



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

Wednesday, June 19, 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: 10:00 a.m.

AGENDA

A. Information

1. Delegated Authority Report – May 2019
2. FY19 Financial Update and Summary as of May 2019

B. Approvals

1. FY20 Capital Improvement Program
2. Final FY20 Current Expense Budget
3. Final FY20 Water and Sewer Assessments
4. Increase to Cost of Living Adjustment Base for Retirees
5. Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Profile Accounts

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

May 29, 2019

A meeting of the Administration, Finance and Audit Committee was held on May 29, 2019 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Messrs. Carroll, Cook, Cotter, Foti, Pappastergion, Peña and Walsh. Ms. Wolowicz and Mr. Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Thomas Durkin, Michele Gillen, Kathleen Murtagh, Stephen Estes-Smargiassi, Steven Perry, Douglas Rice, David Duest, Stephen Cullen, Matthew Horan and Paul Whelan. The meeting was called to order at 11:03 a.m.

Information

FY2019 Third Quarter Orange Notebook

Staff made a presentation. There were questions and answers.

Delegated Authority Report – April 2019

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

FY2019 Financial Update and Summary as of April 2019

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

MWRA Green Bond Issuances

Staff made verbal presentation. There was discussion and questions and answers. Mr. Vitale and Mr. Cook commended MWRA staff for this successful transaction and its forward thinking.

Approvals

*** Bond Defeasance of Future Debt Service**

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

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

Contract Awards

*** MWRA FY 2020 Insurance Program Renewal**

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

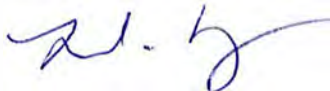
The Committee recommended approval (ref. AF&A C.1).

The meeting adjourned at 11:45 a.m.

* Committee recommendation approved by the Board on May 29, 2019


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: Delegated Authority Report – May 2019




COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Michele S. Gillen by 
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 May 1 – 31, 2019.

This report is broken down into three sections:

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

BACKGROUND:

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

Construction Contract Awards:

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

Change Orders:

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

Professional Service Contract Awards:

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

Non-Professional Service Contract Awards:

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

Purchase or Lease of Equipment, Materials or Supplies:

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

Amendments:

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

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

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

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

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	05/02/19	KEY PROJECT WORK CREW SERVICES AT DEER ISLAND AND NUT ISLAND AWARD OF CONTRACT TO A NON-PROFIT, DEPARTMENT OF CHILDREN AND FAMILIES APPROVED ORGANIZATION TO PERFORM ADDITIONAL LANDSCAPING AND PUBLIC ACCESS AREA CLEANING SERVICES AT DEER ISLAND AND NUT ISLAND FOR A TERM OF SEVEN MONTHS.	OP-392	AWARD	ROCA, INC.	\$50,000.00
C-2.	05/15/19	HARASSMENT PREVENTION TRAINING AWARD OF A CONTRACT AS RECOMMENDED BY THE SELECTION COMMITTEE FOR MANDATORY HARASSMENT PREVENTION TRAINING FOR THE TERM OF MAY 17, 2019 THROUGH DECEMBER 31, 2019.	A619	AWARD	MORGAN, LEWIS & BOCKIUS, LLP	\$97,000.00
C-3.	05/24/19	CRANE MAINTENANCE SERVICE FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: PERIODIC INSPECTION OF SPECIFIED CRANES; FREQUENT INSPECTIONS OF ALL CRANES, LOAD TESTS, NON-EMERGENCY AND EMERGENCY MAINTENANCE SERVICES, REPLACEMENT PARTS AND RENTAL EQUIPMENT.	OP-333	3	SAFEWAY OVERHEAD CRANE SERVICE, INC.	(\$39,573.11)
C-4.	05/24/19	SOUTHERN EXTRA HIGH PIPELINE - SECTION 111 (BOSTON) FINAL BALANCING CHANGE ORDER TO DECREASE THE FOLLOWING BID ITEMS TO REFLECT ACTUAL QUANTITIES USED: TRAFFIC CONTROL AND POLICE DETAILS, FURNISH AND INSTALL 66 TREES AND 3 SHRUBS ALONG WEST ROXBURY PARKWAY, ENNEKING PARKWAY AND DEDHAM PARKWAY FOR THE DEPARTMENT OF CONSERVATION AND RECREATION.	6454	6	P. GIOIOSO & SONS, INC.	(\$183,921.98)
C-5.	05/24/19	WACHUSETT AQUEDUCT PUMPING STATION DECREASE THE FOLLOWING WORK: WORK BY UTILITIES, TEMPORARY ELECTRICAL POWER, QUANTITY OF EXCAVATED ROCK, RAILROAD SERVICE FEES, FURNISH AND INSTALL GALVANIZED COLD FORMED STEEL HAT CHANNEL, FURNISH AND INSTALL PUMP INTAKE COLUMN SUPPORT BRACKETS, FURNISH AND INSTALL SUBMERSIBLE PUMPS, FURNISH AND INSTALL INSTRUMENTATION AND WIRING FOR SUBMERSIBLE PUMP REMOTE OPERATIONS, FURNISH AND INSTALL A LADDER CLIMBING SAFETY DEVICE FOR CATWALK ACCESS LADDER, FURNISH AND INSTALL CRUSHED STONE AND FILTER FABRIC UNDER THE SOLAR PANEL ARRAYS, FURNISH AND INSTALL A 180-DEGREE CAMERA AND PAN TILT ZOOM DIGITAL CAMERA.	7157	57	BHD/BEC JV 2015, A JOINT VENTURE	(\$495,031.98)
C-6.	05/24/19	PHASE 9 SEWER MANHOLE REHABILITATION AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR PHASE 9 SEWER MANHOLE REHABILITATION FOR A TERM OF 210 CALENDAR DAYS.	OP-387	AWARD	INLAND WATERS, INC.	\$227,500.00
C-7.	05/24/19	FLAT ROOF REPLACEMENT - COTTAGE FARM AND GILLIS PUMPING STATION AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR FLAT ROOF REPLACEMENT AT COTTAGE FARM CSO AND GILLIS PUMPING STATION FOR A TERM OF 365 CALENDAR DAYS.	6888	AWARD	TITAN ROOFING, INC.	\$534,041.00

PURCHASING DELEGATED AUTHORITY ITEMS MAY 1 - 31, 2019

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1	05/01/19	ANALYSIS OF CYANOBACTERIA AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ANALYSIS OF CYANOBACTERIA IN RESERVOIR AND FINISHED DRINKING WATER SAMPLES FOR DEPARTMENT OF LABORATORY SERVICES.	WRA-4667Q		WECK LABORATORIES, INC.	\$25,410.00
P-2	05/01/19	PURCHASE OF ONE RSTUDIO SERVER PRO & CONNECT LICENSE AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE RSTUDIO SERVER PRO & CONNECT LICENSE.	WRA-4690Q		PCMG, INC.	\$27,333.00
P-3	05/01/19	PURCHASE OF THREE WELDING MACHINES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THREE WELDING MACHINES FOR THE CHELSEA FACILITY.	WRA-4657Q		MAINE OXY CORPORATION	\$28,315.00
P-4	05/01/19	OVERHAUL OF ONE FLOWSERVE PUMP ASSEMBLY AWARD OF A SOLE SOURCE PURCHASE ORDER TO OVERHAUL ONE FLOWSERVE PUMP ASSEMBLY FOR THE GILLIS PUMP STATION.			ASSOCIATED ELECTRO MECHANICS, INC.	\$36,975.00
P-5	05/01/19	PEST CONTROL SERVICES AWARD OF A THREE-YEAR PURCHASE ORDER UNDER STATE CONTRACT FAC92 TO THE LOWEST RESPONSIVE BIDDER FOR PEST CONTROL SERVICES FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4673Q		FREEDOM PEST CONTROL	\$39,780.00
P-6	05/01/19	PURCHASE OF 125 LED REPLACEMENT EMERGENCY LIGHTING FIXTURES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR LED REPLACEMENT EMERGENCY LIGHTING FIXTURES FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4674Q		WESCO DISTRIBUTION, INC.	\$42,496.00
P-7	05/01/19	PURCHASE OF TWO AIR HANDLER UNITS & TWO CONDENSERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO AIR HANDLER UNITS & TWO CONDENSERS FOR THE DEER ISLAND TREATMENT PLANT HYDRO FACILITY.	WRA-4665		VERTIV CORPORATION	\$63,200.00
P-8	05/01/19	PURCHASE OF FOUR RECESSED IMPELLER PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR FOUR RECESSED IMPELLER PUMPS FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4660		PROCESS DISTRIBUTORS INC.	\$66,100.00
P-9	05/01/19	PURCHASE OF TWO CIRCUIT BREAKERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO CIRCUIT BREAKERS FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4653		U.S. ELECTRICAL SERVICES, INC.	\$117,000.00
P-10	05/01/19	PURCHASE OF ONE GENERAL MOTORS DIESEL POWERED FUEL TRUCK AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE GENERAL MOTORS DIESEL K4500HD SERIES FUEL TRUCK TO REPLACE EXISTING VEHICLE.	WRA-4616		LIBERTY CHEVROLET, INC.	\$122,138.00
P-11	05/01/19	ASSIGNMENT & ASSUMPTION OF THE CARBON DIOXIDE CONTRACT ASSIGNMENT OF A ONE-YEAR PURCHASE ORDER FOR THE SUPPLY AND DELIVERY OF CARBON DIOXIDE TO THE JOHN J. CARROLL WATER TREATMENT PLANT FROM LINDE TO MESSER.	WRA-4494		MESSER, LLC.	\$124,454.88
P-12	05/01/19	REPAIR ONE DRESSER ROOTS CENTRIFUGAL COMPRESSOR AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER TO REPAIR ONE DRESSER ROOTS CENTRIFUGAL COMPRESSOR FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4651		HOWDEN ROOTS, LLC	\$130,671.00
P-13	05/01/19	PURCHASE OF SIX RECESSED IMPELLER PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SIX RECESSED IMPELLER PUMPS FOR THE SECONDARY CLARIFIER SCUM BUILDING AT THE DEER ISLAND TREATMENT PLANT.	WRA-4642		AQUA SOLUTIONS INC.	\$139,560.00
P-14	05/06/19	PURCHASE OF THREE AIR HANDLING UNITS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THREE AIR HANDLING UNITS FOR THE SOMERVILLE COMBINED SEWER OVERFLOW FACILITY.	WRA-4659		TRANE U.S., INC.	\$36,107.00
P-15	05/06/19	PURCHASE OF ONE MINILAB23 ANALYZER AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE MINILAB23 ANALYZER FOR THE DEER ISLAND TREATMENT PLANT USED FOR OIL TESTING.			SPECTRO SCIENTIFIC, INC.	\$36,676.00
P-16	05/06/19	PURCHASE OF HDPE PIPE, FLANGE ADAPTER AND TECHNICAL SERVICES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR HDPE PIPE, FLANGE ADAPTERS AND TECHNICAL SERVICES FOR WATERTOWN SECTION MECHANICAL COUPLING REPAIRS.			ISCO INDUSTRIES, INC.	\$89,002.80
P-17	05/08/19	GARTNER IT EXECUTIVE + DELEGATE SUBSCRIPTION RENEWAL AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ITSS9 FOR THE RENEWAL OF THE GARTNER IT EXECUTIVE + DELEGATE SUBSCRIPTION.			GARTNER, INC.	\$104,142.00
P-18	05/06/19	PURCHASE OF SIX INDIRECT FIRED GAS HEATING MAKEUP AIR UNITS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SIX INDIRECT FIRED GAS HEATING AIR UNITS FOR THE CHELSEA FACILITY.	WRA-4647		TRANE U.S. INC.	\$139,200.00


NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-19	05/08/19	MAINTENANCE, TECHNICAL ASSISTANCE AND SUPPORT AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ITS65 FOR MAINTENANCE, TECHNICAL ASSISTANCE AND SUPPORT OF THE AEC GEOGRAPHIC INFORMATION SYSTEM FOR THE GEOSPATIAL NEEDS OF THE OPERATIONS DIVISION.			ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE, INC.	\$49,950.00
P-20	05/14/19	PURCHASE OF 165 HEWLETT PACKARD 23-INCH FLAT PANEL MONITORS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 165 HEWLETT PACKARD 23-INCH FLAT PANEL MONITORS.			FIRSTWORLD USA, INC.	\$25,370.40
P-21	05/14/19	PURCHASE OF 40 NORDIC DISC FILTER CARTRIDGES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR 40 NORDIC DISC FILTER CARTRIDGES FOR THE CLINTON WASTEWATER TREATMENT PLANT.			WESTECH ENGINEERING, INC.	\$27,720.00
P-22	05/14/19	PURCHASE OF AUDIOVISUAL EQUIPMENT AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT OFF40 FOR AUDIO, VIDEO, MULTIMEDIA PRESENTATION EQUIPMENT FOR THE CHARLESTOWN NAVY YARD.	WRA-4683Q		PRO AV SYSTEMS	\$27,841.07
P-23	05/14/19	CONTINUOUS MONITORING OF CHLOROPHYLL AWARD OF A SOLE SOURCE PURCHASE ORDER FOR PERMIT-REQUIRED CONTINUOUS CHLOROPHYLL (ONLY) MONITORING FROM THE CAPE ANN BUOY FOR THE PERIOD JULY 1, 2019 TO JUNE 30, 2020.			BOWDOIN COLLEGE	\$35,000.00
P-24	05/14/19	PURCHASE OF ONE AUTOMATED SOLID PHASE EXTRACTION SYSTEM AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE AUTOMATED SOLID PHASE EXTRACTION SYSTEM FOR THE DEPARTMENT OF LABORATORY SERVICES.			HORIZON TECHNOLOGY, INC.	\$41,300.00
P-25	05/14/19	CONTINUOUS OCEANOGRAPHIC MONITORING (NOT INCLUDING CHLOROPHYLL) AWARD OF A SOLE SOURCE PURCHASE ORDER FOR PERMIT-REQUIRED CONTINUOUS OCEANOGRAPHIC MONITORING OF OXYGEN, SALINITY AND TEMPERATURE FROM THE CAPE ANN BUOY FOR THE PERIOD JULY 1, 2019 TO JUNE 30, 2020.			UNIVERSITY OF MAINE	\$50,000.00
P-26	05/14/19	SUPPLY AND DELIVERY OF SODIUM BISULFITE AWARD OF TWO SEPARATE ONE-YEAR PURCHASE ORDERS TO THE LOWEST RESPONSIVE BIDDERS FOR THE SUPPLY AND DELIVERY OF SODIUM BISULFITE FOR THE CARROLL WATER TREATMENT PLANT AND CLINTON WASTEWATER TREATMENT PLANT.	WRA-4680		PVC CHEMICAL SOLUTIONS INC. HOLLAND COMPANY INC.	\$93,800.00 \$56,500.00
P-27	05/14/19	ORACLE PROCESSOR LICENSES MAINTENANCE AND SUPPORT AWARD OF A ONE-YEAR PURCHASE UNDER STATE CONTRACT ITS65 FOR ORACLE PROCESSOR LICENSES MAINTENANCE AND SUPPORT FOR THE PERIOD JULY 1, 2019 THROUGH JUNE 30, 2020.			ORACLE AMERICA, INC.	\$180,896.72
P-28	05/14/19	SUPPLY AND DELIVERY OF SODIUM HYPOCHLORITE AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SODIUM HYPOCHLORITE TO THE CLINTON WASTEWATER TREATMENT PLANT AND TO VARIOUS OTHER WASTEWATER LOCATIONS.	WRA-4687		BORDEN & REMINGTON CORP.	\$200,167.04
P-29	05/20/19	INSPECTION, CLEANING, AND SEDIMENT DISPOSAL OF CATCH BASINS AWARD OF A THREE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE INSPECTION, CLEANING AND SEDIMENT DISPOSAL OF CATCH BASINS FOR THE DEER ISLAND TREATMENT PLANT.	WRA-4685Q		ALLSTATE POWER VAC, INC.	\$38,702.50
P-30	05/20/19	SUPPLY AND DELIVERY OF LIQUID OXYGEN AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SUPPLY AND DELIVERY OF LIQUID OXYGEN TO THE JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-4688		MESSER, LLC	\$976,032.00
P-31	05/22/19	MAINTENANCE AND SUPPORT OF PROCESS INFORMATION SOFTWARE AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT FOR PROCESS INFORMATION SOFTWARE FOR DEER ISLAND, AND WATER AND WASTEWATER SCADA FOR THE PERIOD JULY 1, 2019 THROUGH JUNE 30, 2020.			OSI SOFTWARE, INC.	\$81,262.50
P-32	05/24/19	REPLACEMENT OF ACTIVATED CARBON AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE REPLACEMENT OF ACTIVATED CARBON AT THE NUT ISLAND HEADWORKS.	WRA-4676		CARBON ACTIVATED CORPORATION	\$127,200.00

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: FY19 Financial Update and Summary Through May 2019



COMMITTEE: Administration, Finance & Audit


Michael Cole, Budget Manager
Preparer/Title

INFORMATION
 VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

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

DISCUSSION:

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of using these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority's multi-year rate management strategy. As such, in May the year-to-date debt related savings of \$12.1 million was transferred to the Defeasance Account. This favorable variance is largely driven by the lower than budgeted variable rates. It is noteworthy to mention that the favorable budget variance from the variable rate bonds is reduced this year relative to past years due to rising interest rates.

The total Year-to-Date variance for the FY19 CEB is \$9.4 million, due to lower direct expenses of \$4.5 million and indirect expenses of \$0.6 million; and higher revenue of \$4.3 million. The year-end favorable variance is projected at \$28.1 million, of which \$17.9 million is related to debt service. Beyond debt service savings, staff project a surplus of approximately \$10.2 million at year-end of which \$4.5 million would be from lower direct expenses, \$2.0 million from lower indirect expenses, and \$3.7 million from greater than budgeted revenues.

FY19 Current Expense Budget

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

- Lower Direct Expenses of \$4.5 million or 2.1% under budget. Spending was lower for Wages and Salaries, Professional Services, Maintenance, Fringe Benefits, and Other Materials. This is offset by higher spending on Utilities, Other Services, Overtime, Chemicals, Worker's Compensation, and Training and Meetings.
- Lower Indirect Expenses of \$0.6 million or 1.5% due to lower expenses for the low voltage switchgear upgrades related to the HEEC cable and lower Watershed reimbursements due to a FY2018 year-end over accrual.

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

	FY19 Budget YTD	FY19 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$215.8	\$211.3	-\$4.5	-2.1%
Indirect Expenses	\$37.8	\$37.3	-\$0.6	-1.5%
Capital Financing	\$437.1	\$437.1	\$0.0	0.0%
Total	\$690.7	\$685.6	-\$5.1	-0.7%

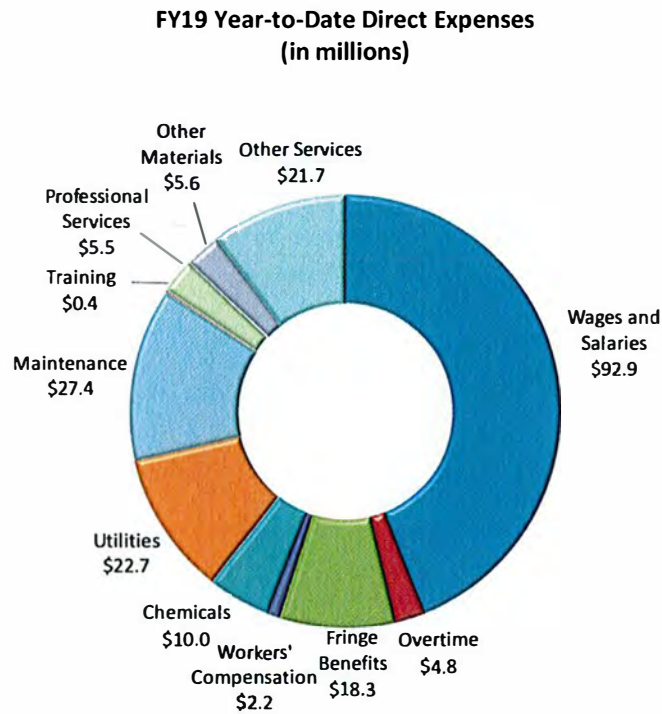
Totals may not add due to rounding

Total Revenues of \$713.0 million were \$4.3 million or 0.6% over budget. The majority of the variance is pertaining to the favorable short-term rates for investment income.

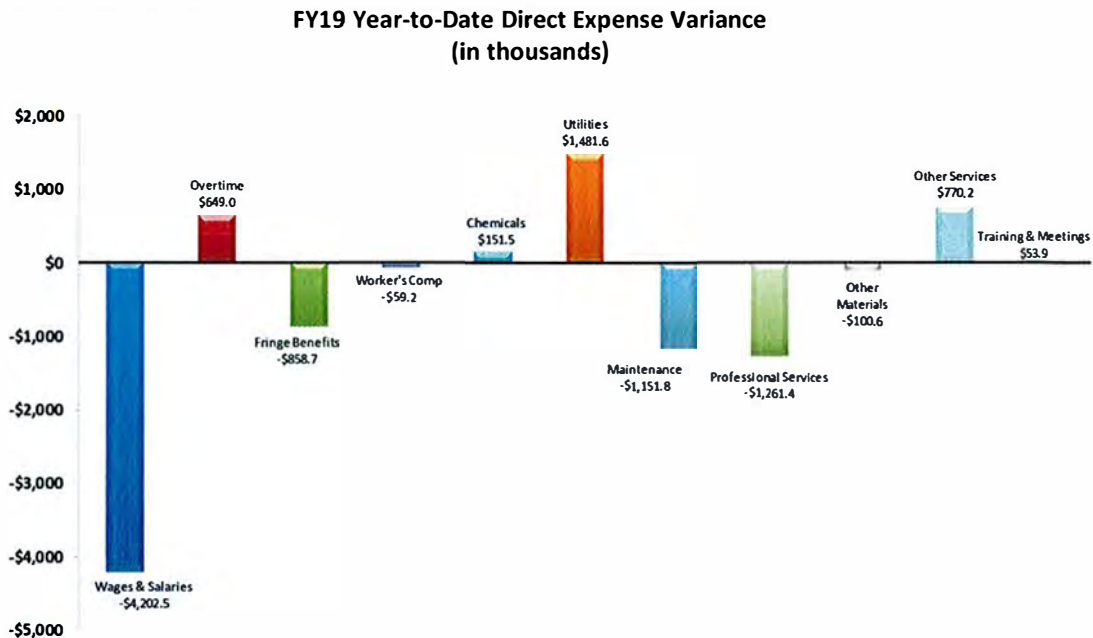
Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for the year-to-date.

Direct Expenses

Year-to-date direct expenses totaled \$211.3 million, which was \$4.5 million or 2.1% less than budgeted.



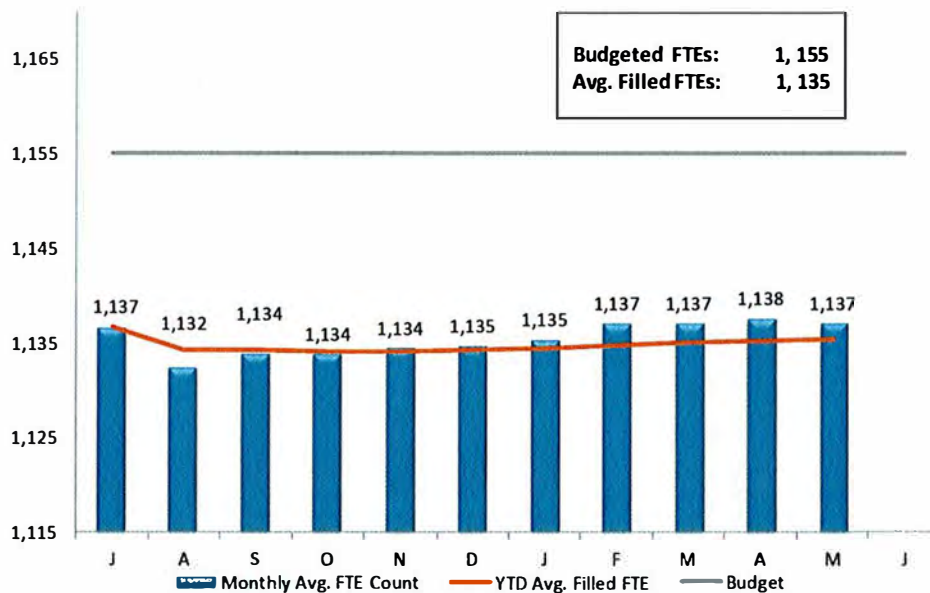
Lower than budgeted spending for Wages and Salaries, Professional Services, Maintenance, Fringe Benefits, and Other Materials were partially offset by higher spending for Utilities, Other Services, Overtime, Chemicals, Worker’s Compensation, and Training and Meetings.



Wages and Salaries

Wages and Salaries are under budget by \$4.2 million or 4.3%. Year to date, there have been 20 fewer average FTEs (1,135 versus 1,155 budget) or 1.7% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions and lower leave balance accruals also contributed to Regular Pay being under budget.

FY19 MWRA Full Time Equivalent (FTE) Position Trend



Professional Services

Professional Services were under budget by \$1.3 million or 18.8%. The overall underspending year-to-date is due to Other Professional Services in Human Resources, Law, Operations, and Finance; Computer System Consultants in MIS; Lab Testing and Analysis in EnQual and Lab Services; and Legal Services in Law and Human Resources; and Engineering Services.

Maintenance

Maintenance was under budget by \$1.2 million or 4.0%, largely driven by Field Operations (\$1.1 million). Much of the underspending in Field Operations is due to the timing delays for projects that will be completed later than budgeted or due to the shift of projects from the CEB to the CIP after reassessing the scope and costs.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$0.9 million or 4.5%. This is primarily driven by lower Health Insurance costs of \$0.8 million due to fewer employees and retirees participating in health insurance plans, the change to the ratio of employee contribution for past employees

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

Other Materials

Other Materials were under budget by \$0.1 million or 1.8%, largely due to the timing of purchases related to Equipment/Furniture and Postage, and Vehicles based on assessed needs. This is offset by overspending for Computer Hardware in MIS.

Worker's Compensation

Worker's Compensation expenses were lower than budget by \$59,000 or 2.7%. The lower expenses were primarily due to lower administrative expenses (\$85,000) and medical payments and net reserve changes (\$30,000), offset by higher compensation payments and net reserves changes (\$57,000).

Utilities

Utilities were overspent by \$1.5 million or 7.0%. Electricity overspending of \$1.2 million is driven by Deer Island (\$0.8 million) and Field Operations (\$0.5 million), due to new contract pricing retroactive to November 2018. In addition, Diesel Fuel was over budget by \$0.3 million or 10.2% due to the timing of deliveries at Deer Island.

Other Services

Other Services were over budget by \$0.8 million or 3.7%. The main area of overspending was for Sludge Pelletization (\$1.2 million) due to higher year-to-date quantities. This overage was offset by lower spending for Telecommunications (\$0.3 million) in MIS and Field Operations and in Other Services (\$0.2 million) for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for lead issues in Planning.

Overtime

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

Chemicals

Chemicals were higher than budget by \$0.2 million or 1.5%. The majority of the variance for Chemicals was the result of higher Ferric Chloride at Deer Island and Clinton; higher Sodium Hypochlorite usage at Deer Island and Wastewater Operations due to wet weather; higher Sodium Bisulfite usage at Deer Island and in Wastewater Operations; higher Sodium Hypochlorite at the Carroll Water Treatment Plant due to higher usage of Wachusett Reservoir water versus the higher quality water from the Quabbin Reservoir, which required higher dosages to disinfect the water;

and higher Liquid Oxygen in Water Operations. This is offset by lower spending for Soda Ash at Carroll Water Treatment Plant; lower Hydrogen Peroxide at Deer Island; and lower Carbon Dioxide in Water Operations. Through May, Deer Island flows are 8.4% greater than budget and the Carroll Plant flows are 4.4% less than budgeted.

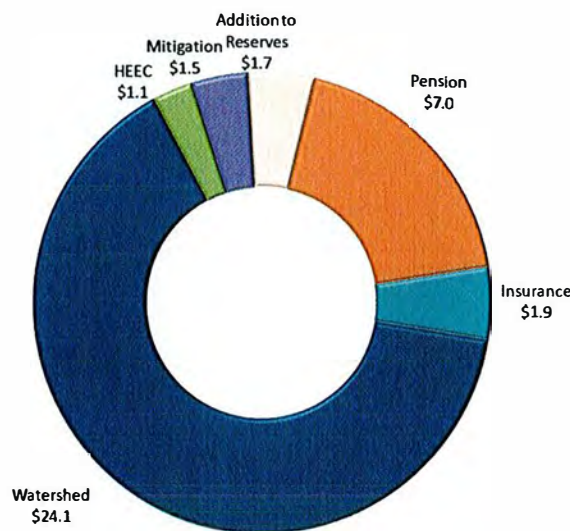
Training & Meetings

Training & Meetings expenses were slightly higher than budgeted by \$54,000 or 14.5% driven by higher spending in Field Operations.

Indirect Expenses

Year-to-date Indirect Expenses totaled \$37.3 million, which is \$0.6 million or 1.5% under budget. There are variances within the lines that comprise Indirect Expenses, including lower Watershed and HEEC cable costs. Watershed costs are lower than budget by \$0.3 million due to an over-accrual at the end of FY18 on Watershed operating expenses. Staff typically need to close the fiscal year prior to receiving the final invoice from DCR, so an estimated amount is accrued based on recent history. HEEC charges are under budget by \$0.2 million for the low voltage switchgear upgrades.

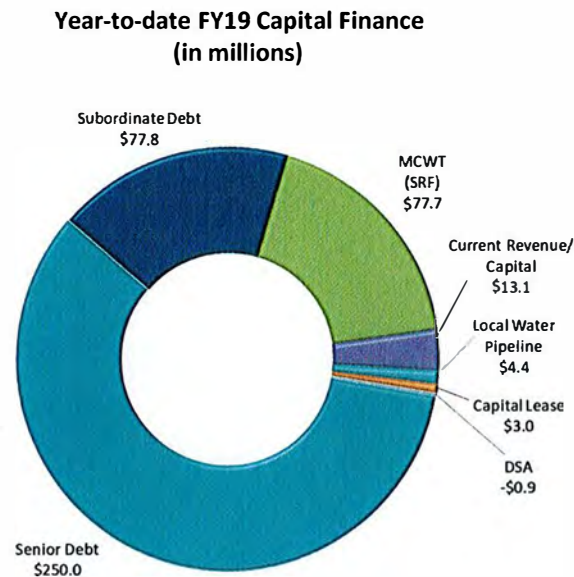
**FY19 Year-to-date Indirect Expenses-YTD
(in millions)**



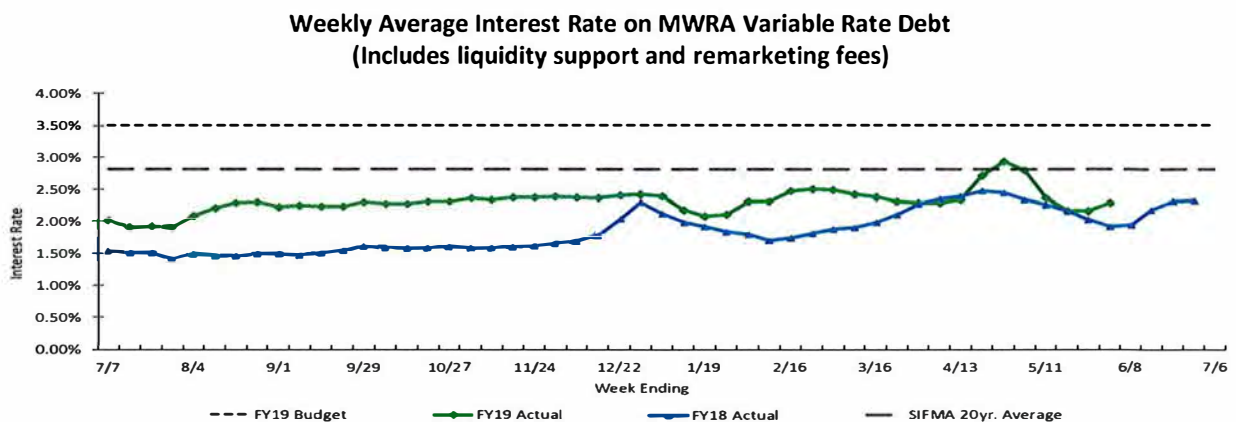
Capital Financing

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

Year-to-date Capital Financing expenses for FY19 totaled \$437.1 million, which is right on budget after the transfer of \$12.1 million of year-to-date surplus to the Defeasance Account. The surplus is primarily attributable to short-term variable rates. As in the past, staff have already identified candidates for the FY19 defeasance which will have favorable impacts in the FY20-22 period.



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



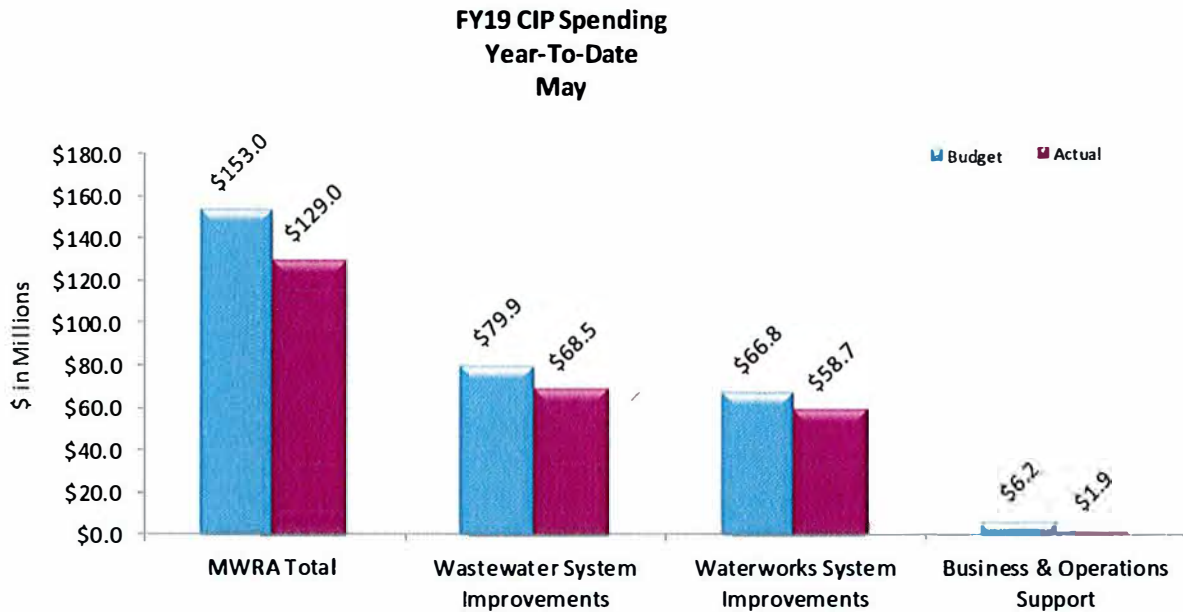
Revenue & Income

Year-to-date Revenues of \$713.0 million were over budget by \$4.3 million or 0.6%. Investment income was over budget by \$2.9 million due to favorable returns on investment income (average short-term rates were higher than budgeted: 2.44% vs. 1.75%). In addition, Special Assessment Revenue was greater than budget by \$0.6 million which is due to accruing the Clinton charge coinciding with the timing of the invoice. Staff expect to receive this in June as was budgeted (\$0.5 million). Lastly, Other User Charges were also favorable to budget due to the income from the disposal of equipment (\$0.4 million), and for Miscellaneous Revenue (\$0.1 million).

FY19 Capital Improvement Program

Capital expenditures in Fiscal Year 2019 through May total \$129.0 million, \$24.0 million or 15.7% under budget.

After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$77.8 million, \$47.7 million or 38.0% under budget.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$11.5 million), Waterworks (\$8.1 million) and Business and Operations Support (\$4.4 million). Major variances in Wastewater are primarily due to construction delays for the Chelsea Creek Headworks Upgrades for Channel 1 work, odor control equipment delivery and redesign of lower roofs, Deer Island HVAC Equipment Replacement due to schedule change and re-scoping of project, NI Odor Control and HVAC Upgrades Construction and DI Clarifier Rehabilitation Construction 2 due to updated schedule, Residuals Electrical and Mechanical Upgrades due to revised scope and schedules, and Somerville Marginal In-System Storage project due to delay in Somerville design and construction awards, partially offset by greater than anticipated community requests for grants and loans for the I/I Local Financial Assistance Program, and greater than anticipated contractor progress for the Gravity Thickener Rehabilitation contract.

Waterworks variances are primarily due to delay in notice to proceed and MBTA crossing issues for Southern Extra High (SEH) Section 111 Construction 3, and Maintenance Garage/Washbay/Storage Building due to delay in schedule, Bellevue Tank 2/Turkey Hill Painting contract awarded less than budget and additional structural repairs and antenna relocation delays, and Deer Island Water Tank Painting award less than budget and schedule shift, partially offset by

greater than anticipated community requests for loans as well as contractor progress on the Section 56 Pipe Demolition Construction, Southern Extra High (SEH) Section 111 Construction Phase 2, and timing of watershed land purchases.

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

\$ In Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	39.4	20.9	(18.5)	-47.0%
Treatment	16.1	8.4	(7.7)	-48.1%
Residuals	2.7	0.7	(2.0)	-74.6%
CSO	2.5	1.2	(1.3)	-53.7%
Other	19.2	37.4	18.2	94.6%
Total Wastewater System Improvements	\$79.9	\$68.5	(\$11.5)	-14.4%
Waterworks System Improvements				
Drinking Water Quality Improvements	1.5	0.7	(0.8)	-51.7%
Transmission	12.4	9.0	(3.4)	-27.2%
Distribution & Pumping	35.3	32.2	(3.1)	-8.8%
Other	17.7	16.8	(0.9)	-5.1%
Total Waterworks System Improvements	\$66.8	\$58.7	(\$8.1)	-12.2%
Business & Operations Support	\$6.2	\$1.9	(\$4.4)	-70.4%
Total MWRA	\$153.0	\$129.0	(\$24.0)	-15.7%

Totals may not add due to rounding

FY19 Year-to-date Spending by Program:

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

Interception & Pumping: Net underspending of \$18.5 million

- \$14.2 million for Chelsea Creek Headworks Upgrades construction due to delays for odor control equipment delivery, commissioning Channel 1, and the redesign of lower roofs.
- \$2.6 million for Nut Island Odor Control and HVAC Upgrades Construction and \$0.6 million for Design CA/REI of \$0.6 million due to a delay in completion of design documents.
- \$0.6 million for Remote Headworks and Deer Island Shaft Study due to a delay in the notice to proceed.
- \$0.5 million for Wastewater Metering Planning/Study/Design is due to police details and temporary meter work that were less than anticipated.
- This underspending was partially offset by \$0.4 million for Reading Extension Sewer and \$0.3 million for Prison Point Piping Rehabilitation for FY18 scheduled work that was completed in FY19, \$0.4 million for Alewife Brook Pump Station construction due to the timing of final work, and \$0.2 million for the DeLauri Pump Station Security and Screens due to contractor progress.

Other Wastewater: Net overspending of \$18.2 million

- \$18.2 million for Community I/I due to greater than budgeted requests for grants and loans.

Wastewater Treatment: Net underspending of \$7.7 million

- \$3.2 million for HVAC Equipment Replacement Construction and \$0.8 million for Chemical Tanks and Digester Pipe Replacement due to schedule changes and projects being re-scoped.
- \$2.4 million for Clarifier Rehabilitation Phase 2 Construction due to an updated schedule.
- \$0.8 million for Winthrop Terminal Facility VFD Replacement Construction due to a motor commissioning testing problem.
- \$0.7 million for Clinton Roofing Rehabilitation due to a delay in the start of work.
- \$0.3 million for Radio Repeater System Upgrade 1 due to a delayed award and specifications change.
- This underspending was partially offset by overspending of \$1.7 million for Gravity Thickener Rehabilitation due to better than anticipated contractor progress, and \$0.2 million for Clinton Phosphorus Reduction Construction for work scheduled for FY18 that was performed in FY19.

Business & Operations Support: Net underspending of \$4.4 million

- \$1.8 million for the timing of MIS initiatives, \$1.6 million for As-Needed Technical Assistance and Resident Engineering and Inspection Services due to the timing of task order work, and \$0.2 million for Vehicle Purchases and \$0.2 million for Lab Instrumentation due to timing of purchases.

Waterworks Transmission: Net underspending of \$3.4 million

- \$2.3 million for Maintenance Garage/Wash Bay/Storage Building due to a schedule delay.
- \$0.4 million for Commonwealth Avenue Pumping Station Design Construction Administration/Resident Inspection and \$0.5 million for construction due to a change in the construction notice to proceed.
- \$0.9 million for Chestnut Hill Emergency Pumping Design/CA due to a delay in award.
- \$0.5 million for Wachusett Aqueduct Pumping Station Design due to less than anticipated resident engineering services.
- \$0.4 million for WASM 3 MEPA/Design/CA/RI for test pit work that was delayed.
- \$0.3 million for Tunnel Redundancy Preliminary Design and Massachusetts Environmental Policy Act due to schedule changes.
- This underspending was partially offset by overspending of \$1.2 million for timing of Watershed Land purchases \$0.4 million for Rosemary Brook Siphon Building Repair due to timing of final payment, and \$0.3 million for Wachusett Pumping Station Construction due to greater than anticipated contractor progress.

Water Distribution and Pumping: Net underspending of \$3.1 million

- Underspending of \$3.4 million for SEH Construction 3 due to a delay in notice to proceed and an issue with MBTA crossing.
- \$0.7 million for Section 23, 24, 47 Final Design CA/RI due to a delayed gas line relocation.

- \$0.7 million for Peabody Pipeline Design/ESDC and \$0.8 million for Construction due to a terminated contract.
- \$0.7 million for Section 89 & 29 Redundancy Phase 2 construction due to slower progress due to winter moratorium.
- \$0.3 million for Sections 53 and 99 Replacement Design due to schedule change,
- \$0.2 million for Section 14 Water Main Relocation (Malden) due to FY19 scheduled work that was completed in FY18.
- This underspending was partially offset by overspending of \$1.3 million for Southern Extra High (SEH) Section 111 Construction 2, \$0.2 million for Construction 1, \$1.7 million for Section 56 Pipe Demolition, \$0.4 million for Northern Intermediate High (NIH) Section 89 & 29 Phase 1C, \$0.1M for Phase 1B, and \$0.2 million for Cathodic Protection Shafts E & L due to better than anticipated contractor progress, \$0.1 million for NIH Section 89 & 29 Replacement Design and \$0.1 million for Section 50/57 Water and Sections 21/20/10 Sewer Design ESDC/REI due to the consultant's progress.

Residuals: Net underspending of \$2.0 million

- Underspending of \$1.7 million for Electrical and Mechanical Improvements due to a delay in award as a result of combining electrical and mechanical contracts and adding drum dryer replacements to scope of work, \$0.4 million for Pellet Conveyance Piping Relocation due to a schedule change, partially offset by \$0.1 million for Sludge Tank and Silo Coating due to work scheduled for FY18 completed in FY19.

Combined Sewer Overflow: Net underspending of \$1.3 million

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

Other Waterworks: Net underspending of \$0.9 million

- \$2.7 million for Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budgeted, additional structural repairs needed and antenna relocation delays, \$2.7 million for Deer Island Water Tank Painting due to a delay in the notice to proceed and the contract awarded less than budgeted, and \$0.5 million for a delay in the start of work for the Cosgrove Intake Roof Repair contract. Also, \$0.3 million for the Generator Docking Station contract due to a delay in the award.
- This underspending was partially offset by \$5.5 million for the Local Water System Assistance Program due to greater than anticipated loan requests.

Drinking Water Quality Improvements: Net underspending of \$0.8 million

- \$0.6 million for timing of task order work and \$0.2 million primarily due to an updated schedule for Cosgrove Boat Storage work.

Construction Fund Balance

The construction fund balance was \$191.4 million as of the end of May. Commercial Paper/Revolving Loan availability was \$222 million to fund construction projects.

ATTACHMENTS:

Attachment 1 – Variance Summary May 2019

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY19 Year-End Projections

Attachment 1
FY19 Actuals vs. FY19 Budget

	May 2019 Year-to-Date				
	Period 11 YTD Budget	Period 11 YTD Actual	Period 11 YTD Variance	%	FY19 Approved
<u>EXPENSES</u>					
WAGES AND SALARIES	\$ 97,064,935	\$ 92,862,443	\$ (4,202,492)	-4.3%	\$ 107,032,021
OVERTIME	4,114,862	4,763,849	648,987	15.8%	4,447,554
FRINGE BENEFITS	19,128,537	18,269,835	(858,702)	-4.5%	21,173,571
WORKERS' COMPENSATION	2,220,725	2,161,534	(59,191)	-2.7%	2,422,609
CHEMICALS	9,809,573	9,961,036	151,463	1.5%	10,830,452
ENERGY AND UTILITIES	21,198,995	22,680,580	1,481,585	7.0%	22,868,632
MAINTENANCE	28,515,067	27,363,274	(1,151,793)	-4.0%	32,258,727
TRAINING AND MEETINGS	371,116	425,052	53,936	14.5%	455,770
PROFESSIONAL SERVICES	6,723,986	5,462,546	(1,261,440)	-18.8%	7,675,976
OTHER MATERIALS	5,723,842	5,623,194	(100,648)	-1.8%	7,381,098
OTHER SERVICES	20,912,607	21,682,791	770,184	3.7%	23,065,411
TOTAL DIRECT EXPENSES	\$ 215,784,245	\$ 211,256,134	\$ (4,528,112)	-2.1%	\$ 239,611,821
INSURANCE	\$ 1,937,593	\$ 1,889,266	\$ (48,327)	-2.5%	\$ 2,099,064
WATERSHED/PILOT	24,375,163	24,077,472	(297,691)	-1.2%	26,406,427
HEEC PAYMENT	1,271,262	1,063,800	(207,462)	-16.3%	1,386,832
MITIGATION	1,490,088	1,490,088	-	0.0%	1,614,262
ADDITIONS TO RESERVES	1,737,048	1,737,048	-	0.0%	1,881,797
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%	7,000,000
POST EMPLOYEE BENEFITS	-	-	-	---	5,574,152
TOTAL INDIRECT EXPENSES	\$ 37,811,154	\$ 37,257,674	\$ (553,480)	-1.5%	\$ 45,962,534
STATE REVOLVING FUND	\$ 81,755,765	\$ 77,693,426	\$ (4,062,339)	-5.0%	\$ 89,380,363
SENIOR DEBT	251,295,004	250,016,069	(1,278,935)	-0.5%	272,633,982
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%	(944,726)
CURRENT REVENUE/CAPITAL	13,107,685	13,107,685	-	0.0%	14,199,991
SUBORDINATE MWRA DEBT	84,491,330	84,491,330	-	0.0%	92,032,292
LOCAL WATER PIPELINE CP	4,384,981	4,384,981	-	0.0%	4,750,396
CAPITAL LEASE	2,969,594	2,969,594	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	7,100,000
VARIABLE DEBT	-	(6,726,811)	(6,726,811)	---	-
DEFEASANCE ACCOUNT	-	12,068,085	12,068,085	---	-
TOTAL DEBT SERVICE	\$ 437,059,633	\$ 437,059,633	\$ -	0.0%	\$ 482,369,358
TOTAL EXPENSES	\$ 690,655,032	\$ 685,573,441	\$ (5,081,592)	-0.7%	\$ 767,943,713
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 682,192,800	\$ 682,192,800	\$ -	0.0%	\$ 739,042,200
OTHER USER CHARGES	8,608,627	9,196,698	588,071	6.8%	9,328,768
OTHER REVENUE	5,592,541	6,416,104	823,563	14.7%	6,013,635
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	12,282,018	15,145,638	2,863,620	23.3%	13,559,110
TOTAL REVENUE & INCOME	\$ 708,675,986	\$ 712,951,240	\$ 4,275,253	0.6%	\$ 767,943,713

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD May	FY19 Actuals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	97,064,935	92,862,443	(4,202,492)	-4.3%	Wages and Salaries are under budget by \$4.2 million. Year to date, there have been 20 fewer average FTEs (1,135 versus 1,155 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions, and lower leave balance accruals contributed to Regular Pay being under budget.
Overtime	4,114,862	4,763,849	648,987	15.8%	Higher spending mainly in Wastewater Operations for wet weather events.
Fringe Benefits	19,128,537	18,269,835	(858,702)	-4.5%	Lower than budget mainly in Health Insurance of \$832,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	2,220,725	2,161,534	(59,191)	-2.7%	The lower expenses were due to favorable variances in Administrative Expenses of \$85,000 and Medical Payments of \$30,000, offset by an unfavorable variance in Compensation Payments of \$57,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD May	FY19 Actuals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Chemicals	9,809,573	9,961,036	151,463	1.5%	Overspending on Ferric Chloride of \$320,000 at DITP and Clinton; Sodium Hypochlorite of \$232,000 at DITP & Wastewater Ops due to wet weather and at CWTP due to rainy fiscal year, we have been using more water from Wachusett Reservoir vs. the higher quality water from Quabbin Reservoir, which has required higher dosing to disinfect the water; Liquid Oxygen of \$77,000 primarily in Water Operations; and Sodium Bisulfite of \$57,000 at DITP & Wastewater Ops. This is offset by underspending in Soda Ash of \$340,000 at CWTP and Clinton; Hydrogen Peroxide of \$136,000 at DITP; and Carbon Dioxide of \$59,000 in Water Operations. DITP flows are 8.4% higher than the budget and CWTP flows are 4.4% less than the budget through May. 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	21,198,995	22,680,580	1,481,585	7.0%	Overspending in Electricity of \$1.2 million primarily at DITP (\$781,000) and Field Operations (\$460,000) due to pricing; Diesel Fuel of \$267,000 primarily at DI (\$261,000) due to timing of deliveries.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD May	FY19 Actuals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Maintenance	28,515,067	27,363,274	(1,151,793)	-4.0%	<p>Materials were underspent by \$638,000 and Services were underspent by \$514,000.</p> <p>Materials: Underspending in Electrical Materials of \$500,000 driven by Deer Island (\$387,000) and Metro Maintenance (\$97,000); P&M Materials of \$477,000 driven by Deer Island (\$483,000); and HVAC Materials of \$240,000 driven by Deer Island (\$259,000). These are offset by overspending in Special Equipment Materials of \$298,000 driven by Metro Maintenance (\$334,000) and Building and Grounds Materials of \$92,000 driven by Deer Island (\$108,000).</p> <p>Services: Underspending in Building and Grounds Services of \$812,000 driven by Field Operations (\$999,000) and offset by overspending at Deer Island (\$213,000); Electrical Services of \$276,000 driven by Deer Island (\$198,000) and Field Operations (\$122,000); and Pipe Services of \$258,000 driven by Metro Maintenance (\$282,000). These are offset by overspending in P&M Services of \$660,000 driven by Deer Island (\$505,000) and Field Operations (\$120,000); and Special Equipment Services of \$138,000 driven by Emergency Preparedness (\$167,000).</p>
Training & Meetings	371,116	425,052	53,936	14.5%	Driven by overspending in Field Operations (\$62,000).

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD May	FY19 Actnals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Professional Services	6,723,986	5,462,546	(1,261,440)	-18.8%	Underspending in Other Professional Services of \$492,000 in HR for Training and the Pay Equity Study, Law, Operations, and Finance; Computer System Consultants of \$310,000 in MIS; Legal Services of \$252,000 in Law and HR; and Lab & Testing Analysis of \$231,000 in EnQual Wastewater and Lab Services.
Other Materials	5,723,842	5,623,194	(100,648)	-1.8%	Lower than budgeted spending in Equipment/Furniture of \$241,000 in Operations for timing of water quality equipment and furniture at DITP; Postage of \$118,000 for timing of replenishment of the postage meter in the mailrooms; Vehicles of \$82,000 based on assessed needs. This is offset by higher than budgeted spending in Computer Hardware of \$315,000 in MIS.
Other Services	20,912,607	21,682,791	770,184	3.7%	Higher than budgeted spending for Sludge Pelletization of \$1.2 million due to higher year-to-date quantities. This is offset by lower spending for Telephone/Data Services of \$311,000 in MIS and FOD, and Other Services of \$242,000 for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for Lead issues in Planning.
Total Direct Expenses	215,784,245	211,256,134	(4,528,112)	-2.1%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD May	FY19 Actuals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,937,593	1,889,266	(48,327)	-2.5%	Higher claims than budgeted of \$26,000, offset by lower premiums of \$75,000.
Watershed/PILOT	24,375,163	24,077,472	(297,691)	-1.2%	Lower Watershed Reimbursement of \$298,000 largely driven by the over accrual at the end of FY18 as compared to the actual amount paid in the first quarter of FY19.
HEEC Payment	1,271,262	1,063,800	(207,462)	-16.3%	Lower than budgeted spending on special projects related to the HEEC cable.
Mitigation	1,490,088	1,490,088	-	0.0%	
Addition to Reserves	1,737,048	1,737,048	-	0.0%	
Pension Expense	7,000,000	7,000,000	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	37,811,154	37,257,674	(553,480)	-1.5%	
Debt Service					
Debt Service	438,004,359	438,004,359	-	0.0%	\$12.1 million for lower than budgeted variable rate, and a combination of lower cost of borrowing, assumed versus actual borrowing terms, and timing for SRF funds.
Debt Service Assistance	(944,726)	(944,726)	-	0.0%	
Total Debt Service Expenses	437,059,633	437,059,633	-	0.0%	
Total Expenses	690,655,032	685,573,441	(5,081,592)	-0.7%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD May	FY19 Actuals YTD May	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	682,192,800	682,192,800	-	0.0%	
Other User Charges	8,608,627	9,196,698	588,071	6.8%	Driven by Clinton Assessment (\$500,000) due to timing and higher DITP water costs (\$76,000).
Other Revenue	5,592,541	6,416,104	823,563	14.7%	\$413,000 for disposal of surplus materials; \$195,000 for Emergency Water Surcharges for the town of Burlington; and Miscellaneous Revenue of \$115,000 primarily associated with worker's compensation reimbursement for older claims.
Investment Income	12,282,018	15,145,638	2,863,619	23.3%	Investment Income is over budget mostly due to short term rates higher than budget (2.44% vs. 1.75% budget).
Total Revenue	708,675,986	712,951,240	4,275,253	0.6%	
Net Revenue in Excess of Expenses	18,020,954	27,377,799	9,356,845		

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

	FY19 Budget YTD May	FY19 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$39,440	\$20,891	(\$18,549)	-47.0%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$14.9M (due to timing of odor control equipment delivery, delay in commissioning channel 1 and redesign of lower roofs) Nut Island Odor Control & HVAC Design/CA/REI and Construction : \$3.1M (delay in completion of design documents) Remote Headworks & Deer Island Shaft Study: \$631k (schedule shift) Wastewater Meter System Planning/Study/Design: \$549k (police details and temporary meter work were less than anticipated) Wastewater Central Monitoring Design and Programming Services, and Equipment/Hardware: \$440k (timing of work and purchases) Meter Modems-Antenna Replacement: \$200k (project to be completed through CEB) Siphon Structure Rehabilitation Design/CS/RI: \$179k (schedule shift) Sections 4, 5, 6, 186 - Design CA/RI: \$149k (schedule shift) Sections 4, 5, 6, 186 - Study: \$114k (work completed in FY18) <u>Offset Overspending</u> Alewife Brook Pump Station Rehab - Construction and CA/REI: \$518k (due to timing of final work) Interceptor Renewal 1, Reading Extension Sewer - Construction: \$428k, Prison Point Piping Rehabilitation: \$262k and DeLauri Pump Station Screens & Security Upgrades: \$209k (work scheduled for FY18 performed in FY19) Alewife Brook Pump Station Final Design/CA/REI: \$134k (greater than anticipated resident engineering services)

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

	FY19 Budget YTD May	FY19 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Treatment	\$16,102	\$8,356	(\$7,746)	-48.1%	<u>Underspending</u> Clarifier Rehabilitation Phase 2 - Construction and REI: \$2.7M (delayed due to schedule shift) HVAC Equipment Replacement - Design, Construction and REI: \$3.4M (contract being re-scoped) WTF VFD Replacement - Construction: \$803k (due to motor commissioning testing issues) Chemical Tank Relining & Pipe Replacement: \$833k (project scope combined with Chemical Tank and Digester Pipe project and schedule shift) Clinton Roofing Rehabilitation: \$659k (schedule shift) Radio Repeater System Upgrades - Phase 1: \$250k (award delayed and specifications changed) Gas Protection System Replacement Phase 1: \$161k (schedule shift) <u>Offset Overspending</u> Gravity Thickener Rehab: \$1.7M (contractor progress) Phosphorus Removal - Construction: \$170k (work scheduled for FY18 performed in FY19)
Residuals	\$2,712	\$689	(\$2,022)	-74.6%	<u>Underspending</u> Electrical Improvements \$1.1M and Mechanical Improvements \$650k (scope of work incorporated into Electrical, Mechanical, & Drum Replacements contract and schedule shift) Pellet Piping Relocation: \$413K (schedule shift) <u>Offset Overspending</u> Sludge Tank & Silo Coating: \$115k (due to work scheduled for FY18 completed in FY19)
CSO	\$2,486	\$1,151	(\$1,335)	-53.7%	<u>Underspending</u> Somerville Marginal In-System Storage: \$1.4M (shift in Somerville design and construction schedule) <u>Offset Overspending</u> CSO Performance Assessment: \$131k (timing of executed task orders)
Other Wastewater	\$19,206	\$37,369	\$18,163	94.6%	<u>Overspending</u> I/I Local Financial Assistance: \$18.2M (greater than budgeted requests for grants and loans)
Total Wastewater	\$79,947	\$68,457	(\$11,489)	-14.4%	

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

	FY19 Budget YTD May	FY19 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$1,491	\$720	(\$772)	-51.7%	<u>Underspending</u> Technical Assistance: \$798k (timing of task order work)
Transmission	\$12,377	\$9,015	(\$3,361)	-27.2%	<u>Underspending</u> Maintenance Garage/Wash Bay/Storage Building: \$2.3M (schedule shift) Wachusett Aqueduct Pump Station - Design/ESDC/RI: \$499k (less than anticipated resident engineering services) Commonwealth Avenue Pump Station Improvements - Design/CA/RI: \$372k and Construction: \$513k (CA & RI services delayed as a result of change in construction notice to proceed) WASM 3 - MEPA/Design/CA/RI: \$369k (test pits work delayed) Chestnut Hill Emergency Pump Station Improvements - Design/CA/RI: \$867k (delay in award) Metropolitan Tunnel Redundancy Preliminary Design & MEPA Review: \$333k (schedule shift) <u>Offset Overspending</u> Watershed Land Acquisition: \$1.2M (timing of land purchases) Rosemary Brook Siphon Building Repair: \$386k (timing of final payment) Wachusett Aqueduct Pump Station - Construction: \$280k (due to project progress)

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

	FY19 Budget YTD May	FY19 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$35,270	\$32,168	(\$3,102)	-8.8%	<u>Underspending</u> SEH Redundancy Pipeline Section 111 - Construction Phase 3: \$3.4M (due to delay in notice to proceed and issue with MBTA crossing) Peabody Pipeline Project: \$1.5M (project cancelled) New Connecting Mains CP3 (Sect 23,24,47) - Final Design/CA/RI: \$670k (delayed utility relocation) Section 89 & 29 Redundancy - Construction Phase 2: \$659k (delays due to winter moratorium) Sections 53 and 99 Connections - Design/CA/RI: \$333k (schedule shift) Section 14 Water Pipe Relocation (Malden): \$180k (work scheduled for FY19 performed in FY18) <u>Offset Overspending</u> NHS - Revere & Malden Pipeline Section 56 Pipe Demolition - Construction: \$1.7M, NIH Section 89 and 29 Redundancy Phase 1B and 1C: \$552k, Section 89/29 Replacement - Design: \$103k, SEH Redundancy Pipeline Section 111 - Construction Phase 1 & 2: \$1.4M, Sections 50 & 57 Water & 21/20/19 Sewer Rehab - Design/CA/RI: \$129k, and Cathodic Protection of Shafts E & L: \$212K (all due to project progress)
Other Waterworks	\$17,701	\$16,790	(\$910)	-5.1%	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$5.5M (greater than budgeted requests for loans), and Carroll Water Treatment Plant SCADA Upgrades - Design/Programming RE services: \$153K (consultant progress) <u>Offset Underspending</u> Bellevue II & Turkey Hill Water Tanks Repainting: \$2.7M (award less than budgeted) Deer Island Water Tank Repainting : \$2.7M: Delay in notice to proceed and contract award less than budgeted) Cosgrove Intake Roof Replacement: \$485k (delay in start of work) Generator Docking Station: \$324k, Gillis Pump Station/Cottage Farm CSO Facility Roof Replacements: \$210k and Steel Tank Improvements - Design/CA/RI: \$136k (all due to schedule shifts)
Total Waterworks	\$66,839	\$58,693	(\$8,146)	-12.2%	

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

	FY19 Budget YTD May	FY19 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support					
Total Business & Operations Support	\$6,250	\$1,852	(\$4,397)	-70.4%	<u>Underspending</u> MIS Projects: \$1.8M (due to timing of work) As-Needed Technical Assistance: \$1.6M (due to timing of task order work) FY19-23 Major Lab Instrumentation: \$222k and Vehicle Purchases: \$146k (timing of purchases)
Total MWRA	\$153,036	\$129,003	(\$24,032)	-15.7%	

ATTACHMENT 4

FY19 Budget vs FY19 Projection

TOTAL MWRA	FY19 Budget	FY19 Projection	Change FY19 Budget vs FY19 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 107,032,021	\$ 101,960,858	\$ (5,071,163)	-4.7%
OVERTIME	4,447,554	5,079,147	631,593	14.2%
FRINGE BENEFITS	21,173,571	20,256,723	(916,848)	-4.3%
WORKERS' COMPENSATION	2,422,609	2,422,609	-	0.0%
CHEMICALS	10,830,452	10,942,534	112,082	1.0%
ENERGY AND UTILITIES	22,868,633	24,491,122	1,622,489	7.1%
MAINTENANCE	32,258,727	31,619,639	(639,088)	-2.0%
TRAINING AND MEETINGS	455,770	484,135	28,365	6.2%
PROFESSIONAL SERVICES	7,675,976	6,952,719	(723,257)	-9.4%
OTHER MATERIALS	7,381,098	6,969,797	(411,301)	-5.6%
OTHER SERVICES	23,065,411	23,952,108	886,697	3.8%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 235,131,392	\$ (4,480,430)	-1.9%
INSURANCE	\$ 2,099,064	\$ 2,967,643	868,579	41.4%
WATERSHED/PILOT/DEBT	26,406,427	23,695,654	(2,710,773)	-10.3%
HEEC PAYMENT	1,386,832	1,203,255	(183,577)	-13.2%
MITIGATION	1,614,262	1,614,262	-	0.0%
ADDITIONS TO RESERVES	1,881,798	1,881,798	-	N/A
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%
POSTEMPLOYMENT BENEFITS	5,574,152	5,574,152	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 43,936,763	\$ (2,025,771)	-4.4%
STATE REVOLVING FUND	\$ 89,380,358	\$ 84,227,800	(5,152,558)	-5.8%
SENIOR DEBT	272,633,979	270,379,599	(2,254,380)	-0.8%
SUBORDINATE DEBT	92,032,294	92,032,294	-	0.0%
LOCAL WATER PIPELINE CP	4,750,393	2,504,172	(2,246,221)	-47.3%
CURRENT REVENUE/CAPITAL	14,200,000	14,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	7,100,000	-	0.0%
VARIABLE RATE SAVINGS	-	(7,324,342)	(7,324,342)	
DEFEASANCE ACCOUNT	-	17,118,194	17,118,194	
DEBT SERVICE ASSISTANCE	(944,726)	(1,834,965)	(890,239)	N/A
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 481,619,813	\$ (749,545)	-0.2%
TOTAL EXPENSES	\$ 767,943,713	\$ 760,687,968	\$ (7,255,746)	-0.9%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 739,042,200	-	0.00%
OTHER USER CHARGES	9,328,768	9,328,768	-	0.0%
OTHER REVENUE	6,013,635	6,544,796	531,161	8.8%
RATE STABILIZATION			-	
INVESTMENT INCOME	13,559,110	16,759,110	3,200,000	23.6%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 771,674,874	\$ 3,731,161	0.5%

Variance:

\$ (10,986,907) \$ (10,986,908)



STAFF SUMMARY

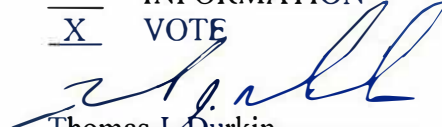
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: FY20 Final Capital Improvement Program



COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE

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


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

To approve the FY20 Capital Improvement Program with a total budget of \$199.5 million for FY20 including \$164.1 million in project spending and \$35.4 million in community assistance.

DISCUSSION:

The Fiscal Year 2020 Proposed Capital Improvement Program (CIP) represents an update to the program presented to the Board in December 2018. The Final CIP includes the latest cost estimates and revised schedules that were the result of prioritizing the planned projects to support the MWRA's core operations, and meet regulatory requirements.

The FY20 Final Capital Improvement Program projects \$199.5 million spending for FY20, of which \$122.5 million supports Wastewater System Improvements, \$64.2 million supports Waterworks System Improvements, and \$12.8 million is for Business and Operations Support. The projects with significant spending include Infiltration/Inflow Local Financial Assistance, Chelsea Creek Headworks Upgrades, Southern Extra High Redundancy projects, Clarifier Rehabilitation Phase 2 Construction, Local Water System Assistance Program, Northern Intermediate High Redundancy projects, Nut Island Odor Control and HVAC Improvements, and Prison Point Rehabilitation.

Several cost estimates have changed since the FY20 Proposed CIP based on the latest design reports and/or bid amounts. The largest of these being the Northern Low Service Sections 50 & 57 Water and Sections 21/20/19 Sewer of +\$12.9 million and DI HVAC Equipment Replacement +\$10 million.

Also, the Wiggins Terminal Pump Station cost estimate has decreased (\$1.5 million) due to a late cost estimate received as a result of a study that was completed to either rehabilitate or replace the pump station. The preferred alternative is to replace the pump station with a pre-engineered modular pump station with a new precast wetwell installed into the existing wetwell.

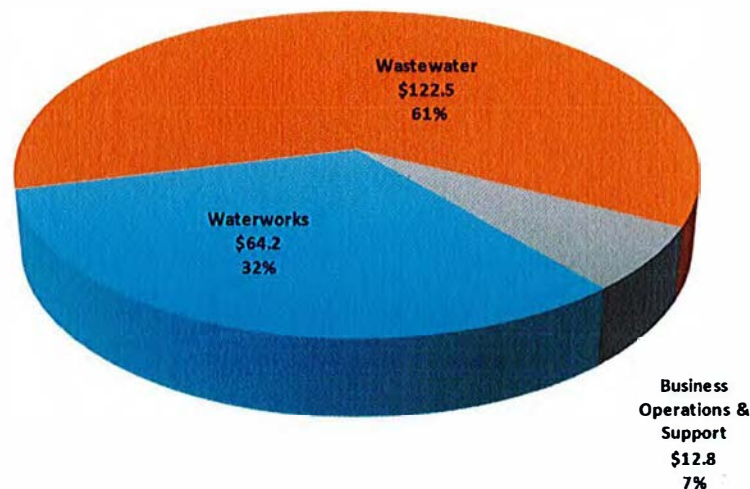
The CIP Program continues to address critical redundancy improvements for the Metropolitan Tunnel System. The FY20 CIP includes approximately \$1.4 billion in spending, the same as in the FY20 Proposed budget. The initial contract that was recently awarded is for Program Support Services which is budgeted at \$17.5 million over a nine-year period beginning in late FY19.

The FY20 Capital Program reaffirms MWRA's commitment to the community financing assistance programs on both the water and wastewater side.

Today, the Authority is better positioned to reinvest in rehabilitation and replacement of aging facilities as result of conservative fiscal management which includes judicious control of expenses, and the fact that MWRA has implemented the practice of utilizing available funds for defeasances resulting in the reduction of debt service expense. MWRA projects an overall reduction in outstanding principal of debt during the FY19-23 cap period.

FY20 Final CIP Spending

The FY20 Final Capital Improvement Program projects \$199.5 million spending for FY20, of which \$122.5 million supports Wastewater System Improvements, \$64.2 million supports Waterworks System Improvements, and \$12.8 million is for Business and Operations Support.



The FY20 CIP includes \$35.4 million for community assistance programs, which are a combination of loan and partial grant programs, with net expenditures of \$25.7 million for the local Infiltration/Inflow program and net expenditures of \$9.7 million for the local water pipeline program.

Project contracts with spending greater than approximately \$6 million in FY20, excluding local community assistance programs, total \$78.0 million and account for 39.1% of the total annual spending.

Project	Contract	Projected FY20 Expenditures \$s in millions
Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$21.8
Local Water System Assistance Program	Phase 2 Loan Distributions	\$16.0
DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$12.1
Local Water System Assistance Program	Phase 3 Loan Distributions	\$12.0
SEH Redundancy & Storage	Redundancy Pipeline Sect 111 - Construction 3	\$9.3
Corrosion & Odor Control	Nut Island Odor Control HVAC Improvement Construction Ph 2	\$8.0
Facility Asset Protection	Prison Point Rehabilitation Construction	\$7.5
I/I Local Financial Assistance	Phase IX Grants	\$7.5
I/I Local Financial Assistance	Phase X Grants	\$7.5
NIH Redundancy & Storage	Sections 89 & 29 Redundancy Construction Phase 2	\$6.8
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	\$6.3
Residuals Asset Protection	Residuals Electrical/Mechanical/Drum Dryer Replacement	\$6.2
I/I Local Financial Assistance	Phase XI Grants	\$6.0
Total Contracts > \$6.0 million		\$127.0
% of FY20 Spending		63.7%
Excluding Community Loan Programs		\$78.0
% of FY20 Spending		39.1%
Total Projected FY20 Spending		\$199.5

Chelsea Creek Headworks Upgrade Construction - \$21.8 million (\$82.5 million total construction cost). This major rehabilitation project includes replacement/upgrade to the screens, grit collection system, grit and handling systems, odor control systems, HVAC, mechanical, plumbing and instrumentation. Solids handling systems are being automated and the building's egress and fire suppressions systems are also being upgraded.

Southern Extra High Redundancy Section 111 Phase 3 Construction - \$9.3 million (\$19.1 million total construction cost). This is a redundancy project for MWRA's Southern Extra High service area. This project will provide redundancy to Sections 77 and 88 serving Boston, Norwood, Stoughton, and Dedham-Westwood through construction of a redundant pipeline. Phase 1 was substantially complete in September 2018. Phase 2 and Phase 3 began in October 2017 and August 2018, respectively.

Nut Island Odor Control and HVAC Improvements - Construction Phase 2 - \$8.0 million (\$45.0 million total construction cost). Improvements to the Nut Island Headworks odor control, HVAC and energy management systems. These are the long-term improvement projects that arose following the January 2016 fire and the odor control, HVAC and energy management systems evaluation contract completed in February 2017.

Prison Point Rehabilitation Construction - \$7.5 million (\$36.1 million total construction cost). This rehabilitation will include upgrades to the facility including replacement of diesel pump engines, dry weather screens, wet weather screens, sluice gates, chemical tanks, updating of other facility equipment including electrical distribution and chemical disinfection systems, and repair/replacement of miscellaneous equipment. Improvement/installation of systems as appropriate for energy efficiencies, security, and fire alarm will also be included.

Northern Intermediate High Section 89 & 29 Redundancy Construction Phase 2 - \$6.8 million (\$24.8 million total construction cost). This project includes constructing a redundant

pipeline (section 110) in Stoneham. This contract commenced in September 2017 and is the last of four contracts. Phase 1A, 1B, and 1C were all completed. This project will provide uninterrupted water supply to the service area in the event of failure of the existing single supply pipe and will allow the existing pipe to be removed from service for inspection, maintenance, and repair until pipeline is replaced with construction commencing in July 2020.

Deer Island Wastewater Treatment Plant Asset Protection and Residuals:

Clarifier Rehabilitation Phase 2 Construction - \$12.1 million (\$135.0 million total construction cost). This project will rehabilitate the sludge removal system in the primary tanks and the aeration/recirculation systems in the secondary tanks. The influent gates, effluent launders and aeration systems, and concrete corrosion in primary clarifiers will also be addressed and repaired.

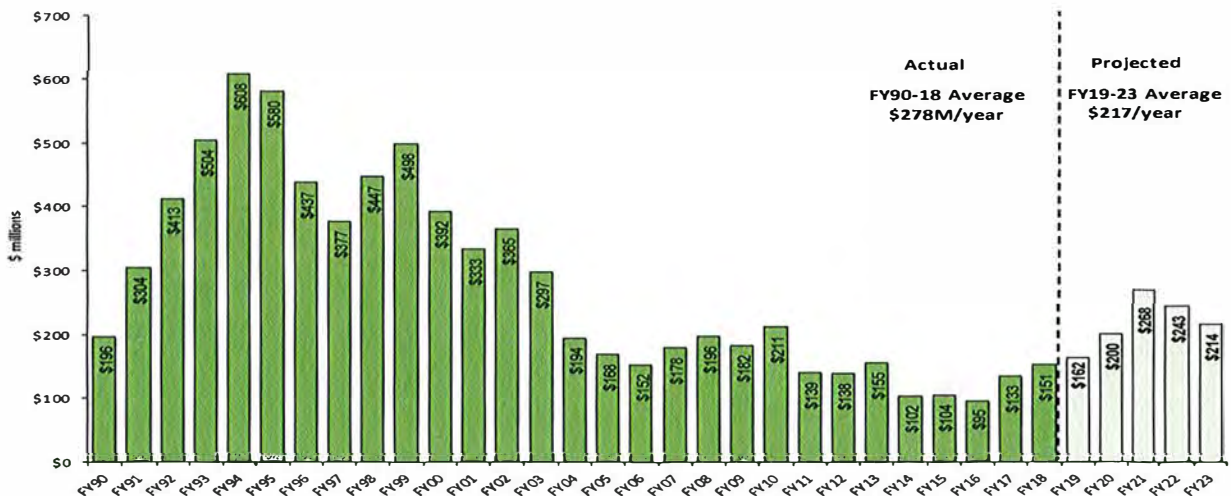
Gravity Thickener Rehabilitation - \$6.3 million (\$19.6 million total construction cost). This project involves installing catwalks around the perimeter of several tanks, removing concrete blocks in the effluent channels, and modifying the sludge thickener roofing to improve staff access and operating efficiency.

Residuals Electrical/Mechanical/Drum Dryer Replacement - \$6.2 million (\$10.1 million total construction cost). This project includes mechanical and electrical improvements to the Residuals Facility. Also, includes drum dryer replacement.

Historical Spending

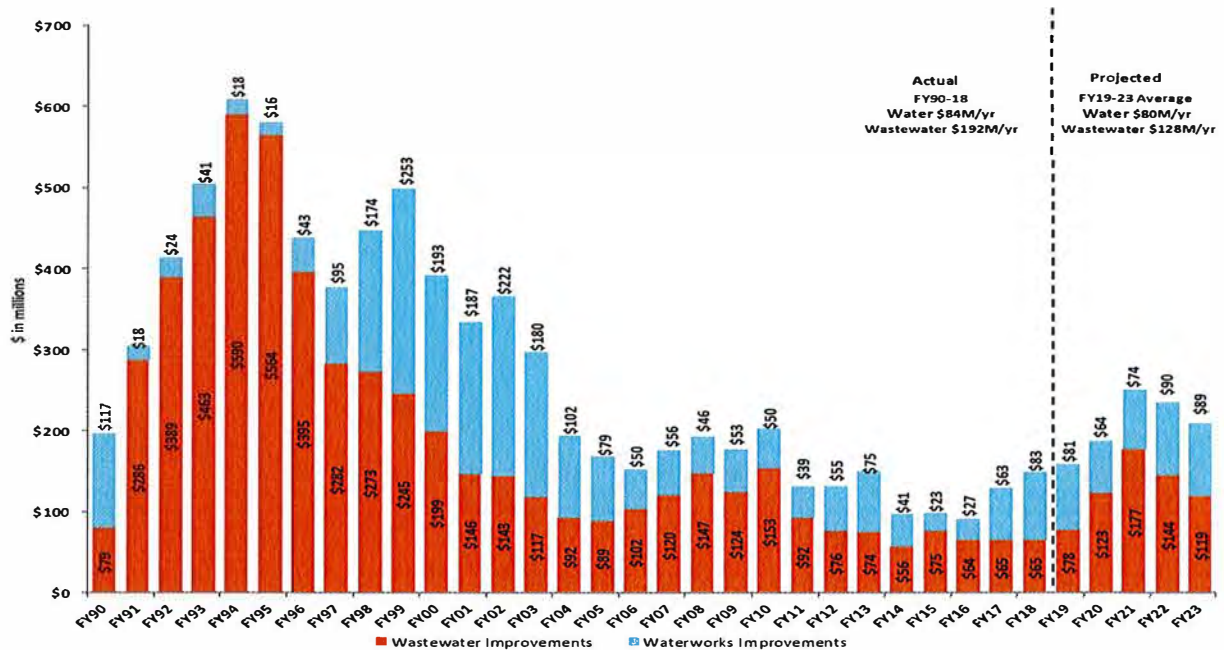
The chart below captures the historical CIP spending through FY18 and projects spending through FY23 based on the FY20 Final CIP. Average annual CIP spending through FY18 was \$278 million. Average annual CIP spending for the proposed FY19-23 Cap is projected to be \$217 million.

Annual CIP Spending



The following chart shows the historical CIP spending from FY90 through FY18 by utility with projections through FY23. Average annual CIP spending through FY18 was \$84 million for Waterworks and \$192 million for Wastewater. Average annual CIP spending for the proposed FY19-23 Cap is projected to be \$80 million for Waterworks and \$128 million for Wastewater.

Annual CIP Spending by Utility



The spending projections set forth here include updates to FY20 Proposed CIP with the latest cost estimates, revised schedules, and new projects.

FY19-23 Five-Year Spending Cap

Spending during the FY19-23 timeframe is planned to be \$1.1 billion, including local community spending of \$142.3 million for the I/I loan and grant program and \$37.5 for the water pipeline loan program.

Annual cash flows for the proposed Cap period are shown below in millions:

FY20 Draft/Final		FY19	FY20	FY21	FY22	FY23	Total FY19-23
		Projected Expenditures	\$161.5	\$199.5	\$268.4	\$243.0	\$214.3
I/I Program	(36.5)	(25.7)	(25.0)	(28.2)	(26.9)	(142.3)	
Water Loan Program	(22.4)	(9.7)	(5.2)	(4.4)	4.2	(37.5)	
MWRA Spending		102.7	164.1	238.3	210.4	191.6	\$907.0
Contingency	0.0	10.3	15.3	14.2	12.9	52.7	
Inflation on Unawarded Construction	0.0	0.9	5.2	8.3	9.8	24.2	
Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)	
FY19 Proposed FY19-23 Spending		\$102.7	\$175.4	\$258.8	\$232.8	\$214.3	\$983.9

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

The FY19-23 cap cash flow totals \$983.9 million, \$0.9 million below the approved Cap of \$984.8 million. Yearly projected expenditures for the FY19-23 Cap period by program are shown below in millions:

	FY19	FY20	FY21	FY22	FY23	Total FY19-23
Wastewater System Improvements	\$77.6	\$122.5	\$176.6	\$144.4	\$119.3	\$640.5
Interception & Pumping	27.6	50.1	60.8	37.2	19.6	195.3
Treatment	11.6	34.1	83.1	78.3	71.9	279.0
Residuals	0.5	8.1	5.1	0.6	0.9	15.2
CSO	1.5	4.5	2.7	0.1	0.0	8.7
Other Wastewater	36.5	25.7	25.0	28.2	26.9	142.3
Waterworks System Improvements	\$80.6	\$64.2	\$74.1	\$90.3	\$89.3	\$398.4
Drinking Water Quality Improvements	1.0	3.0	3.3	4.1	1.4	12.8
Transmission	10.6	15.1	37.2	39.5	47.8	150.2
Distribution & Pumping	40.4	31.5	20.4	34.5	34.6	161.3
Other Waterworks	28.5	14.6	13.2	12.2	5.5	74.0
Business & Operations Support	3.3	12.9	17.8	8.3	5.7	47.9
Total MWRA	\$161.5	\$199.5	\$268.4	\$243.0	\$214.3	\$1,086.8

It is important to emphasize that the majority of spending within the Wastewater and Waterworks programs is concentrated in several larger projects with significant spending in the FY19-23 timeframe. Project contracts with expenditures greater than \$15 million for the FY19-23 total \$670.0 million, which includes local community assistance programs, and accounts for 61.6% of total spending. Large initiatives include the Clarifier Rehabilitation at Deer Island and Chelsea Creek Upgrades at \$104.0 million (\$135.0 million total cost) and \$51.0 million (\$82.5 million total cost), respectively between FY19-23.

The table below highlights major project spending in the FY19-23 timeframe:

Project	Contract	Projected FY19-23 Expenditures \$s in millions
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	\$104.0
Local Water Pipeline Improvement	Phase 3 Loans - Distributions	\$85.3
Local Water Pipeline Improvement	Phase 2 Loans - Distributions	\$59.9
Facility Asset Protection	Chelsea Creek Headworks Upgrades - Construction	\$51.0
I/I Local Financial Assistance	Phase XI Grants	\$40.7
Corrosion & Odor Control	Nut Island Odor Control HVAC Improvements - Construction	\$38.9
DI Treatment Plant Asset Protection	HVAC Equipment Replacement - Construction	\$38.2
Facility Asset Protection	Prison Point Rehabilitation - Construction	\$36.1
I/I Local Financial Assistance	Phase X Grants	\$36.0
I/I Local Financial Assistance	Phase IX Grants	\$26.3
Local Water Pipeline Improvement	Lead Service Line Replacement Loans	\$24.0
I/I Local Financial Assistance	Phase XII Grants	\$21.0
Metro Redundancy Interim Improvements	WASM3 Construction 1	\$19.4
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	\$19.3
NIH Redundancy & Storage	Section 89 & 29 Redundancy - Construction 2	\$19.3
SEH Redundancy and Storage	Redundancy Pipeline Sect 111 - Construction 3	\$19.1
Metropolitan Tunnel Redundancy	Preliminary Design & MEPA Review	\$16.0
DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	\$15.5
Total Contracts > \$15.0 million		\$670.0
% of FY19-23 Spending		61.6%
Excluding Community Loan Programs		\$376.8
% of FY20 Spending		34.7%
Total Projected FY19-23 Spending		\$1,086.8

Asset Protection accounts for the largest share of capital expenditures for the FY19-23 period. The FY20 CIP includes \$794.7 million for asset protection initiatives, representing over 73% of total MWRA spending in this timeframe. Wastewater and Waterworks Asset Protection are \$629.2 million and \$151.0 million, respectively. Deer Island Treatment Plant Asset Protection accounts for \$273.4 million in spending. Spending for water system redundancy projects totals \$228.4 million in the same FY19-23 period, accounting for 21% of total spending.

Changing nature of the CIP by Category

Project Category	Total Contract	FY19-23	FY24-28
Asset Protection	\$3,216.2	\$794.7	\$1,165.4
Water Redundancy	\$3,019.9	\$228.4	\$355.5
CSO	\$886.4	\$8.7	\$0.0
Other	\$1,061.7	\$55.0	\$90.3
Total	\$8,184.2	\$1,086.8	\$1,611.2
Asset Protection	39.3%	73.1%	72.3%
Water Redundancy	36.9%	21.0%	22.1%
CSO	10.8%	0.8%	0.0%
Other	13.0%	5.1%	5.6%
Total	100.0%	100.0%	100.0%

FY20 New Projects

The FY20 CIP adds \$53.2 million in new projects of which Wastewater projects total \$45.8 million, Waterworks projects total \$2.4 million, and Business and Operations Support total \$5.0 million.

\$ in millions

Project	Total Contract Amount	FY19-23 Spending
Wastewater	\$ 45.8	\$ 1.5
Waterworks	\$ 2.4	\$ 2.4
Business & Operations Support	\$ 5.0	\$ 5.0
Total New Projects	\$ 53.2	\$ 8.9

The following table shows the new projects added by the major programs:

\$ in millions

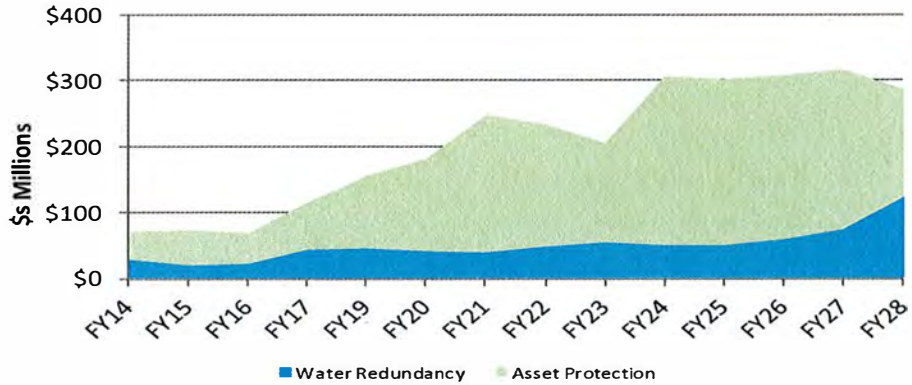
Project	Total Contract Amount	FY19-23
Section 191 & 192 Charles River Valley Sewer	\$ 0.5	\$ 0.5
Pump Stations & CSO Facility Rehabilitation Design/CA/REI	\$ 7.5	\$ 0.7
Pump Stations & CSO Facility Rehabilitation Construction	\$ 37.5	\$ -
Clinton Equipment & Supplies Storage Building	\$ 0.3	\$ 0.3
Carroll Water Treatment Plant Emergency Generator #1 Replacement (Electric Portion)	\$ 0.4	\$ 0.4
River Road Improvements Wachusett	\$ 2.0	\$ 2.0
As-Needed Design Contract 18	\$ 2.5	\$ 2.5
As-Needed Design Contract 19	\$ 2.5	\$ 2.5
Total New Projects	\$ 53.2	\$ 8.9

The largest project added is the Pump Station and CSO Facility Rehabilitation - \$45.0 million upgrades to DeLauri, Hingham, and Hough's Neck Pump Stations and the Somerville Marginal CSO Facility. At pump stations and CSO facilities, operability of mechanical equipment and maintenance of electric/standby power systems are key elements to minimize risk of facility failure.

A complete list of new projects with cash flows and descriptions is attached as Attachment A.

In terms of utility spending, wastewater asset protection accounts for nearly 70% of the FY19-23 projected spending at \$794.7 million of which \$273.4 million is designated for the Deer Island Wastewater Treatment Plant and \$355.8 million for headworks, pump stations, residuals facility, and pipelines. The \$151.0 million targeted for waterworks includes \$93.3 million for water pipelines.

As illustrated by the following graph, the next two waves of spending over the FY19-23 Cap period and the FY24-28 Cap period will be for asset protection and water redundancy. This reflects MWRA's commitment to maintaining its physical plant and addressing the need for water system redundancy in some critical service areas. Total asset protection spending for FY19-23 is projected at \$794.7 million or 73.1% of projected spending. Similarly, water redundancy spending for FY19-23 is projected at \$228.4 million or 21% of projected FY19-23 spending.

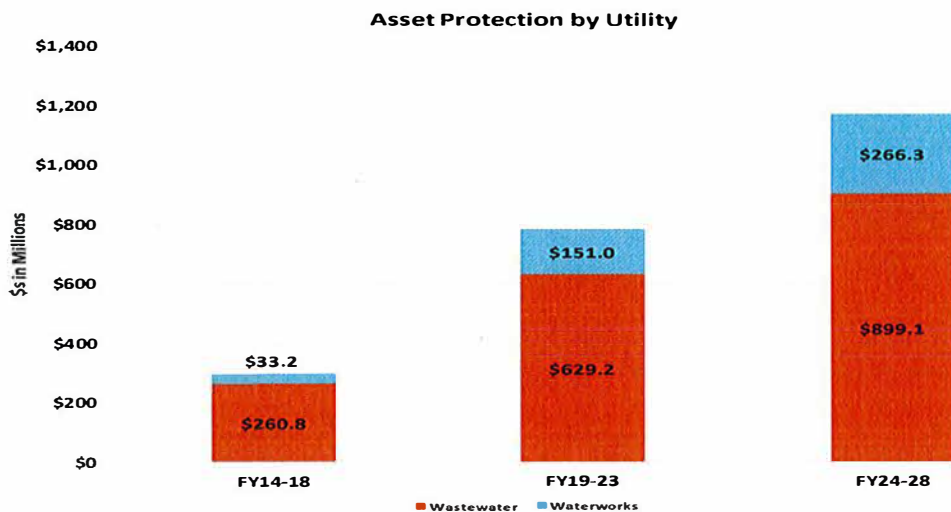


FY20 CIP Future Expenditures

The FY20 CIP contains future spending estimated at \$3.9 billion.

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

	FY19	FY20	FY21	FY22	FY23	Total FY19-23	Beyond FY23
Wastewater System Improvements	\$77.6	\$122.5	\$176.6	\$144.4	\$119.3	\$640.5	\$1,017.6
Interception & Pumping	27.6	50.1	60.8	37.2	19.6	195.3	395.6
Treatment	11.6	34.1	83.1	78.3	71.9	279.0	474.2
Residuals	0.5	8.1	5.1	0.6	0.9	15.2	87.5
CSO	1.5	4.5	2.7	0.1	0.0	8.7	0.0
Other Wastewater	36.5	25.7	25.0	28.2	26.9	142.3	60.3
Waterworks System Improvements	\$80.6	\$64.2	\$74.1	\$90.3	\$89.3	\$398.4	\$1,789.9
Drinking Water Quality Improvements	1.0	3.0	3.3	4.1	1.4	12.8	41.4
Transmission	10.6	15.1	37.2	39.5	47.8	150.2	1,547.1
Distribution & Pumping	40.4	31.5	20.4	34.5	34.6	161.3	356.1
Other Waterworks	28.5	14.6	13.2	12.2	5.5	74.0	-154.7
Business & Operations Support	3.3	12.9	17.8	8.3	5.7	47.9	16.0
Total MWRA	\$161.5	\$199.5	\$268.4	\$243.0	\$214.3	\$1,086.8	\$2,823.6



Major Planned Contract Awards for FY20:

In Fiscal Year 2020, 63 contracts totaling \$437.0 million are projected to be awarded. The largest ten projected contract awards total \$351.7 million and account for 80% of expected awards and are presented in the following table.

Project	Subphase	Notice to Proceed	Total Contract Amount
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	Aug-19	\$135.0
DI Treatment Plant Asset Protection	HVAC Equipment Replacement - Construction	Mar-20	\$50.2
Corrosion & Odor Control	NI Odor Control HVAC Improvements Construction	Sep-19	\$45.0
Facility Asset Protection	Prison Point Rehabilitation - Construction	Nov-19	\$36.1
DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	Feb-20	\$25.0
Metropolitan Tunnel Redundancy	Preliminary Design & Massachusetts Environmental Policy Act Review	Apr-20	\$16.0
New Connect Mains-Shaft 7 to WASM 3	CP3-Sect 23,24,47, Rehabilitation	Sep-19	\$14.3
Facility Asset Protection	Ward St & Columbus Park Headworks Design/Construction Administration	Feb-20	\$11.4
DI Treatment Plant Asset Protection	Motor Control Center & Switchgear Replacement Construction	Aug-19	\$10.6
DI Treatment Plant Asset Protection	Chemical Tank and Digester Pipe	Jul-19	\$8.0
Top Ten Contract Awards			\$351.7

CIP Review and Adoption Process

In December, the MWRA transmitted the FY20 Proposed Capital Improvement Program to the Advisory Board for its review and comment. The Advisory Board issued its Integrated Comments and recommendations in May.

ATTACHMENTS:

- A. New Capital Projects Added to the FY20 CIP
- B. FY20 Project Level Expenditure Forecast
- C. Overview of the FY20 Final CIP and Changes from the FY19 Final CIP

**ATTACHMENT A
New Capital Projects Added to the FY20 CIP**

Program	Project	Subphase	Contract Number	Total Contract Amount	NTP	SC	FY19	FY20	FY21	FY22	FY23	FY19-23	Beyond FY23	Total Expenditures
Interception & Pumping	Facility Asset Protection	Section 191 & 192 Charles River Valley Sewer	7643	\$ 500,000	Aug-19	Jan-20		\$ 500,000				\$ 500,000	\$ -	\$ 500,000
Interception & Pumping	Facility Asset Protection	Pump Stations & CSO Facility Rehab Design/CA/REI	7689	\$ 7,500,000	Nov-21	Nov-31				\$ 150,000	\$ 500,000	\$ 650,000	\$ 6,850,000	\$ 7,500,000
Interception & Pumping	Facility Asset Protection	Pump Stations & CSO Facility Rehab Construction	7688	\$ 37,500,000	Nov-23	Nov-30						\$ -	\$ 37,500,000	\$ 37,500,000
Treatment	Clinton Wastewater Treatment Plant	Equipment & Supplies Storage Building	7693	\$ 291,589	Jan-20	Apr-21			\$ 291,589			\$ 291,589		\$ 291,589
Drinking Water Quality Improvements	Carroll Water Treatment Asset Protection	CWTP Emergency Generator #1 Replacement (Electric Portion)	7642	\$ 416,524	Feb-19	Nov-19	65,000	\$351,524				\$ 416,524		\$ 416,524
Transmission	Watershed Division Capital Improvements	River Road Improvements Wachusett	7701	\$ 2,000,000	Oct-20	Oct-21			\$923,000	\$1,077,000		\$ 2,000,000		\$ 2,000,000
Business & Operations Support	Capital Maintenance Planning & Support	As-Needed Design Contract 18	7691	\$ 2,500,000	Jul-20	Jul-22			900,000	1,200,000	400,000	\$ 2,500,000		\$ 2,500,000
Business & Operations Support	Capital Maintenance Planning & Support	As-Needed Design Contract 19	7692	\$ 2,500,000	Jul-20	Jul-22			900,000	1,200,000	400,000	\$ 2,500,000		\$ 2,500,000
SUMMARY:														
Total Wastewater Projects				\$ 45,791,589			\$ -	\$ 500,000	\$ 291,589	\$ 150,000	\$ 500,000	\$ 1,441,589	\$44,350,000	\$ 45,791,589
Total Waterworks Projects				\$ 2,416,524			\$ 65,000	\$ 351,524	\$ 923,000	\$ 1,077,000	\$ -	\$ 2,416,524	\$ -	\$ 2,416,524
Business & Operations Support				\$ 5,000,000			\$ -	\$ -	\$ 1,800,000	\$ 2,400,000	\$ 800,000	\$ 5,000,000	\$ -	\$ 5,000,000
Total Projects				\$ 53,208,113			\$ 65,000	\$ 851,524	\$ 3,014,589	\$ 3,627,000	\$ 1,300,000	\$ 8,858,113	\$44,350,000	\$ 53,208,113

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
Total MWRA	8,184,170,966	4,273,762,304	3,910,408,663	161,527,882	199,537,765	268,435,934	243,026,731	214,258,903	1,086,787,215	1,611,215,901	1,212,405,496
Wastewater	3,719,450,670	2,061,317,110	1,658,133,560	77,637,446	122,503,959	176,581,781	144,442,410	119,313,485	640,479,081	906,340,777	111,313,676
Interception & Pumping	1,193,627,158	602,681,008	590,946,150	27,601,237	50,090,558	60,778,648	37,239,696	19,627,564	194,350,244	337,110,856	58,497,589
102 Quincy Pump Facilities	25,907,202	25,907,203	-								
104 Braintree-Weymouth Relief Facilities	240,104,411	227,704,621	12,399,789	163,656	417,034	417,034	417,034	417,034	1,831,792	10,567,996	
105 New Neponset Valley Relief Sewer	30,300,303	30,300,303	-								
106 Wellesley Extension Replacement Sewer	64,358,543	64,358,543	-								
107 Framingham Extension Relief Sewer	47,855,986	47,855,986	-								
127 Cummingsville Replacement Sewer	8,998,768	8,998,767	-								
130 Siphon Structure Rehabilitation	12,126,790	939,770	11,187,020		290,000	462,083	1,835,000	1,891,177	4,478,260	6,708,760	
131 Upper Neponset Valley Sewer System	54,174,078	54,174,078	-								
132 Corrosion & Odor Control	84,132,008	6,179,941	77,952,067	410,403	8,758,095	14,134,831	13,764,533	5,339,382	41,419,785	34,704,822	840,000
136 West Roxbury Tunnel	11,313,573	10,313,573	1,000,000							1,000,000	
137 Wastewater Central Monitoring	27,482,036	19,782,036	7,700,000	136,975	448,115	447,000	447,000	447,000	1,926,090	5,773,910	
138 Sewerage System Mapping Upgrades	280,876	280,876	-								
139 South System Relief Project	4,939,244	3,439,244	1,500,000							1,500,000	
141 Wastewater Process Optimization	10,326,704	1,501,768	8,824,937	44,113	218,930	218,930	219,930		701,903	6,546,197	1,576,837
142 Wastewater Meter System - Equipment Replacement	22,627,912	5,724,367	16,903,545	1,455,287	2,577,141	3,133,834	495,437		7,661,699		9,241,846
143 Regional I/I Management Planning	168,987	168,987	-								
145 Facility Asset Protection	542,832,237	95,050,945	447,781,292	25,390,803	37,381,243	41,703,373	19,712,012	11,445,784	135,633,215	265,309,171	46,838,906
146 Deer Island Cross Harbor Tunnel	5,000,000	-	5,000,000							5,000,000	
147 Randolph Trunk Sewer Relief	697,500	-	697,500			261,563	348,750	87,187	697,500		

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
Treatment	1,054,393,147	301,156,787	753,236,360	11,591,778	34,125,935	83,080,668	78,331,450	71,892,862	279,022,692	424,954,252	49,259,415
182 DI Primary and Secondary Treatment	(957,878)	(957,878)	-								
200 DI Plant Optimization	33,278,599	33,278,599	-								
206 DI Treatment Plant Asset Protection	993,148,625	252,359,436	740,789,189	10,161,491	32,873,935	81,429,079	77,299,783	71,684,529	273,448,816	418,080,957	49,259,415
210 Clinton Wastewater Treatment Plant	26,712,127	14,264,956	12,447,171	1,430,287	1,252,000	1,651,589	1,031,667	208,333	5,573,876	6,873,295	
211 Laboratory Services	2,211,674	2,211,674	-								
Residuals	167,792,623	65,047,023	102,745,600	509,472	8,130,026	5,059,183	617,556	895,333	15,211,570	31,337,517	56,196,513
261 Residuals	63,810,848	63,810,848	-								
271 Residuals Asset Protection	103,981,775	1,236,175	102,745,600	509,472	8,130,026	5,059,183	617,556	895,333	15,211,570	31,337,517	56,196,513
CSO	911,052,759	902,396,415	8,656,328	1,464,658	4,457,527	2,679,693	54,449		8,656,327		
MWRA Managed	433,534,309	433,534,308	-								
339 North Dorchester Bay	221,509,794	221,509,793	-								
347 East Boston Branch Sewer Relief	85,637,164	85,637,164	-								
348 BOS019 Storage Conduit	14,287,581	14,287,581	-								
349 Chelsea Trunk Sewer	29,779,319	29,779,319	-								
350 Union Park Detention Treatment Facility	49,583,406	49,583,406	-								
353 Upgrade Existing CSO Facilities	22,385,200	22,385,200	-								
354 Hydraulic Relief Projects	2,294,549	2,294,549	-								
355 MWR003 Gate & Siphon	4,424,219	4,424,219	-								
357 Charles River CSO Controls	3,633,077	3,633,077	-								
Community Managed	423,780,126	420,017,056	3,763,055		1,881,527	1,881,527			3,763,054		
340 Dorchester Bay Sewer Separation (Fox Point)	55,028,985	55,028,985	-								
341 Dorchester Bay Sewer Separation (Commercial Point)	63,624,695	59,861,640	3,763,055		1,881,527	1,881,527			3,763,054		
342 Neponset River Sewer Separation	2,491,746	2,491,746	-								
343 Constitution Beach Sewer Separation	3,731,315	3,731,315	-								

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
344 Stony Brook Sewer Separation	44,319,314	44,319,313	-								
346 Cambridge Sewer Separation	104,552,056	104,552,054	-								
351 BWSC Floatables Controls	945,936	945,936	-								
352 Cambridge Floatables Controls	1,126,708	1,126,708	-								
356 Fort Point Channel Sewer Separation	11,507,257	11,507,256	-								
358 Morrissey Boulevard Drain	32,181,035	32,181,034	-								
359 Reserved Channel Sewer Separation	70,524,212	70,524,204	-								
360 Brookline Sewer Separation	24,715,291	24,715,290	-								
361 Bulfinch Triangle Sewer Separation	9,031,576	9,031,575	-								
CSO Planning & Support	53,738,324	48,845,051	4,893,273	1,464,658	2,576,000	798,166	54,449		4,893,273		
324 CSO Support	53,738,324	48,845,051	4,893,273	1,464,658	2,576,000	798,166	54,449		4,893,273		
Other Wastewater	392,584,985	190,035,878	202,549,107	36,470,301	25,699,913	24,983,589	28,199,260	26,897,727	142,250,789	112,938,152	(52,639,841)
128 I/I Local Financial Assistance	392,584,985	190,035,878	202,549,107	36,470,301	25,699,913	24,983,589	28,199,260	26,897,727	142,250,789	112,938,152	(52,639,841)
Waterworks	4,299,730,438	2,111,415,256	2,188,315,174	80,562,508	64,165,579	74,076,910	90,307,471	89,257,054	398,369,523	688,853,815	1,101,091,820
Drinking Water Quality Improvements	704,201,858	649,972,373	54,229,476	1,035,603	2,972,524	3,335,350	4,124,000	1,366,000	12,833,478	13,125,000	28,271,000
542 Carroll Water Treatment Plant	436,138,376	423,116,424	13,021,952	970,603	2,223,000	528,350	50,000		3,771,954	9,250,000	
543 Quabbin Water Treatment Plant	19,972,883	19,972,879	-								
544 Norumbega Covered Storage	106,674,146	106,674,146	-								
545 Blue Hills Covered Storage	40,082,837	40,082,837	-								
550 Spot Pond Storage Facility	60,126,092	60,126,087	-								
555 Carroll Water Treatment Plant (CWTP) Asset Protection	41,207,524	-	41,207,524	65,000	749,524	2,807,000	4,074,000	1,366,000	9,061,524	3,875,000	28,271,000
Transmission	2,522,587,514	825,200,270	1,697,387,246	10,613,284	15,134,688	37,182,326	39,482,333	47,830,651	150,243,282	337,713,073	1,209,430,878
597 Winsor Station Pipeline Improvements	49,559,463	5,733,885	43,825,578	203,987					203,987	42,969,086	652,500
601 Sluice Gate Rehabilitation	9,158,411	9,158,411	-								

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
604 MetroWest Tunnel	700,184,180	697,182,355	3,001,825							3,001,822	
615 Chicopee Valley Aqueduct Redundancy	8,666,292	8,666,292	-								
616 Quabbin Transmission System	19,031,844	8,666,844	10,365,000	3,357	600,000	5,065,000	1,700,000	800,000	8,168,357	2,171,643	25,000
617 Sudbury/Weston Aqueduct Repairs	11,507,393	2,231,727	9,275,666	394,786	575,000	494,500			1,464,286	7,144,380	667,000
620 Wachusett Reservoir Spillway Improvements	9,287,460	9,287,461	-								
621 Watershed Land	29,000,000	22,846,400	6,153,600	1,600,000	1,000,000	1,000,000	1,000,000	1,000,000	5,600,000	553,600	
622 Cosgrove Tunnel Redundancy	59,145,696	52,017,895	7,127,801	6,116,917	617,177	393,707			7,127,801		
623 Dam Projects	6,048,344	3,115,745	2,932,600	10,000	122,566	765,000	1,324,000	668,029	2,889,595	43,000	
625 Metropolitan Tunnel Redundancy	1,421,750,083	3,455,967	1,418,294,116	13,292	1,700,000	7,383,333	7,383,333	7,833,334	24,313,292	185,992,877	1,207,987,947
628 Metropolitan Redundancy Interim Improvements	177,348,348	2,837,288	174,511,060	2,270,945	10,357,945	19,805,786	24,637,000	35,564,288	92,635,964	81,776,665	98,431
630 Watershed Division Capital Improvements	21,900,000	-	21,900,000		162,000	2,275,000	3,438,000	1,965,000	7,840,000	14,060,000	
Distribution And Pumping	981,768,212	464,357,485	517,410,727	40,366,466	31,451,830	20,365,390	34,527,794	34,555,036	161,266,516	297,468,363	58,675,843
618 Peabody Pipeline Project	1,508,857	1,059,081	449,776	403,694	46,082				449,776		
677 Valve Replacement	21,654,808	12,016,378	9,638,430							6,487,202	3,151,224
678 Boston Low Service - Pipe & Valve Rehabilitation	23,690,864	23,690,863	-								
683 Heath Hill Road Pipe Replacement	19,358,036	19,358,036	-								
689 James L. Gillis Pump Station	33,419,006	33,419,007	-								
692 NHS - Section 27 Improvements	1,325,638	123,646	1,201,992	412	1,238	850	12,250	12,250	27,000	1,174,992	
693 NHS - Revere & Malden Pipeline Improvements	82,803,811	28,561,307	54,242,504	1,961,433	631,459	931,617	922,000	5,897,500	10,344,009	42,000,495	1,898,000
702 New Connecting Mains - Shaft 7 to WASM 3	56,376,351	12,924,613	43,451,738	695,213	4,509,406	7,210,079	7,247,359	6,177,243	25,839,300	17,612,438	
704 Rehab of Other Pump Stations	50,257,852	30,057,852	20,200,000		100,000	240,000	160,000	747,000	1,247,000	18,953,000	
706 NHS - New Connecting Mains from Section 91	2,360,194	2,360,194	-								
708 Northern Extra High Service - New Pipelines	10,874,080	3,632,119	7,241,961	4,221	17,031	3,033	107,848	315,000	447,133	6,794,828	
712 Cathodic Protection of Distribution Mains	66,704,129	269,629	66,434,500	406,333	393,500	1,454,860	3,314,000	4,170,917	9,739,610	56,694,890	
713 Spot Pond Supply Mains Rehabilitation	66,289,309	65,489,308	800,001				600,000	200,000	800,000		

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
714 Southern Extra High - Sections 41 & 42	3,657,243	3,657,243	-								
719 Chestnut Hill Connecting Mains	33,826,925	18,286,518	15,540,407							15,534,407	6,000
720 Warren Cottage Line Rehabilitation	1,204,822	1,204,821	-								
721 Southern Spine Distribution Mains	80,307,734	36,683,101	43,624,633	127	767,381	881,381	886,596	735,249	3,270,734	40,245,148	108,752
722 Northern Intermediate High (NIH) Redundancy & Storage	121,188,238	48,895,156	72,293,082	16,576,592	8,477,361	3,583,514	6,903,625	5,525,267	41,066,359	31,215,264	11,459
723 Northern Low Service Rehabilitation - Section 8	69,584,416	2,954,615	66,629,802	607,078	1,647,954	4,311,600	13,319,268	10,011,600	29,897,500	35,935,812	796,491
725 Hydraulic Model Update	598,358	598,358	-								
727 Southern Extra High (SEH) Redundancy & Storage	132,425,638	28,444,812	103,980,825	19,657,116	14,857,168	1,747,331	753,723	363,000	37,378,338	13,898,569	52,703,917
730 Weston Aqueduct Supply Mains	80,457,223	80,402,975	54,248	54,247						54,247	
731 Lynnfield Pipeline	5,625,829	5,625,828	-								
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717,140	2,717,141	-								
735 Section 80 Rehabilitation	13,551,711	1,924,884	11,626,828		3,250	1,125	301,125	400,010	705,510	10,921,318	
Other Waterworks	91,172,854	171,885,128	(80,712,275)	28,547,155	14,606,537	13,193,844	12,173,344	5,505,367	74,026,247	40,547,379	(195,285,901)
753 Central Monitoring System	39,002,098	20,704,576	18,297,521	564,164	850,000	3,450,000	3,250,000	2,089,028	10,203,192	5,576,000	2,518,328
763 Distribution Systems Facilities Mapping	2,798,919	1,036,368	1,762,551			731,000	452,000	366,000	1,549,000	213,551	
764 Local Water Infrastructure Rehabilitation	7,487,762	7,487,762	-								
765 Local Water System Assistance Program	-	140,273,212	(140,273,212)	22,399,751	9,697,681	5,186,305	4,421,927	(4,207,815)	37,497,849	20,033,168	(197,804,229)
766 Waterworks Facility Asset Protection	41,884,075	2,383,210	39,500,865	5,583,240	4,058,856	3,826,539	4,049,417	7,258,154	24,776,206	14,724,660	
Business & Operations Support	164,989,859	101,029,936	63,959,921	3,327,928	12,868,227	17,777,243	8,276,850	5,688,364	47,938,611	16,021,309	
881 Equipment Purchase	39,089,552	21,856,910	17,232,642	1,597,554	2,186,024	1,861,062	1,700,500	3,107,500	10,452,640	6,780,000	
925 Technical Assistance	1,125,000	-	1,125,000		391,000	366,000	368,000		1,125,000		
930 MWRA Facility - Chelsea	9,812,071	9,812,071	-								
931 Business Systems Plan	24,562,103	24,562,603	(500)	(500)					(500)		
932 Environmental Remediation	1,478,602	1,478,602	-								
933 Capital Maintenance Planning and Development	27,586,534	14,200,661	13,385,872	1,598,572	2,972,000	4,721,967	3,293,334	800,000	13,385,873		

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY18	Remaining Balance	FY19	FY20	FY21	FY22	FY23	FY19-FY23	FY24-FY28	Beyond FY28
934 MWRA Facilities Management	2,970,535	370,533	2,600,002		250,002	965,000	1,385,000		2,600,002		
935 Alternative Energy Initiatives	23,364,269	18,417,564	4,946,705	(233,852)					(233,852)	5,180,552	
940 Application Improvement Program	13,092,732	2,892,131	10,200,601	256,439	1,853,649	1,608,412	962,584	1,608,864	6,290,048	3,910,557	
942 Information Security Program (ISP)	5,506,323	1,707,904	3,798,418	31,470	1,087,343	2,579,606			3,798,418		
944 Information Technology Management Program	200,000	-	200,000		160,000	40,000			200,000		
946 Information Technology Infrastructure Program	16,202,138	5,730,957	10,471,181	78,245	3,968,209	5,535,196	567,332	172,000	10,320,982	150,200	

ATTACHMENT C
Overview of the FY20 Draft Final CIP and Changes from the Final FY19 CIP

Program and Project	FY19 Final			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
Total MWRA	8,009,085	595,622	1,051,829	2,673,508
Wastewater	3,603,553	334,086	643,200	890,263
Interception & Pumping	1,115,506	83,504	188,703	322,759
102 Quincy Pump Facilities	25,907	-	-	-
104 Braintree-Weymouth Relief Facilities	239,378	1	1,814	9,859
105 New Neponset Valley Relief Sewer	30,300	-	-	-
106 Wellesley Extension Replacement Sewer	64,359	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-
127 Cummingsville Replacement Sewer	8,999	-	-	-
130 Siphon Structure Rehabilitation	6,168	-	5,228	-
131 Upper Neponset Valley Sewer	54,174	-	-	-
132 Corrosion & Odor Control	76,754	2,947	41,502	29,304
136 West Roxbury Tunnel	11,314	-	-	1,000
137 Wastewater Central Monitoring	27,482	-	2,200	5,500
139 South System Relief Project	4,939	-	-	1,500
141 Wastewater Process Optimization	10,306	297	-	8,804
142 Wastewater Meter System-Equipment	28,733	974	13,679	8,942
143 Regional I/I Management Planning	169	-	-	-
145 Facility Asset Protection	472,970	79,285	123,582	252,850
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	-	5,000
147 Randolph Trunk Sewer Relief	698	-	698	-
Treatment	1,017,420	117,772	312,076	402,848
182 DI Primary and Secondary	(958)	-	-	-
200 DI Plant Optimization	33,279	(148)	-	-
206 DI Treatment Plant Asset Protection	956,523	105,912	305,312	397,798
210 Clinton Wastewater Treat Plant	26,364	12,024	6,764	5,051
211 Laboratory Services	2,212	(16)	-	-
Residuals	167,643	675	11,487	90,945
261 Residuals	63,811	-	-	-
271 Residuals Asset Protection	103,832	675	11,487	90,945

FY20 Draft Final			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
8,184,170	585,638	1,086,791	2,823,623
3,719,452	325,315	640,479	1,017,655
1,193,347	81,861	195,338	395,609
25,907	-	-	-
240,104	1	1,832	10,568
30,300	-	-	-
64,359	-	-	-
47,856	-	-	-
8,999	-	-	-
12,127	-	4,478	6,709
54,174	-	-	-
84,132	3,179	42,407	35,545
11,314	-	-	1,000
27,482	-	1,926	5,774
4,939	-	-	1,500
10,327	297	702	8,123
22,628	586	7,662	9,242
169	-	-	-
542,832	77,798	135,633	312,148
5,000	-	-	5,000
698	-	698	-
1,054,394	116,434	279,023	474,213
(958)	-	-	-
33,279	(148)	-	-
993,149	104,859	273,449	467,341
26,712	11,739	5,574	6,873
2,212	(16)	-	-
167,793	511	15,212	87,535
63,811	-	-	-
103,982	511	15,212	87,535

Change from Final FY19			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
174,665	(9,984)	30,636	154,019
115,899	(8,771)	(2,721)	127,392
77,841	(1,643)	6,635	72,850
-	-	-	-
726	-	18	709
-	-	-	-
-	-	-	-
-	-	-	-
5,959	-	(750)	6,709
-	-	-	-
7,378	232	905	6,241
-	-	-	-
-	-	(274)	274
-	-	-	-
21	-	702	(681)
(6,105)	(388)	(6,017)	300
-	-	-	-
69,862	(1,487)	12,051	59,298
-	-	-	-
-	-	-	-
36,974	(1,338)	(33,053)	71,365
-	-	-	-
-	-	-	-
36,626	(1,053)	(31,863)	69,543
348	(285)	(1,190)	1,822
-	-	-	-
150	(164)	3,725	(3,410)
-	-	-	-
150	(164)	3,725	(3,410)

ATTACHMENT C
Overview of the FY20 Draft Final CIP and Changes from the Final FY19 CIP

Program and Project	FY19 Final			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
CSO	910,118	64,699	7,711	-
340 Dorchester Bay Sewer Separation (Fox Point)	55,029	877	-	-
341 Dorchester Bay Sewer Separation (Commercial Point)	63,619	(1,286)	3,758	-
342 Neponset River Sewer Separation	2,492	47	-	-
343 Constitution Beach Sewer Separation	3,731	(38)	-	-
344 Stony Brook Sewer Separation	44,319	121	-	-
346 Cambridge Sewer Separation	104,552	54,068	-	-
351 BWSC Floatables Controls	946	13	-	-
352 Cambridge Floatables Control	1,127	40	-	-
356 Fort Point Channel Sewer Separation	11,507	(499)	-	-
358 Morrissey Boulevard Drain	32,181	(166)	-	-
359 Reserved Channel Sewer Separation	70,524	10,484	-	-
360 Brookline Sewer Separation	24,715	(1,282)	-	-
361 Bulfinch Triangle Sewer Separation	9,032	(826)	-	-
339 North Dorchester Bay	221,510	(111)	-	-
347 East Boston Branch Sewer Relief	85,637	(9)	-	-
348 BOS019 Storage Conduit	14,288	-	-	-
349 Chelsea Trunk Sewer	29,779	-	-	-
350 Union Park Detention Treatment Facility	49,583	-	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-
354 Hydraulic Relief Projects	2,295	-	-	-
355 MWR003 Gate & Siphon	4,424	3,775	-	-
357 Charles River CSO Controls	3,633	-	-	-
324 CSO Support	52,810	(508)	3,954	-
Other Wastewater	392,866	67,436	123,223	73,711
128 I/I Local Financial Assistance	392,585	67,436	123,223	73,711
138 Sewerage System Mapping Upgrade	281	-	-	-
Total Waterworks	4,253,658	237,374	370,062	1,771,547
Drinking Water Quality	703,468	54,845	8,115	45,300
542 Carroll Water Treatment Plant	435,675	11,842	3,374	9,250
543 Quabbin Water Treatment Plant	19,973	7,205	-	-
544 Norumbega Covered Storage	106,674	-	-	-
545 Blue Hills Covered Storage	40,083	120	-	-
550 Spot Pond Storage Facility	60,272	35,678	-	-
555 CWTP Asset Protection	40791	0	4741	36050

FY20 Draft Final			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
911,052	64,688	8,655	-
55,029	877	-	-
63,625	(1,286)	3,763	-
2,492	47	-	-
3,731	(38)	-	-
44,319	121	-	-
104,552	54,068	-	-
946	13	-	-
1,127	40	-	-
11,507	(499)	-	-
32,181	(166)	-	-
70,524	10,484	-	-
24,715	(1,282)	-	-
9,032	(826)	-	-
221,510	(111)	-	-
85,637	(9)	-	-
14,288	-	-	-
29,779	-	-	-
49,583	-	-	-
22,385	-	-	-
2,295	-	-	-
4,424	3,775	-	-
3,633	-	-	-
53,738	(519)	4,893	-
392,866	61,821	142,251	60,298
392,585	61,821	142,251	60,298
281	-	-	-
4,299,729	236,734	398,373	1,789,949
704,202	54,765	12,834	41,396
436,138	11,908	3,772	9,250
19,973	7,205	-	-
106,674	-	-	-
40,083	120	-	-
60,126	35,532	-	-
41,208	-	9,062	32,146

Change from Final FY19			
Total Budget Amount	FY14-18	FY19-23	Beyond 23
934	(11)	944	-
-	-	-	-
6	-	5	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
928	(11)	939	-
-	(5,615)	19,028	(13,413)
-	(5,615)	19,028	(13,413)
-	-	-	-
45,653	(640)	23,990	22,306
317	(80)	398	-
463	66	398	-
-	-	-	-
-	-	-	-
-	-	-	-
(146)	(146)	-	-
417	-	4,321	(3,904)


ATTACHMENT C
Overview of the FY20 Draft Final CIP and Changes from the Final FY19 CIP

Program and Project	FY19 Final				FY20 Draft Final				Change from Final FY19			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
Transmission	2,494,174	70,511	129,441	1,539,191	2,522,587	70,164	150,245	1,547,147	28,413	(347)	20,804	7,956
597 Winsor Station Pipeline	48,640	4,505	149	42,591	49,559	4,338	204	43,622	919	(167)	55	1,031
601 Sluice Gate Rehabilitation	9,158	-	-	-	9,158	-	-	-	-	-	-	-
604 MetroWest Tunnel	700,184	1,784	-	3,002	700,184	1,784	-	3,002	-	-	-	-
615 Chicopee Valley Aqueduct Redundancy	8,666	-	-	-	8,666	-	-	-	-	-	-	-
616 Quabbin Transmission System	17,120	1,464	1,865	6,588	19,032	1,464	8,168	2,197	1,912	-	6,303	(4,391)
617 Sudbury/Weston Aqueduct Repairs	10,288	2,069	1,085	6,475	11,507	1,572	1,464	7,811	1,219	(497)	379	1,336
620 Wachusett Reservoir Spillway Improvement	9,287	-	-	-	9,287	-	-	-	-	-	-	-
621 Watershed Land	29,000	5,254	5,000	1,404	29,000	5,504	5,600	554	-	250	600	(850)
622 Cosgrove/Wachusett Redundancy	57,495	50,746	5,574	-	59,146	50,842	7,128	-	1,651	96	1,554	-
623 Dam Projects	5,726	31	2,392	218	6,048	31	2,890	43	322	-	498	(175)
625 Metro Tunnel Redundancy	1,387,910	1,790	14,483	1,369,970	1,421,750	1,790	24,313	1,393,981	33,840	-	9,830	24,011
628 Metro Redundancy Interim Improvement	192,698	2,566	94,081	96,051	177,348	2,837	92,636	81,875	(15,350)	271	(1,445)	(14,176)
630 Watershed Division Capital Improvement	18,000	300	4,810	12,890	21,900	-	7,840	14,060	3,900	(300)	3,030	1,170
Distribution & Pumping	965,831	90,418	159,644	343,064	981,767	91,654	161,268	356,142	15,936	1,236	1,624	13,078
618 Peabody Pipeline	18,668	1,163	17,504	-	1,509	1,059	450	-	(17,159)	(104)	(17,054)	-
677 Valve Replacement	21,402	-	-	9,385	21,655	-	-	9,638	253	-	-	253
678 Boston Low Service-Pipe & Valve Rehabilitation	23,691	-	-	-	23,691	-	-	-	-	-	-	-
683 Heath Hill Road Pipe Replacement	19,358	-	-	-	19,358	-	-	-	-	-	-	-
689 James L. Gillis Pump Station Rehabilitation	33,419	-	-	-	33,419	-	-	-	-	-	-	-
692 NHS - Section 27 Improvements	1,294	-	27	1,143	1,326	-	27	1,175	32	-	-	32
693 NHS - Revere & Malden Pipeline Improvement	79,095	1,572	7,618	43,072	82,804	1,729	10,344	43,898	3,709	157	2,726	826
702 New Connect Mains-Shaft 7 to WASM 3	48,567	1,929	20,707	14,970	56,376	1,964	25,839	17,612	7,809	35	5,132	2,642
704 Rehabilitation of Other Pump Stations	50,258	-	1,321	18,879	50,258	-	1,247	18,953	-	-	(74)	74
706 NHS-Connecting Mains from Section 91	2,360	-	-	-	2,360	-	-	-	-	-	-	-
708 Northern Extra High Service New Pipelines	10,685	13	402	6,638	10,874	-	447	6,795	189	(13)	45	157
712 Cathodic Protection Of Distribution Mains	62,716	129	11,531	50,915	66,704	129	9,740	56,695	3,988	-	(1,791)	5,780
713 Spot Pond Supply Mains Rehabilitation	66,333	4,551	800	-	66,289	4,507	800	-	(44)	(44)	-	-
714 Southern Extra High Sections 41 & 42	3,657	-	-	-	3,657	-	-	-	-	-	-	-
719 Chestnut Hill Connecting Mains	33,435	816	-	15,132	33,827	800	-	15,540	392	(16)	-	408
720 Warren Cottage Line Rehabilitation	1,205	-	-	-	1,205	-	-	-	-	-	-	-
721 South Spine Distribution Mains	77,401	(9)	1,890	38,828	80,308	(9)	3,271	40,354	2,907	-	1,381	1,526
722 NIH Redundancy & Storage	118,494	41,927	42,080	28,512	121,188	42,921	41,066	31,226	2,694	994	(1,014)	2,714
723 Northern Low Service Rehabilitation Section 8	62,366	829	18,269	40,947	69,584	634	29,898	36,732	7,218	(195)	11,629	(4,215)
724 Northern High Service - Pipeline Rehabilitation	-	-	-	-	-	-	-	-	-	-	-	-
725 Hydraulic Model Update	598	-	-	-	598	-	-	-	-	-	-	-
727 Southern Extra High Redundancy & Storage	129,604	21,206	36,806	64,836	132,426	21,688	37,378	66,603	2,822	482	572	1,767
730 Weston Aqueduct Supply Mains	80,464	14,420	-	-	80,457	14,360	54	-	(7)	(60)	54	-
731 Lynnfield Pipeline	5,626	(52)	-	-	5,626	(52)	-	-	-	-	-	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717	-	-	-	2,717	-	-	-	-	-	-	-


ATTACHMENT C
Overview of the FY20 Draft Final CIP and Changes from the Final FY19 CIP

Program and Project	FY19 Final				FY20 Draft Final				Change from Final FY19			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
733 NHS Pipeline Rehabilitation 13-18 & 48	-	-	-	-	-	-	-	-	-	-	-	-
734 Southern Extra High Pipelines-Sections 30, 39,40, & 44	-	-	-	-	-	-	-	-	-	-	-	-
735 Section 80 Rehabilitation	12,419	1,925	688	9,807	13,552	1,925	706	10,921	1,133	-	18	1,114
Other	90,186	21,600	72,862	(156,010)	91,173	20,151	74,026	(154,738)	987	(1,449)	1,164	1,272
753 Central Monitoring System	39,017	5,061	9,600	8,552	39,002	4,901	10,203	8,094	(15)	(160)	603	(458)
763 Distribution Systems Facilities Mapping	2,799	-	1,663	100	2,799	-	1,549	214	-	-	(114)	114
764 Local Water Infrastructure Rehabilitation Assistance	7,488	-	-	-	7,488	-	-	-	-	-	-	-
765 Local Water Pipeline Improvement Loan Program	-	14,654	32,408	(173,921)	-	13,414	37,498	(177,771)	-	(1,240)	5,090	(3,850)
766 Waterworks Facility Asset Protection	40,882	1,886	29,191	9,259	41,884	1,837	24,776	14,725	1,002	(49)	(4,415)	5,466
Business & Operations Support	151,876	24,160	38,572	11,701	164,989	23,587	47,939	16,022	13,113	(573)	9,367	4,321
881 Equipment Purchase	33,825	9,796	9,391	2,530	39,090	9,750	10,453	6,780	5,265	(46)	1,062	4,250
925 Technical Assistance	1,100	26	1,074	-	1,125	-	1,125	-	25	(26)	51	-
930 MWRA Facility - Chelsea	9,812	(2)	-	-	9,812	(2)	-	-	-	-	-	-
931 Business Systems Plan	24,563	111	-	-	24,562	111	(1)	-	(1)	-	(1)	-
932 Environmental Remediation	1,479	-	-	-	1,479	-	-	-	-	-	-	-
933 Capital Maintenance Planning	23,157	4,513	8,519	-	27,587	4,076	13,386	-	4,430	(437)	4,867	-
934 MWRA Facilities Management	2,151	-	1,780	-	2,971	-	2,600	-	820	-	820	-
935 Alternative Energy Initiatives	23,476	1,221	-	5,058	23,364	1,221	(234)	5,181	(112)	-	(234)	123
940 Applicat Improv Program	12,198	2,828	5,337	3,961	13,093	2,819	6,290	3,911	895	(9)	953	(50)
942 Info Security Program ISP	3,727	1,146	2,045	-	5,506	1,173	3,798	-	1,779	27	1,753	-
944 Info Tech Mgmt Program	636	-	636	-	200	-	200	-	(436)	-	(436)	-
946 IT Infrastructure Program	15,754	4,522	9,789	152	16,202	4,440	10,321	150	448	(82)	532	(2)

STAFF SUMMARY

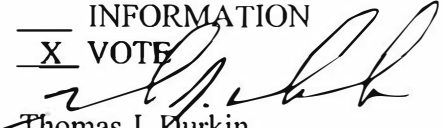
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Final FY20 Current Expense Budget

COMMITTEE Administration, Finance & Audit


Michael Cole Budget Manager
Preparer/Title

 INFORMATION

 X VOTE


Thomas J. Durkin
Director, Finance

The Proposed FY20 Current Expense Budget (CEB) submitted to the Advisory Board at the February 2019 Board meeting included a 3.74% combined assessment increase.

MWRA received the Advisory Board comments and recommendations in May 2019, which recommended a combined assessment increase of 3.15% representing a \$4.3 million reduction to the Proposed FY20 Rate Revenue Requirement. At the same time, the Authority updated the Proposed Budget with the latest information, incorporated the majority of the Advisory Board recommendations and was able to achieve a 3.15% combined assessment increase which was presented to the Board during the May 29th budget hearings.

Per the Board's direction at the hearing, staff revisited all major line items of the budget and evaluated options to further reduce the Rate Revenue Requirement by \$0.6 million to achieve a 3.07% assessment increase for FY20.

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

RECOMMENDATION:

1. To adopt the Final FY20 Current Expense Budget (CEB) set forth in Attachment A, B and C with current revenue and expense of \$792,248,420.
2. To adopt the Final FY20 Operating Budget (Trustee's Budget) set forth in Attachment D.

DISCUSSION:

This staff summary presents the Final FY20 CEB. On May 29th, the Board of Directors held a hearing on the Draft Final FY20 CEB. Discussions and material provided at the hearing outlined changes to the budget since the transmittal of the FY20 Proposed CEB in February 2019. Per the Board's direction at the hearing, staff revisited all major line items of the budget and evaluated options to further reduce the Rate Revenue Requirement.

For a line item comparison between the FY20 Proposed CEB and the Final FY20 CEB, please refer to Attachment A.

Summary

The Final FY20 Budget recommends a combined increase in rates and charges of 3.07%. Capital Financing costs remain the largest component of the CEB and account for 62.2% of total expenses. Total expenses are \$792.2 million, an increase of \$24.3 million or 3.2% over the FY19 Budget. The Final FY20 Budget assumes an offset of \$890,239 for the Debt Service Assistance (DSA) received in May 2019.

Total expenses include \$493.1 million for Capital Financing costs and \$299.2 million for operating expenses, of which \$248.3 million is for Direct Expenses and \$50.9 million is for Indirect Expenses. The \$24.3 million increase in total expenses is mainly due to higher Capital Financing costs of \$10.7 million, higher Direct Expenses of \$8.7 million due to contractual salary increases for staff, higher costs within Other Services largely due to an increase in sludge palletization, higher utility costs, and higher chemical costs.

The Final FY20 Budget revenues, excluding rate revenue, total \$30.5 million, an increase of \$1.6 million or 5.5% from the FY19 Budget. The Final FY20 Budget for non-rate revenue includes \$15.0 million in Other User Charges and Other Revenue and \$15.5 million for Investment Income.

The Final FY20 Rate Revenue Requirement is \$761.8 million, an increase of \$22.7 million or 3.07% over the FY19 Budget.

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

Table 1
MWRA Current Expense Budget
FY20 Final Budget versus FY19 Approved Budget

(\$ in Millions)	FY19 Approved Budget	Final FY20 Budget	\$ Change	% Change
Directs	\$ 239.6	\$ 248.3	\$ 8.7	3.6%
Indirects	46.0	50.9	4.9	10.7%
Sub-Total Operating Expenses	\$ 285.6	\$ 299.2	\$ 13.6	4.8%
Capital Financing (before Offsets)	483.3	494.0	10.7	2.2%
Offsets: Bond Redemption ¹	-	-	-	
Variable Debt Savings	-	-	-	
Debt Service Assistance	(0.9)	(0.9)	0.1	0.0%
Sub-Total Capital Financing	\$ 482.4	\$ 493.1	\$ 10.7	2.2%
Total Expenses	\$ 767.9	\$ 792.2	\$ 24.3	3.2%
Investment Income	\$ 13.6	\$ 15.5	\$ 1.9	14.3%
Non-Rate Revenue	15.3	15.0	(0.4)	-2.4%
Rate Stabilization ¹	-	-	-	
Sub-Total Non-Rate Revenue	\$ 28.9	\$ 30.5	\$ 1.6	5.5%
Rate Revenue	739.0	761.8	22.7	3.1%
Total Revenue & Income	\$ 767.9	\$ 792.2	\$ 24.3	3.2%
FY20 Rate Revenue Increase				3.07%
Combined Use of Reserves	\$ -	\$ -		

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

EXPENSES:

Direct Expenses

FY20 Direct Expenses total \$248.3 million, an increase of \$8.7 million, or 3.6% from the FY19 Budget.

FY20 FINAL CURRENT EXPENSE BUDGET				
MWRA DIRECT EXPENSES BY LINE ITEM				
LINE ITEM	FY19 Approved Budget	FY20 Final Budget	Change FY20 vs FY19	
WAGES AND SALARIES	\$ 107,032,021	\$ 109,953,483	\$ 2,921,462	2.7%
OVERTIME	4,447,554	4,898,965	451,411	10.1%
FRINGE BENEFITS	21,173,571	21,717,533	543,962	2.6%
WORKERS' COMPENSATION	2,422,609	2,354,256	(68,353)	-2.8%
CHEMICALS	10,830,452	11,811,222	980,770	9.1%
ENERGY AND UTILITIES	22,868,633	24,454,796	1,586,163	6.9%
MAINTENANCE	32,258,727	32,726,954	468,227	1.5%
TRAINING AND MEETINGS	455,770	504,394	48,624	10.7%
PROFESSIONAL SERVICES	7,675,976	8,295,315	619,339	8.1%
OTHER MATERIALS	7,381,098	6,867,239	(513,859)	-7.0%
OTHER SERVICES	23,065,410	24,683,370	1,617,960	7.0%
TOTAL	\$ 239,611,821	\$ 248,267,527	\$ 8,655,706	3.6%

- Wages and Salaries* – The budget includes \$110.0 million for Wages and Salaries versus \$107.0 million in the FY19 Budget, an increase of \$2.9 million or 2.7%. Regular Pay, which is 98.4% of total Wages and Salaries, increased \$3.1 million primarily for wage increases associated with collective bargaining agreements and additional staff, offset by lower salaries for new hires compared to retirees. The FY20 Budget funds 1,158 FTEs, three more than the FY19 Budget. The three additional FTEs will support the Metropolitan Tunnel Redundancy Program. As always, new hires and backfilling of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management.
- Overtime* – The budget includes \$4.9 million for Overtime, an increase of \$451,000 or 10.1% as compared to the FY19 Budget mainly due to collective bargaining increases and more than expected spending in Wastewater Operations on wet weather events.
- Fringe Benefits* – The budget includes \$21.7 million for Fringe Benefits, an increase of \$544,000 or 2.6% from the FY19 Budget. Health Insurance premiums total \$18.3 million, an increase of \$53,000 or 0.3% from the FY19 Budget largely due to an increase in the rates for the structure of the health plans offset by a change to the number and mix of plans based on FY19 enrollment changes. The FY20 Final Budget also includes \$357,000 for the new Paid Family Medical Leave Act (PFML), which represents the minimum employer share as required by law.
- Workers' Compensation* – The budget includes \$2.4 million for Workers' Compensation, an decrease of \$68,000 or 2.8% from the FY19 Budget and is based on a three-year average of actual spending.

- *Chemicals* – The budget includes \$11.8 million for Chemicals, an increase of \$981,000 or 9.1% over the FY19 Budget mainly due to increased prices for Ferric Chloride at the Deer Island Wastewater Treatment Plant, increased prices for Sodium Hypochlorite, and higher quantities of Activated Carbon at several wastewater facilities. The FY20 Budget does not include any funding for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit, which is projected to have more stringent requirements for enterococcus treatment compliance.
- *Utilities* – The budget includes \$24.5 million for Utilities, which is an increase of \$1.6 million or 6.9% from the FY19 Budget. The budget funds \$18.7 million for Electricity; \$2.6 million for Diesel Fuel; \$2.4 million for Water; and \$632,000 for Natural Gas. The change to Utilities is driven by Electricity, which has increased by \$1.6 million or 9.3% over the FY19 Budget, due to new contract pricing effective November 2018.
- *Maintenance* – The budget includes \$32.7 million for Maintenance projects, an increase of \$468,000 or 1.5% from the FY19 Budget. The increase is largely driven by software maintenance in MIS. The largest drivers are the software maintenance component of the Managed Security Service Provider contract for \$392,000 and for Management Consoles (infrastructure monitoring) in MIS for \$148,000.
- *Training and Meetings* – The budget includes \$504,000 for Training and Meetings, an increase of \$49,000 or 10.7% from the FY19 Budget. This reflects the actual costs of programs scheduled for FY20, plus participation in industry conferences for the Metropolitan Tunnel Program team.
- *Professional Services* – The budget includes \$8.3 million for Professional Services, an increase of \$619,000 or 8.1% over the FY19 Budget. The increase is largely driven by the Computer Systems Consultant line item in the MIS budget, which includes the monitoring component of the Managed Security Service Provider contract in the amount of \$684,000.
- *Other Materials* – The budget includes \$6.9 million for Other Materials, a decrease of \$514,000 or 7.0% from the FY19 Budget. The decrease is driven by reductions in Vehicle Purchases and Replacements of \$400,000 based on assessed need and Computer Hardware of \$298,000, offset by an increase to Lab and Testing Supplies of 139,000.
- *Other Services* – The budget includes \$24.7 million for Other Services, an increase of \$1.6 million or 7.0% from the FY19 Budget. The budget includes funding of \$14.7 million for Sludge Pelletization, \$4.0 million for Space/Lease Rentals and related lease cost for the Charlestown Navy Yard, and Chelsea Facility, \$1.9 million for Voice and Data costs, \$1.3 million for Other Services, and \$1.1 million for Grit and Screenings removal. The increase to Other Services is driven by Sludge Pelletization, which has increased by \$1.4 million or 10.6% from the FY19 Budget, due to an increase of 8.5 dry tons per day.

Indirect Expenses

Indirect Expenses for FY20 total \$50.9 million, an increase of \$4.9 million or 10.7% from the FY19 Budget. Below are the highlights of major changes:

- The budget includes \$2.6 million for Insurance, an increase of \$512,000 or 24.4% from the FY19 Budget. The FY20 Budget was based on actual average spending for claims for the past five years, FY14-18, and bids received for the insurance premiums. It should be noted that at the May 29th meeting, the Board of Directors approved the MWRA FY20 Insurance program with a not to exceed amount of \$2,249,851 for premiums.
- The budget includes \$26.8 million for the Watershed Management budget, an increase of \$427,000 or 1.6% over the FY19 Budget. The budget includes \$17.9 million for reimbursement of operating expenses net of revenues, and \$8.5 million for Payment in Lieu of Taxes (PILOT). The largest increases are for operating expenses net of revenues of \$472,000 mainly for contractual increases and healthcare costs. The FY20 operating capital budget includes the Clinton crew headquarters construction and several smaller projects.
- The budget includes \$4.4 million for the Harbor Energy Electric Company (HEEC), an increase of \$3.0 million or 219.4% over the FY19 Budget due to the new cable projected to be placed into service in December 2019. The budget reflects updated calculations for the Operations and Maintenance component of the HEEC payment obligations and capital improvements to the electrical substations providing electricity to the Deer Island Wastewater Treatment Plant. The \$4.4 million is level to the planning estimate. The \$6.5 million reserve is projected to be used between FY21-25.
- The budget includes \$1.7 million for Mitigation payments to the cities of Quincy and Winthrop in accordance with mitigation agreements, which expire in FY25.
- Funding for the Operating Reserve for FY20 is \$2.1 million. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY20 Final Budget, the required balance is \$44.0 million versus the \$41.9 million required in FY19.
- The budget includes \$7.3 million for the Retirement Fund, the minimum required contribution for FY20 based on the May 14, 2018 actuarial report. The FY20 required contribution is an increase of \$315,000 or 4.5% over the FY19 Budget. The planning estimates presented reflect the estimated funding requirements for FY21 (\$11.0 million) and beyond. These annual estimates include changes to the actuarial assumptions used in the recent draft valuation report as of January 1, 2019. The assumed rate of return has been reduced from 7.5% to 7.25% and the time to full

amortization of the unfunded liability has been extended by four years, from 2026 to 2030.

- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. Based on the latest actuarial evaluation, MWRA's pension fund is at a 95.0% funding level. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established with Board approval and funding started on April 23, 2015. The current Trust balance is \$31.0 million. Starting in FY18, GASB 75 is the governing regulation for employee OPEB contributions. The proposed \$6.0 million budget is based on 50% of the contribution determined in the January 1, 2018 actuarial report.

Capital Financing

As a result of the Authority's Capital Improvement Program, capital financing as a percent of total expenses (before offsets) has increased from 36% in 1990 to 62.2% in FY20. Much of the capital financing expenses are for debt service for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA's capital spending, from its inception, had been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for ~80% of capital spending to date. Going forward, the majority of spending will be focused on asset protection and water system redundancy initiatives.

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

The FY20 Final Budget capital financing costs total \$493.1 million and remain the largest portion of the MWRA's budget.

The FY20 Final Budget includes the benefit of a planned defeasance of \$24.4 million which will reduce debt service by approximately \$5.4 million in FY20, and \$11.0 million in FY21, and \$10.5 million in FY22.

The FY20 Budget assumes a 3.5% interest rate for variable rate debt which is the same as the rate in FY19. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series; liquidity fees for the Standby Bond Purchase Agreement, Letter of Credit, and Direct Purchase providers; and remarketing fees.

The FY20 Final Budget capital financing costs increased by \$10.7 million or 2.2% compared to the FY19 Budget. This increase in the MWRA's debt service is the result of projected FY20 borrowings, the structure of the existing debt, and increased current revenue for capital partially offset by the impact of the defeasance and a reduction in debt prepayment levels as compared to FY19. The FY20 capital financing budget includes:

- \$202.3 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$5.1 million to support issuance of \$125 million in May 2020. Also it includes a reduction of \$5.4 million for the effect of the FY19 defeasance;
- \$169.6 million in principal and interest payments on subordinate bonds;
- \$92.8 million in principal and interest payments on SRF loans. This amount includes \$8.2 million to support issuances of \$52.5 million of loans during 2019 and \$55 million in 2020;
- \$15.2 million to fund ongoing capital projects with current revenue;
- \$5.0 million in debt prepayment.
- \$5.8 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The budget also includes \$890,239 offset to Debt Service for the Debt Service Assistance received in FY19.

Revenue

FY20 non-rate revenue totals \$30.5 million, which is an increase of \$1.6 million or 5.5% versus the FY19 Budget. The FY20 non-rate revenue budget includes:

- \$5.8 million in Other Revenue, a decrease of \$253,000 or 4.2% from the FY19 Budget. Other Revenue includes \$2.4 million in TRAC permits and fees as well as \$2.2 million from the sale of the Authority's Renewable Portfolio Credits, revenue from participating in load response program and sale of generated power to the grid. The balance of the Other Revenue is made up of various rebates and fees.
- \$15.5 million in Investment Income, an increase of \$1.9 million or 14.3% from the FY19 Budget, reflecting higher interest rate assumptions. The short-term interest rate assumption is at 2.25% which is 50 basis points above the FY19 Budget level.
- \$9.2 million in Other User Charges, including \$5.1 million for the Chicopee Valley Aqueduct (CVA) communities, \$1.8 million for Deer Island water usage, \$615,000 for entrance fees from member communities, and \$500,000 for the Commonwealth's partial

reimbursement for Clinton Wastewater Treatment Plant expenses. Other User Charges are \$112,000 or 1.2% less than the FY19 Budget.

The Rate Revenue Requirement for FY20 is \$761.8 million, an increase \$22.7 million or 3.07% over the FY19 Budget. The Rate Revenue Requirement is the difference between total expenses of \$792.2 million, less non-rate revenue of \$30.5 million.

Planning Estimates and Future Rate Projections

MWRA’s planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis. Historically, the planning estimates were based on conservative financial assumptions. Conservative projections of future rate increases benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue increases enable member communities to adequately plan and budget for future payments to MWRA. In FY14 the Authority tightened certain planning estimate assumptions such as inflation on direct expenses and limiting the annual capital improvement spending.

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

Table 3

Rates & Budget Projections						
Draft Final FY20 CEB	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Total Rate Revenue (\$000)	\$ 739,042	\$ 761,767	\$ 789,510	\$ 817,439	\$ 844,689	\$ 872,627
Rate Revenue Change from Prior Year (\$000)	\$ 21,988	\$ 22,725	\$ 27,743	\$ 27,928	\$ 27,250	\$ 27,938
Rate Revenue Increase	3.07%	3.07%	3.6%	3.5%	3.3%	3.3%
Use of Reserves (\$000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Estimated Household Bill						
Based on annual water usage of 61,000 gallons	\$1,157	\$1,205	\$1,259	\$1,314	\$1,371	\$1,430
Based on annual water usage of 90,000 gallons	\$1,707	\$1,778	\$1,857	\$1,939	\$2,022	\$2,110

CEB Review and Adoption Process

In February, the MWRA transmitted the Proposed FY20 Budget to the Advisory Board for its review and comment. In May the Advisory Board submitted its *Integrated Comments and Recommendations*. Responses to the Advisory Board’s review and comments are attached as Attachment F.

ATTACHMENTS:

- Attachment A FY20 Final Budget vs. FY20 Proposed Budget
- Attachment B FY20 Final Budget vs. FY19 Approved Budget
- Attachment C FY20 Final Direct Expense Budget by Division
- Attachment D FY20 Final Operating Budget (Trustee's Budget)
- Attachment E FY20 Final Budget vs. FY19 Projections
- Attachment F MWRA Responses to Advisory Board's FY20 Integrated CIP and CEB
Comments and Recommendations

Attachment A

FY20 Final Budget vs. FY20 Proposed Budget

TOTAL MWRA	FY20 Proposed Budget	FY20 Final Budget	Change	% Change
EXPENSES				
WAGES AND SALARIES	\$ 110,520,570	\$ 109,953,483	\$ (567,087)	-0.5%
OVERTIME	4,898,965	4,898,965	-	0.0%
FRINGE BENEFITS	21,965,210	21,717,533	(247,677)	-1.1%
WORKERS' COMPENSATION	2,354,256	2,354,256	-	0.0%
CHEMICALS	12,087,530	11,811,222	(276,308)	-2.3%
ENERGY AND UTILITIES	24,199,103	24,454,796	255,693	1.1%
MAINTENANCE	32,784,793	32,726,954	(57,839)	-0.2%
TRAINING AND MEETINGS	504,394	504,394	-	0.0%
PROFESSIONAL SERVICES	8,324,491	8,295,315	(29,176)	-0.4%
OTHER MATERIALS	7,186,700	6,867,239	(319,461)	-4.4%
OTHER SERVICES	23,925,385	24,683,370	757,985	3.2%
TOTAL DIRECT EXPENSES	\$ 248,751,397	\$ 248,267,527	\$ (483,870)	-0.2%
INSURANCE	\$ 2,081,406	\$ 2,611,222	\$ 529,816	25.5%
WATERSHED/PILOT/DEBT	27,194,708	26,833,600	(361,108)	-1.3%
HEEC PAYMENT	4,429,316	4,429,316	-	0.0%
MITIGATION	1,654,618	1,654,618	-	0.0%
ADDITIONS TO RESERVES	2,086,626	2,094,284	7,658	0.4%
RETIREMENT FUND	7,315,000	7,315,000	-	0.0%
POSTEMPLOYMENT BENEFITS	5,962,457	5,962,457	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 50,724,131	\$ 50,900,497	\$ 176,366	0.3%
STATE REVOLVING FUND	\$ 93,138,692	\$ 92,797,295	\$ (341,397)	-0.4%
SENIOR DEBT	204,715,571	202,299,609	(2,415,962)	-1.2%
SUBORDINATE DEBT	170,587,702	169,609,844	(977,858)	-0.6%
LOCAL WATER PIPELINE CP	5,846,823	5,846,827	4	0.0%
CURRENT REVENUE/CAPITAL	15,200,000	15,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	4,850,000	5,000,000	150,000	3.1%
DEBT SERVICE ASSISTANCE	-	(890,239)	(890,239)	0.0%
TOTAL DEBT SERVICE	\$ 497,555,847	\$ 493,080,396	\$ (4,475,451)	-0.9%
TOTAL EXPENSES	\$ 797,031,375	\$ 792,248,420	\$ (4,782,955)	-0.6%
REVENUE & INCOME				
RATE REVENUE	\$ 766,657,500	\$ 761,767,000	\$ (4,890,500)	-0.6%
OTHER USER CHARGES	9,239,263	9,216,425	(22,838)	-0.2%
OTHER REVENUE	5,630,638	5,761,022	130,384	2.3%
RATE STABILIZATION	-	-	-	0.0%
INVESTMENT INCOME	15,503,973	15,503,973	0	0.0%
TOTAL REVENUE & INCOME	\$ 797,031,374	\$ 792,248,420	\$ (4,782,954)	-0.6%
Rate Revenue Increase over FY19	3.74%	3.07%		

Attachment B

FY20 Final Budget vs. FY19 Approved Budget

TOTAL MWRA	FY19 Final Budget	FY20 Final Budget	Change	% Change
EXPENSES				
WAGES AND SALARIES	\$ 107,032,021	\$ 109,953,483	\$ 2,921,462	2.7%
OVERTIME	4,447,554	4,898,965	451,411	10.1%
FRINGE BENEFITS	21,173,571	21,717,533	543,962	2.6%
WORKERS' COMPENSATION	2,422,609	2,354,256	(68,353)	-2.8%
CHEMICALS	10,830,452	11,811,222	980,770	9.1%
ENERGY AND UTILITIES	22,868,633	24,454,796	1,586,163	6.9%
MAINTENANCE	32,258,727	32,726,954	468,227	1.5%
TRAINING AND MEETINGS	455,770	504,394	48,624	10.7%
PROFESSIONAL SERVICES	7,675,976	8,295,315	619,339	8.1%
OTHER MATERIALS	7,381,098	6,867,239	(513,859)	-7.0%
OTHER SERVICES	23,065,410	24,683,370	1,617,960	7.0%
TOTAL DIRECT EXPENSES	\$ 239,611,821	\$ 248,267,527	\$ 8,655,706	3.6%
INSURANCE	\$ 2,099,064	\$ 2,611,222	\$ 512,158	24.4%
WATERSHED/PILOT/DEBT	26,406,427	26,833,600	427,173	1.6%
HEEC PAYMENT	1,386,832	4,429,316	3,042,484	219.4%
MITIGATION	1,614,262	1,654,618	40,356	2.5%
ADDITIONS TO RESERVES	1,881,797	2,094,284	212,487	11.3%
RETIREMENT FUND	7,000,000	7,315,000	315,000	4.5%
POSTEMPLOYMENT BENEFITS	5,574,152	5,962,457	388,305	7.0%
TOTAL INDIRECT EXPENSES	\$ 45,962,534	\$ 50,900,497	\$ 4,937,963	10.7%
STATE REVOLVING FUND	\$ 89,380,358	\$ 92,797,295	\$ 3,416,937	3.8%
SENIOR DEBT	272,633,979	202,299,609	(70,334,370)	-25.8%
SUBORDINATE DEBT	92,032,294	169,609,844	77,577,550	84.3%
LOCAL WATER PIPELINE CP	4,750,393	5,846,827	1,096,434	23.1%
CURRENT REVENUE/CAPITAL	14,200,000	15,200,000	1,000,000	7.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	5,000,000	(2,100,000)	-29.6%
DEBT SERVICE ASSISTANCE	(944,726)	(890,239)	54,487	-5.8%
TOTAL DEBT SERVICE	\$ 482,369,358	\$ 493,080,396	\$ 10,711,038	2.2%
TOTAL EXPENSES	\$ 767,943,713	\$ 792,248,420	\$ 24,304,707	3.2%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 761,767,000	\$ 22,724,800	3.1%
OTHER USER CHARGES	9,328,768	9,216,425	(112,343)	-1.2%
OTHER REVENUE	6,013,635	5,761,022	(252,613)	-4.2%
RATE STABILIZATION	-	-	-	0.0%
INVESTMENT INCOME	13,559,110	15,503,973	1,944,863	14.3%
TOTAL REVENUE & INCOME	\$ 767,943,713	\$ 792,248,420	\$ 24,304,707	3.2%
Rate Revenue Increase over FY19	3.07%	3.07%		

ATTACHMENT C

FY20 Final Direct Expense Budget by Division

Division	FY20 Proposed Budget	FY20 Final Budget	Change FY20 Final Budget vs. FY20 Proposed Budget	
			\$	%
Executive	\$1,441,574	\$1,440,170	-\$1,404	-0.1%
Emergency Preparedness	3,751,945	3,620,065	-\$131,880	-3.5%
Administration	51,545,891	52,225,556	\$679,665	1.3%
Finance	4,430,058	4,421,411	-\$8,647	-0.2%
Law	2,087,231	2,083,362	-\$3,869	-0.2%
Affirmative Action	684,800	683,252	-\$1,548	-0.2%
Internal Audit	717,268	715,649	-\$1,619	-0.2%
Public Affairs	1,146,532	1,144,090	-\$2,442	-0.2%
Operations/Planning	182,946,099	181,933,971	-\$1,012,128	-0.6%
Total Authority	\$248,751,397	\$248,267,527	-\$483,870	-0.2%

ATTACHMENT D

**Massachusetts Water Resources Authority
Fiscal Year 2020 Operating Budget for Filing with the Trustee
Pursuant to Section 712 of General Bond Resolution Adopted January 24, 1990**

(\$000s)

Projected Monthly Deposits:

Fund	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Operating	\$20,825	\$26,031	\$20,825	\$20,825	\$26,031	\$20,825	\$20,825	\$26,031	\$20,825	\$20,825	\$26,031	\$20,825	\$270,720
Debt Service & Coverage	37,929	47,412	37,929	37,929	47,412	37,929	37,929	47,412	37,929	37,929	47,412	37,929	493,080
Debt Service Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
CORE	---	---	---	---	---	---	---	---	---	---	---	---	0
Commonwealth Obligations	---	---	4,463	---	---	4,463	---	---	12,963	---	---	4,463	26,354
Operating Reserve	161	201	161	161	201	161	161	201	161	161	201	161	2,094
Insurance Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Renewal & Replacement Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Rate Stabilization Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$58,915	\$73,644	\$63,378	\$58,915	\$73,644	\$63,378	\$58,915	\$73,644	\$71,878	\$58,915	\$73,644	\$63,378	\$792,248

Attachment E

FY20 Final Budget vs. FY19 Projections

TOTAL MWRA	FY19 Projection	FY20 Final Budget	Change	% Change
EXPENSES				
WAGES AND SALARIES	\$ 101,960,858	\$ 109,953,483	\$ 7,992,625	7.8%
OVERTIME	5,079,147	4,898,965	(180,182)	-3.5%
FRINGE BENEFITS	20,256,723	21,717,533	1,460,810	7.2%
WORKERS' COMPENSATION	2,422,609	2,354,256	(68,353)	-2.8%
CHEMICALS	10,942,534	11,811,222	868,688	7.9%
ENERGY AND UTILITIES	24,491,122	24,454,796	(36,326)	-0.1%
MAINTENANCE	31,619,639	32,726,954	1,107,315	3.5%
TRAINING AND MEETINGS	484,135	504,394	20,259	4.2%
PROFESSIONAL SERVICES	6,952,719	8,295,315	1,342,596	19.3%
OTHER MATERIALS	6,969,797	6,867,239	(102,558)	-1.5%
OTHER SERVICES	23,952,108	24,683,370	731,262	3.1%
TOTAL DIRECT EXPENSES	\$ 235,131,392	\$ 248,267,527	\$ 13,136,135	5.6%
INSURANCE	\$ 2,967,643	\$ 2,611,222	\$ (356,421)	-12.0%
WATERSHED/PILOT/DEBT	23,695,654	26,833,600	3,137,946	13.2%
HEEC PAYMENT	1,203,255	4,429,316	3,226,061	268.1%
MITIGATION	1,614,262	1,654,618	40,356	2.5%
ADDITIONS TO RESERVES	1,881,798	2,094,284	212,486	11.3%
RETIREMENT FUND	7,000,000	7,315,000	315,000	4.5%
POSTEMPLOYMENT BENEFITS	5,574,152	5,962,457	388,305	7.0%
TOTAL INDIRECT EXPENSES	\$ 43,936,764	\$ 50,900,497	\$ 6,963,733	15.8%
STATE REVOLVING FUND	\$ 84,227,800	\$ 92,797,295	\$ 8,569,495	10.2%
SENIOR DEBT	270,379,599	202,299,609	(68,079,990)	-25.2%
SUBORDINATE DEBT	92,032,294	169,609,844	77,577,550	84.3%
LOCAL WATER PIPELINE CP	2,504,172	5,846,827	3,342,655	133.5%
CURRENT REVENUE/CAPITAL	14,200,000	15,200,000	1,000,000	7.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	5,000,000	(2,100,000)	-29.6%
VARIABLE RATE SAVINGS	(7,324,342)	-	7,324,342	-100.0%
DEFESANCE ACCOUNT	17,118,194	-	(17,118,194)	-100.0%
DEBT SERVICE ASSISTANCE	(1,834,965)	(890,239)	944,726	-51.5%
TOTAL DEBT SERVICE	\$ 481,619,813	\$ 493,080,396	\$ 11,460,583	2.4%
TOTAL EXPENSES	\$ 760,687,969	\$ 792,248,420	\$ 31,560,451	4.1%
REVENUE & INCOME				
RATE REVENUE	\$ 739,042,200	\$ 761,767,000	\$ 22,724,800	3.1%
OTHER USER CHARGES	9,328,768	9,216,425	(112,343)	-1.2%
OTHER REVENUE	6,544,796	5,761,022	(783,774)	-12.0%
RATE STABILIZATION	-	-	-	0.0%
INVESTMENT INCOME	16,759,110	15,503,973	(1,255,137)	-7.5%
TOTAL REVENUE & INCOME	\$ 771,674,874	\$ 792,248,420	\$ 20,573,546	2.7%

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2020 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
<p>Therefore, the Advisory Board recommends reducing the FY20 Rate Revenue Requirement by \$4,327,312 resulting in a combined wholesale assessment increase of 3.15%</p> <p>1.</p>	<p>Agree. The MWRA has reduced the FY20 Rate Revenue Requirement by \$4,335,500 resulting in a combined wholesale assessment increase of 3.15% and further reduced to 3.07% after the May Board of Directors budget hearing.</p>
<p>The Advisory Board recommends reducing the variable rate debt interest rate assumption to 3.50%, and the variable rate debt line item by \$1 million to reflect this change.</p> <p>2.</p>	<p>Agree.</p>
<p>The Advisory Board recommends that the Authority continue explore the potential financial gains from using taxable bonds on appropriate capital projects, particularly when analyzing the funding structure of the HEEC cable replacement costs.</p> <p>3.</p>	<p>Agree.</p>
<p>The Advisory Board recommends that the Authority adjusts its attrition/vacancy rate assumptions by \$950,000 (includes associated fringe benefits). Advisory Board also recommends a reduction of \$450,000 for fringe benefits based on GIC actual rates and enrollment and another \$250,000 for sick leave accrual.</p> <p>4.</p>	<p>Partially agree. MWRA has reduced regular pay by \$318,513. The regular pay budget does include a vacancy adjustment of -\$2,154,195. The net reduction in fringe benefits (excluding PFML) is \$604,219. Leave Balance Accrual was not adjusted, and remains in the FY20 CEB at \$500,000. Additionally, based on the consensus of the Board of Directors at the May budget hearing, staff have further reduced the Rate Revenue Requirement to reflect an increase of 3.07% over FY19. To achieve this reduction, in recognition of the Advisory Board's strong recommendation, staff have further reduced Wages and Salaries by \$248,574.</p>
<p>The Advisory Board recommends that no payment be made towards the Commonwealth's new Paid Family and Medical Leave (M.G.L. Chapter 175M) the following steps have been taken: (1) Authority should sit with unions to determine if a private plan option is preferable, which may avoid the MWRA paying into a State system that does not benefit its employees but instead uses ratepayer dollars to subsidize other businesses in the Commonwealth. (2) Look at 3rd party administrators of a private plan option to determine the cost savings that may be available through opting out of the Commonwealth's program.</p> <p>5.</p>	<p>Disagree. Payments are required by law. MWRA staff have budgeted the minimum employer share of the Paid Family Medical Leave and plan to negotiate the employee share with the collective bargaining units as soon as possible.</p>
<p>The Advisory Board recommends increasing the "additions to reserves" line item for FY20 by \$99,113 to correspond to the recommended reductions in eligible line items.</p> <p>6.</p>	<p>Based on the MWRA Spring revisit changes that require "additions to the operating reserves" is \$49,082</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2020 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
<p>7. The Advisory Board recommends MWRA funding for the Watershed Division be reduced by a minimum of \$500,000 due to historically budgeted but unfilled positions. The Advisory Board also assumes that the Authority will use the staffing study, that was proposed by DCR in the Fall of 2018 and purported to be the basis of Watershed staffing needs, to adjust the FY20 Watershed Salaries & Wages.</p>	<p>Partially agree. Reduced by \$361,108. FY20 CEB includes 150 FTEs per DCR Staffing Study (reduced from 156.3).</p>
<p>8. The Advisory Board recommends that the Authority work toward a target of 2.4% rate increases by the year 2024.</p>	<p>Partially agree. While our planning projections indicate a year-over-year increase to assessments greater than 2.4%, staff will work towards reducing the rate revenue increases. As always, MWRA will continue to evaluate all tools available to ensure predictable and sustainable assessments to our member communities.</p>
<p>9. The Advisory Board recommends: (1) the MWRA officially request that Massport rescind their easement charges; (2) the MWRA request that the Legislature withhold final bond authorized payment for the dredging until resolved, and/or; (3) the MWRA jointly file a bill with the Advisory Board to add a surcharge on all tonnage to be assessed on all cargo and assess a per head charge for cruise ships until such time that the cable costs have been recovered.</p>	<p>Staff are waiting to see Massport's response to the Advisory Board's letter.</p>
<p>10. The Advisory Board recommends: (1) the MWRA assess Massport for Operations and Maintenance (O&M) of the Wiggins Pump Station dating back to the inception of the MWRA which would be \$280,000 in inflation-adjusted dollars, and to begin charging Massport for O&M costs on a monthly basis moving forward, and (2) the MWRA remove the Wiggins Pump Station capital improvements project from its 5-year CIP until such time that an MOU is in place between the MWRA and Massport in which Massport agrees to pay for the design, construction and project management of the Wiggins Pump Station capital improvements.</p>	<p>Staff are waiting to see Massport's response to the Advisory Board's letter.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2020 Integrated CIP and CEB Recommendations and Comments

Advisory Board Comments	MWRA Responses
<p>1. The Advisory Board expects that the Authority will be prepared to solicit any available new federal infrastructure funding for Metropolitan Tunnel Redundancy.</p>	<p>Agree. MWRA will monitor opportunities to receive federal grants and funding for the Metropolitan Tunnel Redundancy and other capital projects.</p>
<p>2. The Advisory Board supports the continued use of the defeasance account strategy, which clearly identifies a use of variable rate debt service savings that is consistent with the original intended use of the funds that were raised.</p>	<p>Agree. This strategy proved to be an effective tool for achieving the multi-year sustainable and predictable community assessment goal.</p>
<p>3. The Advisory Board expects the MWRA to increase the proposed Fringe Benefits line due to the Commonwealth's new Paid Family and Medical Leave (M.G.L. Chapter 175M) which begins on July 1, 2019.</p>	<p>Agree. MWRA has budgeted \$356,542 which represents the minimum amount the Authority (the employer) is responsible for.</p>
<p>4. The Advisory Board reiterates its recommendation that OPEB and Pension be treated as "two sides of the same coin" – any significant swings in the annual contribution to the Pension system related to maintaining "virtual full funding" should be offset with a reduction to the optional contributions to the OPEB Trust Fund.</p>	<p>Partially agree. MWRA staff will work to minimize the impact that "significant swings" in the annual contribution might have on the overall CEB. MWRA has a practice of contributing 50% of the ADC for OPEB and staff recommend maintaining that contribution level.</p>
<p>5. The Advisory Board expects the MWRA to work with the Watershed Division and the Executive Office of Administration and Finance to insure that there is a seamless hiring process in the future, and not lose sight of the fact that the fundamental reason the Watershed Division operates outside of the Commonwealth's budget is to insulate them from the restraints of the Commonwealth's finances.</p>	<p>Agree.</p>
<p>6. The Advisory Board expects the MWRA to decrease its "maintenance" category of expense by \$57,839 in the final FY20 CEB.</p>	<p>Agree.</p>
<p>7. The Advisory Board expects the Authority will increase the "other services" category of expense by \$757,985 to account for an increase in residuals flows.</p>	<p>Agree.</p>
<p>8. The Advisory Board expects the Authority to increase its FY20 CEB "utilities" expenses by an estimated \$255,664.</p>	<p>Agree.</p>
<p>9. The Advisory Board expects that the MWRA will decrease the "chemicals" category of expense by \$276,308 to reflect updated pricing and usage assumptions.</p>	<p>Agree.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2020 Integrated CIP and CEB Recommendations and Comments

Advisory Board Comments	MWRA Responses
<p>10. The Advisory Board expects the MWRA to decrease of the “other materials” category of expense by \$319,461 in its final budget.</p>	<p>Agree.</p>
<p>11. The Advisory Board thanks the MWRA staff for meeting the FY19 recommendation that TRAC fees should be updated with an automatic escalator to make fee increases sustainable and predictable for the permittees for FY20-24.</p>	<p>Agree.</p>
<p>12. The Advisory Board expects to work closely with the MWRA and all stakeholders to help MassDEP assume NPDES delegation.</p>	<p>Agree. MWRA staff will continue to engage with the Advisory Board, MassDEP, and other stakeholders as appropriate to evaluate the best fee structure and regulatory mechanisms that would support MassDEP being authorized by EPA to successfully administer the NPDES program. In relation to its own NPDES permit requirements, the MWRA intends to vigorously object to any attempt by EPA or MassDEP to include co-permittees in its DITP NPDES permit.</p>
<p>13. The Advisory Board expects that the MWRA will not make substantial changes to the monitoring program without other stakeholders also contributing to long-term testing.</p>	<p>MWRA is working with the Outfall Monitoring Science Advisory Panel to identify monitoring program changes and improvements, including MWRA collaborating with others for monitoring. Currently we are participating in studies of emerging contaminants and pharmaceuticals with UMass Lowell, the University of Rhode Island, EPA’s Narragansett research Lab and the Stellwagen Bank National Marine Sanctuary. All of these projects are funded by other entities. Additionally, we are hoping to participate on a project studying micrplastics in the environment that (if selected) will be funded almost entirely by the Sea Grant Program and other entities, as well as a study to be conducted by the Water Research Foundation. That said, while the concept of contributions from other stakeholders is good, it will take time to develop and implement, and even then will be very difficult to guarantee.</p>


STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: Final FY20 Water and Sewer Assessments



COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE

 Leo Norton, Assistant Manager, Rates, Revenue
and Finance
Preparer/Title


Thomas J. Durkin
Director of Finance

The FY20 Proposed Current Expense Budget (CEB) submitted to the Advisory Board at the February 2019 Board meeting included a 3.74% combined assessment increase.

Based on the Board discussions during the May 29th budget hearings and the Advisory Board recommendation, the Authority is putting forth a Rate Revenue Requirement (RRR) of \$761,767,000, resulting in a 3.07% combined assessment increase.

MWRA continues to utilize a multi-year rates management strategy to provide sustainable and predictable assessment increases to its member communities. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending and use of historical variable rate assumptions. The combination of these measures results in annual combined utility assessment increase projections of 3.6% or less through FY23.

RECOMMENDATION:

To adopt the following effective July 1, 2019:

- 1) Water system assessments of \$258,751,692 and sewer system assessments of \$503,015,308 for FY20.
- 2) FY20 sewer assessments of \$500,000 for the Town of Clinton and \$375,767 for the Lancaster Sewer District.
- 3) FY20 charge to the City of Worcester of \$208,773 representing approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant.
- 4) FY20 water assessments of \$3,604,721 for the City of Chicopee, \$723,584 for South Hadley Fire District #1, and \$817,806 for the Town of Wilbraham.
- 5) A wholesale water rate of \$4,021.42 per million gallons.
- 6) A retail sewer rate of \$7,859.49 per million gallons.

DISCUSSION:

The Draft Final FY20 Current Expense Budget includes a Rate Revenue Requirement of \$761,767,000, an increase of 3.07% over the FY19 requirement.

	FY20 Draft Final	FY19 Approved	Change from FY19	
			Dollars	Percent
Water	\$258,751,692	\$249,855,191	\$ 8,896,501	3.56%
Sewer	\$503,015,308	\$489,187,009	\$13,828,299	2.83%
Total	\$761,767,000	\$739,042,200	\$22,724,800	3.07%

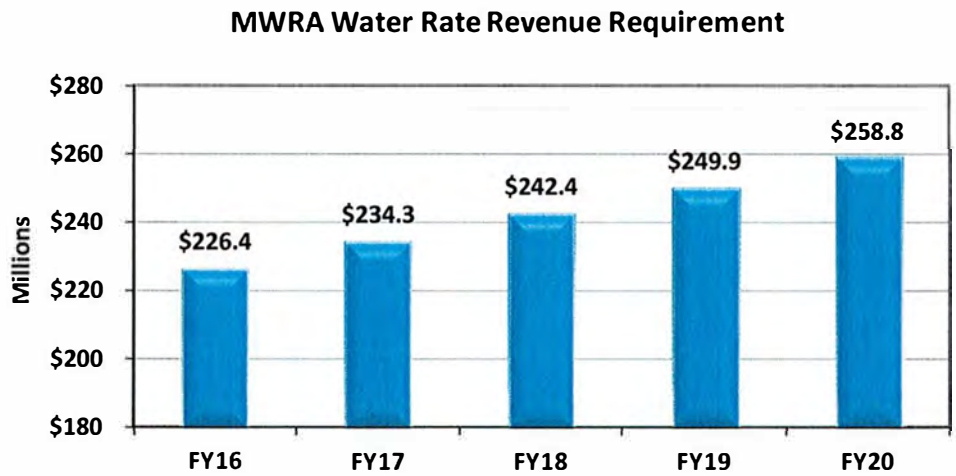
Attachment 1 summarizes FY20 wholesale water and sewer charges for each MWRA community.

The estimated impact of the FY20 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is approximately \$16.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community’s share of total water use for the most recent calendar year. FY20 water assessments are based on each community's share of CY18 water use of 64.343 billion gallons, a 2.1% increase compared to CY17 water use of 63.047 billion gallons. Changes in FY20 water assessments for customer communities compared to FY19 assessments will vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY18 compared to CY17. This is particularly true for communities that receive only part of their water from MWRA.

The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY19 to FY20 are primarily the result of increased debt service related to water utility rehabilitation and improvements.



Since preliminary assessments were calculated in February, and following an ongoing review of CY17 and CY18 water use, staff have reduced the City of Somerville’s CY18 water use by 47.6

million gallons and the Lynn Water & Sewer Commission's CY18 water use by 27.1 million gallons. Staff have also reversed a 22.9 million gallon increase to Lynn's CY17 water use presented to the Board of Directors' at the February meeting.

While reviewing Somerville's CY18 water use, MWRA staff determined that a faulty check valve and automatic fire bypass valve at meter 91 was allowing a flow reversal during low flow demands, resulting in higher meter readings. The check valve has since been replaced but the fire bypass valve remains open while repair parts are being procured. The meter data department is continuing to monitor Somerville's water use and will make the appropriate flow adjustments until this valve is replaced. The adjustment to Somerville's CY18 water use will lower their FY20 assessment by \$189,000.

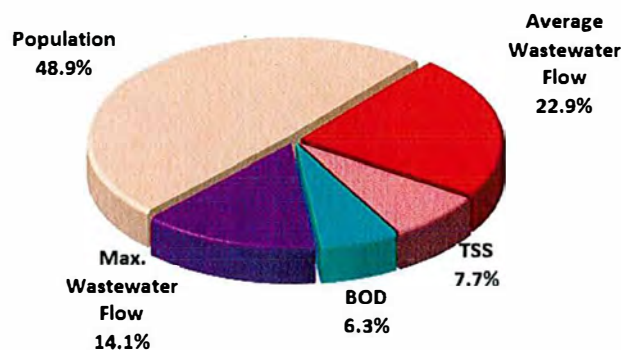
The adjustment to Lynn's CY17 and CY18 water use is based on a combination of data from historical water use, water meters operated within the GE plant and an MWRA meter. After further investigation, it was determined that areas served by the GE meters were also supplied and captured by the MWRA meter, resulting in double counting. The adjustments to Lynn's CY17 and CY18 water use will reduce their FY20 assessment by \$109,000, and reverse a \$90,380 increase to their FY19 assessment.

Sewer Assessments

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

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

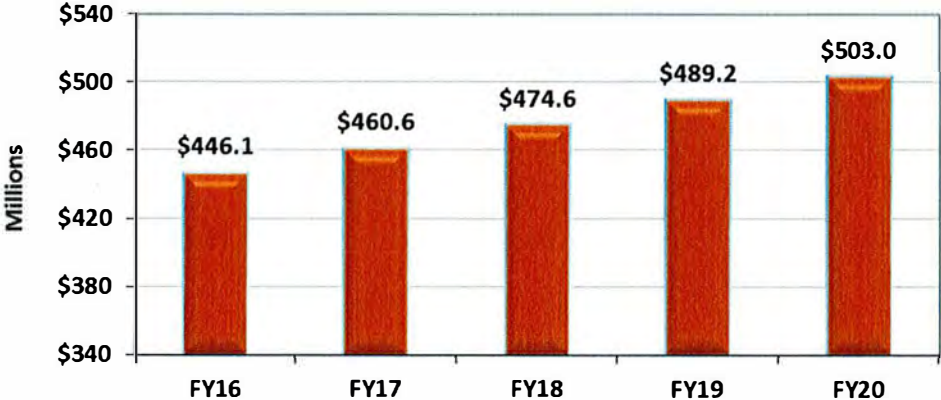
Allocation of Total MWRA Sewer Utility Assessment



The population component of the FY20 assessments were calculated using the most recent (July 2017) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service as reported by each MWRA community. The flow component of the FY20 assessments were calculated using the average of CY16, CY17 and CY18 wastewater flows and strength of flows.

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

MWRA Sewer Rate Revenue Requirement



Clinton Sewer Service Area Assessments

Budgeted FY20 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$4,514,836, an increase of 8.3% over FY19 expenses. This includes a 10.5% increase in operating costs, and a 2.8% increase in capital expenses related primarily to the valve and screw pumps replacement and roofing rehabilitation projects.

In accordance with the agreement that allows the City of Worcester to take water from the Wachusett watershed, Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. FY20 direct operating expenses for the plant total \$2,639,027, resulting in a FY20 charge of \$208,773 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton Plant. Based on budgeted FY20 expenses and CY18 wastewater flows, Lancaster’s FY20 charge is \$375,767, a decrease of 16.5% from the final FY19 charge of \$450,278. The decrease is primarily the result of Lancaster’s lower share of sewer flows at the Clinton Plant in CY18.

The FY20 charge for the Town of Clinton is \$3,912,988. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs.

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

Massachusetts Water Resources Authority
Final FY20 Water and Sewer Assessments

13-Jun-19

MWRA Fully Served Water and Sewer Customers	Final FY19 Water Assessment	Final FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Final FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Final FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
ARLINGTON	5,207,787	5,428,333	4.2%	8,649,531	8,921,155	3.1%	\$13,857,318	\$14,349,488	\$492,170	3.6%
BELMONT	2,845,415	3,001,852	5.5%	5,092,015	5,321,061	4.5%	7,937,430	8,322,913	385,483	4.9%
BOSTON (BWSC)	90,752,551	93,413,175	2.9%	141,531,379	145,875,583	3.1%	232,283,930	239,288,756	7,004,828	3.0%
BROOKLINE	7,037,965	7,300,560	3.7%	12,898,264	13,202,213	2.4%	19,936,229	20,502,773	566,544	2.8%
CHELSEA	4,830,322	4,939,423	2.3%	8,305,015	8,626,321	3.9%	13,135,337	13,565,744	430,407	3.3%
EVERETT	5,466,023	5,543,676	1.4%	8,876,844	9,310,473	4.9%	14,342,867	14,854,149	511,282	3.6%
FRAMINGHAM	8,205,353	8,448,119	3.0%	13,423,226	13,569,073	1.1%	21,628,579	22,017,192	388,613	1.8%
LEXINGTON	7,128,006	7,413,364	4.0%	7,572,486	7,851,947	3.7%	14,700,492	15,265,311	564,819	3.8%
MALDEN	7,119,028	7,552,824	6.1%	13,514,306	13,705,355	1.4%	20,633,334	21,258,179	624,845	3.0%
MEDFORD	6,462,326	6,542,736	1.2%	12,356,732	12,493,747	1.1%	18,819,058	19,036,483	217,425	1.2%
MELROSE	2,897,122	2,977,071	2.8%	6,520,195	6,723,984	3.1%	9,417,317	9,701,055	283,738	3.0%
MILTON	3,463,069	3,508,765	1.3%	5,556,575	5,736,340	3.2%	9,019,644	9,245,105	225,461	2.5%
NEWTON	12,080,214	12,721,936	5.3%	22,348,192	22,443,151	0.4%	34,428,406	35,165,087	736,681	2.1%
NORWOOD	4,064,489	3,963,726	-2.5%	7,628,062	8,171,535	7.1%	11,692,551	12,135,261	442,710	3.8%
QUINCY	11,998,387	11,714,243	-2.4%	20,708,161	21,091,455	1.9%	32,706,548	32,805,698	99,150	0.3%
READING	2,296,922	2,370,637	3.2%	5,090,525	5,377,793	5.6%	7,387,447	7,748,430	360,983	4.9%
REVERE	5,185,345	5,262,364	1.5%	10,761,283	10,896,609	1.3%	15,946,628	16,158,973	212,345	1.3%
SOMERVILLE	8,055,307	8,240,009	2.3%	17,094,747	17,492,310	2.3%	25,150,054	25,732,319	582,265	2.3%
STONEHAM	3,105,808	3,019,242	-2.8%	4,616,825	4,812,709	4.2%	7,722,633	7,831,951	109,318	1.4%
WALTHAM	9,311,252	9,621,955	3.3%	13,800,824	13,961,534	1.2%	23,112,076	23,583,489	471,413	2.0%
WATERTOWN	3,696,371	3,898,438	5.5%	6,357,733	6,729,234	5.8%	10,054,104	10,627,672	573,568	5.7%
WINTHROP	1,698,840	1,848,357	8.8%	3,565,533	3,718,688	4.3%	5,264,373	5,567,045	302,672	5.7%
TOTAL	\$212,907,902	\$218,730,805	2.7%	\$356,268,453	\$366,032,270	2.7%	\$569,176,355	\$584,763,075	\$15,586,720	2.7%

MWRA Sewer and Partial Water Customers	Final FY19 Water Assessment	Final FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Final FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Final FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
CANTON	1,874,192	2,136,764	14.0%	4,383,915	4,620,738	5.4%	\$6,258,107	\$6,757,502	\$499,395	8.0%
NEEDHAM	856,049	1,412,709	65.0%	6,173,219	6,399,114	3.7%	7,029,268	7,811,823	782,555	11.1%
STOUGHTON	161,431	146,695	-9.1%	5,072,227	5,240,340	3.3%	5,233,658	5,387,035	153,377	2.9%
WAKEFIELD	2,133,553	2,581,082	21.0%	6,290,285	6,585,727	4.7%	8,423,838	9,166,809	742,971	8.8%
WELLESLEY	1,485,700	1,476,827	-0.6%	5,745,909	5,933,569	3.3%	7,231,609	7,410,396	178,787	2.5%
WILMINGTON	503,145	732,142	45.5%	2,913,415	2,987,771	2.6%	3,416,560	3,719,913	303,353	8.9%
WINCHESTER	1,840,674	1,732,283	-5.9%	4,319,099	4,458,416	3.2%	6,159,773	6,190,699	30,926	0.5%
WOBBURN	3,177,148	4,119,106	29.6%	9,474,524	9,475,387	0.0%	12,651,672	13,594,493	942,821	7.5%
TOTAL	\$12,031,892	\$14,337,608	19.2%	\$44,372,593	45,701,062	3.0%	\$56,404,485	\$60,038,670	\$3,634,185	6.4%

MWRA Sewer-only Customers	Final FY19 Water Assessment	Final FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Final FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Final FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
ASHLAND				2,693,503	2,747,924	2.0%	\$2,693,503	\$2,747,924	\$54,421	2.0%
BEDFORD				3,655,178	3,630,690	-0.7%	3,655,178	3,630,690	(24,488)	-0.7%
BRAINTREE				9,758,859	9,896,915	1.4%	9,758,859	9,896,915	138,056	1.4%
BURLINGTON				5,530,776	5,815,487	5.1%	5,530,776	5,815,487	284,711	5.1%
CAMBRIDGE				25,518,527	26,400,678	3.5%	25,518,527	26,400,678	882,151	3.5%
DEDHAM				5,597,434	5,860,551	4.7%	5,597,434	5,860,551	263,117	4.7%
HINGHAM SEWER DISTRICT				1,902,184	1,937,252	1.8%	1,902,184	1,937,252	35,068	1.8%
HOLBROOK				1,824,554	1,857,144	1.8%	1,824,554	1,857,144	32,590	1.8%
NATICK				5,972,626	6,044,147	1.2%	5,972,626	6,044,147	71,521	1.2%
RANDOLPH				6,530,979	6,747,779	3.3%	6,530,979	6,747,779	216,800	3.3%
WALPOLE				3,988,527	4,096,111	2.7%	3,988,527	4,096,111	107,584	2.7%
WESTWOOD				2,988,061	3,161,944	5.8%	2,988,061	3,161,944	173,883	5.8%
WEYMOUTH				12,584,755	13,085,354	4.0%	12,584,755	13,085,354	500,599	4.0%
TOTAL				\$88,545,963	\$91,281,976	3.1%	\$88,545,963	\$91,281,976	\$2,736,013	3.1%

MWRA Water-only Customers	Final FY19 Water Assessment	Final FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Final FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Final FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
LYNNFIELD WATER DISTRICT	759,983	801,241	5.4%				\$759,983	\$801,241	\$41,258	5.4%
MARBLEHEAD	2,531,598	2,576,446	1.8%				2,531,598	2,576,446	44,848	1.8%
NAHANT	496,315	457,313	-7.9%				496,315	457,313	(39,002)	-7.9%
SAUGUS	4,016,971	4,221,536	5.1%				4,016,971	4,221,536	204,565	5.1%
SOUTHBOROUGH	866,571	927,672	7.1%				866,571	927,672	61,101	7.1%
SWAMPSCOTT	2,021,785	2,161,811	6.9%				2,021,785	2,161,811	140,026	6.9%
WESTON	2,493,163	2,413,951	-3.2%				2,493,163	2,413,951	(79,212)	-3.2%
TOTAL	\$13,186,386	\$13,559,970	2.8%				\$13,186,386	\$13,559,970	\$373,584	2.8%

MWRA Partial Water-only Customers	Final FY19 Water Assessment	Final FY20 Water Assessment	Percent Change from FY19	Final FY19 Sewer Assessment	Final FY20 Sewer Assessment	Percent Change from FY19	Final FY19 Combined Assessment	Final FY20 Combined Assessment	Dollar Change from FY19	Percent Change from FY19
DEDHAM-WESTWOOD WATER DISTRICT	154,204.00	181,946.00	18.0%				\$154,204	\$181,946	\$27,742	18.0%
LYNN (LWSC)	320,031	392,593	22.7%				320,031	392,593	72,562	22.7%
MARLBOROUGH	5,820,947	5,875,229	0.9%				5,820,947	5,875,229	54,282	0.9%
NORTHBOROUGH	1,271,058	1,312,711	3.3%				1,271,058	1,312,711	41,653	3.3%
PEABODY	4,162,771	4,360,830	4.8%				4,162,771	4,360,830	198,059	4.8%
TOTAL	\$11,729,011	\$12,123,309	3.4%				\$11,729,011	\$12,123,309	\$394,298	3.4%
SYSTEMS TOTAL	\$249,855,191	\$258,751,692	3.6%	\$489,187,009	\$503,015,308	2.8%	\$739,042,200	\$761,767,000	\$22,724,800	3.1%

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

BUDGETED EXPENSES: Final FY2020	
Clinton Direct Operating Expenses:	\$2,639,027
MWRA Support Allocation:	648,136
Subtotal O&M Expenses:	\$3,287,163
Total Debt Service Expenses:	\$1,227,673
Total Clinton Service Area Expenses	\$4,514,836
Less Revenue (City of Worcester Payment)	-208,773
Clinton WWTP Rate Revenue Requirement:	\$4,306,063

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

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$3,287,163
Less Revenue (City of Worcester Payment)	-208,773
O&M Expenses to be Recovered	\$3,078,390
Clinton's Share of Flow	90.87%
Clinton's Share of O&M Costs	\$2,797,382
Total Clinton O&M Charge	\$2,797,382
Debt Service Costs to be Recovered	\$1,227,673
Clinton's Share of Wastewater Flow	90.87%
Total Clinton Debt Service Charge	\$1,115,606
Total Clinton O&M and Debt Service Charge	\$3,912,988
Less MWRA Water Ratepayer Subsidy	-3,412,988
Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000

LANCASTER SEWER DISTRICT	
O&M Expenses	\$3,287,163
Less Revenue (City of Worcester Payment)	-208,773
O&M Expenses to be Recovered	\$3,078,390
Lancaster's Share of Flow	9.13%
Lancaster's Share of O&M Costs	\$281,008
Total Lancaster Sewer District O&M Charge	\$281,008
Debt Service Costs to be Recovered	\$1,227,673
Lancaster's Share of Wastewater Flow	9.13%
Total Lancaster Sewer District Debt Service Charge	\$112,067
Total Lancaster O&M and Debt Service Charge	\$393,075
Billable Charge to Lancaster Sewer District	\$393,075

Clinton WWTP Charges and Payment Schedule

Sewer Customer	Billable Charges	Change from Prior Year	
		Change	%
Town of Clinton (billable)	\$500,000	\$0	0.0%
Lancaster Sewer District (before adj.)	\$393,075		
Lancaster Sewer District (prior yr. adj.)	-\$17,308		
Lancaster Sewer District (billable)	\$375,767	-\$74,511	-16.5%
Total Billable Sewer Use Charges	\$875,767		
City of Worcester	\$208,773	\$188,387	10.8%

Payment 1 on or before Sept 15, 2019	Payment 2 on or before Nov 15, 2019	Payment 3 on or before Feb 15, 2020	Payment 4 on or before May 15, 2020
\$125,000	\$125,000	\$125,000	\$125,000
\$93,942	\$93,942	\$93,942	\$93,942
\$218,942	\$218,942	\$218,942	\$218,942
\$0	\$0	\$208,773	\$0

Massachusetts Water Resources Authority
Chicopee Valley Aqueduct Water System Assessment
FY2020

CVA Operating Budget	FY19	FY20
CVA Cost Center Expenses	\$902,430	\$935,590
Allocated Waterworks Expenses	143,220	149,935
Allocated Watershed/PILOT	482,590	495,188
Allocated Watershed Land Acquisition	25,584	27,935
Allocated MWRA Indirect Expenses	596,737	629,553
SUBTOTAL OPERATING BUDGET	\$2,150,561	\$2,238,201

Change from Prior Year	
Dollars	Percent
\$33,160	3.7%
6,715	4.7%
12,597	2.6%
2,351	9.2%
32,816	5.5%
\$87,640	4.1%

CVA Capital Budget	FY19	FY20
Capital Expenses	\$3,039,237	\$3,064,467
TOTAL CVA BUDGET	\$5,189,798	\$5,302,668

Change from Prior Year	
Dollars	Percent
\$25,230	0.8%
\$112,870	2.2%

BASE COMMUNITY ASSESSMENT	FY19¹	FY20²
Chicopee	\$3,670,553	\$3,728,618
South Hadley Fire District #1	739,075	748,587
Wilbraham	780,170	825,463
CVA BASE SYSTEM ASSESSMENT	\$5,189,798	\$5,302,668

Change from Prior Year	
Dollars	Percent
\$58,065	1.6%
9,513	1.3%
45,293	5.8%
\$112,870	2.2%

PRIOR PERIOD ADJUSTMENTS	FY19³	FY20³
Chicopee	-\$128,478	-\$123,896
South Hadley Fire District #1	-28,716	-25,004
Wilbraham	-22,875	-7,657
TOTAL ADJUSTMENTS	-\$180,069	-\$156,557

Change from Prior Year	
Dollars	Percent
\$4,582	-3.6%
3,712	-12.9%
15,218	-66.5%
\$23,512	-13.1%

ADJUSTED ASSESSMENT	FY19	FY20
Chicopee	\$3,542,075	\$3,604,721
South Hadley Fire District #1	710,359	723,584
Wilbraham	757,295	817,806
ADJUSTED ASSESSMENT	\$5,009,729	\$5,146,111


Change from Prior Year	
Dollars	Percent
\$62,646	1.8%
13,225	1.9%
60,511	8.0%
\$136,382	2.72%

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

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

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Increasing the Cost of Living Adjustment Base for Retirees

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION


Thomas J. Durkin
Director, Finance

The MWRA Retirement Board will typically vote to approve an annual COLA for MWRA retirees. The COLA is calculated on the first \$13,000 of the annual retirement benefit. The base had been \$12,000 for many years but was increased to \$13,000 in 2015 by a vote of both the Retirement System Board of Trustees and the MWRA Board of Directors. The Retirement Board recently voted to increase the COLA base from \$13,000 to \$14,000 effective July 1, 2019 and to \$15,000 effective July 1, 2020 and has requested approval from the MWRA Board of Directors.

RECOMMENDATION:

Pursuant to Section 19 of Chapter 188 of the Acts of 2010, to approve the MWRA Employees' Retirement Board's vote of June 4, 2019 to accept an increase in the maximum base amount on which the retiree cost-of-living adjustment is calculated from \$13,000 to \$14,000 effective July 1, 2019 and to \$15,000 effective July 1, 2020.

DISCUSSION:

On October 14, 2015, the Board of Directors approved an increase to the base upon which the Cost of Living Adjustment (COLA) is calculated concurring with the MWRA Employees' Retirement System Board (Retirement Board) vote of September 24, 2015. The COLA base upon which a cost of living increase might be approved was increased from \$12,000 to \$13,000. The MWRA Employees' Retirement System Board (Retirement Board) recently voted unanimously to increase the COLA base again from \$13,000 to \$14,000 effective July 1, 2019 and to \$15,000 effective July 1, 2020.

The approval of both the Retirement Board and the Board of Directors is required to adopt an increase to the COLA base. The Retirement Board has given MWRA notice of its actions and requested the Board's approval.

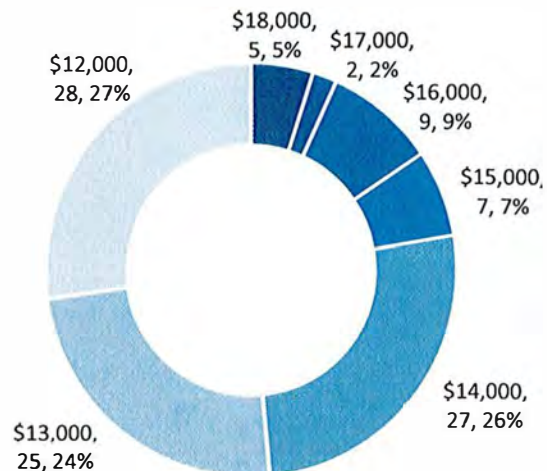
Background

On July 27, 2010, the legislature approved the Municipal Relief Act – Chapter 188 of the Acts of 2010. This Act includes a provision (Sections 18 and 19) to increase the base upon which the COLA is calculated. Currently, Section 103 of Chapter 32 allows local retirement boards to grant cost of living increases each year to retirees up to the percentage reported each April 1 by the Public Employees Retirement Administration Commission (PERAC). The MWRA Retirement Board has typically granted 3% increases. Since July 1, 2016, the base for MWRA Employees' Retirement System retirees has been \$13,000.

Survey of Other Retirement Systems

PERAC reports the COLA base for the retirement systems of Massachusetts. The chart to the right illustrates the COLA base, the number of retirement systems using that base amount and the percentage of systems in Massachusetts using that base amount.

COLA Bases



BUDGET/FISCAL IMPACT:

Segal Consulting, the actuary firm for the MWRA Retirement Board has recently completed its valuation report as of January 1, 2019. Segal Consulting has determined that increasing the base from \$13,000 to \$14,000 would increase the Unfunded Actuarial Accrued Liability by \$2.5 million from \$60.6 million to \$63.1 million, and increasing the base from \$14,000 to \$15,000 would increase the Unfunded Actuarial Accrued Liability by an additional \$2.5 million to \$65.6 million.

Based on preliminary results provided by the actuary, staff were able to include estimates reflecting the likely Retirement System Annual Required Contributions in MWRA's rates model projections. The FY20 Draft Final Budget projections and resulting rates of increase to the community assessments presented to the Board as part of the budget presentation included annual amounts that reflect the estimated impact due to certain factors. The factors anticipated in the actuarial valuation report included a reduction to the actuarial assumed rate of return from 7.50% to 7.25%, extending the time to full amortization of the unfunded actuarial accrued liability from 2026 to 2030, an increase to the COLA base, and the amortization of actuarial gains and losses including the investment loss of 2018.

There is no impact to FY19 or to FY20 Draft Final Current Expense Budget. Any costs associated with the recommended increases to the pension benefits COLA base will be budgeted appropriately in future fiscal years.

ATTACHMENT:

Letter from MWRA Retirement Board



RECEIVED

JUN 11 2019

EXECUTIVE OFFICE

MWRA
EMPLOYEES' RETIREMENT SYSTEM

Since July 1, 1985



June 7, 2019

Mr. Frederick Laskey
Executive Director
Massachusetts Water Resources Authority
100 First Avenue, CNY
Boston, MA 02129


Dear Mr. Laskey:

Pursuant to the provisions of G.L. c. 32, s. 103(j) a Retirement Board may, subject to the approval of the legislative body, grant increases, in increments of \$1,000, to the base upon which the maximum 3% retiree Cost of Living Adjustments (COLA) are calculated. On June 4, 2019, the MWRA Employees' Retirement Board voted to adopt a Retirement System funding schedule which grants an increase from \$13,000 to \$14,000 to become effective for FY2020, and an increase from \$14,000 to \$15,000 to become effective for 2021, and respectfully requests the approval of these increases by the MWRA Board of Directors.

The increases for the retirees were among several changes approved by the Retirement Board as part of a long-range, systematic funding approach which incorporates recommendations from actuarial consulting firm Segal, as well as PERAC Actuary James Lamenzo, to address the somewhat uncharted issues facing nearly fully-funded Systems. With the approval of the new funding schedule, the Retirement Board lowered the current investment return assumption from 7.5% to 7.25%. This change is intended to approximate more realistically expected long-term investment performance, and was combined with a gradual shift toward a more conservative investment allocation to preserve the System's assets. In addition, the new funding schedule fully amortizes the Retirement System's Unfunded Actuarial Accrued Liability (UAAL) by FY2030. The relatively short time horizon of the previous schedule, which was calculated to fully fund the Retirement System by FY2026, led to more volatility in year-over-year increases to Retirement System appropriation requirements, for the Authority, and in turn for its member communities. The extension of the schedule is intended to bring more stability and predictability to the appropriation requirements.


The MWRA Employees' Retirement Board therefore voted unanimously to adopt the new schedule as a responsible approach, beneficial to the System's membership, to the Plan Sponsor, and to the member communities. We respectfully request that the Board of Directors approve the COLA base increases for 2020 and 2021 as part of this long-term plan. Thank you for your consideration.

On behalf of the Members of the Retirement Board,


James M. Fleming
Chairman

2 Griffin Way, Chelsea, Massachusetts 02150
Telephone 617-305-5595 • Fax 617-371-1616 • www.mwraretirement.com


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Profile Accounts


COMMITTEE: Administration, Finance & Audit

 INFORMATION

 X VOTE

Michele S. Gillen 
Director of Administration

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


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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute contracts for the supply of electric power to the Profile Accounts with the lowest responsive and responsible bidder, for the period and pricing structure selected, as determined by staff to be in MWRA's best interest, and for a contract supply term not to exceed 37 months. This delegation of authority is necessary because MWRA will be required to notify the selected bidders within a few hours of bid submittal to lock-in the bid prices in a constantly changing market.

DISCUSSION:

MWRA has been competitively procuring electricity since 2001 and has established three distinct electricity supply contracts. The largest contract is for the Deer Island Treatment Plant, which represents approximately 67% of MWRA's total purchased electricity (Deer Island currently self generates approximately 25% of its *total* plant electrical demand.) The next largest contract is for the Interval Accounts, which include the larger facilities, such as the Carroll Water Treatment Plant, the headworks facilities, the Clinton Treatment Plant, and some of the water and wastewater pump stations; representing approximately 29% of MWRA's total purchased load. The third contract is for the 42 smaller, non-time-of-use accounts, known as Profile Accounts, (e.g., CSOs, some smaller pump stations, and the Charlestown Navy Yard), representing the remaining 4% of MWRA's total purchased load. A list of the accounts is included as Attachment A.

The existing contract for Deer Island expires in October 2021 and the Interval Accounts contract expires in May 2022. The current Profile Accounts expire at the end of September 2019. The three electricity supply contracts are structured to have staggered end dates to minimize the risk of procuring the bulk of MWRA's load at the same time.

Together, the 42 Profile Accounts have an FY20 annual energy consumption estimate of 5,400,000 kWh. The administrative costs of managing these accounts are higher compared to the smaller number of Interval facilities with larger loads. As a result, it is not cost beneficial to add the Profile accounts to the larger accounts due to the additional administrative burden, which would impact the larger accounts' overall pricing. Therefore, MWRA bids these accounts separately from Deer Island and the Interval accounts in order to ensure MWRA's ability to secure optimal pricing for its larger accounts, providing the best overall value.

Staff typically prefer to bid electricity contracts in the Spring and Fall because the energy market historically takes a downward trend during these seasons, severe weather and geopolitical issues notwithstanding. While there may be a downward price movement between summer and fall, this trend has become less noticeable due to a combination of factors, including a robust demand response program, more abundant natural gas supply and more distributed generation resources from which to draw. The months closer to the winter cold spikes continue to remain volatile, however, due to natural gas spikes associated with cold weather. The term of this contract will be extended by one month to allow the next contract to be bid in the early fall.

When MWRA conducts these power procurements, MWRA must be prepared to notify the selected bidder within a few hours of when bids are submitted to ensure that the pricing is locked in. Therefore, as has been past practice, staff recommend that the Board authorize the Executive Director to execute a contract for the purchase and supply of electric power for the MWRA's Profile accounts with the lowest responsive and responsible bidder, for a period and pricing structure selected as determined by staff to be in the MWRA's best interest, and for a contract term not to exceed 37 months.

If approved, bids will be sought for a firm, fixed price per kWh to supply 100% of the electricity load requirements for the 42 Profile Accounts, 24 hours per day, 7 days per week. In this pricing structure, all ancillary, congestion, and renewable charges are included in the fixed price, which insulates MWRA from all the volatility in the electricity market as the supplier assumes all market risks (and thus, the higher costs compared to the other accounts). This "all in" pricing structure is the standard model for retail electricity supply contracts for smaller accounts, which do not have time-of-use meters that read consumption data on an interval basis. To generate the most competitive bids, the bid date will be set based on an analysis of market conditions and other supplier information. In order to take advantage of good market conditions, bids may be taken on more than one occasion. If bid pricing is favorable, staff will recommend that the Executive Director executed a contract with the lowest responsive and responsible bidder for a term of up to 37 months.

If bid pricing received is unfavorable, MWRA is not obligated to execute a contract and can opt to go on Basic Service with the utility until a new contract is procured with more favorable pricing. MWRA also assessed joining the Commonwealth's state-wide contract, procured by the Operational Services Division (OSD), as another vehicle to obtain a competitive bid for the Profile Accounts. The analysis indicated that the bid price for MWRA's current contract is essentially at parity with the current OSD contract energy bid price (both bid in 2016). Both are still substantially better than Basic Service. The analysis also indicated that MWRA saved approximately \$400,000 over the three year term of the contract, or, approximately 22%, than if we had stayed on Basic Service.

Should pricing for some unexpected reason spike on bid day, MWRA still has the option of either going on to Basic Service for a month, which, based on current pricing, may cost an additional \$10,000, or, less than 1% of the current contract. Though MWRA will not have been part of the original state-wide OSD procurement pool, the option of joining the statewide OSD contract would also still be available.

Staff will report to the Board on the bid results and any new contract that is executed for electric power supply for these Profile facilities.

BUDGET/FISCAL IMPACT:

MWRA's proposed total electricity budget for FY20 is \$18.7 million. This amount includes approximately \$10.1 million million for electricity supply and \$8.6 million million for the transmission and distribution costs charged by the local distribution companies. The proposed FY20 budget for the Profile Accounts is \$523,959 for electricity supply. The authorization staff are seeking for purchasing the electricity supply will cover approximately 4% of MWRA's electrical demand. As bids are taken, staff will assess the impact in comparison with the budgeted amounts and update the Board accordingly.

MBE/WBE PARTICIPATION:

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

ATTACHMENT:

Attachment A – Profile Accounts

Attachment A – Profile Accounts

Facility Name	Town	Local Distribution Company
Houghs Neck Pump Station	Quincy	National Grid
New Neponset Pump Station	Canton	Eversource
Squantum Pump Station	North Quincy	National Grid
Alewife Brook Pump Station	Somerville	Eversource
Quincy Pump Station	Wollaston	National Grid
BOS 019 CSO	Charlestown	Eversource
South Boston CSO, BOS-087	S Boston	Eversource
Somerville Marginal CSO	Somerville	Eversource
Somerville Marginal CSO	East Somerville	Eversource
Blue Hills Covered Storage	Quincy	National Grid
Dudley Road Pump Station	Newton	Eversource
Fells Covered Storage	Stoneham	Eversource
Loring Road Valve Chamber 3	Weston	Eversource
Reservoir Rd Pump Station	Chestnut Hill	Eversource
Aqueduct Bifurcation	Weston	Eversource
DCR Administration Building	Belchertown	National Grid
Norumbega Reservoir	Weston	Eversource
Shaft 5	Weston	Eversource
Shaft 8 Intake & Garage	South Barre	National Grid
Shaft 8 Lower Garage	South Barre	National Grid
Weston Reservoir	Weston	Eversource
Wilson Street	Clinton	National Grid
Cosgrove Disinfection Facility	Clinton	National Grid
ICCF	Marlborough	National Grid
MWWST - Shaft L	Framingham	Eversource
MWWST - Shaft N	Weston	Eversource
MWWST - Valve Chamber N3	Weston	Eversource

Shaft 9A	Malden	National Grid
Governors Cage	Ludlow	Western MA. Electric Company
Ludlow Monitoring Station	Ludlow	Western MA. Electric Company
Nash Hill HQ	Ludlow	Western MA. Electric Company
Nash Hill Pump House	Ludlow	Western MA. Electric Company
W A Brutsch Water Treatment Facility	Ware	National Grid
Winsor Power Station	Belchertown	National Grid
JCWTP Warehouse	Marlborough	National Grid
MWRA - MDC Hill	Southborough	National Grid
Bellevue Hill Tower	West Roxbury	Eversource
Meter 131	Waltham	Eversource
Meter 302, Triple Meter Vault	Weston	Eversource
CNY Bldg 39 3E 1st Floor	Charlestown	Eversource
CNY Bldg 39 3W	Charlestown	Eversource
Charlestown Pump Station	Charlestown	Eversource



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

June 19, 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. Demolition of Commercial Point CSO Facility Screenings Building

B. Approvals

1. Sole Source Purchase of 182 Telog Dataloggers for the Wastewater Metering Replacement Project: Telog Instruments, Inc.

C. Contract Awards

1. Chemical Tank Relining and Pipe Replacement – Deer Island Treatment Plant: Walsh Construction Co. II, LLC, Contract 7373
2. Sole Source Purchase Order for Three Years of Maintenance and Support of the Process Instrumentation and Control System Human-Machine Interface Software at the Deer Island Treatment Plant: Emerson Process Management Power and Water Solutions, Inc

D. Contract Amendments/Change Orders

1. Chelsea Creek Headworks Upgrade, BHD/BEC 2015, A Joint Venture: Contract 7161, C.O. 29

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Wastewater Policy and Oversight Committee

May 29, 2019

A meeting of the Wastewater Policy and Oversight Committee was held on April 17, 2019 at the Authority headquarters in Charlestown. Committee Vice Chair Walsh presided. Present from the Board were Messrs. Carroll, Cotter, Cook, Foti, Pappastergion, Peña, Vitale and Walsh. Mr. Flanagan and Ms. Wolowicz were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Bethany Card, Stephen Estes-Smargiassi, Sean Navin and Kristin MacDougall. Joseph Favaloro, MWRA Advisory Board, was also in attendance. The meeting was called to order at 11:45 a.m.

Approvals

*** Admission of Crescent Ridge Dairy to the MWRA Sewer System**

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

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

Contract Awards

*** Wastewater Advisory Committee Contract**

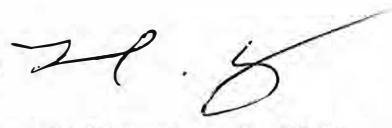
Staff made a verbal presentation. There was brief discussion.

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

The meeting adjourned at 12:00 p.m.

* Committee recommendation approved by the Board on May 29, 2019


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Demolition of Commercial Point CSO Facility Screenings Building

COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
 VOTE

John P. Colbert, P.E., Chief Engineer
Brian Kubaska, P.E., Assistant Director of Engineering
Preparer/Title


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

RECOMMENDATION:

For Information only. This staff summary provides information on plans for the demolition of the Commercial Point CSO Facility Screenings Building.

DISCUSSION:

The Commercial Point CSO Facility consisted of two buildings: a 73-foot by 48-foot Screenings Building and a 42-foot by 31-foot Chemical Building. The Chemical Building is remotely located from the Screenings Building. The Screenings Building was constructed in the late 1980s on the corner of Freeport Street and Victory Road in Boston. The Chemical Building and property were returned to MassDOT on November 17, 2016.

The Commercial Point CSO Facility was designed to provide screening and disinfection to combined sewage and stormwater runoff prior to discharge to the Commercial Point Outfall (permitted outfall BOS090). The Screenings Building has a diversion conduit connected to a 168-inch by 138-inch Boston Water and Sewer Commission (BWSC) storm drain outlet. The CSO Facility was designed for unattended automatic operation when rainstorms caused flows to enter the facility and exceeded a predetermined minimum flow.

The Facility was decommissioned in 2008 upon completion of BWSC sewer separation projects in the upstream tributary areas. Since 2008, MWRA has performed minimal maintenance and is no longer heating the facility. A hazardous materials inspection conducted in 2017 determined that the building contains asbestos. In 2018, the underground oil storage tank, sodium hypochlorite storage and waste tanks were removed. Because the Screenings Building is no longer operational and the MWRA no longer wants to maintain it, it has been decided that the most prudent option would be to tear it down.

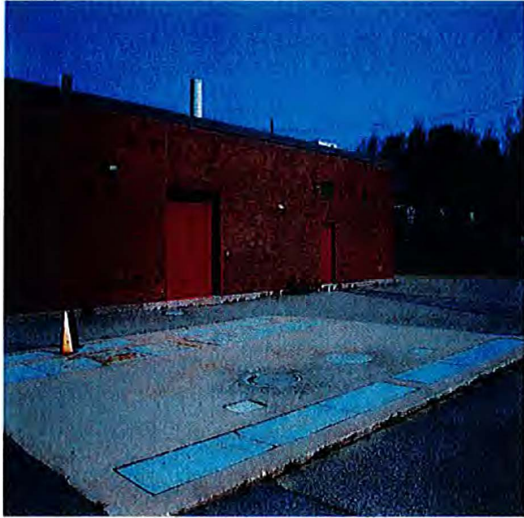


Figure 1 - Commercial Point Screenings Bldg.

The Screenings Building's main interior contains screenings equipment, and odor control equipment. The remainder of the building space is divided into an electrical/chemical pump room, control room, generator room, bathroom space and other space for storage. The building currently houses several chemical feed pumps, motors, stop logs, screening channel gates, catenary bar screen, meters and sensors, and a diesel generator set. Beneath the screenings room is an 8-foot wide diversion channel, approximately 21 feet deep running the 46-foot length of the building. The diversion conduit upstream and downstream of the Screenings Building includes segments of pipe with a total length of approximately 90 feet, a height of 12 feet, and widths ranging between 16 and 22 feet. To disconnect the Screenings Building from the BWSC storm outlet, the diversion conduit needs to be sealed with masonry bulkheads and filled.

MWRA plans to proceed with demolition of the Commercial Point CSO Facility Screening Building in a phased approach: utilizing task order design and a bid construction contract for installation of bulkheads in the bypass conduits; followed by in-house design and a bid construction contract for building demolition. Staff estimate total design and construction costs of \$615,000.

At the completion of demolition, MWRA will return custody of the property to the Commonwealth of Massachusetts.

BUDGET:

The funds for this project will be absorbed in the Operations Division CEB under 54700-10601.

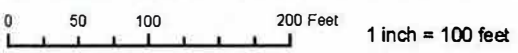
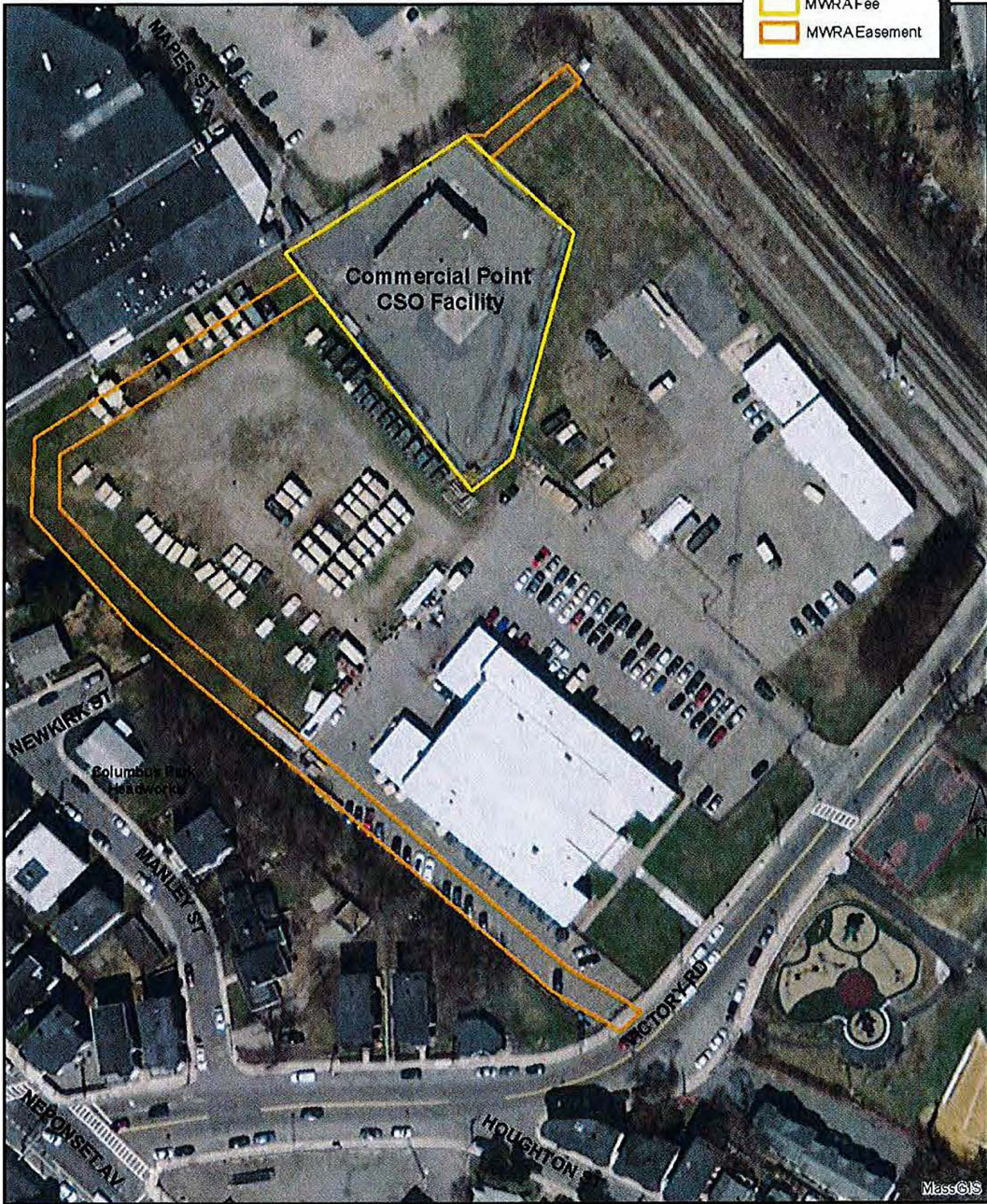
ATTACHMENTS:

Site Plan: Commercial Point CSO Facility

Commercial Point CSO Facility

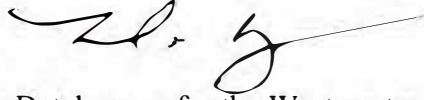
Legend

- MWRA Fee
- MWRA Easement



10/7/2014 Document Path: M:\GISData\Easement10_Maps\CommercialPoint.mxd

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Sole Source Purchase Order for 182 Telog Dataloggers for the Wastewater Metering Replacement Project
Telog Instruments, Inc.

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE

Michele Gillen 

Michele S. Gillen

Director of Administration

Stephen Estes-Smargiassi, Dir of Planning and Sustainability
Andrew Hildick-Smith, P.E., Dir, SCADA, Meter & Monitoring
Preparer/Title


David W. Coppes, P.E.

Chief Operating Officer

This staff summary recommends pre-purchase of new dataloggers as part of the wastewater meter replacement project and provides an update on progress on that project. A more detailed briefing on the project will be presented at the September Board meeting.

RECOMMENDATION:

To approve the award of a sole source purchase order for 182 Telog RU-35 dataloggers with pre-installed 4G LTE compatible wireless modems, 4G antennas and interface cables to Telog Instruments, Inc. and authorize the Executive Director to execute said purchase order in the amount of \$484,848.

SUMMARY:

MWRA's wastewater meters use cell phone communications with 3G modems to communicate flow data to MWRA's operations control center and data servers in Chelsea. Verizon is discontinuing support of 3G service on December 31, 2019. To maintain the data collection system for wastewater flow after that date, staff are recommending the advance purchase of new Telog dataloggers.

MWRA is in the midst of a CIP project to update all the wastewater meters. That project includes an evaluation of the existing dataloggers and data management system by our consultant, RJN. That recently completed evaluation recommended that MWRA replace the outdated Telog RU-33 dataloggers which are at the end of their useful life with the current model RU-35 (which includes an internal 4G modem), and continue use of the existing Telog Enterprise data management system.

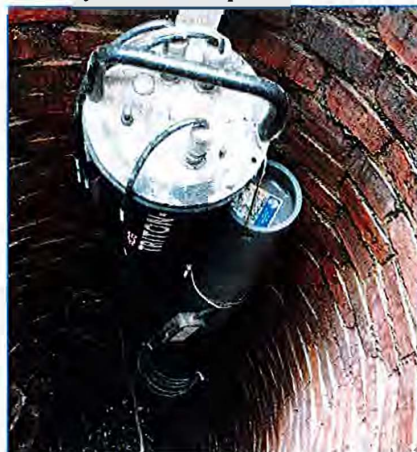


Telog RU-35 with Antenna

Staff initially evaluated purchasing new compatible 4G modems from Telog to be installed in the existing RU-33 dataloggers at a cost of approximately \$180,000 to be used until the existing dataloggers are replaced as part of MWRA's upcoming meter upgrade project during 2020. That option was deemed uneconomical as the new modems would then be discarded after less than a year of use.

DISCUSSION:

MWRA uses Telog dataloggers throughout the water and wastewater system to capture data from various sensors and transmit it to central databases. Approximately 500 units are deployed as either primary communication links (water and wastewater meters, and rain gages) or as a backup to SCADA connections to ensure reliable communications to facilities such as pump stations and tanks or the Contaminant Warning System. In the case of the wastewater metering system, 182 dataloggers and associated modems are in sealed canisters hung within a manhole, connected to the metering equipment and to a wireless antenna embedded in the pavement adjacent to the manhole cover. MWRA currently has multiple types of meters from multiple manufacturers in use. The Telog datalogger is designed to seamlessly communicate with all of them.



Typical meter installation with a Telog RU-33 (smaller grey cylinder)

MWRA has been using the Telog datalogger as its standard beginning with the water metering system since the mid 1990s, gradually increasing the number deployed over time as portions of the system were automated and centrally monitored and controlled, and as the wastewater metering system was added. All data from water and wastewater meters flows into the single Telog Enterprise software database on MWRA servers behind MWRA's firewall.

Staff are recommending this sole source purchase as Telog Instruments is the only vendor of these Telog dataloggers. These dataloggers will be used to replace the existing RU-33 dataloggers and 3G modems currently in use at all Telog data-logger-equipped wastewater meter sites. This is part of an ongoing project to replace all 3G modems with 4G LTE modems throughout MWRA's systems as Verizon Wireless stopped supporting new 3G connections after June 2018 and will shut off all 3G service after December 31, 2019¹.

Review of communication and data management systems:

As part of the on-going wastewater meter replacement project, MWRA's consultant RJN was tasked with systematically evaluating all available datalogging, communication and database systems that could be used to capture, collect, communicate and analyze wastewater flow data from whatever metering technologies would be selected and installed. RJN and MWRA staff developed a comprehensive matrix of system attributes for the evaluation, based on MWRA's needs for this critical system that is used for both system operation, particularly during wet weather

¹In mid 2018, MWRA purchased 240 Telog 4G modems for the water system meters. These are being switched for the existing 3G modems in the curbside cabinets.

events, and for allocating the operating and capital costs of the MWRA wastewater system to member communities.

Two key evaluation attributes were that the system be capable of working with any meter vendors' equipment and that it be compatible with MWRA's data security approach. Systems that could work with only a single meter vendor's technology were eliminated, as it is anticipated that MWRA's future wastewater metering system will continue to consist of meters from multiple vendors. Systems that could not be configured to operate from within MWRA's firewall for data security were also eliminated. Those systems used either their own or a commercial vendor's "cloud-based" system for collecting and storing the data. Seven systems were reviewed based on the criteria, resulting in a short list of two that met most key criteria: Ayyeka and Telog.

Ayyeka: Ayyeka is a relatively new company that has only recently entered the water and wastewater market. Its primary business model is cloud-based, but it recently re-configured its system to allow for behind-the-firewall servers. Key conclusions from the evaluation include:

- Ayyeka offers the option of a server-based system located behind MWRA's firewall, but has only implemented this in a few water or wastewater systems. Reviews by system operators of the firewall-protected system were mixed.
- Ayyeka offers a more generic system as water utilities are not its core market.
- Ayyeka's flexible data structure requires that client IT staff develop custom reports.
- Ayyeka is primarily a data communication interface; it does not offer data editing capabilities needed to finalize flow data. An additional data-editing platform would need to be added on top of its system.
- As a relatively new firm, Ayyeka has a small installed base.
- Use of the Ayyeka system would require the installation and maintenance of a new separate parallel server and software system, as the existing Telog system would continue to be used for over 300 other devices/locations.
- Ayyeka does not offer a "pass-through" mode that allows communication with the meter itself through the datalogger, limiting some key functionality to adjust meter settings without a field visit.

Telog: The Telog system has been in use at MWRA for over 20 years. Key conclusions from the evaluation include:

- The Telog system is currently implemented on MWRA servers behind the MWRA firewall. While Telog offers a cloud-based alternative, the system has a substantial base of users on firewall-protected servers.
- It is water industry based, and provides reports focused on water system needs.
- Data editing capabilities are built into the system.
- The Telog system is already integrated with MWRA's implementation of PI Historian allowing web based access to the data by MWRA and community staff.
- Telog has a substantial history and installed customer base.
- Telog has been a New England based firm, and recently merged with Trimble based in Maine, providing local expertise and assistance for troubleshooting system issues and maintaining meter data collection system up-time.

- The Telog system offers a “pass through” mode allowing access to the meter itself for remote configuration changes.
- Telog Enterprise software is already in use on MWRA servers so there would be no need to build and maintain a new server system on MWRA’s network.

MWRA’s consultant determined that the Telog system best meets MWRA’s needs, that there are no substantive advantages to switching to the Ayyeka system, and recommended that MWRA install new current model (RU-35) dataloggers with the new meters and continue to use the Telog data management system.

Resolution of 3G Elimination:

As indicated above, staff initially planned to purchase replacement 4G modems for the existing dataloggers to ensure continued operation after Verizon eliminated the 3G wireless system on December 31, 2019. In moving toward the purchase of the 182 replacement modems at a cost of about \$180,000, staff was concerned that the modems would be in use for less than a year, as they would not be compatible with the future communications and data management system to be implemented with the new meter replacement project.

In addition, both the modem vendor and MWRA maintenance staff were concerned that installation of the new modems would be difficult and in some case impossible due to corroded or incompatible connectors within the existing dataloggers. While the dataloggers and modems are in closed canisters within manholes, the environment is harsh and corrosive. Corrosion of electronic parts is an on-going maintenance issue. Staff and the vendor anticipated that there would be a number of failures requiring the immediate purchase of new replacement dataloggers.

Based on the consultant evaluation of available communication and data management systems, staff recommend an advance purchase of the communication and data management system in lieu of replacing the soon-to-be obsolete modems. A new datalogger with new 4G modem would be installed as a replacement for both the existing outdated datalogger and 3G modem at one time, rather than replacing the modem now, then replacing both the datalogger and modem during meter installation in 2020.

Since the Telog Enterprise data management software is already installed and in use on MWRA’s servers, replacing the dataloggers and modems involves a relatively simple switch-out of hardware in the field. Implementation of the Ayyeka system would require that a new server and software be installed, configured, tested and fully operational before staff could install the first new datalogger to replace an existing datalogger and modem. Staff determined that it was highly unlikely that the installation of a completely new system could be completed without a substantial risk of having the wastewater meter system go “dark” after December, eliminating data needed for system operation and billing. The relatively short time available between a decision and the end-of-year deadline makes use of the Ayyeka system infeasible without first purchasing and installing replacement 4-G modems and ultimately disposing of them when the Ayyeka system is implemented. This would significantly increase the cost of implementing the Ayyeka system.

Procurement Process:

Telog Instruments, Inc. has been identified as the sole source provider of the data logger and 4G LTE modem that can connect, function and communicate with the existing Telog equipment, most especially the current Telog database. To both maintain the existing flow monitoring system functionality after the Verizon switch over, and to be compatible with new wastewater meters to be purchased and installed as part of the meter replacement project, the data loggers and pre-installed 4G modems required must function with the existing equipment and software. The Director of Procurement has approved the sole source nature of this procurement.

Telog data loggers have been an MWRA standard; there are approximately 500 in use across the water, wastewater, Contaminant Monitoring and other systems. The technology was adopted by MWRA in the mid-1990s as it began to automate various portions of the system, and the vendor enhanced its functionality over time as MWRA's and other utilities' needs advanced. Telog dataloggers are utilized at all meters, SCADA sites, tanks, water and wastewater pump stations and automatic valves throughout the MWRA water and wastewater system. The Telog system currently in use in various applications throughout the systems provides datalogging and alarming capabilities for operational use as well as for planning and billing. The RU-35 datalogger is the current model, replacing the older obsolete RU-33.

Staff have reviewed the proposal from Telog Instruments, Inc. and have determined that it is reasonable.

BUDGET/FISCAL IMPACT:

The amount of \$484,848 is available for this purchase within the proposed FY20 Capital Improvement Program under the Wastewater Metering Asset Protection/Equipment Purchase phase.

MBE/WBE PARTICIPATION:

Telog Instruments, Inc. is not a certified Minority-or Woman-Owned business.

ATTACHMENT:

Update on Wastewater Meter Replacement Project

Update on Wastewater Meter Replacement Project

BACKGROUND:

Wastewater meters are a key element of MWRA's cost allocation methodology for the regional sewer system. Approximately half of operating and debt service costs for capital projects are allocated based on community average and maximum month flows.

MWRA designed and installed the first wastewater metering system between 1989 and 1993, and first began to use metered wastewater flow in 1994 for billing on a flow basis in fiscal year 1996; prior to that wastewater charges to communities were based just on population. The last full metering system upgrade was in 2004. There are currently 212 total wastewater meters in the system, including 189 that are used as revenue meters.

The regional sewer system was not originally designed to be metered; designing a cost effective metering system required a number of different strategies with a goal of cost-effectively metering at least 85 percent of every community's flow, and confidently estimating any unmetered flow. System-wide the current average is approximately 93 percent metered, with a range at individual communities from 77 to 100 percent.

The metering system uses direct flow metering wherever possible, measuring flow as it leaves a community system and enters the MWRA system. In some cases, there are many community connections to an MWRA interceptor as it passes through a community, and it would be very difficult to individually measure each connection. In those cases, MWRA measures flow in the MWRA sewer at its upstream end as it enters the community, as well as at the downstream end as it leaves the community². By subtraction, the community flow is the difference between those two flow measurements.

Some areas cannot easily or cost effectively be metered. These can include situations where there are a large number of small connections to the MWRA system, but subtraction metering is not practical, an area of a community that is downstream of the best suitable location for a meter, or small inter-municipal service areas where local sewers from a part of a town flow into another town's collection system. In these unmetered areas, MWRA estimates flow based on short term metering and establishes a ratio to a metered area. In this way, all wastewater flow from a community is accounted for.

Meter Replacement Project Progress:

The Wastewater Meter Replacement Project was awarded in June of 2017 to the RJN Group, a consulting firm with a specialization in wastewater flow monitoring.

The contract has seven major tasks:

- Update flows from unmetered areas
- Assess current meter sites
- Review mix of metered and unmetered areas – increase percent metered if cost effective

² MWRA estimates potential infiltration into the MWRA interceptor each month and subtracts that from the community's total flow.

- Assess state of the art in meter technology
- Assess communication and data management technology
- Specify and assist in procurement
- Oversee purchase and installation

The consulting team completed the assessment of flows in unmetered areas and is making recommendations on which metered areas are best for calculating unmetered flows. All of the existing meter sites were assessed as part of the process to gather the details necessary to make site-specific meter recommendations. Over the next couple of months, the consultant will make recommendations to add or relocate meters which will increase the percentage of metered flows. On May 30, they presented their research results on recommended meter types for different locations along with their data management and datalogger recommendations. The consultant has started work on designing the construction plans and specifications for installation of the new meters.

A more detailed briefing on the project is scheduled for the September Board of Directors' meeting.

Staff currently expect to advertise the purchase and installation contract with a recommendation to award at the December Board of Directors meeting. Staff's expectation is that meter installation will begin in 2020.

During the last major wastewater meter replacement project in 2004, the Advisory Board expressed concern that if there were substantial changes in any community's flow due to new or changed meters, that the gradual implementation schedule might unfairly advantage or disadvantage communities with earlier installations. As a result, MWRA agreed to a "hold harmless" period while the meters were being installed: during that period, all communities flow would be based on the prior three-year average. Once all meters were installed, flow measurement for rates purposes would begin again. After consultation with the Advisory Board Operations Committee, MWRA agreed to use a similar process during this installation period.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director *FAL*
DATE: June 19, 2019
SUBJECT: Chemical Tank Relining and Pipe Replacement – Deer Island Treatment Plant
Walsh Construction Company II, LLC
Contract 7373

COMMITTEE: Wastewater Policy & Oversight

David F. Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Brian Driscoll, Sr. Program Manager, Deer Island
Preparer/Title

INFORMATION

VOTE

Michele Gillen
Michele S. Gillen *by Doyle*
Director of Administration

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

RECOMMENDATION:

To approve the award of Contract 7373, Chemical Tank Relining and Pipe Replacement, Deer Island Treatment Plant, to the lowest eligible and responsible bidder, Walsh Construction Company II, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$8,504,505, for a contract term of 850 calendar days from the Notice to Proceed.

BACKGROUND:

The Contract 7373 scope of work contains the following two major components: replacement of chemical tank linings and replacement of gravity thickener overflow piping.



Figure 1 – Contract 7373 Work Areas

Replacement of Chemical Storage Tank Linings

The Deer Island Treatment Plant uses sodium hypochlorite and sodium bisulfite as part of its wastewater treatment process (Figure 2). Sodium hypochlorite is stored in four tanks and sodium bisulfite is stored in two tanks. Each storage tank is constructed of welded steel plates and has a capacity of 270,000 gallons. The storage tanks were placed into service approximately 24 years ago.

Since sodium hypochlorite and sodium bisulfite are highly corrosive to steel, the interior surfaces



Figure 2 – Contract 7373 Work Areas

of each tank are lined with ¼-inch thick chlorobutyl rubber membrane. Periodic inspections of the interior of the tanks are routinely conducted to assess and monitor the condition of the linings. Based on these inspections, it has been determined that the chlorobutyl rubber linings for Sodium Hypochlorite Storage Tank Nos. 1, 2 and 3 and Sodium Bisulfite Storage Tank Nos. 1 and 2 have experienced a loss of lining elasticity which indicates that the

linings have reached the end of their useful life - typically 10 to 15 years.

The rubber linings are in need of replacement (Figure 3). The lining for Sodium Hypochlorite Storage Tank No. 4 was replaced in 2009. However, this tank serves as a back-up to the other sodium hypochlorite storage tanks and has not been placed into service since the new lining was installed. As a result, this tank does not need to be re-lined.



Figure 3 - Tank Lining Inspection

Under Contract 7373, the existing linings will be removed from each tank and replaced with new chlorobutyl rubber linings. Prior to the installation of the new linings, the interior surface of each tank will be inspected for signs of corrosion and repairs will be made to the steel tanks, if necessary. In addition, the metal pipe connection tank nozzles (21 per tank) will be repainted and the tank level sight tubes will be replaced.

Replacement of Gravity Thickener Overflow Piping

The Deer Island Treatment Plant has two gravity thickener trains, with each train containing three gravity thickeners. The gravity thickeners, which were placed into service approximately 24 years ago, remove water from primary scum and sludge prior to further processing. Overflow piping removes water from the gravity thickeners and reintroduces it back into the liquid processes of the

plant. The overflow piping, located in the residuals pipe gallery, has experienced significant corrosion in multiple locations. Staff have installed multiple sleeves to temporarily repair several sections of the pipelines (Figure 4). However, complete replacement of the overflow piping is necessary maintain the reliability of the pipe system.

Under Contract 7373, the existing overflow piping ranging in size from 16 inches to 30 inches in diameter will be removed and replaced with new double cement-lined ductile iron piping.



Figure 4 – Temporary Repair Sleeve

Procurement Process

Contract 7373 was advertised in the Central Register, the Boston Herald, El Mundo, Banner Publication and COMMBUYS and bid in accordance with Chapter 149 of Massachusetts General Laws. General Bids were opened on May 7, 2019 from two contractors as follows:

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineer's Estimate</i>	<i>\$8,187,000</i>
Walsh Construction Company II, LLC	\$8,504,505
Dagle Electrical Construction	\$11,386,702

Staff interviewed representatives from Walsh Construction Company II, LLC and reviewed its bid in detail, which is approximately 3.9% higher than the Engineer's Estimate. Staff have determined that the bid is complete, reasonable, and includes the payment of prevailing wages as required. References for Walsh Construction Company II, LLC were checked and found to be favorable. Walsh Construction Company II, LLC has successfully completed several construction contracts at Deer Island and is currently the Contractor on Contract 7428, Gravity Thickener Rehabilitation, Deer Island Treatment Plant. Based on the information received during the interview, staff are of the opinion that Walsh Construction Company II, LLC understands the nature and complexity of the project, has the skill, ability and integrity necessary to complete the work, and is qualified to do so.

Therefore, staff recommend that Contract 7373 be awarded to Walsh Construction Company II, LLC as the lowest responsible and eligible bidder.


BUDGET/FISCAL IMPACT:

The proposed FY20 CIP includes \$8,000,000 for Contract 7373. The award amount is \$8,504,505 or \$504,505 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

There are no MBE and 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: June 19, 2019
SUBJECT: Sole Source Purchase Order for Three Years of Maintenance and Support of the Process Instrumentation and Control System Human-Machine Interface Software at the Deer Island Treatment Plant
Emerson Process Management Power & Water Solutions, Inc.

COMMITTEE: Wastewater Policy & Oversight

Lisa Wong, Manager, Process Control
Ethan Wenger, Deputy Director, DIWWTP
David Duest, Director, DIWWTP
Preparer/Title

___ INFORMATION

X VOTE

Michele Gillen by 
Michele S. Gillen

Director of Administration

David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the award of a sole source purchase order contract for maintenance and support of the Process Instrumentation and Control System Human-Machine Interface Software at the Deer Island Treatment Plant, to Emerson Process Management Power & Water Solutions, Inc., and to authorize the Executive Director to execute said purchase order contract in an amount of \$206,405.00, for a period of three years, from August 1, 2019 through July 31, 2022.

DISCUSSION:

MWRA's Process Instrumentation and Control System (PICS) on Deer Island is among the most sophisticated control systems of any wastewater treatment plant in the United States. Thousands of field instrumentation devices are used to gather process information such as: temperature, pressure, flow, and on/off states of remote equipment. These devices are connected to a Distributed Control System (DCS), which consists of 63 control cabinets at various locations around the 150-acre site. There are more than one thousand control modules used in the control cabinets to gather input from process sensors and to send control signals back to the process, resulting in more than 30,000 input/output points in the PICS system.

The Human Machine Interface (HMI) for the PICS system consists of computers and monitors which run Emerson's proprietary Ovation™ HMI software. The HMI gathers process information and presents that information to staff through control graphics. The HMI allows operations staff to send control output commands to the DCS system to adjust or change operating parameters in the plant. Reliable operation of the PICS system, including the HMI system, is critical to ensure

proper operation of the Deer Island Treatment Plant and to ensure compliance with its NPDES permit.

The HMI system was competitively procured in 2011 and is currently being upgraded with new servers and operating stations to the latest software version of Emerson Ovation under a contract approved by the Board of Directors in July 2018. The total cost of the upgrade was \$648,300 and is scheduled for completion in June 2019. This contract included one year of software support which expires on July 31, 2019.

Service of both PICS and its HMI system are critical to their reliable operation. MWRA staff perform all "first response" functions to maintain PICS and the HMI in a fully functional configuration, to respond to needs and requests from operations staff, and to implement process changes for operational improvements. However, the specialized nature of the PICS and HMI system require support from the manufacturer. The main PICS system is supported by its manufacturer, ABB, through a three-year support contract, which expires on June 30, 2020. Software support for the HMI portion of the system must be handled by its manufacturer, Emerson, and the procurement of this support is described below.

Procurement Process

Due to Emerson being the only company that has access to the source codes and documentation required to support system issues and software upgrades, staff recommend that MWRA enter into an agreement directly with Emerson for these software support services. This will minimize HMI downtime, and will ensure the availability of an extensive and qualified field engineering staff able to respond rapidly to problems, which is necessary for optimum system-wide performance. The Director of Procurement has approved the sole source nature of this procurement.

Entering into a three-year software maintenance and support agreement with Emerson will provide MWRA staff access to the following services:

- Phone support 24 hours a day, 7 days a week;
- On-site support with guaranteed next-business day response;
- Software upgrades and updates;
- Software diagnostic internet information access;
- Cybersecurity suite support; and
- Documentation updates

The total cost of the agreement is \$206,405.00, payable on the following yearly schedule: 1st Year - \$62,518.00, 2nd Year - \$70,189.00, and 3rd Year - \$73,698.00.

Staff have reviewed Emerson's proposed cost and have determined that it is reasonable. Therefore, staff recommend the award of this sole source purchase order with Emerson Process Management Power & Water Solutions, Inc., for a term of three years, from August 1, 2019 to July 31, 2022, in the amount of \$206,405.00.

BUDGET/FISCAL IMPACT:

The FY20 Current Expense Budget includes \$35,000 under 29385-07412. Additional costs in FY20 will be absorbed within the current expense budget. Sufficient funds will be included in the FY21 and FY22 CEBs for the remaining term of this contract.

MBE/WBE PARTICIPATION:

Emerson Process Management Power & 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: June 19, 2019
SUBJECT: Chelsea Creek Headworks Upgrade
BHD/BEC 2015, A Joint Venture
Contract 7161, Change Order 29



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Corinne M. Barrett, Director, Construction
Martin E. McGowan, 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 29 to Contract 7161, Chelsea Creek Headworks Upgrade, with BHD/BEC 2015, A Joint Venture, for an amount not to exceed \$400,000.00, increasing the contract amount from \$80,985,612.46 to \$81,385,612.46, with no increase in contract term.

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

DISCUSSION:

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

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

- grit collector systems;
- existing climber screens with catenary screens;
- influent and effluent sluice gates;
- the gates' hydraulic operating system with electric gate actuators;

- HVAC systems will be upgraded;
- a new carbon adsorber odor control system is being installed and redundancy is being added to both systems;
- ancillary systems including the emergency generator, fuel oil tank, and transformer are being replaced;
- instrumentation and control systems are being upgraded;
- the communications tower is being replaced and a communications building is being added;
- abatement of hazardous building materials including paint containing PCBs, flood protection measures to protect the facility to the 100-year flood elevation plus 2.5 feet, and upgrades to meet current code requirements for egress, plumbing, electrical; and,
- fire suppression.

This Change Order

Change Order 29 consists of the following four items:

Revised Equipment Screen and Screen Support System

Not to Exceed \$165,000

The Contractor is required to furnish and install an equipment screen on the lower roof level. The equipment screen is an architectural feature that provides a visual barrier to hide mechanical equipment and other unsightly items on the roof while also reducing sound levels generated from the rooftop equipment. During the design phase, a hotel was constructed on an adjacent property, so reducing sound levels from the Chelsea Creek Headworks became a critical design element. The equipment screen will be constructed of 2-inch thick perforated aluminum panels with an exterior grade acoustical fill. The design of the screen is comprised of a series of curves that vary in height from 10-feet to 16-feet that are intended to simulate the appearance of waves.



Rendering of new equipment screen

After commencement of the contract, it was noted that the equipment screen appeared to lack sufficient support to withstand lateral wind loads. The consultant revisited the design calculations and acknowledged the assumed loads were inadequate. To correct this error, the consultant redesigned the entire equipment screen support system. While the screen support system was being redesigned, the dunnage framing and metal decking for the rooftop HVAC equipment was also being revised and reconfigured as further described in item 3 below. As part of the dunnage framing reconfiguration, the decking was lowered approximately 3 feet which allowed the equipment screen to be lowered by the same amount along the entire length. As a result of these changes, the Contractor will furnish and install a revised equipment screen and screen support system on the lower roof to withstand lateral wind loads.

The approved PCO for this item was identified by MWRA staff as a design error and the design consultant agreed. MWRA staff, the Consultant, and the Contractor have agreed to a not to exceed amount of \$165,000 for this additional work. Work associated with this proposed change order has not begun.

Additional Roofing Work

Not to Exceed \$125,000

The roofing subcontractor is required to replace the existing roofing at the Chelsea Creek Headworks. The new roofing will be a fully adhered, single ply membrane roofing system that is comprised of the membrane, flashings, insulation, mechanical fasteners, adhesives, nailers and edging. The roofing system is designed to withstand wind uplift forces of 90 psf and wind speeds of 105 mph and will have a 20-year manufacturer’s warranty. After commencement of the contract, it was determined that the roofing specification did not indicate the full scope of roofing in the filed sub-bid contract documents. As a result, many of the roofing elements, such as penetrations for plumbing vents, gas vents and electrical conduits; and supports for the generator exhaust, HVAC equipment, ductwork and other miscellaneous structural elements were not included in the roofing subcontractor’s scope. Only the architectural drawings were listed and they did not show all of the required elements. As a result of this omission, the roofing subcontractor must furnish and install additional flashings, adhesives and nailers at roofing penetrations and supports to provide a weather tight roof installation and maintain the 20-year manufacturer’s warranty.

The approved PCO for this item was identified by MWRA staff as a design omission and the design consultant agreed. MWRA staff, the Consultant, and the Contractor have agreed to a not to exceed amount of \$125,000 for this additional work. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Revised Equipment Layout on Lower Roof

Not to Exceed \$60,000

The Contractor is required to replace the existing HVAC and odor control systems in their entirety. This includes replacing the two existing makeup air units that supply fresh air to the facility with three new units. The third unit will provide redundancy in the event one of the units is unavailable due maintenance or repair. The three new makeup air units will be installed on new dunnage framing and decking located on the lower roof. Dunnage framing is an elevated roof support system that allows full air circulation around the units while also keeping the equipment above standing water and accumulated snow. The fiberglass reinforced plastic (FRP) odor control ductwork also runs across the lower roof level and connects to the new odor control fans and carbon adsorbers. After commencement of the contract and during the submittal phase, a number of conflicts were identified between the FRP ductwork and the existing building structure. These included low point drains, door elevations and duct supports. While the consultant was working towards resolving these conflicts, the Contractor submitted its selected makeup air units with a smaller footprint than was indicated in the contract drawings. The layout of the lower roof and dunnage framing was designed to accommodate the largest of three units specified in the contract documents. With the Contractor selecting a smaller unit, this presented an opportunity to improve the overall layout of lower roof allowing for better long-term access for operation and maintenance of the units, while also eliminating the identified conflicts. The change will also allow a consistent



Existing Lower Roof Layout with Makeup Air Units

profile of FRP ductwork on the roof, eliminating complicated transitions between round and rectangular sections and the need for low point drains. Staff reviewed options and directed the consultant to revise the lower roof layout. As a result of this design change, the Contractor will furnish and install revised dunnage framing, including the metal decking, stairs and handrails as well as the revised FRP odor control duct to provide improved long-term access for operations and maintenance to the lower roof equipment.

The approved PCO for this item was identified by MWRA staff as a design error and design change and the design consultant agreed. MWRA staff, the Consultant, and the Contractor have agreed to a not to exceed amount of \$60,000 for this additional work. Work associated with this proposed change order has not begun.

Demolish and Dispose the Existing Dunnage Framing

Not to Exceed \$50,000



Existing dunnage framing to be demolished

Two makeup air units are installed on dunnage framing and decking located on the lower roof level. The dunnage framing includes steel beams, posts, decking, stairs and handrails that provides access for maintenance of the equipment. The units and dunnage framing were installed as part of the 1987 facility upgrade. After commencement of the contract, it was realized that the existing dunnage framing and decking was not shown on the contract documents and was not included in the Contractor's demolition scope. To correct this omission, the Contractor must demolish and dispose of the existing lower roof dunnage framing, including metal decking, stairs and handrails.

The approved PCO for this item was identified by MWRA staff as a design omission and the design consultant agreed. MWRA staff, the Consultant, and the Contractor have agreed to a not to exceed amount of \$50,000 for this additional work. Work associated with this proposed change order has not begun.

Although the Contractor agrees with the pricing in this change order, it does not agree with MWRA's determination of no increase in contract term.

Staff are compiling a list of all change order items that have resulted from an error or omission and will conduct a review at the end of the project regarding responsibility of the Design Consultant, Arcadis U.S., Inc., and the potential for any cost recovery.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$72,859,000.00	1,460 Days	11/22/16
Change Orders:			
Change Order 1	\$252,512.00	0 Days	06/29/17
Change Order 2*	\$208,431.00	0 Days	07/24/17
Change Order 3	\$1,129,740.20	0 Days	07/24/17
Change Order 4*	\$237,870.00	0 Days	10/18/17

Change Order 5	\$304,036.26	0 Days	12/21/17
Change Order 6*	\$207,226.00	0 Days	01/26/18
Change Order 7	\$1,278,783.00	0 Days	02/07/18
Change Order 8	\$937,267.00	0 Days	02/22/18
Change Order 9	\$17,321.00	0 Days	04/03/18
Change Order 10*	\$20,879.00	0 Days	04/11/18
Change Order 11*	\$200,000.00	0 Days	05/18/18
Change Order 12	\$1,000,000.00	0 Days	05/31/18
Change Order 13*	\$129,783.00	0 Days	06/12/18
Change Order 14	\$500,000.00	0 Days	06/28/18
Change Order 15*	\$24,634.00	0 Days	08/20/18
Change Order 16*	\$21,584.00	0 Days	08/24/18
Change Order 17*	\$109,065.00	0 Days	09/13/18
Change Order 18	\$395,742.00	0 Days	09/28/18
Change Order 19*	\$18,351.00	0 Days	10/26/18
Change Order 20*	\$20,123.00	0 Days	11/06/18
Change Order 21*	\$82,621.00	0 Days	11/13/18
Change Order 22	\$182,792.00	0 Days	11/19/18
Change Order 23*	\$70,125.00	0 Days	12/17/18
Change Order 24*	\$15,618.00	0 Days	01/24/19
Change Order 25*	\$149,469.00	0 Days	02/19/19
Change Order 26	\$375,000.00	0 Days	03/14/19
Change Order 27*	\$24,238.00	0 Days	05/21/19
Change Order 28*	\$213,402.00	0 Days	Pending
Change Order 29	<u>\$400,000.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$8,526,612.46	0 Days	
Adjusted Contract:	\$81,385,612.46	1,460 Days	

*Approved under delegated authority

If Change Order 29 is approved, the cumulative value of all change orders to this contract will be \$8,526,612.46 or 11.7% of the original contract amount. Work on this contract is approximately 52% complete.

BUDGET/FISCAL IMPACT:

The FY19 Capital Improvement Program budget includes \$80,519,865 for Contract 7161. Including this change order for an amount not to exceed \$400,000, the adjusted subphase total will be \$81,385,612.46 or \$865,747.46 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 3.4% and 3.8%, respectively. The Contractor has been notified that these requirements are still expected to be met.



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Executive Director

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WATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, June 19, 2019

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

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

Time: Immediately following Wastewater Committee

AGENDA

A. Contract Awards

1. Section 22 Rehabilitation Alternative Analysis and Environmental Permitting:
Black & Veatch, Contract 7155

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee
May 29, 2019

A meeting of the Water Policy and Oversight Committee was held on May 29, 2019 at the Authority headquarters in Charlestown. Committee Chair Peña presided. Present from the Board were Messrs. Carroll, Cook, Cotter, Foti, Pappastergion, Vitale and Walsh. Mr. Flanagan and Ms. Wolowicz were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Sean Navin, John Colbert, Paul Rullo, Terry Flynn, Corrinne Barrett and Kristin MacDougall. The meeting was called to order at 12:00 p.m.

Information

Update on May 3, 2019 Water Main Break, Section 89, Winchester

Item moved to Board of Directors' meeting.

2018 Annual Water Quality Report (Consumer Confidence Report)

Item moved to Board of Directors' meeting.

Contract Awards

* Water Supply Citizens Advisory Committee Contract

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

* Flow Testing Services for MWRA's Revenue Water Meters: Complete Control Services, Inc., WRA-4679

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

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

* Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility: Univar USA, Inc., WRA-4681

* Committee recommendation approved by the Board on May 29, 2019

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

Section 22 Rehabilitation Alternative Analysis and Environmental Permitting: Black & Veatch Corporation, Contract 7155

Staff made a presentation. There were questions and answers. Item postponed to provide the Board additional information at a future meeting. (ref. W B.4).

Contract Amendments/Change Orders

* Southern Extra High Pipeline – Section 111 (Dedham North): P. Gioioso and Sons, Inc., Contract 7504, C.O. 7

Staff made a presentation. There were questions and answers. The Committee recommended approval (ref. W C.1).

The meeting adjourned at 12:24 p.m.

* Committee recommendation approved by the Board on May 29, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting
Black & Veatch Corporation
Contract 7155



COMMITTEE: Water Policy & Oversight

INFORMATION

VOTE

Michele S. Gillen

Michele S. Gillen *by [Signature]*

Director of Administration



David W. Coppes, P.E.

Chief Operating Officer

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

This item was postponed at the May 29, 2019 Board Meeting so that staff could provide further information for the Board's review.

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7155, Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting, to Black & Veatch Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$2,870,000 for a contract term of 36 months from the Notice to Proceed.

BACKGROUND:

MWRA's Section 22 is part of the Southern High service area that provides drinking water to five Quincy revenue meters and one Boston revenue meter and delivers water to the Blue Hills Covered Storage facility. The northern portion of Section 22 is the focus of this project, which is a 48-inch diameter steel water main installed in 1957. In addition to the 16,000 linear feet of the northern portion of Section 22, this project also includes 6,000 linear feet of Section 21 which is a 24-inch diameter cast iron water main installed in 1896. Section 21 provides an operational interconnection between the northern portion of Section 22 and Section 107 (see attached map).



Figure 1 – Marsh between Rte. 93 and Granite Ave., Milton



Figure 2 - Section 22 under the Neponset River, Boston/Milton

Black & Veatch was the Consultant on the Southern Spine Distribution Mains Project, Contract 6290, which included redundant pipeline Section 107 and rehabilitation of the entire length of Section 22. However, due to an alternatives analysis and environmental permitting issues, it was decided that the work of this project, the northern portion of Section 22, would be bid at a later date.

The scope of the contract includes condition assessment, evaluation, alternatives analysis, and permitting for

replacement or rehabilitation of over 4 miles of Sections 21 and 22 piping. Approximately 1.2 miles of this pipe is within DCR's Neponset River Estuary, which is designated by the Commonwealth as an Area of Critical Environmental Concern (ACEC). Section 22 includes a crossing of both the Neponset River and Route 93. To support appropriate decision making regarding the upgrade of the pipelines, a preplanning assessment phase, condition assessment program, evaluation and alternatives analysis will be completed. Depending upon the results of the alternatives analysis, an Environmental Impact Report will likely be required which is included in the scope of services of this Contract.



Figure 3 - Route 93 crossing near Granite Avenue, Milton

The preplanning assessment phase will include a review of leak and maintenance history, a review of as-built drawings, easement review and a review of hydraulic operating conditions. Hydraulic analysis will be completed to evaluate the appropriate diameter of the proposed piping alternatives and determine if a smaller diameter can be used.

The field condition assessment program includes many technologies to determine the pipe condition so that a decision can be made to repair or replace the pipeline and to determine the construction methods to use. The technologies include:

- Geotechnical borings to identify soil corrosivity and environmental hazardous materials.
- Acoustic leak detection to determine if there are any active leaks on the pipelines.
- Internal pipe inspection to identify pipe wall loss and corrosion pits through the use of an intelligent pipe pig that measures pipe thickness as it moves through the pipeline.

- Field test pits to determine the exterior pipe condition, pier condition and remaining pipe life. Pipe coupons will be removed from the piping and sent for material testing to determine the pipe wall thickness and corrosion mechanisms.

The field program will be initiated with four field test pits to provide an evaluation of the pipe condition. The location of test pits will be based upon leak history, known pipe information and soil conditions. If the initial test pit review determines the pipe is compromised, additional condition assessment will not be completed. This may result in a significant reduction in the cost of the condition assessment program.

If the field test pits determines the pipe condition is acceptable, additional condition assessment will be considered including internal non-destructive testing, leak testing and additional geotechnical borings.

The field program results will determine which sections of pipeline require rehabilitation or replacement. An alternative analysis will then be completed to review rehabilitation techniques, including cleaning and cement lining or slip lining, which will be evaluated along with pipeline materials for replacement areas. For the Neponset River Estuary and Route 93 crossings, trenchless replacement techniques will be considered including horizontal directional drilling or micro tunneling. A recommended alternative will be developed and used for permitting activities including an Environmental Notification Form and an Environmental Impact Report, if required.

The largest cost component of this project is the pipeline condition assessment with a total not-to-exceed cost of \$1,625,890. The pipeline condition assessment will progress in a planned sequential process to ensure that only required testing is being performed. The pipeline condition assessment costs are conservative for this project due to the location of the pipeline in the ACEC, a crossing of the Neponset River, and a crossing of Route 93. Any additional analysis will provide benefits in the final design to ensure a cost effective repair or replacement alternative is selected.

The Pipeline Condition Assessment Costs include the following:

Pipeline Condition Assessment	\$ 578,196
Review of past leaks and documentation	
Permitting for test areas	
Boring Plan	
Geotechnical analysis and Data Report	
Construction Zone Safety Plans	
Hazardous soil review	
Groundwater analysis	
Corrosion analysis	
Test Pit Plan	
Condition Assessment Technical Memorandum	
Subcontractors	
Leak Detection Survey	\$ 54,050
Borings	\$ 348,644
Internal Pipe Inspection	\$ 275,000

Test Pits	\$ 370,000
Total	\$ 1,625,890

The second largest cost is the environment assessment cost of \$440,282

Environmental Assessment and Environmental Technical Memorandum	\$ 143,918
Alternatives Report and Environmental Notification Form	\$ 101,181
Environmental Impact Report	\$ 195,183
Total	\$ 440,282

The remaining costs of \$284,700 are for project management, water system hydraulic analysis and review of the project's technical and historical background. An allowance of \$500,000 is included for police details, traffic control, pavement restoration of test pits and additional test pits, if necessary.

A review of other recent water pipeline projects was completed to compare to this project's costs. The proposed cost for this pipeline condition assessment is \$74 per linear foot. Additional condition assessment is required on this project that is not normally completed as part of pipeline rehabilitation projects:

- Test pits in wetlands that require additional permitting.
- Test pits and assessment of pipe pier supports.

The following two recent projects were used to compare pipeline condition assessment costs.

- Weston Aqueduct Supply Mains 3 is currently in design (60%) to determine a repair, or replacement, strategy for 50,000 linear foot of 60-inch diameter pipeline. The pipeline condition assessment cost was \$3,000,000 or \$60 per linear foot as planned in 2013. Inflated to 2019 the cost is \$72 per linear foot.
- Water Sections 50 and 57 and Sewer Sections 19/20/21 is currently in design (60%) and includes 20,000 linear feet of 20-inch and 48-inch diameter pipe and 11,000 linear feet of 51-inch x 54-inch to 56-inch x 61-inch brick sewers. The pipeline condition assessment of the water pipeline was completed in 2018 at a cost of \$1,450,000 or \$72 per linear foot. Inflated to 2019 the cost is \$74 per linear foot.

The cost of the condition assessment of this project is reasonable based upon the review of the recent data.

Procurement Process

On March 2, 2019, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) that was publicly advertised in the Central Register, Boston Herald, Banner Publication and El Mundo. The RFQ/P included the following evaluation criteria and points: Cost (25 points); Qualifications and Key Personnel (25 points); Experience/Past Performance on Similar Non-

Authority Projects and Past Performance on Authority Projects (25 points); Technical Approach, Capacity, and Organizational & Management Approach (20 points); Minority/Woman Business Enterprise (5 points).

On April 11, 2019, MWRA received proposals from the following three firms: Black & Veatch, Hazen and Sawyer, and Kleinfelder. The following represent the cost and level of effort proposed by each firm:

Proposer	Proposed Cost	Other Direct Costs**	Proposed Hours
Black & Veatch	\$2,870,000.00	\$1,633,636	8,863
Kleinfelder	\$3,108,086.80*	\$2,043,288	8,070
Hazen Sawyer	\$4,395,884.00	\$2,166,427	14,498
<i>Engineer's Estimate</i>	<i>\$2,160,000.00</i>	<i>\$1,260,000</i>	<i>6,400</i>

* Reflects corrections due to mathematical errors.

** Consultant's Other Direct Costs include subcontractor's costs for the pipeline condition assessment program (geotechnical and environmental borings, leak detection survey, test pits, nondestructive internal pipe testing, pipeline coupon sampling, and laboratory analysis) and allowances.

The Selection Committee met on May 8, 2019 to evaluate and rank the proposals; the results are presented below.

Proposer	Total Final Score	Order of Preference* Points	Ranking
Black & Veatch	408.0	6	1
Kleinfelder	376.0	9	2
Hazen and Sawyer	340.5	15	3

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

Black & Veatch presented the lowest price, approximately 7.7% lower than the second-ranked Kleinfelder, while providing nearly 800 more hours than Kleinfelder. Staff also reviewed Black & Veatch's proposal against the engineer's estimate. While all three proposals significantly exceeded the engineer's estimate, Black & Veatch's price was closest at \$710,000 above the engineer's estimate. Upon review, staff attribute the price difference to three areas: engineering costs associated with the pipeline condition assessment (\$400,000), specialty subcontractor costs to perform the pipeline condition assessment (\$250,000), and project management (\$60,000). The scope of services has been expanded to require the Consultant's project engineer be on site when subcontractors are performing field work and to include additional borings in the Neponset River Estuary. The engineer's estimate was not updated to include the cost for this additional scope. Staff also underestimated the project management hours required to supervise the large project team of engineering firms and utility subcontractors. Also, the pipeline condition assessment program was underestimated. Correcting for these variances, and considering the substantially higher hours offered, the Consultant Selection Committee considered the overall cost presented by

Black & Veatch reasonable.

Black & Veatch offered well-qualified personnel who have extensive and relevant experience in performing pipeline condition assessments, planning, environmental permitting, design of large diameter pipelines, and significant knowledge of the operational requirements of the MWRA system. A subconsultant to Black & Veatch, VHB, has extensive experience with the MEPA process and is currently the lead environmental permitting firm for MassDOT's South Coast Rail project.

The Black & Veatch team provided extensive documentation of its experience and past performance. In addition to positive references for performance on significant similar out of state projects, the firm has successfully managed several pipeline projects for MWRA including the Southern Spine Distribution Mains Section 107 located in Boston, Milton, and Quincy, and the rehabilitation of the southern portion of Section 22. Black & Veatch has also successfully worked on other MWRA water main and pump station projects. The Selection Committee determined that Black & Veatch proposed a highly qualified team with appropriate past experience. Black & Veatch also demonstrated a full understanding of the project requirements in its Technical Approach, and has the capacity, organization and management approach necessary to manage and complete the project.

The Selection Committee concluded that both the Kleinfelder team and the Hazen and Sawyer team, although capable of performing the work, do not have the depth and experience offered by the Black & Veatch team, and their costs were less competitive.

Based on the voting of the Selection Committee, staff recommend the award of this contract to Black & Veatch Corporation in the amount of \$2,870,000.

BUDGET/FISCAL IMPACT:

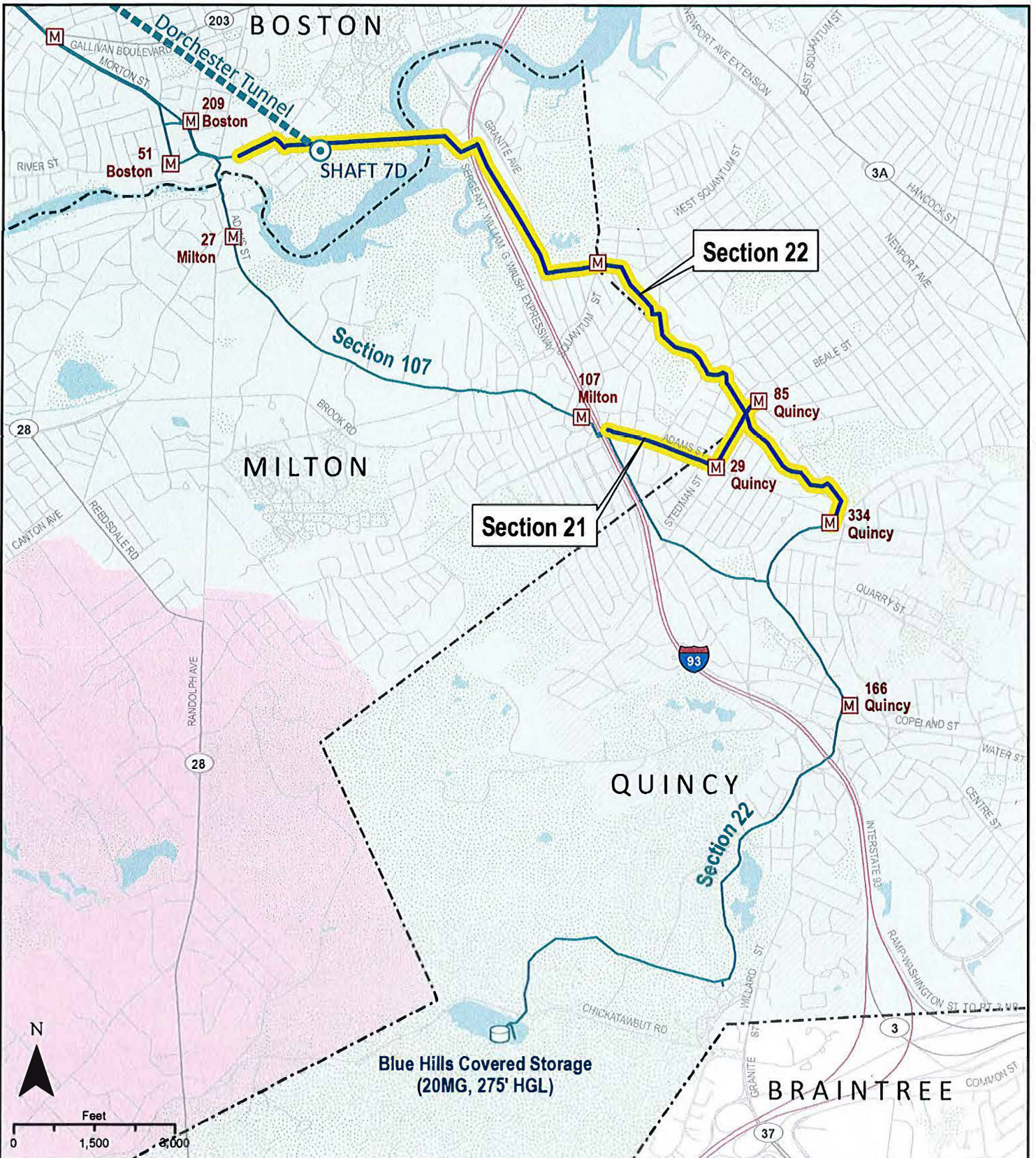
The FY19 CIP includes a budget of \$1,000,000 for Contract 7155; the recommended contract amount is \$2,870,000 or \$1,870,000 over budget. This amount will be covered within the five-year CIP spending cap. The Draft Final FY20 CIP includes a budget of \$2,900,000.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.18% and 5.77%, respectively. Black & Veatch included 25.4% MBE and 15.6% WBE participation which becomes a requirement for this contract.

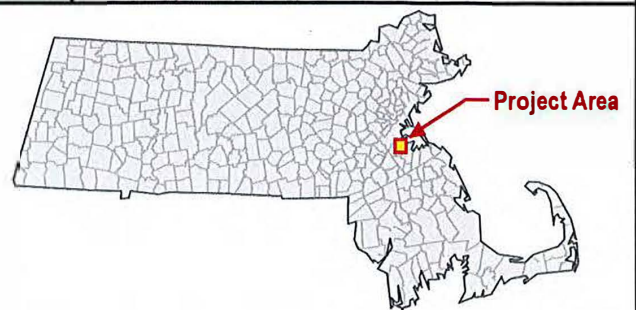
ATTCHMENT:

Section 22 – Project Map



Section 22 Project Location Schematic

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





MASSACHUSETTS WATER RESOURCES AUTHORITY

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PERSONNEL & COMPENSATION COMMITTEE MEETING

to be held on

Wednesday, June 19, 2019

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

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

Time: Immediately following Water Committee

AGENDA

A. Approvals

1. FY2020 Non-Union Compensation
2. Appointment of Budget Director, Finance Division
3. Appointment of Program Manager, Energy Management, Deer Island
4. Extension of Employment Contract for Copy and Supply Clerk, Administration Division

B. Annual Meeting of the Personnel and Compensation Committee Independent of Management

1. Authority Accountability and Transparency Act Compliance

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Personnel and Compensation Committee

May 29, 2019

A meeting of the Personnel and Compensation Committee was held on May 29, 2019 at the Authority headquarters in Charlestown. Committee Vice Chair Cotter presided. Present from the Board were Messrs. Carroll, Cook, Pappastergion, Peña, Vitale and Walsh. Ms. Wolowicz and Messrs. Foti and Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Kathleen Murtagh, Andrea Murphy and Kristin MacDougall. The meeting was called to order at 10:59 a.m.

Approvals

* PCR Amendments - May 2019

Staff made a verbal presentation.

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

* Appointment of Deputy Contracts Manager, Administration

Staff made a verbal presentation.

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

* Appointment of Program Manager, Engineering and Construction

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

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

The meeting adjourned at 11:03 a.m.

* Committee recommendation approved by the Board on May 29, 2019

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: FY20 Non-Union Compensation



COMMITTEE: Personnel and Compensation

X VOTE
 INFORMATION

RECOMMENDATION:

That the Board of Directors take the following actions for MWRA's FY20 non-union compensation review:

Authorize the Executive Director to implement a 3.0% across-the-board compensation adjustment for non-union managers effective with the first FY20 payroll.

Approve a revision to the non-union salary ranges for FY20 presented in Attachment A and filed with the records of the meeting.

DISCUSSION:

Under this proposal, there are 62 non-union managers who will be eligible for a compensation adjustment. This adjustment is intended to provide appropriate compensation to non-union managers who receive fewer benefits than union employees including annual step increases, longevity payments, sick leave buy back and subsidized parking (CNY only).

The salary adjustments will be provided to all non-union managers on the payroll as of June 29, 2019. These adjustments do not include the Executive Director or the Director, Tunnel Redundancy Program with whom the Authority maintains individual employment contracts.

BUDGET/FISCAL IMPACT

These adjustments for non-union managers result in a total annual cost of approximately \$262,572.48 for FY20.

ATTACHMENTS:

Attachment A: FY20 Proposed Non-Union Salary Ranges

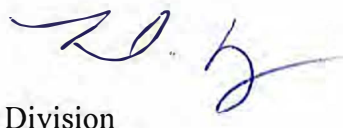
ATTACHMENT A

FY 20 Proposed Non-Union Salary Ranges effective June 29, 2019

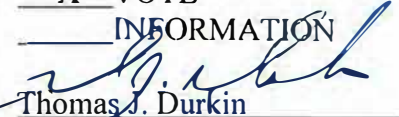
Grade	Minimum	Maximum
13	\$85,354.71	\$132,749.36
14	\$96,051.76	\$145,974.54
15	\$108,129.05	\$161,585.68
16	\$121,635.37	\$178,352.14
17	\$136,896.41	\$191,991.07
18	\$129,885.99	\$247,401.88

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: Appointment of Budget Director, Finance Division



COMMITTEE: Personnel and Compensation

X VOTE
 INFORMATION

Thomas J. Durkin
Director, Finance

Andrea Murphy, Director HR
Preparer/Title

RECOMMENDATION:

To approve the appointment of Mr. Michael J. Cole, Jr. to the position of Budget Director, Finance Division (Non-Union, Grade 16) at an annual salary of \$135,000 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Budget Director became vacant with the resignation of the prior incumbent. The Budget Director directs and oversees the Authority's annual and multi-year programs and budgets under the direction of the Director of Finance. The Budget Director coordinates development of the long-term Capital Improvement Program (CIP) and monitors the progress of capital projects compared to planned schedules and budgets. The Budget Director is also responsible for coordinating development of the Authority's annual Current Expense Budget (CEB) and monitoring spending over the year as compared to the approved budget. The Budget Director supervises the development of the annual community assessments and the budget forecasting model. The position oversees a staff of eight employees and works closely with staff in other divisions to ensure financial coordination across the agency.

Selection Process

The position was posted internally. One candidate applied and was deemed qualified for the position. The Director of Finance, Special Assistant for Affirmative Action and Treasurer conducted the interview and determined Michael J. Cole, Jr. to be an excellent candidate based on his experience, knowledge, skills and education.

Mr. Cole currently serves as the Budget Manager in the Finance Division. Mr. Cole has 16 years of experience in Finance and Administration, primarily in the healthcare sector, and has most recently served for seven years in a management role. Prior to joining MWRA, he held the position of Finance Manager at Winchester Hospital. In that role, he managed all aspects of the budget development process including the establishment, tracking, analyzing and reporting financial performance. He managed analysts and assisted with the implementation of a new Oracle financial

reporting system. He assisted the Executive Director of Winchester Hospital in coordination of the annual capital and operating budgets. Prior to his role as Finance Manager, he worked at Newton-Wellesley Hospital, most recently as a Business Manager but held positions of increasing responsibility starting as a Budget Analyst.

Mr. Cole distinguished himself with his work on the MWRA Current Expense Budget and Capital Improvement budgets. Mr. Cole has a Bachelor of Science Degree in Business Administration with a major in Finance from Northeastern University.

BUDGET/FISCAL IMPACT:

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

ATTACHMENTS:

Michael J. Cole, Jr. resume

Position Description

Rates and Budgets Department Organization Chart

Michael J. Cole, Jr.

Professional Summary

Financial Manager with extensive budget experience and a diverse skill set. Goal-oriented professional with strong technical skills, ability to multi-task effectively, and excellent communication and interpersonal skills.

Skills

- Financial Reporting
- Data Analytics
- Budgeting and Forecasting
- Accounting
- Process Improvement
- Operations and Project Management
- Employee Management

Experience

Massachusetts Water Resources Authority Budget Manager

Boston, MA
11/2018-Current

- Direct the development of annual Current Expense Budget (CEB) and Capital Improvement Program (CIP) Budget
- Manage relationships with division directors and staff in developing and monitoring of the CEB and CIP
- Assist in production of proposed and final budget documents
- Coordinate with divisions to produce year-end financial projections
- Manage development of monthly financial staff summaries for MWRA Management and Board of Directors
- Produce CEB and CIP performance and variance reports for MWRA Management and Board of Directors
- Act as a liaison between MWRA and Advisory Board and DCR Watershed Division
- Ad hoc analysis to support MWRA operations

Winchester Hospital Finance Manager, Physician Services

Winchester, MA
5/2015-11/2018

- Oversee development, tracking, analyzing, and reporting of financial and statistical performance for Winchester Physician Associates (25 practices)
- Manage and oversee team of analysts and support staff (4 FTEs)
- Provide financial support to approximately 100 providers as well as practice administrative/support staff
- Assist Executive Director in coordination of annual capital and operating budgets (\$40M)
- Financial liaison between Winchester Hospital Finance, WPA Finance, and Lahey Health Finance
- Assisted with the implementation/rollout of a new financial reporting system for WPA – Oracle Business Intelligence Application
- Calculate and manage monthly provider incentives based on financial performance and productivity
- Ad hoc analysis to support clinical operations

Newton-Wellesley Hospital
Business Manager, Ambulatory Services

Newton, MA
7/2012-5/2015

- Managed finances and operations for both inpatient and outpatient departments within Medicine, Pediatrics, Psychiatry, and Surgery (24 cost centers)
- Managed and oversaw Practice Managers and administrative staff for assigned areas (4 FTEs)
- Provided support to 250 providers and administrative/support staff
- Member of the MD compensation committee
- Monitored and communicated MD productivity results to physician and hospital leaders
- Assisted with the development and implementation of a new compensation plan for the Hospitalist Service
- Developed business plans pertaining to the acquisition of a new provider or service
- Provided integral support to Chairs, Chiefs, and CMO
- Administrative contact for MGH and BWH collaborative programs

Newton-Wellesley Hospital
Interim Physician Contract Specialist

Newton, MA
7/2013-12/2013

- Managed contract process and work with Medical Staff, CMO, and Department Chairs/Chiefs to on-board new providers
- Drafted employment and professional services agreements
- Managed contract payments and conducted financial performance analysis

Newton-Wellesley Hospital
Senior Budget Analyst
Budget Analyst

Newton, MA
8/2008-7/2012
2/2006-8/2008

- Assisted in coordinating the annual operating budget process (\$450M)
- Prepared monthly financial and statistical results for hospital leadership
- Supported hospital leadership regarding operating/capital budgets, variance analysis, and reporting
- Ad hoc analyses to support clinical operations
- Assisted Budget Director in coordinating annual capital budget process
- Developed process for electronic capital budget submitting and reporting
- Maintained capital database, analyzed spending, and generated reports for management
- Developed reports targeting OT/expense reduction initiatives
- Assisted in the development/rollout of Finance Leaders Lab
- Provided support to Operations Management with Action OI and the Nursing Balanced Scorecard
- Contributing member of the PHS Visions OMS Team, as well as the NWH Products Committee
- Implemented a standard quarterly process for tracking and reporting bed utilization statistics
- Managed physician time study process and prepared data for cost report submission
- Assisted with annual cost report submission

Lahey Clinic
Staff Accountant

Burlington, MA
11/2004-2/2006

- Maintained asset management system
- Analyzed capital spending and generate reports for management
- Managed capital spending on \$90M building expansion project
- Managed the year-end physical inventory process
- Monitored the monthly inventory counts
- Maintained inter-department relationships for inventory control
- Reconciled general ledger accounts relating to capital and inventory

State Street Corporation
Fund Accountant

Boston, MA
8/2003-11/2004

- Responsible for day-to-day accounting of assigned mutual funds
- Prepared and reconciled daily trial balances
- Tracked and analyzed fund activity
- Calculated and reviewed daily net asset value of funds

Software

- Microsoft Office Suite
- Lawson Infor
- PeopleSoft Financials/HRMS
- Business Objects Planning
- Hyperion Pillar
- Hyperion Planning
- Cognos Operating/Capital Management
- Oracle Business Intelligence Application
- Kronos Workforce Central
- Epic
- athenaNet
- Soarian Financials
- Meditech
- Document Direct
- Docualyzer

Accomplishments

- Partners In Excellence Award Recipient, 2006 and 2012
- Partners Clinical Process Improvement Leadership Program (CPIP) Graduate, 2014

Education

Northeastern University
Bachelor of Science in Business Administration
Major in Finance

Boston, MA
June, 2003

**MWRA
POSITION DESCRIPTION**

POSITION: Budget Director

DIVISION: Administration & Finance

DEPARTMENT: Budget

BASIC PURPOSE:

Directs, plans and monitors the Authority's multi-year capital and operating budgets, and oversees program performance planning and implementation. Supports revenue management, rates management, and setting and revenue planning programs.

SUPERVISION RECEIVED:

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

SUPERVISION EXERCISED:

Exercises close supervision of department managers and staff employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Primary responsibility for the planning, development, delivery and presentation of MWRA's Capital Improvement Program and Current Expense Budgets.
- Directs annual and multi-year planning of Authority resource requirements and resource allocations. Responsible for developing, implementing and evaluating expenditure control methods and procedures and program performance objectives and standards. Directs the formulation and consolidation of plans into budgets, oversees the evaluation and reporting of plan implementation and recommends changes in resource allocation or program implementation.
- Measures, monitors and reports MWRA expenditure activity throughout the fiscal year, including the identification and oversight management of financial trends and significant variances occurring within or across budgetary periods. Reviews budgets, rates and expenditure performances.
- Oversees development of financial projections necessary to ensure consistent financial

policies, coordinates short and long term financial planning and develops methods for economic forecasting.

- Develops and recommends the formulation and refinement of financial systems, policies and procedures.
- Supports strategic planning and management of water and sewer rate setting.
- Reviews, comments upon and evaluates budgetary impact of all fiscal recommendations made to the Director of Finance, Executive Director and the Board of Directors.
- Represents the Authority to external constituents.
- Other duties and tasks as requested.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of budgeting principles and procedures as normally attained through a four (4) year college program in business administration, public management, accounting, finance or a related field. An advanced degree strongly preferred; and
- (B) Understanding of fiscal management as acquired by ten (10) to twelve (12) years progressively responsible experience, including five (5) to seven (7) years experience in budget preparation and management in a private, public or governmental agency, of which five (5) years should be in a supervisory or managerial capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Excellent interpersonal, oral and written communications skills are required.
- (B) Knowledge of and experience with Oracle Financial Analyzer or Hyperion or other database application strongly preferred.
- (C) 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 strongly preferred.

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.

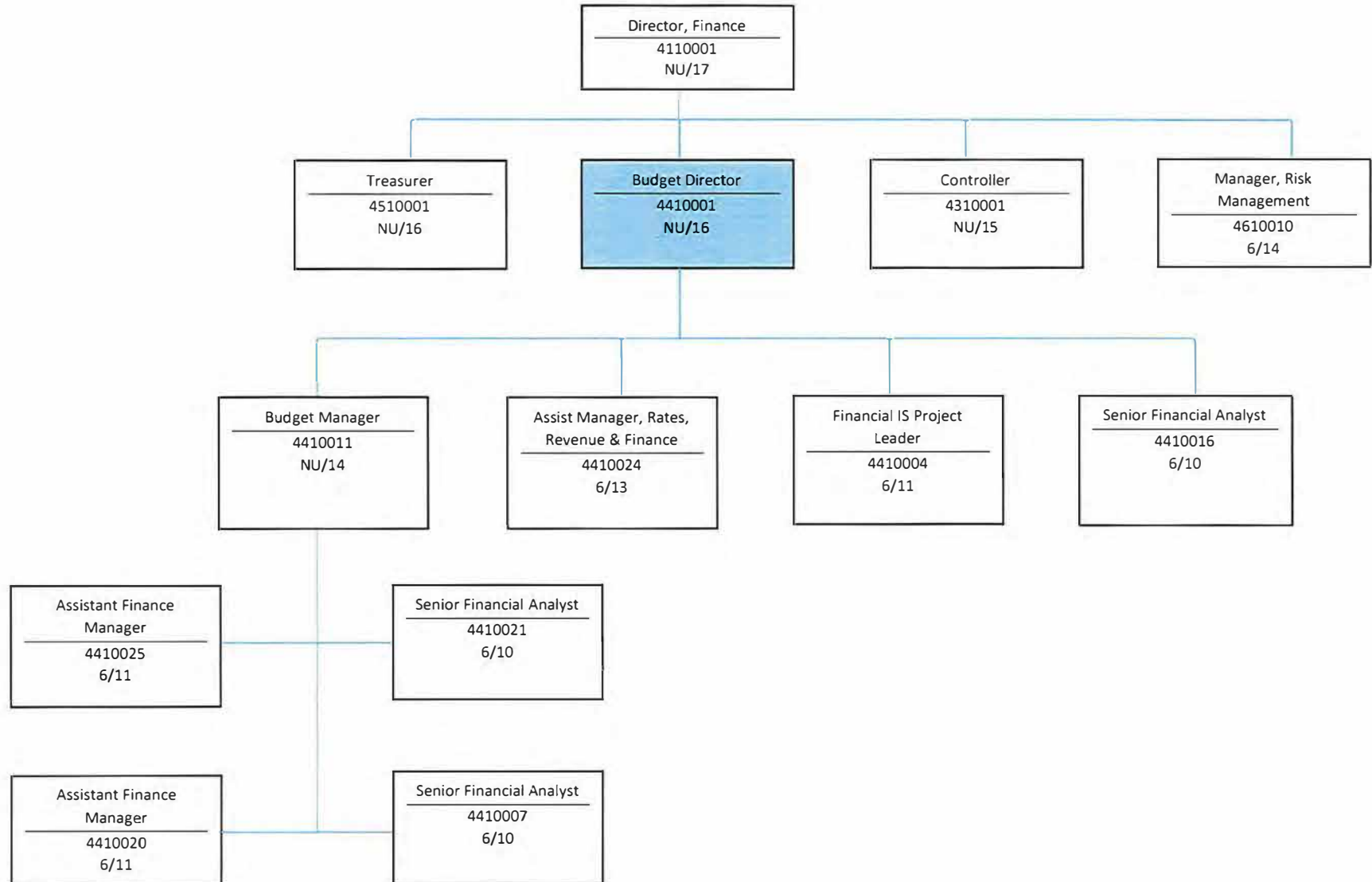
WORK ENVIRONMENT:

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 a moderately quiet office setting.

Finance Division
Rates and Budget Department

June 2019




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Appointment of Program Manager, Energy Management
Operations Division

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Andrea Murphy, Director, Human Resources
David F. Duest, Director, Deer Island WWTP
Preparer/Title


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

RECOMMENDATION:

To approve the appointment of Mr. Robert Huang to the position of Program Manager, Energy Management (Unit 9, Grade 29), at an annual salary of \$128,958.93, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Program Manager, Energy Management position became vacant when the previous incumbent resigned. The position reports to the Deputy Director, Deer Island Wastewater Treatment Plant, and will manage the energy program at Deer Island. In addition, the position is responsible for assisting in the update and implementation of a comprehensive agency-wide Energy Management Plan, and will provide support and expertise to the MWRA's Energy Manager. The position is responsible for the development of renewable energy and efficiency projects from design through oversight of implementation, and review of costs and energy savings. The Program Manager, Energy Management will provide direction to MWRA and consultant staff in the execution of projects related to energy supply for MWRA facilities, including power generation, transmission and distribution and fuel supply. This position will also actively look for energy efficiency opportunities and accompanying reimbursement from the utilities.

Selection Process

This position was posted internally and externally. Twenty-one external candidates applied for the position, and four candidates who met the requirements of the job description were interviewed by the Deputy Director, Deer Island, the Energy Manager and the Manager of Operations Support. Upon completion of the interviews it was determined that Mr. Huang was the best candidate to fill the position based upon his education, experience and knowledge.

Robert Huang has over 25 years of experience working in technical and management positions, including 18 years of experience managing energy projects. As a senior associate at the Cadmus Group, Mr. Huang developed and implemented energy efficiency programs, developed methodologies for utilities to measure energy savings, and led energy saving campaigns that saved over 500 million kWh nationally over a four-year period. Mr. Huang oversaw various programs that directly studied energy efficiency in small businesses, homes and data centers throughout the United States using metering, modeling and engineering analysis. In addition Mr. Huang has several years of experience working as an environmental engineer in both the public and private sector, and has an excellent technical grasp of engineering principles.

Mr. Huang has a Bachelor of Science degree and a Master of Science degree in Chemical Engineering from MIT, as well as a Master's Degree in Public Policy from Harvard University.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Division's FY20 Current Expense Budget for this position.

ATTACHMENTS:

Resume of Robert Huang
Position Description
Organization Chart

ROBERT HUANG

SNAPSHOT

Seasoned energy efficiency consultant to federal and utility clients, who has led a wide range of outreach programs and technical studies, seeks new beginnings.

SKILLS PROFILE

- Manages numerous EPA ENERGY STAR national outreach campaigns that promote innovative energy efficiency concepts, tools, and products to utilities, manufacturers, distributors, retailers, energy managers, contractors and consumers.
- Serves as a subject matter expert on a variety of topics including energy-efficient product standard development, data center energy efficiency, and utility incentive program gross savings evaluations.

EMPLOYMENT HISTORY

Senior Associate, The Cadmus Group
Waltham, MA

2000 — Present

Representative Federal Client Projects

- Manage an EPA ENERGY STAR outreach program to promote distributor-focused midstream incentive programs for water heaters. The ENERGY STAR program offers the latest thinking on program design and implementation and facilitates technical sessions with midstream program experts.
- Spearhead EPA ENERGY STAR promotional campaigns focused on smart thermostats, water heaters, HVAC, and pool pumps. These campaigns build relationships and recruit the entire market chain – manufacturers, distributors, utilities, retailers, and contractors – to join our national promotional efforts.
- Developed and implemented an EPA ENERGY STAR data center efficiency program that includes: (1) a guidance document that describes how utilities can design and implement effective data center efficiency incentive programs; (2) a monthly technical webinar that emphasizes low-cost, low-risk measures to save energy; and (3) case studies on cost-effective data center retrofit measures deployed by eBay, Target, BNY Mellon, and Kaiser Permanente.
- Ran the EPA ENERGY STAR Million Monitor Drive campaign that helped organizations save energy by deploying network tools to activate monitor sleep settings. In four years, the campaign addressed 6.4 million computers to save over 660 million kWh and was a featured program in EPA ENERGY STAR's 20th Anniversary celebration.
- Served as a subject matter expert for EPA ENERGY STAR certified product specifications. Work has involved 1) Power metering studies of game consoles, computers, battery charging systems, electric vehicle charging stations, and routers; 2) Examination of market data, federal standards, test procedures, and stakeholder energy use data to develop per product and national savings estimates and appropriate efficiency levels for water coolers, humidifiers, water heaters, and HVAC; and 3) An energy use study of humidifiers that examined their effects on home heating systems.
- Managed the development and maintenance of 40 Microsoft Excel®-based online energy-savings calculators for EPA ENERGY STAR. Work included a comprehensive overhaul of incremental price data for EPA ENERGY STAR certified products.
- Managed a multi-million-dollar workload assessment of the EPA Superfund program that involved facilitating a series of discussions with EPA regional office and Headquarters personnel to reach consensus on work task resource requirements.
- Developed a methodology for utilities to deploy when estimating efficient server savings as part of the DOE Uniform Methods Project that incorporates the latest efficiency metrics available (e.g., Server Efficiency Rating Tool) and methodologies for gathering server power draw data.

Representative Utility Client Projects

- Conducted a small business retrofit program evaluation for the Massachusetts Energy Efficiency Program Administrators. This evaluation included: (1) a process study to assess the five program administrators moving to a single comprehensive and consistent program; (2) a lighting metering study to determine summer demand; and (3) a data-mining effort to reveal overall trends in program performance.
- Oversaw data center market characterization studies for NYSERDA, PG&E, and the Northwest Power and Conservation Council (NWPCC). These efforts explored data center load estimated for different-sized data centers, forecasted long-term changes in that load under different efficiency scenarios, and focused on embedded data center (EDC) energy efficiency.
- Oversaw home energy performance program evaluations for Ameren Illinois, Efficiency Maine, PacifiCorp, and Public Service Company of New Hampshire. The effort included deemed savings reviews through a combination of engineering analysis, home simulation modelling (using Energy 10 or REM/Rate models) and blower door tests and infrared camera heat profiles to assess installation practices.

- Managed a large-scale potential study for ComEd in Illinois that included more than 140 comprehensive residential audits and over 350 commercial and industrial audits.
- Managed a residential metering effort for the Ontario Power Authority to evaluate the savings of air conditioners and dehumidifiers.

EARLY EMPLOYMENT HIGHLIGHTS

Environmental Officer, UMass President's Office

Boston, MA

- Managed a program that helps Massachusetts envirotech companies commercialize their technologies through UMass resources.
- Prepared EPA inspection preparedness training sessions for five campuses and briefed University leadership on MA DEP and EPA compliance issues.

Natural Resource Specialist, Broward County Department of Natural Resource Protection

(DNRP)

Ft. Lauderdale, FL

- Facilitated the cooperative efforts of DNRP, 26 municipalities, and the Department of Transportation in complying with a county-wide National Pollutant Discharge Elimination System Storm Water Discharge Permit.
- Coordinated the inspections, reports, and licensing of the non-domestic wastewater discharge program and managed a storm water management license renewal program that will inspect 1500 storm water management systems in Broward County.

Innovative Technology Coordinator, Massachusetts Department of Environmental Protection

Boston, MA

- Developed and managed a series of technology scoping sessions whereby Bureau of Waste Site Cleanup (BWSC) staff and environmental consultants provided the technology developer with public/private sector feedback.
- Drafted guidance documents for in-situ bioremediation and field assessment technology applications.
- Promoted interstate regulatory acceptance of innovative technologies through participation in the Interstate Technology Regulatory Cooperative Workgroup.

Associate, Putnam Hayes and Bartlett

Cambridge, MA

- Employed probabilistic techniques to estimate environmental remediation liability at over 100 waste site liability cases.
- Chronicled the history of manufactured gas industry disposal practices in preparation of expert testimony.
- Managed and oversaw the development of a remedial technology unit cost database developed through a review of over 100 EPA Superfund feasibility studies.

Environmental Engineer, Massachusetts Department of Environmental Protection

Woburn, MA

- Authored state policy regulating recycling of petroleum contaminated soil into road base material through asphalt emulsion processing.
- Coordinated the removal of underground storage tanks from all Mobil stations in the region.

EDUCATION

Harvard University – Kennedy School of Government, Master in Public Policy, June 1992

Cambridge, MA

Massachusetts Institute of Technology, Master of Science in Chemical Engineering, June 1988

Cambridge, MA

Massachusetts Institute of Technology, Bachelor of Science in Chemical Engineering, June 1986

Cambridge, MA

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Energy Management

PCR#:

DIVISION: Operations

DEPARTMENT: Deer Island, Wastewater Operations

BASIC PURPOSE:

Provides management of renewable energy, energy efficiency and cost reduction programs and contracts related to the operations of MWRA facilities. The position will play a central role within the agency, providing coordination and communication with MWRA management and staff, as well as outside agencies and regulators, to ensure the continued success of these programs. Much of the focus and time spent will be at the MWRA's Wastewater Treatment Plant, located in Winthrop, MA (the Deer Island Wastewater Treatment Plant).

SUPERVISION RECEIVED:

Works under the general supervision of the Deputy Director, Deer Island Wastewater Treatment Plant.

SUPERVISION EXERCISED:

Assists in the supervision of assigned project managers or other trade staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Researches and proposes energy management strategies resulting in conserving and reducing energy, including the development of energy conservation programs such as (a) a method for evaluating what level of energy conservation is cost-effective for particular facilities; (b) facility energy conservation plans; and (c) a priority list for energy conservation projects.
- Assists in the development of comprehensive energy management plan.
- Manages the planning and design phases of renewable energy and energy efficiency projects including feasibility and operational impact reports, detailed plans and specifications, permitting, work schedules, technical assistance, progress review and evaluation.

- Manages all phases of consultant selection including development of scope of services, specifications, cost estimates, work schedules, negotiations, and preparations of contract award recommendations. Ensures compliance with contract budgets, schedules and terms.
- Oversees and directs MWRA and consultant staff in the execution of projects related to energy supply for MWRA facilities, including power generation, transmission and distribution and fuel supply.
- Manages MWRA and consultant activities associated with exploring renewable energy projects. Activities include consultant contract management, grant funding opportunities, and acting as lead MWRA liaison to appropriate parties associated with these projects. Includes the ability to research technologies, regulations and the potential for outside funding assistance.
- Manage ongoing energy contracts, including detailed equipment efficiency audits, renewable energy contracts and select maintenance contracts for solar and wind turbine installations.
- Performs energy-use reviews of facilities to identify and recommend adoption of operating practices, which can result in significant energy savings. Coordinates the adoption of such practices as required throughout MWRA. This includes, but is not limited to, building envelope, HVAC systems and controls, and process equipment typically associated with water and wastewater treatment facilities and conveyance facilities, with an emphasis on pumping equipment.
- Recommends agency, program or division energy policy by analyzing cost, operational and environmental impacts of proposed policy on division projects, with particular focus on the Deer Island Wastewater Treatment Plant.
- Initiates new renewable energy or energy efficiency projects and prepares capital or current expense budget requests required.
- Coordinates projects with communities, government agencies, professional organizations and other MWRA departments. Provides technical information and assistance. Addresses professional and community groups and initiates outreach projects as required, and acts as liaison with representatives of other agencies.
- Prepares and reviews, as necessary, staff summaries to the Board of Directors.
- Drafts professional services contracts and amendments to contracts.
- Ensures compliance with MWRA policies, procedures and directives, and regulatory requirements and applicable engineering standards. Ensures all activities are coordinated with operation staff, MWRA divisions and outside

concerns as appropriate.

- Serves on MWRA consultant selection committees as requested.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- Completion of a four (4) year college program in civil, mechanical, or environmental engineering or related field; and
- Seven (7) to nine (9) years of energy management and renewable energy project management experience; or
- Any equivalent combination of experience or education

Necessary Knowledge, Skills, and Abilities:

- Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision. Must be able to work comfortably across departments and with staff from multiple disciplines and areas (engineering, finance staff, budget and legal), as well as consultants and regulatory agencies.
- Understanding and ability to perform energy calculations & conversions.
- Ability to identify and provide backup for potential energy conservation measures and demand side management savings associated with buildings and water/wastewater process equipment.
- Ability to drive project and program schedules and identify/adhere to key milestones.
- Understanding of the evolving electricity market, and state and federal energy programs and energy regulations.
- Excellent interpersonal, oral and written communication skills.
- Experience in Microsoft Word, databases and similar computer software, including the ability to gather, interpret and condense large energy-related data sets from throughout the MWRA in to a simple and presentable format.
- Ability to read and understand technical reports, including P&ID drawings, equipment efficiency interpretation, and a basic understanding of SCADA and data reporting.

- Knowledge of Massachusetts bidding laws, including MGL Chapter 25A bidding regulations.
- Basic understanding of water/wastewater embedded energy, electrical distribution and combustion and/or steam turbine generation is a plus.
- Understanding of the ISONE wholesale energy market with relation to the forward capacity market and energy procurement is a plus.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License is required.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer including word processing, databases and other software, copy machine and fax machine. Field equipment used may include flashlight, tape measure, air, water and soil sampling equipment and sampling containers, and various hand held measuring devices such as LEL meters.

PHYSICAL DEMANDS:

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

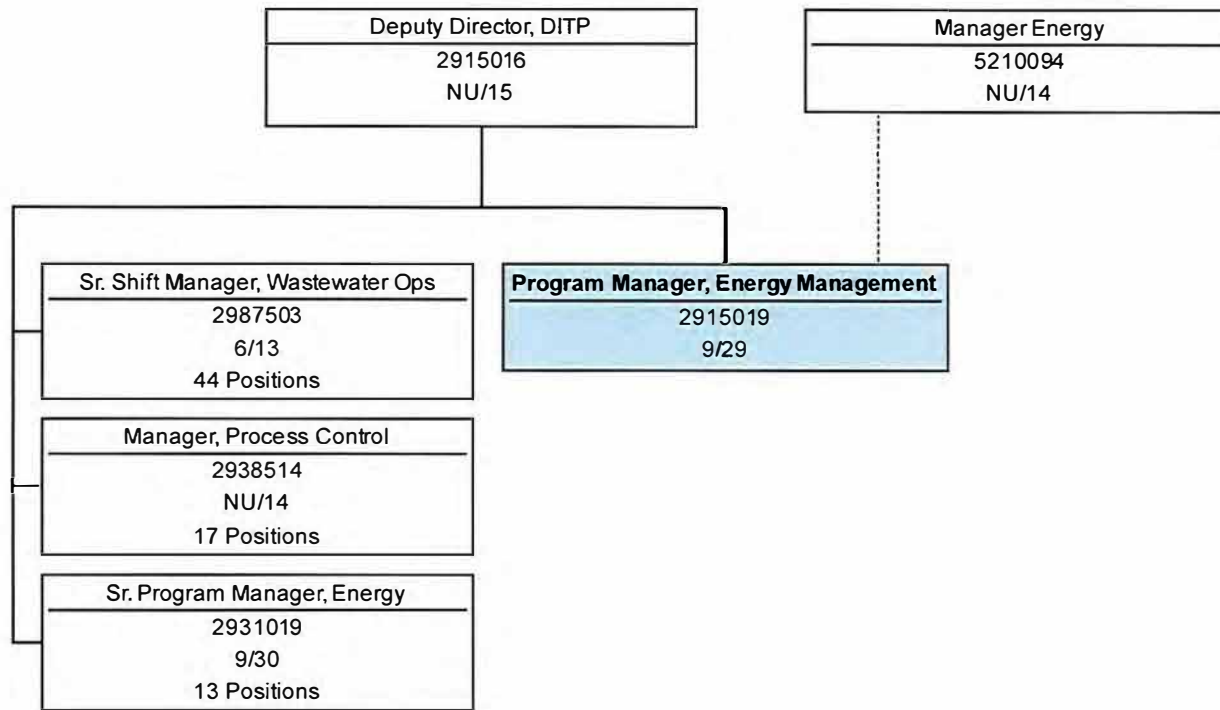
While performing the duties of this job, the employee is regularly required to sit and talk or hear. The employee is frequently required to use hands to finger, handle or operate objects, including office equipment and controls, and reach with hands and arms, and unroll plans. The employee is also required to stand, walk and be able to climb staging and or ladders as associated with construction site visits in order to see facilities, associated equipment, and observe conditions, record information, and collect samples or take meter readings. In addition, the employee will need to be able to lift and carry reports, proposals and project files.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee would encounter performing the essential functions of the job. While performing the duties of this job the employee works in an office environment as well as working in the field, at facilities, construction sites, or pipelines and easements.

January 2019

Deer Island - Operations, Process Control, Power Generation, & Energy June 2019



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: Extension of Employment Contract
Copy and Supply Clerk, Administration Division



COMMITTEE: Personnel & Compensation

INFORMATION

VOTE

Andrea Murphy, Director, Human Resources
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the extension of an employment contract for Mr. Ward Merithew, Copy and Supply Clerk, Facilities Management Department, for a period of one year from July 1, 2019 to June 30, 2020, at the current hourly rate of \$15.76 per hour for an annual compensation not to exceed \$12,292.80.


DISCUSSION:

MWRA's Facilities Management Department is responsible for management of the Charlestown facility, mail service, transportation services and security at the front desk. Mr. Ward Merithew has been working at MWRA since July 2, 2018 on a part-time contract basis. Mr. Merithew provides coverage when there are gaps in staffing and provides daily administrative support. Those duties include coverage for the mailroom and front desk, stocking paper for copies and printers, distributing mail, emptying recycling bins, as well as assisting with the preparations and copying of documents and manuals for staff in the Administration Division.

BUDGET/FISCAL IMPACT:

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

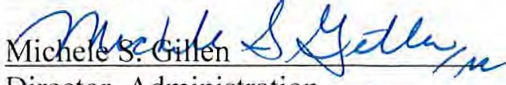
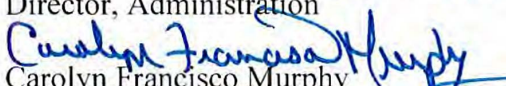
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 19, 2019
SUBJECT: Authority Accountability and Transparency Act Compliance

COMMITTEE: Personnel and Compensation

X INFORMATION
 VOTE

Andrea Murphy, Director, Human Resources
Preparer/Title


Michele S. Gillen
Director, Administration

Carolyn Francisco Murphy
General Counsel

As required by the 2011 Authority Accountability and Transparency Act, the Personnel and Compensation Committee must meet independently of management at least once a year to establish and evaluate executive compensation, and analyze and assess comparable compensation for positions with similar functions and responsibilities at state agencies and authorities, and for-profit and non-profit private sector employers. This meeting will occur at the end of the June 19, 2019 Personnel and Compensation meeting. Analyses of comparable salaries are attached to facilitate the Committee's review.

RECOMMENDATION:

For information only.

DISCUSSION:

The Authority Accountability and Transparency Act (G.L. c. 29, §29K) became law in July 2011 and required the Executive Office for Administration and Finance (A&F) to adopt regulations governing accountability and transparency for state authorities. As applicable to MWRA, the statute requires the Board to review executive compensation based on an analysis of comparable public and private-sector compensation; and to prepare an annual report of all Authority expenditures including disclosure of salaries of highly compensated employees who earn more than the Governor's salary. It also prohibits the Commonwealth from subsidizing the health insurance, pension, and other post-employment benefits of employees and retirees of authorities that participate in the state retirement system or the Group Insurance Commission. A&F filed interim emergency regulations in July 2011, and in 2013, A&F promulgated the permanent regulation.

The final regulation:

- Defines the statutory term “executive” as the authority's chief executive officer, chief financial officer, general counsel and others as determined by the authority's compensation committee.
- Defines “highly compensated employees,” whose compensation is reported in the annual financial report, as those whose salary exceeds that of the Governor.
- Defines “meet independently of management” to exclude authority managers from statutorily required meetings of the authority's audit and compensation committees.
- Implements the benefits anti-subsidy statute, by requiring each state authority that participate in the state retirement system or the Group Insurance Commission to:
 - contribute the employer share of the cost attributable to that authority of the state retirement system (as determined by the PERAC actuary), and of the state group insurance system (as determined by the GIC);
 - be responsible for the full actuarial value of its liabilities as determined no less often than every 3 years by PERAC and the GIC after consulting A&F, the State Treasurer, and the State Board of Retirement.

At the April 2012 meeting, the Board took several steps in order to comply with the Transparency Act and the emergency regulations: the Board created the Administration, Finance and Audit Committee, as well as the Personnel and Compensation Committee; made adjustments to the sick leave buy back for executives; and made certain minor adjustments to existing employment contracts. At the April 2012, May 2013, May 2014, May 2015, May 2016, May 2017, and May 2018 meetings, the Personnel and Compensation Committee met independently of management as required by the regulations. As a result of these actions, MWRA is in compliance with the permanent regulations and Transparency Act. Neither MWRA Board members nor the Administration, Finance and Audit Committee are required to meet independently with respect to the audited financials of the Authority because the statute carves out an exception for state authorities that are otherwise required to retain an outside independent audit firm.

In order to remain in compliance with the statute's requirements, staff recommend that the Personnel and Compensation Committee meet independently of management at the June 19, 2019 meeting. In order to facilitate the committee's review, analyses of comparable salaries are included with this staff summary.

BUDGET/FISCAL IMPACT:

The passage and implementation of section 29K of Chapter 29 of the Massachusetts General Laws will not have any impact upon either the FY19 CEB or CIP.

ATTACHMENTS:

- Attachment A: Summary of Compensation Data for State Agencies, Authorities, Non-Profit Organizations and Private Companies
- Attachment B: Survey of Comparable National Water/Wastewater Utilities
- Attachment C: American Water Works Association – 2018 Water Utility Survey
- Attachment D: “The highest-paid Mass. quasi-public employees in 2018”, The Boston Globe, March 18, 2019.

Attachment A

Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

June 2019

MWRA Position:	Executive Director			
Organization	Sector	Title	Reporting Period	Annual Salary
Citizens Energy, Inc.	Non-Profit	President and CEO	2016	\$824,969
Eversource Energy	Private Utility	President and CEO	2018	\$648,271
Boston Foundation, Inc.	Non-Profit	President and CEO	2017	\$642,391
Greater Boston Food Bank, Inc.	Non-Profit	President and CEO	2017	\$363,570
City Year, Inc.	Non-Profit	President	2017	\$351,354
MBTA	State	General Manager	2019	\$315,057
Mass Port Authority	Quasi Public	(Acting) Chief Executive Officer	2019	\$296,976
Mass Convention Center Authority	Quasi Public	Executive Director	2019	\$252,012
Mass Housing Partnership	Quasi Public	Executive Director	2019	\$244,900
Commonwealth Health Insurance Connector Authority	Quasi Public	Executive Director	2019	\$235,264
Conservation Law Foundation	Non-Profit	President	2017	\$236,250
MWRA	Quasi Public	Executive Director	2019	\$206,137
Commonwealth of Massachusetts	State	Treasurer	2019	\$189,560
Commonwealth of Massachusetts	State	Attorney General	2019	\$185,378
Commonwealth of Massachusetts	State	Governor	2019	\$185,000
Commonwealth of Massachusetts	State	State Auditor	2019	\$178,728
Commonwealth of Massachusetts	State	Secretary of State	2019	\$178,695
MassDOT	State	Secretary and CEO	2019	\$170,406
Mass Department of Revenue	State	Commissioner of Revenue	2019	\$166,690
Save the Harbor/Save the Bay	Non-Profit	President	2017	\$165,392
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	President	2017	\$132,698

Attachment A

Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

June 2019

MWRA Position:	Chief Operating Officer			
Organization	Sector	Title	Reporting Period	Annual Salary
Eversource Energy	Private Utility	Executive Vice President/Chief Operating Officer	2018	\$685,271
Citizens Energy, Inc.	Non-Profit	Chief Executive Officer	2016	\$637,983
Mass Port Authority	Quasi Public	Director, Capitol Programs & Environmental Affairs	2019	\$310,000
City Year, Inc.	Non-Profit	Chief Operating Officer	2017	\$271,896
Greater Boston Food Bank, Inc.	Non-Profit	Chief Operating Officer	2017	\$264,840
MBTA	State	Deputy General Manager	2019	\$253,570
Mass Housing Partnership	Quasi Public	Managing Director	2019	\$210,000
Commonwealth Health Insurance Connector Authority	Quasi Public	Deputy Executive Director and COO	2019	\$207,815
MWRA	Quasi Public	Chief Operating Officer	2019	\$186,030
Conservation Law Foundation	Non-Profit	Executive VP and Director	2017	\$133,714
Save the Harbor/Save the Bay	Non-Profit	No Match		
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	No Match		
Conservation Law Foundation	Non-Profit	No Match		
Boston Foundation, Inc.	Non-Profit	No Match		

Attachment A

Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

June 2019

MWRA Position:	Director, Finance			
Organization	Sector	Title	Reporting Period	Annual Salary
Eversource Energy	Private Utility	Executive Vice President & CFO	2018	\$648,271
Citizens Energy, Inc.	Non-Profit	CFO	2016	\$447,260
Boston Foundation, Inc.	Non-Profit	Chief Financial Officer/Treasurer	2017	\$340,178
City Year, Inc.	Non-Profit	Chief Financial Officer	2017	\$271,903
Greater Boston Food Bank, Inc.	Non-Profit	Chief Financial Officer	990	\$234,726
Mass Port Authority	Quasi Public	Director, Admin & Finance/Sec-Treasurer	2019	\$210,000
Mass Housing Partnership	Quasi Public	Chief Finance & Admin Officer	2019	\$187,000
MBTA	State	Operational CFO	2019	\$175,000
Mass Convention Center Authority	Quasi Public	Chief Financial Officer	2019	\$173,430
Commonwealth Health Insurance Connector Authority	Quasi Public	Chief Financial Officer	2019	\$169,793
MWRA	Quasi Public	Director, Finance	2019	\$166,440
MassDOT	State	Chief Financial Officer	2019	\$147,027
Conservation Law Foundation	Non-Profit	Vice President, Finance and Admin and CFO	2017	\$88,462
Save the Harbor/Save the Bay	Non-Profit	No Match		
Boston Harbor Now (formerly Boston Harbor Association)	Non-Profit	No Match		

Attachment A

Summary of Compensation Data for State Agencies, Authorities, Non-Profit and Private Companies

June 2019

MWRA Position:	General Counsel			
Organization	Sector	Title	Reporting Period	Annual Salary
Eversource Energy	Private Utility	Executive Vice President and General Counsel	2018	\$618,271
Mass Port Authority	Quasi Public	Chief Legal Counsel	2019	\$245,574
Commonwealth Health Insurance Connector Authority	Quasi Public	General Counsel	2019	\$197,432
Mass Housing Partnership	Quasi Public	General Counsel	2019	\$185,000
MBTA	State	Chief Counsel	2019	\$185,000
Mass Convention Center Authority	Quasi Public	General Counsel	2019	\$173,430
MWRA	Quasi Public	General Counsel	2019	\$166,440
MassDOT	State	General Counsel	2019	\$163,697
Mass Department of Revenue	State	General Counsel	2019	\$157,492
Conservation Law Foundation	Non-Profit	Sr Counsel	2017	\$154,569
Boston Foundation Inc.	Non-Profit	No match		
City Year, Inc.	Non-Profit	No match		
Greater Boston Food Bank Inc.	Non-Profit	No match		
Citizens Energy, Inc.	Non-Profit	No match		
Save the Harbor/Save the Bay	Non-Profit	No match		

Attachment B
 MWRA Survey of Comparable National Water/Wastewater
 Utilities - June 2019

Executive Director										
Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2018 Bonus	Employment Contract
Fairfax Water	Fairfax, VA	\$183 Million	431	2.5 million	General Manager	\$283,000	\$5,048	\$0	15,000 for 2019	No
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1777	19 million	General Manager	\$402,209	District vehicle	\$11,025	\$0	Yes
Washington Suburban Sanitary Commission	Laurel, MD	\$662 million	1567	1.8 million	General Manager/CEO	\$282,880	\$12,000	\$24,500	\$20,000	Yes
Seattle Public Utilities	Seattle, WA	873.6 Million	1,279	1.3 million	General Manager/CEO	\$287,701				No
East Bay Municipal Utility District	Oakland, CA	607.5 Million	1,905	1.4 Million	General Manager	\$347,112	District vehicle	\$25,000	\$0	Yes
					Average Salary	\$320,580				
MWRA					MWRA Executive Director	\$206,137	included in salary	\$0	0	Yes
Chief Operating Officer										
Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2018 Bonus	Employment Contract
Fairfax Water	Fairfax, VA	\$183 Million	431	2.5 million	Deputy General Manager	\$246,000	\$5,494	\$0	15,000 for 2019	No
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1777	19 million	Assistant General Manager/Chief Operating Officer	\$261,508	\$700	\$0	\$0	No
Washington Suburban Sanitary Commission	Laurel, MD	\$662 million	1567	1.8 million	Deputy General Manager for Operations	\$224,500	\$8,000	\$0	none	Yes
Seattle Public Utilities	Seattle, WA	873.6 Million	1,279	1.3 million	Chief Administration Officer	\$199,592	\$0	\$0		No
East Bay Municipal Utility District	Oakland, CA	607.5 Million	1,905	1.4 Million	Director, Ops & Maint	\$260,304	\$0	\$0	\$8,690	No
					Average Salary	\$238,381				
MWRA					MWRA Chief Operating Officer	\$186,030	no	\$0	\$0	No
Director Finance										
Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2018 Bonus	Employment Contract
Fairfax Water	Fairfax, VA	\$183 Million	431	2.5 million	Director, Finance	\$210,712	\$0	\$0	\$0	No
Metropolitan Water District of Southern California	Los Angeles, CA	\$1.496 billion	1777	19 million	Interim Assistant General Manager/Chief Financial Officer	\$242,840	\$700	\$0	\$0	No
Washington Suburban Sanitary Commission	Laurel, MD	\$662 million	1567	1.8 million	Chief Financial Officer	\$208,000	\$3,000	\$0	none	Yes
Seattle Public Utilities	Seattle, WA	873.6 Million	1,279	1.3 million	Deputy Director, Finance & Admin	\$154,836	\$0	\$0	\$0	No
East Bay Municipal Utility District	Oakland, CA	607.5 Million	1,905	1.4 Million	Director, Finance	\$236,604	0	\$0	\$3,346	No
					Average Salary	\$210,598				
MWRA					MWRA Director, Finance	\$166,440				No

Attachment B
 MWRA Survey of Comparable National Water/Wastewater
 Utilities - June 2019

General Counsel										
Organization	Location	Operating Budget	# Employees	Population Served	Title	Base Salary	Car Allowance	Deferred Comp	2018 Bonus	Employment Contract
Fairfax Water	Fairfax, Virginia	\$183 Million	431	2.5 million	No Match					
Metropolitan Water District of Southern California	Los Angeles, Ca	\$1.496 billion	1777	19 million	General Counsel	\$305,011	\$700	\$0	\$0	No
Washington Suburban Sanitary Commission	Laurel, MD	\$662 million	1567	1.8 million	General Counsel	\$189,108	\$3,000	\$0	\$0	Yes
Seattle Public Utilities	Seattle, WA	873.6 Million	1,279	1.3 million	No Match (uses city legal services)					
East Bay Municipal Utility District	Oakland, Ca	607.5 Million	1,905	1.4 Million	General Counsel	\$292,608	No	\$0	\$0	Yes
					Average Salary	\$262,242				
MWRA					MWRA General Counsel	\$166,440				No

Survey Position:	Top Executive				
MWRA Position:	Executive Director				
Survey Scope:	<u>ALL</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	21	26	\$240,000	\$225,377	\$206,137
Survey Scope:	All <u>water</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	8	8	\$231,639	\$222,302	\$206,137
Survey Scope:	All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	13	18	\$240,000	\$258,061	\$206,137

Survey Position:	Top Operations and Maintenance Executive				
MWRA Position:	Chief Operating Officer				
Survey Scope:	<u>ALL</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	20	45	\$180,612	\$168,307	\$186,030
Survey Scope:	All <u>water</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	8	22	\$189,000	\$180,828	\$186,030
Survey Scope:	All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000				
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary	MWRA Salary
	12	23	\$173,506	\$156,330	\$186,030

Survey Position:	Top Finance Executive			
MWRA Position:	Director, Finance			
Survey Scope:	ALL utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	17	16	\$192,053	\$184,884
	MWRA Salary	\$166,440		
Survey Scope:	All <u>water</u> utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	8	7	\$205,572	\$179,834
	MWRA Salary	\$166,440		
Survey Scope:	All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	9	9	\$182,000	\$188,811
	MWRA Salary	\$166,440		

Survey Position:	Top Legal Executive			
MWRA Position:	General Counsel			
Survey Scope:	ALL utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	11	11	\$222,100	\$219,071
	MWRA Salary	\$166,440		
Survey Scope:	All <u>water</u> utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	4	4	not reported	not reported
	MWRA Salary	\$166,440		
Survey Scope:	All <u>water/wastewater</u> utilities serving a population in excess of 1,000,000			
	# of Utilities	# of Employees	50th Percentile Salary	Average Salary
	7	7	\$218,763	\$212,024
	MWRA Salary	\$166,440		

Here's a list of the 100 highest-paid Mass. quasi-public workers in 2018

By **Matt Rocheleau** Globe Staff. March 18, 2019, 12:44 p.m.

The highest-paid Mass. quasi-public employees in 2018

Quasi-public agencies are established by the state, provide public services, and receive state financial support, but unlike regular government agencies, they are legally structured to operate somewhat independently. The agencies also operate with less public accountability than traditional government offices, with their budgets largely kept separate and not subject to legislative oversight. Many quasi-public agencies generate significant revenue from fees they charge to customers, such as tolls, fares, and rent. | Related: Pay records show hefty spending at Mass. quasi-public agencies | (Note: This table does not include figures for several quasi agencies that reported their payroll with the rest of the state's traditional offices. To read more about those other agencies and offices, click here and here.

Pay	Name	Agency	Title
\$668,824.39	Michael Trotsky	Pension Reserves Investment Management Board	Executive Director and Chief Investment Officer
\$454,345.60	Christopher Supple	Pension Reserves Investment Management Board	Deputy Executive Director and General Counsel
\$425,226.49	Eric Nierenberg	Pension Reserves Investment Management Board	Chief Strategy Officer
\$424,938.03	Michael Bailey	Pension Reserves Investment Management Board	Senior Investment Officer- Director of Private Equity
\$370,371.35	Timothy Schlitzer	Pension Reserves Investment Management Board	Senior Investment Officer- Director of Real Estate and Timberland
\$364,987.26	David Gurtz	Pension Reserves Investment Management	Deputy Chief Investment Officer - Director of Public

Pay	Name	Agency	Title
\$343,270.84	Michael McGirr	Pension Reserves Investment Management Board	Senior Investment Officer - Private Equity
\$314,410.44	James Leighton	Massachusetts Educational Financing Authority	Chief Operating Officer/Chief Financial Officer
\$311,496.48	Thomas Graf	Massachusetts Educational Financing Authority	Executive Director
\$308,519.98	Houssam H. Sleiman	Massachusetts Port Authority	Director Capital Programs & Enviro Affairs
\$306,850.89	John P. Pranckevicius	Massachusetts Port Authority	Acting Chief Executive Officer
\$305,806.43	Thomas P. Glynn	Massachusetts Port Authority	CEO/Executive Director
\$301,026.60	Charles LaPosta	Pension Reserves Investment Management Board	Senior Investment Officer - Fixed Income
\$292,610.44	Elizabeth Fontaine	Massachusetts Educational Financing Authority	Deputy Executive Director
\$290,801.35	John LaCara	Pension Reserves Investment Management Board	Senior Investment Officer - Real Estate and Timber
\$287,553.46	Clark Ziegler	Massachusetts Housing Partnership	Executive Director
\$284,709.98	Anthony Falzone	Pension Reserves Investment Management Board	Chief Operating Officer
\$269,750.72	Lisa S. Wieland	Massachusetts Port Authority	Port Director
\$264,370.47	Thomas Joseph Lyons	MassHousing	Vice President of External Aff
\$264,011.20	David Gibbons	Massachusetts Convention Center Authority	Executive Director
\$252,529.91	Andre Clapp	Pension Reserves Investment Management Board	Senior Investment Officer - Public Equities
\$249,503.19	Catherine Mcdonald Ferrara	Massachusetts Port Authority	Chief Legal Counsel

Pay	Name	Agency	Title
\$245,390.53	Deborah Coulter	Pension Reserves Investment Management Board	Chief Financial Officer
\$245,021.27	Matthew Liposky	Pension Reserves Investment Management Board	Chief Investment Operating Officer
\$244,196.01	Mark A. Curtiss	Massachusetts Housing Partnership	Managing Director
\$243,751.77	James B. Roche	Massachusetts Port Authority	General Electrical Foreperson
\$243,244.63	Paul Todisco	Pension Reserves Investment Management Board	Senior Client Service Officer
\$242,700.38	Todd Smith	Massachusetts Port Authority	Director Aviation Operations
\$241,457.56	Travis McCready	Massachusetts Life Sciences Center	President and Chief Executive Officer
\$239,665.00	Walter M. Bird	MassVentures	President
\$238,240.34	Lauren Liss	MassDevelopment	President/CEO
\$237,144.64	Edward Adelman	State College Building Authority	Executive Director
\$230,352.28	Patrick M. Keenan	Massachusetts Port Authority	Electrical Foreperson
\$230,199.65	John P. Vetere	Massachusetts Water Resources Authority	Deputy Chief OO, OE&C
\$230,066.56	David M. Gambone	Massachusetts Port Authority	Chief Human Resources Officer
\$229,921.25	Chengyu Li	Pension Reserves Investment Management Board	Senior Investment Officer - Director of PCS
\$227,868.23	Chrystal D. Kornegay	MassHousing	Executive Director
\$224,923.92	Trammell Louis Gutierrez	Commonwealth Health Insurance Connector Authority	Executive Director
\$222,745.32	Kevin P. Mello	MassHousing	

Pay	Name	Agency	Title
			Director Of HO Servicing & Ops
\$221,559.90	Daniel T. Gallagher	Massachusetts Port Authority	Director Aviation Business & Finance
\$220,425.27	Francis X. Anglin	Massachusetts Port Authority	Chief Information Officer
\$219,662.39	Richard C. Henderson	MassDevelopment	EVP Real Estate
\$219,444.78	Charles C. Karimbakas	MassHousing	CFO
\$218,580.31	Sergio Alves Ferreira	MassHousing	Director of Rental Underwritin
\$218,389.48	Robert Ruzzo	MassDevelopment	Deputy Director & Chief Operating Officer
\$217,398.78	Joseph DeGrace	Massachusetts Port Authority	Fire Chief
\$216,950.76	Michael Meyran	Massachusetts Port Authority	Deputy Port Director Operations
\$215,610.54	Laura L. Canter	MassDevelopment	EVP Finance Programs
\$215,323.73	Beth M. Elliott	MassHousing	General Counsel
\$214,874.99	Michelle Kalowski	Massachusetts Port Authority	Deputy Chief Legal Counsel
\$214,711.68	Simon R. Gerlin	MassDevelopment	EVP Finance/CFO
\$214,029.48	Cynthia D. Lacasse	MassHousing	Director of Rental Business De
\$211,752.23	Kevin P. O'Neil	Massachusetts Port Authority	Electrician
\$210,172.06	Henry M. Mukasa	MassHousing	Director of Rental Management
\$209,450.20	Daniel Eckman	Pension Reserves Investment Management Board	Director of Finance and Administration
\$208,954.12	David S. Ishihara	Massachusetts Port Authority	Director of Aviation Services
\$208,220.41	Tyrone Reed	MassHousing	Chief Information Officer
\$207,132.33	Andrew G. Hargens	Massachusetts Port Authority	Chief Development Officer

Pay	Name	Agency	Title
\$206,470.06	David P. Rockwell	Massachusetts Housing Partnership	Director of Lending
\$206,254.96	Richard G. Covino	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$206,199.75	Charleen R. Tyson	Massachusetts Housing Partnership	Chief Financial and Administrative Officer
\$205,049.56	Victoria L. Coates	Commonwealth Health Insurance Connector Authority	Deputy Executive Director/Chief Oper Officer
\$204,338.92	John P. Berry	Massachusetts Port Authority	Cruise Terminal Manager
\$203,939.94	George Naccara	Massachusetts Port Authority	Chief Security Officer
\$203,625.89	Frederick A. Laskey	Massachusetts Water Resources Authority	Executive Director
\$202,592.72	Michael J. Beeley	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$202,147.95	Roger Herzog	Community Economic Development Assistance Corp	Executive Director
\$201,905.40	Philip F. Holahan	Massachusetts Technology Collaborative	Deputy Executive Director & General Counsel
\$200,902.77	Lawrence Andrews	Massachusetts Growth Capital Corporation	President
\$199,717.96	Eric J. Warren	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$199,562.78	Peter Breiling	Massachusetts Port Authority	Deputy Director Administration & Finance
\$199,171.30	Luciana Burdi	Massachusetts Port Authority	Deputy Director Capital Programs & Env Affairs
\$199,115.63	Rahul Yarala	Massachusetts Clean Energy Center	Executive Director, WTTC Center
\$197,519.92	Stephen Pike	Massachusetts Clean Energy Center	Chief Executive Officer
\$196,751.71	John T. Kirk	Massachusetts Port Authority	Electrician
\$194,504.11	Patrick Larkin	Massachusetts Technology Collaborative	Deputy Director, MTC & Director John Adams

Pay	Name	Agency	Title
\$193,113.34	Michele E. DeTour	Massachusetts Port Authority	Deputy Chief Legal Counsel
\$192,977.28	Edward J. DeAngelo	Commonwealth Health Insurance Connector Authority	General Counsel
\$192,280.47	Janet Chrisos	State College Building Authority	Deputy Director
\$191,451.08	Christina Marcarelli	Pension Reserves Investment Management Board	Senior Investment Officer - Real Estate and Timber
\$190,493.54	Stephen E. Vickery	MassHousing	Comptroller
\$190,452.12	Matthew J. Clogher	Massachusetts Port Authority	Electrician
\$190,368.77	James D. Collins	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$189,572.96	David L. Keene	MassHousing	Chief Preservation Officer
\$189,308.94	Kathy Soni	Massachusetts Water Resources Authority	Budget Director
\$188,557.66	Myra L. Carmona	MassHousing	VP of Talent and Culture
\$188,378.00	James V. Lochirco	Massachusetts Port Authority	Electrician
\$187,953.26	Robert J. DeFlaminis	Massachusetts Port Authority	Assistant Chief Maritime Security
\$187,312.47	Joseph F. McCann	Massachusetts Port Authority	Comptroller
\$187,096.46	Thomas Domenico	Massachusetts Port Authority	Acting Chief Information Officer
\$187,043.66	Almond A. Osgood	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$186,937.87	Joseph Allen	Massachusetts Port Authority	Fire Lieutenant/EMT
\$186,816.37	Flavio Leo	Massachusetts Port Authority	Director of Aviation Planning & Strategy
\$186,801.54	Mounzer M. Aylouche	MassHousing	VP of Homeownership Programs

Pay	Name	Agency	Title
\$186,557.80	Leo J. Saidnawey	MassHousing	Manager of Network & Computer
\$186,521.54	Gregory M. Mooney	Massachusetts Port Authority	Assistant Fire Chief/EMT
\$186,405.67	David W. Coppes	Massachusetts Water Resources Authority	Chief Operating Officer
\$184,592.52	Frank Cavanaugh	Massachusetts Educational Financing Authority	Senior Director of Portfolio Originations
\$184,406.49	Norman J. Aubert	Massachusetts Port Authority	Assistant Fire Chief/EMT

SOURCE: Office of the Comptroller, Agency records

Matt Rocheleau can be reached at matthew.rocheleau@globe.com. Follow him on Twitter @mrochele

Show 78 comments



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

BOARD OF DIRECTORS' MEETING

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

to be held on

Wednesday, June 19, 2019

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

Time: 1:00 p.m.

AGENDA

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

A. Approvals

1. FY20 Capital Improvement Program (ref. AF&A B.1)
2. Final FY20 Current Expense Budget (ref. AF&A B.2)
3. Final FY20 Water and Sewer Assessments (ref. AF&A B.3)
4. Increase to Cost of Living Adjustment Base for Retirees (ref. AF&A B.4)
5. Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Power for the MWRA Profile Accounts (ref. AF&A B.5)
6. Sole Source Purchase of 182 Telog Dataloggers for the Wastewater Metering Replacement Project: Telog Instruments, Inc. (ref. WW B.1)

A. Approvals (continued)

7. FY2020 Non-Union Compensation (ref. P&C A.1)
8. Appointment of Budget Director, Finance Division (ref. P&C A.2)
9. Appointment of Program Manager, Energy Management, Deer Island (ref. P&C A.3)
10. Extension of Employment Contract for Copy and Supply Clerk, Administration Division (ref. P&C A.4)

B. Contract Awards

1. Chemical Tank Relining and Pipe Replacement – Deer Island Treatment Plant: Walsh Construction Co. II, LLC, Contract 7373 (ref. WW C.1)
2. Sole Source Purchase Order for Three Years of Maintenance and Support of the Process Instrumentation and Control System Human-Machine Interface Software at the Deer Island Treatment Plant: Emerson Process Management Power and Water Solutions, Inc. (ref. WW C.2)
3. Section 22 Rehabilitation Alternative Analysis and Environmental Permitting: Black & Veatch, Contract 7155 (ref. W A.1)

C. Contract Amendments/Change Orders

1. Chelsea Creek Headworks Upgrade, BHD/BEC 2015, A Joint Venture: Contract 7161, C.O. 29 (ref. WW D.1)

V. OTHER BUSINESS

- A. Review and Extension of Contract for Executive Director

VI. CORRESPONDENCE TO THE BOARD

Letter - Advisory Board Recommendation on Massport \$8M Easement

VII. EXECUTIVE SESSION

A. Litigation:

1. DaPrato v. MWRA, Suffolk Sup. Ct. No. 2015CV3687D; SJC No. 12651: Status of Proceedings/Litigation Strategy

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

May 29, 2019

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on Wednesday, May 29, 2019 at the Authority headquarters in Charlestown. Chair Theoharides presided. Present from the Board were Messrs. Carroll, Cook, Cotter, Foti, Pappastergion, Peña, Vitale and Walsh. Mr. Flanagan and Ms. Wolowicz 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, Tunnel Redundancy Program, Stephen Estes-Smargiassi, Director of Planning and Sustainability, Joshua Das, Program Manager, Water Quality, Valarie Moran, Deputy Director, Waterworks, and Assistant Secretaries Ria Convery and Kristin MacDougall. The meeting was called to order at 1:05 p.m.

REPORT OF THE CHAIR

Chair Theoharides updated MWRA on Executive Office of Energy and Environmental Affairs' priorities, including climate change, environmental protection, resiliency, energy, mitigation, recreational access and legislation. She also provided an update on the Global Warming Solutions Act.

APPROVAL OF APRIL 17, 2019 MINUTES

Upon a motion duly made and seconded, it was

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

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported that Save the Harbor/Save the Bay's annual Beaches Water Quality Report Card for local beaches was issued with a rating of 95%, which is consistent with the last 6 years.

He also discussed the Irish Famine Memorial dedication ceremony at Deer Island on May 18, 2019. Mr. Laskey noted in his report that that MWRA once again won the Platinum Award from the National Association of Clean Water Agencies, marking twelve years without a permit violation at Deer Island. He updated the Board on the progress of the new cross harbor cable, and noted that Quabbin Reservoir water transfers to the Wachusett began on May 21, 2019. Finally, Mr. Laskey reminded the Board that the annual Accountability and Transparency Act meeting will be held on June, 19, 2019.

Update on Annual Water Quality Update (CCR): Staff made a verbal presentation and provided samples of the CCR to the Board. There were questions and answers. Mr. Foti commended Joshua Das for a job well done.

Update on the May 3, 2019 Water Main Break, Section 89, Winchester: Staff made a presentation. (Mr. Carroll left and returned to the meeting during the presentation.) There were questions and answers.

APPROVALS

May 2019 PCR Amendments (ref. P&C B.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 Deputy Contracts Manager, Administration Division (ref. P&C A.2)

Upon a motion duly made and seconded, it was

Voted: that the Board approve the appointment of Ms. Evelma Strother to the position of Deputy Contracts Manager, Administration Division (Unit 6, Grade13) at an annual salary of \$120,130.72 commencing on a date to be determined by the Executive Director.

Appointment of Program Manager, Engineering & Construction Department (ref. P&C A.3)

Upon a motion duly made and seconded, it was

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

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 \$24,150,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by \$26,878,250 in the FY20 through FY22 timeframe.

Approval for Crescent Ridge Dairy Admission to the MWRA Wastewater System (ref. WW A.1)

Upon a motion duly made and seconded, it was

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

CONTRACT AWARDS

MWRA FY20 Insurance Program Renewal (ref. AF&A C.1)

Upon a motion duly made and seconded, it was

Voted: to approve awards to the lowest eligible and responsive proposers for insurance policies, bonds, and related broker services for MWRA's FY20 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to execute

contracts for broker services, for the terms, premiums, and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$2,249,851:

- (1) Workers' Compensation Excess Policy with Safety National Casualty Corporation, submitted by broker Willis of Massachusetts, Inc. (Willis of Massachusetts), for the period beginning July 1, 2019, through June 30, 2020, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$214,008;
- (2) Property Policy (including Boiler & Machinery coverage) with Factory Mutual Insurance Co. (FM Global), for the period beginning July 1, 2019, through June 30, 2020, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a FY20 premium of \$1,056,442;
- (3) General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution, and Employment Practice Liability) with Lexington Insurance Company and Berkshire Hathaway Specialty Insurance, submitted by broker Richards Robinson Sheppard Insurance, LLC (Richards Robinson Sheppard), for the period beginning July 1, 2019 through June 30, 2020, with a combined \$25 million limit and a \$2.5 million self-insured retention, for a combined premium of \$410,235;
- (4) Excess General Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2019, through June 30, 2020, providing a combined total of \$75 million of excess liability coverage for a total combined premium not to exceed \$425,000;
- (5) Public Official's Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc. (Arthur J. Gallagher), for the period beginning July 1, 2019, through June 30, 2020, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$69,779, including broker commission;

(6) Fiduciary Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher, for the period beginning July 1, 2019, through June 30, 2020, with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$6,957 including broker commission;

(7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2019, through June 30, 2020, with a \$1 million limit and a \$25,000 deductible for a premium of \$4,680;

(8) Treasurer's Bond with a \$1 million limit with an insurance company to be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2020; and

(9) Broker contracts with Richards Robinson Sheppard for an amount of \$40,000, Willis of Massachusetts, for an amount of \$20,250 and Arthur J. Gallagher for the commissions included within the policy premiums, from notice of award through June 30, 2020.

Wastewater Advisory Committee Contract (ref. WW 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 contract, substantially in the form attached hereto, with the Wastewater Advisory Committee for a term of one year, from July 1, 2019 to June 30, 2020, for a total contract cost of \$75,122.00.

Water Supply Citizens Advisory Committee Contract (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 contract, substantially in the form attached hereto, with the Water Supply Citizens Advisory Committee for a one-year period beginning July 1, 2019 to June 30, 2020, with a total contract cost of \$110,186.00.

Flow Testing Services for MWRA's Revenue Water Meters Complete Control Services, Inc. Bid WRA-4679 (ref. W B.2)

Upon a motion duly made and seconded, it was

Voted: to approve the award of Purchase Order Contract WRA-4679 for flow testing services for MWRA's revenue water meters, to the lowest responsive bidder, Complete Control Services, Inc., and authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not-to-exceed \$265,900 for the time period June 1, 2019 through May 31, 2022.

Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility Univar USA, Inc. Bid WRA-4681 (ref. W B.3)

Upon a motion duly made and seconded, it was

Voted: to approve the award of Purchase Order Contract WRA-4681, a one-year contract for the supply and delivery of sodium hypochlorite to the lowest responsive bidder, Univar USA, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not-to-exceed \$1,632,660 for a period of one year, from July 17, 2019 through July 16, 2020.

Section 22 Rehabilitation Alternative Analysis and Environmental Permitting: Black & Veatch Corporation, Contract 7155 (ref. W B.4)

Item postponed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Southern Extra High Pipeline - Section 111 (Dedham North), P. Gioioso and Sons, Inc. Contract 7504, Change Order 7 (ref. W 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 7 to Contract 7504, Southern Extra High Pipeline - Section 111 (Dedham North), with P. Gioioso and Sons, Inc., for an amount not to exceed \$848,991.05, increasing the contract amount from \$17,551,281.92 to \$18,400,272.97, with no increase in contract term.

Further, it was voted: to authorize the Executive Director to approve additional change orders as may be needed to Contract 7504 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

EXECUTIVE SESSION

It was moved to enter executive session to discuss real estate, litigation and collective bargaining and thereafter to return to open session solely for the purpose of adjournment. Upon a motion duly made and seconded, a roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Carroll		
Cook		
Cotter		
Foti		
Pappastergion		
Peña		
Theoharides		
Vitale		
Walsh		

Voted: to enter executive session for the purpose of discussing strategy with respect to real estate, litigation and collective bargaining, in that such discussions may have a detrimental effect upon the litigation and negotiating positions of the Authority.

* * * * *

EXECUTIVE SESSION

* * * * *

The meeting returned to open session and adjourned at 2:27 p.m.

Approved: June 19, 2019

Attest:

Andrew M. Pappastergion, Secretary



Advocacy & Accountability

Representing Over 3 Million People in Massachusetts Communities Since 1985

MWRA Board of Directors

Chair – Kathleen A. Theoharides, Secretary of Energy and Environmental Affairs

Vice-Chair – John J. Carroll, Advisory Board

Secretary – Andrew M. Pappastergion, Advisory Board

Christopher Cook, City of Boston

Kevin L. Cotter, City of Boston

Paul E. Flanagan, Town of Winthrop

Joseph C. Foti, Advisory Board

Brian Pena, Merrimack River Basin

Henry F. Vitale, City of Boston

John J. Walsh, City of Quincy

Jennifer L. Wolowicz, Connecticut River Basin

Dear Members of the Board of Directors,

The Advisory Board would like to bring to your attention an important matter related to the cross-harbor cable project (i.e. HEEC cable), which replaces the electric cable that powers the Deer Island Treatment Plant.

As you know, the impetus of the cross-harbor cable project, which projects to cost MWRA ratepayers over \$150 million, was a Massachusetts Port Authority (Massport) dredging project designed to deepen Boston Harbor and allow for larger tankers and passenger ships to enter the City of Boston.

While this dredging project is good for the local economy and the Commonwealth of Massachusetts, the Advisory Board has been monitoring the developments closely given that this project is costing ratepayers a significant sum of money and only benefiting Massport coffers through new revenue.

Needless to say, the **Advisory Board was outraged to learn that Eversource (on behalf of the MWRA) negotiated to pay \$8 million to Massport for an easement** to lay the cable across parts of Conley Terminal (Massport-owned) in an effort to complete the cross-harbor cable project. A portion of this \$8 million cost will also be magnified by the charges that Eversource is allowed to collect on top (an additional 9% for their own profit), as Eversource answers to its shareholders, first and foremost.

The Advisory Board would like to point out the absurdity of this situation with three (3) questions:

1. Why would Massport indirectly charge MWRA ratepayers over \$8 million to complete a project (HEEC cable replacement) that is only being done to directly benefit Massport?
2. Why is Eversource in a position to “negotiate” with Massport over an easement that is being paid for by MWRA ratepayers without representation from the MWRA in the “negotiation”?
3. What is the basis of the \$8 million; i.e. was an appraisal done?

In answering questions 1 and 2, please see our recommendations below. To get an answer to question 3, the Advisory Board sent a Public Information Request to Massport to determine how the \$8 million was determined. While Massport technically complied with the request, they only provided the MOU between Massport and



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Eversource without any appraisal information or analysis that would justify \$8 million in ratepayer money being extorted.

The next step of the Advisory Board, as approved at the May 16, 2019 Advisory Board meeting, is to recommend the following possible actions be taken by the MWRA:

1. The Advisory Board recommends: (1) the MWRA officially request that Massport rescind their easement charges; (2) the MWRA request that the Legislature withhold final bond authorized payment for the dredging until resolved, and/or; (3) the MWRA jointly file a bill with the Advisory Board to add a surcharge on all tonnage to be assessed on all cargo and assess a per head charge for cruise ships until such time that the cable costs have been recovered.
2. The Advisory Board recommends: (1) the MWRA assess Massport for the Operations and Maintenance (O&M) of the Wiggins Pump Station dating back to the inception of the MWRA which would be \$280,000 in inflation-adjusted dollars, and to begin charging Massport for O&M costs on a monthly basis moving forward, and (2) the MWRA remove the Wiggins Pump Station capital improvements project from its 5-year CIP until such time that an MOU is in place between the MWRA and Massport in which Massport agrees to pay for the design, construction and project management of the Wiggins Pump Station capital improvements.

Background information on the Wiggins Pump Station (attached) shows that Massport constructed and operated the pump station prior to asking the MDC to take over operation in the 1960s; it subsequently ended up in the MWRA's hands in 1985.

This agreement absolutely does not say that the MDC or the MWRA would provide O&M services free of charge or perform any capital improvements to the pump station in the future. To this end, the cost incurred by the MWRA for the O&M of the facility since 1985 has been approximately \$280,000; this was paid for by ratepayers and should be paid back to the MWRA by Massport immediately. Additionally, the Authority should begin billing Massport for all O&M costs going forward. Finally, because the pump station is in need of replacement, the MWRA's legal staff should sit with Massport to put an MOU in place that details how Massport will cover all capital improvement costs.

We ask that the MWRA Board of Directors support the Advisory Board recommendations above and direct the Authority to take immediate action.

Sincerely,

A handwritten signature in black ink, which appears to read 'Joseph E. Favaloro'. The signature is fluid and cursive.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
AGREEMENT FOR ENTRY TO PUMPING STATION OF
MASSACHUSETTS PORT AUTHORITY
CASTLE ISLAND, SOUTH BOSTON

THIS AGREEMENT made and entered into this 12th day of May, 1964, by and between the Commonwealth of Massachusetts, acting herein through its Metropolitan District Commission, hereinafter sometimes referred to as the "Commission", and the Massachusetts Port Authority, a body politic and corporate and having an usual place of business in Boston in said Commonwealth, hereinafter sometimes referred to as the "Authority".

WHEREAS, the Commission proposes to construct a sanitary sewer structure at Castle Island, South Boston District of Boston, and WHEREAS, there is no City of Boston sewer system conveniently servicing the aforesaid area, and WHEREAS, the Authority has an existing pumping station near its Station 14 on Gardner Way, according to a plan attached hereto, entitled, "Commonwealth of Massachusetts, Metropolitan District Commission, Parks Division, Castle Island, South Boston, Sanitary Sewer Site Plan, Scale 1" = 100', April 27, 1964, Benjamin W. Fink, Director, Park Engineering," being accession number 42260, and WHEREAS, engineers of the Commission and of the Authority have conducted explorations to insure the parties that the existing sewer is in a satisfactory condition, NOW THEREFORE, the parties hereto undertake and agree in consideration of the covenants hereinafter set forth for the joint use of the aforesaid pumping station:

1. The Authority will supply two (2) new pumps for installation by the Commission.
2. The Commission shall undertake responsibility for a complete rehabilitation and repair of the Authority's pumping station. Said rehabilitation and repairs are to consist of doors and windows to be replaced, roof to be repaired and structure to be painted, Piping,

valves, controls and electrical equipment shall be inspected and all defective or worn parts shall be replaced.

3. The Commission shall assume full responsibility for continuing maintenance and operation of the pumping station and sewage outfall line.

4. The Commission shall apply to the Boston Edison Company for metered electrical service to the pumping station.

5. The Commission shall have the right to build a gravity sewer system, which would enter upon the property of the Authority at Station 14 on Gardner Way, and discharge into the wet well of the pumping station at about elevation 5.8 (City of Boston Base) which elevation is some five and 8/10 (5.8) feet above the bottom of the wet well.

IN WITNESS WHEREOF, the Commonwealth of Massachusetts has caused these presents to be executed in three counterparts by a majority of its Metropolitan District Commission, including the Commissioner, who do, therefore, hereunto set their hands and seals without, however, incurring any possible personal liability by reason of the execution hereof or of anything herein contained, and the Massachusetts Port Authority has caused these presents to be executed in three counterparts in its name and on its behalf by Edward J. King, its Executive Director, hereunto duly authorized, all on the day and year first above written.

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION

John J. Murphy
Commissioner

John J. Roberts
Associate Commissioner

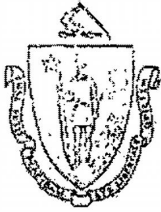
Vincent P. O'Brien
Associate Commissioner

James J. Sullivan
Associate Commissioner

Thomas J. Donohue
Associate Commissioner

MASSACHUSETTS PORT AUTHORITY

BY Edward J. King
Executive Director



The Commonwealth of Massachusetts
Metropolitan District Commission

P O L I C E

Old Colony Division
Wm J. Day Boulevard
South Boston, Mass.
August 4, 1965.

Howard Whitmore, Jr., Commissioner
Metropolitan District Commission,
20 Somerset Street,
Boston, Massachusetts.

Dear Sir:

The Metropolitan District Commission has entered into an agreement with the Massachusetts Port Authority on May 12, 1964 to maintain a sewerage pumping station on their land, as this structure services a sanitary sewer line from Castle Island, South Boston, Mass.

I discussed this situation with both Mr. Edward Sulesky, MDC Sewerage Division and engineers of the MDC Park System and both parties are in agreement that I have not the qualified personnel to maintain this pumping station.

I recommend that this problem be discussed with the sewerage division and MDC Parks engineers so that arrangements can be made for the proper maintenance of this sewerage pumping station.

Very truly yours,

Peter D. Bills
Peter D. Bills,
Captain.

Ref: - Castle Island

Station should check for screenings & operation of pumps & valves perhaps daily?

*Greased - { 2 on pump
1 " study bearing
1 " Note Thrust bearing*

Pump grommets tightened or replaced when necessary

~~Commonwealth of Massachusetts~~

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION

AND

MASSACHUSETTS PORT AUTHORITY

AGREEMENT FOR ENTRY TO
PUMPING STATION, CASTLE ISLAND

COUNTERPART NO. II

5/11/64

- cc
- (1) MASS PORT AUTHORITY
 - (2) VAULT
 - (3) PARK ENG
 - (4) C.D. L. DIV.
 - (5) H. D. FINLEY ASSOC

FROM THE OFFICE OF
JOHN J. SULLIVAN, JR.
ATTORNEY AT LAW
11 BRADON STREET
BOSTON 8, MASS.