complex business litigation, including construction disputes, real estate, consumer financial services, tort claims, contract and title disputes, and challenges to foreclosures. In March 2018, Attorney Hackett joined Eckert Seamans Cherin Mellott, LLC as a member partner where she has continued her practice representing financial institutions and other commercial entities, including general contractors, subcontractors, developers and property owners, in sophisticated legal disputes arising out of contract, real estate, business torts, and unfair trade practices. Throughout her career, Attorney Hackett has worked on a number of trials, drafted numerous appellate briefs and successfully argued appeals before the Massachusetts Appeals Court and First Circuit Court of Appeals.

Ms. Hackett received a Bachelor of Arts degree in 2001 from Connecticut College where she graduated summa cum laude. She then received a Master of Arts from University of Massachusetts in 2004 and her Juris Doctor from Northeastern University School of Law in 2009. She is a member in good standing of the Massachusetts Bar and Maine Bar and is admitted to practice before the state and federal courts in both jurisdictions.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY20 CEB.

ATTACHMENTS:

Resume of Amy B. Hackett
Position Description
Organizational Chart for Law Division

Amy B. Hackett

Profile	Areas of Practice	Skills
Results-oriented, business litigator with 10 years of experience representing various companies in over 350 cases in state and federal courts throughout New England from initial case assessment through mediation, trial and appeal. Selected as a <i>SuperLawyers</i> Massachusetts Rising Star in 2015, 2016, 2017, and 2018.	Consumer Financial Services Real Estate Construction Other Complex Business Litigation Represent primarily financial institutions, contractors, real estate developers and commercial property owners in cases involving contract claims, intentional torts, negligence, title disputes, violations of state and federal consumer protection laws, and unfair and deceptive trade practices.	Quickly and accurately identify legal and business issues and assess risk in threatened or pending litigation Develop early case strategy and execute, often under time pressure Manage significant case load and prioritize competing tasks Provide efficient, cost-effective resolution of claims through early dismissal or settlement

PROFESSIONAL EXPERIENCE

Eckert Seamans Cherin & Mellott, LLC | Member (Partner) | Boston, MA | March 2018-Present

- Manage and handle all litigation for nationwide-financial institution in New England and supervise associates. Dispose of majority of cases on motion to dismiss or through negotiated settlement before incurring significant legal fees.
- Assess legal and business risk and advise clients. Develop and implement cost-effective case strategy, including demanding defense and indemnity from third parties where applicable. Work closely and communicate regularly with in-house counsel. Update regularly legal tracking database. Develop, monitor, and control litigation budgets.
- Respond to pre-suit demands. Draft and respond to pleadings, requests for prejudgment relief, dispositive and discovery motions. Handle hearings. Prepare fact and corporate witnesses for testimony. Take and defend depositions. Prepare written discovery. Respond to third party subpoenas. Negotiate settlements, attend mediation and draft settlement agreements.
- Served as second chair in a jury trial in Massachusetts Superior Court involving commercial lease dispute, including all aspects of trial preparation and expert witness examinations.

McCarter & English, LLP | Litigation Associate | Boston, MA | July 2014-March 2018

- Handled independently an average caseload of over 40 matters pending throughout New England, and supported partners on other complex business litigation.
- Worked closely with in-house counsel to identify legal and business issues, managed case intake, and developed case strategy. Updated legal tracking database. Developed litigation budgets. Supervised associates.
- Handled all aspects of civil litigation, including preparing and responding to pleadings, motion practice, written and deposition discovery, responding to subpoenas, negotiating and drafting settlement agreements and attending mediation, and preparing cases for trial.
- Served as second chair in a jury trial in the U.S. District Court for the District of Massachusetts on behalf of private commercial lender, which included conducting opening statement and witness examinations.
- Drafted appellate briefs and petitions for interlocutory review and argued before the Massachusetts Appeals Court.

Prince Lobel Tye LLP | Litigation Associate | Boston, MA | August 2009-July 2014

- Handled independently an average caseload of 50 primarily consumer financial services matters pending in Massachusetts and Rhode Island. Supported partners on other complex civil litigation, including employment matters.
- Co-managed consumer financial services practice, including developing case strategy, preparing monthly case reports and litigation budgets, communicating regularly with in-house counsel, and supervising associates and law clerks.
- Handled all aspects of civil litigation, including preparing and responding to pleadings, motion practice, written and deposition discovery, responding to third party and government subpoenas, negotiating and drafting settlement agreements and attending mediation, and preparing cases for trial.
- Served as second chair at trials in Massachusetts Superior Court, Massachusetts Land Court, and the U.S. District Court for the District of Massachusetts, which included conducting opening statements, witness examinations, and closing arguments.
- Drafted over 15 appellate briefs and petitions for interlocutory review, and successfully argued before the Massachusetts Appeals Court (twice) and the First Circuit Court of Appeals.

NSCAP | Tenant-Landlord Specialist | Peabody, MA | September 2004-August 2006

- Provided case management services for families at risk of homelessness. Prepared clients for housing court and administrative hearings and advocated for clients during the process.

Zizik, LaSalle & Powers, P.C. | Paralegal | Wellesley, MA | August 2001-May 2003

- Assisted attorneys in reviewing, analyzing, and preparing documents dealing primarily with insurance defense matters.

EDUCATION

Northeastern University School of Law | Juris Doctor | Boston, MA | May 2009

Internships: Prince Lobel Tye LLP, Boston, MA; Brown Rudnick, LLP (permanent offer extended), Boston, MA; Honorable Reginald C. Lindsay, U.S. District Court for the District of Massachusetts, Boston, MA; Federal Public Defender, Boston, MA.

Honors/Activities: Teaching Assistant, Contracts; Teaching Assistant, Academic Success Program

University of Massachusetts | Master of Arts, American Studies | Boston, MA | May 2004

Connecticut College | Bachelor of Arts, Government and History | New London, CT | May 2001

Honors: Graduated *summa cum laude*, Connecticut College Winthrop Scholar, recipient of Mary Foulke Morrison Memorial Award, Phi Beta Kappa, Pi Sigma Alpha.

BAR ADMISSIONS

Massachusetts, 2009 | U.S. District Court for the District of Massachusetts, 2010 | First Circuit Court of Appeals, 2012 | Maine, 2017 | U.S. District Court for the District of Maine, 2017

REPRESENTATIVE MATTERS

- Successfully represented private commercial lender on claims for fraud and unfair and deceptive trade practices in connection with investment in a film production in the U.S. District Court for the District of Massachusetts, resulting in favorable judgment of over \$7 million.
- Represented commercial landlord in lease dispute with automobile dealership tenant at trial in Massachusetts Superior Court involving contract claims and violation of unfair and deceptive trade practices act with over \$8 million in dispute.
- Defeated action to stay arbitration of claims alleging violation of New York Prompt Payment Act in connection with \$25 million construction project on behalf of general contractor in the United States District Court for the Southern District of New York.
- Representing real estate developer in insurance coverage dispute and bad faith claims involving the collapse of buildings in Massachusetts Superior Court.
- Prevailed in the Massachusetts Appeals Court in a case involving the breach of a contract for the sale of commercial property on behalf of purchaser.
- Prevailed in the First Circuit Court of Appeals on behalf of financial institution in a case involving claims for wrongful foreclosure and violation of Massachusetts' consumer protection statute.
- Defeated summary judgment in Massachusetts Superior Court on behalf of a general contractor on claims for misrepresentation and unfair and deceptive trade practices arising out of work on a construction project and negotiated settlement on remaining claims before trial.
- Represented property owners and property preservation company in personal injury and property damage actions in Connecticut, Rhode Island, and New Hampshire Superior Courts.
- Prevailed in the Massachusetts Appeals Court on behalf of a financial institution in a case involving a claim for rescission of a loan under the Massachusetts Consumer Credit Cost Disclosure Act.
- Managed approximately 50 cases challenging mortgage foreclosures in a consolidated docket in the U.S. District Court for the District of Rhode Island, including a successful appeal to the First Circuit Court of Appeals.

**MWRA
POSITION DESCRIPTION**

POSITION: Senior Staff Counsel (General Litigation)

DIVISION: Law

DEPARTMENT: Law

BASIC PURPOSE:

Provides legal analysis, advice, and representation of the Authority as requested by the General Counsel and Associate General Counsel.

SUPERVISION RECEIVED:

Works under the general supervision of General Counsel or an Associate General Counsel as assigned.

SUPERVISION EXERCISED:

Exercises close supervision of a legal assistant and support staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Acts as litigation counsel. Represents the Authority at all stages of litigation before state and federal courts and in administrative and arbitration proceedings.
- Handles substantive and procedural legal matters in the following areas: construction, real estate, contracts, administrative, arbitration, and litigation.
- Research and determines the applicability of federal, state and local laws, regulations, and case law.
- Drafts and analyzes pleadings, motions, briefs, legal documents, claim documents, contract documents and memoranda.
- Develops and drafts rules, regulations, policies and procedures.
- Construes and applies the Authority's enabling statute and regulations.
- Analyzes and drafts legislation.

- Conducts legal research as required.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Analytical and writing skills as normally attained through a Bachelor's degree; and
- (B) J.D. from an accredited law school; and
- (C) A minimum of three (3) to six (6) years as an attorney in the field of construction, real estate, and/or contracts; and
- (D) Admittance in good standing to the bar to practice law in Massachusetts state and federal courts; or
- (E) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Understanding of construction, real estate, contracts, and/or administrative law. Experience representing clients in litigation, administrative proceedings and arbitrations. Experience drafting and analyzing legal documents, claim documents, contract documents, memoranda, legislation and regulations.
- (B) Strong analytical, research, organizational, and oral and written communications skills.

SPECIAL REQUIREMENTS:

Massachusetts Bar License. (State bar admission must be obtained as of date of hire. Federal bar admission must be obtained no later than 6 months after hire.)

A valid Massachusetts Class D Driver's License

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

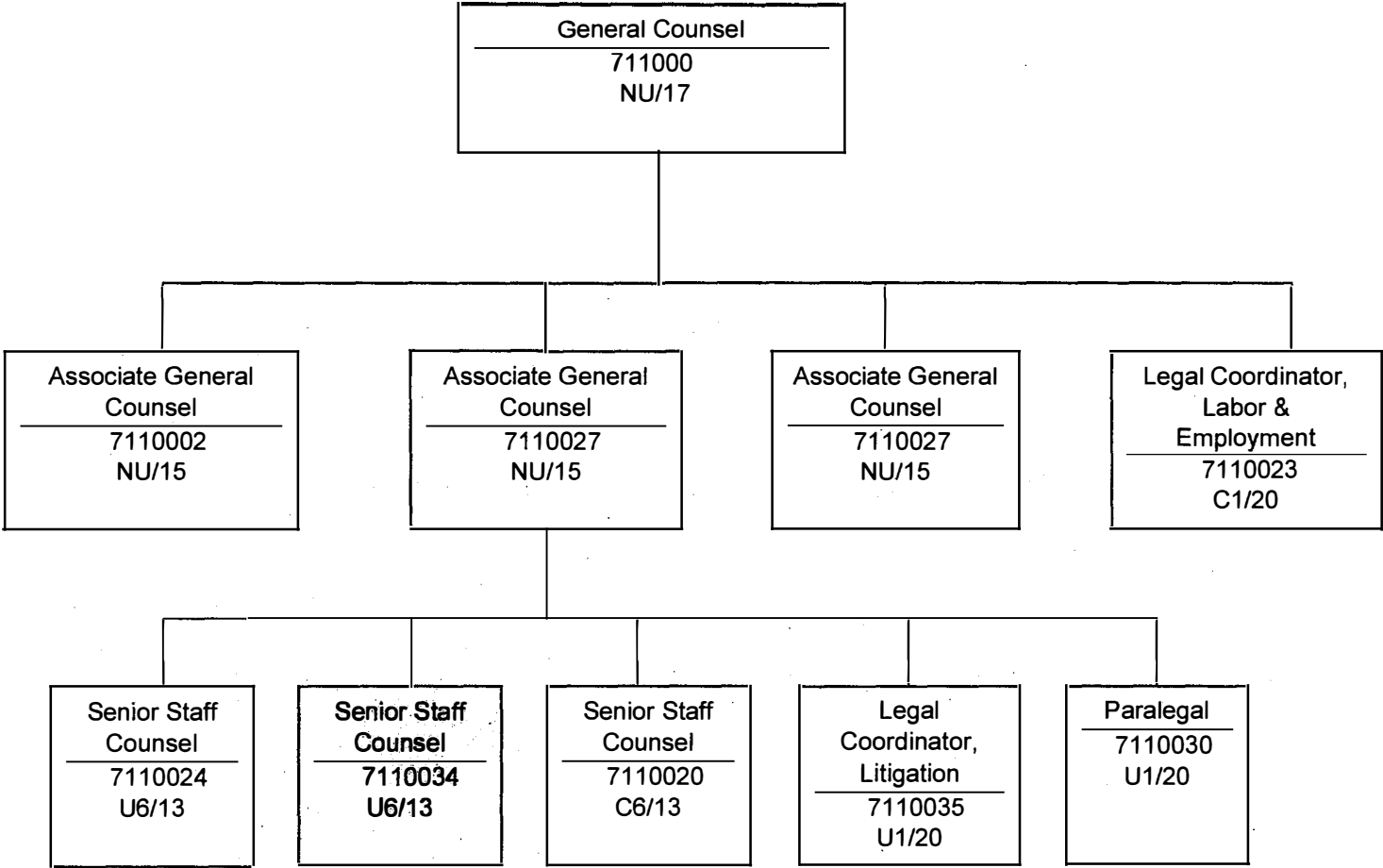
WORK ENVIRONMENT:

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


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

June 2019


**Law Division
September 2019**



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 7, 2019
SUBJECT: Appointment of IT Project Manager III, MIS Department

COMMITTEE: Personnel and Compensation


Andrea Murphy, Director, Human Resources
Paula Weadick., MIS Director
Joe Barrett, IS Custom Support Manager
Preparer/Title

 INFORMATION

 X VOTE


Michele S. Gillen
Director of Administration

RECOMMENDATION:

To approve the appointment of Renata Thomas to the position of IT Project Manager III (Unit 6, Grade 12), MIS Department, at the recommended salary of \$95,297.57 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of IT Project Manager III, is responsible for managing IT Projects across all MIS units and ensuring projects are consistently tracked and schedules are regularly updated using project management best practices. This position is vacant as a result of attrition.

The position of IT Project Manager III focuses on all IT project management components such as project time, scope, cost, resources and risk management from project initiation through completion. The wide range of IT projects to be managed by this position includes new or upgraded infrastructure implementations (Network, Telecommunications, Servers and Storage projects), new applications implementations, upgrades or enhancements as well as IT Security projects. Organizationally, the IT Project Manager III reports to the Information Systems (IS) Custom Support Manager. (See the attached organizational chart).

Selection Process

This position was posted both internally and externally. A total of 10 candidates applied, four of which were referred for an interview. One external candidate withdrew from the process prior to the interviews. The IS Custom Support Manager and the Manager, Operations Support interviewed all three candidates. Upon completion of the interviews, it was determined that Ms. Thomas was the best candidate based on her education, knowledge, skills and experience. Ms. Thomas has very strong Project Management experience. Ms. Thomas worked for the Alcoholic Beverages Control Commission for the past 6 years. During this time, she performed the Project Management

role on projects from conception to delivery through the entire Software Development Life Cycle. Her duties included project management, requirements gathering, procurement, application development, implementation, User Acceptance Testing, change management, system deployment and maintenance. Ms. Thomas's experience demonstrates an ability to manage multiple complex projects. She exhibited strong interpersonal and communication skills and has extensive analysis, training and documentation experience.

Ms. Thomas holds a Master of Business Administration from Suffolk University and a Bachelor of Science from Lesley University. In addition, she possesses a Project Management Professional Certificate from the Project Management Institute which is a preferred requirement for the position.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the MIS Department FY20 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of Renata Thomas
Position Description
Organization Chart

Professional Experience

ALCOHOLIC BEVERAGES CONTROL COMMISSION, Boston, MA

2013-present

Assistant Director / Project Manager

- Project Manager/Business Analyst/SME for a successfully delivered, new enterprise SaaS document management system (OnBase) from conception to delivery (entire SDLC), including planning, requirements gathering, procurement, building, implementation, UAT, change management, deployment, and maintenance.
- Project Manager for a successful scanning and conversion project which involved intense requirements gathering through , planning, and rule building around the capture and conversion of meta-data from over 5 million records.
- As the Project Manager / SME using Agile methodology, played a key role in stabilizing a troubled multi-million dollar, SaaS eLicensing project. Worked on entire SDLC on customized redesign and upgrade to suit business needs.
- Revised all ABCC policies in an effort to streamline processes with the Commonwealth.
- Involved in the writing of multiple agency communications (i.e. annual reports, commission advisories, instructional text, policies, applications, etc.).
- Redesigned and currently maintaining the agency website using Drupal.

NEW HAMPSHIRE TASKFORCE ON WOMEN & RECOVERY, INC., Manchester, NH

2009-2010

Executive Director

- Oversaw annual budget.
- Oversaw all agency staff, including hiring and firing of all staff, disciplinary procedures, processing payroll, fixing any issues employees had with the payroll company, benefit coverage, etc.
- Managed agency finances through QuickBooks and detailed excel spreadsheets including budget development and tracking, payroll, profit and loss, and coordination of all bill payments.
- Provided strategic and program planning, evaluation and quality improvement strategies for all agency programs.
- Prepared and facilitated meetings of the Board of Directors, stakeholders and government agencies
- Drafted speeches and presented updates/trainings/workshops to BOD and other stakeholders.
- Redesigned the company website and brochure to reflect current programs and increase marketability.

INDEPENDENT LIVING CENTER OF THE
NORTH SHORE AND CAPE ANN INC., Salem, MA

2008-2009

Fiscal Systems Manager

- Managed agency finances including, but not limited to: building and maintaining budgets, tracking all profit and loss through detailed excel spreadsheets and QB for nonprofits, and coordinating the payment of all bills.
- Ensured compliance with the Commonwealth of MA guidelines and procedures for Independent Living Centers, resulting in the securing of annual funds for continued operation.
- Utilized the Massachusetts MMARS cost reimbursement system while maintaining up-to-date, quality vendor files.

EASTERN MIDDLESEX ALCOHOLISM SERVICES, INC., Malden, MA

2002-2007

Assistant Executive Director (2005-2007)

- Acted as Executive Director in the absence of the Executive Director. Oversaw annual budget of \$433,000, and supervising staff of 15 in the daily operations of the facility.
- Coordinated with DPH in the implementation and management of the EIM / ESM / MMARS cost reimbursement system, resulting in decreased spending of 20% annually since its inception.
- Functioned as HR Generalist, maintaining company payroll, benefit services and wellness programs.
- Ensured QA levels, thus satisfying the Commonwealth of MA guidelines and procedures for recovery facilities, resulting in the securing of annual funds for continued operation.
- Oversaw the design and publication of the agency's brochure in efforts to increase marketability.

Lead Case Manager (2002-2005)

- Assumed an active role in leading group of 5 case managers while maintaining own case load of 10 clients.
- Planned, organized and facilitated no less than seven substance abuse related group sessions per week.
- Created, organized and maintained documented corporate guidelines and policies and training curriculum.

Education: MBA, Suffolk University
BS in Human Services (magna cum laude), Lesley University

Certification: PMP – Project Management Professional, Certificate # 2205736

Computer/Software: MS Office (all applications), Google Suite, Sharepoint, MS Project, JIRA, Raiser's Edge, DonorPerfect, OnBase, Accela, Drupal, Photoshop, Acrobat, InDesign, Livecycle, Dreamweaver, Quickbooks, basic HTML, Basic SQL, Pixlr, Wix, internet savvy

**MWRA
POSITION DESCRIPTION**

POSITION: IT Project Manager III

PCR#:

DIVISION: Administration

DEPARTMENT: Management Information Systems (MIS)

BASIC PURPOSE:

The IT Project Manager III supports information technology programs/projects during the full project lifecycle providing project schedule, resource and expense tracking and guidance to help ensure projects are scoped, designed and delivered on schedule and within budget. The position serves as the point-of-contact and centralized management point for all members of the project team throughout the assigned project or project phase lifecycle, interfaces with the user community, and identifies and defines all scheduling and resource risks and issues, and remediation activities.

The focus is on all project management components such as time, scope, cost, resource, and risk management from project initiation through closing phases, using standardized tools and techniques such as Gantt charts, work breakdown structures, resource loading and leveling. The position will also be actively involved with stakeholder management. In addition, the IT Project Manager III serves as the Project Management team lead and updates and maintains Project Management specific project plans and schedules with a focus on project integration.

SUPERVISION RECEIVED:

Works under the general supervision of the IS Custom Support Manager.

SUPERVISION EXERCISED:

Exercises supervision of assigned vendor resources and IT project teams as assigned.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops scope, budget and schedule for information technology programs and projects.
- Develops and manages project plan schedules/timelines, assigned resources, and associated costs.
- Optimizes scheduled activities within business and time constraints.
- Supports the preparation of analyses, estimates, and plans necessary to support the program/project approval process.
- Monitors, evaluates, and provides feedback on the status and performance of all projects.
- Attends meetings with project team to assess status and resolve issues as they come up.

- Communicates orally and in writing to IT Management throughout all phases of a program or project as appropriate.
- Develops and maintains Project Management functional unit's business continuity documentation as appropriate.
- Plans, schedules and leads project team review meetings as required.
- Monitors compliance with project management standards, policies, procedures and templates.
- Develops and manages project policies, procedures, templates and other shared documentation.
- Documents and communicates risks, issues and changes with stakeholders.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in management science, engineering management, computer science or related field; and
- (B) Five (5) to seven (7) years experience in time, scope, cost, resource, and risk management from project initiation through closing phases, using standardized tools and techniques such as Gantt charts, work breakdown structures, resource loading and leveling; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Formal training or certification on methodologies/frameworks for project management, business systems analysis, software development and IT Service Management such as:
 - Rapid Application Development SDLC methodologies such as Agile.
 - Business Systems Analysis concepts and tools
- (B) Analytical and interpersonal skills;
- (C) Written and oral communication skills;
- D) Knowledge of the following is desirable: MS Project, MS Visio, MS.Net, J2EE, Crystal Reporting, ORACLE, SQL Server and PL/SQL.

SPECIAL REQUIREMENTS:

- A) Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 12 months.
- B) Master Project Management (MPM) Certification is required or the ability to obtain within 12 months.

PREFERRED CREDENTIALS:

Project Management Body of Knowledge (PMBOK), Certified Associate in Project Management (CAPM), or Project Management Professional (PMP).

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 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 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, and the ability to adjust focus.

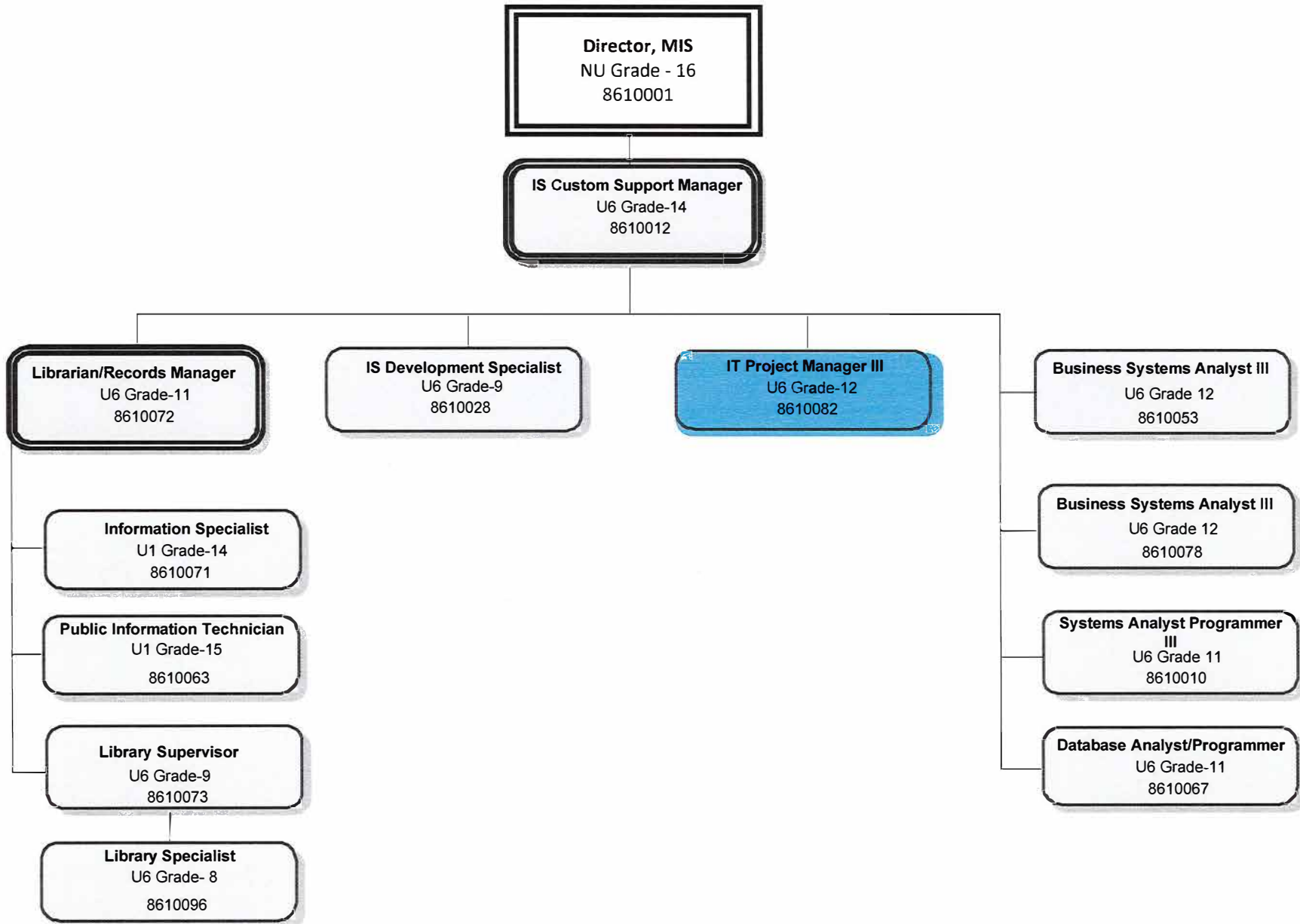
WORK ENVIRONMENT:

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 occasionally works in various field settings and in an office environment. The employee regularly works near moving mechanical parts, and is occasionally exposed to risk of vibration.

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

Administration
MIS Department
October 2019





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

Wednesday, October 16, 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. Delegated Authority Report – September, 2019
2. Update on MWRA's Integrated Financial, Procurement and Human Resources/Payroll Management System
3. Update on DCR Department of Water Supply Protection Projects Undertaken by MWRA
4. FY2020 Financial Update and Summary as of September 2019

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

September 18, 2019

A meeting of the Administration, Finance and Audit Committee was held on September 18, 2019 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Cook, Cotter, Flanagan, Foti, Peña and Walsh. Messrs. Carroll and Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Thomas Durkin, Michele Gillen, Brian Rozowsky, Cheryl King, Godfrey Ezeigwe, Denise Breiteneicher, Stephen Estes-Smargiassi, Douglas Rice, Matthew Horan, Michael Cole, Charles Fino, Andrea Murphy, Emily Dallman and Kristin MacDougall. The meeting was called to order at 11:17 a.m.

Information

Internal Audit Department Activities Report – FY2019

Staff made a verbal presentation. There was brief discussion and questions and answers. (Ms. Wolowicz briefly left and returned to the meeting during discussion.) (ref. AF&A A.1)

FY2016-FY2020 Strategic Business Plan: Annual Update for FY2019

Staff made a verbal presentation. Mr. Vitale complimented staff on the quality of the report. There were questions and answers. (ref. AF&A A.2)

Fourth Quarter FY2019 Orange Notebook

Staff made a presentation (Messrs. Cotter and Peña briefly left and returned to the meeting during the presentation.) There was discussion and questions and answers. (ref. AF&A A.3)

Delegated Authority Report – July and August 2019

There were questions and answers. (ref. AF&A A.4)

FY19 Year-End Capital Improvement Program Spending Report

Staff made a presentation. There was discussion and questions and answers.
(ref. AF&A A.5)

FY19 Year-End Capital Improvement Program Spending Report

Staff made a verbal presentation. There was brief discussion. (ref. AF&A A.6)

Approvals

*** Bond Defeasance of Future Debt Service**

Staff made a verbal presentation. (Mr. Cook left the meeting during the presentation.)

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

*** Approval of the Eighty-First Supplemental Resolution**

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

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

Contract Awards

*** Purchase of Vehicles: Liberty Chevrolet, Inc. and Colonial Ford, Inc., Bid WRA-4726**

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

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

Contract Amendments/Change Orders

*** Dental Insurance: Delta Dental of Massachusetts, Contract A613, Amendment 2**

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

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

The meeting adjourned at 12:13 p.m.

* Committee recommendation approved by the Board on September 18, 2019.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: Delegated Authority Report – September 2019




COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


Michele S. Gillen
Director, Administration

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

Douglas J. Rice 
Director of Procurement

RECOMMENDATION:

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

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	09/10/19	FIRE ALARM SYSTEM SERVICE METRO BOSTON FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: ON-SITE TESTING, EMERGENCY AND NON-EMERGENCY REPAIRS, AUTHORIZED MANUFACTURER'S REPRESENTATIVE SERVICES, REPLACEMENT PARTS AND RENTAL EQUIPMENT.	OP-334	2	SULLIVAN & MC LAUGHLIN COMPANIES, INC.	(\$45,954.16)
C-2.	09/10/19	DIESEL GENERATOR MAINTENANCE JOHN J. CARROLL WATER TREATMENT PLANT INCREASE BID ALLOWANCE FOR REPLACEMENT PARTS, PRIMARILY FOR REPLACEMENT OF FUEL INJECTORS ON THE 2935 HP DIESEL ENGINES.	OP-364	1	KNM HOLDINGS, LLC d/b/a AUTHORIZED SERVICES OF NEW ENGLAND	\$50,000.00
C-3.	09/10/19	CHELSEA CREEK HEADWORKS UPGRADE FURNISH AND INSTALL ADDITIONAL FORMWORK, CONCRETE AND REINFORCING STEEL FOR ODOR CONTROL EQUIPMENT FOUNDATIONS; PROVIDE POWER, SMOKE DETECTORS AND GFCI SERVICE RECEPTACLES FOR OUTDOOR HVAC EQUIPMENT; FURNISH AND INSTALL REVISED DUCT, DAMPERS AND CONTROLS FOR AIR COMPRESSOR; FURNISH AND INSTALL AUTOMATIC DRAIN VALVES ON THE AIR RECEIVERS WITH AIR AND DRAIN PIPING CONNECTIONS.	7161	31	BHD/BEC 2015, A JOINT VENTURE	\$164,177.00
C-4.	09/30/19	CONTINUOUS EMISSIONS MONITORING SYSTEM SERVICES DEER ISLAND TREATMENT PLANT AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR CONTINUOUS EMISSIONS MONITORING SYSTEM SERVICES AT THE DEER ISLAND TREATMENT PLANT FOR A TERM OF 730 CALENDAR DAYS.	S584	AWARD	CK ENVIRONMENTAL, INC.	\$106,921.00

PURCHASING DELEGATED AUTHORITY ITEMS SEPTEMBER 1-30, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	09/06/19	REBUILDING OF MUFFIN MONSTER GRINDERS AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE REBUILDING OF MUFFIN MONSTER GRINDERS AT THE QUINCY, NEW NEPONSET AND HINGHAM PUMP STATIONS			JWC ENVIRONMENTAL	\$94,594.07
P-2	09/10/19	SUPPLY AND DELIVERY OF BIODIESEL FUEL AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ENE47 FOR THE SUPPLY AND DELIVERY OF BIODIESEL FUEL FOR THE CHELSEA FACILITY.			DENNIS K. BURKE, INC.	\$200,000.00
P-3	09/12/19	SUPPLY AND DELIVERY OF AQUA AMMONIA AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF AQUA AMMONIA TO JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-4730		BORDEN & REMINGTON CORP.	\$177,681.60
P-4	09/17/19	PERKIN ELMER INSTRUMENT PREVENTIVE AND CORRECTIVE MAINTENANCE AWARD OF A THREE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER TO PROVIDE PERKIN ELMER INSTRUMENT PREVENTIVE AND CORRECTIVE MAINTENANCE FOR THE DEER ISLAND LABORATORY.	WRA-4725		ELECTRONIC RISKS CONSULTANTS, INC.	\$202,500.00
P-5	09/24/19	SUPPLY AND DELIVERY OF SUB BASE GRAVEL BURROW (STATE MIX) AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SUB BASE GRAVEL BURROW FOR BACKFILL OF EXCAVATIONS.	WRA-4736Q		MARIO SUSI AND SON, INC.	\$25,335.00
P-6	09/24/19	MAINTENANCE AND SUPPORT FOR THE LABORATORY INFORMATION MANAGEMENT SYSTEM AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR THE LABORATORY INFORMATION MANAGEMENT SYTEM.			LABWARE, INC.	\$66,326.43
P-7	09/24/19	PURCHASE OF REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4727		CORROSION PRODUCTS & EQUIPMENT, INC.	\$86,088.00
P-8	09/24/19	SUPPLY AND DELIVERY OF FERRIC CHLORIDE AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF FERRIC CHLORIDE TO THE CLINTON WASTEWATER TREATMENT PLANT FOR PHOSPHORUS REMOVAL.	WRA-4743		BORDEN & REMINGTON CORP.	\$89,496.00
P-9	09/24/19	MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR THE PRETREATMENT INFORMATION MANAGEMENT SYSTEM.			INFLECTION POINT SOLUTIONS, LLC	\$115,000.00
P-10	09/24/19	SUPPLY AND DELIVERY OF HYDROFLUOROSILICIC ACID AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF HYDROFLUOROSILICIC ACID TO THE JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-4729		PENCCO, INC.	\$345,638.92
P-11	09/30/19	TEMPORARY FLOW MONITORING AND DATA COLLECTION AWARD OF OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TEMPORARY FLOW MONITORING AND DATA COLLECTION AT VARIOUS MWRA WASTEWATER SITES.	WRA-4742		ADS, LLC	\$174,920.00


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Update on MWRA's Integrated Financial, Procurement and Human Resources/Payroll Management System

COMMITTEE: Administration, Finance, & Audit

X INFORMATION
 VOTE

Paula Weadick, Director of MIS
Giri Narayanan, Manager, App. & Sys. Development
Keith Swan, MIS, Program Manager
Preparer/Title


Michele S. Gillen
Director of Administration

RECOMMENDATION:

For information only. This staff summary provides an update on MWRA's Integrated Financial, Procurement and Human Resources/Payroll Management System (Infor, formerly Lawson).

BACKGROUND:

In 1999, the Board of Directors approved the purchase and installation of Infor/Lawson software to manage its financial and procurement systems. Over time, additional modules, including a comprehensive human resources application, were added. Together these modules form the core of MWRA's financial, procurement and human resources management systems. MWRA is now on Infor/Lawson version 9.0.1.7. This version is covered under what Infor/Lawson refers to as "legacy maintenance" and is several versions behind the latest release by Infor/Lawson. Legacy maintenance provides access to the Infor/Lawson support portal and documentation, remote diagnosis, priority case queuing, email notifications and pre-existing software bug fixes. Infor/Lawson's maintenance policy indicates that a 20% premium may be applied to legacy maintenance contracts at the discretion of Infor/Lawson and that they will notify their customer of the premium 12 months prior to the May 31st annual maintenance renewal date.

DISCUSSION:

In the past, staff have discussed with the Board whether it is best to upgrade the current system or replace it with a new one. In August 2019, MWRA engaged Gartner, Inc. to conduct a thorough technical and functional analysis of MWRA's current Infor/Lawson system to determine the appropriate next steps to upgrade or replace. Gartner, Inc. is the world's leading information technology research and advisory company headquartered in Stamford, Connecticut. Gartner's in-depth independent analysis recommends upgrading MWRA's Infor/Lawson system to version 11. Gartner used their industry leading knowledge and processes to evaluate four unique options to address the challenges the MWRA faces with the current legacy Infor/Lawson system. Gartner evaluated the options based on cost, business capabilities and vendor strategic strategy. Gartner

recommends that the MWRA should leverage its existing investment with Infor/Lawson for an on premise software solution that will support and enhance MWRA's business requirements for the next decade. MIS staff presented to MWRA's Finance, Procurement and Human Resources groups the recommendation to upgrade with estimated costs. Staff believe upgrading the existing system will provide MWRA with improved functionality and long-term vendor support at the lowest cost.

The recommendation to upgrade rather than replace is for the following reasons:

1. A full replacement is estimated to cost close to \$35.0 million, while upgrading to the current version of Infor/Lawson is estimated to cost approximately \$5 million over four fiscal years.
2. Switching software vendors would result in little, if any, improved functionality. Since the major vendors for these systems support the same common business functionalities in multiple vertical markets, switching vendors for incremental functionality improvements is not typically considered an economical option. Infor/Lawson is re-writing applications from the ground up which allows obsolete business processes or legacy code to be eliminated, and industry best practices, security and mobile workforce standards to be incorporated in the initial design and not added on later.
3. MWRA has deep institutional knowledge among both users and IT staff. The Infor/Lawson suite was first implemented at MWRA in 2000. Infor/Lawson system users and MIS staff have been using and supporting the system for over 18 years. The learning curves for system users and MIS staff would be significantly longer moving to a different system.
4. Infor/Lawson remains one of the top providers of these systems worldwide and ranks as one of the top three providers based on revenue and is the leader in market share growth.

Upgrading would provide the following benefits:

- An updated and supported system could eliminate maintenance surcharges up to 20%. The maintenance fee for FY20 is \$452,792.57. The surcharge could be as much as \$90,000.
- Elimination of customizations with new functionality built into the newer versions making future upgrades simpler and more automatic. Currently with each upgrade, customizations need to be rewritten to work with the new version of the system.
- New functionality to improve efficiency and effectiveness of process and staff.

The cost of the upgrades for Infor/Lawson and related third-party applications is estimated to be \$5.0 million over a four-year time frame. The table below summarizes the Infor/Lawson application modules to be upgraded.

Finance and Payroll	Procurement	Human Resources
<ul style="list-style-type: none"> • General Ledger • Cash Book • Accounts Payable Invoice Matching • Activities • Accounts Receivable • Billing • Payroll 	<ul style="list-style-type: none"> • Inventory • Asset Management • Warehouse Management • Purchase Orders • Requisitions • Mobile Supply Chain Management • Materials Management • Contract Management • Strategic Sourcing • Supplier Portal 	<ul style="list-style-type: none"> • Benefits • Personnel • Employee Self Service • Time Entry

The next step is for staff to conduct the necessary competitive RFQ/P processes to upgrade all Infor/Lawson system applications listed in the table above and return to the Board for approval of the upgrade contract in Q4 FY2020.

BUDGET/FISCAL IMPACTS:

The total costs of the upgrades are estimated at \$5,000,000 and are or will be budgeted as follows:

Fiscal Year	CIP
FY2021	\$2,000,000.00
FY2022	\$1,000,000.00
FY2023	\$1,000,000.00
FY2024	\$1,000,000.00
Total	\$5,000,000.00

ATTACHMENT:

- 1) Gartner Executive summary

Gartner Recommendation

MWRA is at a crossroads with their current Lawson deployment and will need to evaluate future options

Option 3

Upgrade to Infor CloudSuite ERP solution for Public Sector (version 11) with an on-premise deployment



The latest ERP solution from Lawson has added hundreds of new features embedded to advance functionality to HR, payroll, financial & supply chain

Option 2

Upgrade to a newer version of Lawson (version 10) from Lawson 9.0.1 with an on-premise deployment



The system will be current / on maintenance and will allow MWRA to take advantage of new product capabilities in a newer version and others as soon as they are released

Option 4

Upgrade to a new ERP solution from another vendor in the market



Viable vendors can be found in the market scan analysis that can meet some or all of MWRA's ERP solution needs

Option 1

Infor's Lawson 9.0.1 is currently out of mainstream maintenance will be completely out of maintenance by 2021



System has been highly customized for MWRA over the course of nearly 20 years and there could be the potential option to continue with 9.0.1

Gartner Recommendation and Key Steps

Gartner believes Option 3, an upgrade to Infor CloudSuite ERP on-premise would be the best solution for MWRA

ERP back office modernization **A**

- MWRA should invest in a new solution and take advantage of all the latest capabilities a modern ERP can offer
- Current Lawson solution is currently limiting the ability of MWRA employees to execute their work efficiently (see the BCM Maturity model)

Prepare for Cloud **C**

- Understanding MWRA is not ready for a cloud solution, Gartner suggests to start investing in internal initiative to enable Cloud readiness and take full advantage of the Cloud efficiencies in the future
- With a shift to cloud in the future, this could be a good opportunity to retool the talent within the department to align to the technology needed for the future



Gartner recommends to focus on **four key steps** to drive improvements



B Investigate Infor CloudSuite (on-prem) capabilities

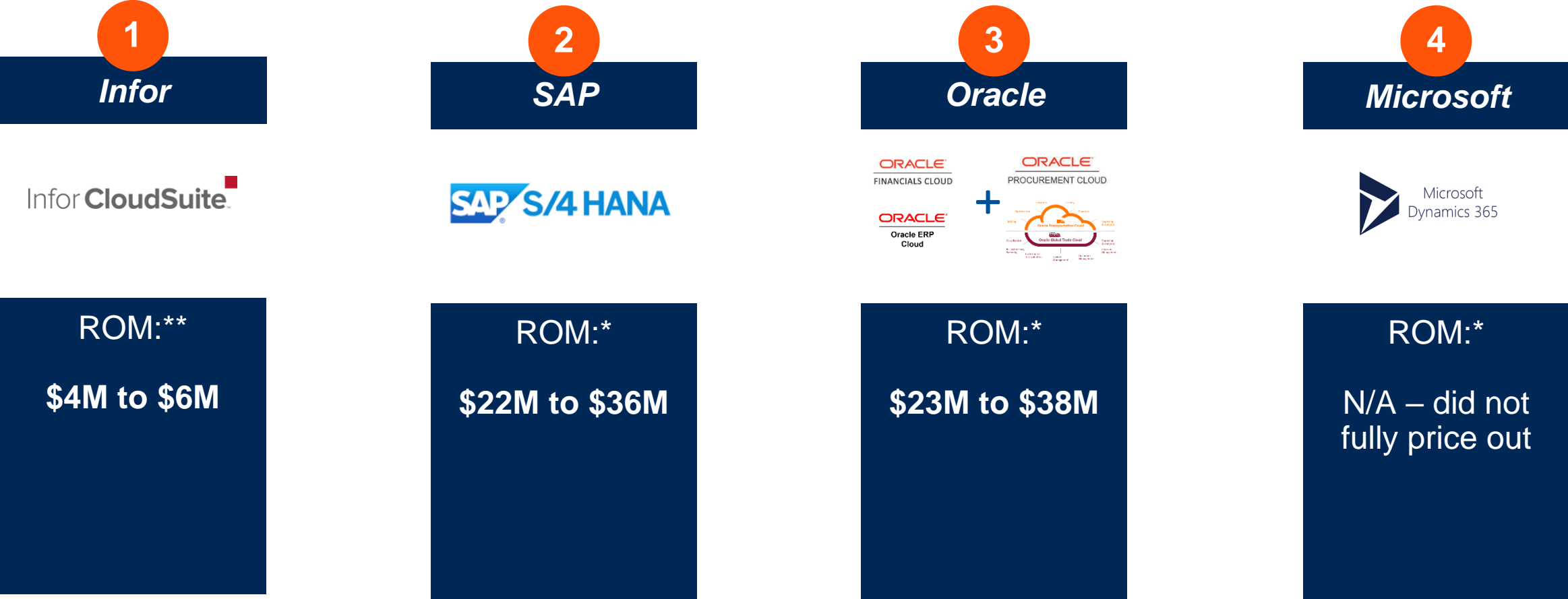
- Upgrading to Lawson version 10 will put MWRA potentially in the same situation they are today in the new few years (Lawson v10 is set to be out of maintenance in the close future)
- Infor CloudSuite (v11 - offered on-prem) offers a comprehensive public sector solution and will fulfill the MWRA need to mature several of their main capabilities

D Release an official RFP for price negotiation

- MWRA should release an RFP for only on-prem solutions
- Use the RFP as an opportunity to test the market and see if there are any other potential offerings (in addition to Infor ERP CloudSuite)
- A thorough RFP process should help MWRA to prompt Infor to a competitive proposal

ERP License Indicative Cost Comparison Summary


ERP Vendors Total Cost of Ownership



* The costs are indicative and should only be used for the purpose of guiding further more detailed analysis and modelling. The range may vary depending on the packaging as per functional capability


** Infor cost estimate is only related to the upgrade to full v11 capabilities. For the upgrade of the other modules, MWRA can take advantage of their existing perpetual licensing

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Update on DCR Department of Water Supply Protection Projects Undertaken by MWRA


COMMITTEE: Administration, Finance & Audit

X INFORMATION
 VOTE


Michele S. Gillen
Director of Administration


Thomas J. Durkin
Director of Finance

Douglas J. Rice, Director of Procurement
John P. Colbert P.E., Chief Engineer
Preparer/Title


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

The MWRA assumes all the cost of the operation of the Department of Conservation and Recreation Division of Watershed Protection (DCR), which manages the watersheds. This includes the purchase of open space land for the protection of the water supply. Under an MOA with DCR, MWRA is also responsible for improvements to the major dams in the water system. MWRA has spent over \$20 million on major upgrades to the various dams and dikes, including Windsor, Goodnough and Wachusett. Over the years, the MWRA has also funded a number of small to medium size projects out of the watershed CEB to protect or improve the DCR infrastructure, like the repaving of roads or the installation of culverts. There remains, however, a number of major structures and projects, including the historic Quabbin Administration Building, maintenance facility, and the Quabbin Cemetery that are in disrepair and in need of a substantial investment, requiring funding beyond the operating budget. This staff summary outlines a list of these projects that are organized in a newly established multi-year capital budget. These projects will be designed, constructed and funded by MWRA.

RECOMMENDATION:

For information only.

DISCUSSION:

The Department of Conservation and Recreation (DCR) is in need of several upgrades to buildings and facilities at the watersheds that are functionally obsolete and structurally deficient. MWRA's current year CIP and CEB have sufficient amounts budgeted for these projects. As the FY21 Proposed CIP and CEB Budgets are developed, these projects will be reevaluated for timing and amounts. Staff have received additional proposed CIP projects from the DCR Water Supply

Protection Division Office of Watershed Management and are reviewing the submittal for inclusion in the Proposed FY21 CIP. The following tables detail the amounts and timing of the projects, which are described in greater detail below.

FY2020 Capital Improvement Program Budget				
	Contract #	Notice to Proceed	Substantial Completion	Total Contract Amount
Quabbin Admin Bldg. Rehab				
QAB Concept Design Report	7569	Oct-20	Oct-21	\$200,000
Quabbin Admin Bldg. Rehab Des CA\RI	7564	Mar-22	Mar-27	\$2,800,000
Quabbin Admin Bldg. Rehab Construction	7565	Mar-24	Mar-26	\$12,000,000
Maintenance Building				
Maintenance Garage/Wash Bay/Storage Bldg. Design/CA/RI	7677	Oct-19	Oct-23	\$1,000,000
Maintenance Garage/Wash Bay/Storage Bldg. Construction	7577	Oct-20	Oct-22	\$3,900,000
River Rd Improvement -Wachusett <i>(funded from FY19 Watershed Protection budget surplus)</i>	7701	Oct-20	Oct-21	\$2,000,000
Land Acquisition	7069	Apr-06	Jun-23	\$29,000,000
Dam Improvements				
Dam Permits	7346	Jul-18	Dec-21	\$1,000
Quinapoxet Dam Removal - Design/ESDC/RI	7347	Jul-20	Dec-23	\$200,000 *
Quinapoxet Dam Removal - Construction	7348	Jul-21	Dec-22	\$600,000
Quinapoxet Dam Removal REI	7690	Jul-21	Feb-23	\$100,000 *
Sudbury/Foss Dam Design/CA/RI	7614	Mar-19	Jun-23	\$432,029
Sudbury/Foss Dam Construction	7615	Jul-20	Jun-22	\$1,600,000

*Contract 7347 was awarded at the September BOD meeting for a value of \$425,442 for the Quinapoxett Dam Removal Design Contract. The estimated construction value for this work is \$1,200,000.

FY2020 Current Expense Budget	
	Amount
Watershed Protection Indirect Expense	
Clinton Crew Headquarters	\$1,100,000
Quabbin/Ware road and drainage reconstruction	\$125,000
Quabbin Admin Building interim roof repairs	\$105,000
Quabbin Admin Building interim water system corrosion control	\$150,000
New Salem restoration (gas tank & garage design)	\$75,000
Maintenance Budget	
Quabbin Park Cemetery water spigot / irrigation	\$15,000
Quabbin Park Cemetery lead abatement	\$45,000

Maintenance Building

DCR has proposed building a new Maintenance Building at the Quabbin Reservoir to replace an existing facility that is currently housed in the West Garage at the main Quabbin Administration Building complex. After investigating the current maintenance facility, staff determined that considerable investment would be required to stabilize the deteriorating conditions and to repair the structural deficiencies. However, investments to repair the existing facility would not be enough to overcome the space constraints, operational limitations and building shortcomings that severely limit the effectiveness of the DCR fleet maintenance program. A rendering of the proposed maintenance building is below.



Figure 1: Maintenance Building Conceptual Design

A new maintenance facility is intended to provide up to 10,994 square feet of gross floor area to house and support vehicle fleet maintenance staff and equipment. The new space would accommodate oversized vehicles and heavy equipment, includes provisions for a vehicle wash bay, and offers the space necessary to support staff and equipment needs. Moreover, the facility would offer working conditions that improve safety, efficiency and operational capability.

The Authority has agreed to procure and manage both the design and construction services for the Maintenance Building on behalf of DCR. The Massachusetts Designer Selection Board (DSB) is responsible for the qualification-based selection of designers for state building projects undertaken by public agencies and as such, DCR is required to utilize the DSB process.¹ The DSB utilizes an advertised competitive process to solicit applications from designers to perform the design services requested. In response to the advertisement, designers submit applications to the DSB and the DSB screens applications for completeness, and forwards copies to the public agency. The DSB then ranks finalists based on pre-determined criteria, at which point the public agency can begin negotiations on cost with the first ranked firm.

For the proposed Maintenance Building project, it is anticipated that once the Authority reaches an agreement on all contractual terms, including a negotiated cost proposal, with the DSB ranked firm, a staff summary will be presented to the MWRA Board of Directors for approval. Like typical award staff summaries, this will include the details of the DSB's selection, a summary of the cost proposal, and request for award. This procurement process comports with the MWRA Procedures for Procurement of Professional Services for design services that are not exempt from the Designer Selection statute.

¹ The Authority's projects typically fall outside of the jurisdiction of the DSB because the Authority's building projects are generally "appurtenant" to and required to be constructed as an "integral" part of the development of its water and sewer system. These projects are statutorily exempt from the DSB process. Since the DCR Maintenance Building is not "appurtenant" to and required to be constructed as an "integral" part of the development of the Authority's water and sewer system, the MWRA, on behalf of DCR, is required by statute to seek the assistance of the DSB to select the designer for this project.

Administration Building

The Quabbin Administration Building supports DCR, Massachusetts State Police and MWRA lab employees and provides recreational opportunities and services to more than 500,000 visitors annually to the reservoir. The building was constructed in 1938 and many of the original system controls are still operational. One of the more pressing needs is the rehabilitation of critically important utilities and support systems that both distribute power and water throughout the facility. Most of these system components are exhibiting signs of deterioration (e.g. wiring, plumbing, heating) and preemptive actions are necessary to avoid catastrophic failures. A photograph of the building is below.



Figure 2: Quabbin Administration Building

A significant investment of capital into the restoration of the facility will also trigger necessary upgrades to satisfy today's more stringent standards for universal access, public safety and occupational standards. Examples of Building Code upgrades include added environmental safeguards for occupational safety (e.g. ventilation and hazard abatements), installation of fire alarms and expanded fire protection systems, universally accessible access routes to and from the building and special accommodations (e.g. elevator, public restrooms).

Additionally, mechanical control systems for the distribution of steam are very old, antiquated systems that need modernization to ensure continued reliable operation. The following building components do not satisfy current building code requirements and require upgrades:

- Electrical - retrofits /replacement of the main electrical panel and upgrade of power supply feeds to distribution areas including garage facilities and office areas. Upgrade of wiring, service feeds and power supply to Vehicle Parking and Maintenance garages.
- Structural - repair of exterior shell and structural supports including roofing, exterior masonry, chimneys and gutters. Install energy efficient replacement windows and upgrade doors for security and public safety/universal access reasons. Restore or retrofit hangar overhead door system including pulley and weight system.
- Heating and Cooling Systems - Installation of new HVAC distribution controls and cooling system. Provide replacement steam traps, upgrade condensate return system and oil/wood conveyance systems.
- Water Supply System - Install and develop a new water supply system. The DCR has received an Administrative Consent Order from MassDEP indicating that the existing well is not compliant with current Public Water supply standards and must be resolved within 2-3 years. DCR has initiated a study with Tighe and Bond to determine the optimal water supply alternatives. This study evaluated installation of a new well, withdrawal from the

Quabbin Reservoir with membrane filtration treatment, and connecting to the Belchertown water supply system. The costs for these alternatives range from \$1.25 to \$4.27 million.

- Septic System - Upgrade / retrofit or expand current septic system to satisfy MA DEP limits on daily discharges to the ground. Incorporate additional treatment and safeguards for wastewater flows discharged from the MWRA laboratory.
- Lead Paint and Asbestos Abatement - Install systems to meet today's occupational standards for ventilation and safety. Address abatement work for lead paint and asbestos containing material that exists throughout the building.

MWRA, on behalf of DCR, will procure a designer to conduct a study of the facility for review and certification by DCAMM. Once certified by DCAMM, the information contained in the certified study will serve as a basis in the preparation of the project's Final Design.

Quabbin Park Cemetery

The Quabbin Park Cemetery was developed between 1931 and 1932 by the Metropolitan District Water Supply Commission as part of the Quabbin Reservoir Project to receive the remains of over 6,600 graves removed from 34 cemeteries originally located on land purchased for the Quabbin Reservoir. Along with graves, the commission moved War Memorials and markers from the former Swift River Valley towns of Dana, Enfield, Greenwich, and Prescott to the Quabbin Park Cemetery. This site was developed on 82 acres of former farmland and woodlands south of Route 9 in Ware on land that is just outside the Quabbin Reservoir watershed. It is still an active cemetery, but purchase of burial lots is restricted to former residents of the four towns, their direct descendants, or employees and former employees of MDC and DCR. A presentation on the condition of the facilities was made to the Board of Directors on September 18, 2019. A photograph of the administration building at the Quabbin Park Cemetery is below.

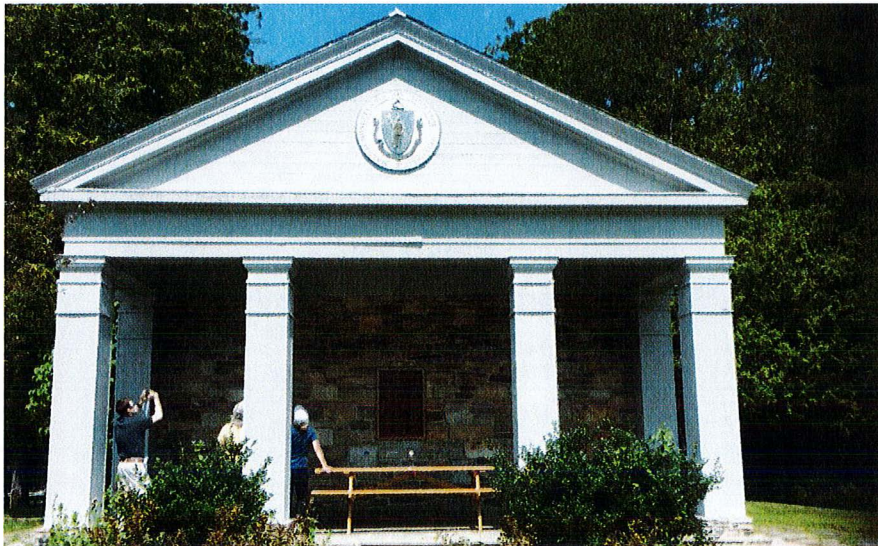


Figure 3: Quabbin Park Cemetery Administration Building

Original structures at the cemetery include an office/administration building (memorial portico), maintenance garage, well pump house, storage shed, and concrete receiving vault. Only the vault and maintenance garage are actively used. The well pump house and storage shed are used for some minimal storage. Since the original development of Quabbin Park Cemetery, these buildings have

deteriorated over time. Numerous upgrades are recommended for the office/administration building and maintenance garage, whereas building demolition of the well pump house and storage shed are recommended.

MWRA is procuring a contractor to drill a well in the cemetery shortly and then will procure a contractor to install piping to several watering connections points to be available next spring.

The Authority has agreed to procure the lead abatement services for the exteriors of the administration building and maintenance garage and demolition of the well house and storage shed. The DCR will be responsible for the upgrades to the administration building and maintenance garage.

Other Capital Expenditures

The projects described above are in addition to the capital expenditures MWRA has been making in coordination with the DCR Water Supply Protection Division's Office of Watershed Management and the Water Supply Protection Trust. MWRA's Capital Improvement Program (CIP) includes funding for watershed land acquisition and dam improvements. Under the revised Memorandum of Understanding between MWRA and DCR, executed April 2004, MWRA will utilize its own bond issuances for the purpose of acquiring, in the name of the Commonwealth, parcels of real estate or interests in real estate and dam improvements for the purpose of watershed protection. The FY2020 CIP includes funding for the Sudbury and Foss reservoir repairs as well as the Quinapoxet dam removal project.

The FY2020 CIP also includes funding for the River Road improvements at the Wachusett Reservoir. This road has experienced two landslides, one in 2008 which required substantial repair, and a recent one (pictured at right) in November 2018. River Road is the primary access road to the MWRA's Lower Gatehouse at Wachusett Dam.




In addition to the projects contained in MWRA's CIP, MWRA's Current Expense Budget (CEB) provides funding for DCR Water Supply Protection Division Office of Watershed Management's major projects. While these are typically larger projects, they cannot be capitalized by MWRA and are therefore treated as operating expenses. The MWRA's FY2020 CEB provides funding for the Clinton Crew Headquarters construction, Quabbin Administration Building interim repairs to the roof and the water system corrosion control, New Salem facility restoration and road and drainage reconstruction.

BUDGET/FISCAL IMPACT:

The FY20 CEB and CIP have sufficient amounts budgeted for these projects. As the Proposed CEB and CIP Budgets are developed in the coming months, these projects will be reevaluated for timing and amounts.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: FY20 Financial Update and Summary Through September 2019

COMMITTEE: Administration, Finance & Audit

Michael J. Cole, Budget Director
Preparer/Title

X INFORMATION
 VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2020 through September 2019, comparing actual spending to the budget.

DISCUSSION:

The total Year-to-Date variance for the FY19 CEB is \$7.3 million, due to lower direct expenses of \$140,000, indirect expenses of \$3.4 million, and debt service costs of \$1.8 million; and higher revenue of \$2.0 million.

FY20 Current Expense Budget

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

- Lower Direct Expenses of \$140,000, or 0.2% under budget. Spending was lower for Wages & Salaries, Utilities, Professional Services, Chemicals, Fringe Benefits, Worker's Compensation, Other Services, and Training and Meetings. This is offset by higher spending on Maintenance, Other Materials, and Overtime.
- Lower Indirect Expenses of \$3.4 million, or 20.7%, due to lower Watershed reimbursements, lower expenses related to the HEEC cable, and lower claim spending for Insurance.
- Lower Debt spending of \$1.8 million, or 1.6% due to favorable short-term interest rates.

**FY20 Budget and FY20 Actual Year-to-Date Variance by Expenditure Category
(in millions)**

	FY20 Budget YTD	FY20 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$59.6	\$59.5	-\$0.1	-0.2%
Indirect Expenses	\$16.2	\$12.8	-\$3.4	-5.5%
Capital Financing	\$114.8	\$113.0	-\$1.8	-1.6%
Total	\$190.6	\$185.3	-\$5.3	-2.8%

Totals may not add due to rounding

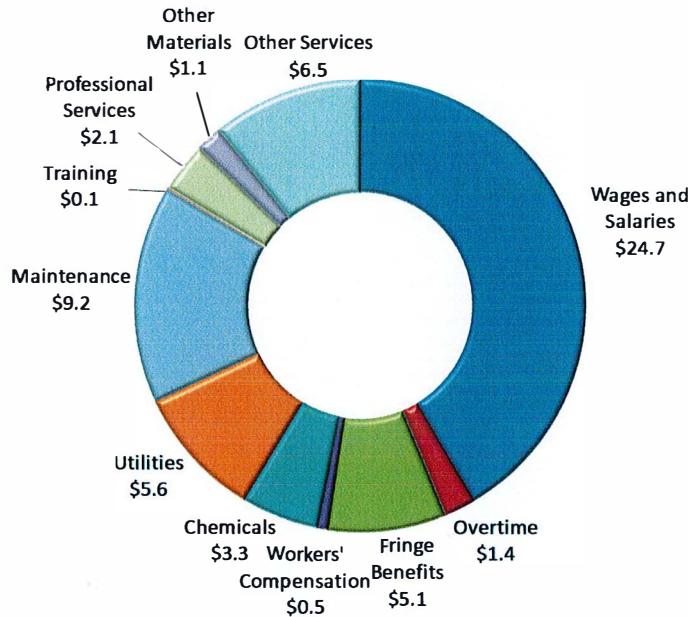
Total Revenues of \$199.4 million were \$2.0 million or 1.0% over budget. The biggest driver of the variance is pertaining to Stoughton’s \$1.1 million prepayment of their entrance fee note.

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

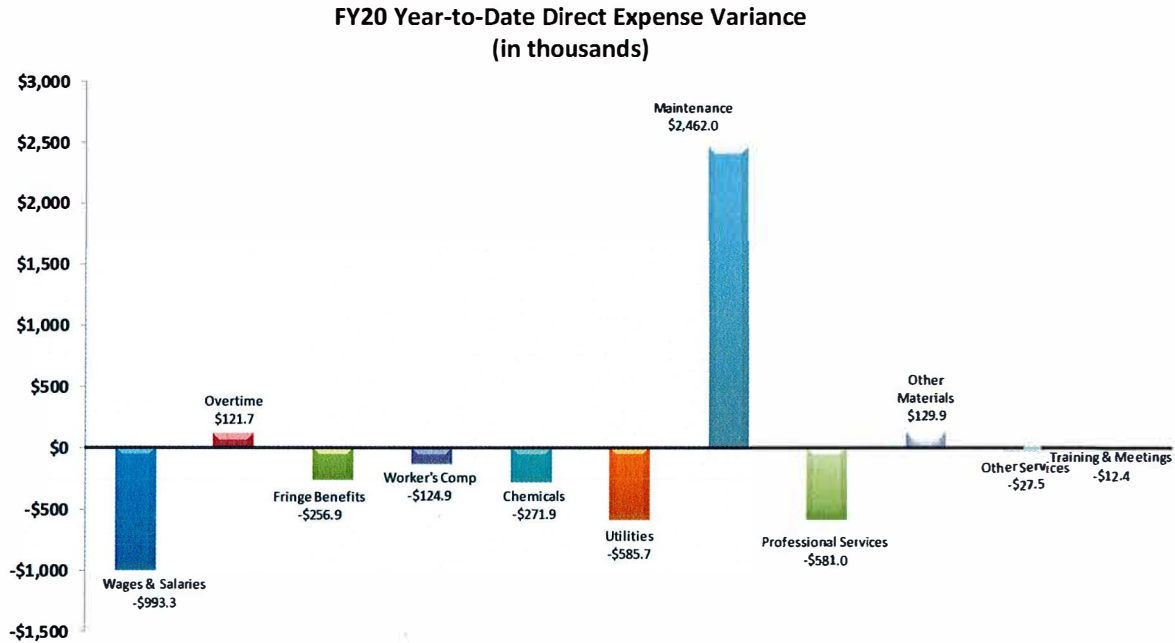
Direct Expenses

Year-to-date direct expenses totaled \$59.5 million, which was \$140,000 or 0.2% less than budgeted.

**FY20 Year-to-Date Direct Expenses
(in millions)**

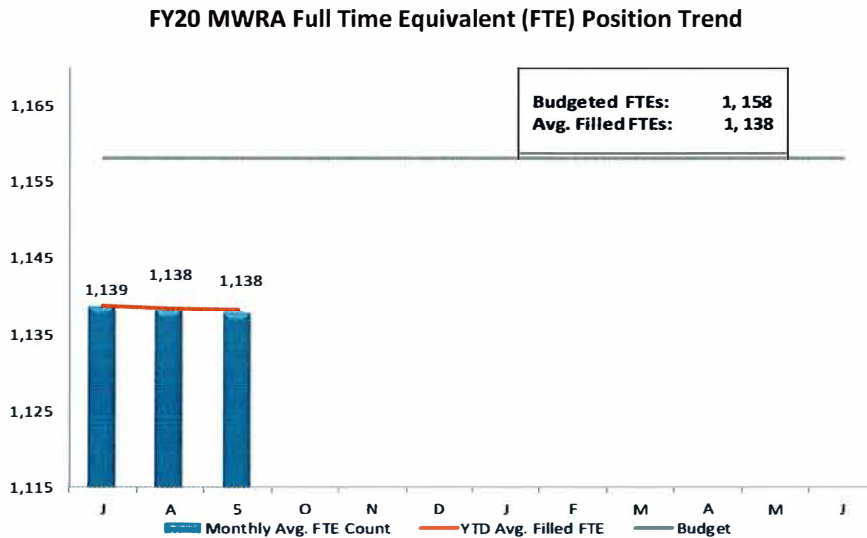


Lower than budgeted spending for Wages and Salaries, Utilities, Professional Services, Chemicals, Fringe Benefits, Worker’s Compensation, Other Services, and Training and Meetings. These are partially offset by higher spending for Maintenance, Other Materials, and Overtime.



Wages and Salaries

Wages and Salaries are under budget by \$1.0 million or 3.9%. Through September, there were 20 fewer average FTEs (1,138 versus 1,158 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.



Utilities

Utilities were lower than budget by \$586,000 or 9.5%. Electricity underspending of \$331,000 or 7.3% is driven by Deer Island (\$199,000) and Field Operations (\$89,000), due to lower consumption. In addition, Diesel Fuel was under budget by \$253,000 or 24.7% due to the timing of deliveries at Deer Island.

Professional Services

Professional Services were lower than budget by \$581,000 or 21.6%. The overall underspending year-to-date is due to Computer Systems Consultant (\$0.5 million) in MIS; Engineering Services (\$65,000); and Other Professional Services (\$50,000) in Finance and Law.

Chemicals

Chemicals were lower than budget by \$272,000 or 7.6%. Lower than budget spending on Activated Carbon of \$201,000 driven by FOD (\$179,000) due to timing of carbon replacement and Soda Ash of \$122,000 at the Carroll Water Treatment Plant and the Clinton Wastewater Treatment Plant. This is offset by higher than budget spending on Sodium Bisulfite of \$90,000 driven by the Deer Island Wastewater Treatment Plant (\$79,000) due to increasing inventory volume and higher flows. The Deer Island Wastewater Treatment Plant flows are 0.5% higher than the budget and the Carroll Water Treatment Plant flows are 5.0% less than the budget through September.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$257,000 or 4.8%. This is primarily driven by lower Health Insurance costs of \$165,000 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. In addition, Paid Family Medical Leave was under budget by \$82,000 due to a delay in the start of plan contributions until October 1, 2019.

Worker's Compensation

Worker's Compensation expenses were lower than budget by \$125,000 or 21.2%. The lower expenses were primarily due to favorable variances in compensation payments (\$93,000), medical payments (\$18,000), and administrative expenses (\$14,000).

Other Services

Other Services were lower than budget by \$28,000 or 0.4%. Higher than budgeted spending for Sludge Pelletization of \$168,000 is due to higher year-to-date quantities. This is offset by lower spending for Telecommunication Services of \$97,000 in MIS and FOD, and Other Services of \$53,000 for a number of services, including the timing of Technical Assistance for Lead issues in Planning; the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; and remediation projects managed by Real Property/Environmental Management.

Training & Meetings

Training & Meetings expenses were slightly lower than budget by \$12,000 or 12.0% driven by lower spending in MIS, offset by higher spending in Tunnel Redundancy and Field Operations.

Maintenance

Maintenance was higher than budget by \$2.5 million or 36.3%, driven by Deer Island (\$1.1 million), Field Operations (\$0.9 million), and Clinton (\$0.4 million). Much of the overspending is due to the timing for projects that were completed earlier than budgeted.

Other Materials

Other Materials were over budget by \$130,000 or 13.2%. Higher than budgeted spending for Equipment/Furniture of \$96,000 for timing of water quality equipment and furniture at the Deer Island Wastewater Treatment Plant; Computer Hardware of \$29,000 in Laboratory Services and MIS; and Other Materials of \$24,000 in Clinton and Residuals. This is offset by lower than budgeted spending on Vehicles of \$29,000 due to timing.

Overtime

Overtime expenses were higher than budget by \$122,000 or 9.9%. The over spending is mainly in Wastewater Operations due to wet weather events.

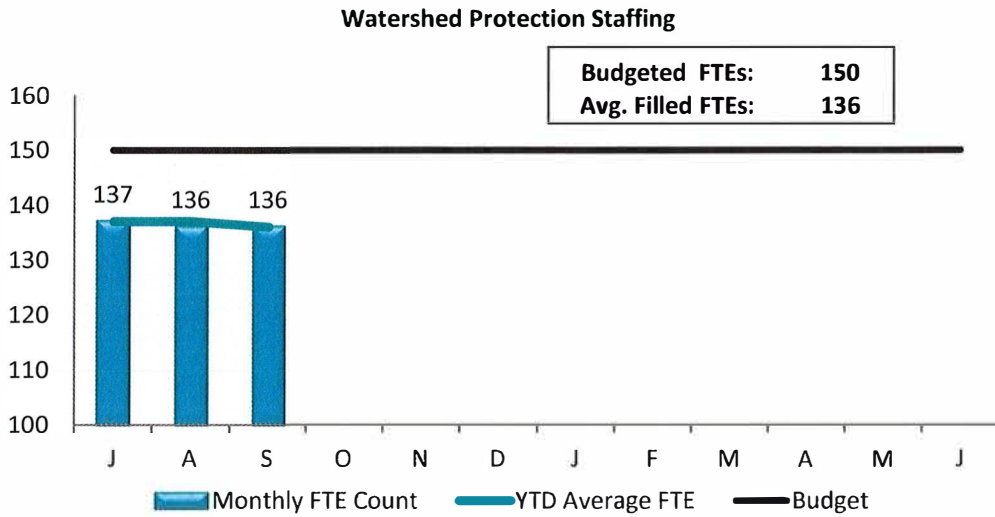
Indirect Expenses

Year-to-date Indirect Expenses totaled \$12.8 million, which is \$3.4 million or 20.7% under budget. There are variances within the lines that comprise Indirect Expenses, including lower Watershed Reimbursements and HEEC cable costs. Watershed costs are lower than budget by \$3.0 million due to lower costs associated with compensation, fringe benefits, and major projects and prior period adjustments.

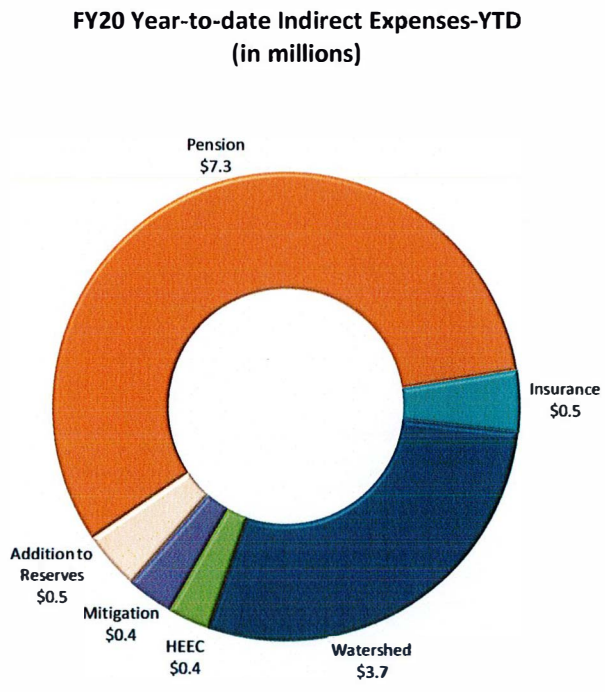
FY20 Watershed Protection Actual Year-to-Date Variance

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	4.4	2.8	-1.6	-36.4%
Major Project Expenses	0.4	0.2	-0.2	-50.0%
PILOT	2.1	2.1	0.0	0.0%
Subtotal	6.9	5.1	-1.8	-26.1%
Revenue offset	0.3	0.4	0.1	33.3%
Current fiscal year net total budget	6.6	4.7	-1.9	-28.8%
Prior year 4th quarter accrual true-up	0.0	-0.6	-0.6	
FY16 credit balance	0.0	-0.5	-0.5	
Total Budget	6.6	3.6	-3.0	-45.5%

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment quarterly in arrears. Accruals are being made monthly based on estimated expenses provided by DCR and trued-up quarterly based on the quarterly invoice. MWRA’s budget is based on the annual Fiscal Year Work Plan approved by the Massachusetts Water Supply Protection Trust.



HEEC charges are under budget by \$0.2 million for lower than budgeted spending on special projects.

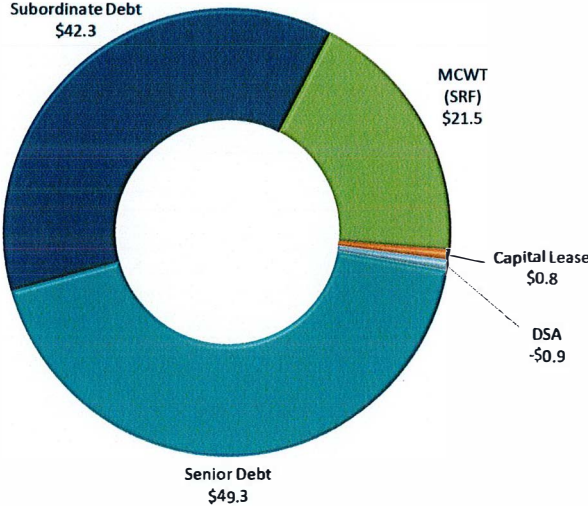


Capital Financing

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.

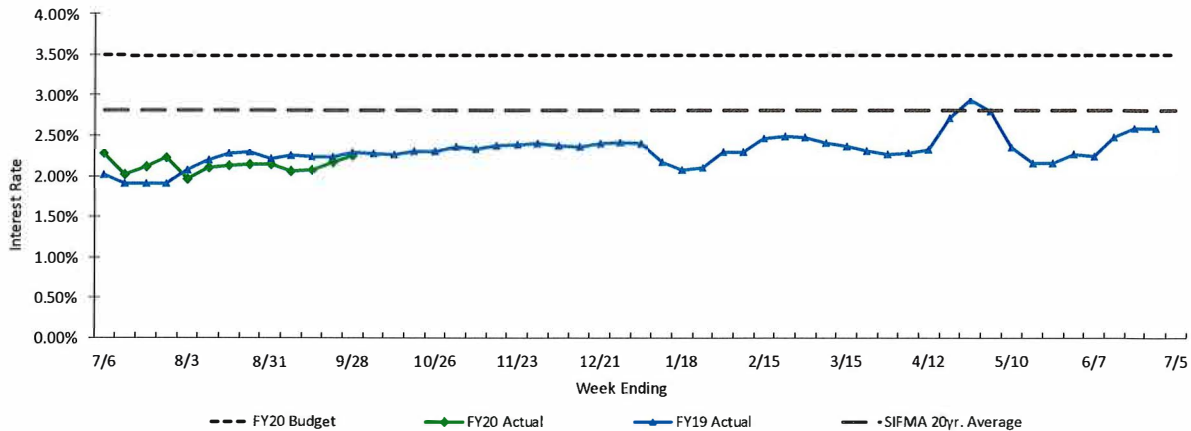
Year-to-date Capital Financing expenses for FY20 totaled \$113.0 million, which is \$1.8 million or 1.6% below budget. The surplus is primarily attributable to short-term variable rates.

**Year-to-date FY20 Capital Finance
(in millions)**



The graph below reflects the FY20 actual variable rate trend by week year-to-date against the FY20 Budget.

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



Revenue & Income

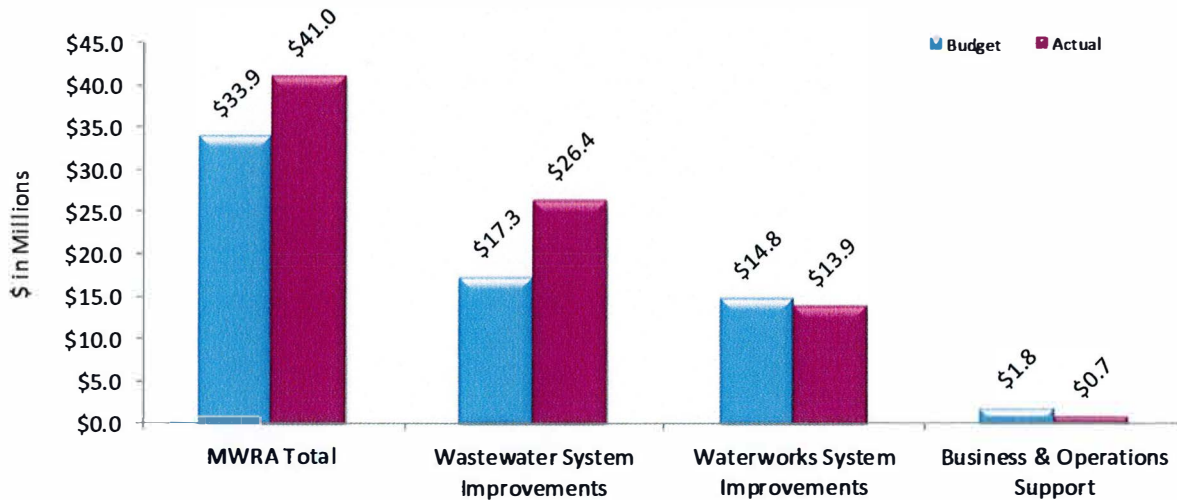
Year-to-date Revenues of \$199.4 million were over budget by \$2.0 million or 1.0%. Other User Charges were over budget by \$1.0 million or 44.3% due to Stoughton prepaying their entrance fee note. Other Revenue was favorable to budget due to the income from the disposal of equipment (\$0.2 million), miscellaneous revenue (\$0.2 million), energy revenue (\$0.1 million), and grant funds received (\$0.1million).

FY20 Capital Improvement Program

Capital expenditures in Fiscal Year 2020 through September total \$41.0 million, \$7.2 million or 21.2% over budget.

After accounting for programs which are not directly under MWRA’s control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$29.1 million, \$2.5 million or 9.2% over budget.

**FY20 CIP Spending
Year-To-Date
September**



Overall, CIP spending reflects the overspending in Wastewater Improvements (\$9.1 million), and underspending in Waterworks (\$0.9 million) and Business and Operations Support (\$1.1 million). Major variances in Wastewater are primarily due to greater than anticipated community requests for grants and loans for the I/I Local Financial Assistance Program and greater than anticipated progress on the Chelsea Creek Upgrades Construction, Residuals Electrical/Mechanical/Drum Dryer Replacement, Chemical Tank and Digester Pipe, and Winthrop Terminal Facility VFD Replacement contracts. Also, earlier than anticipated equipment purchase for the Wastewater Metering project and scheduled work in FY19 that was completed in FY20 for the Clinton Roofing Replacement project. This was partially offset by work scheduled for FY20 that was completed in FY19 for the Gravity Thickener Rehabilitation.

Waterworks variances are primarily due to paving delays for the Southern Extra High (SEH) Section 111 Construction 2, MBTA crossing issues for SEH Section 111 Construction 3, less than anticipated community loan requests, and less than anticipated consultant progress on Section 50/57 Water and Sections 21/20/19 Sewer Design CA/RI contract. This was partially offset by work scheduled in FY19 that was completed in FY20 for the Cosgrove Intake Roof Replacement, and Bellevue 2/Turkey Hill and Deer Island Water Tank Painting contracts.

FY20 Budget and FY20 Actual Year-to-Date Variance by Program
(in millions)

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	5.2	7.1	1.9	37.0%
Treatment	3.2	3.3	0.1	1.6%
Residuals	0.6	2.7	2.1	329.4%
CSO	0.3	0.3	0.1	19.0%
Other	8.0	13.0	5.0	63.1%
Total Wastewater System Improvements	\$17.3	\$26.4	\$9.1	52.7%
Waterworks System Improvements				
Drinking Water Quality Improvements	0.5	0.5	(0.0)	-8.3%
Transmission	2.8	2.7	(0.1)	-3.8%
Distribution & Pumping	10.6	9.0	(1.7)	-15.5%
Other	0.8	1.7	0.9	120.5%
Total Waterworks System Improvements	\$14.8	\$13.9	(\$0.9)	-6.0%
Business & Operations Support	\$1.8	\$0.7	(\$1.1)	-60.0%
Total MWRA	\$33.9	\$41.0	\$7.2	21.2%

Totals may not add due to rounding

FY20 Year-to-date Spending by Program:

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

Other Wastewater: Net overspending of \$5.0 million

- \$5.0 million for Community I/I due to greater than anticipated budgeted requests for grants and loans.

Residuals: Net overspending of \$2.1 million

- \$2.0 million for Electrical, Mechanical, and Dryer Drum Improvements due to greater than anticipated contractor progress and \$0.1 million for timing of final work completed for Sludge Tank and Silo Coating.

Interception & Pumping: Net overspending of \$1.9 million

- \$2.1 million for Chelsea Creek Headworks Upgrades construction due to greater than anticipated contractor progress.
- \$0.4 million for Wastewater Metering Equipment due to equipment purchased earlier than anticipated.
- This overspending was partially offset by underspending of \$0.1 million for Remote Headworks & Deer Island Shaft Study due to contract time extension, \$0.1 million for Nut Island Odor Control & HVAC Deign/CA/RI due to design taking longer than anticipated, and \$0.1 million for Wastewater Metering Planning/Study due to less than anticipated expenditures.

Water Distribution and Pumping: Net underspending of \$1.7 million

- \$0.7 million for Southern Extra High Redundancy Construction 2 due to paving delays and \$0.4 million for Construction 3 due to an issue with MBTA crossing.
- \$0.2 million for Sections 50, 57 Water and Sections 21, 20, 19 Sewer Design due to consultant scheduled tasks being less than anticipated.
- \$0.1 million for Cathodic Protection Shafts E and L due to final testing work.
- \$0.1 million for NIH Sections 89 and 29 Replacement Design due to field testing being behind schedule.
- This underspending was partially offset by overspending of \$0.1 million for Section 56 Pipe Demolition for final work completed.

Business & Operations Support: Net underspending of \$1.1 million

- \$0.6 million for timing of vehicle purchases, \$0.3 million for the timing of MIS initiatives, \$0.1 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to lower than projected task order work, and \$0.1 million for Security Equipment & Installation due to timing of security initiatives.

Other Waterworks: Net overspending of \$0.9 million

- \$0.5 million for Cosgtove Intake Roof Replacement, \$0.4 million for Bellevue 2 and Turkey Hill Painting/Improvements, and \$0.2 million for Deer Island Water Tank Painting, and primarily due to scheduled FY19 work completed in FY20. Also, \$0.1 million for Generator Docking Station due to initial contractor progress was greater than anticipated.
- This overspending was partially offset by \$0.3 million for the Local Water System Assistance Program due to less than anticipated loan requests.

Waterworks Transmission: Net underspending of \$0.1 million

- \$0.1 million for WASM 3 MEPA/Design/CA/RI due to consultant progress was less than anticipated.
- \$0.1 million for Watershed Land due to timing of land purchases.
- This underspending was partially offset by overspending of \$0.2 million for Metropolitan Tunnel Redundancy Program Support Services due to greater than anticipated consultant progress.

Combined Sewer Overflow: Net overspending of \$0.1 million

- \$0.1 million for CSO Performance Assessment due to greater than anticipated consultant progress.

Wastewater Treatment: Net overspending of \$0.1 million

- \$0.3 million for Chemical Tank and Digester Pipe due to initial progress was earlier than anticipated.
- \$0.3 million for Winthrop Terminal Facility VFD and Motor Replacements due to contractor progress.
- \$0.3 million for Clinton Roofing Rehabilitation due to work scheduled in FY19 that was completed in FY20.

- This overspending was partially offset by underspending of \$0.6 million for Gravity Thickener Rehabilitation due to scheduled FY20 work that was completed in FY19 and \$0.3 million for As-Needed Design Services due to less than anticipated task order work.

Drinking Water Quality Improvements: Net underspending of \$0.1 million

- \$0.1 million due to timing of task order work.

Construction Fund Balance

The construction fund balance was \$147.2 million as of the end of September. Commercial Paper/Revolving Loan availability was \$222 million to fund construction projects.

ATTACHMENTS:

Attachment 1 – Variance Summary September 2019

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY20 Actuals vs. FY20 Budget

	Sep 2019 Year-to-Date				
	Period 3 YTD Budget	Period 3 YTD Actual	Period 3 YTD Variance	%	FY20 Approved
<u>EXPENSES</u>					
WAGES AND SALARIES	\$ 25,657,901	\$ 24,664,624	\$ (993,277)	-3.9%	\$ 109,953,483
OVERTIME	1,229,344	1,350,999	121,655	9.9%	4,898,965
FRINGE BENEFITS	5,321,347	5,064,476	(256,871)	-4.8%	21,717,533
WORKERS' COMPENSATION	588,564	463,638	(124,926)	-21.2%	2,354,256
CHEMICALS	3,589,825	3,317,881	(271,944)	-7.6%	11,811,222
ENERGY AND UTILITIES	6,169,967	5,584,258	(585,709)	-9.5%	24,454,796
MAINTENANCE	6,773,463	9,235,466	2,462,003	36.3%	32,726,954
TRAINING AND MEETINGS	103,547	91,133	(12,414)	-12.0%	504,394
PROFESSIONAL SERVICES	2,694,082	2,113,094	(580,988)	-21.6%	8,295,315
OTHER MATERIALS	987,381	1,117,234	129,853	13.2%	6,867,239
OTHER SERVICES	6,491,022	6,463,512	(27,510)	-0.4%	24,683,370
TOTAL DIRECT EXPENSES	\$ 59,606,443	\$ 59,466,315	\$ (140,127)	-0.2%	\$ 248,267,527
INSURANCE	\$ 652,806	\$ 545,294	\$ (107,512)	-16.5%	\$ 2,611,222
WATERSHED/PILOT	6,708,400	3,659,245	(3,049,155)	-45.5%	26,833,600
HEEC PAYMENT	577,815	384,570	(193,245)	-33.4%	4,429,316
MITIGATION	413,655	412,767	(888)	-0.2%	1,654,618
ADDITIONS TO RESERVES	523,571	523,571	-	0.0%	2,094,284
RETIREMENT FUND	7,315,000	7,315,000	-	0.0%	7,315,000
POST EMPLOYEE BENEFITS	-	-	-	---	5,962,457
TOTAL INDIRECT EXPENSES	\$ 16,191,247	\$ 12,840,447	\$ (3,350,799)	-20.7%	\$ 50,900,497
STATE REVOLVING FUND	\$ 21,505,342	\$ 21,505,342	\$ -	0.0%	\$ 92,797,294
SENIOR DEBT	49,298,444	49,298,444	-	0.0%	202,299,609
DEBT SERVICE ASSISTANCE	(890,235)	(890,235)	-	0.0%	(890,235)
CURRENT REVENUE/CAPITAL	-	-	-	---	15,200,000
SUBORDINATE MWRA DEBT	44,083,850	44,083,850	-	0.0%	169,609,845
LOCAL WATER PIPELINE CP	-	-	-	---	5,846,823
CAPITAL LEASE	804,265	804,265	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	-
VARIABLE DEBT	-	(1,818,288)	(1,818,288)	---	-
DEFEASANCE ACCOUNT	-	-	-	---	5,000,000
TOTAL DEBT SERVICE	\$ 114,801,666	\$ 112,983,378	\$ (1,818,288)	-1.6%	\$ 493,080,396
TOTAL EXPENSES	\$ 190,599,356	\$ 185,290,140	\$ (5,309,214)	-2.8%	\$ 792,248,420
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 190,441,750	\$ 190,441,750	\$ -	0.0%	\$ 761,767,000
OTHER USER CHARGES	2,338,288	3,373,152	1,034,864	44.3%	9,216,425
OTHER REVENUE	771,965	1,496,720	724,755	93.9%	5,761,022
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	3,866,642	4,091,239	224,597	5.8%	15,503,973
TOTAL REVENUE & INCOME	\$ 197,418,645	\$ 199,402,861	\$ 1,984,216	1.0%	\$ 792,248,420

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY20 Budget YTD September	FY20 Actuals YTD September	FY20 YTD Actual vs. FY20 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	25,657,901	24,664,624	(993,277)	-3.9%	Wages and Salaries are under budget by \$1.0 million. Year to date, there have been 20 fewer average FTEs (1,138 versus 1,158 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	1,229,344	1,350,999	121,655	9.9%	Higher spending mainly in Deer Island for coverage during the HEEC cable installation.
Fringe Benefits	5,321,347	5,064,476	(256,871)	-4.8%	Lower than budget in Health Insurance of \$165,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive. In addition, PFML was under budget by \$82,000 due to a delay in the start of plan contributions until 10/1/19.
Worker's Compensation	588,564	463,638	(124,926)	-21.2%	The lower expenses were due to favorable variances in Compensation Payments of \$93,000, Medical Payments of \$18,000, and Administrative Expenses of \$14,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	3,589,825	3,317,881	(271,944)	-7.6%	Lower than budget spending on Activated Carbon of \$201,000 driven by FOD (\$179,000) due to timing of carbon replacement and Soda Ash of \$122,000 at CWTP and Clinton. This is offset by higher than budget spending on Sodium Bisulfite of \$90,000 driven by DITP (\$79,000) due to increasing inventory and higher flows. DITP flows are 0.5% higher than the budget and CWTP flows are 5.0% less than the budget through September. 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	6,169,967	5,584,258	(585,709)	-9.5%	Underspending in Electricity of \$331,000 primarily at DITP (\$199,000) due to less purchased power in August when DI operated the CTGs during the HEEC cable installation. Also, Field Operations (\$89,000) is under budget primarily due to lower rates for Interval accounts. Diesel Fuel of \$253,000 primarily at DI (\$278,000) due to timing of deliveries.
Maintenance	6,773,463	9,235,466	2,462,003	36.3%	DITP maintenance was over budget by \$1.1 million due to the Boiler, STG, and Hydroplant Service Contract being over budget for the first quarter of FY20. The STG overhaul was budgeted to happen in October/November, but started early in September. Field Operations maintenance was over budget by \$0.9 million due to the timing of hydropower facility maintenance at Oakdale and Cosgrove budgeted to be done later in the fiscal year (\$639,000); VFD upgrades at Framingham Pump Station (\$170,000); and two new rooftop air-handling units for the Chelsea Admin/Maintenance Building, which was delayed from FY19 (\$139,000). Clinton maintenance was over budget by \$0.4 million driven by the Coatings Contract due to work being completed ahead of schedule.
Training & Meetings	103,547	91,133	(12,414)	-12.0%	

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY20 Budget YTD September	FY20 Actuals YTD September	FY20 YTD Actual vs. FY20 Budget		Explanations
			\$	%	
Professional Services	2,694,082	2,113,094	(580,988)	-21.6%	Lower than budget spending in Computer Systems Consultant of \$493,000 in MIS; Engineering Services of \$65,000 primarily for SCADA project delays due to staffing/resources. Reservoir Ops for timing of dam asset maintenance plans, and DITP for timing of study of biosolids exemptions for MWRA pellets relative to MDAR regulations; and Other Professional Services of \$50,000 in Finance and Law.
Other Materials	987,381	1,117,234	129,853	13.2%	Higher than budgeted spending for Equipment/Furniture of \$96,000 for timing of water quality equipment and furniture at DITP; Computer Hardware of \$29,000 in Laboratory Services and MIS; and Other Materials of \$24,000 in Clinton and Residuals. This is offset by lower than budgeted spending on Vehicles of \$29,000 due to timing.
Other Services	6,491,022	6,463,512	(27,510)	-0.4%	Higher than budgeted spending for Sludge Pelletization of \$168,000 due to higher year-to-date quantities. This is offset by lower spending for Telecommunication Services of \$97,000 in MIS and FOD, and Other Services of \$53,000 for a number of services.
Total Direct Expenses	59,606,443	59,466,315	(140,128)	-0.2%	Higher spending in Tunnel Redundancy and FOD, offset by lower spending in MIS.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY20 Budget YTD September	FY20 Actuals YTD September	FY20 YTD Actual vs. FY20 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	652,806	545,294	(107,512)	-16.5%	Lower claims than budgeted of \$107,000.
Watershed/PILOT	6,708,400	3,659,245	(3,049,155)	-45.5%	Lower Watershed Reimbursement of \$3.0 million due to \$1.1 million over accrual at end of FY19 as compared to actual amount paid in first quarter of FY20. September FY20 YTD favorable variance to budget estimated to be \$2.0 million driven by (1) lower Wages & Salaries of \$600,000, (2) lower Fringe Benefits of \$825,000, (3) lower spending on major projects of \$221,000, and (4) lower spending on Equipment of \$133,000 due to timing of purchases.
HEEC Payment	577,815	384,570	(193,245)	-33.4%	Lower than budgeted spending on special projects related to the HEEC cable.
Mitigation	413,655	412,766	(889)	-0.2%	
Addition to Reserves	523,571	523,571	-	0.0%	
Pension Expense	7,315,000	7,315,000	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	16,191,247	12,840,446	(3,350,801)	-20.7%	
Debt Service					
Debt Service	115,691,901	113,873,613	(1,818,288)	-1.6%	\$1.8 million for lower than budgeted variable rate debt.
Debt Service Assistance	(890,235)	(890,235)	-	0.0%	
Total Debt Service Expenses	114,801,666	112,983,378	(1,818,288)	-1.6%	
Total Expenses					
Total Expenses	190,599,356	185,290,139	(5,309,217)	-2.8%	

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY20 Budget YTD September	FY20 Actuals YTD September	FY20 YTD Actual vs. FY20 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	190,441,750	190,441,750	-	0.0%	
Other User Charges	2,338,288	3,373,152	1,034,864	44.3%	\$1.1 million prepayment of entrance fee note by Stoughton.
Other Revenue	771,965	1,496,720	724,755	93.9%	\$189,000 for disposal of surplus materials; Miscellaneous Revenue of \$154,000 primarily associated with worker's compensation reimbursement for older claims; \$134,000 for Energy Revenue primarily due to a late payment for DITP demand response revenue for August; and \$107,000 in grant money (Commonwealth Operating Grant for \$44,000 and DCR Aqueduct Trails Grant for \$62,000).
Investment Income	3,866,642	4,091,239	224,597	5.8%	Investment Income is over budget mostly due to short term rates higher than budget (2.37% vs.2.25% budget).
Total Revenue	197,418,645	199,402,861	1,984,216	1.0%	
Net Revenue in Excess of Expenses	6,819,289	14,112,722	7,293,433		

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

	FY20 Budget YTD September	FY20 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$5,166	\$7,078	\$1,912	37.0%	<u>Overspending</u> Chelsea Creek Headworks Upgrades - Construction: \$2.1M (due to contractor progress) Wastewater Metering Asset Protection/Equipment Purchases: \$384k (sooner than anticipated equipment purchases) <u>Offset Underspending</u> Remote Headworks & Deer Island Shaft Study: \$131k, (schedule shift) Wastewater Meter System Planning/Study/Design: \$123k (police details and temporary meter work less than anticipated) Nut Island Odor Control & HVAC Design/CA/REI: \$112k (CA and REI services delayed as a result of construction schedule shift) Other smaller projects totaling \$206k.
Treatment	\$3,236	\$3,286	\$50	1.6%	<u>Overspending</u> Chemical Tank and Digester Pipe: \$340k (due to contractor progress) Clinton Roofing Rehabilitation: \$316k (due to contractor progress) <u>Offset Underspending</u> Gravity Thickener Rehab: \$580k (Work scheduled for FY20 completed in FY19.)
Residuals	\$624	\$2,680	\$2,056	329.4%	<u>Overspending</u> Residuals Electrical/Mechanical/Drum Replacements: \$2.0M (contractor progress)
CSO	\$292	\$347	\$55	19.0%	
Other Wastewater	\$7,991	\$13,035	\$5,044	63.1%	<u>Overspending</u> I/I Local Financial Assistance: \$5.0M (greater than budgeted requests for grants and loans)
Total Wastewater	\$17,308	\$26,426	\$9,118	52.7%	

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

	FY20 Budget YTD September	FY20 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$527	\$483	(\$44)	-8.3%	
Transmission	\$2,833	\$2,725	(\$108)	-3.8%	<u>Underspending</u> WASM 3 - MEPA/Design/CA/RI: \$166k (consultant progress less than anticipated) Watershed Land Acquisition: \$106k (timing of land purchases) <u>Offset Overspending</u> Metropolitan Tunnel Redundancy Program Support Services: \$196k (consultant progress greater than anticipated)
Distribution & Pumping	\$10,639	\$8,986	(\$1,653)	-15.5%	<u>Underspending</u> SEH Redundancy Pipeline Section 111 - Construction Phase 2: \$666k (paving delayed due to Eversource work) SEH Redundancy Pipeline Section 111 - Construction Phase 3: \$394k (due to delay with MBTA crossing issue) Sections 50 & 57 Water & 21/20/19 Sewer Rehab - Design/CA/RI: \$189k (less than anticipated consultant work) Section 89 & 29 Replacement Design/ESDC: \$126K (field testing being behind schedule) Other smaller projects totaling \$278k
Other Waterworks	\$766	\$1,688	\$923	120.5%	<u>Overspending</u> Cosgrove Intake Roof Replacement: \$535k, Bellevue II & Turkey Hill Water Tanks Repainting: \$408k, Deer Island Water Tank Repainting : \$223k, (all for work scheduled in FY19 performed in FY20) Generator Docking Station: \$117k (contractor progress) <u>Offset Underspending</u> Local Water Pipeline Financial Assistance Program: \$339k (less than budgeted requests for loans)
Total Waterworks	\$14,764	\$13,882	(\$881)	-6.0%	

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

	FY20 Budget YTD September	FY20 Actuals YTD September	YTD Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support					
Total Business & Operations Support	\$1,785	\$713	(\$1,071)	-60.0%	<u>Underspending</u> FY19-23 Vehicle Purchases: \$576k, and Security Equipment & Installation: \$112k (timing of purchases) MIS Projects: \$273k (due to timing of work) As-Needed Technical Assistance: \$110k (due to timing of task order work)
Total MWRA	\$33,856	\$41,021	\$7,165	21.2%	



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

to be held on

Wednesday, October 16, 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. Information

1. MWRA Industrial Waste Report No. 35; Industrial Pretreatment Program Annual Report to EPA for FY2019
2. 2018 Deer Island Outfall Monitoring Overview

B. Approvals

1. City of Cambridge Proposal for Partial Sewer Separation

C. Contract Awards

1. Charles River Valley Sewer Rehabilitation - Sections 191 and 192 Rehabilitation: Green Mountain Pipeline, Contract 7643
2. Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant: Kemira Water Solutions, Inc., Bid WRA-4752

D. Contract Amendments/Change Orders

1. Deer Island Treatment Plant Pump Refurbishment: A.W. Chesterton Co., Contract S581, Change Order 1

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee
September 18, 2019

A meeting of the Wastewater Policy and Oversight Committee was held on September 18, 2019 at the Authority headquarters in Charlestown. Committee Chair Flanagan presided. Present from the Board were Ms. Wolowicz and Messrs. Cotter, Foti, Peña, Vitale and Walsh. Messrs. Carroll, Cook and Pappastergion were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Thomas Durkin, Carolyn Fiore, Michele Gillen, Betsy Reilly, Christopher Goodwin, Brian Rozowsky, David Duest, Corinne Barrett, Martin McGowan and Kristin MacDougall. The meeting was called to order at 12:13 p.m.

Information

2019 Boston Harbor Beach Update

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

Update on HEEC Cross-Harbor Cable

Staff made a presentation. (Ms. Wolowicz left the meeting during the presentation.) There was brief discussion.

Contract Awards

*** Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant; Borden & Remington Corporation, WRA-4731**

There were questions and answers.

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

Contract Amendments/Change Orders

*** Chelsea Creek Headworks Upgrade: BHD/BEC 2015, A Joint Venture, Contract 7161, Change Order 32**

* Committee recommendation approved by the Board on September 18, 2019


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

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

The meeting adjourned at 12:38 p.m.

* Committee recommendation approved by the Board on September 18, 2019


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: MWRA Industrial Waste Report #35: Industrial Pretreatment Program Annual Report to EPA for FY19

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

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


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

RECOMMENDATION:

For information only. MWRA is required by its National Pollutant Discharge Elimination System (NPDES) Permits and U.S. Environmental Protection Agency regulations (40 CFR 403.12(i)) to submit an annual report to EPA and the Massachusetts Department of Environmental Protection each year that describes the activities and accomplishments of MWRA's Industrial Pretreatment Program. Staff will be submitting the FY19 Annual Report (Industrial Waste Report #35) to EPA and MassDEP on or before October 31, 2019, the required submittal deadline. This staff summary discusses some of the highlights from the report. A draft copy of the report will be available in the Board lounge.

DISCUSSION:

Industrial Waste Report #35 documents MWRA's efforts to control current permitted sewer users during FY19. MWRA's Toxic Reduction and Control Department operates the Industrial Pretreatment Program to control the level of toxic substances discharged into the sanitary sewer system from commercial and industrial sources. Through permits, inspections, sampling, and enforcement, the program keeps excessive levels of toxics out of the sanitary sewer system to: protect worker health and safety; protect municipal and MWRA infrastructure; prevent interference at the Deer Island and Clinton Wastewater Treatment Plants; prevent the pass-through of pollutants into receiving waters; and enable MWRA to beneficially reuse its residuals for the production of fertilizer.

Staff estimate that approximately 3% of the total flow to the treatment plants comes from permitted facilities, but this flow represents a significantly higher proportion of toxics discharged to the system. TRAC currently oversees approximately 1,250 permitted sewer users. There were 199 facilities that met MWRA's definition of Significant Industrial User (SIU) during FY19. SIUs

require substantial oversight due to the nature of the pollutants they discharge and/or the volume of their flows. Some of the highlights included in the report are described below.

Significant Industrial Users

As mentioned above, there were 199 industries designated as SIUs in MWRA's sewer service area during FY19. A SIU is a sewer user subject to Federal Categorical standards such as pharmaceutical manufacturer, or has a flow equal to or above 25,000 gallons per day, or has a reasonable potential to violate MWRA's regulations. By the end of FY19, the number of SIUs in the District dropped to 189. The number of SIUs can vary during the year as a result of companies going out of business, a change in their pretreatment process, or a new company being added. TRAC met EPA's requirements for inspections and sampling in FY19, inspecting all of the 199 SIUs and sampling 172 SIUs. In FY19, 24 SIUs were not sampled: Five discharging SIUs were not monitored because they either did not discharge during the year (two industries) or they are no longer discharging and the permit was terminated (three industries). Nineteen SIUs hold non-discharging SIU permits and therefore cannot be sampled by MWRA.

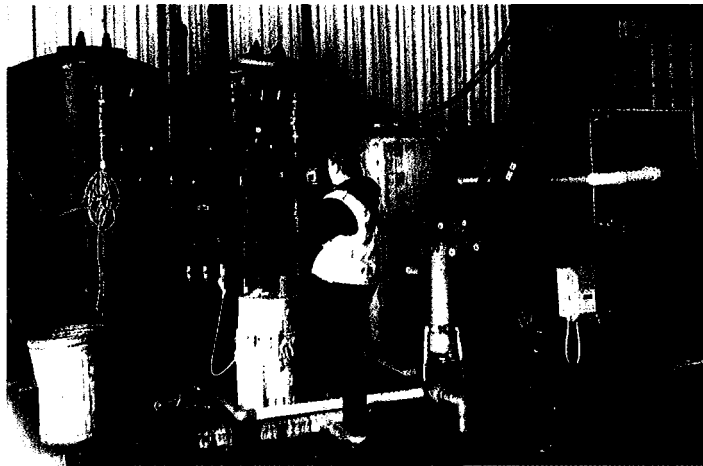


Figure 1. Sample collection at an industry.

Pursuant to MWRA's Deer Island NPDES permit, EPA requires TRAC to issue 90% of MWRA's SIU permits within 120 days of the industries' current permit expiration dates, or MWRA's receipt of a Sewer Use Discharge Permit Application, (whichever is later) and 100% within 180 days. TRAC issued 94% of SIU permits (67 permits) within 120 days and 95% of permits (68 permits) within 180 days. Typically, there are some SIU permits that exceed the 180-day time period for issuance for reasons beyond MWRA's control, such as failure to pay permit charges and late

submittals of information. The new Clinton NPDES permit, effective March 1, 2017, requires staff to issue all permits within 90 days of their application received dates or previous expiration dates, whichever is later. Three permits were issued to industries in the Clinton area, all three permits were issued within the 90-day timeframe.

Inspections and Monitoring Programs

In addition to close regulation of the SIUs, staff are responsible for permitting, inspecting, and monitoring a variety of other types of facilities to minimize the discharge of toxics to the sewer and assist other MWRA programs. In FY19, TRAC staff conducted 199 annual SIU inspections, an additional 1,196 industrial/commercial facility inspections of other regulated industries, 135 inspections associated with the septage program, including inspections of haulers and septage receiving sites, and 1,001 inspections of oil/water separators. There are 10 septage receiving sites and more than 4,500 gas/oil separators within MWRA's service area.



Figure 2. Inspection of a new gas/oil separator.

TRAC's monitoring staff conducted 1,438 sampling events to characterize wastewater flow from SIU and non-SIU permitted facilities. In addition, TRAC's monitoring staff conducted an additional 1,488 monitoring events to support MWRA's NPDES permits, support MWRA's local limits program, other MWRA projects, and to evaluate discharges to the sewer in response to emergencies.

Enforcement Program

This year, the total number of SIUs in Significant Noncompliance (SNC)¹ was 38, an increase from the 33 SIUs in SNC in FY18. MWRA continues to hold annual educational meetings with SIUs to review and reinforce methods for maintaining compliance. The FY19 meetings were held on October 31 and November 1 at MWRA's Chelsea facility. Credits for attending the seminar are MassDEP-approved for Operator License training. Last year, a total of 90 people from 50 of MWRA's SIUs attended the meetings over two days. The next SIU meetings are scheduled for October 2019.

In FY19, TRAC issued a total of 343 early enforcement actions (Notices of Violations and Traps Warning Letters) to industrial and commercial facilities (compared to 261 in FY18), and 46 higher-level enforcement actions (Orders and Penalty Assessment Notices) were issued in response to a variety of persistent discharge and reporting violations, the same number is in FY18.

TRAC assessed and collected a total of \$14,000 in penalties in FY19 against permitted sewer users (compared to \$1,000 assessed and collected in FY18). The amount of penalties assessed and collected can vary significantly from year to year as a result of the timing of the penalty issuance, assessment of the penalty, negotiations, and collection.

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

Sewer Use Regulations (360 CMR 10.000)

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

Program Cost Recovery

MWRA's Incentive and Other Charges Program continues to recover a substantial portion of MWRA's costs of inspecting, monitoring, and permitting industrial sewer users. The total adjusted amount billed under the program in FY19 was \$1,999,222, a decrease from \$2,201,980 in FY18. As of September 2019, collections for FY19 bills were at \$2,146,579 (compared to \$2,125,313 in FY18), approximately a 107% recovery of the adjusted amount invoiced. The additional revenue is the result of payment of interest, payment of outstanding permitting and monitoring charges, and new industries opening in the service area.

FY20 Initiatives

Dental Discharges Group Permit:

On September 6, 2019, TRAC created a new Dental Discharges Group Permit as part of the revisions to the Sewer Use regulations. In FY19, MWRA sent out a one-time compliance form to all dental facilities (approximately 1,700) identified within our district. TRAC will use the responses to the one-time compliance form to determine which facilities need a Group Permit; TRAC is estimating that approximately 1,000 facilities will be covered under this new permit. TRAC will be issuing permit applications to dental facilities anticipated to be covered by the Group Permit in December/January. The first five-year Dental Discharges Group Permits will be issued in March 2020.


CROMERR Compliance:

TRAC and MIS will continue to work toward compliance with EPA's Cross Media Electronic Reporting Rule (CROMERR). MWRA's Pretreatment Information Management System (PIMS) is currently being upgraded to meet the requirements of CROMERR for data currently entered by permittees' contract laboratories. Data submitted electronically must meet certain authentication and security requirements. MWRA is working with EPA and the PIMS vendor, Inflection Point Solutions, to utilize EPA's Shared CROMERR Services application to incorporate the additional functionality (electronic signature and Copy of Record requirements) into our current WebSMR electronic data submittal processes. MWRA anticipates that testing of the new system will begin in the winter of FY20. A rollout of a new CROMERR compliant process will follow EPA's approval of MWRA's CROMERR application and the completion of system testing with WebSMR users. MWRA currently anticipates that the new CROMERR compliant process will be available late next calendar year.

BUDGET/FISCAL IMPACT:

In FY19, the TRAC Department recovered \$2,146,579 or 45% of the Department's actual Current Expense Budget (CEB) spending (\$4,765,351) through Permit Fees. TRAC penalty collections totaled \$14,000 and did not significantly offset direct expense spending. FY19 revenue was down slightly from FY18 (\$2,201,946); however staff expect to see an increase in FY20 due to increased permitting and monitoring charges and revenue from the new Dental Discharges Group Permit.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: 2018 Deer Island Outfall Monitoring Overview

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

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


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

RECOMMENDATION:

For information only.

MWRA monitors the Deer Island Treatment Plant effluent, as well as the water, sediment, and health of fish and shellfish in Massachusetts and Cape Cod Bays. 2018 was the 27th consecutive year of monitoring. The Outfall Monitoring Overview annually summarizes and analyzes the results of MWRA's monitoring for any environmental impacts from Deer Island discharges. As in previous years, no adverse impacts were found, a finding with which regulators, their science advisory panel, and public interests groups agreed at a symposium to review MWRA's monitoring results in November 2018. Under its current National Pollutant Discharge Elimination System (NPDES) permit for Deer Island, MWRA must submit this report to federal and state regulatory agencies by November 15th. This staff summary provides the Board with the highlights of MWRA's Outfall Monitoring Overview for calendar year 2018. Additionally, this staff summary updates the Board on recent public outreach activities as well as efforts underway by the scientific committee that advises regulators on MWRA's monitoring to review the scientific questions on which the monitoring is based.

DISCUSSION:

Monitoring the environment around MWRA's Massachusetts Bay outfall is a requirement in the Deer Island Treatment Plant's NPDES permit. Data from the monitoring studies are carefully analyzed to further the understanding of the Massachusetts Bay system and understand what, if any, impacts the outfall may have. Key monitoring results are also compared to 95 thresholds contained in MWRA's Contingency Plan.¹ Required monitoring includes measurements of the Deer Island Treatment Plant's effluent quality, and environmental measurements of water,

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

sediments, and fish and shellfish. Other studies include modeling water quality and continuous monitoring of water quality using instruments on a buoy in Massachusetts Bay.

MWRA has been monitoring baseline conditions in Boston Harbor, Massachusetts Bay, Cape Cod Bay and the outfall area since the early 1990s, and discharge monitoring (Figure 1) began in September 2000 when the outfall came on-line. One way potential effects are evaluated is to compare results collected after outfall start-up to baseline results.

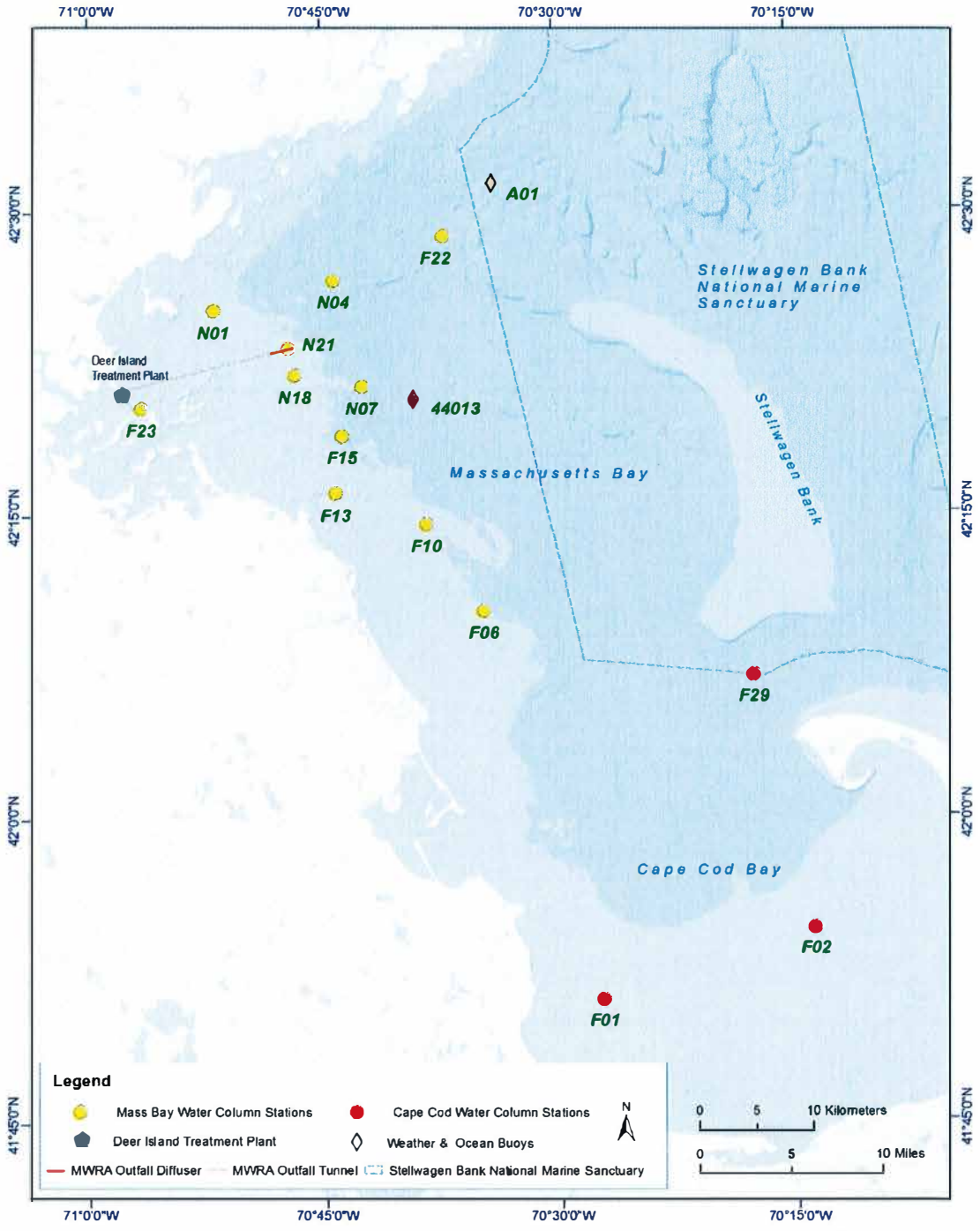


Figure 1. Current MWRA water quality monitoring stations in Massachusetts and Cape Cod Bays.

2018 was the 18th year of monitoring since the outfall came on-line and was yet another year with no adverse effects from the discharge in the areas monitored. No Contingency Plan threshold exceedances occurred in 2018. Note that a Contingency Plan threshold was exceeded for the abundance of cells of the algae associated with red tide in spring and summer this year (2019). This bloom was somewhat unusual in how long high cell counts persisted (through mid-July). Staff have just begun evaluating the results from this bloom; unusually wet conditions in spring and associated river runoff may have played a role in the initiation of the bloom. Results of these evaluations will be presented in next year's report.

Meanwhile, Boston Harbor continues to see substantial improvements.

Summary of Effluent Quality Monitoring

- In 2018, the Deer Island Treatment Plant earned a Platinum 12 Peak Performance Award from the National Association of Clean Water Agencies for twelve years of 100% compliance with permit effluent limits;
- 2018 was a relatively wet year with about 53 inches of rain in the Boston area, ten inches more than fell in 2017. Mean effluent flow from Deer Island in 2018 was 357 MGD, an increase over the 328 MGD observed in 2017;
- Despite higher flows in 2018 than the previous three years, virtually all flow (99%) received full primary and secondary treatment;
- Total Suspended Solids loads from effluent were about 19 tons/day in 2018, a fraction of the solids load discharged in the early 1990s (Figure 2);
- Metals loads in Deer Island effluent also remained low in 2018 (Figure 3). Metals and organic contaminant (*e.g.*, PCBs) loads in MWRA effluent are much less than were projected by EPA in the late 1980s;
- Improved solids and contaminant removals at Deer Island since 2005 are mainly due to treatment process improvements made possible by the ability to pump sludge to the Pelletizing Plant (with the completion of the Braintree-Weymouth Tunnel); and
- The total effluent nitrogen load in 2018 (11,626 metric tons) was about equal to that measured in 2017 and was lower than that measured in 2016 (Figure 4). Monitoring results (for example, a lack of intense algal blooms and the maintenance of healthy dissolved oxygen levels) confirm that MWRA's nitrogen discharge has not had an adverse environmental impact in Massachusetts Bay. It should be noted that nitrogen loads in 2019 are trending high, and may exceed the Contingency Plan caution threshold of 12,500 tons/year. It is important to note that the caution threshold was arbitrarily set at 90% of an estimated nitrogen load for the year 2020 (14,000 metric tons/year), and actual loads remain below that estimate.

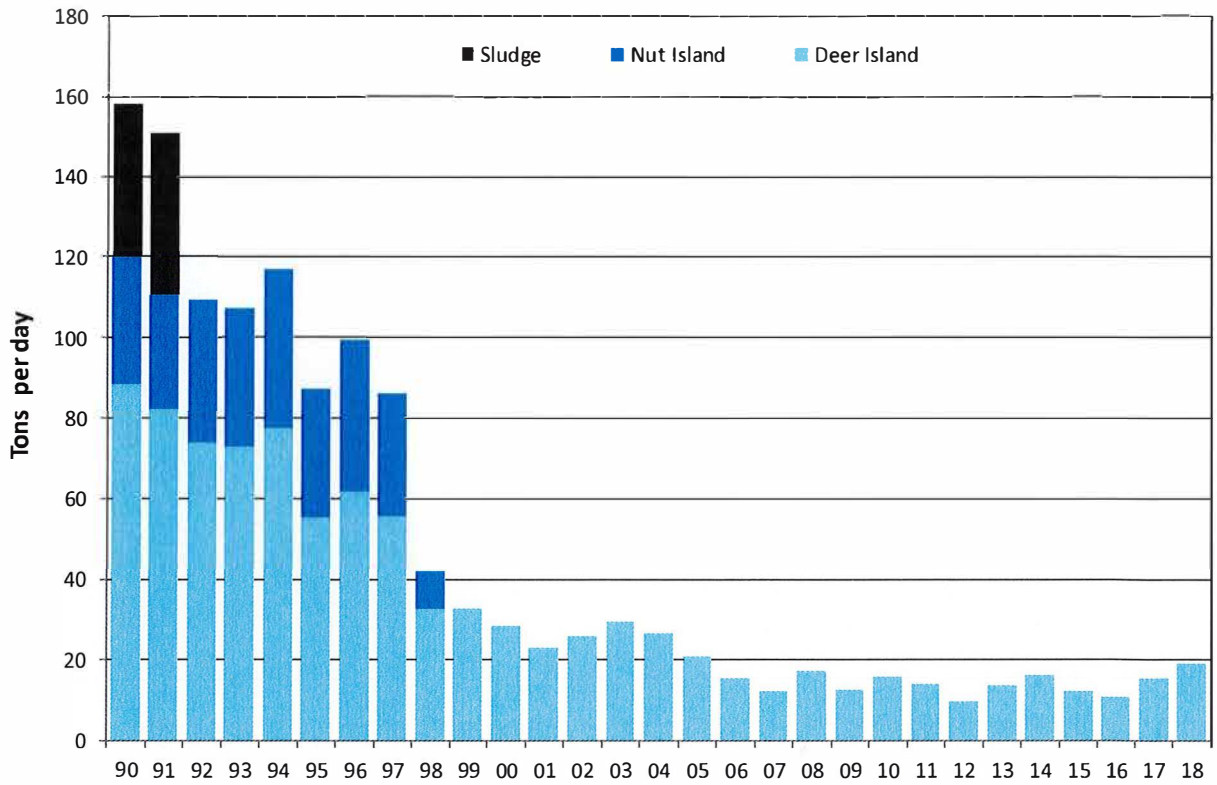


Figure 2. Annual Total Suspended Solids discharges. Solids discharges remained extremely low during 2018.

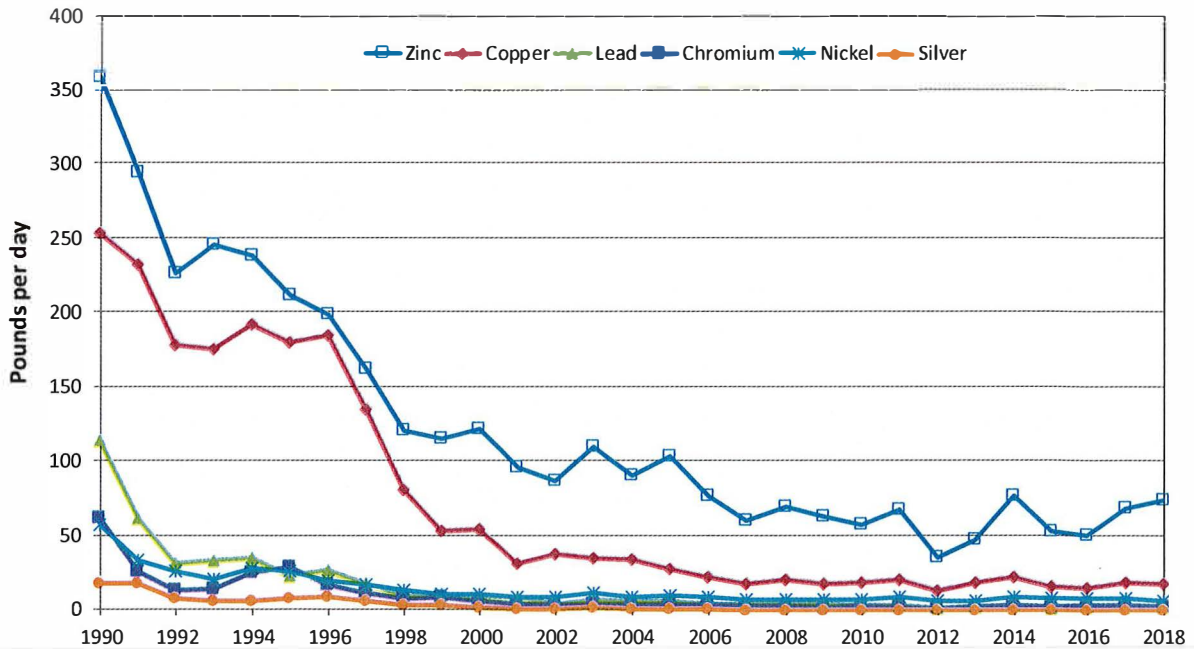


Figure 3. Annual effluent metals discharges. Loads of metals remained extremely low during 2018.

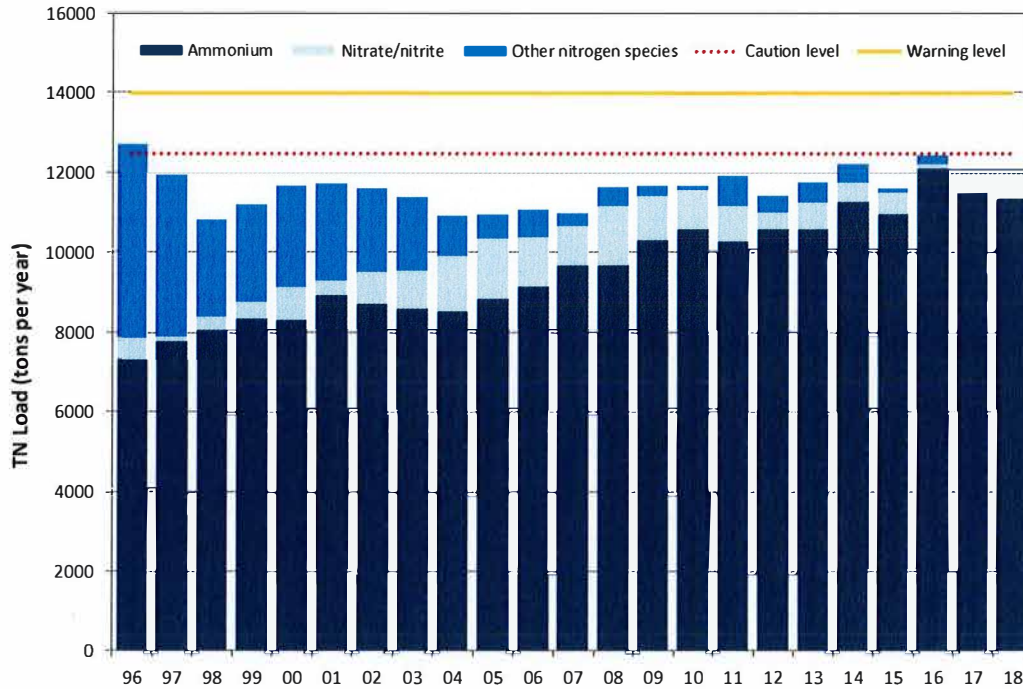


Figure 4. Annual nitrogen discharges. Effluent nitrogen loads were lower in 2017 and 2018 than in 2016.

Outfall Monitoring Results

Results of 2018 monitoring in Massachusetts Bay found that:

- No adverse impacts of the outfall discharge on water quality were identified in Massachusetts or Cape Cod Bays;
- Plankton communities remain diverse and normal;
- The seafloor animal community is healthy and diverse;
- Flounder liver disease remains low; and
- Periodic (every third year) analyses of potentially toxic contaminants in flounder and lobster caught near the outfall, and contaminant bioaccumulation in blue mussels deployed at the edge of the outfall initial mixing zone document that concentrations are below Contingency Plan thresholds for all contaminants.

Water Quality Monitoring

Nutrients

Water quality sampling (Figure 5) focuses on the potential impact of nitrogen discharged by the outfall because only about 30% of nitrogen is removed during treatment. The monitoring was designed to address concerns about whether nitrogen could increase blooms of harmful algal species, change the types or amount of plankton (adversely impacting the food web), or cause excess algal growth, which could decrease the amount of oxygen in the water.

In 2018, plankton communities in the bays were normal, with no large phytoplankton blooms observed. Almost no *Alexandrium catenella*, the algae responsible for red tides in New England waters, were observed in 2018. However, a substantial bloom of *Alexandrium* occurred this past spring and summer (2019). MWRA’s monitoring team, and other independent researchers have just begun evaluating the monitoring data collected during this bloom; unusually wet conditions in spring and associated river runoff may have played a role its initiation. Results of these evaluations will be included in next year’s report.

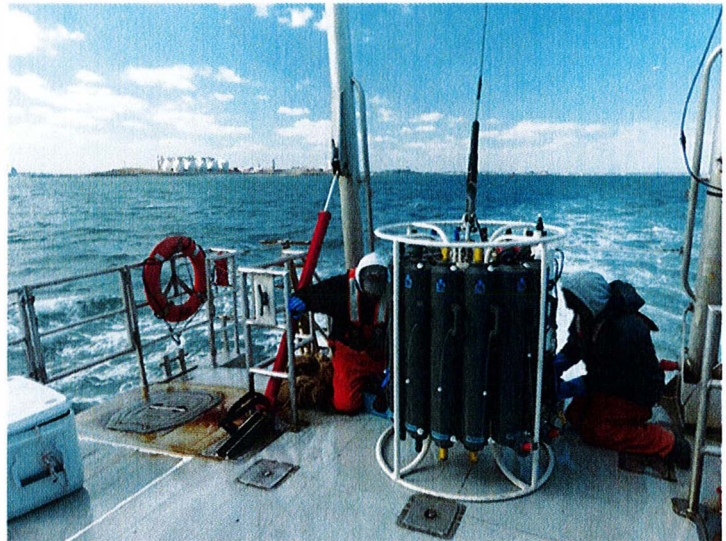


Figure 5. Water quality sampling off Deer Island, 2019

Dissolved Oxygen

Dissolved oxygen (DO) levels in deep water in Massachusetts Bay (Figure 6) were healthy throughout 2018, with similar healthy oxygen levels observed in the vicinity of the outfall, well above the state water quality standard of 6 mg/l. The decrease from winter into summer is normal, and in 2018 continued until storms mixed oxygen into deep waters starting in October. In 2019, dissolved oxygen has remained high in Massachusetts Bay although reports of a low DO event and possible fish and lobster kills in Cape Cod Bay surfaced in late September.

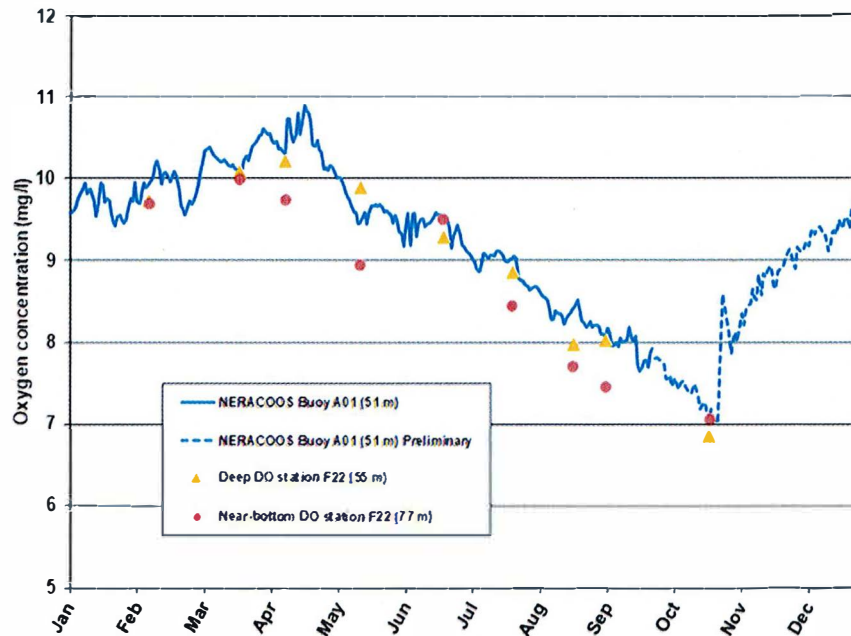


Figure 6. Dissolved oxygen in 2018 in Massachusetts Bay south of Gloucester at a depth of about 164 feet (51 meters) at a mooring maintained by the Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) with partial funding from MWRA.

Monitoring Sediments near the Outfall

Sea-floor habitat (the benthos) is a major component of a healthy marine ecosystem and is of particular interest in studies of pollutant effects because many contaminants ultimately end up in the sediments. MWRA's benthic monitoring assesses the health of animal communities and the concentrations of toxic contaminants in sediments (Figure 7). Studies of the animal communities living in mud find healthy, diverse groups of animals (worms, mollusks, crustaceans) normal to New England. Similar conditions were observed in 2018 monitoring.

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



Figure 7. Collecting bottom sediment samples in Massachusetts Bay in August 2018.

MWRA addresses this concern by monitoring the average depth in sediments in the vicinity of the discharge to which oxygen penetrates, known as the Redox Potential Discontinuity (RPD) depth. As in past years, the RPD depth in nearfield sediments in 2018 (Figure 8) was deeper than average depths measured before outfall discharge began, indicating a lack of adverse impacts. An analysis of storminess between 1992 and 2018 (not shown) indicates that increases in the numbers and durations of winter storms in recent years may explain some of the increase in RPD depth.

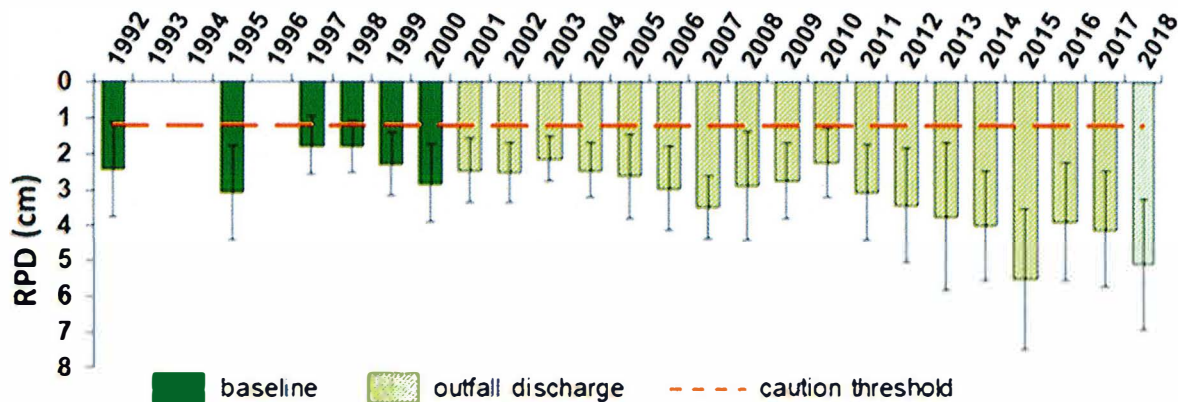


Figure 8. RPD depth in nearfield sediments, 1992-2018.

Fish and Shellfish Monitoring

Because flounder live in close contact with the bottom sediments, their health, especially rates of liver disease, is an indication of the effects of contaminants in the sea floor. During the 1970s and 1980s, fin rot and liver disease (including liver tumors and milder liver diseases) associated with contaminant exposure were common in winter flounder taken from Boston Harbor. That sampling program, which was incorporated into MWRA's monitoring (Figure 9), is ongoing, and has documented substantial declines in tumor precursors as the flounder population recovered in Boston Harbor, with no increases observed in fish caught near the Mass Bay outfall (Figure 10).



Figure 9. "Ghost" lobster traps fouling an MWRA flounder trawl.

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

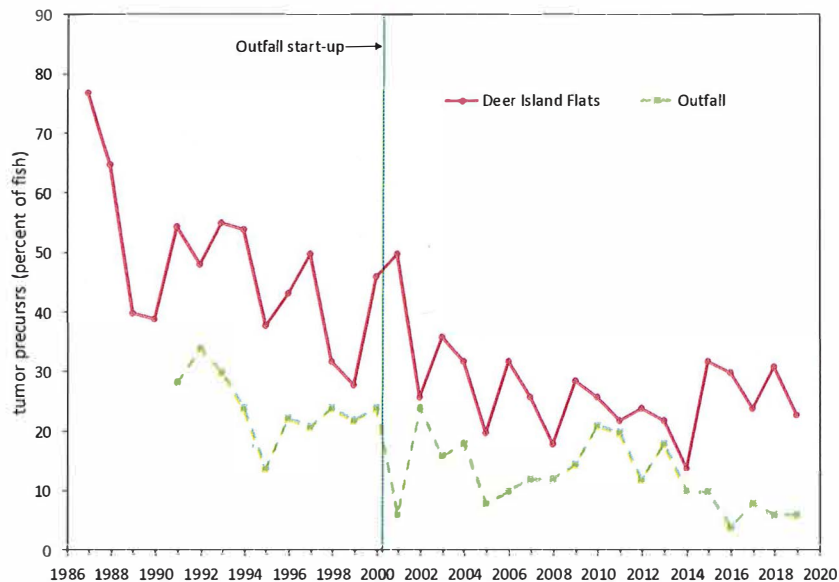


Figure 10. Prevalence of liver tumor precursors 1987-2019 in winter flounder from Deer Island Flats) and near MWRA's outfall.

Contaminants in Fish and Shellfish Tissues

Measurements of priority pollutant contaminants in flounder and lobster caught near MWRA's outfall provide another strong indication that the discharge is having no effect on animals living in the vicinity of the outfall. Sampling is conducted every third year, including 2018. Concentrations of most contaminants in flounder and lobster are decreasing in Boston Harbor and are either remaining stable or decreasing in the nearfield, as shown for chlordane in flounder filet (Figure 11). Contaminant bioaccumulation in blue mussels deployed for two months at the edge of the initial mixing zone of the outfall was below Contingency plan thresholds for all contaminants.

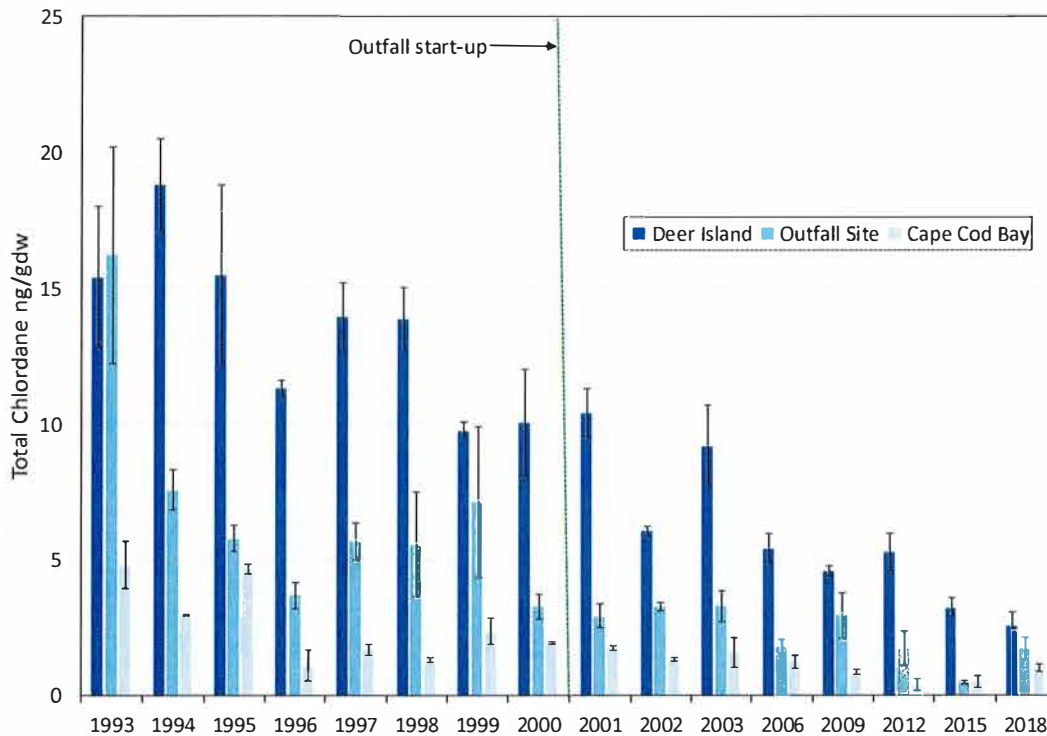


Figure 11. Total Chlordane in flounder filet, 1992-2018.

Assessment of long-term trends in monitoring results.

MWRA's long-term monitoring program (27 years as of 2018) has afforded an opportunity to examine longer-term trends than are possible for most coastal studies. Analyzing trends in temperature, dissolved oxygen concentrations, and the intensity and frequency of storms that can resuspend seafloor sediments can provide new insights into existing monitoring data and help to plan for the future.

Staff have found evidence of climate change in MWRA's monitoring results that are consistent with findings of other researchers. For example, average ocean temperatures in Massachusetts Bay have warmed over 1° F since 1992 (Figure 12). Staff have also identified small declines in dissolved oxygen concentrations that may be associated with the warming temperatures and increasing storminess (not shown).

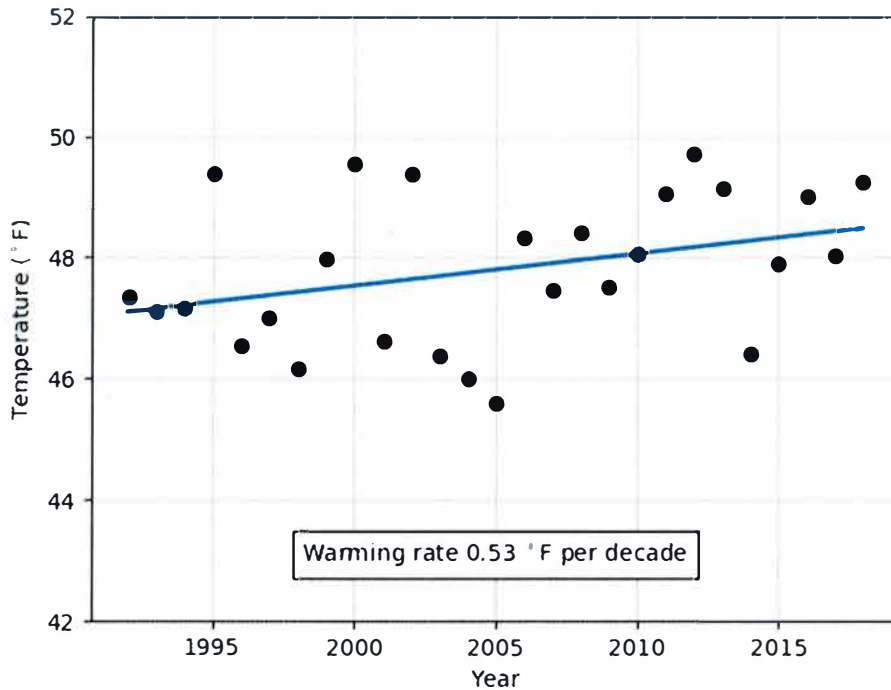


Figure 12. Annual (February-October) average temperature (all depths) for Massachusetts Bay stations, 1992-2018.

Contingency Plan Thresholds

All Contingency Plan thresholds were met in 2018. This includes all effluent quality thresholds. The ambient monitoring measurements of algae biomass, dissolved oxygen, sediment biodiversity, sediment oxygenation, flounder liver disease and fish and shellfish tissue contaminant concentrations were all typical.

Information Outreach Efforts

MWRA places an emphasis on informing the public, area environmental groups, and colleagues in academia and the wastewater industry about the findings from its monitoring. Some specific activities in 2018 and early 2019 include:

- Presented beach and river monitoring results at a number of meetings of regional watershed associations and the Wastewater Advisory Committee;
- Met periodically with researchers and students from local universities (for example, UMass Boston and Northeastern University) and high school groups (for example, the Student Conservation Association) to share results of MWRA’s monitoring, learn about current academic research, and discuss emerging issues of environmental concern (for example, climate change and ocean acidification);
- Participated in advisory and oversight committees for regional monitoring and outreach groups, including the Sea Grant College program, EPA, the Massachusetts Bays National Estuaries Program, and the Northeast Regional Association of Coastal Ocean Observing Systems. Staff promote outreach and information gathering on issues important to MWRA;

- Participated in the development of the Stellwagen Bank National Marine Sanctuary 10-year condition report, which relies heavily on MWRA monitoring results to document excellent water quality in Massachusetts Bay and the Sanctuary;
- Staff have presented papers at multiple oceanographic conferences documenting that MWRA's long-term monitoring results include evidence of climate change consistent with findings of other researchers;
- Staff from ENQUAL and the Department of Lab Services were coauthors on a journal article that showcased the recovery of winter flounder in Boston Harbor as a result of the Harbor Clean-up. After the article appeared, both the Woods Hole Oceanographic Institution and MWRA issued press releases, which resulted in favorable media articles; and
- When completed and submitted to regulators, the 2018 Outfall Monitoring Overview will be posted on MWRA's website and a press release will be issued.

Ambient Monitoring Symposium

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

OMSAP, PIAC, EPA and DEP, with support from MWRA staff, conducted a public workshop on November 13, 2018. This meeting brought together environmental scientists who helped design and conduct MWRA's monitoring, with others who have not been involved in the monitoring, to review monitoring results and emerging environmental issues, and start work on developing possible future monitoring questions.

Workshop participants agreed that the more than a quarter century of monitoring has shown that the outfall has not adversely affected Massachusetts Bay. They expressed concern for new contaminants, including microplastics, which might become environmental problems, recognizing a need to understand sources, as well as potential effects. They also recognized potential difficulties in distinguishing effects of climate change from possible effects of the outfall and speculated that climate-related changes to species ranges might introduce new organisms of interest or concern. Participants noted that, although the initial monitoring questions have been answered, some concerns, such as for endangered species, will persist.

Participants suggested a mix of some ongoing studies combined with new special studies would be needed to address current issues. Many but not all participants recognized that addressing emerging concerns would require regional and national collaborative initiatives beyond the responsibilities of MWRA's discharge monitoring.

Moving forward after the workshop, MWRA has worked with OMSAP and other stakeholders to identify potential revisions to the monitoring plan and refine monitoring questions to address emerging issues.


MWRA has also identified opportunities to partner with outside groups (for example, researchers from the University of Rhode Island, the Water Research Foundation, and the Woods Hole

Oceanographic Institution) on studies of emerging contaminants that are either in development, under review, or under way.

BUDGET/FISCAL IMPACT:

The FY20 Current Expense Budget for required harbor and outfall monitoring, including the water column, sediment, fish and shellfish, and instrumented buoys, is \$1.3 million. A Professional Services procurement is underway for contracts to provide monitoring services required in MWRA's NPDES permit starting in January 2020. Staff anticipate presenting a Staff Summary requesting Board approval at the November 2019 meeting.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: City of Cambridge Proposal for Partial Sewer Separation

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Brian L. Kubaska, P.E., Assistant Director of Engineering, OPS
Bethany Card, Director, Env. & Reg Affairs, Ops. Admin.
John Colbert, P.E., Chief Engineer, Operations
Preparer/Title


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

The City of Cambridge has made a proposal to continue to discharge to MWRA's sewer system a portion of separated stormwater from a section of Cambridge's combined sewer system. The proposed changes would remove peak stormwater flows that contribute to combined sewer overflow (CSO) discharges at MWRA's Cottage Farm facility. Without removal of these peak flows, MWRA will not be able to meet the overflow volumes required in the CSO Long Term Control Plan. This approach also allows a portion of the separated stormwater to continue to drain to the sewer system, thereby reducing the impact of phosphorous and other pollutants on the Charles River. Staff recommend implementing a trial of this proposed "partial sewer separation" given that it will help move MWRA closer to attaining Federal Court mandated levels of CSO control, it is of no cost to MWRA, and will also allow Cambridge to continue to pursue future sewer separation project that will remove additional stormwater from MWRA's sewer system.

RECOMMENDATION:

That the Board approve the Cambridge partial sewer separation proposal for the Cambridgeport system, including the continued but restricted stormwater contribution for a 12-month trial evaluation period, to verify flows and benefits to the MWRA's CSO Long-Term Control Plan.

BACKGROUND:

The City of Cambridge is nearing completion of a sewer separation project that will remove stormwater from the sewer system serving a 218-acre area in the Cambridgeport neighborhood (see Figure 1). The Cambridgeport system discharges to MWRA's North Charles Relief Sewer, which in large storms contributes to overflows at the Cottage Farm CSO treatment facility. Cambridge has completed separation of combined manholes and removal of illicit connections within Cambridgeport; however, the separated stormwater will continue to enter the North Charles Relief Sewer until Cambridge completes ongoing construction of a new stormwater outfall to the Charles River Basin by year's end.

Cambridge has asked MWRA to allow a portion of the stormwater in this separate drainage system to continue to enter the sewer system to help meet future Total Maximum Daily Load

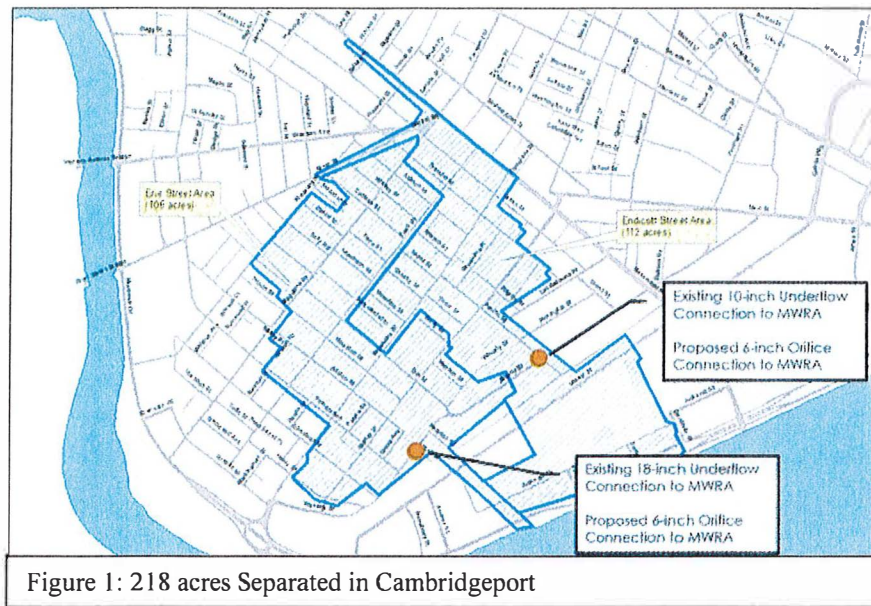


Figure 1: 218 acres Separated in Cambridgeport

(TMDL) limit for phosphorus in the Charles River. Peak stormwater flows, including stormwater flows in the large storms associated with Cottage Farm CSOs, would discharge to the Charles River Basin through the City's new outfall. A portion of the separated stormwater would continue to enter the MWRA sewer system through two existing Cambridge connections (10-inch and 18-inch) whose hydraulic capacities

would be restricted with Cambridge's planned installation of 6-inch orifice plates. The orifice plates are initially sized to limit stormwater flows to the sewer system to the level Cambridge has determined will support their ability to meet the phosphorus TMDL, while maximizing CSO control benefit.

For nearly three decades, Cambridge has been a partner with MWRA in efforts to meet the court-ordered levels of CSO control in MWRA's Long-Term Control Plan (LTCP), including CSO control for the Charles River and the Alewife Brook. Cambridge was a contributing partner in establishing the LTCP levels of control for the Charles River that were recommended by MWRA, approved by EPA and DEP, and accepted by the Court in 2006. MWRA incorporated into the LTCP the benefits of Cambridge's own plans for removing stormwater flows from the Cambridgeport sewers (i.e., "full sewer separation"), but this was prior to DEP establishing, and now enforcing, the Charles River phosphorus limits.

Cambridge is not proposing and staff are not recommending approval of any additional stormwater being added to MWRA's system. Cambridge has supported its "partial sewer separation" request with results of sewer system modeling using an earlier version of MWRA's hydraulic model. That model is undergoing a recalibration effort using data collected as part of MWRA's CSO Post Construction Monitoring and Performance Assessment. Cambridge's results show that its partial sewer separation proposal will not jeopardize compliance with the LTCP levels of CSO control and will help achieve LTCP compliance by reducing CSO discharges at Cottage Farm and other untreated CSO discharges. Cambridge's results also show that full sewer separation for Cambridgeport would not provide an appreciable additional CSO control benefit. MWRA is obligated to report on attainment of the LTCP levels of control by December 2021, in compliance with the last milestone in Schedule Seven of the Federal District Court Order.

MWRA's updated wastewater system hydraulic model, which is anticipated to be complete soon, will enable further analysis of Cambridge's partial sewer separation proposal. Staff believe, based on information currently available, that Cambridge's partial sewer separation proposal for Cambridgeport will support compliance with the LTCP levels of control at Cottage Farm and at hydraulically related untreated Charles River CSO outfalls.


Cambridge has plans to separate combined sewers in other areas of the city, which may contribute to further reductions in CSO discharges to the Charles River. However, the City has reservations about continuing with this sewer separation work given the requirement to meet the Phosphorus TMDL. Cambridge has also requested that MWRA accept partial sewer separation for its 40-acre Western Avenue combined sewer area, which was not included in establishing the LTCP levels of control. Staff intend to investigate this additional proposal and may submit a recommendation to the Board after performing further analyses. Staff do not recommend approval of any proposal that would connect new stormwater to or stormwater already removed from, or otherwise separate from the sewer system.

On October 1, 2019, Cambridge provided a presentation on the proposed partial sewer separation to the operations committee of the MWRA Advisory Board. A subsequent meeting was held by the Advisory Board's executive committee on October 11, 2019 to discuss Cambridge's proposal. MWRA staff met with MassDEP, EPA, and Cambridge on October 9, 2019 to review the partial sewer separation proposal, and DEP has expressed support since the proposal will help MWRA meet the CSO Long-Term Control Plan requirements, and reduce pollutant loading to the Charles River.

Next Steps:

Pending Board approval, Cambridge would install the trial 6-inch orifice restrictions on the existing 10-inch and 18-inch Cambridgeport stormwater connections by year's end, along with activating its new stormwater outfall to the Charles River. At MWRA's request, Cambridge has committed to installing meters on these connections to measure flows before and after installation of the 6-inch orifices. The data will support MWRA modeling and related analyses to assess the benefits and any impacts of partial sewer separation on sewer system and CSO performance, especially relative to the LTCP levels of control. With the benefit of several months of data collection and MWRA assessment, staff will report to the Board its findings on the trial.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Charles River Valley Sewer Rehabilitation - Section 191 and 192
Green Mountain Pipeline Services
Contract 7643

COMMITTEE: Wastewater Policy & Oversight

John Colbert, P.E., Chief Engineer, E&C
Patricia Mallett, P.E., Program Manager, E&C
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 Contract 7643, Charles River Valley Sewer Rehabilitation - Section 191 and 192, to the lowest responsible and eligible bidder, Green Mountain Pipeline Services, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,619,380.00, with a contract term of 180 calendar days from the Notice to Proceed.

DISCUSSION:

Sections 191 and 192 of the Charles River Valley Sewer follow the southern side of the Charles River within Newton. These sections of the MWRA interceptor system provide collection and convey wastewater flows from the City of Waltham and Newton. These interceptor sections were constructed in 1892 and are 42" x 48" diameter elongated oval/horseshoe/circular shaped brick sewer. The South Charles Relief Sewer was constructed in 1954 and is a relief line that runs deeper and parallel to the original Charles River Valley Sewer. Figure 1 presents a site map for Construction Contract 7643.

Recent inspections performed by staff indicated that Section 192 in Newton is structurally deficient in some areas and is in need of rehabilitation. Section 192 was planned for later rehabilitation in the Capital Improvement Program and this project was accelerated. Internal inspections revealed a number of crown cracks in Section 192 and further downstream in Section 191. A portion of Section 192 was previously rehabilitated in 1990 directly upstream of the observed crown cracks to repair a partial sewer collapse. Figures 2 and 3 show examples of the structural deficiencies in Sections 191 and 192.



Figure 1: Proposed Work Sites for Construction Contract 7643

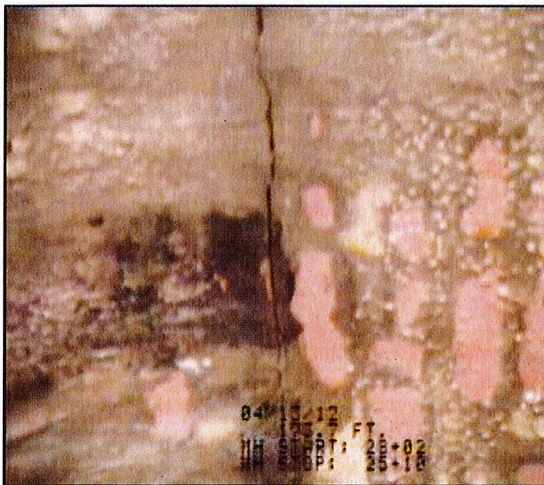


Figure 2: Crown crack in Section 191



Figure 3: Crown crack and missing brick in Section 192

MWRA completed an in-house design to structurally rehabilitate the compromised portions of Sections 191 and 192 of the Charles River Valley Sewer through the installation of a structural cured in place pipe lining. The total length to be rehabilitated is approximately 1,150 feet. The contract will also include rehabilitation of six manholes. The parallel Section 219 of the South Charles Relief Sewer will be used to bypass the majority of the flow. Figure 1 shows the proposed segments of interceptor to be lined under this construction contract.

A developer of a 6-home subdivision off Farwell Street in Newton has installed a temporary access roadway to the property that avoids Section 192, while allowing for construction to continue. MWRA issued an 8m permit to the developer, which prohibits use of heavy construction vehicles

or construction of the permanent roadway over the damaged portion of Section 192 until the structural rehabilitation is completed.

Procurement Process:

Contract 7643 was advertised in the Boston Herald, Central Register, Banner Publications, El Mundo, COMMBUYS, and the MWRA Supplier Portal and bid in accordance with Chapter 30 of Massachusetts General Laws. A pre-bid conference was held on September 11, 2019. Bids were received through the MWRA Supplier Portal and opened on October 2, 2019. The results are presented below.

Bidders	Amount
Green Mountain Pipeline Service:	\$1,619,380.00
RJV Construction Corp.	\$1,764,000.00
<i>Engineer's Estimate</i>	<i>\$1,900,000.00</i>

Green Mountain Pipeline Service's bid is the lowest at \$1,619,380.00, which is \$280,620 (15%) below the Engineer's Estimate. The bid is also \$144,620 (8%) below the second bid.

MWRA has reviewed Green Mountain Pipeline Services' bid in detail and discussed the major bid items with the company's representative. Based on this review, staff are satisfied that Green Mountain Pipeline Services understands the full scope of work and can perform the work for the bid price, which includes the payment of prevailing wages. Green Mountain Pipeline Services affirmatively stated that it bid competitively and aggressively, based on its staff's familiarity with previous MWRA projects. Green Mountain Pipeline Services is a pipeline and full service general contracting company that has completed many projects in New England. It has been in business for over 60 years in the pipeline rehabilitation and lining market.

References were checked and found to be favorable. Outside references noted very good evaluations on projects of greater length than the Charles River Valley Sewer Rehabilitation Project in Newton, Massachusetts and Lewiston, Maine. Green Mountain Pipeline Services recently completed a CIPP lining project in Worcester for a brick/honed rock sewer ranging in size from 28-inch x 42-inch to 48-inch x 72-inch, comparable in size to the Charles River Valley Sewer. Worcester found Green Mountain Pipeline Services exceeded their expectations, especially because they completed this project from 2014 to 2017 during exceptionally harsh winters and maintained the project schedule. Green Mountain Pipeline Services has also successfully completed several past MWRA projects since 2006 as a general, subcontractor, and maintenance repair contractor. Past MWRA projects include: cured-in-place pipe lining for the Reading Extension Sewer; manhole rehabilitation projects in multiple towns/cities including Arlington, Cambridge and Medford; and a service contract for manholes and pipeline rehabilitation.

BUDGET/FISCAL IMPACT:

The FY20 Capital Improvement Program includes a budget of \$500,000 for Contract 7643. The award amount is \$1,619,380.00 or \$1,119,380 over budget. This amount will be absorbed within the 5-year spending cap. The Engineer's Estimate of \$1,900,000 was completed after the Capital Improvement Program budget was finalized. The CIP did not include additional pipe lining which was subsequently included in the latest Engineer's Estimate.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

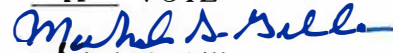
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant
Kemira Water Solutions, Inc.
Bid WRA-4752



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE



Michele S. Gillen

Director of Administration

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



David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the award of Purchase Order Contract WRA-4752 for the supply and delivery of ferric chloride to the Deer Island Treatment Plant, to the lowest responsive bidder, Kemira Water Solutions, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$1,940,000 for a period of one year, from December 1, 2019 through November 30, 2020.

DISCUSSION:

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



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

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

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

Procurement Process

Bid WRA-4752 was advertised in the following publications: Boston Herald, Central Register, Goods & Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system (Event 4022) and six potential bidders were solicited through the e-Portal.

On September 23, 2019, Event 4022 closed with the following results:

Kemira Water Solutions, Inc.	Estimated dry pounds of iron	Chemical	Unit Price per dry pound of iron	Extended Bid Price
	2,000,000	Ferric Chloride	\$0.97	\$1,940,000.00
	2,000,000	Ferrous Chloride	\$1.12	\$2,240,000.00
PVS Technologies, Inc.	Estimated dry pounds of iron	Chemical	Unit Price per dry pound of Iron	Extended Bid Price
	2,000,000	Ferric Chloride	\$1.27	\$2,540,000.00
	2,000,000	Ferrous Chloride	No Bid	No Bid

Bid WRA-4752 was structured as a one-year contract similar to the existing contract, also with Kemira Water Solutions, Inc., which expires on December 31, 2019. Under the current contract, MWRA is paying a fixed unit price of \$0.92 per dry pound of iron for ferric chloride for an annual cost of \$1,840,000. Compared to the existing contract, the cost has increased by \$0.05 per dry pound of iron (a 5.15% increase over the last contract).

This year's price increase, according to Kemira Water Solutions, Inc., is a direct result of recent unprecedented increases in trucking and rail freight costs. These costs have increased between 3% and 10% since 2017 depending on the mode of transportation, carrier, and region. In addition, the supply and costs of key raw materials used in coagulants continue to escalate and are compounded by global and regional market conditions linked to high demand for finished goods and raw material production constraints. While this contract does not seem to be as impacted by the volatility of the raw materials market, past contracts have seen this impact. Maintaining a chemical

supply contract with a shorter one-year term seems to have controlled these volatile costs. Raw material cost escalation is expected to continue for the remainder of 2019 and into 2020.

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

BUDGET/FISCAL IMPACT:

MWRA's FY20 Current Expense Budget includes \$1,639,301 based on projected quantities of approximately 1.75 million dry pounds of iron. The overspending will be absorbed within the FY20 Operations Division CEB. Appropriate funding will be included in the Proposed FY21 CEB for the remaining term of the contract.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: Deer Island Treatment Plant Pump Refurbishment
A.W. Chesterton Company
Contract S581, Change Order 1



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

David F. Duest, Director, Deer Island WWTP
Edward Regan, Deputy Director, DITP Maintenance
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 1 to Contract S581, Deer Island Treatment Plant Pump Refurbishment, with A.W. Chesterton Company, for an amount not to exceed \$77,814 increasing the contract amount from \$98,976 to a total not to exceed amount of \$176,790, and extending the contract term by 135 calendar days from August 18, 2019 to December 31, 2019.

DISCUSSION:

Implementation of initiatives to reduce energy demand, and the continued assessment and evaluation of sustainable cost-saving opportunities, are long-standing goals of the MWRA. As part of this comprehensive energy strategy, staff continue to explore opportunities to reduce MWRA's reliance on purchased power and implement cost-effective energy efficiency measures, such as the reduction of power consumption related to pump optimization and refurbishment. MWRA has an active Memorandum Of Understanding with Eversource to encourage energy efficiency improvements and demand reduction projects with incentive funding.

Deer Island has ten raw wastewater pumps in North Main Pump Station. MWRA staff routinely maintain these pumps to ensure they operate at maximum efficiency. Any repairs on these pumps are considered a priority and are performed promptly. A.W. Chesterton's Fluid Efficiency Services Team (a certified Eversource energy auditor) performed an energy efficiency audit on Pump number 9. Pump number 9 was selected for this focused assessment, following a previous, more generalized Eversource-led energy audit of the North Main Pump Station. The goal of the assessment was to identify opportunities for optimization of the pumping equipment for energy savings. Pump number 9 was identified as operating below an acceptable pump efficiency level. This resulted in the execution of Contract S581 with Chesterton to return the pump to like-new condition and in so doing; increase energy efficiency, reliability, and extend the pump's useful life.

Contract S581 requires the Contractor to refurbish the spare rotating assembly and coat internal pump parts to increase the pump's efficiency. The scope of work includes; blasting, coating, and refurbishment of pump number 9's volute (in-place) and installation of new wear rings, impeller balancing, and replacement of bearings and gaskets on the spare rotating assembly (off-site). Staff opted, with Eversource's agreement, to refurbish a spare rotating assembly instead of disassembling pump number 9, in order to minimize downtime from 16 weeks to one week.

This Change Order

During the Contractor's inspection of the spare rotating assembly, two major issues were identified which are outside the scope of work: 1) additional repair work is needed on the spare rotating assembly; and 2) there is concern there may be excess wear inside the volute of pump number 9 due to the discovery of excessive wear on the rotating assembly.

Change Order 1 consists of the following three items:

Replace Slinger, Perform Chrome Plate Repair and Machine Impeller Keyway on Spare Rotating assembly \$21,814

The Contractor completed a full internal inspection of the spare rotating assembly to assess the repairs required to return the spare rotating assembly to optimal efficiency and the original equipment manufacturer's specifications. During the inspection the Contractor observed the following 1) a damaged slinger, which prevents contaminants from entering the bearing area; 2) scoring on the shaft where the bearing fits on the shaft, which requires to chrome plate shaft and then machine back to original equipment manufacturer specification; and 3) that the impeller keyway needs to be machined back to original equipment manufacturer's specifications. These issues could not have been detected without performing this detailed internal inspection. These repairs are necessary to assure a reliable working spare rotating assembly. The total cost of this additional work is \$21,814.

Perform Repairs Inside Pump Number 9 Volute as Necessary Not to exceed \$56,000

During inspection of pump number 9, deterioration was observed on the spare rotating assembly. MWRA staff and the Contractor anticipate there may be additional wear inside the volute of pump number 9. If the clearances within the volute are not per specifications, this will promote internal fluid recirculation resulting in reduced pumping capacity and efficiencies. Staff requested the Contractor to provide a not-to-exceed cost proposal should additional damage be found inside the volute. The Contractor estimates that the cost for any additional repairs should not exceed \$56,000. The Contractor will provide an actual cost once pump number 9 is removed.

Extend the Contract Term by 135 Calendar Days \$0.00

The contract must be extended by 135 calendar days from August 18, 2019 to December 31, 2019 to allow sufficient time to perform the repair services above.

Total Investment Costs

Additional costs due to unforeseen repairs is between \$21,814 and \$77,814 as detailed above. The Eversource approved energy-efficiency incentive remains at \$58,955. The Eversource incentive is based on energy savings from the current state to the proposed increase in efficiency; therefore, no additional incentive is available for supplementary work. The net MWRA cost for the project therefore would be between \$61,835 and \$117,835. The estimated electricity savings remains at 235,820-kilowatt hours per year (“kWh/yr.”) or \$20,045 per year (calculated at \$0.085 per kWh). The additional pump refurbishment work is also expected to extend the useful life of the equipment and reduce maintenance costs. See revised payback below based on the additional work.

Pump	Estimated Savings kWh/yr.	Est Savings \$/yr.	Estimated range of cost	Eversource Incentive	Net Cost Range	Payback Range (years)
North Main Pump 9	235,820	\$20,045	\$120,790 to \$176,790	\$58,955	\$61,835 to \$117,835	3 - 5.8

Staff evaluated the option of paying the Contractor to return the spare rotating assembly back to MWRA, and bidding a new contract to refurbish the rotating assembly including additional work. If this option was chosen, MWRA could lose the Eversource incentive money of \$58,955. Staff recommend the change order as the best option for the MWRA. The payback for the energy savings still makes this an attractive project and North Main Pump Station reliability will be improved.

This work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a not to exceed amount of \$176,790 for this additional work; and to extend the contract term by 135 calendar days, from August 18, 2019 to December 31, 2019. Work associated with this proposed change order has not yet begun.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	\$98,976.00	180 Days	02/07/19
Change Orders:			
Change Order 1:	<u>\$77,814.00</u>	<u>135 Days</u>	Pending
Total Change Orders:	\$77,814.00	135 Days	
Adjusted Contract:	\$176,790.00	315 Days	

If Change Order 1 is approved, the cumulative total value of all change orders to this contract will be \$77,814 or 78.61% of the original contract amount.

BUDGET/FISCAL IMPACT:

There are sufficient funds available for this contract in FY20 current expense maintenance budget. This project is expected to result in electricity savings of approximately \$20,045 annually. In addition, MWRA will receive \$58,955 incentive rebate from Eversource once the project is completed. The incentive rebate will be credited to the “Energy Rebates” Account.

MBE/WBE PARTICIPATION:

There were no MBE or WBE participation requirements established for this contract because of the limited opportunities for subcontracting.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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Fax: (617) 788-4899
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WATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, October 16, 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 Lead and Copper Rule (verbal report)
2. Metropolitan Tunnel Redundancy Program Update

B. Approvals

1. Emergency Water Supply Agreement with the Town of Burlington

C. Contract Amendments/Change Orders

1. Northern Intermediate High Section 110 – Stoneham: Albanese D&S Inc., Contract 7067, Change Order 10

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Water Policy and Oversight Committee

September 18, 2019

A meeting of the Water Policy and Oversight Committee was held on September 18, 2019 at the Authority headquarters in Charlestown. Committee Chair Peña presided. Present from the Board were Ms. Wolowicz and Messrs. Cook, Cotter, Flanagan, Foti, Vitale and Walsh. Messrs. Carroll and Pappastergion were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michael McDonald, Denise Breitenicher, Bethany Card, John Gregoire, John Colbert, William Sullivan and Kristin MacDougall. The meeting was called to order at 10:08 a.m.

Information

Update on Quabbin Cemetery (verbal report)

Staff made a presentation. There was discussion and questions and answers. The committee agreed that a new well should be installed at the cemetery. MWRA staff noted that they will present a plan for further proposed cemetery improvements at a future Board meeting. (ref. W A.1)

Approvals

* Battery Storage Demonstration Project at Brattle Court Pump Station and Chelsea Facility – Utility Tariff Optimization Service and Site License Agreement: Stem, Inc.

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

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

Contract Awards

* Design and Engineering Services During Construction for Quinapoxet Dam Removal; Milone & MacBroom, Inc. Contract 7347

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

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

* Committee recommendation approved by the Board on September 18, 2019

* Section 56 Replacement Saugus River Crossing, Design and Engineering Services During Construction: AECOM Technical Services, Inc., Contract 7454

Staff made a verbal presentation. (Mr. Foti returned to the meeting during the presentation.) Ms. Wolowicz briefly left and returned during the presentation. There were questions and answers.

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

Contract Amendments/Change Orders

* Wachusett Aqueduct Pumping Station Design, Construction Administration and Resident Inspection Services: Stantec Consulting Services, Inc., Contract 7156, Amendment 5

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

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

The meeting adjourned at 11:06 a.m.

* Committee recommendation approved by the Board on September 18, 2019

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: Metropolitan Tunnel Redundancy Program Update



COMMITTEE: Water Policy and Oversight

X INFORMATION
VOTE

Frederick O. Brandon, P.E., Director, Design and Construction
Preparer/Title


Kathleen M. Murtagh, P.E.
Director, Tunnel Redundancy

RECOMMENDATION:

For information only.

DISCUSSION:

This staff summary provides an update on the following key ongoing activities to support the Metropolitan Tunnel Redundancy Program:

- Procurement of Preliminary Design Engineering Contract
- Hydraulic Analysis of the Proposed Tunnels
- Formation of an Expert Review Panel

Procurement of Preliminary Design Engineering Contract

The procurement process for Preliminary Design, Geotechnical Investigations, and Environmental Impact Report (Contract No. 7159) formally commenced on October 2, 2019. This contract will be procured under a two-step procurement process: a Request for Qualifications Statements (RFQ) followed by a Request for Proposals (RFP) issued to shortlisted firms. The Preliminary Design Engineering contract will have a duration of approximately three and a half years.

The Preliminary Design Engineering contract will include the preliminary geotechnical investigation (deep rock borings), evaluation of preliminary tunnel alignment and shaft site alternatives, preliminary design, preliminary contract packaging, preparation of the required MEPA filings and will establish a comprehensive list of the environmental permits needed. The tasks included in this contract require substantial amounts of coordination with environmental regulatory agencies in order to ensure that the data and documentation generated result in a robust alternatives analysis in the MEPA process. In addition, early interaction with regulators, will limit comments and concerns raised by agencies in the earlier MEPA phases.

While the Preliminary Design Engineering contract is underway, MWRA will simultaneously be implementing its communication plan to ensure that all stakeholders are informed as to the importance of this effort and what can be expected in the years ahead. This contract does not

have a direct communication task, however the work done under this contract will be utilized to support MWRA's communications efforts, which should in turn yield more informed comments during the MEPA process.

At the completion of the Preliminary Design Engineering contract, the goal is to have selected the alignment of the proposed tunnels and have identified the location of shaft sites for construction and interconnection with the existing water system, pending land acquisition and final permits.

The Preliminary Design Engineering contract will result in several significant project documents including:

- Preliminary Geotechnical Data and Design Reports
- Evaluation of Alternative Tunnel Alignments
- Draft and Final Environmental Impact Reports
- Preliminary Design Report and Drawings

The following is the schedule for procuring the Preliminary Design Engineering Contract:

Issue Request for Qualifications	10/2/2019
Qualifications Statements Due	11/1/2019
Issue Request for Proposals to Finalists	12/2/2019
Proposals Due	2/14/2020
Recommend Contract Award to Board of Directors	April 2020
Notice to Proceed	May 2020

After the completion of the preliminary design, consultants will be needed to support both final design and construction management of the Program. Future staff summaries will provide details on the structure of those contracts.

Tunnel Hydraulics

Water Use Projections

It is expected that the proposed new tunnel system will be placed into service in or around 2037 (17 years after beginning Preliminary Design) and that the system will have a useful life of more than one hundred years. Therefore, the tunnel will be designed to accommodate future potential demands or have the ability for incremental increases in its capacity to address future water use.

Projecting the demand on the MWRA system into the future requires the acknowledgment of two competing trends: continuing increases in efficiency in the home and workplace and an increase in population and employment within the service area. Any projections must also include assumptions about the potential for partially supplied customers to turn toward the MWRA for an increased portion of their supply periodically or long term, and the possibility that new communities will opt to join the MWRA system. How all these assumptions are worked together can provide varying degrees of conservatism in the planning projections.

Staff have obtained population and employment projections for the metropolitan service area

extending to 2040 and population projections through 2060. These projections were used to develop a range of potential future water use taking into account varying degrees of increased water use efficiency.

Population and employment projections through 2040 prepared by planning agencies, primarily the Office of Transportation Planning in the Massachusetts Department of Transportation (MassDOT) and the Population Estimates Program of the Donahue Institute at the University of Massachusetts Amherst, were used as the starting point for developing future water demand projections.

Longer term population projections through 2060 were obtained from a private company (ProximityOne) that provides geographic, demographic and economic data to public and private sector organizations.

The above population and employment projections were used to develop high, medium and low average day water use projections as shown in Figure 1:

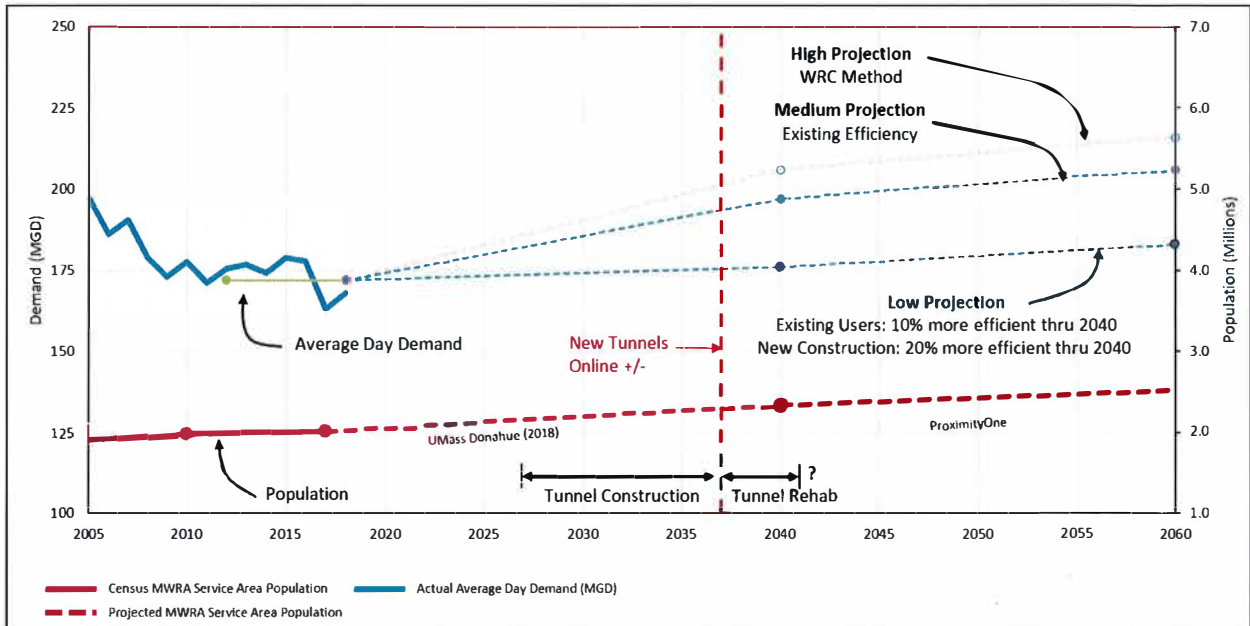


Figure 1. Average Day Water Use Projections - Metropolitan Area.

High Projections: The high water use projection utilized the Massachusetts Water Resources Commission state-wide water needs forecasting methodology, which assumes a residential gallons per capita per day use of 65 and an employment water use of 45 gallons per employee per day.

Medium Projections: The medium water use projection utilized the current community-specific residential and employment water use within the MWRA water service area. This results in an average residential water use of 53 gallons per capita per day and an employment water use of 30 gallons per employee per day.

Low Projections: The low water use projections assumed that existing residential water users will continue to become more efficient by ten percent through 2040 and that new residential

construction will be twenty percent more efficient than the average existing user (42 gallons per day per capita). Projected water use due to employment assumed that the existing average water use of 30 gallons per day per employee would continue into the future.

The results of the above water use projections were added to the existing baseline average day water use to develop a range of future water use. Average day water use fluctuates from year to year based primarily on the weather and the status of local water supplies in partially supplied communities. Therefore a baseline average day demand was developed by averaging the water use over five of the last seven years (2012 – 2018). Water use for the drought years of 2015 and 2016 was not used because these are considered atypical years. The effect of short term droughts on high day demands is included in the high day demand peaking factor discussed below. This baseline average day water use served as the starting point for water use projections into the future.

Since the proposed tunnels will be designed to supply high day demands, community-specific average day to high day water use peaking factors were developed based on historic water use in the MWRA system. These peaking factors include any additional water use by partially supplied communities during the drought of 2015-2016. These peaking factors were applied to the projected average day demands to develop high and medium projected high day demands (Figure 2). Since the low projection for average day demand has been experienced as recently as 2012, 2013, 2015 and 2016, the historic high day water use during this period was used for the 2040 low projection for high day demand.

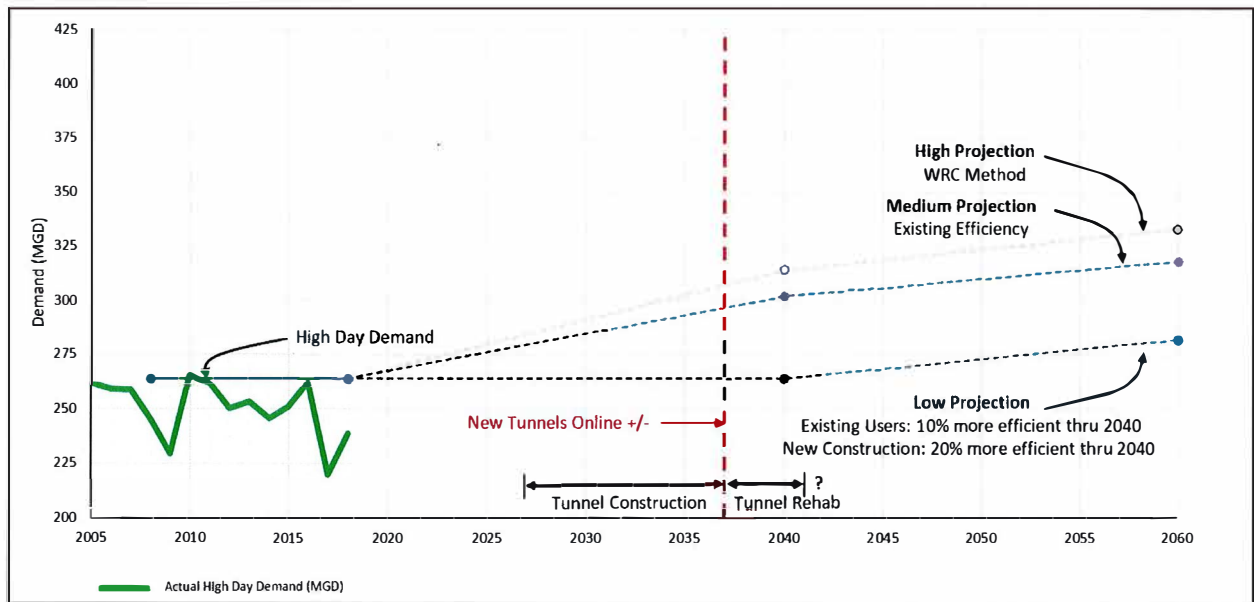


Figure 2. High Day Water Use Projections - Metropolitan Area.

The current two-tunnel concept will accommodate the low projection of high day demand through 2040. That is, the proposed tunnel can supply high day demands with the existing Metropolitan Tunnel System off line assuming the low projection. If the higher water use projections begin to materialize in the future, the ability of the proposed tunnel system to convey more water could be increased by extending it deeper into the distribution system as shown in Figure 3. For example, the northern tunnel could be extended further to the north as far as the Gillis pumping station and the southern tunnel could be extended further to the south as far as Shaft 7D on the Dorchester Tunnel to accommodate higher future demands. However, adding

more tunnel capacity to the water system also increases the residence time of water (water age) during normal demands. This longer residence time could increase the potential for water quality deterioration within the water system. The issue of water age is discussed further in the next section. At this time, staff believe the proposed tunnel configuration adequately meets projected needs. However, the tunnels should be designed in a manner which allows for future extension further to the north or south should higher future demand projections be validated. Staff will continue to monitor system water use during Preliminary Design and continue to analyze the hydraulics of the new tunnel with respect to potential increases in water demand.

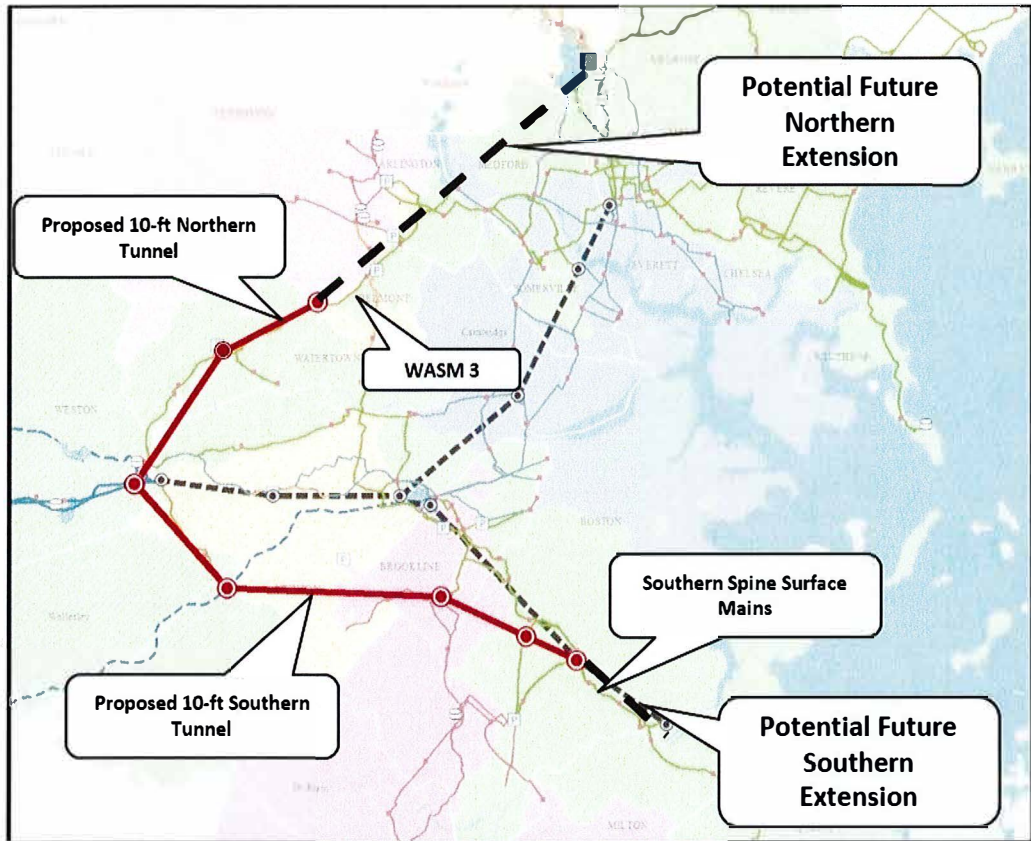


Figure 3. Potential future tunnel extensions.

Effect of the Proposed Tunnel on Water Age

The addition of new tunnels to the water system increases the residence time of water (water age) during normal demands. Staff are carefully evaluating increases to residence time in order to protect against any water quality deterioration within the water system. For example, during the fall season when the water temperature is still relatively warm and water use is lower after the outdoor watering season is over, MWRA has seen occasional indications of nitrification (the conversion of ammonia in chloraminated water into nitrite and then nitrate) in both MWRA and local community distribution storage tanks. This phenomenon is usually addressed by increasing mixing and water turnover in the storage tanks.

Staff have evaluated the effect of the proposed new tunnels on water age within the MWRA water system. Water age was calculated using the hydraulic model of the water system with typical fall day demands under existing conditions and future conditions when both the existing and new tunnels would be in operation. The water age was calculated from the finished water of the Carroll Water Treatment Plant to key locations within the metropolitan water system. The water age with existing and proposed tunnels on line ranges from 2.3 days to 5.8 days at key locations. Based on staff experience with water quality monitoring throughout the distribution system water quality issues related to increased water age are not anticipated with the current tunnel concept.

Expert Review Panel

The use of an independent expert panel is a common practice for large programs in the tunnel engineering and construction industry. An expert panel can provide an important contribution to overall quality control, program accountability and risk mitigation strategies through all phases of a program. The Program Support Services consultant contract (7655) awarded in March 2019 includes an allowance for the establishment of such a panel.

The Expert Review Panel for the Metropolitan Tunnel Program will participate in regularly scheduled full-panel workshops, which will be focused on key elements of the Tunnel project such as risk mitigation, communication, program management and tunnel design and construction. From time to time individual panel members may be asked to provide input and advice on specialty subjects related to the panel member's expertise.

Composition of the Expert Review Panel

The composition of the Expert Review Panel may need to adapt as the Program advances through its various phases. However, maintaining a certain level of continuity in the composition of the Expert Review Panel to ensure efficient and consistent advisory support as the Program advances is also important. At this initial Preliminary Design phase of the Program, the Expert Review Panel is proposed to include experts with experiences and perspectives on a variety of specialties, including:

- Public agency, large infrastructure program implementation and administration
- Rock pressure tunnel design
- Geotechnical and Geologic investigations for deep underground projects
- Deep rock tunnel and shaft construction

The Expert Review Panel will include individuals with national expertise as well as individuals with expertise in local projects including MWRA's Boston Harbor Project and the Integrated Water Supply Program. Considering the desire for expertise in the above specialties, the following panel members are proposed:

- Richard Fox, Boston Harbor Cleanup Program – Perspective: Large Program; Past MWRA Experience
- Michael McBride, MetroWest Water Supply Tunnel Project – Perspective: Past MWRA Tunnel Program and Construction Manager

- Erika Moonin, Southern Nevada Water Authority, Lake Mead Intake Tunnel Program – Perspective: Large Program; Public Agency Project Manager
- Gary Brierley, Rock Tunnel and Shaft Design – Perspective: Tunnel and Shaft Designer
- Gaylin Rippentrop, Rock Tunnel Construction – Perspective: Tunnel and Shaft Contractor

Biographies of each of the above panel members are included in Attachment A.

Panel Implementation

The members of the Expert Review Panel will be under contract with the Program Support Services consultant to provide advice and consultation for the Tunnel Redundancy Program on an as-needed basis. The Panel will likely be utilized during all phases of the program, however it will initially be established to provide advisory support through the Preliminary Design phase. Panel sessions are proposed to be held at key program milestones that may include: pre-submission drafts of the various environmental reports (DEIR, FEIR); Preliminary and Final Design deliverables; and other key decisions points such as prior to the start of major geotechnical investigation phases. These sessions will be held in a workshop format and each workshop will take place over the course of two days. It is anticipated that the Expert Review Panel will convene five times over the course of the Preliminary Design Phase.

BUDGET/FISCAL IMPACTS:

The FY12 CIP includes a budget of \$16,000,000 for Contract 7159 Preliminary Design, Geotechnical Investigations and Environmental Impact Report.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for Contract 7159 Preliminary Design, Geotechnical Investigations and Environmental Impact Report have been established at 7.18% and 5.77% respectively.

ATTACHMENTS:

Attachment A: Proposed Expert Panel Biographies

Attachment A
Proposed Expert Panel Biographies

Richard Fox

Mr. Fox currently serves as an adjunct Professor at Merrimack College teaching Project Management Masters course. In his role as Program Director for the MWRA's Program Management Division (PMD) he managed and directed the planning, design and construction of the Boston Harbor Project. This project involved, among other elements construction and commissioning of the Boston Harbor Outfall Tunnel; Inter-Island Tunnel and Deer Island Wastewater Treatment Plant. Mr. Fox was responsible for assembling and directing the management team responsible for this \$3.8 billion dollar construction program to clean up Boston Harbor.

Prior to retiring from CDM Smith, in his roles, including Chairman and CEO, Mr. Fox was responsible for all operations outside of North America including large offices in Cairo, Singapore, Hong Kong, Chennai and Germany, and directing CDM Smith's program management projects worldwide.

Michael McBride

Mr. McBride is a Professional Engineer with over 40 years of industry experience on Water/Wastewater, Transportation, Tunnel and Higher Education projects. His experience comes both from an owner's perspective and from a consulting perspective. He has led or been part of planning, development, design and construction management teams on mega projects including the \$ 3.8 billion Boston Harbor Project and \$2 billion for water treatment and transmission infrastructure with the Massachusetts Water Resources Authority. Serving as Chief Engineer and Deputy Chief Operating Officer at MWRA, he played a key role on several large infrastructure programs, including: the \$200 plus million Braintree-Weymouth Tunnel/Relief Facilities Program; the \$280 million South Boston CSO Tunnel project; the Blue Hills Covered Storage design/build project; and the \$1.7 billion Integrated Water System Improvement Program, which included the 17.6-mile, 14-foot-diameter hard rock MetroWest Water Supply Tunnel.

Erika Moonin

Ms. Moonin is currently serving as Engineering Project Manager for the Southern Nevada Water Authority, Engineering Department. As the Engineering Project Manager she is responsible for leading, organizing and directing an integrated team to plan, design, and construct large and complex projects as part of the Authority's \$2.2 billion Capital Improvement Program and \$1.3 billion Major Construction Capital Program. Ms. Moonin's expertise comes from her experience as a lead manager for complex underground tunnel construction and water supply capital programs. She has proven team leadership experience for the successful planning, design, construction and commissioning of multiple large and complex/high risk projects.

Recent accomplishments include her lead role planning, organizing and directing the planning, engineering design and construction of the large complex Lake Mead Intake No. 3 project, totaling approximately \$1.35 billion. Responsible as Project Manager from early planning phase, design, construction through commissioning. The project includes the construction of a 20-foot-diameter

3-mile-long tunnel beneath the lake to a new intake structure, connector tunnels, and new pumping station.

Dr. Gary Brierley


Dr. Brierley has more than 50 years of experience with both the technical and nontechnical aspects of underground engineering and construction management. Dr. Brierley began his career with the Bachelor of Science degree in Engineering from Tufts University in 1968 and the Master's and Doctor's degrees from the University of Illinois in 1970 and 1975, respectively. Dr. Brierley has worked on more than 500 major soil and rock tunneling projects involving design, construction management and consultation for owners, contractors, engineers, public agencies, and attorneys. He served as President of Brierley Associates. Dr. Brierley has provided his technical and professional support on many tunnel projects in Massachusetts including: MWRA's South Boston CSO Tunnel; MWRA's Braintree-Weymouth Tunnel; MWRA's Deer Island Outfall Tunnel; Army Corp's Quincy Town Brook Tunnel; MBTA's Red Line Extension Tunnels; and MWRA's (MDC) Dorchester Tunnel;

Galyn "Rip" Rippentrop

Mr. Rippentrop is a nationally recognized expert for underground construction elements on large tunnel and CSO projects. He has over 40 years of experience, most recently focused on advising clients on their large-scale tunnel construction projects and has managed major tunnel projects across the nation and internationally, including Puerto Rico, Washington DC, South Carolina, Colorado, Virginia, Washington and Denmark. He served as President and Chief Executive Officer for Frontier-Kemper Constructors, Inc. a nationally renowned underground construction company, after a career of 23 years with Peter Kiewit Sons.

Mr. Rippentrop currently serves as a tunnel construction expert for the DC Water's Clean Rivers Program, where Mr. Rippentrop has been providing technical expertise on the Project Review Board since 2009 during which DC Water has been implementing a program to construct 18 miles of soft and hard rock tunnels beneath Washington DC.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: October 16, 2019
SUBJECT: Emergency Water Supply Agreement with the Town of Burlington

COMMITTEE: Water Policy & Oversight

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

 INFORMATION
 VOTE


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

RECOMMENDATION:

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

DISCUSSION:

On October 4, 2019, the Town of Burlington Department of Public Works submitted a request to MWRA for emergency withdrawal under MWRA's Operating Policy #:OP.05: Emergency Water Supply Withdrawals, which applies to communities outside MWRA's Water Service Area that are seeking MWRA water on an emergency basis. The MWRA has the authority to approve short-term emergency connections for up to a 30-day period. Emergency connections lasting longer than 30-days and up to six-months require MWRA Advisory Board and MWRA Board approval. Upon approval, long-term emergency connections are subject to the implementation of a six-month Emergency Water Supply Agreement. All emergency connections require a coinciding MassDEP Declaration of Emergency for the community.

The Town of Burlington has had on-going water supply issues and needs to perform maintenance at its surface water treatment facility (Mill Pond). This work requires shutting down the facility to remove sludge from the sedimentation basin and other required maintenance. In accordance with MassDEP's Emergency Declaration and MWRA policy, on September 23, 2019, the Burlington Board of Selectman voted to implement a full water ban. Burlington can receive MWRA water on an emergency basis via its existing interconnections with Lexington. The ability of Lexington to supply Burlington, even during periods of high demand, with no negative impact to either Lexington or MWRA water systems, has previously been established in flow tests. Burlington has utilized this connection during six other emergency events over the past two years. It is anticipated that the connection may need to stay open for up to six months in total. On September 30, 2019 MassDEP issued an Emergency Declaration for Burlington (attached) which extends until March 30, 2020. Pursuant to OP.05, MWRA has approved a short-term emergency connection, and in anticipation of a longer term need, requests approval to extend the connection for up to six months, pending Advisory Board approval.

Emergency Water Supply Approval Criteria and Requirements

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

- The Executive Director or the Chief Operating Officer is authorized to approve the emergency use of MWRA water through an existing or temporary connection to the MWRA or an MWRA water system community by a non-MWRA water system or facility for a period not to exceed thirty (30) calendar days.
- Emergency connections lasting longer than 30 days and up to six months require MWRA Advisory Board and MWRA Board of Directors approval. These long-term emergency connections are subject to an Emergency Water Connection Agreement between the community and MWRA.
- A MassDEP declaration of water supply emergency in the requesting community, or alternatively, submission by the community of documentation supporting the existence of conditions that could lead to a DEP declaration of water supply emergency per G.L.c21 G §15, is required for these emergency situations. Approval shall only be granted based on emergencies of non-chronic nature, such as supply and transmission disruptions.
- There must be no negative impact on MWRA's system and member communities.
- A long-term plan to remedy supply deficiencies must be developed.
- The applicant community does not use MWRA water supply as a chronic emergency back-up supply without equitable contribution for the fair asset value of the MWRA waterworks system.
- The Community must submit a detailed description of water conservation and water accountability programs undertaken.

Contents of Emergency Water Supply Agreement

The Agreement limits water withdrawals to a maximum rate of 0.7MGD. The proposed long-term emergency connection and emergency water supply agreement will be for the remaining months of the period that begins on November 21, 2019 through March 30, 2020, provided the MWRA Advisory Board approves. Pursuant to the Agreement, all withdrawals must be metered. The Agreement also requires Burlington to adhere to all conditions and requirements contained in the MassDEP Declaration of Water Supply Emergency. The Agreement reflects MWRA's charges for emergency withdrawals, including a 30% premium charge added to the prevailing rate as well as to the net asset value contribution payment.

Status of Admission Process

Burlington's ability to join the MWRA is subject to the Massachusetts Environmental Policy Act (MEPA) and the Interbasin Transfer Act. Burlington has been working closely with the MWRA

on this approval process. On November 21, 2018 Burlington's Environmental Notification Form was published for public comment in the MEPA Environmental Monitor. Burlington is currently working to finalize details and complete a mandatory Environmental Impact Report. MWRA staff are working closely with Burlington and other agencies to assist and provide information for this environmental review process.

BUDGET/FISCAL IMPACT:

Pursuant to OP.05, water taken for the seventh emergency withdrawal period is charged at 130% of the MWRA prevailing rate which is currently \$5,228 per million gallons. In addition, 130% of the net asset value will be charged. MWRA will review actual use information to determine and assess the required payment amounts, however the volume of the emergency withdrawals and the amount of revenue that MWRA will receive cannot be projected at this time. The net asset value payment (not including the 30% premium) will be applied to the entrance fee when Burlington joins MWRA.

ATTACHMENTS:

Draft Burlington Emergency Water Supply Agreement
MassDEP Emergency Declaration
Town of Burlington Request for Emergency Water Supply

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

Parties.

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

Recitals.

- R.1 The MWRA was created by the Massachusetts legislature in December, 1984 to operate, regulate, finance, and modernize the waterworks and sewerage systems servicing the greater metropolitan Boston area. Operating pursuant to the terms of Section 8(d) of its Enabling Act, chapter 372 of the Acts of 1984 (the “Act”), and pursuant to the Policies and Procedures for Emergency Water Supply Connections of its Board of Directors, the MWRA may enter into arrangements to provide emergency supplies of water to any local body of the Commonwealth, provided certain conditions are met.
- R.2 Burlington is a duly constituted municipal corporation of the Commonwealth of Massachusetts (“Commonwealth”).
- R.3 Lexington is supplied by the MWRA and Burlington has an emergency interconnection through Lexington to the MWRA water supply system.
- R.4 Burlington’s drinking water sources include both wells in the Vine Brook Aquifer as well as surface water pumped from the Shawsheen River to the Mill Pond Reservoir in Burlington. The ground and surface water sources are served by the Vine Brook Treatment Plant and the Mill Pond Treatment plant, respectively. Water quality factors have required the removal of some of Burlington’s wells from service and needed facility repairs have temporarily impacted Burlington’s ability to meet water demand with its local sources alone.
- R.5 On October 4, 2019, the Town of Burlington Department of Public Works, in a letter to MWRA, notified MWRA there is a need to shut down its Mill Pond Treatment facility in order to remove sludge from the sedimentation basin and other required maintenance. Because of ongoing water supply issues at its Vine Brook Treatment Plant, it had concerns about water levels and an emergency connection was desired.

- R.6 On September 30, 2019, the MA Department of Environmental Protection (MassDEP) issued a Declaration of Water Supply Emergency to Burlington, to remain in effect until March 30, 2020, or until such time as MassDEP determines that emergency conditions no longer exist, whichever is sooner. The Declaration of Water Supply Emergency is included as Attachment A to this Agreement.
- R.7 The MWRA's Policy for Emergency Water Supply Withdrawals, OP#.05 (the "Policy") includes criteria and a process for approving requests for emergency withdrawals.
- R.9 Burlington has applied to the MWRA to use emergency interconnections to the MWRA system through Lexington to supplement Burlington's local water supply sources on an as-needed basis.
- R.10 The MWRA has determined that it can supply Burlington with an emergency water supply for a period not exceeding six months under this Agreement without jeopardizing its ability to supply its member communities and without exceeding the safe yield of its water supply system.
- R.11 Burlington must comply with all applicable legal and regulatory requirements.
- R.12 Pursuant to the MWRA Policy, this Agreement is considered an Emergency Water Supply Agreement Period Seven.

AGREEMENT

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

1. The proposed emergency water supply agreement will extend from November 21, 2019 to March 30, 2020 in accordance with the terms of this Agreement, subject to termination in accordance with numbered paragraph 11 below.
2. Burlington may take water from the emergency interconnection at a maximum rate of .7million gallons per day over the period of this agreement.
3. The transfer of water from the MWRA through Lexington to Burlington shall not extend beyond a period of six months, unless Burlington submits an application for an additional emergency water supply withdrawal and the MWRA's Board of Directors approves the additional emergency water supply withdrawal. Any withdrawals beyond the DEP Emergency Declaration six-month period will also require an extension of DEP's Water Supply Emergency Declaration. In considering withdrawals beyond six months, the MWRA will consider Burlington's efforts to reduce consumption, to implement its long range plans and comply with DEP orders, and to implement a water conservation program.
4. During the term of this Agreement, Burlington shall institute and continue all practicable conservation measures including, but not limited to, a water conservation public education program; 100% metering; leak detection surveys and rehabilitation programs;

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

5. Burlington shall submit to MWRA a report on water use, and the status of the emergency.
6. Burlington shall comply with all the conditions of any DEP Declaration of Water Supply Emergency.
7. During the term of this Agreement, the MWRA shall bill Lexington for the total volume of water used by Burlington as metered by Lexington, and will bill Burlington directly for the 30% surcharge over the prevailing rate and an asset value contribution as mandated by the Policy. Lexington shall bill Burlington for water used in accordance with the terms of the agreement between Lexington and Burlington, which is incorporated by reference. Burlington shall remit its payments to Lexington for the total volume of water used. Burlington will remit its payments for the 30% surcharge and the asset value contribution to MWRA directly.
8. The parties agree that the emergency withdrawal authorized under this Agreement is not appropriate for or intended to provide a permanent water supply to Burlington. Any request by Burlington for a permanent partial water supply from MWRA shall require full consideration of all alternatives, including effective water conservation and leak detection, and shall be subject to all approvals required under Section 8 (d) of Chapter 372 of the Acts of 1984, MWRA policies, and under applicable state law and regulations.
9. The MWRA provides potable water in compliance with federal and state drinking water standards at the revenue meters of its waterworks communities. The parties agree that MWRA assumes no liability for the compliance of water delivered pursuant to this Agreement with those state and federal drinking water standards once the water has entered the water distribution system of the Town of Lexington.
10. Any dispute arising between the MWRA and Burlington under the terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 C.M.R. 1.00.
11. The term of this Agreement shall extend from November 21, 2019, the day in which Burlington could begin to take water (“Start Date”) through and including March 30, 2020. During the term, MWRA reserves the right to terminate this Agreement at any time due to unforeseen circumstances such as inadequate supply, insufficient hydraulic capacity and other conditions related to the safe supply of existing users and operational requirements of the MWRA’s waterworks system.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on this _____ day of _____, 2019 by their duly authorized representatives.

MASSACHUSETTS WATER
RESOURCES AUTHORITY

By:

Frederick A. Laskey
Executive Director

TOWN OF BURLINGTON

By:

Paul F. Sagarino
Town Administrator



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

September 30, 2019

VIA Certified Mail No.:

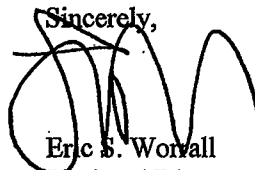
Paul Sagarino, Town Administrator
Town of Burlington
Town Hall
29 Center Street
Burlington, MA 01803

City/Town: Burlington
PWS Name: Burlington Water and Sewer
PWSID: 3048000
WMA Registration No. 3-15-048.01
WMA Permit No. 9P3-15-048.01
Emergency Declaration No. 00008209

Dear Administrator Sagarino:

The Massachusetts Department of Environmental Protection ("MassDEP") received a petition from the Town of Burlington (the "Town"), dated September 24, 2019, requesting an Emergency Declaration under the provisions of the Water Management Act, M.G.L. c. 21G, §15 (the "petition"). According to the petition, due to the limited production capacity at the Vine Brook Treatment Plant, and shut down of the Mill Pond Facility, the Town needs to activate its interconnection to the Town of Lexington to allow the work to be completed. Attached is the MassDEP's Declaration of State of Water Supply Emergency, No. 00008209. If you have any questions regarding this letter, please contact me at (978) 694-3225.

Sincerely,



Eric S. Worvall
Regional Director

cc: John G. Sanchez, P.E., Director, Town of Burlington-Department of Public Works, 25 Center Street, Burlington, MA 01803

Town of Burlington Board of Health, Human Services Building, 61 Center Street, Burlington, MA 01803

e-cc: Duane LeVangie, MassDEP-BWR-Boston
Heidi M. Zisch, MassDEP-OGC-NERO

Y:\DWP Archive\NERO\ Burlington-3048000-Enforcement-2019-9-30

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5761.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

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Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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Commissioner

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

**In the Matter of)
Town of Burlington)**

Enforcement Number 00008209

EMERGENCY DECLARATION

The Parties

1. The Massachusetts Department of Environmental Protection (“MassDEP”) is a duly constituted agency of the Commonwealth of Massachusetts established pursuant to M.G.L. c. 21, § 7. MassDEP has its principal office located at One Winter Street, Boston, Massachusetts 02108, and its Northeast Regional Office located at 205B Lowell Street, Wilmington, Massachusetts 01887.
2. The Town of Burlington (the “Town”) is a Municipality within the Commonwealth of Massachusetts having a principal place of business and a mailing address at 29 Center Street, Burlington, MA 01803.

Statement of Facts and Law

3. The Town operates a public water system with MassDEP Registration number 3-15-048.01 and Permit Number 9P-3-15-048.01. The Town, by and through its Water Department, operates and maintains two water treatment facilities. One is the Vine Brook Treatment Facility, which treats groundwater from seven groundwater wells in the Vine Brook aquifer and has a full capacity of 3.2 MGD and the other is the Mill Pond Treatment Facility, which treats surface water that is pumped from the Shawsheen River in Billerica to the Mill Pond Reservoir in Burlington and has a full capacity of 4.5 MGD. To meet the new recommended maximum level for 1,4-dioxane, the Town took Wells 3, 4, and 5 at the Vine Brook Treatment Facility out of operation in 2013.

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5761.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

4. On Tuesday, September 24, 2019, MassDEP received a letter from the Town petitioning MassDEP for a declaration of a state of water emergency pursuant to M.G.L. c. 21G, § 15 and seeking to open its emergency connection with the Town of Lexington on September 30, 2019. In the letter, the Town stated that it was seeking the Emergency Declaration “[d]ue to the limited production capacity at the Vine Brook Treatment Plant caused by the 1,4, dioxane contamination of drinking water wells, and that “[t]he Mill Pond Facility requires full shut down in order to remove sludge from the sedimentation basin.” The Town also stated that as a result of enforcement of the year-round even/odd watering restrictions, it had been able to maintain an average demand below 3.5 MGD during the summer of 2019. However, the Vine Brook treatment facility is not sufficient to supply the distribution system while the Mill Pond Treatment Plant is off-line for maintenance. The Town stated that activation of the connection to Lexington would allow the Town “to meet water demand while the Mill Pond Treatment Facility undergoes maintenance.”
5. The Water Management Act, M.G.L. c.21G, § 15, and the Water Management Act Regulations, specifically the section set out at 310 CMR 36.40(1), authorize any water system to petition MassDEP for a Declaration of a State of Water Supply Emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare.
6. Pursuant to M.G.L. c.21G, § 15, and the Water Management Act Regulations at 310 CMR 26.40(2), MassDEP may declare a state of water emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare. Further, in response to a petition for a Declaration of a State of Water Supply Emergency and pursuant to this statutory section, MassDEP may require the water supplier to submit for its review and approval a plan for restraining the use of water by whatever means it deems appropriate and feasible. The statute limits any Declaration of a State of Water Supply Emergency to no more than six months in the aggregate in any twelve month period, unless MassDEP determines that a longer state of emergency is required to protect the public health.
7. Furthermore, the Water Management Regulations at 310 CMR 36.40(2) provides:

Upon receiving a petition for a declaration of a state of water supply emergency, the Department may declare an emergency if it finds that there exists or impends a water supply shortage of a dimension which endangers the public health, safety or welfare, due to circumstances including, but not limited to:

- (a) Demand for water exceeds the availability of water;
- ...
- (d) Inadequate source of water, inadequate distribution system capacity, inadequate storage capacity or drought including seasonal water shortages which repeatedly affect the same public water system....

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

Determination and Order

9. For the reasons set forth above and pursuant to the Water Management Act, M.G.L. c.21G, § 15, MassDEP hereby determines that a water supply emergency exists and that it endangers the public health, safety or welfare of the citizens of the Town. Unless extended by MassDEP, this Emergency Declaration shall remain in effect until **March 30, 2020** or until such time as MassDEP determines that emergency conditions no longer exist, whichever is sooner.
10. By issuing this Emergency Declaration, MassDEP hereby grants the Town authority to use its emergency connection to the Town of Lexington, subject to the following specific conditions:
 - a. The Town shall maintain records of any water pumped from these sources as required under the Regulations during the duration of this Declaration and provide those records to the Department on request.
 - b. The Town shall comply with the requirements of the Massachusetts Water Resources Authority (MWRA) governing emergency use of connections with an MWRA community.
 - c. Changes in the use of sources such as the activation of a new interconnection may result in disturbances in the distribution system due to changes in flow volumes, flow patterns, and mechanical disruption. Impacts to the distribution system may include colored water, changes in chlorine demand and residuals, and potential health risks, such as bacterial contamination. A new interconnection may also change hydraulic conditions in the system, impacting the operation of tanks. Additionally, EPA has concluded that distribution maintenance can lead to lead scale disruption, which could cause an increase in drinking water lead concentrations. Given this information, MassDEP hereby requires the Town to conduct a full lead and copper sampling round during the June 1, 2020 - September 30, 2020 monitoring period. Analytical results of said samples shall be reported to MassDEP on or before October 10, 2020.
11. Effective immediately, the Town shall implement a ban on non-essential outside water use for the duration of this Emergency Declaration. For purposes of this Emergency Declaration, the term "nonessential outside water use" is defined to include those uses that do not have health or safety impacts, are not required by regulation, and are not needed to meet the core functions of a business or other organization.

12. **On or before December 1, 2019**, the Town shall submit to MassDEP a written report documenting all efforts taken by the Town to implement and enforce the ban on nonessential outside water use required herein, including all actions taken by the Town to inform the public of the ban and to enforce the ban, including the assessment of penalties or imposition of fines. The report shall describe water use trends over the period of the emergency and describe progress and the status of all other conservation programs being implemented by the Town, including any efforts to limit the use of private wells. The Town shall submit copies of all materials and notices prepared to inform the public of the need to conserve water and comply with the ban on nonessential outside water use.
13. The Town shall comply with all the remaining terms and conditions of its MassDEP Registration number 3-15-048.01 and Permit Number 9P-3-15-048.01 that remain unchanged by this Emergency Declaration.
14. If the Town fails to comply with the provisions of this Emergency Declaration, MassDEP may assess a civil administrative penalty as provided in M.G.L. c.21A, § 16 and M.G.L. c.21G, § 14. MassDEP may also seek civil judicial penalties as provided in M.G.L. c.21G, § 14. Each day of continued violation shall constitute a separate offense. In addition, MassDEP may ask the Attorney General to bring an action in the superior court to compel compliance with this Declaration.

Issued by the Department of Environmental Protection this 30th day of September 2019.

By _____

Eric S. Worrall, Regional Director



TOWN OF BURLINGTON
Department of Public Works

October 4, 2019

Frederick A. Laskey
Executive Director
Massachusetts Water Resources Authority
Charlestown Navy Yard, Building 39
100 First Avenue
Boston, Massachusetts 02129

Re: Water Supply Emergency Connection

Dear Mr. Laskey:

Due to the limited production capacity at the Vine Brook Treatment Facility caused by the 1,4 dioxane contamination of drinking water wells, I am requesting that the Massachusetts Water Resources Authority approves an emergency water connection with the Town of Lexington. The Department of Environmental protection, following a petition from the Town of Burlington, has declared a water supply emergency for the Town of Burlington effective September 30, 2019, and terminating on March 30, 2020.

Background:

The Town of Burlington operates two water treatment facilities: The Vine Brook Treatment facility treats ground water from the Vine Brook aquifer and has a full capacity of 3.2 MGD and the Mill Pond Treatment facility which treats surface water (pumped from the Shawsheen River in Billerica to the Mill Pond Reservoir in Burlington) and has a full capacity of 4.5 MGD.

Limitations:

In order to meet the new recommended maximum level for 1,4 dioxane, the town took out of operation wells 3, 4 and 5 at the Vine Brook treatment facility in 2013. This resulted in the maximum production been limited to **2 MGD**.

The Mill Pond treatment facility's production is limited by two factors: Mill Pond Reservoir volume of stored water, and Mill Pond operating maintenance needs. The Mill Pond Treatment facility requires full shut down in order to remove sludge for the sedimentation basin. Therefore the effective operating capacity is about **2.5 MGD** (to minimize maintenance needs).



Through the enforcement of the year-round even/odd outdoor watering restriction we have been able to maintain an average demand for this summer to below 3.5 mgd. In anticipation of requesting a water supply emergency from DEP, the Town of Burlington declared a full outdoor watering ban effective September 30, 2019. With the latest outdoor watering restriction in place, the water demand should drop to below 2.5 mgd. However, the Vine Brook treatment facility is not sufficient to supply the distribution system while the Mill Pond Treatment Plant is off-line for maintenance (our winter demand is as high as 2.5 mgd).

Proposed Plan:

The Town of Burlington has been diligently working to join the Massachusetts Water Resources Authority to permanently supplement the town's water supply. Currently, with the help of the Authority, we are planning to submit the draft EIR before the end of November. Our goal is to do an "EIR roll over" submission which would allow for a quick approval process following the submittal of the draft EIR.

The town's mid-term plan is to discontinue the use of the Vine Brook Treatment Facility and to use a new connection with the MWRA to supplement the town water demand.

However, in the meantime, in order to meet water demand while the Mill Pond Treatment Facility undergoes maintenance I am requesting that Burlington is authorized to open its existing emergency connection with Lexington which can provide a maximum of 700,000 gallons per day.

Regards,


John G. Sanchez, P.E.
Director

cc: Joseph Favaloro, MWRA Advisory Board executive Director
Paul Sagarino, Town Administrator
David W. Coppes, MWRA Chief Operating Officer
David Pinsonneault, Lexington DPW Director



STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: October 16, 2019
SUBJECT: Northern Intermediate High Section 110 – Stoneham
Albanese D&S Inc.
Contract 7067, Change Order 10



COMMITTEE: Water Policy and Oversight

 INFORMATION
 X VOTE

Corinne M. Barrett, Director, Construction
Jeremiah Sheehan, Construction Coordinator
Preparer/Title


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 10 to Contract 7067, Northern Intermediate High Section 110 Stoneham, with Albanese D&S Inc., for an amount not to exceed \$302,959.00, increasing the contract amount from \$24,811,914.91 to \$25,114,873.91, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7067 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

MWRA's Northern Intermediate High service area provides water to the communities of Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn through a single 48-inch pipeline, which is fed by the Gillis Pump Station at Spot Pond in Stoneham. Although some of these communities are partially served by MWRA, the loss of this single transmission main would result in a rapid loss of service in Reading, Stoneham and Woburn, and potential water restrictions in Wakefield, Wilmington and Winchester.

The existing main pipeline that serves this area (Section 89) is a three-mile-long, four-foot diameter, pre-stressed concrete cylinder pipe transmission main with limited redundancy except for Section 29, which is a 24-inch century old pipeline that parallels Section 89 for a short distance. Due to the lack of redundancy, Section 89 cannot be taken out of service for inspection or for repairs. The project goal is to design and construct a new pipeline that will provide redundancy to the community meters so that Section 89 can be removed from service for inspection and rehabilitation. Under Contract 7067, or Contract 4, the Contractor is excavating and installing 13,215 linear feet of 48-inch water transmission main connecting to previous MWRA construction contracts in the Town of Stoneham.

This Change Order

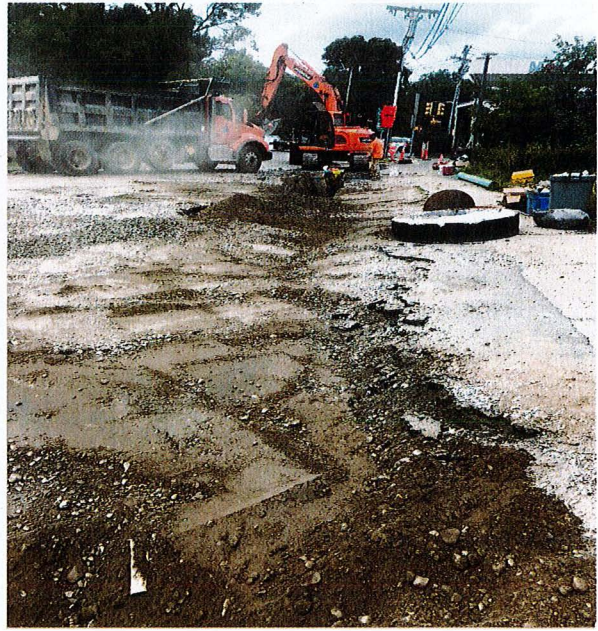
Change Order 10 consists of the following two items:

Furnish and Install Drain and Sewer Lines, Catch Basin Structures and Sewer Manholes

Not to Exceed \$250,000



Installation of 48-inch water main on South Street



Installation of drain line on South Street

During the design phase, the design engineer obtained all pertinent record utility information for South Street from the Department of Conservation and Recreation (DCR) and Town of Stoneham. However, during the installation of the new 48-inch water main along South Street, it was discovered that the drainage system and associated piping and structures did not match the information on the record drawings. Some pipes were installed differently than recorded, some pipes shown were not connected and other pipes were at different elevations than indicated. In order to resolve the conflicts and restore the drainage system operation, the design engineer recommended the installation of additional drainage pipe with connections to a 60-inch drain line on the south side of the street. This work included furnishing and installing 30 linear feet each of 24-inch drain and sewer lines, 140 linear feet of 12-inch drain line, 3 catch basin structures, 300 linear feet of 8-inch sewer and 3 sewer manholes. In addition, during installation of the new 48-inch water main, it was discovered that the existing Town of Stoneham sewer line on South Street was structurally inferior. During construction of the new water main, the adjacent sewer main collapsed on two separate occasions. To avoid any potential liability and avoid the back up of sewerage into local residences and a DCR pool, it was determined that the existing clay sewer should be replaced with a new 8-inch PVC pipe.

This item has been identified by staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor have agreed to a not to exceed amount of \$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 Drain Manholes, Reinforced Concrete
Drain Pipe and a Catch Basin

\$52,959



Installation of 18-inch Drain Line on Main Street

During design, the consultant obtained all record information for existing utilities at the intersection of Main Street and South Street in Stoneham. In order to install the new 48-inch water main in this congested area, the design engineer selected the only available location that was immediately adjacent the Town of Stoneham's 18-inch drain line and 20-inch cast iron water main. However, after closer analysis and examination of the record drawings at this location, there is insufficient width between the Town of Stoneham water main and drain line to allow the support of excavation for installation of the new 48-inch water main. Therefore, it is necessary to relocate either the Town of Stoneham drain line or water main in order to install the new 48-inch water main. As the Town of Stoneham 20-inch cast iron water main is the Town's main water supply line, it was determined the relocation of the 18-inch drain line would be less disruptive. The design engineer should have included this relocation in the design. The contractor must furnish and install 2 drain manholes, 112 linear feet of 18-inch reinforced concrete pipe and one catch basin at the intersection of Main Street and South Street.

This item was identified by staff as a design error and the design consultant agreed. MWRA staff, the Consultant, and the Contractor agreed to a lump sum amount of \$52,959 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$22,737,300.00	1,000 Days	07/31/17
Change Orders:			
Change Order 1*	\$20,000.00	0 Days	07/31/18
Change Order 2	\$350,000.00	0 Days	07/31/18
Change Order 3	\$283,500.00	0 Days	11/30/18
Change Order 4*	\$150,000.00	0 Days	12/18/18
Change Order 5	\$1,038,806.52	0 Days	02/07/19
Change Order 6*	\$20,389.20	0 Days	03/05/19
Change Order 7*	\$13,297.25	0 Days	04/09/19
Change Order 8*	\$118,908.00	0 Days	08/14/19
Change Order 9*	\$79,713.94	0 Days	Pending
Change Order 10	<u>\$302,959.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$2,377,573.91	0 Days	
Adjusted Contract:	\$25,114,873.91	1,000 Days	

*Approved under delegated authority

If Change Order 10 is approved, the cumulative value of all change orders to this contract will be \$2,377,573.91 or 10.5% of the original contract amount. Work on this contract is approximately 74% complete.

BUDGET/FISCAL IMPACT:

The FY20 Capital Improvement Program budget includes \$24,803,496 for Contract 7067. Including this change order for \$302,959, the adjusted subphase total will be \$25,114,873.91 or \$311,377.91 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

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

to be held on

Wednesday, October 16, 2019

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

Time: 1:00 p.m.

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

AGENDA

- I. APPROVAL OF MINUTES
- II. REPORT OF THE CHAIR
- III. REPORT OF THE EXECUTIVE DIRECTOR
- IV. BOARD ACTIONS

A. Approvals

1. PCR Amendments – October 2019 (ref. P&C B.1)
2. Appointment of Manager of Transmission and Treatment, Operations (ref. P&C B.2)
3. Appointment of Budget Manager, Finance (ref. P&C B.3)
4. Appointment of Senior Staff Counsel, Law Division (ref. P&C B.4)
5. Appointment of IT Project Manager III, MIS (ref. P&C B.5)
6. City of Cambridge Proposal for Partial Sewer Separation (ref. WW B.1)
7. Emergency Water Supply Agreement with the Town of Burlington (ref W B.1)

B. Contract Awards

1. Charles River Valley Sewer Rehabilitation - Sections 191 and 192 Rehabilitation: Green Mountain Pipeline, Contract 7643 (ref. WW C.1)

B. Contract Awards (continued)

1. Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant: Kemira Water Solutions, Inc., Bid WRA-4752 (ref. WW C.2)

C. Contract Amendments/Change Orders

1. Deer Island Treatment Plant Pump Refurbishment: A.W. Chesterton Co., Contract S581, Change Order 1 (ref. WW D.1)
2. Northern Intermediate High Section 110 – Stoneham: Albanese D&S Inc., Contract 7067, Change Order 10 (ref. W C.1)

V. OTHER BUSINESS

VI. CORRESPONDENCE TO THE BOARD

VII. EXECUTIVE SESSION

- A. Security:
Update on Cyber Security

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

September 18, 2019

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on Wednesday, September 18, 2019 at the Authority headquarters in Charlestown. Mr. Foti presided. Present from the Board were Ms. Wolowicz and Messrs. Cotter, Flanagan, Peña, Vitale and Walsh. Secretary Theoharides and Messrs. Carroll, Cook and Pappastergion 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, Kathleen Murtagh, Director of Tunnel Redundancy and Assistant Secretaries Ria Convery and Kristin MacDougall. Vandana Rao, EEA, was also in attendance. The meeting was called to order at 1:15 p.m.

APPROVAL OF JULY 17, 2019 MINUTES

Upon a motion duly made and seconded, it was

Voted: to approve the minutes of the Board of Directors' meeting of July 17, 2019 as presented and filed with the records of the meeting.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey invited Board members to attend a ribbon-cutting event for the Pine Tree Preserve public access area in Chestnut Hill on September 25, 2019. This project was a partnership between MWRA and Boston College. He noted that MWRA staff will present an update to the Board on the Metropolitan Tunnel Redundancy Project in October. Mr. Laskey also congratulated Mr. Peña and the City of Lawrence Water and Sewer Department upon the receipt of a 2019 Environmental Merit Award from the US EPA.

APPROVALS

Battery Storage Demonstration Project at Brattle Court Pump Station and Chelsea Facility – Utility Tariff Optimization Service and Site License Agreement: Stem, Inc. (ref. W B.1)

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute a Utility Tariff Optimization Service and Site License Agreement with Stem, Inc. for the operation and maintenance of a battery storage system at the Brattle Court Pumping Station and the Chelsea Facility for an amount not to exceed \$300,100.

PCR Amendments – September 2019 (ref. P&C A.1)

Upon a motion duly made and seconded, it was

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

Appointment of Program Manager, Process Control and Project Support (ref. P&C A.2)

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Ms. Kristen Hall to the position of Program Manager, Process Control and Project Support (Unit 9, Grade 29), in the Operations Engineering Department, at an annual salary of \$128,958.93, commencing on a date to be determined by the Executive Director.

Appointment of Program Manager, Wastewater Operations (ref. P&C A.3)

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Mr. William Lane to the position of Program Manager, Wastewater Operations (Unit 9, Grade 29), in the Wastewater Operations and Maintenance Department, at an annual salary of \$114,681.68, commencing on a date to be determined by the Executive Director.

Appointment of Manager, IT Security, Architecture and Engineering, Management Information Systems, Administration (ref. P&C A.4)

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Mr. Murali Rajoo to the position of Manager, IT Security, Architecture and Engineering (Non-Union, Grade 14), at an annual salary of \$137,000, commencing on a date to be determined by the Executive Director.

Appointment of Communications Manager, Metropolitan Tunnel Redundancy Program (ref. P&C A.5)

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Ms. Kristin MacDougall to the position of Communications Manager, Metropolitan Tunnel Redundancy Program (Unit 6, Grade 12) at an annual salary of \$99,150.71, commencing on a date to be determined by the Executive Director.

Appointment of Senior Staff Counsel for General Litigation (ref. P&C A.6)

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Nicholas A. Ogden as Senior Staff Counsel, General Litigation, Law Division (Unit 6, Grade 13) at an annual salary of \$127,481.99, commencing on a date to be determined by the Executive Director.

Bond Defeasance of Future Debt Service (ref. AF&A B.1)

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$10,115,000 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 \$11,482,250 in the FY21 through FY23 timeframe.

Approval of the Eighty-First Supplemental Resolution (ref. AF&A B.2)

Upon a motion duly made and seconded, it was

Voted: to adopt the Eighty-First Supplemental Resolution authorizing the issuance of up to \$625,000,000 of Massachusetts Water Resources Authority Taxable

and Tax-Exempt General Revenue Bonds and General Revenue Refunding Bonds and the supporting Issuance Resolution.

CONTRACT AWARDS

Design and Engineering Services During Construction for Quinapoxet Dam Removal: Milone & MacBroom, Inc. Contract 7347 (ref. W C.1)

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7347, Design and Engineering Services During Construction for Quinapoxet Dam Removal, to Milone & MacBroom, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$425,442.07 for a contract term of 24 months from the Notice to Proceed.

Section 56 Replacement Saugus River Crossing, Design and Engineering Services During Construction: AECOM Technical Services, Inc., Contract 7454 (ref. W C.2)

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7454, Section 56 Replacement Saugus River Crossing, Design and Engineering Services During Construction, to AECOM Technical Services, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$3,345,887 for a contract term of 51 months from the Notice to Proceed.

Purchase of Vehicles, Liberty Chevrolet, Inc. and Colonial Ford, Inc., Bid WRA-4726 (ref. AF&A C.1)

Upon a motion duly made and seconded, it was

Voted: to approve the award of two separate purchase orders for three new Electric Sport Utility Vehicles, two new Cargo Vans, nine new Pickup Trucks, five new Two-Yard Dump Trucks, and four new Service Body Trucks, to the lowest responsive bidders under Bid WRA-4726, Liberty Chevrolet, Inc., and Colonial Ford and to authorize the Executive Director, on behalf of the Authority, to execute said purchase orders in the bid amounts of \$1,025,043 to Liberty Chevrolet and \$194,967.10 to Colonial Ford, Inc. under State Contract VEH98, for a total amount of \$1,220,010.10.

Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant: Borden & Remington Corporation, Bid WRA-4731 (ref. WW B.1)

Upon a motion duly made and seconded, it was

Voted: to approve the award of Purchase Order Contract WRA-4731 for the supply and delivery of sodium hypochlorite to the Deer Island Treatment Plant to the lowest responsive bidder, Borden & Remington Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$1,644,486.98 for a period of one year, from November 17, 2019 through November 16, 2020.

CONTRACT AMENDMENTS/CHANGE ORDERS

Wachusett Aqueduct Pumping Station Design, Construction Administration and Resident Inspection Services: Stantec Consulting Services, Inc. Contract 7156, Amendment 5 (ref. W D.1)

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 5 to Contract 7156, Wachusett Aqueduct Pumping Station Design, Construction Administration and Resident Inspection Services with Stantec Consulting Services, Inc., in the net amount of \$502,340.69, increasing the contract amount from \$7,603,600.10 to an amount not to exceed \$8,105,940.79 with no change in the contract term.

Pay Equity Consulting Services: Hirsch Roberts Weinstein LLP. Contract A616, Amendment 1 (ref. P&C B.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 A616, Pay Equity Consulting Services with Hirsch Roberts Weinstein LLP, to increase the contract not to exceed amount by \$113,250 from \$27,575 to \$141,400 and to extend the contract term by 730 calendar days from July 9, 2019 to July 9, 2021.

Dental Insurance, Delta Dental of Massachusetts, Contract A613, Amendment 2 (ref. AF&A D.1)

Upon a motion duly made and seconded, it was

Voted: to approve Amendment 2 to Contract A613, with Delta Dental of Massachusetts, exercising the second option to renew, increasing the contract amount by \$352,000 from \$712,000 for a total not-to-exceed amount of \$1,064,000, and extending the term by twelve months from January 1, 2020 to December 31, 2020 for a total contract term of 36 months.

Chelsea Creek Headworks Upgrade BHD/BEC 2015, A Joint Venture Contract 7161, Change Order 32 (ref. WW C.1)

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Change Order 32 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture, for an amount not to exceed \$245,616.00, increasing the contract amount from \$81,554,689.46 to \$81,800,305.46, with no increase in contract term.

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

EXECUTIVE SESSION

Chair Foti announced that the Board would enter executive session to discuss strategy for collective bargaining with all bargaining units regarding the Paid Family and Medical Leave Law, since such discussion in open session may have a detrimental effect upon the bargaining position of the Authority, and that the Board would reconvene in open session for the purpose of adjournment.

It was moved to enter executive session to discuss strategy for collective bargaining with all bargaining units regarding the Paid Family and Medical Leave Law 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:

Yes
Cotter

No

Abstain

Flanagan
Foti
Peña
Vitale
Walsh
Wolowicz

Voted: to enter executive session for the purpose of discussing strategy with respect to collective bargaining with all bargaining units regarding the Paid Family and Medical Leave Law in that such discussions may have a detrimental effect upon the bargaining position of the Authority, and thereafter to return to open session solely for the purpose of adjournment.

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EXECUTIVE SESSION

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The meeting returned to open session and adjourned at 1:47 p.m.

Approved: October 16, 2019

Attest:

Andrew M. Pappastergion, Secretary