



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Boston, MA 02129

Frederick A. Laskey
Executive Director

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BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, November 12, 2014

Location: ***Quabbin Visitors Center***
485 Ware Road (Rt. 9)
Belchertown, MA 01007

Time: 10:00 a.m.

AGENDA

- I. **APPROVAL OF MINUTES**
- II. **REPORT OF THE CHAIR**
- III. **REPORT OF THE EXECUTIVE DIRECTOR**
- IV. **ADMINISTRATION, FINANCE & AUDIT COMMITTEE**
 - A. **Information**
 1. Delegated Authority Report – October 2014
 2. FY15 Financial Update and Summary as of October 2014
 - B. **Approvals**
 1. Assignment and Assumption of Contract 595TA, Technical Assistance Consulting Services, Hazardous Materials, from EnviroSense, Inc. to EnSafe, Inc.
 - C. **Contract Awards**
 1. Insurance Consultant Services: Kevin F. Donoghue Insurance Advisors Inc. (d/b/a – KFDA), Contract F232

*** Please note different meeting location; directions follow on page 4. (For GPS devices, enter "intersection of Ware Road and Winsor Dam Road, Belchertown, MA 01007")**

V. WASTEWATER POLICY & OVERSIGHT COMMITTEE

A. Approvals

1. Memorandum of Understanding and Financial Assistance Agreement with BWSC for Implementation of CSO Control Projects, Amendment 15, and Progress of BWSC Implemented CSO Projects and Projected Financial Assistance through June 2015

B. Contract Awards

1. Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant and the Clinton Advanced Wastewater Treatment Plant: Kemira Water Solutions, Inc., WRA-3927
2. Valve and Piping Replacement at Various Facilities, Deer Island Treatment Plant, Engineering Services During Construction and Resident Engineering and Inspection Services: AECOM Technical Services, Inc., Contract 6598
3. Refurbishment of Secondary Reactor Aerator and Mixer Gearboxes at the Deer Island Treatment Plant: SPX Process Equipment, Lightin Operations, WRA-3907

C. Contract Amendments/Change Orders

1. North System Hydraulic System: AECOM, Contract 6930, Amendment 3

VI. WATER POLICY & OVERSIGHT COMMITTEE

A. Information

1. Update on Lead and Copper Rule Compliance

B. Approvals

1. Revision to MWRA Policy #OP.10, "Admission of New Community to MWRA Waterworks System"

C. Contract Amendments/Change Orders

1. Spot Pond Water Storage Facility Design/Build Project: Walsh Construction Company, Contract 6457, Change Order 9

VII. PERSONNEL & COMPENSATION COMMITTEE

A. Approvals

1. PCR Amendments – November 2014
2. Appointment of Program Manager, Environmental Quality
3. Appointment of Program Manager, Engineering & Construction
4. Appointment of Program Manager, Engineering & Construction

VIII. CORRESPONDENCE TO THE BOARD

IX. OTHER BUSINESS

X. EXECUTIVE SESSION

XI. ADJOURNMENT

DIRECTIONS

From Boston: Take the Mass. Turnpike to Exit 8 (Palmer). At the end of the Exit Ramp turn left onto Route 32 North and proceed for 8 miles. In Ware turn left at the green sign "Route 9 West" (just past McDonalds). Go 2/10ths of a mile to a stop sign. Turn left onto Route 9 and proceed west for 7 miles. Turn right at the green sign marked "Quabbin Reservoir - Winsor Dam". (**Note:** This will be the second green sign on your right. The first sign, located at the 5.3 mile mark, provides access to the main Quabbin Park area, including the Enfield Lookout and Quabbin Observation Tower). Turn right at this entrance and proceed 1/2 mile to DCR Quabbin Administration Building, the large brick building on the right.

From Springfield: Take the Mass. Turnpike to Exit 7 (Ludlow). Turn right on Route 21 heading north towards Belchertown. Continue on Route 21 through Belchertown Center to Route 9. Turn right at the stop sign onto Route 9 east and proceed 2 miles to the green sign marked "Quabbin Reservoir - Winsor Dam." Turn left at the sign and go 1/2 mile to the large brick building which overlooks the reservoir.

From Amherst: Take Route 9 east towards Belchertown. The entrance to Quabbin is 3 miles east of the intersection with Route 202 and is marked with a sign "Quabbin Reservoir - Winsor Dam." Turn left at the sign and go 1/2 mile to the large brick building which overlooks the reservoir.

From the North: Take Route 2 to Route 202 south. Proceed 21 miles to the traffic light at the intersection with Route 9. Turn left onto Route 9 east and proceed 3 miles to the green sign marked "Quabbin Reservoir - Winsor Dam." Turn left and proceed 1/2 mile to the large brick building which overlooks the reservoir.

A **parking** lot is marked on your right, just before the Administration Building.

Meeting of the Board of Directors

October 15, 2014

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on October 15, 2014 at the Authority headquarters in Charlestown. Chair Bartlett presided. Present from the Board were Ms. Wolowicz and Messrs. Barrera, Carroll, Cotter, Flanagan, Foti, Vitale and Walsh. Messrs. Pappastergion and Swett were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Rachel Madden, Director of Administration and Finance, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:05 p.m.

APPROVAL OF MINUTES

Upon a motion duly made and seconded, it was

Voted to approve the minutes of September 17, 2014, as presented and filed with the records of the meeting.

REPORT OF THE CHAIR

Ms. Bartlett congratulated Mr. Laskey on his receipt of the Norman B. Leventhal Environment Award from A Better City.

Annual Meeting of the Board of Directors – Election and Appointment of MWRA Officers and Committee Assignments

Upon a motion duly made and seconded, it was

Voted to (1) designate this October 15, 2014 meeting as the Annual Meeting which, as provided in the Authority's by-laws will be deemed a special meeting of the Board for the purpose of electing officers; (2) elect John Carroll as

Vice-Chairman of the Board; (3) appoint Joseph Foti as Secretary of the Board and Bonnie Hale and Rose Marie Convery as Assistant Secretaries, Thomas Durkin as Treasurer, and Matthew Horan and Kathy Soni as Assistant Treasurers; and (4) ratify the appointment of Board members to standing committees, as presented and filed with the records of the meeting. New Committee Chairs will be appointed approximately every two years.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on various matters, including that the Quabbin UV Plant was up and running; that a Quabbin Reservoir fishing area had been named for Senator Stephen M. Brewer, who created the Watershed Supply Protection Trust; and that Board members would be contacted to find a date for the dedication of the William A. Brutsch Water Treatment Plant in Ware that best suits everyone's schedule.

BOARD ACTIONS

APPROVALS

Resolution to Amend and Restate the Sixty-Sixth Supplemental Issuance Resolution

Upon a motion duly made and seconded, it was

Voted to adopt the Resolution Amending and Restating the Sixty-Sixth Supplemental Issuance Resolution increasing the authorized issuance from \$70,000,000 to up to \$97,000,000 of Massachusetts Water Resources Authority Subordinated General Revenue Bonds.

Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for MWRA's Profile Accounts, Contract OP-266

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute Contract OP-266 for the purchase and supply of electric power for 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 MWRA's best interest, and for a contract term not to exceed 36 months. This delegation of authority is necessary because MWRA will be required to notify the selected bidder within a few hours of bid submittal to lock-in the bid prices in a constantly changing market.

Deer Island Co-Digestion Program Update

Consideration of this item was postponed.

Charles River Pollution Control District Petition on NPDES Co-Permittees

Consideration of this item was postponed.

Approval of One New Member of the Wastewater Advisory Committee

Upon a motion duly made and seconded, it was

Voted to approve the addition of one new member, Mr. Travis Ahern of the MWRA Advisory Board staff, to the Wastewater Advisory Committee.

PCR Amendments – October 2014

Upon a motion duly made and seconded, it was

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

Appointment of Construction Coordinator

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Vincent W. Spada to the position of Construction Coordinator in the Engineering & Construction Department (Unit 9, Grade 30), at the recommended salary of \$100,954, to be effective on the date designated by the Executive Director.

Appointment of Construction Coordinator

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Daniel R. Thompson to the position of Construction Coordinator in the Engineering & Construction Department (Unit 9, Grade 30) at the recommended salary of \$114,229, to be effective October 18, 2014.

CONTRACT AWARDS

Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant: Borden & Remington Corp., Bid WRA-3906

Upon a motion duly made and seconded, it was

Voted to approve the award of Purchase Order Contract WRA-3906, Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant, to the lowest eligible and responsible bidder, Borden & Remington Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract in an amount not to exceed \$1,041,757.83 for a period of one year, from November 17, 2014 through November 16, 2015.

Thermal/Power Plant Management System Upgrade, Deer Island Treatment Plant: O'Connor Corp., Contract 7401

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7401, Thermal/Power Plant Boiler Management System Upgrade, Deer Island Treatment Plant, to the lowest eligible and responsible bidder, O'Connor Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,591,952 for a term of 730 calendar days from the Notice to Proceed.

Instrumentation System Services: Kit Zeller Inc., Contract OP-256

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract OP-256, Instrumentation Systems Services, to the lowest eligible and responsible bidder, Kit Zeller, Inc., and authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$432,000, for a term of 730 calendar days from the Notice to Proceed.

Construction of Water Mains – Sections 36, W11C and S9-A, Arlington and Medford: RJV Construction Corporation, Contract 7448

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7448, Construction of Water Mains - Sections 36, W11C, and S9-A, Arlington and Medford, to the lowest eligible and responsible bidder, RJV Construction Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$11,235,500 for a term of 910 calendar days from the Notice to Proceed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Elevator Maintenance and Repair at Various Facilities: BBE Corp., Contract OP-218, Change Order 2

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order 2 to increase the amount of Contract OP-218 with BBE Corporation, Elevator Maintenance and Repair Service at Various Authority Facilities, for an amount not to exceed \$51,000, with no increase in contract term.

EXECUTIVE SESSION

Upon a motion duly made and seconded, it was, upon a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Barrera		
Carroll		
Cotter		
Flanagan		
Foti		
Vitale		
Walsh		
Wolowicz		
Bartlett		

Voted to enter executive session for the purpose of discussing strategy with respect to litigation, in that such discussion in open session may have a detrimental effect on the litigating position of the Authority.

It was stated that the meeting would return to open session solely for the consideration of adjournment.

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session at 1:20 p.m. and adjourned.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

October 15, 2014

A meeting of the Administration, Finance and Audit Committee was held on October 15, 2014 at the Authority headquarters in Charlestown. Chairman Barrera presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cotter, Flanagan, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Rachel Madden, Michele Gillen, Bob Donnelly, Dave Whelan, Tom Durkin, Kristen Patneau, and Bonnie Hale. The meeting was called to order at 10:20 a.m.

Information

Delegated Authority Report - September

The report was received as submitted.

FY15 Financial Update and Summary as of September 2014

Staff summarized and discussed the financial update, and there was question and answer on worker's compensation.

Approvals

*Resolution to Amend and Restate the Sixty-Sixth Supplemental Issuance Resolution

There was general discussion and question and answer. The Committee recommended approval of amending and restating the 66th Supplemental Issuance Resolution (ref. agenda item B.1).

*Delegation of Authority to Execute a Contract for the Purchase and Supply of Electric Power for MWRA's Profile Accounts, Contract OP-266

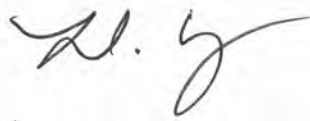
Staff explained that although the current contract does not expire until March 2015, this delegation of authority would allow them to lock in prices quickly at the most opportune time. The Committee recommended approval of the delegation of authority (ref. agenda item B.2).

The meeting adjourned at 10:35 a.m.

* Approved as recommended at October 15, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: Delegated Authority Report – October 2014



COMMITTEE: Administration, Finance & Audit

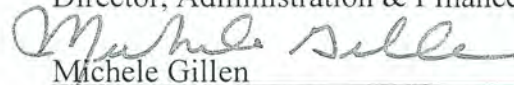
X INFORMATION

VOTE



Rachel C. Madden

Director, Administration & Finance



Michele Gillen

Deputy Director, Administration & Finance

Barbie Aylward, Administrator A & F
Joanne Gover, Admin. Systems Coordinator
Preparer/Title

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period October 1 through October 31, 2014.

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 October 14, 2009, 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; or up to \$500,000 if the award is to other than 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; or up to \$500,000 if the award is to other than 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 - OCTOBER 1 - 31, 2014

NO.	TITLE AND EXPLANATION	CONTRACT #	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1	10/1/14 INSTALLATION OF ENERGY EFFICIENT LED EXTERIOR LIGHTING AWARD OF CONTRACT FOR THE INSTALLATION OF ENERGY EFFICIENT EXTERIOR LED LIGHTING AT NUT ISLAND HEADWORKS. A TOTAL OF 51 EXTERIOR WALL AND POLE-MOUNTED LIGHTS, MANY OF WHICH ARE AT THE END OF THEIR USEFUL LIFE, WILL BE REPLACED WITH ENERGY EFFICIENT LED LIGHTS. THE CONTRACT TERM IS 90 CALENDAR DAYS . REBATE TOTALING \$10,190 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF 7.2 YEARS.	OP-260	AWARD	HORIZON SOLUTIONS LLC	\$39,680.00
C-2.	10/6/14 INSTALLATION OF AN ENERGY MANAGEMENT SYSTEM AWARD OF CONTRACT FOR INSTALLATION OF AN ENERGY MANAGEMENT SYSTEM FOR THE CHELSEA MAINTENANCE BUILDING. THE CONTRACTOR WILL INSTALL AN ENERGY MANAGEMENT SYSTEM (EMS) FOR THE CHELSEA MAINTENANCE BUILDING, OPTIMIZING ENERGY USED FOR HEATING AND COOLING AND PROVIDING A REDUCTION IN ENERGY USE BY ALLOWING FOR TEMPERATURE SETBACKS DURING UNOCCUPIED PERIODS, DEMAND FOR HEATING AND COOLING BASED ON OUTDOOR AIR TEMPERATURES, AND OPTIMIZING AIR EXCHANGES BASED ON OCCUPANCY, AMONG OTHER CONTROLS. THE CONTRACT TERM IS 180 CALENDAR DAYS. REBATE TOTALING \$32,330 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF 3.3 YEARS.	OP-264	AWARD	RISE ENGINEERING	\$88,330.00
C-3.	10/6/14 ENERGY EFFICIENT UPGRADES AWARD OF CONTRACT FOR ENERGY-EFFICIENT UPGRADES TO SIX MAKE-UP AIR UNITS ON THE CHELSEA MAINTENANCE BUILDING. THE CONTRACTOR WILL REPLACE THE EXISTING CONTROLLERS AND INSTALL VARIABLE FREQUENCY DRIVES ON THE SUPPLY FANS, REPLACE THE CO2 SENSORS, AND INSTALL A MODULATING OUTSIDE AIR DAMPER ON THE SIX UNITS SO THAT THEY CAN BE REGULATED BASED ON OUTSIDE AIR TEMPERATURES, OCCUPANCY, WORK HOURS, ETC. THE CONTRACT TERM IS 150 CALENDAR DAYS. REBATE TOTALING \$68,640 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF .5 YEARS.	OP-265	AWARD	RISE ENGINEERING	\$98,058.00
C-4.	10/15/14 LIGHTING IMPROVEMENTS PLAN, PHASE 3 EXTERIOR LIGHTING AWARD OF CONTRACT FOR DEER ISLAND TREATMENT PLANT - LIGHTING IMPROVEMENTS PLAN, PHASE 3 EXTERIOR LIGHTING. MANY PHASES OF INTERIOR LIGHTING IMPROVEMENTS HAVE BEEN IMPLEMENTED AT DEER ISLAND OVER THE PAST SEVERAL YEARS. RECENT EFFORTS ARE FOCUSING ON EXTERIOR LIGHTING. THE CONTRACTOR WILL REPLACE EIGHT REMAINING HIGH-PRESSURE SODIUM SHOEBOX FIXTURES ON THE PIER, AND RETROFIT 69 HIGH-MAST FLOOD LIGHT FIXTURES ON 22 POLES, ALL WITH LED FIXTURES. THE CONTRACT TERM IS 90 CALENDAR DAYS. REBATE TOTALING \$79,498 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF .8 YEARS.	5532	AWARD	HORIZON SOLUTIONS LLC	\$99,705.28
C-5.	10/15/14 LIGHTING IMPROVEMENTS PLAN, PHASE 6 AWARD OF CONTRACT FOR DEER ISLAND TREATMENT PLANT - LIGHTING IMPROVEMENTS PLAN, PHASE 6. MANY PHASES OF INTERIOR LIGHTING IMPROVEMENTS HAVE BEEN IMPLEMENTED AT DEER ISLAND OVER THE PAST SEVERAL YEARS, INCLUDING BOTH INTERIOR AND EXTERIOR LIGHTING. PHASE 6 WORK WILL CONTINUE IN THE RESIDUALS COMPLEX, THE LAST REMAINING PROCESS AREA OF INTERIOR LIGHTING IMPROVEMENTS, WITH THIS PHASE FOCUSING ON MOD 3'S DIGESTERS. THE SCOPE OF WORK INCLUDES THE RETROFIT OR REPLACEMENT OF APPROXIMATELY 127 FIXTURES WITH NEW LED FIXTURES AND LED EXIT SIGNS. THE CONTRACT TERM IS 120 CALENDAR DAYS. REBATE TOTALING \$48,784 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF 3.3 YEARS.	5533	AWARD	RISE ENGINEERING	\$99,861.00
C-6.	10/17/14 INSTALLATION OF ENERGY-EFFICIENT INTERIOR LIGHTING AWARD OF CONTRACT FOR INSTALLATION OF ENERGY-EFFICIENT INTERIOR LIGHTING AT NUT ISLAND HEADWORKS. A TOTAL OF 651 INTERIOR LIGHTS AT THE NUT ISLAND HEADWORKS WILL BE REPLACED WITH ENERGY-EFFICIENT LIGHTS. THE CONTRACT TERM IS FOR 120 CALENDAR DAYS . REBATE TOTALING \$38,755 FROM NGRID WILL BE RECEIVED UPON PROJECT COMPLETION, RESULTING IN A SIMPLE PAYBACK PERIOD OF 3.7 YEARS.	OP-258	AWARD	HORIZON SOLUTIONS LLC	\$96,670.00
C-7.	10/27/14 INSTRUMENTATION SYSTEMS SERVICES DECREASE AMOUNT FOR SCHEDULED PROCESS INSTRUMENTATION SYSTEMS SERVICES, NON-EMERGENCY AND EMERGENCY ON-CALL SERVICES, AND REPLACEMENT PARTS FOR INSTRUMENTATION EQUIPMENT LOCATED AT 27 VARIOUS WASTEWATER OPERATIONS FACILITIES.	OP-214	1	NEPONSET CONTROLS, INC.	(\$49,625.12)
C-8.	10/27/14 WATERTOWN SECTION REHABILITATION INCREASE IN AMOUNT TO IDENTIFY AND REPAIR A LEAK IN THE WESTERN HALF OF THE WATERTOWN SECTION PIPELINE, IDENTIFIED AS AN UNFORESEEN CONDITION.	7222	5	J. D'AMICO, INC.	\$50,000.00

PURCHASING DELEGATED AUTHORITY ITEMS - October 1 - 31, 2014

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	10/1/14 25 REPLACEMENT TELOG WASTEWATER METER LOGGER BOARDS AWARD OF A SOLE SOURCE PURCHASE ORDER FOR 25 REPLACEMENT TELOG WASTEWATER METER LOGGER BOARDS. MWRA'S WASTEWATER SYSTEM HAS APPROXIMATELY 200 METERS THAT MEASURE WASTEWATER FLOW ENTERING MWRA'S SYSTEM. OF THESE 200 METERS, 130 ARE MARSH MCBIRNEY "FLODAR" WASTEWATER METERS. THE FLODAR WASTEWATER METER LOGGER BOARDS ARE NO LONGER BEING MANUFACTURED AND CANNOT BE PURCHASED INDIVIDUALLY WHEN REPLACEMENT LOGGER BOARDS ARE NEEDED. HOWEVER, THE ORIGINAL MANUFACTURER, TELOG INSTRUMENTS, INC. HAS AGREED TO SET UP A SPECIAL MANUFACTURING RUN IF MWRA PLACES AN ORDER OF AT LEAST 25 BOARDS. THIS IS THE SECOND SPECIAL RUN PURCHASE THAT MWRA HAS MADE DIRECTLY FROM TELOG AS A SIMILAR PURCHASE OF 25 BOARDS WAS MADE IN 2013. METERING STAFF CHANGE OUT APPROXIMATELY TWO BOARDS PER MONTH. STAFF DO NOT RECOMMEND STOCKING TOO MANY BOARDS BECAUSE MWRA IS TEST PILOTING A NEW METER, WHICH MAY, AT SOME POINT, REPLACE FLODAR AND WILL NOT USE TELOG BOARDS.			TELOG INSTRUMENTS	\$40,000.00
P-2.	10/1/14 ONE DUMP TRAILER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE DUMP TRAILER. THERE ARE CURRENTLY THREE PLATED, MWRA OWNED DUMP TRAILERS AT THE NUT ISLAND HEADWORDS. AT ANY GIVEN TIME, ONE IS BEING FILLED WITH A COMBINATION OF GRIT AND SCREENINGS; ONE IS BEING STORED ON SITE IN BAY 3 TO COLLECT SCREENINGS DROPPING OFF THE BELTS; AND ONE IS IN TRANSIT TO A LANDFILL. THE THIRD TRAILER AT NUT ISLAND IS WRA-170, A 1999 STETCO TRAILER THAT ALSO HAS REACHED THE END OF ITS USEFUL LIFE. THE FRAME IS SHOWING SIGNS OF HEAVY RUST; THE INTERIOR LINER NEEDS TO BE REMOVED AND REPLACED; AND THE BRAKING SYSTEM IS OBSOLETE (REPAIR PARTS CAN NO LONGER BE LOCATED) AND REQUIRES A COMPLETE UPGRADE. SINCE THE TRAILER IS NO LONGER WATER TIGHT TO PREVENT WASTEWATER FROM SPILLING ONTO PUBLIC ROADWAYS WHILE IN TRANSIT TO THE LANDFILL (PRESENTLY IN ROCHESTER, NH), STAFF RECOMMENDED THAT IT BE REPLACED.	WRA-3896		KRUZ INC.	\$56,466.50
P-3.	10/1/14 SUPPLY AND DELIVERY OF FERRIC CHLORIDE APPROVAL OF AMENDMENT 1 TO PURCHASE ORDER CONTRACT WRA-3756, FOR THE SUPPLY AND DELIVERY OF FERRIC CHLORIDE TO THE DEER ISLAND TREATMENT PLANT AND THE CLINTON WASTEWATER TREATMENT PLANT, WITH NO EXTENSION IN CONTRACT TERM, DUE TO HIGHER THAN ANTICIPATED USAGE AT DEER ISLAND.	WRA-3756	1	KEMIRA WATER SOLUTIONS, INC.	\$192,150.00
P-4.	10/6/14 ANNUAL MAINTENANCE AND SUPPORT OF PORTIA INVESTMENT MANAGEMENT SOFTWARE AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE ANNUAL MAINTENANCE AND SUPPORT OF THE PORTIA INVESTMENT MANAGEMENT SOFTWARE. IN 1991, UNDER DELEGATED AUTHORITY, THE FINANCE DIVISION PURCHASED PORTIA SOFTWARE, A STAND ALONE PC PACKAGE, USED BY THE FINANCE DIVISION TO MANAGE MWRA'S INVESTMENT PORTFOLIO. THE SOFTWARE ALLOWS TREASURY TO MANAGE MWRA FIXED INVESTMENTS AND TRACK INTERESTS AND HOLDINGS IN THESE INVESTMENTS. IN ADDITION, PORTIA PROVIDES FLEXIBLE REPORTING, SUPPORT FOR ALL SECURITY TYPES, MULTI-CURRENCY CAPABILITIES, PORTFOLIO MODELING, REAL TIME PROCESSING AND REAL TIME ORDER MANAGEMENT. THE SUPPORT AGREEMENT INCLUDES CUSTOMER TELEPHONE SUPPORT AND UPDATES TO THE PRODUCT. SS&C TECHNOLOGIES, INC. IS THE MANUFACTURER AND SOLE SOURCE FOR PORTIA SOFTWARE; AND AS SUCH IS THE ONLY VENDOR ABLE TO PROVIDE FULL MAINTENANCE AND SUPPORT FOR ITS OWN PRODUCT. THE SERVICE PERIOD IS NOVEMBER 1, 2014 TO OCTOBER 31, 2015.			SS&C TECHNOLOGIES, INC.	\$31,764.60
P-5.	10/6/14 200 LONGITUDINAL FLIGHTS FOR THE PRIMARY CLARIFIERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 200 LONGITUDINAL FLIGHTS FOR THE PRIMARY CLARIFIERS AT THE DEER ISLAND TREATMENT PLANT. LONGITUDINAL FLIGHTS IN THE PRIMARY CLARIFIERS AT DEER ISLAND ARE LONG, LIGHT-WEIGHT FIBERGLASS "PADDLES" THAT EXTEND ACROSS EACH CLARIFIER THAT PUSH SCUM AND OTHER FLOATABLE MATERIALS INTO TROUGHS AT THE TOP OF EACH CLARIFIER, AND SCRAPE SLUDGE AT THE BOTTOM OF EACH CLARIFIER TO COLLECTION HOPPERS. LONGITUDINAL FLIGHTS ARE STOCKED AS INVENTORY ITEMS IN DEER ISLAND'S WAREHOUSE AND DURING ROUTINE MAINTENANCE, STAFF INSPECT THE FLIGHTS AND REPLACE DAMAGED ONES AS NEEDED. IT SHOULD BE NOTED THAT UNDER A PREVIOUS LARGE CONTRACT, CONTRACT 6899, PRIMARY AND SECONDARY CLARIFIER REHABILITATION, DEER ISLAND TREATMENT PLANT, WHICH PRIMARILY FOCUSED ON REPLACEMENT OF THE CHAIN AND SPROCKETS IN BOTH PRIMARY AND SECONDARY CLARIFIER BATTERIES, THE CONTRACTOR WAS REQUIRED TO UNBOLT AND THEN RE-BOLT TO THE NEW CHAIN APPROXIMATELY 15,000 OF THESE LONGITUDINAL FLIGHTS. DURING THE COURSE OF THE CONTRACT WORK, APPROXIMATELY 5% OF THE TOTAL NUMBER OF FLIGHTS WERE FOUND TO BE BROKEN OR WORN AND WERE REPLACED BY THE CONTRACTOR. ALTHOUGH THAT CONTRACT IS COMPLETE, THE MAINTENANCE STAFF ARE STILL RESPONSIBLE FOR MAINTAINING THE CLARIFIERS THROUGH PREVENTIVE MAINTENANCE MEASURES AND OCCASIONALLY FIND FLIGHTS THAT NEED REPLACEMENT. THIS PURCHASE ORDER WILL REPLENISH THE CURRENT WAREHOUSE INVENTORY OF PRIMARY LONGITUDINAL FLIGHTS.	WRA-3887		EVOQUA WATER TECHNOLOGIES, LLC	\$46,000.00
P-6.	10/6/14 RENEWAL OF MWRA'S SCADA SOFTWARE MAINTENANCE AGREEMENT AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE RENEWAL OF A ONE-YEAR SCADA SOFTWARE MAINTENANCE AGREEMENT. MWRA'S SCADA SYSTEM IS CONTROLLED USING PROPRIETARY INTERFACE SOFTWARE DEVELOPED BY GE INTELLIGENT SOLUTIONS, INC. CALLED PROFICY IFIX. EVERY MWRA SCADA COMPUTER HAS A LICENSED COPY OF THE IFIX SOFTWARE. MWRA CURRENTLY HAS 134 IFIX LICENSES; 80 LICENSES ASSOCIATED WITH THE WATER SYSTEM AND 54 LICENSES ASSOCIATED WITH THE WASTEWATER SYSTEM. THIS RECURRING ANNUAL MAINTENANCE AGREEMENT IS REQUIRED TO PROVIDE SOFTWARE UPGRADES AND TECHNICAL SUPPORT TO ENSURE THAT MWRA'S SCADA SYSTEM REMAINS CURRENT AND OPERATES WITHOUT INTERRUPTION. THIS AGREEMENT COVERS EMERGENCY SUPPORT, PRODUCT UPGRADES, KNOWLEDGE BASE CDS, AND ACCESS TO SOFTWARE COMPONENTS VIA THE WEB.			GE INTELLIGENT PLATFORMS, INC.	\$137,717.99
P-7.	10/17/14 BACTERIA TESTING SUPPLIES AWARD OF A THREE YEAR, SOLE SOURCE PURCHASE ORDER FOR BACTERIA TESTING SUPPLIES FOR THE DEPARTMENT OF LABORATORY SERVICES, FOR A TOTAL AMOUNT NOT TO EXCEED \$550,000, FROM DECEMBER 14, 2014 TO DECEMBER 13, 2017. ON OCTOBER 12, 2011, STAFF INFORMED THE BOARD OF MWRA'S PLAN TO SWITCH THE PRIMARY METHOD THAT THE DEPARTMENT OF LABORATORY SERVICES (DLS) USES FOR ROUTINE ANALYSIS OF DRINKING WATER BACTERIA SAMPLES COLLECTED UNDER THE TOTAL COLIFORM RULE FROM A MEMBRANE FILTRATION TEST TO THE COLILERT-18 TEST BECAUSE IT PROVIDES RELIABLE BACTERIA RESULTS FASTER AND REDUCES WHAT CAN BE A CONFUSING NUMBER OF INTERNAL AND COMMUNITY NOTIFICATIONS. USE OF THE COLILERT-18 TEST PROVIDES CONFIRMED BACTERIA RESULTS WITHIN 18 HOURS, RATHER THAN THE 48 TO 96 HOURS REQUIRED UNDER THE MEMBRANE FILTRATION METHOD, PROVIDING IMPROVED INFORMATION ABOUT THE CONDITION OF THE WATER WITHIN COMMUNITY DISTRIBUTION SYSTEMS, AND FASTER RESPONSE TO WATER QUALITY PROBLEMS WHEN THEY ARISE. DLS PERFORMS APPROXIMATELY 48,000 BACTERIA TESTS ANNUALLY AT ITS FIVE LABORATORY LOCATIONS AND APPROXIMATELY ONE-THIRD OF THESE TESTS CURRENTLY USE INDEXX PRODUCTS. THIS INCLUDES TESTING RAW AND FINISHED DRINKING WATER, WASTEWATER, AND SAMPLES FROM BOSTON HARBOR, MASSACHUSETTS BAY, AND BOSTON HARBOR BEACHES.			IDEXX DISTRIBUTION, INC.	\$550,000.00

PURCHASING DELEGATED AUTHORITY ITEMS - October 1 - 31, 2014

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-8. 10/17/14	<p>14 NEW GENERAL MOTORS VEHICLES</p> <p>AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 14 NEW GENERAL MOTORS VEHICLES. THE STAFF SUMMARY RECOMMENDS THE APPROVAL OF 14 NEW VEHICLES THAT WERE COMPETITIVELY BID AS A PART OF A LARGER PROCUREMENT OF A TOTAL OF 29 VEHICLES. THESE 14 ARE BEING SEPARATELY AWARDED BECAUSE ON OCTOBER 10, 2014, LIBERTY CHEVROLET, INC. INFORMED MWRA THAT THE GENERAL MOTORS PLANT WOULD BE SHUTTING DOWN PRODUCTION OF THESE MODELS VERY SOON AND ORDERS MUST BE RECEIVED BY OCTOBER 31, 2014. STAFF CONTINUE TO REVIEW THE BID RESULTS FOR THE REMAINING 15 VEHICLES AND WILL PREPARE A SEPARATE STAFF SUMMARY AT A LATER DATE. ALL OF THESE VEHICLES ARE REPLACEMENTS FOR EXISTING FLEET VEHICLES IN ACCORDANCE WITH CURRENT REPLACEMENT PRACTICE, AND THE RECOMMENDATION OF MWRA'S VEHICLE COMMITTEE. ALL VEHICLES MEET OR EXCEED THE CURRENT REPLACEMENT CRITERIA FOR AGE, AND/OR MILEAGE, AND/OR CONDITION. SOME OF THESE VEHICLES WILL BE DECLARED SURPLUS AND DISPOSED OF IN ACCORDANCE WITH MWRA'S SURPLUS PROPERTY POLICY VIA A PUBLICLY ADVERTISED BID OR AUCTION; OTHERS WILL BE RE-DEPLOYED TO THE FLEET POOL OR TO OTHER ASSIGNMENTS WITHIN THE AGENCY, CONTINUING MWRA'S POLICY OF EXTENDING THE USEFUL LIVES OF THE VEHICLES FOR AS LONG AS POSSIBLE.</p>	WRA-3917		LIBERTY CHEVROLET, INC.	\$689,226.00
P-9. 10/24/14	<p>SUPPLY AND DELIVERY OF COPOLYMER</p> <p>AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF COPOLYMER FOR AN AMOUNT NOT TO EXCEED \$27,181, TO THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT FOR THE PERIOD OF NOVEMBER 1, 2014 TO OCTOBER 31, 2016. THE CLINTON PLANT TYPICALLY RECEIVES SHIPMENTS OF BETWEEN 1,800 TO 2,000 POUNDS OF COPOLYMER AS NEEDED. STAFF ESTIMATE THAT APPROXIMATELY 14,000 POUNDS OF COPOLYMER WILL BE REQUIRED DURING THE TERM OF THIS TWO-YEAR CONTRACT.</p>	WRA-3918Q		GEORGE S. COYNE CHEMICAL CO. INC.	\$27,181.00
P-10. 10/24/14	<p>LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS) MAINTENANCE</p> <p>AWARD OF A SOLE SOURCE PURCHASE ORDER FOR MAINTENANCE AND SUPPORT OF MWRA'S LABORATORY INFORMATION MANAGEMENT SYSTEM. ON OCTOBER 17, 2007, THE BOARD APPROVED THE AWARD OF CONTRACT 6509A TO LAB WARE, INC. IN AN AMOUNT NOT TO EXCEED \$1,244,435, AND FOR A TERM OF 81 MONTHS FROM THE NOTICE TO PROCEED TO DEVELOP AND IMPLEMENT A NEW LABORATORY INFORMATION MANAGEMENT SYSTEM OR LIMS. THE CONTRACT'S EXPIRATION DATE WAS OCTOBER 31, 2014. THE DEPARTMENT OF LABORATORY SERVICES USES LIMS FOR COMPLIANCE WITH DEP'S LABORATORY CERTIFICATION REQUIREMENTS. THE SYSTEM PROVIDES USER-FRIENDLY ACCESS, IMPROVED EASE OF COMPLIANCE, FACILITATES THE INTERFACE OF NEW INSTRUMENTS TO LIMS, AND PROVIDES LIMS' CLIENTS COMPLETE INFORMATION ON LABORATORY RESULTS AND EFFICIENCIES BY STREAMLINING WORKFLOWS. THE TERM PERIOD IS NOVEMBER 1, 2014 THROUGH OCTOBER 31, 2015, WITH THE EXPIRATION DATE APPROACHING, STAFF RECOMMENDED THIS MAINTENANCE AND SERVICE CONTRACT, WHICH INCLUDES TECHNICAL ASSISTANCE, TELEPHONE AND ON-LINE SUPPORT THAT ONLY THE SYSTEM DEVELOPER IS ABLE TO PROVIDE.</p>			LAB WARE, INC.	\$64,830.50
P-11. 10/24/14	<p>SUPPLY AND DELIVERY OF ULTRA-LOW SULFUR, #2 DIESEL FUEL</p> <p>AWARD OF A PURCHASE ORDER FOR THE SUPPLY AND DELIVERY OF 252,000 GALLONS OF ULTRA-LOW-SULFUR, #2 DIESEL FUEL IN AN AMOUNT NOT TO EXCEED \$681,735.60 FOR THE DEER ISLAND THERMAL/POWER PLANT.</p>	ENE32		GLOBAL MONTELLO GROUP	\$681,735.60


STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: FY15 Financial Update and Summary



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


 Kathy Soni, Budget Director
 David Whelan, Budget Manager
 Preparer/Title


 Rachel C. Madden
 Director, Administration and Finance

RECOMMENDATION:

For information only. This staff summary provides a financial update and variance highlights year-to-date through October, comparing actual spending to the budget.

DISCUSSION:

Total year-to-date expenses are lower than budget by \$3.5 million or 1.6% and total revenues are higher than budget by \$640,000 or 0.3% for a net variance of \$4.1 million.

The expense variances by major categories are represented in the table below:

	FY15 Budget (October)	FY15 Actual (October)	\$ Variance	% Variance
Direct Expenses	\$66.8	\$67.6	\$0.8	1.2%
Indirect Expenses	\$19.3	\$19.0	-\$0.3	-1.5%
Debt Service	\$130.5	\$126.5	-\$4.0	-3.0%
Total	\$216.6	\$213.1	-\$3.5	-1.6%

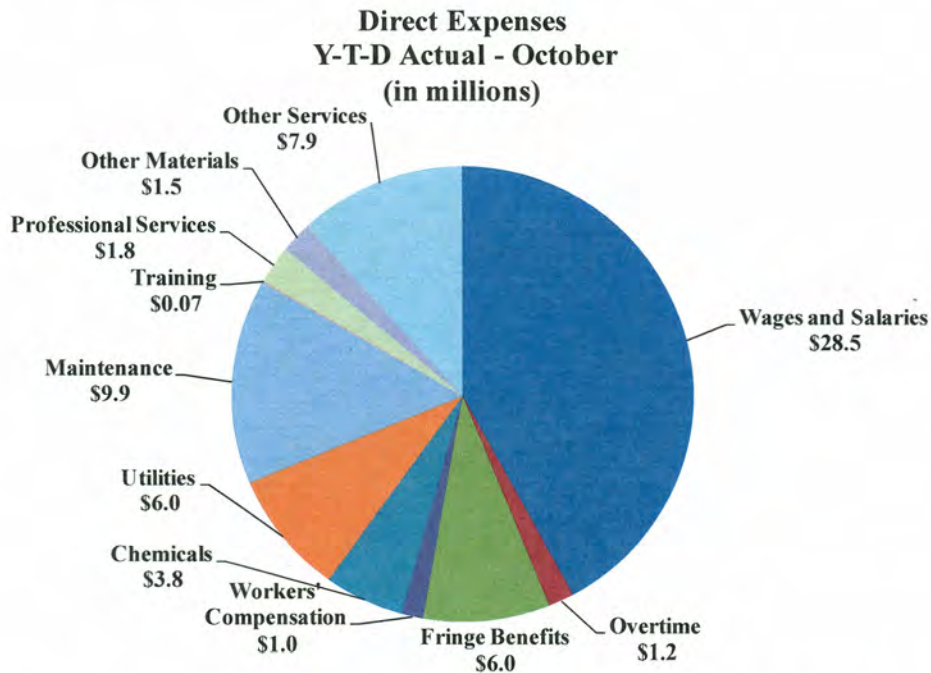
The largest variance year-to-date is the debt service expense which is below budget by \$4.0 million due to the continued favorable short-term rate environment. Indirect expenses are below budget by \$298,000 for lower Insurance and Watershed Reimbursement expenses. The underspending is offset by higher direct expenses of \$789,000 mainly due to maintenance, other materials, workers' compensation, other services and overtime. The majority of higher than budgeted direct expense spending is a matter of timing.

As the year progresses, staff intend to once again deposit favorable debt service savings in the approved defeasance account.

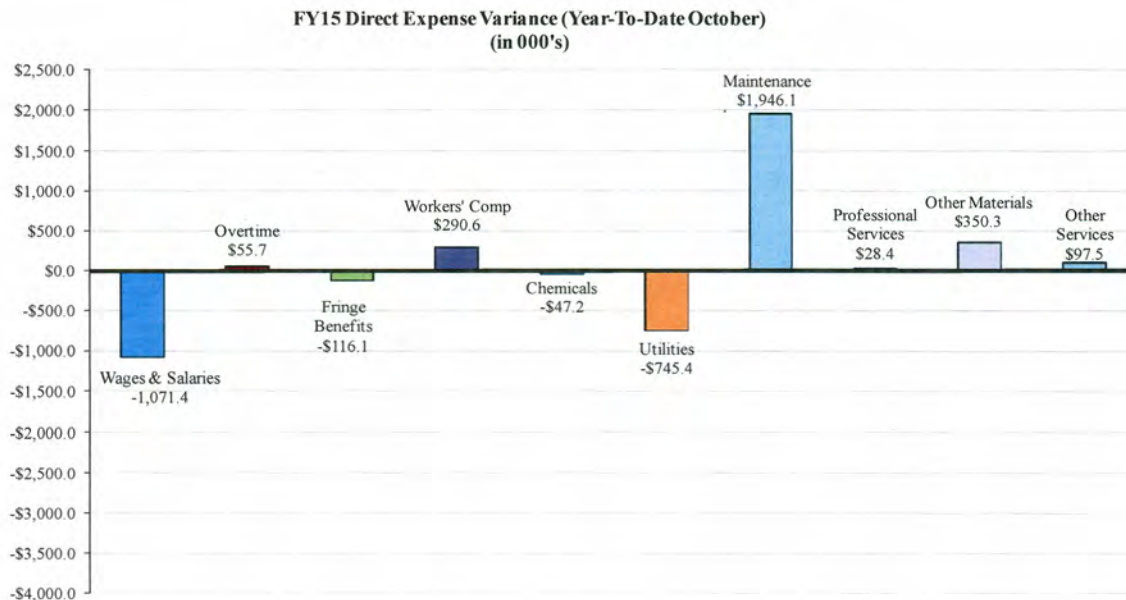
Please refer to Attachment 1 for a more detailed comparison by line item.

Direct Expenses

Direct Expenses totaled \$67.6 million, \$789,000 or 1.2% higher than budget. The chart below represents the make-up of direct expense spending by category:



The primary reason for overspending on Direct Expenses was higher spending for maintenance, other materials, workers' compensation, other services, and overtime offset by underspending for wages and salaries, utilities, fringe benefits, and chemicals.



Maintenance

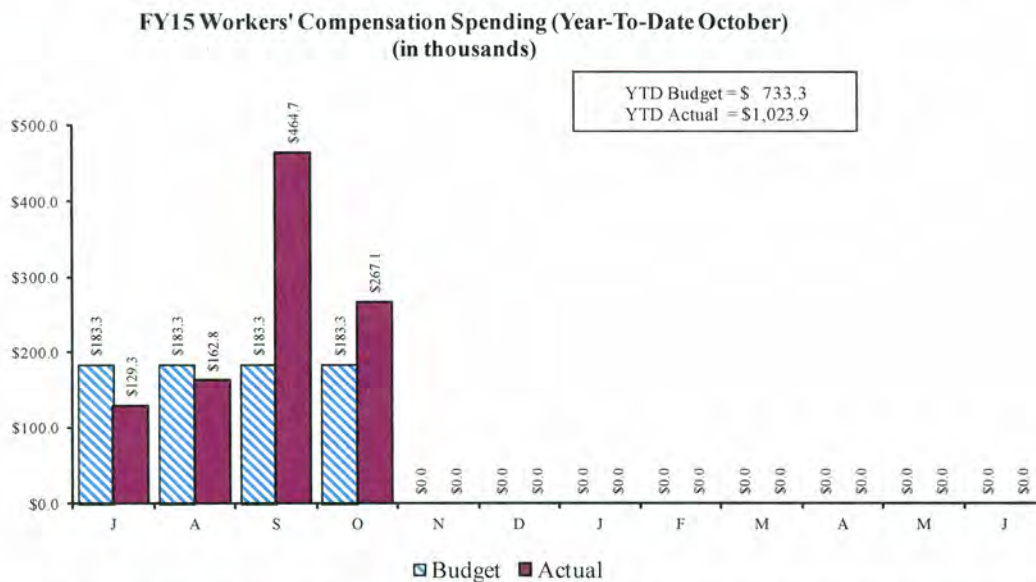
Maintenance was overspent by \$1.9 million or 24.5% year-to-date. Materials are overspent by \$1.6 million and services are overspent by \$297,000. The majority of the variance is timing related for projects scheduled for FY14 completed in FY15 such as the Quabbin Spillway fence rehabilitation, heat pump block heaters for various water and wastewater facilities, and ventilation controls at New Neponset and Framingham Pump Stations in Field Operations and the condenser unit services performed on the Back Pressure Steam Turbine Generator at Deer Island.

Other Materials

Other Materials are higher than budget by \$350,000 or 30.9% mainly due to timing of computer hardware purchases, Clinton gravel purchases, health and safety materials, work clothes, and equipment/furniture.

Workers' Compensation

Workers' Compensation expenses are higher than budget by \$291,000 or 39.6%, based on higher compensation payments of \$254,000 and administrative and legal costs of \$41,000.



# of Open Claims-Lost Time	69	72	70	66	0	0	0	0	0	0	0
# of Open Claims-Medical Only	16	24	24	21	0	0	0	0	0	0	0

Other Services

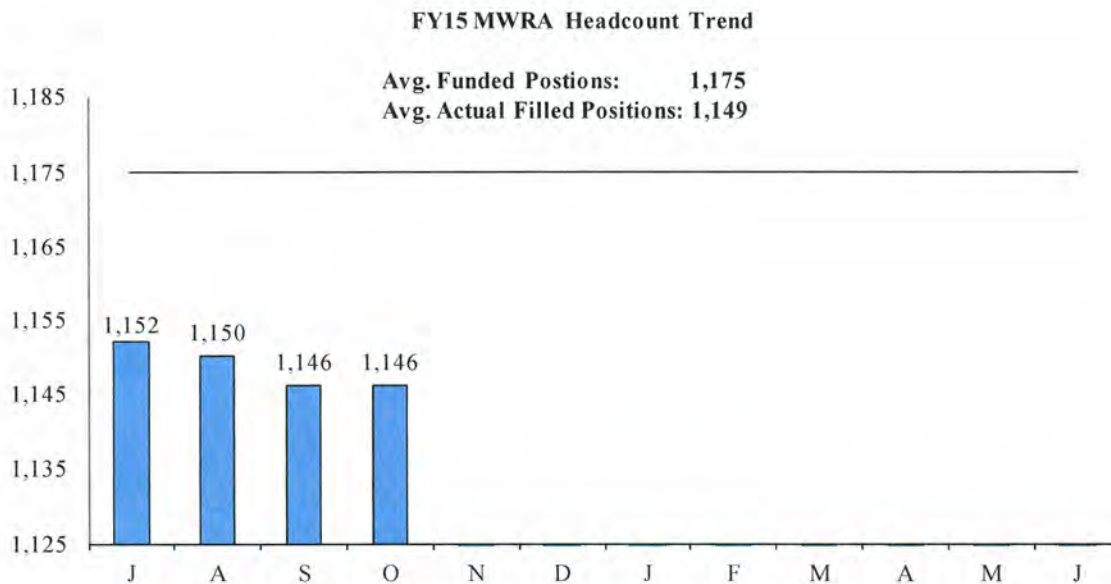
Other Services expenses are higher than budget by \$98,000 or 1.2% mainly due to Charlestown Navy Yard headquarters carpet and painting upgrades and the timing of Membership/Dues renewals.

Overtime

Overtime expenses are higher than budgeted by \$56,000 or 4.8% due to higher than projected wet weather events and coverage requirements.

Wages and Salaries

Wages and Salaries were underspent by \$1.1 million or 3.6% mainly as a result of lower than budgeted filled positions, the salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates, and the timing of projected cost of living increases for the currently unsettled union contracts. The average actual filled positions for the quarter was 1,149 which is 26 positions lower than the 1,175 positions funded. Additionally, MWRA had 7 temporary employees.



Utilities

Utilities are underspent \$745,000 or 11.1% year-to-date primarily for lower Electricity of \$620,000 mainly due to lower than budgeted pricing and lower flows at Deer Island, as well as lower Water and Diesel Fuel of \$69,000 and \$55,000 respectively.

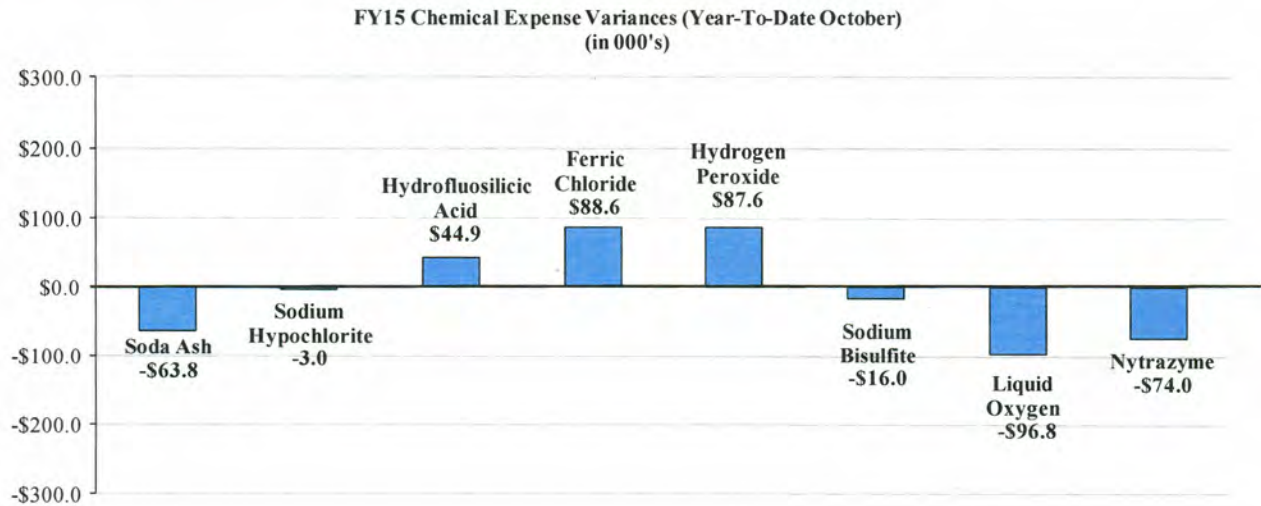
Fringe Benefits

Fringe Benefits are lower than budget by \$116,000 or 1.9% mainly due to lower than budgeted health, dental, and unemployment insurance due to the lower headcount.

Chemicals

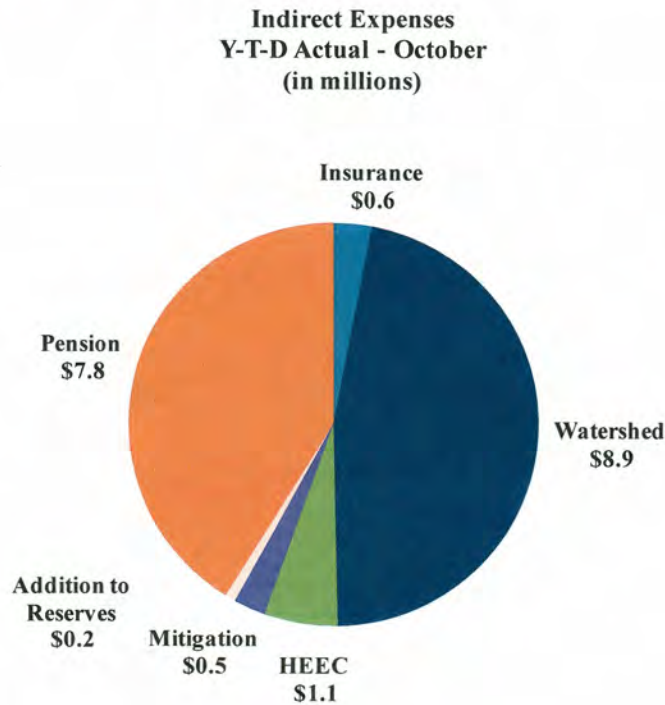
Chemicals are underspent by \$47,000 or 1.2% year-to-date mainly due to lower than budgeted Liquid Oxygen of \$97,000 due to better water quality at Wachusett Reservoir resulting in lower dosing, Nytrazyme of \$74,000 due to system modifications by the Town of Framingham, Soda

Ash of \$64,000 due to lower flows, and Activated Carbon of \$61,000 due to timing. Underspending is offset to some degree by higher spending for Ferric Chloride of \$89,000 for struvite control, Hydrogen Peroxide of \$88,000 due to lower flows which required increased pretreatment for hydrogen sulfide gas, and Hydrofluosilicic Acid of \$45,000 due to delay in anticipated regulatory dosing change.



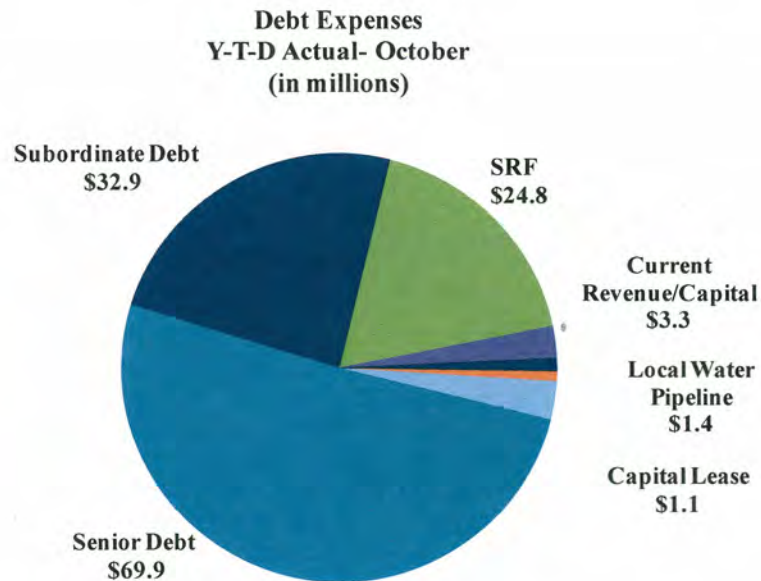
Indirect Expenses

The majority of the year-to-date underspending on Indirect Expenses is for lower Insurance expenses of \$125,000 related to both lower premiums and claims, and lower Watershed Reimbursement expenses of \$119,000 due to FY14 overaccrual.



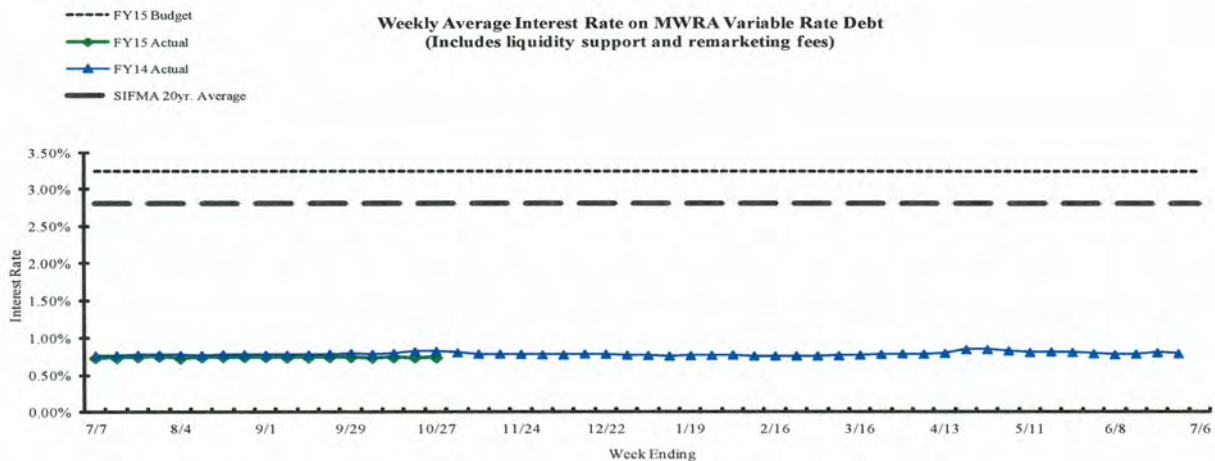
Debt Service Expenses

Debt Service Expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the State Revolving Fund (SRF) obligation, the commercial paper program for the Local Water Pipeline projects, current revenue for capital, and the Chelsea facility lease payment.



Debt Service expenses through October totaled \$126.5 million which is \$4.0 million or 3.0% lower than budgeted levels due to favorable short-term interest rates.

The graph below reflects the variable rate trend by month over the past year in comparison with FY14 Actuals and the FY15 Budget for the same period.



Revenue

Year-to-date revenue for FY15 totals \$221.1 million which is \$640,000 or 0.3% higher than budget due to higher non-rate revenue of \$721,000 offset by lower Investment Income of \$81,000 due to lower than budgeted short-term rates.

The higher non-rate Revenue of \$721,000 is mainly due to the \$372,000 payment received for the surplus of the Fox Point CSO Facility, \$333,000 for the sale of unbudgeted emergency water for the Town of Hudson, \$72,000 for higher permit fees, \$61,000 due to the timing of the Fore River Railroad Corporation payments, and other miscellaneous revenue items totaling \$111,000. The higher favorable variances were offset by lower Energy revenue of \$228,000 mainly due to the timing of Renewable Portfolio Standard (RPS) sales. Additional miscellaneous revenue, particularly related to the sale of Fox Point CSO, will become part of the defeasance account and will be used to defease debt for future year's rate relief.

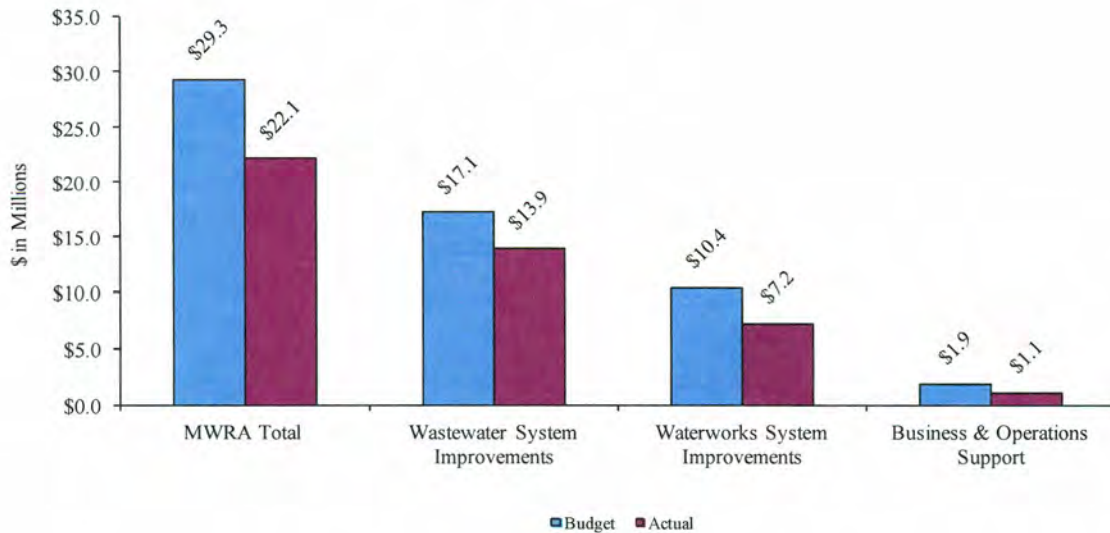
FY15 Capital Improvement Program

Spending year-to-date in FY15 totals \$22.1million, \$7.2 million or 24.5% lower than budget. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline program, and the community managed Combined Sewer Overflow (CSOs) projects, the underspending is \$6.0 million or 23.7%.

Underspending was reported in all programs: Wastewater of \$3.3 million, Waterworks of \$3.1 million, and Business and Operations Support of \$771,000.

Spending By Program:

**FY15 CIP Spending
Year-To-Date October**



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	4.3	2.6	-1.7	-39.2%
Treatment	5.6	5.2	-0.4	-6.7%
Residuals	0.0	0.0	0.0	N/A
CSO	6.2	6.2	0.0	-0.5%
Other	1.0	-0.2	-1.2	-121.0%
Total Wastewater System Improvements	\$17.1	\$13.9	-\$3.3	-19.2%
Waterworks System Improvements				
Drinking Water Quality Improvements	8.7	7.9	-0.8	-8.7%
Transmission	1.8	0.6	-1.3	-68.6%
Distribution & Pumping	2.5	1.4	-1.1	-43.1%
Other	-2.6	-2.7	-0.1	2.5%
Total Waterworks System Improvements	\$10.4	\$7.2	-\$3.1	-30.4%
Business & Operations Support	\$1.9	\$1.1	-\$0.8	-41.6%
Total MWRA	\$29.3	\$22.1	-\$7.2	-24.5%

The main reasons for the first quarter underspending were:

1. **Wastewater Interception and Pumping** of \$1.7 million – for lower spending on Prison Point/Cottage Farm Engine, Pumps, and Gearboxes of \$1.3 million and Nut Island Headworks Electrical and Grit and Screenings Conveyance Construction of \$82,000 due to timing of work, Chelsea Creek Headworks Design of \$196,000 due to design delays, and Alewife Brook Pump Station Screen Design/Construction Administration and Resident Engineer Inspection of \$65,000 due to additional time for review of contract specifications.
2. **Water Transmission** of \$1.3 million – mainly for lower than budgeted spending for Long-Term Redundancy of \$502,000 for Sudbury Aqueduct MEPA Review, Watershed Land of \$260,000 due to timing, Dam Projects of \$250,000 due to less than anticipated Design and Engineering Services During Construction.
3. **Wastewater Other** of \$1.2 million – primarily due to Inflow and Infiltration (I/I) community requests for grants being lower than budget.
4. **Water Distribution and Pumping** of \$1.1 million – for lower spending on Weston Aqueduct Supply Mains of \$496,000 for lower WASM 3 Design, Construction Administration, and Resident Inspection work, Southern Extra High Redundancy and Storage of \$327,000 mainly for delays for Southern Extra High Redundancy and Storage Final Design, and Valve Replacement of \$217,000 due to timing of equipment purchases.
5. **Business and Operations Support** of \$771,000 – mainly for lower than budgeted spending for Vehicle Purchases of \$300,000 due to timing, lower than projected spending for As-Needed Design Services of \$190,000, and lower Security Equipment purchases of \$90,000.
6. **Drinking Water Quality Improvements** of \$758,000 – mainly for Spot Pond Covered Storage of \$1.1 million mainly for timing of work and Carroll Water Treatment Plant of \$329,000 for less than anticipated Carroll UV Disinfection Engineering Services During Construction. Offset by overspending for Quabbin Water Treatment Plant of \$692,000 mainly for Ultraviolet Construction of \$488,000 primarily due to contractor progress.
7. **Treatment** of \$378,000 – mainly for lower spending on Electrical Equipment Upgrade Construction 4 of \$1.4 million, Centrifuge Backdrive Replacement of \$1.1 million, and North Main Pump Station (NMPS) VFD Replacement Construction of \$218,000, and other smaller projects of \$660,000. Offset by overspending for Scum Skimmer Replacement of \$1.9 million and Clinton Digester Cleaning and Rehabilitation of \$1.1 million due to contractor progress.

Construction Fund Balance

The construction fund balance was at \$46 million as of October 2014. Commercial Paper availability was at \$180 million to fund construction projects.

Attachment 1 – Variance Summary October 2014

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1

	October 2014 Year-to-Date					
	Period 4 YTD Budget	Period 4 YTD Actual	Period 4 YTD Variance	%	FY15 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 29,542,649	\$ 28,471,243	\$ (1,071,406)	-3.6%	\$ 96,554,749	29.5%
OVERTIME	1,162,667	1,218,384	55,717	4.8%	3,620,600	33.7%
FRINGE BENEFITS	6,117,200	6,001,047	(116,153)	-1.9%	18,299,405	32.8%
WORKERS' COMPENSATION	733,333	1,023,908	290,575	39.6%	2,200,000	46.5%
CHEMICALS	3,818,346	3,771,137	(47,209)	-1.2%	10,219,580	36.9%
ENERGY AND UTILITIES	6,701,728	5,956,289	(745,439)	-11.1%	23,472,354	25.4%
MAINTENANCE	7,951,717	9,897,838	1,946,121	24.5%	27,972,607	35.4%
TRAINING AND MEETINGS	68,154	68,821	667	1.0%	361,019	19.1%
PROFESSIONAL SERVICES	1,764,738	1,793,183	28,445	1.6%	5,957,201	30.1%
OTHER MATERIALS	1,135,575	1,485,898	350,323	30.8%	5,952,729	25.0%
OTHER SERVICES	7,825,938	7,923,438	97,500	1.2%	22,538,498	35.2%
TOTAL DIRECT EXPENSES	\$ 66,822,045	\$ 67,611,186	\$ 789,142	1.2%	\$ 217,148,742	31.1%
INDIRECT EXPENSES						
INSURANCE	\$ 695,743	\$ 570,528	\$ (125,215)	-18.0%	\$ 2,128,155	26.8%
WATERSHED/PILOT	8,979,528	8,860,484	(119,044)	-1.3%	27,466,790	32.3%
BEC ₀ PAYMENT	1,113,128	1,107,040	(6,088)	-0.5%	3,198,174	34.6%
MITIGATION	525,028	477,276	(47,752)	-9.1%	1,605,967	29.7%
ADDITIONS TO RESERVES	157,888	157,888	-	0.0%	482,953	32.7%
RETIREMENT FUND	7,808,155	7,808,155	-	0.0%	12,629,475	61.8%
TOTAL INDIRECT EXPENSES	\$ 19,279,470	\$ 18,981,371	\$ (298,099)	-1.5%	\$ 47,511,514	40.0%
DEBT SERVICE						
STATE REVOLVING FUND	\$ 24,726,681	\$ 24,726,681	\$ -	0.0%	\$ 78,460,635	31.5%
SENIOR DEBT	69,899,413	69,899,413	-	0.0%	220,835,626	31.7%
CORD FUND	292,169	292,169	-	0.0%	876,506	33.3%
DEBT SERVICE ASSISTANCE	(853,660)	(853,660)	-	0.0%	(853,660)	100.0%
CURRENT REVENUE/CAPITAL	3,334,616	3,334,616	-	0.0%	10,200,000	32.7%
SUBORDINATE MWRA DEBT	32,890,639	32,890,639	-	0.0%	99,686,106	33.0%
LOCAL WATER PIPELINE CP	1,356,225	1,356,225	-	0.0%	4,148,453	32.7%
CAPITAL LEASE	1,051,731	1,051,731	-	0.0%	3,217,060	32.7%
VARIABLE DEBT	-	(3,970,066)	(3,970,066)	---	-	0.0%
BOND REDEMPTION SAVINGS	(2,205,292)	(2,205,292)	-	0.0%	(6,745,598)	32.7%
DEFEASANCE ACCOUNT	-	-	-	---	-	---
TOTAL DEBT SERVICE	\$ 130,492,522	\$ 126,522,456	\$ (3,970,066)	-3.0%	\$ 409,825,128	30.9%
TOTAL EXPENSES	\$ 216,594,037	\$ 213,115,013	\$ (3,479,023)	-1.6%	\$ 674,485,384	31.6%
REVENUE & INCOME						
RATE REVENUE	\$ 212,603,237	\$ 212,603,237	\$ -	0.0%	\$ 650,315,784	32.7%
OTHER USER CHARGES	3,562,229	3,525,925	(36,304)	-1.0%	8,259,693	42.7%
OTHER REVENUE	1,145,576	1,902,864	757,288	66.1%	6,180,450	30.8%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	3,133,589	3,052,422	(81,167)	-2.6%	9,729,457	31.4%
TOTAL REVENUE & INCOME	\$ 220,444,631	\$ 221,084,447	\$ 639,816	0.3%	\$ 674,485,384	32.8%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD October	FY15 Actuals YTD October	FY15 YTD Actual vs. FY15 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	29,542,649	28,471,243	(1,071,406)	-3.6%	Underspending is due to lower headcount, salary mix differential between staff retiring at higher rates and new hires coming on board at lower rates, and timing of projected cost of living increases for unsettled union contracts. At the end of October the average filled positions of 1,149, are 26 positions less than the 1,175
Overtime	1,162,667	1,218,384	55,717	4.8%	Higher than budgeted due to higher than projected wet weather events and coverage requirements.
Fringe Benefits	6,117,200	6,001,047	(116,153)	-1.9%	Lower than budget mainly for lower than budgeted Health of \$63k, Dental of \$26k, and Unemployment Insurance of \$20k due to lower headcount.
Worker's Compensation	733,333	1,023,908	290,575	39.6%	Higher than budget due to higher Compensation Payments of \$254k and Administrative and Legal costs of \$41k.
Chemicals	3,818,346	3,771,137	(47,209)	-1.2%	Lower than budgeted Liquid Oxygen of \$97k due to better water quality resulting in lower dosing, Nitrazyme of \$74k due to system modifications by the Town of Framingham, Soda Ash of \$64k due to lower flows, and Activated Carbon of \$61k due to timing. Underspending is offset by higher spending for Ferric Chloride of \$89k for struvite control, Hydrogen Peroxide of \$88k due to lower flows requiring increased pretreatment for hydrogen sulfide gas, and Hydrofluosilicic Acid of \$45k due to delay in anticipated regulatory dosing change.
Utilities	6,701,728	5,956,289	(745,439)	-11.1%	Underspending due to lower Electricity of \$620k mainly due to lower than budgeted pricing and flows at Deer Island, as well as lower Water and Diesel Fuel of \$69k and \$55k respectively.
Maintenance	7,951,717	9,897,838	1,946,121	24.5%	Material purchases are greater than budget by \$1.6 million and services are overspent by \$297k mainly due to timing.
Training & Meetings	68,154	68,821	667	1.0%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD October	FY15 Actuals YTD October	FY15 YTD Actual vs. FY15 Budget		Explanations
			\$	%	
Professional Services	1,764,738	1,793,183	28,445	1.6%	
Other Materials	1,135,575	1,485,898	350,323	30.8%	Higher than budget mainly due to timing of Computer Hardware purchases of \$224k, Other Materials of \$48k mainly for Clinton gravel purchases, Health and Safety Materials of \$49k, Work Clothes of \$46k, and Equipment/Furniture of \$45k.
Other Services	7,825,938	7,923,438	97,500	1.2%	Higher than budget mainly due to Charlestown Navy Yard headquarters carpet and painting upgrades and the timing of Membership/Dues renewals.
Total Direct Expenses	66,822,045	67,611,186	789,142	1.2%	
Indirect Expenses					
Insurance	695,743	570,528	(125,215)	-18.0%	Lower Premiums of \$77k and Payments/Claims of \$48k.
Watershed/PILOT	8,979,528	8,860,484	(119,044)	-1.3%	Lower Reimbursement expenses of \$119k due to FY14 overaccrual.
HEEC Payment	1,113,128	1,107,040	(6,088)	-0.5%	
Mitigation	525,028	477,276	(47,752)	-9.1%	
Addition to Reserves	157,888	157,888	-	0.0%	
Pension Expense	7,808,155	7,808,155	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	19,279,470	18,981,371	(298,099)	-1.5%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY15 Budget YTD October	FY15 Actuals YTD October	FY15 YTD Actual vs. FY15 Budget		Explanations
			\$	%	
Debt Service					
Debt Service	131,346,182	127,376,116	(3,970,066)	-3.0%	Underspending results from favorable short-term interest rates.
Debt Service Assistance	(853,660)	(853,660)	-	0.0%	
Total Debt Service Expenses	130,492,522	126,522,456	(3,970,066)	-3.0%	
Total Expenses					
Total Expenses	216,594,037	213,115,013	(3,479,023)	-1.6%	
Revenue & Income					
Rate Revenue	212,603,237	212,603,236	(1)	0.0%	
Other User Charges	3,562,229	3,525,925	(36,304)	-1.0%	
Other Revenue	1,145,576	1,902,864	757,288	66.1%	Higher non-rate Revenue of \$721k is mainly due to \$372k payment received for the surplus of the Fox Point CSO Facility, \$333k for the sale of unbudgeted emergency water for the Town of Hudson, \$72k for higher permit fees, \$61k due to the timing of the Fore River Railroad Corporation payments, and other miscellaneous revenue items totaling \$111k offset by lower Energy revenue of \$228k mainly due to the timing of Renewable Portfolio Standard (RPS) sales.
Rate Stabilization	-	-	-		
Investment Income	3,133,589	3,052,421	(81,168)	-2.6%	Lower Investment Income due to lower than budgeted short-term rates.
Total Revenue	220,444,631	221,084,447	639,816	0.3%	
Net Revenue in Excess of Expenses	3,850,594	7,969,434	4,118,839		


ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY15 Budget YTD October	FY15 Actuals YTD October	YTD Actuals vs. Budget		Explanations
			\$	%	
Interception & Pumping (I&P)	\$4,299	\$2,616	(\$1,683)	-39.2%	Underspending mainly due to timing of work for Prison Point/Cottage Farm Engine Pump & Gearbox Rebuilds of \$1.3M and Chelsea Creek Upgrades Design/Construction Administration of \$196,000 due to design delays.
Treatment	\$5,610	\$5,232	(\$378)	-6.7%	Underspending on Electrical Equipment Upgrade Construction 4 of \$1.4M, Centrifuge Backdrive Replacement of \$1.1M, and North Main Pump Station (NMPS) VFD Replacement Construction of \$218,000 and other smaller projects of \$671,000 mainly due to timing. Offset by overspending on Scum Skimmer Replacement of \$1.9M and Clinton Digester Rehabilitation of \$1.1M due to contractor progress.
Residuals	\$0	\$9	\$9	-	
CSO	\$6,237	\$6,203	(\$33)	-0.5%	
Other Wastewater	\$990	(\$207)	(\$1,197)	-	Underspending on Infiltration and Inflow (I/I) due to community requests for grants being less than budgeted.
Total Wastewater	\$17,135	\$13,852	(\$3,283)	-19.2%	
Drinking Water Quality Improvements	\$8,690	\$7,932	(\$758)	-8.7%	Underspending for Spot Pond Storage Facility of \$1.1M mainly for timing of work and Carroll Water Treatment Plant of \$329,000 for Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection due to less than projected need. Offset by overspending on Quabbin Water Treatment Plant of \$692,000 due to contractor progress.
Transmission	\$1,825	\$573	(\$1,252)	-68.6%	Underspending for Long Term Redundancy of \$502,000 mainly due to ongoing alternatives analysis of Sudbury Aqueduct - MEPA Review, Watershed Land of \$260,000 due to the timing of land acquisitions, and Dam Projects of \$250,000 due to less than anticipated design and engineering services.

ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY15 Budget YTD October	FY15 Actuals YTD October	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$2,484	\$1,413	(\$1,071)	-43.1%	Underspending on Weston Aqueduct Supply Mains of \$496,000 mainly due to less than anticipated spending for WASM 3 Design/Construction Administration/Resident Inspection, Southern Extra High (SEH) Redundancy & Storage of \$327,000 due to Redundancy/Storage Phase 1 - Final Design/Construction Administration/Resident Inspection delays pending additional time to meet with local communities, and Valve Replacement of \$217,000 due to timing of equipment purchases.
Other Waterworks	-\$2,644	(\$2,711)	(\$67)	2.5%	
Total Waterworks	\$10,355	\$7,207	(\$3,148)	-30.4%	
Business & Operations Support	\$1,850	\$1,080	(\$771)	-41.6%	Underspending on Centralized Equipment Purchase of \$390,000 due to timing of security equipment and vehicle purchases, and Capital Maintenance Planning & Development of \$190,000 due to lower than projected use of as-needed technical assistance.
Total MWRA	\$29,340	\$22,139	(\$7,202)	-24.5%	


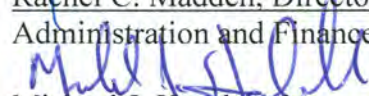
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Assignment and Assumption of Contract 595TA, Technical Assistance Consulting Services, Hazardous Materials, from EnviroSense, Inc. to EnSafe, Inc.

COMMITTEE: Administration, Finance & Audit

John Sabino, Contracts Manager
Marcel R. Brady, Asst. Mgr., Contract Administration
Preparer/Title

 INFORMATION

VOTE

Rachel C. Madden, Director
Administration and Finance

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the assignment and assumption of Contract 595TA, Technical Assistance Consulting Services, Hazardous Materials, from EnviroSense, Inc. to EnSafe, Inc., with no increase in price or contract term.

DISCUSSION:

MWRA utilizes technical assistance contracts to make available, on an as-needed basis, hazardous materials assessment services for small, unanticipated or emergency projects.

On April 11, 2012, the Board approved the award of Contract 595TA, Technical Assistance Consulting Services, Hazardous Materials, to EnviroSense, Inc., for an amount not to exceed \$450,000, with a contract term of three years, and authorized a Notice to Proceed for the first year of the contract for an amount not to exceed \$150,000. Further, the Board authorized the Executive Director to approve separate Notices to Proceed, if recommended by staff, to commence the second- and third-year terms of the contract, for the same yearly not-to-exceed amount. The Executive Director approved both the second and third years of Contract 595TA and the contract will expire April 30, 2015.

On October 16, 2014, MWRA was formally notified by EnviroSense, Inc. that the firm is in the process of being acquired by EnSafe, Inc., an environmental, engineering, health, and safety company established in 1980, with corporate headquarters in Memphis, TN, and branch offices around the United States. The acquisition was finalized on October 31, 2014.

The current EnviroSense office location in Londonderry, NH will remain open and become a new branch office for EnSafe. Further, all current EnviroSense staff, including those actively involved with existing MWRA task order work, will remain with the company and continue to work on these projects. MWRA staff have been satisfied with the performance of EnviroSense under the contract. If this assignment is approved, EnSafe will be responsible for all outstanding task orders issued to EnviroSense, and any future task orders issued through contract expiration in April 2015.

A review of EnSafe's FY12 and FY13 audited financial statements shows a Net Income profit for both years. The company's internal, unaudited financials for the first nine months of 2014 also report a profit.

MWRA staff have reviewed documentation concerning this acquisition and assignment and are satisfied that there will be no negative impacts to MWRA, and the contract will continue through expiration with no changes in terms, prices, or conditions. Therefore, staff recommend approval of the assignment and assumption of Contract 595TA from EnviroSense, Inc. to EnSafe, Inc.


BUDGET/FISCAL IMPACT:

There will be no budgetary impact from this assignment as all existing pricing, terms, and conditions will remain the same.

MBE/WBE PARTICIPATION:


There were no MBE or WBE participation requirements for Contract 595TA because of limited opportunities for subcontracting.

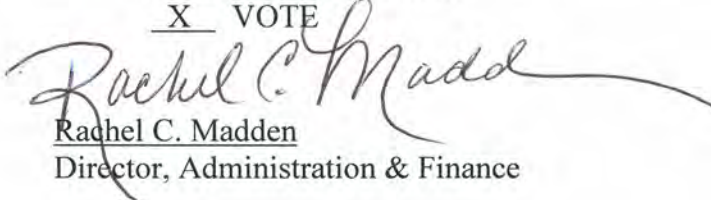
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Insurance Consultant Services - Task Order Contract
Kevin F. Donoghue Insurance Advisors, Inc.
Contract F232

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Paul F. Whelan/Risk Manager
Preparer/Title 


Rachel C. Madden
Director, Administration & Finance

RECOMMENDATION:

To approve the recommendation of the Selection Committee to select Kevin F. Donoghue Insurance Advisors, Inc. to provide insurance consultant services, and to authorize the Executive Director, on behalf of the Authority, to execute a contract in an amount not to exceed \$150,000, for a contract term of three years from the Notice to Proceed.

BACKGROUND:

The MWRA utilizes various types of insurance programs and strategies to protect against different types of financial exposures. These programs include self-insurance, high-retention insurance policies, reserve funds, risk transfer strategies and broker services. MWRA renews its insurance program on an annual basis by implementing a competitive bid process and also is required to have its insurance reserve fund reviewed for adequacy on a tri-annual basis.

This procurement involves the selection of a licensed Insurance Consultant to provide services relating to the various components of MWRA's insurance program on an as-needed task order basis. The Insurance Consultant will serve as an advisor to the MWRA during the annual marketing of the insurance program and provide detailed analysis of proposals received and assist with cost and coverage comparisons. The Insurance Consultant will also be tasked with the tri-annual review and evaluation of the MWRA's Insurance Reserve Fund as required by the General Bond Resolution, which is next scheduled to be performed in fiscal year 2017. The Insurance Consultant will also be available as a resource to the MWRA for general insurance matters, including requirements for construction contracts, policy renewals, surety bond issues and insurance market conditions.

DISCUSSION:

Procurement Process

A Selection Committee was formed consisting of five voting members with representatives from Risk Management, Finance, Procurement and Law Division. A standard one-step professional services request for qualifications/proposals (RFQ/P) was developed with a sample Scope of Services included. Services provided under the contract will only be performed as-needed on a task by task basis. The criteria established for selection were Cost (50 points), Qualifications and Key Personnel (25 points), Experience and Past Performance (15 points), Capacity, Organization, Management and Technical Approach (10 points). MBE/WBE participation was encouraged but there were no specific points allocated.

The RFQ/P was advertised in the Boston Herald on September 13, 2014. RFQ/P documents were made available on September 17, 2014. In an effort to increase awareness and participation in this procurement, staff obtained a listing of licensed insurance consultants from the Massachusetts Division of Insurance and directly e-mailed proposal documents to 15 firms performing independent insurance consulting services. Staff also contacted the Massachusetts Society of Licensed Insurance Advisors, a professional society for Insurance Consultants, who made their members aware of this RFQ/P.

On October 17, 2014, one proposal was received from the incumbent firm, Kevin F. Donoghue Insurance Advisors, Inc. Procurement staff contacted the other firms that had been directly notified to learn why they decided not to submit proposals. Six firms provided feedback. In one case, the firm considered itself too small to handle the work; several of the firms did not consult in the requisite areas of insurance coverage; and two firms stated that their rates were high and, with the cost criterion weighted at 50 percent, did not think they could be competitive. Based on this information, the Deputy Director of Administration & Finance determined that all reasonable efforts had been undertaken to solicit multiple bids.

The RFQ/P requested that costs be proposed on annual Singular Hourly Rate for Project Manager/Senior Consultant and Consultant categories for the next three year period. The rates proposed are shown below:

Firm	Personnel Category	Expiring Rates	Proposed SHR 11/14 to 10/15	Proposed SHR 11/15 to 10/16	Proposed SHR 11/16 to 10/17
Kevin F. Donoghue Insurance Advisors	Project Manager/ Senior Consultant	\$185	\$185	\$185	\$185
	Consultant	\$150	\$150	\$150	\$150

The proposed rates by KFDA remain unchanged from the expiring contract for the Project

Manager/Senior Consultant category and the Consultant category with no escalation in rates for years two and three. The Selection Committee found the proposal to be responsive to the established criteria including relevant experience, qualifications and capacity to provide the Authority's anticipated insurance advisory services. References provided were contacted and found to be satisfactory. Risk Management staff reported favorable past experience and performance with this vendor utilizing the same personnel proposed for this contract. Therefore, the Selection Committee recommends that this contract be award to Kevin F. Donoghue Insurance Advisors, Inc.

BUDGET/FISCAL IMPACT:

Sufficient funds are included in the CEB to support this contract.

MBE/WBE PARTICIPATION:

Due to the specialized nature of this work, there were no MBE or WBE participation requirements established for this contract.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

October 15, 2014

A meeting of the Wastewater Policy and Oversight Committee was held on October 15, 2014 at the Authority headquarters in Charlestown. Chairman Walsh presided. Present from the Board were Ms. Wolowicz and Messrs. Barrera, Carroll, Cotter, Flanagan, Foti, Pappastergion and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Steve Rhode, Steve Estes-Smargiassi, Betsy Reilly, John Riccio, Carolyn Fiore, Dave Duest, Rick Adams, Brian Kubaska, and Bonnie Hale. The meeting was called to order at 10:35 a.m.

Information

Update on Pandemic Planning (Presentation)

Staff gave a presentation describing MWRA's planning efforts to prepare for the possibility of outbreaks of Ebola or other types of contagious diseases.

MWRA Industrial Waste Report #30: Industrial Pretreatment Program Annual Report to EPA for FY14

Staff provided a brief summary of the report.

Deer Island Treatment Plant Fire Alarm System Evaluation and Replacement

Staff gave a presentation on the above project, and there was general discussion and question and answer.

Approvals

Consideration of the following two items was postponed:

- *1. Deer Island Co-Digestion Program Update (ref. agenda item B.1)
- *2. Charles River Pollution Control District Petition on NPDES Co-Permittees (ref. agenda item B.2).

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

The Committee recommended approval of the addition of Mr. Travis Ahern to the Wastewater Advisory Committee (ref. agenda item B.3).

* Postponed at October 15, 2014 Board of Directors meeting.

** Approved as recommended at October 15, 2014 Board of Directors meeting.

Contract Awards

**Supply and Delivery of Sodium Hypochlorite to the Deer Island Treatment Plant:
Borden & Remington Corp., Bid WRA-3906

The Committee recommended approval of the contract award (ref. agenda item C.1).

**Thermal/Power Plant Management System Upgrade, Deer Island Treatment Plant:
O'Connor Corp., Contract 7401

Staff gave a presentation of the work to be performed as part of this project. The Committee recommended approval of the contract award (ref. agenda item C.2).

**Instrumentation System Services: Kit Zeller Inc., Contract OP-256

Staff described the project and there was general discussion. The Committee recommended approval of the contract award (ref. agenda item C.3).

Contract Amendments/Change Orders


**Elevator Maintenance and Repair at Various Facilities: BBE Corp., Contract OP-218,
Change Order 2

Staff summarized the reasons for the change order and there was general discussion and question and answer. The Committee recommended approval of Change Order 2 (ref. agenda item D.1).

The meeting adjourned at 11:45 a.m.

* Approved as recommended at October 15, 2014 Board of Directors meeting.

STAFF SUMMARY

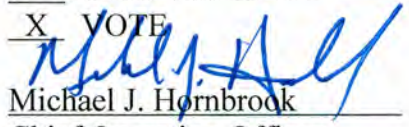
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Memorandum of Understanding and Financial Assistance Agreement with BWSC for Implementation of CSO Control Projects, Amendment 15, and Progress of BWSC Implemented CSO Projects and Projected Financial Assistance through June 2015

COMMITTEE: Wastewater Policy & Oversight

Anandan Navanandan, P.E., Chief Engineer
David A. Kubiak, P.E., Sr. Program Manager
Preparer/Title

 INFORMATION

 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute Amendment 15 to the Memorandum of Understanding and the Financial Assistance Agreement with Boston Water and Sewer Commission for Implementation of CSO Control Projects, increasing the award amount by \$3,710,388.72 from \$292,595,398.28 to \$296,305,787.00.

DISCUSSION:

Under the Memorandum of Understanding (MOU) and Financial Assistance Agreement (FAA) between MWRA and Boston Water and Sewer Commission (BWSC) for the Implementation of CSO Control Projects, BWSC is responsible for implementing nine of the 35 projects in MWRA's Long-Term CSO Control Plan. BWSC also improved a portion of its Lower Dorchester Brook Sewer to reduce CSO discharges to BWSC's Dorchester Brook Conduit and Fort Point Channel in accordance with the terms and conditions of Amendment 9 to the MOU and FAA approved by the Board on June 4, 2008. BWSC has completed most of the projects, and remaining work is associated with ongoing construction of the Reserved Channel sewer separation project subject to Federal Court milestones, and the continuing removal of stormwater inflow from BWSC systems in Dorchester as part of the South Dorchester Bay sewer separation project, not subject to the Federal Court schedule.

The MOU provides a framework within which BWSC and MWRA cooperate in the management of the CSO projects. The FAA is the funding mechanism by which MWRA funds are made available to BWSC to pay eligible design and construction costs. The MOU and FAA were originally executed in 1996, and the total award amount in the agreements through Amendment 14, executed on June 17, 2014, is \$292,595,398. The total award amount is the sum of project specific funding authorizations presented in Table 1 on page 2, which also shows the impact of Amendment 15.

Following the Board's approval of Amendment 14 in May 2014, BWSC reported cost increases for Reserved Channel contracts 3B and 4 that were approved by its commissioners in the period April through August, 2014. Proposed Amendment 15 will increase the award amount by \$3,710,388.72 to cover the eligible costs of additional storm drain installations and associated excavation, soils disposal and surface restoration (with the benefit of higher volumes of stormwater removal from the sewer system); additional utility coordination, relocation and avoidance work; higher quantities of contaminated soils; related engineering services during construction; and a contingency on remaining construction spending. The additional work is the result of new information regarding the sources of stormwater inflow that should be removed from the sewer system to meet the project's initial CSO goals and subsurface conditions (primarily utility conflicts) encountered during the construction work of these two major ongoing sewer separation contracts.

Table 1: Current Authorizations and Proposed Amendment 15

Project	Current Authorization	Proposed Amendment 15	Amended Authorization
South Dorchester Bay BOS088/089 Sewer Separation	\$ 54,653,320.39		\$ 54,653,320.39
South Dorchester Bay BOS090 Sewer Separation	\$ 64,215,528.19		\$ 64,215,528.19
Neponset River BOS093/095 Sewer Separation	\$ 2,549,086.41		\$ 2,549,086.41
Constitution Beach BOS002 Sewer Separation	\$ 3,731,315.01		\$ 3,731,315.01
Stony Brook Sewer Separation	\$ 44,287,383.56		\$ 44,287,383.56
Independent Floatables Control and Outfall/Regulator Closings	\$ 945,935.95		\$ 945,935.95
Fort Point Channel Sewer Separation and System Optimization	\$ 9,887,090.04		\$ 9,887,090.04
Regulator RE070/11-2 Relocation and Sewer Separation	\$ 2,030,000.00		\$ 2,030,000.00
Morrissey Boulevard Drain	\$ 32,339,111.09		\$ 32,339,111.09
Reserved Channel Sewer Separation	\$ 68,902,222.41	\$ 3,710,388.72	\$ 72,612,611.13
Bulfinch Triangle Sewer Separation	\$ 9,054,405.23		\$ 9,054,405.23
Total	\$292,595,398.28	\$ 3,710,388.72	\$296,305,787.00

BWSC awarded Contract 3B in June 2011 in the amount of \$10,888,001, of which \$9,289,756 was estimated to be eligible. Amendment 14 increased the estimated eligible cost of this contract to \$11,000,000, and Amendment 15 will increase the estimated eligible cost by \$2,150,868, to \$13,150,868. The Contract 3B cost increase results from increased length of storm drain and sewer installation; reconfiguration of the drainage system network in certain areas, requiring upsizing of some of the new storm drains; additional conflicts with the existing sewer system and other utilities discovered in the field which in part necessitated deeper drain and sewer installations; greater soil disposal and additional sidewalk and pavement restoration associated with the additional drain and sewer work; and the removal and disposal of newly discovered asbestos contaminated soils.

BWSC awarded Contract 4 in September 2012 in the amount of \$9,125,777, of which \$7,291,921 was estimated to be eligible. Amendment 14 increased the estimated eligible cost of this contract to \$10,476,646, and Amendment 15 will increase the eligible cost by \$2,407,869, to \$12,884,515. The Contract 4 cost increase results from additional storm drain installations and associated excavation, soil disposal and surface restoration costs; water main and sewer relocations to accommodate the new storm drains; a substantial amount of additional or reconfigured storm drain installation and water main and sewer relocation work due to unforeseen major private utility conflicts on E Street, West Street at C Street, and Fargo Street;

quantity changes (some substantial) in various line items within the original contract (including greater amounts of larger-size storm drains); higher amounts of unsuitable soil on E Street and West First Street; treatment of lead contaminated soils on E Street and West Second Street; and other soil conditions that varied substantially from the boring logs resulting in necessary additional rock excavation or over-excavation that far exceeded quantities that were included in the original contract.

In addition to these construction contract cost increases, Amendment 15 reflects a cost increase of \$234,425 for engineering services during construction (ESDC), reduced cost estimates for Contract 6 (downspout disconnections) and Contract 8 (pavement restoration), as well as reduced cost estimates for police details, permits and BWSC force account, all associated with bringing the Reserved Channel Sewer Separation project to completion.

The proposed Amendment 15 amount of \$3,710,388.72 also includes a 10% contingency on remaining spending for the Reserved Channel sewer separation project, which contingency amounts to \$461,817. The contingency is intended to cover any additional unanticipated construction changes and associated cost through project completion in December 2015.

Progress of Work

BWSC previously completed the South Dorchester Bay, Stony Brook, Neponset River, Constitution Beach, Fort Point Channel and Bulfinch Triangle sewer separation projects, the Morrissey Boulevard Storm Drain project and the Region-wide Floatables Control project (BWSC outfalls only). Together these projects involved the installation of more than 245,000 linear feet (46 miles) of new storm drain and allowed the closing of CSO outfalls to the Neponset and Charles Rivers and Tenean, Malibu, Savin Hill and Constitution beaches. Described below is the progress of CSO work BWSC continues to perform that is eligible for MWRA funding.

Reserved Channel Sewer Separation

Despite many problems and the need for design changes during construction, BWSC continues to make progress with construction of the Reserved Channel sewer separation project on schedules that allow for compliance with the December 2015 construction completion milestone in Schedule Seven of the Federal Court Order. Four of the nine planned construction contracts are complete (contracts 1, 2, 3A and 7). BWSC expects to attain substantial completion with Contract 3B soon, and expects to complete all of the major storm drain installations in Contract 4 by the end of December. These are the last two major construction contracts for the Reserved Channel Sewer Separation project. Table 2, on page 4, describes each contract and progress made.



48-inch drain installation on L Street, Contract 4

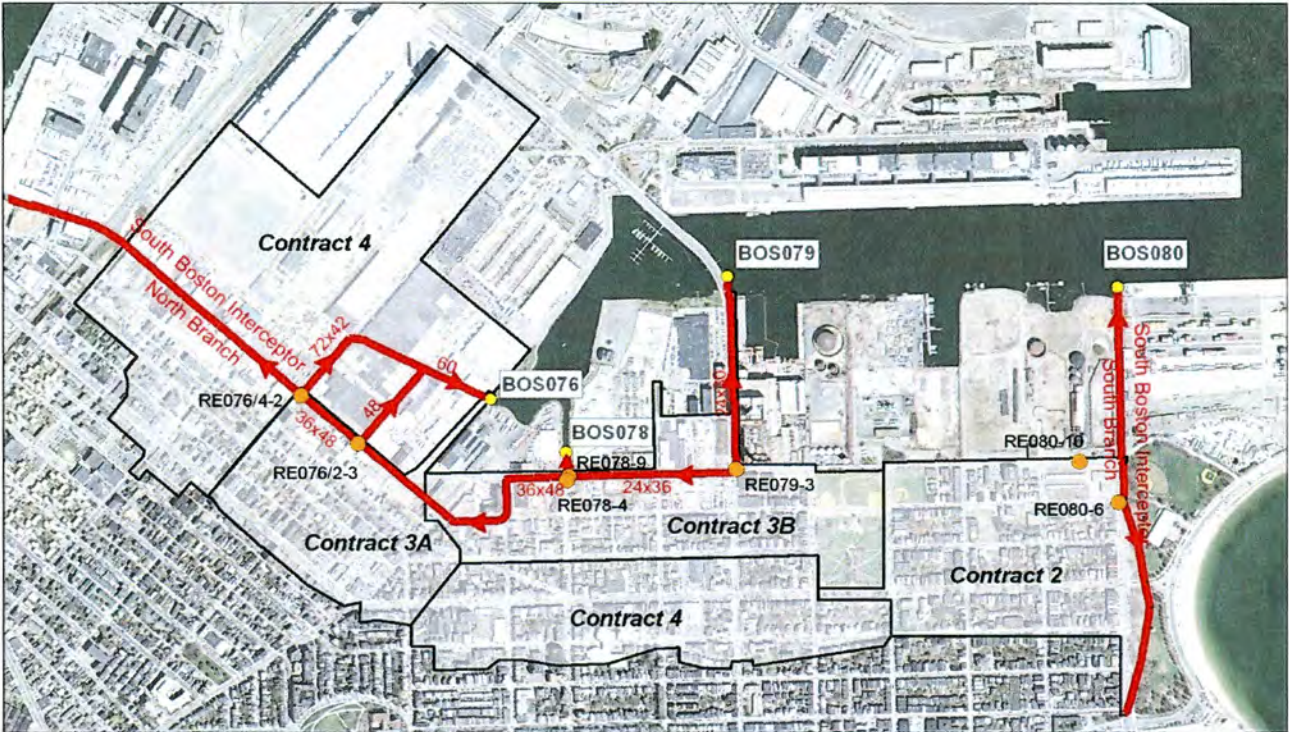


Table 2: Reserved Channel Sewer Separation Project Status

BWSC Contract	Description	Eligible Cost Estimate	Status
1	Restoration of four outfalls: 076, 078, 079 and 080. Also includes tidegate installation and culvert installation.	\$3,947,299	Complete
2	Installation of approximately 3,690 linear feet of 4 to 20 inch water pipe, 13,050 linear feet of 10 to 66 inch sewer and drain pipe, 63 four to six foot diameter manholes, 27 special manholes, 12 catch basins, and 3,500 linear feet of minor drain.	\$5,037,139	Complete
3A	Installation of approximately 9,220 linear feet of 4 to 16 inch water pipe, 12,380 linear feet of 8 to 84 inch sewer and drain, 80 four to seven foot diameter manholes, 6 special manholes, 22 catch basins, and 5,300 linear feet of minor drain.	\$11,092,266	Complete
3B	Installation of approximately 10,840 linear feet of 12 to 72 inch storm drain, 4,350 linear feet of 12 to 72 inch replacement sanitary sewer, replacement of 10,700 linear feet of 4 to 20 inch water pipe, 90 four to six foot diameter manhole, 9 special manholes, 6 catch basins, and 5,000 linear feet of minor drain.	\$13,150,868	99% complete
4	Installation of approximately 12,200 linear feet of 12 to 48 inch storm drain, 1,700 linear feet of 12 to 24 inch replacement sanitary sewer pipe, replacement of 9,700 linear feet of 8 to 16 inch water pipe, 104 four to six foot diameter manholes, one catch basin, and 5,400 linear feet of minor drain.	\$12,884,515	78% complete
5	Sewer cleaning and lining.	Ineligible	Cleaning is 70% complete Lining is 25% complete
6	Downspout disconnections.	\$210,600	Work to begin November 2014
7	Permanent pavement restoration of approximately 16,000 linear feet of roadway.	\$1,135,425	Complete
8	Permanent pavement restoration of approximately 37,500 linear feet of roadway.	\$4,761,784	35% complete

South Dorchester Bay Sewer Separation - Stormwater Inflow Removal

BWSC substantially completed the South Dorchester Bay sewer separation project in 2007, eliminating CSO discharges to the Commercial Point and Fox Point CSO treatment facilities and the beaches of South Dorchester Bay. Confirmation from BWSC that CSOs were eliminated allowed MWRA to decommission the two facilities in November 2007. Since then, BWSC has continued to locate and remove private inflow sources, primarily by disconnecting downspouts, to further reduce the amount of stormwater in the sewer system and meet the sewer system performance objectives in the MOU and FAA.

MWRA's CIP has carried funds for additional work to adequately relieve the separated sewer system and control the potential for system flooding with the CSO relief points now eliminated. Approximately \$5.4 million of the \$118.9 million budget in MWRA's FY15 CIP for the South Dorchester Bay sewer separation project is allocated for this purpose.

On November 11, 2010, BWSC issued the Notice to Proceed for a design contract for the identification of additional inflow sources to be removed and the preparation of associated construction documents. The consultant has completed field investigations and a flow metering program and has performed flow isolation in areas suspected to have high inflow amounts. BWSC presented the results of the investigations and recommendations for inflow removal at workshops for MWRA staff in February 2012 and August 2014. BWSC plans to issue the final report this winter. In the meantime, BWSC expects to substantially complete a construction contract this winter that is eliminating stormwater inflow sources at approximately 20 locations in Dorchester, at an eligible cost of \$204,000.

MWRA Oversight and Funding

The FAA establishes eligible and ineligible costs. Generally, all reasonable force account and contract costs incurred by BWSC as a direct result of implementing eligible portions of the CSO projects are funded. The FAA calls for MWRA to disburse grant funds to BWSC semiannually, based on a documented, detailed estimate of project costs for the projected six-month period. MWRA's review and acceptance of the cost estimate is required prior to disbursement of funds to the BWSC CSO account.

Staff review the scope and cost of engineering and construction contracts issued by BWSC, as well as BWSC's change orders and amendments. Staff also routinely review the progress of the BWSC projects and expenditures. Monthly meetings are held with BWSC to coordinate activities, resolve any critical issues, understand the status of eligible costs and maintain schedules. BWSC submits monthly reports that describe actual work progress and the force account and contract-related expenditures for each project.

MWRA's Internal Audit Department (IAD) routinely reviews BWSC's compliance with the terms and conditions of the FAA. IAD's latest audit, completed in May 2014, reviewed the engineering, construction, and force account costs for calendar year 2013. The audit found that 88% of BWSC's recorded force account work and associated costs were eligible for MWRA funding based on an analysis of consultant and contractor eligible and ineligible costs. From this same analysis, IAD also determined that two other eligibility adjustments should be made. BWSC agrees and plans to complete both adjustments by the end of November 2014.

MWRA Funding and Eligible Expenditures through December 2014

Since execution of the MOU and FAA in 1996, MWRA has transferred a total of \$284,052,587.33 into BWSC's CSO account to cover eligible design and construction costs through December 2014. In addition, the account has accumulated \$1,761,970.53 in interest which BWSC has used to pay eligible project costs, in accordance with the FAA. The estimated total eligible cost incurred by BWSC through December 2014 is \$289,260,999.92. While funds remain in the CSO account for BWSC to continue to pay eligible portions of invoices, the CSO account is projected to be depleted soon, and would have a negative \$3,446,442.06 balance by the end of this year without the pending transfer described below. The higher eligible cost compared to currently available funds in the account is a direct result of the recent construction change order costs related to Contracts 3B and 4, described above.

Funding for First Half of Calendar Year 2015

Staff propose to transfer \$6,254,053.45 to the BWSC CSO account, bringing the total MWRA funding transfers since inception of the MOU/FAA in 1996 to \$290,306,640.80. This total funding amount covers actual eligible costs to date and BWSC's estimate of eligible spending on the remaining CSO projects through this June, 2015. A breakdown of the pending MWRA transfer is presented in Table 3, on page 7.

If approved, Amendment 15 will increase the total award amount to \$296,305,787.00. Staff expect to make additional transfers to the BWSC CSO account totaling up to \$5,999,146.20 through December 2016, the termination date of the MOU/FAA. (All work associated with the Federal Court CSO milestone will be achieved by December 2015.) The additional transfers will cover the remaining eligible costs related to construction of the Reserved Channel sewer separation project and additional Dorchester inflow removal.

BUDGET/FISCAL IMPACT:

The FY15 CIP Budget includes \$292,485,264 for the BWSC-implemented CSO control projects. Amendment 15, if approved, will increase the Total Award Amount of the MOU and FAA from \$292,595,398.28 to \$296,305,787.00, or \$3,820,523 over budget. This amount will be covered within the approved five-year CIP spending cap

MBE/WBE PARTICIPATION:

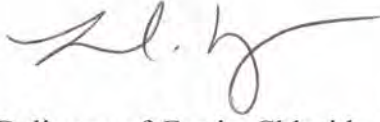
For the BWSC-implemented projects funded by MWRA, MBE/WBE participation requirements are included in compliance with DEP SRF requirements and as required by BWSC policy.

Table 3: Pending and Total Payments for BWSC Implemented Projects

Project	Phase	Project Budget (FY15 CIP)	MWRA Funding Jan-Jun 2015	Total MWRA Funding thru Jun 2015	Status*
South Dorchester Bay Sewer Separation (Fox Point area)	Engineering	\$ 11,534,698		\$ 11,562,185	Complete
	Construction	43,091,135		\$ 43,091,135	
South Dorchester Bay Sewer Separation (Commercial Point area)	Engineering	17,692,322	170,826.66	\$ 16,855,282	Complete
	Construction	46,481,303	49,057.05	\$ 43,729,074	Complete
Neponset River Sewer Separation	Engineering	469,614		\$ 469,614	Complete
	Construction	2,079,473		\$ 2,079,473	
Constitution Beach Sewer Separation	Engineering	699,186		699,186	Complete
	Construction	3,032,129		3,032,129	
Stony Brook Sewer Separation	Engineering	10,432,808		\$ 10,473,552	Complete
	Construction	33,813,831		\$ 33,813,831	
Floatables Control	Engineering	567,936		\$ 567,936	Complete
	Construction	378,000		\$ 378,000	
Fort Point Channel Sewer Separation	Engineering	2,020,525		\$ 2,020,525	Complete
	Construction	7,866,565		\$ 7,866,565	
Regulator RE070/11-2 Relocation and Sewer Separation	Engineering	-		\$ -	Complete
	Construction	2,030,000		\$ 2,030,000	
Morrissey Boulevard Drain	Engineering	4,018,271		\$ 3,867,423	Complete
	Construction	28,320,841		\$ 28,320,841	
Reserved Channel Sewer Separation	Engineering	15,263,015	509,203.51	\$ 14,386,637	ESDC
	Construction	53,639,207	5,524,966.23	\$ 56,008,847	Underway
Bulfinch Triangle Sewer Separation	Engineering	1,124,201		\$ 1,124,201	Complete
	Construction	7,930,204		\$ 7,930,204	
TOTAL BY PHASE	Engineering	63,822,576	680,030.17	\$ 62,026,542	
	Construction	228,662,688	5,574,023.28	\$ 228,280,099	
TOTAL		\$ 292,485,264	\$ 6,254,053.45	\$ 290,306,641	

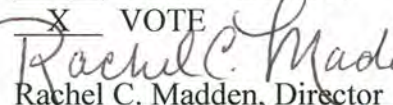
* "Complete" refers to substantial completion of work related to court compliance. Certain complete projects may incur additional eligible costs associated with inflow removal, flow metering, construction claims and/or final contract closeout.

STAFF SUMMARY

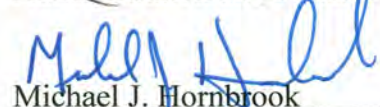
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: One-Year Contract for the Supply and Delivery of Ferric Chloride to the Deer Island Treatment Plant and the Clinton Advanced Wastewater Treatment Plant
Kemira Water Solutions, Inc.
WRA-3927

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

VOTE

Rachel C. Madden, Director
Administration and Finance

David F. Duest, Director, Deer Island WWTP
Michele S. Gillen, Deputy Director, Administration and Finance *MSG*
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of a one-year contract for the supply and delivery of ferric chloride to the Deer Island Treatment Plant and the Clinton Advanced Wastewater Treatment Plant to the lowest responsive bidder, Kemira Water Solutions, Inc., and authorize the Executive Director, on behalf of the Authority, to execute said contract, in an amount not to exceed \$1,166,625 for the period of January 1, 2015 to December 31, 2015.

DISCUSSION:

MWRA uses ferric chloride at the Deer Island Treatment Plant and at the Clinton Advanced Wastewater Treatment Plant for two different reasons. At Deer Island, it is used as a preventive measure to control the build-up of struvite and at Clinton, it is used to control phosphorous.

Deer Island

Staff have previously informed the Board of past problems concerning the precipitation of struvite at the Deer Island Treatment Plant. Struvite, a by-product of anaerobic sludge digestion, within the sludge centrifuges and digested sludge pipelines, is a crystallized compound forming from solubilized phosphate, ammonia and magnesium, which can form a matrix with digested sludge solids and coat pipelines or other surfaces. Struvite build-up is a concern because of the operational problems that it can cause. Struvite can impact process equipment and piping and can result in the loss of digester and sludge thickening capacity.

Staff have implemented aggressive operational and maintenance initiatives to address the struvite issue, including the use of ferric chloride to prevent or reduce struvite formation, and contracting out specialized maintenance and pipe cleaning services for areas where it does form.

Deer Island stores ferric chloride in three side-by-side tanks (shown on the right). Each tank is 20 feet high, 10 feet in diameter, and each has a storage capacity of 11,700 gallons. Staff estimate that approximately 2,000,000 pounds of ferric chloride will be needed during the one-year contract period.



The picture below right shows one of the injection points where ferric chloride (white piping) is fed into a digester sludge feed line. MWRA staff designed and built this system, which includes a feed control valve (blue) that throttles open when ferric chloride is being injected (approximately 15 minutes every hour).



Clinton

The Clinton Advanced Wastewater Treatment Plant's National Pollution Discharge Elimination System (NPDES) permit limits the discharge of phosphorous in its effluent. Staff previously used alum (aluminum sulfate) to control phosphorous. However, the new draft NPDES permit for Clinton recognizes total aluminum as an element of concern so staff examined alternatives for phosphorus treatment. Staff have determined that the cost and effectiveness of ferric chloride and alum are comparatively equal, so ferric chloride is now being used in the clariflocculators rather than aluminum sulfate to coagulate and settle out phosphorous.

Staff estimate that the Clinton Plant will use approximately 125,000 pounds of ferric chloride during this one-year contract period. This estimate, as with Deer Island estimate, is used for bidding purposes only and for comparison of bids. MWRA will only pay for product delivered and received.

Procurement Process

Bid WRA-3927 was advertised in the Boston Herald, Central Register, Goods & Services Bulletin, Dodge Reports, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA’s e-procurement system and potential bidders were notified of the bid opportunity.

On October 22, 2014, bids were received from two vendors and made public with the following results:

Vendor	Unit Bid Price	Estimated Quantity	Total Bid
Kemira Water Solutions, Inc.	\$0.549 per dry pound	X 2,125,000 =	\$1,166,625
Borden & Remington	\$0.799 per dry pound	X 2,125,000 =	\$1,697,875

This contract was bid as a one-year contract similar to the existing contract with Kemira Water Solutions, Inc., which expires on December 31, 2014. Under the current contract, MWRA is paying the same fixed unit price of \$0.549 as Kemira’s bid price for the new contract.

Ferric chloride is a by-product of the manufacturing of titanium dioxide for use in the paper and paint industries. One key ingredient used during this process is hydrochloric acid. MWRA staff follow the chemical markets closely and have noted that during the past two years, hydrochloric acid prices have stabilized, resulting in Kemira’s ability to maintain its current contract price.

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

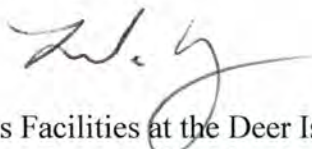
BUDGET/FISCAL IMPACT:

MWRA’s FY15 Current Expense Budget contains sufficient funds for the first portion of this contract. Appropriate funding will be included the Proposed FY16 CEB for the remaining term of the contract.

MBE/WBE PARTICIPATION:

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Valve and Piping Replacements at Various Facilities at the Deer Island Treatment Plant, Engineering Services During Construction, and Resident Engineering and Inspection Services
AECOM Technical Services, Inc.
Contract 6598

COMMITTEE: Wastewater Policy & Oversight

John P. Vetere, Deputy Chief Operating Officer
David F. Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Preparer/Title

 INFORMATION

 X VOTE


Rachel C. Madden, Director

Administration and Finance


Michael J. Hornbrook

Chief Operating Officer

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to select AECOM Technical Services, Inc. (AECOM) to provide engineering services during construction and resident engineering and inspection services, for the Valve and Piping Replacements at Various Facilities at the Deer Island Treatment Plant project, and to authorize the Executive Director, on behalf of the Authority, to execute said contract with AECOM in an amount not to exceed \$2,299,946, with a contract term of 46 months from the Notice to Proceed.

DISCUSSION:

On May 14, 2014, the Board approved the award of Contract 7275, Valve and Piping Replacements, Various Facilities, Deer Island Treatment Plant, to Carlin Contracting Co., Inc., in the bid amount of \$16,960,425, with a contract term of 1,095 days from the Notice to Proceed.

Under Contract 7275, Carlin Contracting will be replacing isolation valves and flow meters, primary sludge and return sludge piping and valves in the North Main Pump Station and the Winthrop Terminal Facility. In addition, dashpots (hydraulic actuators) will be replaced on the discharge valves in the South System Pump Station (see pictures on the following page).

Removing and replacing these critical valves and meters will require close coordination between MWRA staff and the contractor. This project is one of the most complex construction projects to be performed on Deer Island since the Boston Harbor Project. Staff estimate that to complete this work, there will be as many as 50 eight-hour, nighttime shutdowns of all pumping at both the North Main

Pump Station and Winthrop Terminal Facility. Each of the 50 individual shutdowns involves risk as the replacement must be completed within the allotted eight-hour time limit during low-flow conditions or the sewer system upstream of the Chelsea Creek Headworks will back up, potentially causing Sanitary Sewer Overflows.

Work will require the installation of a temporary dewatering system on Deer Island capable of pumping down the on-island North System tunnels between the North Main Pump Station and the Winthrop Terminal Facility to the Grit Facilities to a low enough level to allow for the safe removal and installation of the valves and flow meters. Carlin will only be allowed to work on one pump at a time and work scheduling may be altered by wet-weather events that directly impact flow and operating conditions.

The North Main Pump Station (NMPS) contains ten raw wastewater pumps, each with two 60-inch discharge butterfly valves (one lower valve for start-up, one upper valve for isolation – 20 valves in total – examples are shown in the following two pictures).



Lower 60-inch Butterfly Valve in NMPS



Upper 60-inch Butterfly Valve in NMPS

The Winthrop Terminal Facility contains six raw wastewater pumps. Each pump arrangement consists of a knife gate valve on the suction piping, and a swing check valve and plug valve on the discharge piping. In addition there are three 48-inch plug valves on the two force mains leaving the facility (as shown in the pictures below).



Check Valve and Flow Meter in WTF



48-inch Plug Valve on WTF Force Main

In addition the replacement of the return sludge valves in each battery of secondary treatment will require each battery to be taken out of service, one at a time, while the work is performed. Carlin Contracting is required to complete this work, for each battery, within seven days after commencement of the work.

This Contract

Contract 6598 will provide engineering services during construction (ESDC) and resident engineering (RE) and resident inspection (RI) services on Carlin Contracting Co.’s construction contract. As explained earlier, because of the complex nature of this work and the inherent risks involved, it is critically important that MWRA contract with a firm that possesses the specialized expertise in overseeing this type of work. All of Carlin’s submittals for the large specialized valves that will be replaced, which will require custom fabrication, will need to be thoroughly reviewed and approved. In comparison to more conventional construction projects, staff anticipate that proper field measurements of existing and fabricated materials, as well as, comprehensive pre-planning and approval of proposed work sequencing, will require a greater level of effort. Also, the importance of inspecting elements of the work, such as welding, is significantly more important given the potential consequences if not performed properly.

Staff expect that this project will require one full-time Resident Engineer to be on-site for 100% of the entire contract term. A second Resident Engineer will be required approximately 20% of the time. The Resident Inspector will be required full-time during the critical work in the two pump stations. Staff expect that the lead Project Manager to be on site approximately 33% of the time.

Procurement Process

Staff utilized a one-step Request for Qualifications/Proposal (RFQ/P). Proposals were evaluated by using the following criteria: Cost (30 points), Qualifications and Key Personnel (30 points), Experience/Past Performance on Similar Non-Authority Projects (15 points), Technical Approach and Capacity/Organization and Management Approach (10 points), Past Performance on Authority Projects (10 points) and Minority- and Women-Owned Business Enterprise Participation (5 points).

A total of 13 engineering firms requested the RFQ/P. Three large engineering firms, AECOM Technical Services, Inc. (AECOM), CDM Smith Inc. (CDM Smith), and Fay Spofford & Thorndike (FS&T) attended a pre-proposal conference.

MWRA received technical and cost proposals from the following two firms: AECOM and CDM Smith. Proposers’ associated costs and total level of effort are presented below, along with MWRA’s estimate for this project.

Proposing Firms	Total Proposed Cost	Total Hours
CDM Smith	\$1,594,135	14,145
AECOM	\$2,299,946	15,862
MWRA Estimate	\$2,240,525	16,400

Although FS&T attended the pre-proposal conference, the firm did not submit a proposal. MWRA contacted FS&T to request feedback on why the firm chose not to submit a proposal. FS&T informed MWRA that qualifications requirements for the Resident Engineer limited its options for staffing this project because qualified staff had already been assigned to other projects.

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

<u>Proposers</u>	<u>Points</u>	<u>Total Score*</u>	<u>Final Ranking</u>
AECOM	393	5	1
CDM Smith	359	10	2

* Total Score represents the sum of the individual Selection Committee members' rankings. 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.

AECOM

The Selection Committee voted unanimously to rank AECOM as the best value for MWRA to complete this project despite proposing a higher cost than CDM Smith. AECOM proposed a strong, highly qualified project team with relevant, large-project experience. The Selection Committee was in agreement that AECOM's technical approach was sound, the proposal included an appropriate number of hours given the complexity of the project, and included appropriately experienced key staff members to provide the necessary ESDC and RE/RI services. The Selection Committee felt strongly that for this complex project, the Project Manager and Resident Engineer are critical to ensure successful completion. AECOM's Project Manager has been involved in a number of large MWRA and non-MWRA projects of similar size, scope, and complexity. The proposed Resident Engineer has more than 26 years of relevant experience in both water and wastewater plants.

The Selection Committee felt that another critical component of AECOM's proposal is that it includes a sufficient level of effort to provide adequate management and ESDC oversight for this project. Comparatively, AECOM's proposal allocated a much higher percentage of the project work to senior engineers at the Project Manager and Project Engineer level to perform the required ESDC tasks. This level of experience is important for this project, in particular, due to the critical nature of the services. Authoritative decisions will need to be made quickly to ensure successful completion of construction activities. Staff determined that AECOM proposed the more experienced project team and allocated the necessary level of effort to successfully complete the project.

CDM Smith

The Selection Committee was in agreement that CDM Smith did not include a sufficient level of effort to provide minimum project management, oversight, and ESDC services for a construction project of this complexity. The Selection Committee felt that although CDM Smith's proposed cost is lower than AECOM's, it is more a product of an inadequate number of hours and lack of experience in certain key roles (e.g., Deputy Project Manager and Resident Engineer).

CDM Smith's proposed Project Management team included a Deputy Project Manager, who would be responsible for approximately 50 percent of project management activities and yet has only six years of experience in projects that were much smaller and significantly less complex than the work required under this contract. This experience was far below the 15 years experience specified for the

Project Manager position. As has been stated, it is critically important that all individuals participating in project management for this work possess the appropriate skill set and experience. They must draw upon their past experience to provide the appropriate technical assets and must be able to make quick, correct decisions if construction problems arise. The Project Manager will also be responsible for providing detailed construction activity breakdowns and identifying when sufficient labor or material is not available before a construction task commences. Significant experience is necessary to reduce the risk associated with the plant overnight shutdowns.

The Scope of Services included five major tasks to perform the prescribed services. Of the five tasks, two major tasks, Task 2 – ESDC, and Task 3 – RE and RI, are the most critical tasks and comprise approximately 92% of the contract work. Proposers were asked to submit their estimated Level of Effort for Task 2, ESDC. These services include submittal and shop drawing review, review of critical equipment submittals, and performing direction when a construction or design issue arises during the construction phase. AECOM's proposed 4,268 hours overall to perform these services compares to CDM Smith's proposed 2,735 hours. Further, CDM's proposal allocates a greater proportion of hours to junior level engineers than AECOM's proposal.

MWRA staff expect a large number of complex submittals and Requests for Information (RFIs) will be required through this project due to the tight timeframe, specialized equipment, and restrictive workspace where this work is to be performed. The scope of services included an estimated number of change order requests and RFIs. An example of the disparity in level of effort between the two proposals can be seen in CDM Smith's proposed total of 644 hours (296 of which were allocated to junior engineers) compared to AECOM's proposed 994 hours, of which 760 were allocated to senior level staff.

Another example can be seen in the level of effort to review an estimated 350 contractor submittals. CDM Smith proposed 684 total hours, of which only 247 were allocated to senior staff, compared to AECOM's proposed total of 1,144 hours, of which 880 hours were allocated to senior staff (350% more than CDM Smith).

The other major task is Task 3, RE/RI, which includes a pre-determined level of effort of 10,300 hours (established by MWRA). The issue here was the experience of proposed staff. CDM's proposed Resident Engineer did not possess adequate relevant experience in performing as an RE for a construction project of a similar size and complexity to this one. Much of the proposed RE's past experience has been as an inspector and not as a Resident Engineer. The RE is the key field representative and would be responsible for the entire oversight and planning of the construction phase, including especially important sequencing of the work.

In summary, the Selection Committee's final ranking and recommendation to award this contract to AECOM was based upon the significantly more qualified project team and a much more appropriate level of effort that will be required to ensure the successful completion of this complex and critically important construction project.


BUDGET/FISCAL IMPACT:

The FY15 CIP includes a budget of \$2,200,000 for Contract 6598. The recommended award amount is \$2,299,946 or \$99,946 over budget. This amount will be included in the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established 7.18% and 5.77%, respectively. AECOM has committed to 18.2% WBE participation and requested a waiver for MBE requirements. The waiver was approved by MWRA's Affirmative Action and Compliance Unit.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Four-Year Contract for the Refurbishment of Secondary Reactor Aerator and Mixer Gearboxes at the Deer Island Treatment Plant
SPX Process Equipment, Lightnin Operations
WRA-3907

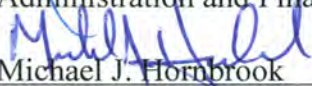
COMMITTEE: Wastewater Policy & Oversight

David F. Duest, Director, Deer Island WWTP
Michele Gillen, Deputy Director, Administration and Finance
Preparer/Title MSG

 INFORMATION

VOTE


Rachel C. Madden, Director
Administration and Finance


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of a four-year contract for the refurbishment of secondary reactor aerator and mixer gearboxes at the Deer Island Treatment Plant to the lowest responsive bidder, SPX Process Equipment, Lightnin Operations, and to authorize the Executive Director, on behalf of the Authority, to execute said contract for an amount not to exceed \$1,193,295.

DISCUSSION:

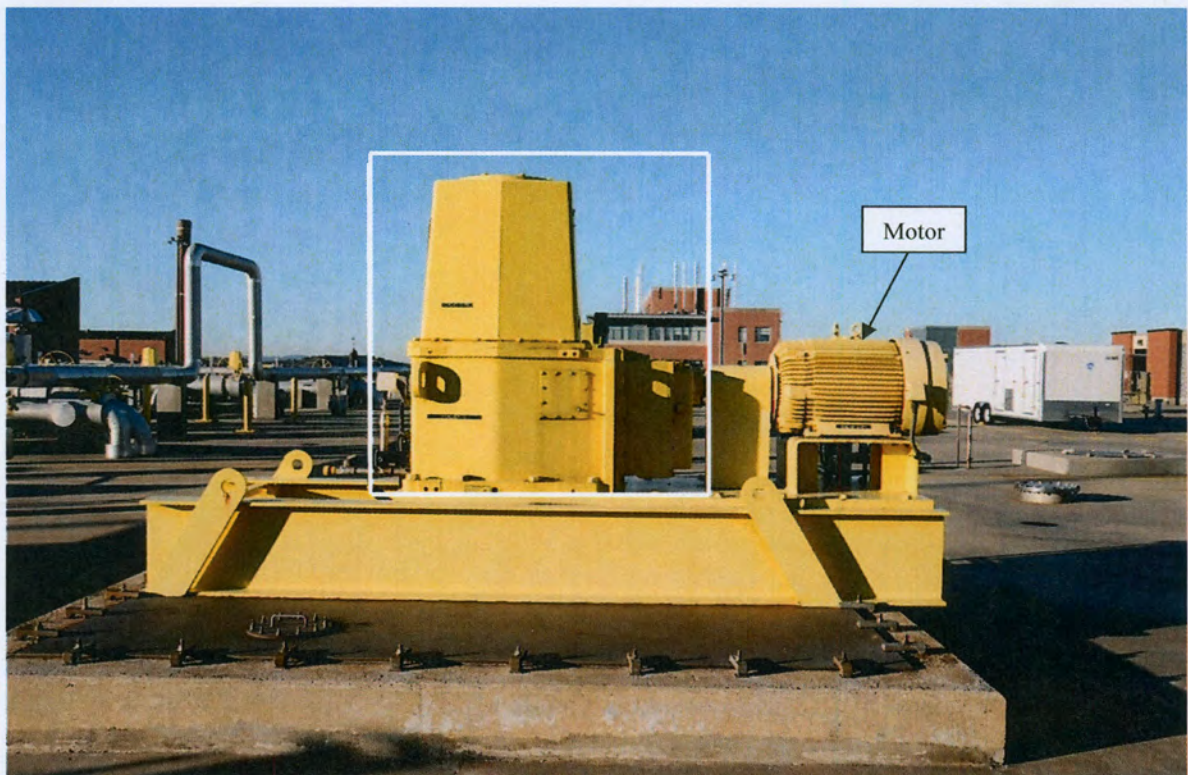
The Cryogenic Facility at the Deer Island Treatment Plant provides pure oxygen to the secondary reactors' headspace to promote biological treatment of primary effluent. The reactor aerators are similar to large mixers that dissolve pure oxygen into the reactor liquid, which is often referred to as "mixed liquor." The secondary clarifiers remove the sludge generated by the reactors' biological processes.

Secondary Reactor Batteries A, B, and C contain a total of nine aerator trains (each aerator train has four aerators and four mixers). Each aerator and each mixer has a triple reduction gearbox and mixing blade. In total, there are 72 gearboxes that drive 36 aerators and 36 mixers. The gearboxes transmit power from the aerator/mixer motors to the aerator/mixer blades. Although all of the gearboxes look very similar, the gearboxes for the mixers and the aerators are of differing horsepower (HP), 50-HP, 100-HP, and 150-HP.

The picture below shows the arrangement of most of the gearboxes and motors for the aerators and mixers spread out across the top of Secondary Reactor Battery C.



The picture below shows a close-up view of one of the 150-horsepower aerator gearboxes (outlined).





Picture depicts the top of one of the aerator/mixer shafts where it connects with the triple-reduction gearbox

The secondary reactor batteries were brought on line in phases, beginning with Battery A in 1997, followed by Battery B in 1998, and Battery C in 2001. They operate 24/7 every day of the year. Current plant protocol utilizes six out of nine aerator trains operating at any one time. This heavy duty use, coupled with exposure to the exterior influences of the ocean air, results in occasional and expected failures. A failure of any one aerator or mixer could result in the loss of an entire aerator train.

MWRA utilizes a condition-monitoring program as part of its maintenance protocols. Staff perform semi-annual inspections on all of the gearboxes, which include oil analysis and acoustic ultrasound testing of the gears and bearings. Staff also perform corrective tasks as required, including greasing and re-alignment. However, when condition monitoring indicates negative trending and the potential for failure in service, staff remove the gearbox and ship it to a contracted repair site for complete refurbishment back to original operational parameters. The refurbished unit is then shipped back to Deer Island where MWRA will reinstall it.

The average expected service life of the gearboxes is approximately 11 years. To date, a total of 78 units have been rebuilt since 2004, when some of the first units required refurbishment. The refurbishment requires a complete teardown and inspection of all components and the vendor provides MWRA with a written report describing the issues found and repairs needed. In addition to making the required repairs, the vendor rebuilds the gearbox with new bearings and seals, and a new protective coating of paint is applied. If gearing is identified as failing, it also is

replaced as part of the rebuild in accordance with the unit bid pricing schedule described further below.

Staff estimate that, based upon previous experience, approximately six to ten gearboxes will require refurbishment each year for the next four years.

Procurement Process

Bid WRA-3907 was advertised in the Boston Globe, Central Register, Goods & Services, Dodge Reports, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA's e-procurement system and potential bidders were notified of the bid opportunity.

On September 29, 2014, sealed bids were received from two vendors and made public with the following results:

VENDOR	TOTAL BID PRICE
SPX Process Equipment, Lightnin Operations	\$1,193,295
Motion Industries	\$1,576,629

SPX Process Equipment, Lightnin Operations was the successful low bidder on MWRA's previous two contracts for gearbox refurbishments. As mentioned above, there are three different-sized gearboxes. For purposes of comparison of bids, staff used an estimate of 24 gearboxes, 12 each of the 50-HP, 9 each of the 100-HP, and 3 each of the 150-HP. Based on those estimates, SPX's current total bid price for each is \$41,818, \$51,364, and \$76,401, respectively. However, it should be noted that these prices are considered "worst case scenarios" that includes all new gearing. Gearing and certain other components were bid as separate, alternate-option line items to establish a contract unit price. The extent of each refurbishment is not known until the unit is completely dismantled and inspected. There have been instances where gears, pinions and other parts are found to still be within acceptable tolerances and the final refurbishment cost is much less than the total bid prices listed above. As mentioned above, MWRA staff receive a copy of a service report, along with pictures and recommendations (see example to the right), and no work is completed without the consent of MWRA, ensuring that unnecessary work is not performed.



From Vendor's report, low-speed gear found with good wear pattern, suitable for reuse

Although the recommended not-to-exceed amount of this contract is based upon the worst case scenario bid prices, it is possible that MWRA would be able to refurbish additional gearboxes, if required, if some gearboxes do not require complete gearing replacement.

Staff have been satisfied with all previous work performed by SPX Process Equipment. SPX is the original equipment manufacturer. After reviewing the bids, staff recommend the award of this contract to SPX Process Equipment, Lightnin Operations, as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

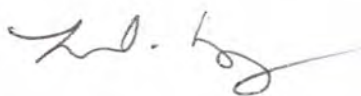
MWRA's FY15 CEB includes sufficient funds for the first portion of this contract. Appropriate funding for the remaining term of the contract will be included in subsequent Proposed CEB requests.

MBE/WBE PARTICIPATION:

SPX Process Equipment, Lightnin Operations is not a certified Minority- or Women-owned business.

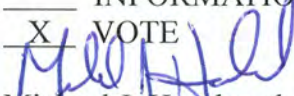
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: North System Hydraulic Study
AECOM
Contract 6930, Amendment 3



COMMITTEE: Wastewater Policy & Oversight

David Brew, Project Manager, Planning
Stephen Estes-Smargiassi, Director, Planning
Preparer/Title

____ INFORMATION
 VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract 6930, North System Hydraulic Study, with AECOM, extending the contract term by six months from December 7, 2014 to June 5, 2015, with no overall increase in contract amount.

BACKGROUND:

The goal of the project is to develop recommended alternatives to optimize performance of MWRA's wastewater system tributary to the Chelsea Creek Headworks (pictured below).

On October 12, 2011, the Board approved the award of Contract 6930 to AECOM to conduct a hydraulic optimization study of the Chelsea Creek Headworks tributary area of MWRA's North wastewater system, in an amount not to exceed \$557,976.90, with a contract term of one year. The contract was first amended on March 22, 2013, increasing the contract amount by \$13,500 and extending the contract term by six months to June 7, 2013. The Board approved Amendment 2 on January 15, 2014, which extended the contract term by an additional 18 months from June 7, 2013 to December 6, 2014 with no increase in contract amount.



The study has two phases. Under Phase 1, which is complete, AECOM reviewed and confirmed baseline information on the frequency and causes of Sanitary Sewer Overflows (SSOs) in the MWRA-owned system in this tributary area. Phase 1 also included an evaluation of system performance under large and extreme wet-weather events. Under Phase Two of the study, which is ongoing, AECOM is in the process of identifying potential infrastructure modifications or optimization opportunities to eliminate, reduce, or modify (relocate or consolidate) SSOs and improve wet-weather flow conveyance.

This project relies heavily on the enhancement and utilization of MWRA's sewer system hydraulic model. A well-calibrated model is necessary to evaluate the effects of potential SSO mitigation efforts. Baseline calibration of the hydraulic model (refining model results to mirror field observations) proved to be a significantly more complex task than initially anticipated due to the dynamic nature of system flows and operating conditions during large-scale, wet-weather events. Although this work took much longer than MWRA staff and AECOM originally estimated, and was the primary reason for the earlier amendments, model calibration work has now been completed.

DISCUSSION:

Task 3 of this contract, Alternatives Evaluation, has not been completed. MWRA and AECOM jointly determined that using "design storms" rather than "historical storms" would be preferable for the evaluation of alternatives because actual storm events will have spatial variations in rainfall that may contribute to the occurrence (or lack thereof) of SSO events. In order to make this modification to the proposed work, MWRA and AECOM spent significant time using the model and MWRA field experience to select a range of design storms that would best allow the evaluation of alternatives – ranging from small, system optimization projects (design storms showing limited SSOs) to major system modifications (larger design storms showing significant SSO locations). Use of design storms will minimize the impact such variations will have on results compared to actual storm events, and is consistent with the approach used in CSO modeling and reporting.

Since selecting the design storms, AECOM has moved forward with a number of Task 3 evaluations, including capacity analyses, siphon evaluations and manhole modifications, and has held an initial workshop with MWRA staff to discuss proposed alternatives that should be evaluated or deleted from further consideration based on information learned to date.

Staff recommend that Amendment 3 be approved, which will increase the contract term by an additional six months with no increase in contract amount. If approved, Amendment 3 will allow AECOM to complete Task 3. AECOM will continue to develop and evaluate alternatives in three general categories, varying in cost and complexity, to manage activations of SSOs in the study area.

The three types of measures to be evaluated include:

- low-cost system optimization measures, such as manhole modifications, weir modifications, baffles, gates etc.;
- infiltration and inflow (I/I) impacts on the system, such as evaluating to what extent I/I would need to be reduced to eliminate SSOs, determining whether the percentage of I/I removal is achievable for each community, and identifying alternatives to reduce I/I; and
- higher-cost major modifications, such as identifying alternatives that consolidate existing upstream SSOs, relocating SSOs to less sensitive areas, potentially transferring flows to CSOs, or developing new storage, pumping or treatment projects.

There are sufficient funds remaining in the contract to complete the work in Task 3 with no increase in contract amount.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	\$557,976.90	365 Days	12/21/11
Amendment 1*:	\$13,500.00	180 Days	03/22/13
Amendment 2:	\$0.00	548 Days	01/15/14
Proposed Amendment 3:	<u>\$0.00</u>	<u>181 Days</u>	Pending
Adjusted Contract:	\$571,476.90	1,274 Days	

*Approved under delegated authority

BUDGET/FISCAL IMPACT:

Amendment 3 is for time extension only and will have no budgetary impact.

MBE/WBE PARTICIPATION:

Although no MBE and WBE participation requirements were established for this contract, AECOM proposed the use Keville (WBE) to provide cost estimating services for 1.79% of the contract value.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Water Policy and Oversight Committee

October 15, 2014

A meeting of the Water Policy and Oversight Committee was held on October 15, 2014 at the Authority headquarters in Charlestown. Chairman Pappastergion presided. Present from the Board were Ms. Wolowicz and Messrs. Barrera, Carroll, Cotter, Flanagan, Foti, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Pam Heidell, Nava Navanandan, and Bonnie Hale. The meeting was called to order at 11:45 a.m.

Information

Dedham-Westwood Water District Update

Staff provided additional background information related to the Dedham-Westwood Water District's plan to request approval for an increased withdrawal of 100,000 gallons per day from the MWRA system. There was detailed discussion and question and answer of how the price should be calculated, the length/terms of a loan, and consideration of revising MWRA policies. Mr. Carroll requested that the Advisory Board Executive Committee take another look at its recommended policy, and Mr. Barrera said it would be worthwhile to have memo outlining the different types of MWRA water communities with a map/graphic attached.

Contract Awards

*Construction of Water Mains – Sections 36, W11C and S9-A, Arlington and Medford:
RJV Construction Corporation, Contract 7448

The Committee recommended approval of the contract award (ref. agenda item B.1).

The meeting adjourned at 12:05 p.m.

* Approved as recommended at October 15, 2014 Board of Directors meeting.

STAFF SUMMARY

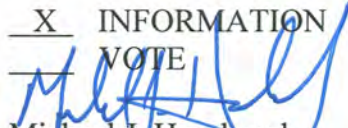
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: Update on Lead and Copper Rule Compliance – Fall 2014



COMMITTEE: Water Policy & Oversight

X INFORMATION
VOTE

Joshua Das, Project Manager, Public Health
Stephen Estes-Smargiassi, Director, Planning
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

MWRA system-wide lead levels in the September 2014 sampling round were below the Action Level of 15 parts per billion (ppb) again for the 19th consecutive sampling round. MWRA system-wide 90th percentile value for calendar year 2014 is 5.4 ppb. One community was individually above the Lead Action Level. MWRA continues to meet the copper standard.

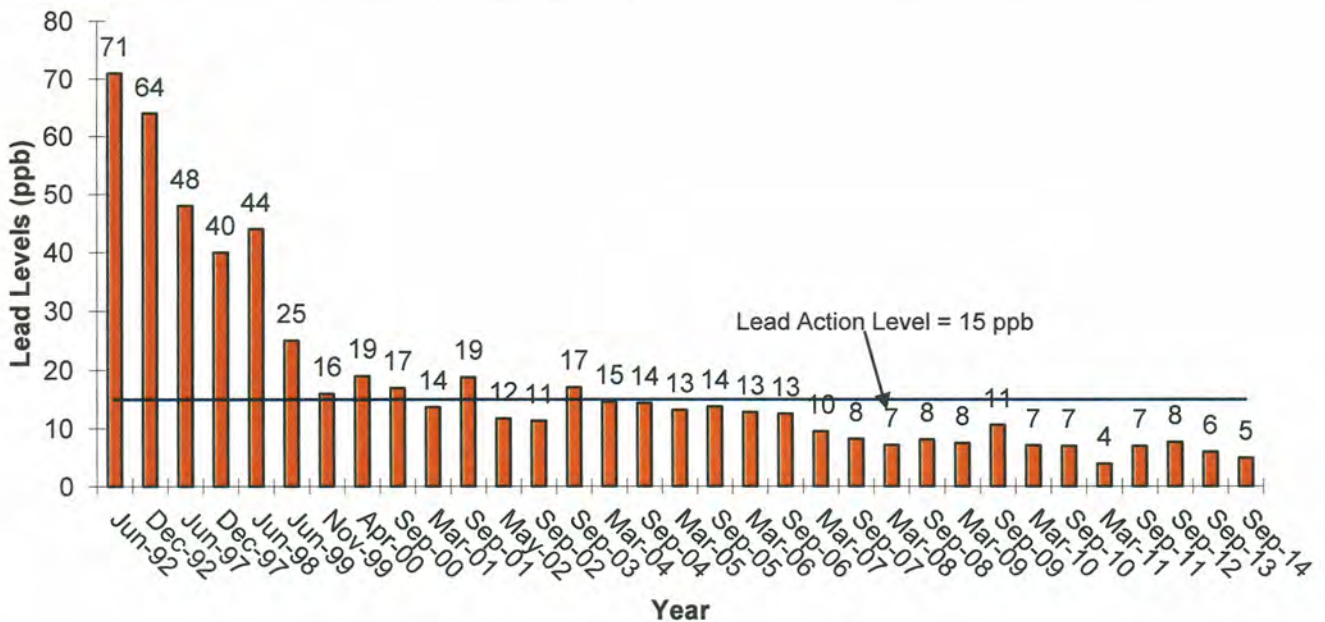
RECOMMENDATION:

For information only.

DISCUSSION:

MWRA and its communities conducted the calendar year 2014 sampling round beginning in September 2014. The preliminary 90th percentile value for the system as a whole in September was 5.4 ppb, which is below the Lead Action Level of 15 ppb, and the second lowest level to date.

**90% Lead Levels in MWRA System of Fully Served Communities:
1992-2014**



Under EPA's Lead and Copper Rule, each year MWRA and every fully-supplied community must collect and test tap water in a sample of homes¹ that are likely to have high lead levels. These are usually homes with lead services or lead solder. EPA requires that nine out of ten of the sampled homes must have lead levels at or below the Action Level of 15 ppb.

Starting in 2012, MWRA's fully-supplied communities are now only required to sample for lead and copper once per year, as long as their 90th percentile results are below the Action Level. A community that exceeds can return to once-per-year sampling after it has two consecutive sampling rounds under the Action Level. Two communities, Chelsea and Winthrop, were above the Action Level in September 2013. Both communities were below the Action Level in sampling rounds in March and September 2014, and can resume once per year sampling.

Only one community, Malden, was above the Action Level in the September 2014 sampling round and will need to sample twice in 2015. Malden has been notified and will be required to meet education requirements, including mailing lead education brochures, and also must meet lead service line replacement requirements set by DEP. MWRA provides the education brochures and staff have offered assistance in working with DEP on the education requirements and service line documentation.

Each community also collects samples from two schools or daycare facilities. MWRA staff immediately contact any community that had a school above the Action Level. DEP is expected to also send letters to the communities. The letter is also sent to the affected school and includes a list of recommendations that water departments should follow, including a checklist that DEP strongly recommends that communities send back to DEP. MWRA staff have provided assistance and sent a letter to each affected community with references on how to work with the school to flush the fountains, submit re-samples of respective school fountains, and encourage sending documentation to DEP.

MWRA have already formally transmitted these results to DEP. The results also were transmitted to the communities, and, through them, to every individual homeowner or school that collected a sample for the program. MWRA staff have directly contacted communities with schools above the Action Level or any individual homeowners with very high or unusual results.

Other Related Efforts on Lead

Changes to the Lead and Copper Rule: As reported to the Board in November 2013, EPA continues to review the Lead and Copper Rule and is expected to propose a number of changes. EPA has re-opened the stakeholder process to attempt to resolve several of the thornier aspects of the existing rule. MWRA's Director of Planning and Sustainability, Stephen Estes-Smargiassi, is participating in EPA's National Drinking Water Advisory Committee working group advising EPA on these issues.

The current rule requires that samples be taken in stagnant (first flush) water from homes that have a higher likelihood of having lead present in their plumbing – a lead service line, lead plumbing, or old lead solder. If a system has any lead services (the small pipe connecting the house to the water main in the street), at least half of the system's sample sites should be in those homes. EPA is

¹ In most communities, 15 homes are sampled; the exceptions are Boston, which collects 25 samples, and Lynnfield and Nahant, which collect 10 samples. A total of at least 450 samples are collected.

considering possibly requiring that all samples be in homes with lead service lines (if they are present) and also that the samples be of the water from the service line itself. One proposal being discussed would involve taking a series of six to twelve samples to develop a “profile” of lead levels from the faucet all the way through the home plumbing and service line out to the street. In addition to complicating the process of finding eligible homes and willing homeowners to agree to do the sampling, and making the sampling itself more complicated, these changes would potentially increase the number of systems that exceed the Lead Action Level.

EPA is also considering changes to the requirement that systems that exceed the Lead Action Level annually replace seven percent of their lead service lines annually. The current requirement is that the system only replaces what it owns, and encourages the homeowner to replace its portion. Often, only the publicly owned portion is replaced as the homeowner does not want to spend the several thousand dollars to replace its portion. When originally conceived in 1991, this approach seemed to provide some public health benefit – removing a portion of the lead line was assumed to proportionally reduce the lead exposure. Unfortunately, data collected over the past several years show that a partial lead service line replacement often results in a short-term increase in lead levels, and little or no long-term reduction. Full replacements also can cause temporary increases in lead levels, but do show reductions in the long term. EPA is apparently considering one approach that would mandate full replacement at the water system’s cost. Whether or not this would withstand a legal challenge is unclear. Allowing no partial replacements, even for repairs or related to construction projects, has also been raised as a possibility. Given that many MWRA communities still have lead service lines, how this is resolved may have important implications to its member communities.

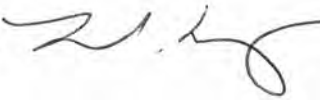
The third significant issue is how EPA evaluates “optimum corrosion control.” While there is a regulatory Action Level of 15 ppb, the Lead and Copper Rule actually requires that systems optimize their corrosion control to attempt to minimize lead. In addition, when a community exceeds the Action Level, it may be required to re-evaluate its corrosion control practices. Some of the options EPA is considering could cause many systems, including MWRA’s, to completely re-think how they implement corrosion control, potentially at significant cost.

EPA also is looking at potential changes for copper monitoring and education efforts when the copper Action Level is exceeded. While MWRA has never exceeded the copper Action Level, and has water that is considered non-aggressive toward copper, a change in monitoring focused on newly constructed or renovated homes (newly installed copper is considered the most at risk) could add a significant burden to communities.

EPA anticipates concluding the National Drinking Water Advisory Committee working group process in spring 2015 and issuing a draft rule later in 2015.

MWRA staff will continue to provide updates to the Board on these and related matters as warranted.

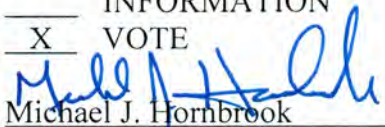
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Revision to MWRA Policy #OP.10
"Admission of New Community to MWRA Waterworks System"

COMMITTEE: Water Policy & Oversight

 INFORMATION
 X VOTE

Pamela Heidell, Policy and Planning Manager
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

On October 15, 2014, a staff summary was presented to the Board concerning Dedham-Westwood Water District's upcoming request to increase its allowed withdrawal from MWRA. During discussion on this matter, the Board requested that staff provide further policy definition regarding payment of entrance fees to join MWRA's water system. There were also broader questions from the Board regarding how an increase in water withdrawal from an MWRA member community is addressed, and what distinctions are made between full-service member communities, "contract communities," and new MWRA communities. This staff summary provides the Board with detailed information regarding the evolution of the MWRA service area, the admission policy, and "Contract Communities," and recommends approval of a proposed revision to the "Entrance Fees" section of MWRA Policy #OP.10, Admission of New Community to MWRA Waterworks System.

RECOMMENDATION:

To approve a modification to the "Entrance Fees" section of MWRA's Policy #OP.10, *Admission of New Community to MWRA Water System* to incorporate the specific wording provided on pages 2 and 3 of this staff summary to reflect up to a 25-year, interest-free payment plan for the entrance fee, consistent with a policy recommendation approved by MWRA's Advisory Board. The policy revision, if approved, will become effective as of the date of Board approval.

DISCUSSION:

Revision to Policy #OP. 10, Admission of New Community to MWRA Water System

MWRA Policy #OP.10, which was last revised in 2006, contains an "Entrance Fees," section that addresses payment of an entrance fee for new communities joining the system. The entrance fee is intended to recover the new user's proportional share of the waterworks system's asset base which has already been paid for by the existing users of the system. OP.10 states that the entrance fee "...must be paid up-front, in one lump sum payment, unless otherwise approved by the Board of Directors. If the new community is unable to provide payment on an up-front basis,

equivalent to the average cost of MWRA's fixed rate debt at the time of application, plus an additional 25 basis points..." A copy of the entire policy is provided as Attachment 1; a proposed change (redlined) of the "Entrance Fees" section is on page 11, with administrative changes (redlined) on page 1.

In 2012, the MWRA Advisory Board adopted recommendations for a multi-year, interest-free payment plan for the entrance fee with a grace period for the first three years. An interest-free payment plan can reduce communities' capital and debt service costs associated with entrance fee payments by approximately 40%, which may be an important financial consideration as communities weigh an MWRA supply option against the capital and debt service costs of other water supply options, such as rehabilitation of a well, construction of a new treatment plant, or water purchases from other regional suppliers. Potential new water system communities that have asked about an interest-free payment plan are listed below.

MWRA WATER SUPPLY SYSTEM POTENTIAL NEW COMMUNITIES AND COMMUNITIES WITH PROPOSED INCREASED MWRA WITHDRAWALS			
Community	Potential New MWRA Withdrawal Volume	Estimated Entrance Fee	Annual Assessment (Based on FY15 rates)
Ashland	0.5 mgd	\$2,400,000	\$591,238
Dedham-Westwood WD*	0.1 mgd	\$557,000	\$118,247
North Reading	1.5 mgd	\$7,200,000	\$1,773,713
Braintree	3.4 mgd	\$16,320,000	\$4,020,418
Holbrook	0.7 mgd	\$3,360,000	\$827,733
Randolph	2.5 mgd	\$12,000,000	\$2,956,190
Southfield (Weymouth NAS)	0.8 mgd	\$3,840,000	\$945,981
TOTAL	9.5 mgd	\$45,677,000	\$11,233,521
*DWWD's 2014 request is to increase its MWRA withdrawal by 0.1 mgd. DWWD is also faced with an upcoming decision to either replace its aging Bridge Street Treatment Plant, which supplies, on average, 1.2 mgd of DWWD's average 4.0 mgd demand, or to seek additional water from MWRA.			

For MWRA to adopt the Advisory Board's recommendation, the charges section of Policy OP.10 must be formally revised and approved by the Board of Directors. The proposed revision to the "Entrance Fee" section is as follows:

"The MWRA will charge an entrance fee to cover the new community's fair share of the costs of the waterworks system in place at the time user joins. The entrance fee may be paid in one lump sum, or may be paid pursuant to up to a 25-year, interest-free payment plan with a grace period for the first three years, with payments to be made in years 4-25. The 25-year, interest-free payment plan shall be subject to a review by the Board of Directors every five years. To be eligible for this multi-year, interest-free payment plan, a new community must take substantive steps toward admission to the MWRA prior to the adoption of any revised policy by the Board of Directors. Substantive steps include any of the following: affirmative vote to join MWRA by Town Meeting, City Council or Board of Directors, or submission of MEPA documentation indicating MWRA is the preferred option and subsequent completion of MEPA process in a timely manner.

New communities joining the MWRA waterworks system as well as communities admitted to the MWRA since 2002 who desire to increase their MWRA-approved withdrawal shall be eligible for the interest-free payment plan.”

The proposed policy revision connotes the following:

- New communities joining the MWRA are eligible for a multi-year, interest-free payment plan for the entrance fee, but may still elect to pay one lump sum. The multi-year, interest-free provision shall be subject to review by the Board every five years;
- If Stoughton, Dedham-Westwood Water District, Reading, or Wilmington (communities admitted since 2002) wish to increase their MWRA authorized withdrawals, the increase is subject to a revised entrance fee, and the entrance fee associated with the increase is eligible for an interest-free payment plan; and
- Communities admitted into the MWRA’s regional water system before 2002 are not subject to re-calculation of the entrance fee if withdrawals increase per the terms of their admission, and hence, an interest-free payment plan is not applicable.

The rationale for making a distinction between communities admitted into the MWRA/MDC system pre-2002 and post-2002 arises from the fact that laws, regulations, practice and policies governing admission to MWRA and continuation of water supply also make distinctions between communities, and prior to 2002, there were no additional entrance fee requirements for communities wishing to increase their withdrawal amounts.

Laws, Regulations, and Policy That Have Advanced Growth of the Water Service Area

Communities served by the MWRA water system can be divided into groups as shown in Attachment 2, and as categorized below:

- Communities joining the regional water supply system without contracts;
- Communities under contracts for water with MDC prior to MWRA (the “contract communities”). These include partially supplied communities, the CVA communities, and Framingham and Weston (now fully served but were once partially served); and
- Communities admitted into the MWRA under Policy OP.10.

Before MWRA - Growth of the Service Area

Around 1990, MWRA’s Law Division compiled information on the growth of the water service area. Attachment 3 provides detail regarding the date each community joined, whether or not it entered into a contract, and whether or not an entrance fee was paid. (Generally, the original fully supplied communities did not pay entrance fees, and partially supplied and emergency communities that did pay entrance fees did so under no readily apparent formula). Highlights of the prior examination of growth in MWRA’s service area follow. Further information is provided in the Advisory Board’s video at <http://mwraadvisoryboard.com/2014/05/may-2014-green-sheet/>.

Communities Joining the Regional Water System without Contracts

The Metropolitan Water Act, Chapter 488 of the Acts of 1895, created the Metropolitan Water Board, whose membership consisted initially of the following twelve communities:

Belmont	Boston	Chelsea	Everett
Malden	Medford	Melrose	Newton
Revere	Somerville	Watertown	Winthrop

Chapter 488 also provided that any other city or town within 10-miles of the State House would, upon application and payment of money as the Metropolitan Water District (MWD) may determine, be admitted to the MWD and furnished water just as the original MWD members. Eight more communities joined MWD by 1925:

Arlington	Brookline	Lexington	Milton
Nahant	Quincy	Stoneham	Swampscott

In addition, Clinton was authorized to withdraw water from Wachusett Reservoir pursuant to the Acts of 1923.

In 1941, a Special Commission was established by the Legislature to determine how to increase the use of the metropolitan system by new communities, since water demand was much less than the supply capabilities of the then newly completed Quabbin Reservoir. To encourage wider use, the Special Commission concluded that membership costs needed to be contained and use of local sources discouraged. Following the Special Commission's report, Chapter 543 of the Acts of 1943 was enacted, and it established a wider, 15-mile radius for eligibility to join the system as long as water could be reasonably supplied. The following five new communities became fully supplied members of the Metropolitan District Commission's (MDC's successor agency) service area:

Saugus	Winchester	Marblehead	Norwood	Lynnfield
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Although eligible earlier, Waltham joined the system in 1949 as a fully supplied community. None of the above-mentioned 26 communities entered into contracts for supply of water, and, with the exception of Winchester, all are fully served communities.

Communities Joining the Regional Water System with Contracts

In 1949 and 1953, respectively, Cambridge and Peabody acquired an entitlement, pursuant to contracts, to receive a portion of their water supplies from MDC. These were the first "Contract Communities."

Chapter 575 of the Acts of 1947 extended MDC's authority to sell water beyond the 15-mile radius. Under the Acts of 1947, previously non-eligible cities and towns could negotiate a water supply purchase with MDC under terms and conditions to be mutually agreed upon by the parties. The following seven new communities became "Contract Communities":

Chicopee
Wilbraham

Leominster
Worcester

Marlborough
So. Hadley FD#1

Northborough

Other communities, some within the original 10-mile radius of the state house, and others subject to Special Acts, joined MDC to obtain a portion of their water supplies from the metropolitan water supply system. All became contract communities:

Canton
Weston

Lynn
Woburn

Needham
Framingham

Wakefield
Southborough

MWRA Policy #OP.10

The entrance fee provisions of OP.10 have changed over time.

Policy #OP.10 (From its Adoption in 1997 to the Present) – Entrance Fee Provisions			
Date	Consumption Basis	Firm Limits/Stipulations	Communities Admitted
1997 to 2001	Detailed hydrologic and safe yield analysis of local supplies and 20-year demand forecast Based on annual average use and comparison of new user to MWRA system as a whole.	None, per #OP.10	Bedford
2002 to 2006	Detailed hydrologic and safe yield analysis of local supplies and 20-year demand forecast Based on annual average use and comparison of new user to MWRA system as a whole.	#OP.10 revised in December 2002 to require firm limits on usage, based on usage limits used for entrance fee calculation. #OP.10 contained stipulation that any increase beyond the stated amounts requires a contract revision and recalculation of the entrance fee. Stoughton was admitted in June, 2002, with limits with MWRA reserving the right to revise the entrance fee if limits were exceeded (even though #OP.10 at that time did not require such).	Stoughton DWWD
2006 to present	Analysis of local supplies and shortfalls, and projected need (near-term and long-term) Based on average annual use and peak six-month use and comparison of new user to MWRA system as a whole. Practice has been to allow communities to seek amounts in increments	Firm limits on usage based on limits used in entrance fee calculation Stipulation that any increase beyond the stated amounts requires a contract revision and recalculation of the entrance fee	Reading Wilmington

As the table on the previous page shows, when Bedford was admitted, neither MWRA practice nor Policy OP.10 prescribed firm limits on water use. Since then, such as is the case of Stoughton, Dedham-Westwood Water District, Reading, and Wilmington, the MWRA approved withdrawal limits represent firm limits, and these communities' contracts contain a provision that the limits may be revised if the entrance fee similarly increases¹.

Continuation of Water Supply Contract Provisions

The MWRA Enabling Act provided that water supply contracts between the Contract Communities and MDC as of January 1, 1984 would continue under their respective terms until their expiration date and that continuation of delivery to the MDC Contract Communities under willingness-to-service contracts, and any new communities, shall be made on such reasonable terms and conditions as MWRA may determine. To address Contract Community requirements, 360 CMR 11.00, Continuation of Contract Water Supply (Regulations dated 11/18/94) was enacted.

Under 360 CMR, 11.11 (1) *If a community determines that the water volumes designated in its Water Supply Continuation Agreement are insufficient to meet newly projected demand over the period of the Agreement, the community may petition the Authority to amend the Agreement.*

360 CMR defines what information should be included in the petition to increase withdrawal amounts, and contains no mention of increase in entrance fee. Volumes in the Water Supply Continuation Agreements are based on community expectations supported by the information contained in a Supplementary Report on supply and demand. The language in the water supply contracts for all the Contract Communities pre-2002 provides that:

In the event that revised circumstances regarding local demand and/or supply should occur and the Town determines that the volume designated in this Agreement to be supplied from the MWRA system is insufficient to meet the Town's newly projected demand, the Town may petition the MWRA to amend this Agreement pursuant to 360 C.M.R. 11.11.

The practice of many decades has been to enable a Contract Community to increase its MWRA withdrawal, without revisiting any entrance fee (even if one was required to begin with). Contract Communities though, the majority of which are partial or emergency-only communities, must prepare reports documenting the need for water. Provisions related to revision of the entrance fee if there is a withdrawal increase were only first established in 2002 and pertain only to communities admitted 2002 or afterwards.

In summary, the historical framework for service area growth reflects a number of initiatives that, over years, have facilitated the supply of water to communities in need. MWRA staff agree with and support the Advisory Board's recommendation for a multi-year, interest-free payment plan for the entrance fee with a grace period for the first three years, and recommend that the Board approved the proposed revision to MWRA Policy #OP.10 as presented in this staff summary.

¹ Staff do not believe that either Stoughton or Reading or Wilmington will seek to increase their withdrawal limits in the near future. The communities are all well below their MWRA approved annual withdrawals. DWWD's upcoming request to revise its contractual amount by 0.1 mgd is somewhat unique.

BUDGET/FISCAL IMPACT:

The proposed revision to allow a multi-year, interest-free entrance fee payment plan is intended to provide further incentive for communities to join the MWRA. There are a number of communities now considering joining MWRA, and the interest-free provision has been of significant interest to them as they weigh the MWRA option against other water supply alternatives. For DWWD's upcoming request to increase its withdrawal by 36.5 million gallons a year, the savings for DWWD based on an interest-free five-year payment plan (DWWD paid its original entrance fee for 0.1 mgd in five years) is approximately \$79,000. A multi-year, interest-free payment plan is anticipated to be a consideration as DWWD and a number of potential new communities further evaluate other water supply and treatment options, including increased withdrawals from MWRA.

ATTACHMENTS:

ATTACHMENT 1 - Copy of Existing Policy #OP.10, Admission of New Community to MWRA Water System with Proposed Changes Red-Lined

ATTACHMENT 2 – Map of Growth of MWRA Water Service Area

ATTACHMENT 3 - Table of Communities Joining the Water Supply System

ATTACHMENT 1



Admission of New Community to MWRA Water System

Policy #: OP.10

Effective Date: October 11, 2006 <u>November 12, 2014</u>	Last Revised: 10/131/20026
Contact: Planning Department, Operations; or Executive Office	Former Policy #: OP.10
Reviewed by Chief Operating Officer:	Date:
Reviewed by Internal Audit:	Date:
Approved by Executive Director:	Date:

Purpose

This policy explains the criteria and process the MWRA will use to evaluate a request for admission of a new community to the MWRA water system and requests from state, county, institutional and federal facilities for water service to locations in communities not included in section 8 (d) of MWRA's Enabling Act (St.1984, c.372).

Eligibility

This policy applies to communities seeking admission to the MWRA water system, and to state, county, institutional, and federal facilities seeking MWRA water for a location outside MWRA's water service area as set forth in section 8 (d) of MWRA's Enabling Act (St.1984, c.372).

~~Each of the provisions of OP.10, Admission of New Community to Waterworks System, which was in existence just prior to its being amended by the MWRA Board of Director's vote of October 11, 2006 shall continue to apply in full to the entirety of the process by which the Towns of Reading, Wilmington, and by which the entity South Shore Tri-Town Development, created under section 3 of c.301 of the Acts of 1998, may each continue to seek admission to the MWRA Waterworks system and service area.~~

Continued on next page

Admission of New Community to MWRA Water System (OP.10),
Continued

In this Policy This policy contains the following parts:

Policy Name / Part Name	Page #
Admission Criteria A. Enabling Act Criteria B. Other Criteria	3
Application Process A. Findings Required by Statute B. Additional Requirements C. MWRA Review of Application	4
Water Supply Agreement	9
Waivers	10
Entrance Fees	10
Connections and Connection Costs	11
Application of Individual Users	11
Annual Update	12

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

Admission Criteria

In evaluating whether to permit the admission of new communities to the MWRA waterworks system, the MWRA must evaluate the following two groups of criteria:

A. Enabling Act Criteria

- The MWRA must, in accordance with Section 8 (d) of Chapter 372 of the Acts of 1984, find that the following six criteria are met:
 - The safe yield of the watershed system, on the advice of the MDC, is sufficient to meet the new community's demand.
 - No existing or potential water supply source for the community has been abandoned, unless the Department of Environmental Protection (DEP) has declared that the source is unfit for drinking and cannot be economically restored for drinking purposes.
 - A water management plan has been adopted by the community and approved by the Water Resources Commission.
 - Effective demand management measures have been developed by the community, including the establishment of leak detection and other appropriate system rehabilitation programs.
 - A local water supply source feasible for development has not been identified by the community or DEP.
 - A water use survey has been completed which identifies all users within the community that consume in excess of twenty million gallons a year.
- Admission of the applicant community into the MWRA has received approval from the MWRA Advisory Board, the General Court, and the Governor.
- An applicant community has accepted the extension of MWRA's water system to the community by majority vote of the city council if a city or a majority vote of the town meeting if a town.

Continued on next page

Admission of New Community to MWRA Water System (OP.10), Continued

Admission Criteria continued

- Providing water service to a state, county, institutional or federal facility outside MWRA's water service area has received approval from the MWRA Advisory Board.
- B. Other Criteria
- Any expansion of the MWRA water service system shall strive for no negative impact on the interests of the current MWRA water communities, water quality, hydraulic performance of the MWRA water system, the environment, or on the interests of the watershed communities; shall attempt to achieve economic benefit for existing user communities; and shall preserve the rights of the existing member communities. Any evaluation of the impacts of new communities shall clearly evaluate all changes to system reliability.
 - The applicant community has met all legal requirements for admission; and
 - Upon admission, the applicant community will pay fair compensation for past investment in the MWRA waterworks system by existing user communities.

Application Process

A. Application

An applicant shall submit three copies of a completed application to the MWRA Executive Director for review. A copy shall also be submitted to the MWRA Advisory Board. MWRA staff will review and evaluate the completed application to determine whether the requirements of the Enabling Act and additional requirements can be met, and whether water service can be provided by MWRA without jeopardizing standards and requirements set forth in this policy.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

Application Process, continued

B. Requirements

- In a formal application for entrance to the MWRA waterworks system, an applicant community must provide detailed documentation to enable MWRA to make the necessary findings required by MWRA's Enabling Act (Section 8 (d) of St.1984, c.372).

In addition to providing documentation for the Section 8 (d) findings above, the applicant must provide the following.

- Documentation of approvals from the Secretary of Environmental Affairs in the MEPA process, the Water Resources Commission in the Interbasin Transfer Act process, the MWRA Advisory Board, the DEP on local source feasibility, the General Court, and the Governor. Prior to a formal application to MWRA, MWRA will strive to streamline the approval process, by review of application material concurrently with other approval processes, and by coordination with state agencies to document environmental and hydraulic impacts on MWRA's system.
- A detailed description of the water conservation and water accountability programs undertaken by the community and other entities including: leak detection and repair, commercial and industrial water conservation, residential water conservation efforts, large meter downsizing, meter replacement, municipal facility conservation, unaccounted-for water analysis (present data for UAW levels in last 3 years), true cost pricing and conservation based pricing for water and sewer service.
- Communities shall provide a plan for water conservation. MWRA encourages communities to have a plan that adheres to the Commonwealth's water conservation standards, including guidelines for lawn and landscapes. (Enforcement shall be the responsibility of the Water Resources Commission (WRC), Department of Environmental Protection (DEP) and other Commonwealth agencies.)
- A description (and copy) of municipal zoning and non-zoning measures designed to protect local sources of supply with a comparison showing how they meet DEP's regulations and policies for adequate water supply protection measures.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

Application Process, continued

- Copies of any studies conducted on existing and potential local water source safe yield, protection needs, contamination threats, and water demand forecasts. If no studies are available on a potential local source known to the community or DEP, then the applicant should prepare documentation on estimated safe yield, protection needs and contamination threats, even for those sources previously determined to be infeasible to develop.
- A disaggregation of the community's total water consumption by customer class: residential, industrial, commercial, municipal facilities, unaccounted-for, other, and agricultural. A listing of large customers using over one million gallons a year should be provided.
- A Local Water Supply Management Plan if the applicant is a community. For a plan contents, refer to Attachment A. A Water Management Plan approved by the Water Resources Commission will also satisfy MWRA's Local Water Supply Management Plan requirement. A community's application must address how the requested connection is consistent with the stated objectives of the community's Local Water Supply Management Plan.

All other applicants (*i.e.*, state, county, institutional, and federal facilities) must address how the proposed water connection/water use is consistent with a Local Water Supply Management Plan, if it exists. MWRA also reserves the right to reject applications for those cases in which the community does not have a Local Water Supply Management Plan.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

**Application
Process,
continued**

C. MWRA Review of Application

Upon receipt of an application for admission to the waterworks system the MWRA will:

- Review the application's documentation on the necessary findings required by the MWRA's Enabling Act, and other criteria listed in the Admission Criteria.
- Review documentation submitted pursuant to the Requirements section of this Policy (Section B.) to help determine if MWRA can make the findings required listed in Admission Criteria.
- Analyze the applicant's demand impact on the MWRA waterworks system and consider the projected long-term demand of the system with the new community and contrast it to the MWRA's operations through average, wet and drought scenarios. The analysis must include the possibility of increased usage of MWRA supplies by partially supplied and non-MWRA communities due to drought conditions. Impacts on service to other community connections under various hydraulic conditions and to reservoir and watershed conditions must also be evaluated.
- Upon the request of the applicant, and subsequent to the completion of application review by MWRA staff and following consultation with the Advisory Board, submit a status report to the Board of Directors to inform it of the request, staffs' review and the status of other pending permits or approvals.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

Application Process, continued

D. Concurrent Reviews

Other regulatory approvals or permits may be required before a request for service may be approved. It is the responsibility of the applicant to obtain all such approvals. Copies of all applications or requests for regulatory approval shall be submitted to the MWRA as early as practicable to facilitate MWRA review of the request. MWRA will cooperate with other regulatory agencies to coordinate its review where possible, and will review and comment in other regulatory processes as appropriate. Final action by MWRA cannot be taken until the following regulatory approvals, where required, have been obtained.

- Massachusetts Environmental Policy Act – Executive Office of Environmental Affairs
- Interbasin Transfer Act - Water Resources Commission
- Local water supply source feasibility - Massachusetts Department of Environmental Protection

E. Legislation

Legislation is required to extend MWRA's water system to a local body not listed in Section 8 (d). Proposed legislation should be submitted to MWRA for review before filing. MWRA may require that certain conditions be included in the proposed legislation.

Continued on next page

Admission of New Community to MWRA Water System (OP.10), Continued

Water Supply Agreement

If MWRA approves the request for new service, it will establish appropriate terms and conditions of service in the form of a water supply agreement for an initial term of five years. The agreement will be consistent with MWRA's Continuation of Contract Water Supply regulations (360 CMR 11.00). Before contract renewal, MWRA will reevaluate and assess the status of the community's demand management efforts.

The agreement will set forth as appropriate:

- Firm limits on usage, including average and maximum daily use of MWRA water and a stipulation that any increase beyond the stated amounts would require a contract revision and recalculation of the entrance fee. Any significant increase will also require new approval by the MWRA Advisory Board and MWRA Board of Directors.
- A requirement that the applicant assume all costs of connection and pay an entrance fee.
- A requirement that the applicant continue to use all local non-MWRA sources of water to the maximum feasible extent.
- A requirement that the applicant continue to implement all practicable conservation measures. Communities shall be encouraged to adhere to the Commonwealth's water conservation standards, including guidelines for lawn and landscapes, and follow the MWRA's regulations for Leak Detection (360 C.M.R. 12.00).
- A requirement that the community protect local sources of supply in accordance with DEP's guidelines for water supply protection measures.
- Other conditions as may be appropriate.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),

Continued

Waivers The MWRA may, in its discretion, waive any of the conditions or requirements set forth in this Policy and Procedure, not otherwise mandated by law or regulation, if it finds that the community has demonstrated unusual factors or extraordinary circumstances which would make imposition of the condition or requirement upon that community unfair or inappropriate and finds that the proposed action will not jeopardize the MWRA's ability to supply its water communities.

Connection Costs and Entrance Fees outlined in the following sections shall not be waived.

Entrance Fees

The MWRA will charge an entrance fee to cover the new community's fair share of the costs of the waterworks system in place at the time user joins. ~~the entrance fee must be paid up-front, in one lump sum payment, unless otherwise approved by the Board of Directors. If the new community is unable to provide payment on an up-front basis, it may request an alternative entrance fee payment schedule to be made at an interest rate equivalent to the average cost of MWRA's fixed rate debt at the time of application, plus an additional 25 basis points, over a period as defined by a vote of the MWRA Advisory Board and the MWRA Board of Directors on the community's application. The entrance fee may be paid in one lump sum, or may be paid pursuant to up to a 25-year, interest-free payment plan with a grace period for the first three years, with payments to be made in years 4-25. The 25-year, interest-free payment plan shall be subject to review by the Board of Directors every five years. To be eligible for this multi-year, interest-free payment plan, a new community must take substantive steps toward admission to the MWRA prior to the adoption of any revised policy by the Board of Directors. Substantive steps include any of the following: affirmative vote to join MWRA by Town Meeting, City Council or Board of Directors, or submission of MEPA documentation indicating MWRA is the preferred option and subsequent completion of MEPA process in a timely manner.~~

New communities joining the MWRA waterworks system as well as communities admitted to the MWRA since 2002 who desire to increase their MWRA-approved withdrawal shall be eligible for the interest-free payment plan."

The entrance fee recovers the new user's proportional share of the waterworks system's asset base, which has already been paid for by the existing users of the system. The net asset value charge will be determined through allocating 25% of the net asset value to peak use and the remaining 75% to average use.

MWRA system average annual use and peak six-month average use will be based upon the prior five calendar years of average of water consumption. The user's projected need for MWRA water will be based upon a detailed analysis of local supplies and shortfalls. Its average annual use and peak six-month average use may be based upon its projected need, but in no case shall the projected need be more than the amount approved under MEPA and the Interbasin Transfer Act. Firm contract limits will be established based upon the usage volumes used in the entrance fee calculation.

The formula is as follows:

$$75\% \text{ of NAV Allocated to Average Use} + 25\% \text{ of NAV Allocated to Peak Six-month system use} = \text{Total Entrance Fee}$$

Average Use

$$\frac{\text{New user's projected MWRA "average use" needs}}{\text{System "average use"}} \times \text{NAV of Total Waterworks System}$$

Peak Use

$$\frac{\text{New user's projected MWRA "peak use" needs}}{\text{System "peak use"}} \times \text{NAV of Total Waterworks System}$$

Admission of New Community to MWRA Water System (OP.10),

Continued

Entrance Fees, continued

If the applicant community has purchased MWRA water under an emergency supply agreement and has paid charges, which include asset value contributions, then those contributions will be treated as credits against the total entrance fee. Payments of premium charges under an emergency supply agreement are not credited against the entrance fee.

Connections and Connection Costs

All new community water system connections shall be made directly to the MWRA transmission system wherever practical. The applicant community must pay all the costs of providing the connection. The MWRA will charge the costs to the new user as they are incurred, and as well as expenditures by MWRA for outside services necessary to make the connection. These costs may include, but are not limited to, costs of preliminary and final design, land acquisition, environmental review, pumping and storage facilities, and actual construction including construction services and resident inspection. The new user will pay only the connection cost incurred to serve its own needs. If other existing users will benefit from the new pipelines and facilities, the MWRA will assume an appropriate portion of the connection costs that will be added to the overall capital costs for water.

Application of Individual Users

The MWRA Enabling Act allows for arrangements involving the extension of the waterworks system to any local body, institution, agency or facility of the commonwealth or federal government if MWRA finds that the additional demand will not jeopardize the delivery of water to existing users and the MWRA Advisory Board approves arrangements beyond six months in length. All requests from state, county, institutional, and federal facilities outside the water service area will be subject to the policies and procedures outlined above, including the payment of entrance fees and connection costs. Connections and withdrawals by private entities outside the water service area shall remain prohibited. In the event exceptions arise to this prohibition, the applicant will be subject to the policies and procedures outlined above and shall obtain approval from: the receiving community; the transporting community; regulatory bodies, where required; the MWRA Advisory Board; the MWRA Board of Directors; and the Governor and General Court.

Continued on next page

Admission of New Community to MWRA Water System (OP.10),
Continued

Annual Update MWRA staff shall provide an annual update to the MWRA Board of Directors on the status of any new connections (connections approved within the preceding five years) into the MWRA system. This annual update shall at a minimum include information regarding the proponent entity's compliance with the conditions of approvals as stipulated within the water supply agreement and/or other affiliated contractual arrangements with the MWRA; and the status of payments due to either the MWRA or the proponent entity.

Attachment A

Local Water Supply Management Plan Outline

Water Supply

- Identify existing and potential water supplies in the community, zone II delineations, Interim Wellhead Protection Zones, and/or Zones A and B delineations for surface water sources, and watershed boundaries.
- Describe source water protection program, including compliance with DEP source water protection regulations.
- Identification of all water supply options, including compliance with DEP water protection regulations.
- Identification of all water supply options, including local, regional and conservation options.

Regional Plans

- Describe any existing regional or watershed plans and how these plans relate to the plans of the local community. Refer to reports and plans developed by regional planning agencies, local watershed associations, and other appropriate regional and/or non-governmental agencies.

Future Plans

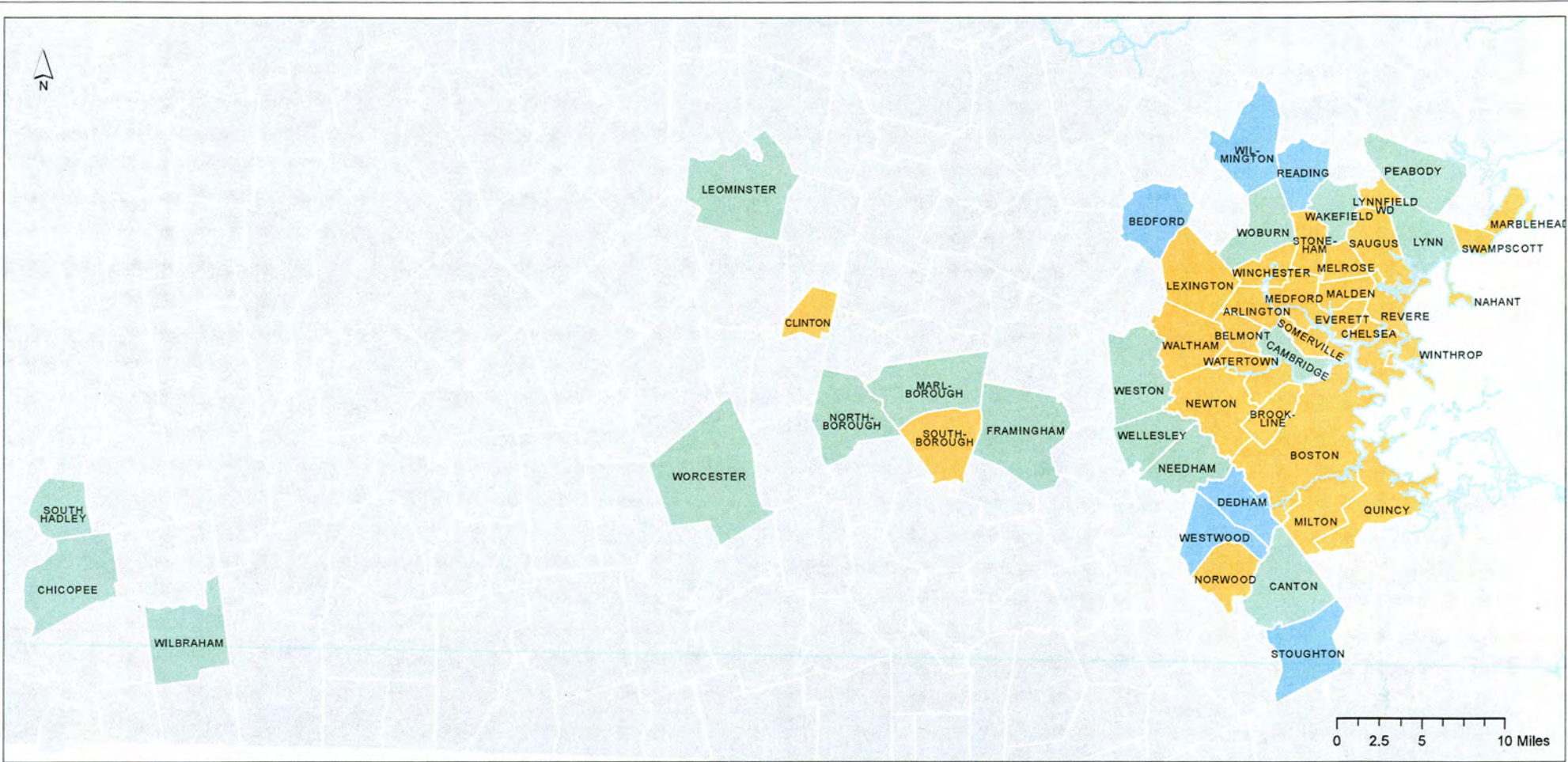
- Analysis of existing zoning and master plan, including EOEA build-out analyses available from Massachusetts GIS.
- Identification of future water and wastewater needs and various alternatives for meeting these needs.
- Summary and evaluation of water infrastructure plans based on build-out and future needs.
- Overall summary based on above information.

Analysis and Conclusions

- An action plan, with timetables for implementation of the recommendations of the plan, a budget, and identification of people responsible for implementation.

Attachment 2

Growth of MWRA Water Service Area



- Acts of 1895 (10 mile radius), 1908, 1923, 1930, and 1943 (extension to 15 mile radius)
- Acts of 1947 (extension beyond 15 mile radius) or communities joining MDC system post 1947 under contracts
- 1985 to Present - Admission to MWRA

ATTACHMENT 3

Community	Member/Non-member	Admitted	Contract(s)	Noteworthy Costs	Radius*	Extent Supplied
Arlington	member	1/31/1893	none		10	fully
Belmont	member	6/5/1895	none		10	fully
Boston	member	6/5/1895	none		10	fully
Brookline	member	1/1/25	none	unspecified connection costs	10	fully
Cambridge	member	8/18/49	#241 (8/18/49)	\$100,000.00 entrance fee	10	partially
Canton	member	11/2/67	#292 (11/17/66) #295 (11/2/67)	\$119,975.00 entrance fee	10	partially
Chelsea	member	6/5/1895	none		10	fully
Chicopee	nonmember		#229 (12/26/47)	unspecified construction and O & M costs	>15	fully
Clinton	nonmember				>15	fully
Dedham	nonmember				10	fully
Everett	member	6/5/1895	none		10	fully
Framingham	nonmember		#240 (1/25/49) #289 (2/17/66)	\$116,600.00 connection fee plus unspecified construction, treatment and O & M costs	15	under contract, partially; in reality, fully
Leominster	nonmember		#268 (9/10/64)	unspecified construction and O&M costs	>15	partially
Lexington	member	2/13/03	none	specified percentages of construction and connection costs	10	fully
Lynn Water & Sewer Comm'n	member	12/30/82	#___ (12/30/82)	\$207,370.00 entrance fee plus reimbursement for MDC's net costs of connection and unspecified installation and maintenance costs	10	partially
Lynnfield Water District	member	11/15/56	none		15	fully
Malden	member	6/5/1895	none		10	fully


Community	Member/Non-member	Admitted	Written Agreement(s)	Noteworthy Costs	Radius*	Extent Supplied
Marblehead	member	9/27/51	none	unspecified connection fee, construction and O & M costs	15	fully
Marlborough	nonmember		#257 (12/27/57) #___ (11/14/80) #___ (12/03/81)	\$75,426.00 connection fee plus unspecified connection, construction, treatment and O & M costs	>15	partially
Medford	member	6/5/1895	none		10	fully
Melrose	member	6/5/1895	none		10	fully
Milton	member	3/10/03	none		10	fully
Nahant	member	9/13/1898	none		10	fully
Needham	member	6/3/54	#259 (6/3/54) #274 (11/7/57)	\$132,815.00 entrance fee plus unspecified connection, construction, treatment and O & M costs	10	partially
Newton	member	6/5/1895	none		10	fully
Northborough	nonmember		#258 (5/27/54)	unspecified construction and O & M costs	>15	partially
Norwood	member	7/29/54	none	\$950,000.00 connection fee plus unspecified O & M costs	15	fully
Peabody	member	9/5/57	#272 (9/5/57) #287 (12/9/65)	\$125,000.00 entrance fee plus unspecified connection, construction and O & M costs	15	partially
Quincy	member	6/24/1897	none		10	fully
Revere	member	6/5/1895	none		10	fully
Saugus	member	8/5/46	none	unspecified connection cost	10	fully
Somerville	member	6/5/1895	none		10	fully
Southborough	nonmember		#279 (11/30/60)**	unspecified connection, construction, treatment and O & M costs	>15	fully

Community	Member/Non-member	Admitted	Written Agreement(s)	Noteworthy Costs	Radius*	Extent Supplied
South Hadley Fire District #1	nonmember		#250 (7/19/51)	unspecified construction, treatment and O & M costs	>15	fully
Stoneham	member	5/23/01	none		10	fully
Swampscott	member	5/3/09	none		15	fully
Wakefield	member	8/28/57	#271 (8/28/57)	\$109,544.00 entrance fee plus unspecified construction and O & M costs	10	partially
Waltham	member	1/10/49	none	specified percentages of construction costs plus unspecified construction and O & M costs	10	fully
Watertown	member	6/5/1895	none		10	fully
Wellesley	member	3/13/74	#306 (3/13/74)	\$608,100.00 entrance fee plus \$337,000.00 as deferred payment for prior construction, \$20,000.00/year as "standby" charge and unspecified installation and maintenance costs	10	partially
Weston	member	11/14/63	#285 (11/14/63)	\$78,897.00 entrance fee plus unspecified construction, treatment and O & M costs	10	under contract, partially; in reality, fully
Wilbraham	nonmember		#230 (2/24/48)		>15	fully
Winchester	member	5/15/46	#220 (12/13/45) #222 (5/15/46) #270 (7/2/57)	\$166,230.00 entrance fee plus unspecified construction and O & M costs	10	partially
Winthrop	member	6/29/1898	none		10	fully
Woburn	member	8/9/72	#303 (8/9/72)	\$268,922.00 entrance fee plus unspecified "proportionate share" of MDC's net construction costs and unspecified installation and maintenance costs	10	partially
Worcester	nonmember		#___ (11/2/14) #288 (2/3/66) #301 (6/9/71)	unspecified construction and O & M costs	>15	partially

* From State House; within number of miles shown unless otherwise noted (i.e., > <)

** also had Agreement with Boston (2/14/1894)

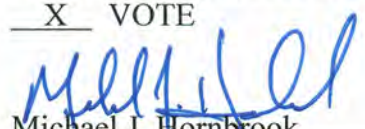
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Spot Pond Water Storage Facility Design/Build Project
Walsh Construction Company
Contract 6457, Change Order 9

COMMITTEE: Water Policy & Oversight

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

INFORMATION
 VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 9 to Contract 6457, Spot Pond Water Storage Facility Design/Build Project, with Walsh Construction Company, for a not-to-exceed amount of \$757,370.56, increasing the contract amount from \$50,342,410.94 to \$51,099,781.50, and extending the contract term by 144 calendar days from November 29, 2014 to April 22, 2015.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 6457 in amounts not to exceed the aggregate of \$250,000, and 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

Under this contract, the Contractor is constructing an underground 20-million-gallon concrete drinking water storage facility and pump station at the former Boston Regional Medical Center site near Spot Pond in Stoneham. The project will provide system storage for the Northern Low Service area and stabilize pressures in the area supplying Somerville, Malden, Medford, Everett, Chelsea, and Charlestown. The storage tank will also reduce flows in the City Tunnel System by lessening the use of pressure-reducing valves to feed the Northern Low Service area from the City Tunnel System during normal operations. The pump station will be partially underground and will supplement and provide redundancy to the Gillis Pump Station by providing pumping to the 21 communities served by the Northern High and Northern Intermediate High Service areas.

This Change Order

Change Order 9 consists of the following five items:

Redesign and Relocate Retaining Wall and the Permanent Detention Basin \$233,500

The design/build contract documents require final design and construction of a retaining wall at the bottom of a steep slope located along an easement line on the northwest side of the MWRA property adjacent to the proposed detention basin (See picture below and locus map attached).



After completion of the Contractor's 100% design, extensive coordination with the abutter and technical issues associated with the retaining wall, as well as extreme winter weather (cold temperatures and snow) during the winters of 2012-13 and 2013-14, delayed the Contractor and resulted in increased costs.

It was necessary to redesign and relocate the retaining wall, and revise the detention basin due to changes in the northwest slope as a result of proposed changes on the abutter's property. This change and associated delay impacted other Contractor activities, including relocation of access roads, the size of the laydown/storage area, the timing of building the generator room, and the need to install and maintain a temporary detention basin. In addition, restricted access to the work area limited the Contractor's ability to backfill, install yard piping, power and

communication ductbanks, and required additional higher scaffolding for installation of masonry. Due to the close proximity of the detention basin and surrounding retaining wall to the new pump station and tanks, the wall had to be completed and the northeast portion of the site had to be graded to the required elevation for the pump station to be constructed.

The retaining wall impacted the sequencing of a series of Contractor activities (described above) that created a domino effect on the Contractor's schedule, together with the extreme winter weather conditions, which entitle the Contractor to a time extension of 144 calendar days.

The approved Proposed Change Order (PCO) for this item of work has been identified by MWRA staff as an unforeseen condition. The Owner's Representative, MWRA staff, and the Contractor have agreed to a lump sum amount of \$233,500 for this additional work, and have agreed to extend the contract term by 144 calendar days from November 29, 2014 to April 22, 2015.

Revise Instrumentation and Controls and SCADA Controls Not to Exceed \$250,000

The design/build contract documents include a conceptual design and specifications for instrumentation and controls. Staff could not finalize the instrumentation and controls and SCADA control logic requirements, including specifics of the control strategy, until the Contractor's Final 100% Design of the Pump Station was completed and reviewed. This is due to the complexity of the new pump station with its requirement to pump to both the Northern High and Northern Intermediate High service areas from either the Low or High service areas. This new facility is unique in that it will be a facility capable of pumping to more than one pressure zone. Likewise, for the safe operation of the facility, a relay panel with pressure switches hard-wired to the variable frequency drives (VFDs) is required to ensure the pumps do not run during low suction or high discharge pressure scenarios. Numerous changes in pump control logic and valve and system pressure monitoring are required so that the tank controls will meet these requirements. These changes require additional input/output points, local control panel modifications, and associated conduit and wiring.

The approved PCO for this item of work has been identified by MWRA staff as an unforeseen condition. Staff are recommending a not-to-exceed amount of \$250,000 for this item as negotiations continue with the Contractor to properly substantiate actual costs.

Changes to the Security System Not To Exceed \$140,000

The contract documents require installation of a Closed Circuit Television (CCTV) monitoring system that includes three conventional Pan-Tilt-Zoom (PTZ) cameras and one thermal imaging camera connected to existing video recording equipment in the Chelsea Security Server Room. Due to rapidly changing technology, the video surveillance system specified during development of the design/bid procurement have become outdated and inconsistent with current MWRA security standards and required changes in the type, quantity, and location of the equipment. The required changes include: substituting high definition (HD), wide-angle cameras that provide a 180-degree field of view for some of the specified PTZ cameras; relocating other PTZ cameras; relocating two camera poles due to final grading changes; installing a high-resolution camera at the entrance to the pump station; substituting LED illuminators for infra-red illuminators on the

PTZ cameras; and installing recording equipment in a secure, lockable enclosure in the Security Room because the new HD cameras require more data than can be transmitted over the microwave path to Chelsea.

The approved PCO for this item of work has been identified by MWRA staff as an unforeseen condition. Staff are recommending a not-to-exceed amount of \$140,000 for this item as negotiations continue with the Contractor to properly substantiate actual costs.

Provide NSF 61-Approved Waterstops \$112,564.88

The contract specifies PVC waterstops for the water storage tanks. Although the waterstops are embedded in concrete, during review of the 100% design, Mass DEP required that all waterstops be NSF 61- (National Sanitation Federation) approved. PVC waterstops are not NSF 61-approved. This change required alternate materials, including joint sealant and a new joint detail and additional installation labor. A picture of the NSF 61-approved waterstop material is shown on the right.

The approved PCO for this item of work has been identified by MWRA staff as an unforeseen condition. The Owner's Representative, MWRA staff, and the Contractor have agreed to a lump sum amount of \$112,564.88 for this additional work with no increase in contract term.



Pre-Stabilize Soil and Perform Pipe Jacking on a Continuous Basis \$21,305.68

The contract requires installation of the overflow pipe under Woodland Road by pipe jacking. A segment of the overflow pipe crosses under MWRA Section 99, which is a vital connection to the Gillis Pump Station. The contract did not require continuous, 24/7 jacking but did allow the Contractor to request a shutdown of Section 99. Prior to the start of jacking, staff determined that Section 99 could not be shut down and was concerned that starting and stopping pipe jacking operations in the immediate vicinity of Section 99 could result in settlement, which in turn, could cause damage to the pipe. Therefore, MWRA directed the Contractor to pre-stabilize the soil in the surrounding area, and perform continuous pipe jacking for 15 feet on either side of Section 99, which required working 12-hour shifts on a 24/7 basis.



Pipe jacking under Woodland Road

The approved PCO for this item of work has been identified by MWRA staff as an unforeseen condition. The Owner's Representative, MWRA staff, and the Contractor have agreed to a lump sum amount of \$21,305.68 for this additional work with no increase in contract term.

The Contractor proceeded with the work of these change order items at its own risk in order to proceed with the remainder of the contract work.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	\$49,361,000.00	1,095 Days	11/10/11
Change Orders:			
Change Order 1*	\$0.00	0 Days	06/05/12
Change Order 2*	\$240,712.51	0 Days	12/26/12
Change Order 3	(\$44,075.34)	0 Days	11/06/13
Change Order 4*	(\$14,169.24)	0 Days	12/04/13
Change Order 5*	\$91,181.84	0 Days	02/19/14
Change Order 6*	\$105,659.90	0 Days	08/27/14
Change Order 7	\$587,630.07	0 Days	10/15/14
Change Order 8*	\$14,471.20	0 Days	11/03/14
Change Order 9	<u>\$757,370.56</u>	<u>144 Days</u>	Pending
Total Change Orders	\$1,738,781.50	144 Days	
Adjusted Contract:	\$51,099,781.50	1,239 Days	

*Approved under delegated authority

If Change Order 9 is approved, the cumulative total value of all change orders to this contract will be \$1,738,781.50 or 3.52% of the original contract amount. Work on this contract is approximately 86% complete.

BUDGET/FISCAL IMPACT:

The FY15 Capital Improvement Program budget includes \$50,276,650 for Contract 6457. Including this change order for \$757,370.56, the adjusted subphase total will be \$51,099,781.50 or \$823,131.50 over budget. This amount will be covered within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 5.3% and 4.4%, respectively. The Contractor will be notified that these requirements are still expected to be met.

ATTACHMENT:

Locus Map of Spot Pond Design/Build Project



CONTRACT NO. : 8435	OAD FILE NO. :
ACCESSION NO. :	SECTION NO. :
DATE: March 30, 2012	DESIGNED BY:
SCALE: 1" = 30'-0"	DRAWN BY:
	CHECKED BY:
	APPROVED BY:

HAZEN AND SAWYER
Environmental Engineers & Scientists
24 Federal Street, 26th Floor
Boston, Massachusetts 02110

MASSACHUSETTS WATER RESOURCES AUTHORITY

PREPARED BY:
BROWN, RICHARDSON, ROWE
WALSH
Walsh Construction

**SPOT POND WATER STORAGE FACILITY
DESIGN BUILD PROJECT**

Landscape and Fencing Plan

DRAWING NO.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

October 15, 2014

A meeting of the Personnel and Compensation Committee was held on October 15, 2014 at the Authority headquarters in Charlestown. Chairman Cotter presided. Present from the Board were Ms. Wolowicz and Messrs. Barrera, Carroll, Flanagan, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Bob Donnelly and Bonnie Hale. The meeting was called to order at 12:05 p.m.

Approvals

*PCR Amendments – October 2014

The Committee recommended approval of amendments to the Position Control Register (ref. agenda item A.1)

*Appointment of Construction Coordinator

The Committee recommended approval of the appointment of Mr. Vincent W. Spada (ref. agenda item A.2).

*Appointment of Construction Coordinator


The Committee recommended approval of the appointment of Mr. Daniel R. Thompson (ref. agenda item A.3).

The meeting adjourned at 12:10 p.m.

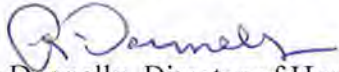
* Approved as recommended at October 15, 2014 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: November PCR Amendments



COMMITTEE: Personnel and Compensation


Robert Donnelly, Director of Human Resources
Joan C. Carroll, Manager Compensation
Preparer/Title

INFORMATION

VOTE


Rachel C. Madden
Director, Administration & Finance

RECOMMENDATION:

To approve the amendment to the Position Control Register (PCR) included in the attached chart¹.

DISCUSSION:

The PCR amendment included in this package reflects organizational changes aimed at improving the cost-effectiveness, structural soundness and staffing patterns within the Executive Office.

These amendments are:

1. Title and location change to a vacant position (Compliance Monitor to Special Projects Coordinator) in the Affirmative Action Compliance Unit, to meet the staffing needs in the Communications Unit.

This amendment requires approval by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of this PCR amendment may result in savings ranging from \$22,020 to no increase in cost. The actual budget impact will be dependent on the salary placement of the future hire for the position of Special Projects Coordinator.

¹ The Position Control Register lists all regular positions in this fiscal year's Current Expense Budget. Any changes to positions during the year are proposed as amendments to the PCR. The Personnel and Compensation Committee of the Board of Directors must approve all PCR amendments. In addition, any amendments resulting in an upgrade of a position by more than one grade level or increasing a position's annual cost by \$10,000 or more must be approved by the Board of Directors after review by the Personnel and Compensation Committee.

ATTACHMENTS:

New/Old Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
 POSITION CONTROL REGISTER AMENDMENTS
 FISCAL YEAR 2015

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - November 12, 2014

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
P7	AACU 8410009	V	T,L	Compliance Monitor	6	8	Special Projects Coordinator	6	8	\$67,333	\$45,313 - \$67,333	-\$22,020 - \$0	To meet staffing needs in Communications.
PERSONNEL & COMP COMMITTEE TOTAL=					1		TOTAL:					-\$22,020 - \$0	
BOARD TOTAL =					0		SUBTOTAL:					\$0 - \$0	
GRAND TOTAL =					1		TOTAL ESTIMATED COSTS:					-\$22,020 - \$0	

Legend:
 V = Vacant position, F = Filled position
 T = Title change, L = Location change; transfer to another Cost Center, G = Grade Change, SA= Salary Adjustment, E = Elimination.

**MWRA
POSITION DESCRIPTION**



POSITION: Compliance Monitor

PCR#:

DIVISION: Executive

DEPARTMENT: Affirmative Action

BASIC PURPOSE:

Monitors construction contract compliance with Affirmative Action policies and MBE/WBE contracting and subcontracting requirements and advises the Contract Compliance Coordinator regarding variances.

SUPERVISION RECEIVED:

Works under the general supervision of the MBE/WBE Program Manager.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Conducts periodic full contract compliance reviews of minority-owned and women-owned business utilization and minority and female participation in the trade on Authority projects.
- Monitors and prepares reports on contractor and subcontractor compliance with MBE/WBE commitments and requirements.
- Visits construction sites to monitor workforce compliance.
- Makes recommendations for minority and women subcontractor participation goals for the Authority's construction contracts.
- Attends pre-bid and pre-construction conferences to explain MBE/WBE requirements and

respond to questions.

- Provides technical assistance to MBEs and WBEs through workshops and seminars.
- Establishes working relationships with federal, state and private agencies to ensure that the Authority's EEO/AA activities can be completed in a timely and efficient manner.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in Public Administration, Management, Business Administration or related field; and
- (B) Knowledge of construction practices and principles as acquired through two (2) to four (4) years direct experience in the construction trades; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent oral and written communication skills.
- (B) Excellent writing and analytical skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

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

NEW

**MWRA
POSITION DESCRIPTION**

POSITION: Special Projects Coordinator

PCR#:

DIVISION: Executive

DEPARTMENT: Public Affairs/Communications

BASIC PURPOSE:

Coordinates the production of multi-departmental publications, assists with graphics for presentations.

SUPERVISION RECEIVED:

Works under the general supervision of the Special Assistant to the Executive Director.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works with staff across departments in the production of financial and technical documentation and reports.
- Works with Engineering and Construction and Public Affairs staff to produce construction notices and updates for the general public via web and hardcopy.
- Works with Special Assistant and other staff on graphics for presentations.
- Assists in the production of forms and signage for internal and external use.

SECONDARY DUTIES:

- Reviews and proofreads documents prepared by other staff.
- Assists with preparation of materials for groundbreakings, facility openings, etc.
- Performs other duties as required

MINIMUM QUALIFICATIONS:

Education and experience:

- (A) A four (4) year college program in Graphic Design, Computer Sciences, Information Services, Engineering or related field; and
- (B) One (1) to three (3) years professional experience in administrative and technical work, such as data tracking and analysis, and document management.
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent computer skills, including scanning and database management.
- (B) Excellent interpersonal, oral and written communications skills.
- (C) Excellent organizational skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operator's License

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

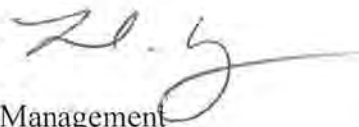
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this Job.

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

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

November 2014


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: November 12, 2014
SUBJECT: Appointment of Program Manager, Data Management
Environmental Quality Department

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Betsy Reilley, Ph.D., Director, Environmental Quality
Robert G. Donnelly, Director, Human Resources
Carolyn M. Fiore, Deputy Chief Operating Officer
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Elizabeth Steele Homa, Ph.D., to the position of Program Manager, Data Management (Unit 9, Grade 29), at the recommended salary of \$92,959.45, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The position of Program Manager, Data Management, became vacant upon the promotion of the previous incumbent. Organizationally, this position reports to the Senior Program Manager, Quality Assurance.

The Data Management Unit (within the Environmental Quality Department), located in Southborough, consists of five staff positions and is responsible for the management of drinking water quality data and for generating reports in compliance with DEP's Drinking Water Regulations, as well as generating reports for internal staff and the public. This unit gathers, reviews, manages, and follows up on data and data anomalies that are necessary for evaluating treatment, distribution water quality, and developing reports and notifications from continuous water quality analyzers. The Program Manager is part of the water quality manager rotation that responds to total coliform reports, contaminant monitoring alarms, and other water quality issues in MWRA's system.

Selection Process

This position was posted internally and externally. A total of six qualified candidates were identified and referred for interview, including one internal candidate. When contacted, two candidates declined interview opportunities and another withdrew from consideration after

relocating from the area. The three remaining candidates were interviewed by Environmental Quality senior staff and the Director of Human Resources. Upon completion of the interviews, Elizabeth Steele Homa, Ph.D., was selected as the best candidate for the position based upon her extensive data management, computer science, water quality, and management experience, as well as her outstanding written and oral communication skills.

Dr. Homa's unique combination of education and experience makes her ideally suited for this position. She will bring to the position extensive water resources and water quality experience, along with management and computer science qualifications. This combination of skills, education, and experience match the broad requirements of the Program Manager, Data Management position, which functions seamlessly within the overall Environmental Quality - Water group, responding to treatment, distribution, and other water quality issues on a day-to-day basis.

Dr. Homa began her career with Dragon Systems developing voice recognition software products, relying on her analytical, computer science and management skills. She held positions of increasing responsibility at Dragon, before accepting a position with i2 Technologies. Dr. Homa designed complex programming products to aid in the scheduling of complex sequencing jobs for manufacturing clientele, eventually progressing to a management position where she oversaw the planning, design, and implementation of a new production scheduling product.

Most recently, Dr. Homa has held positions at Tufts University and the University of Massachusetts at Amherst performing research studies on mass balance, carbon cycling and nutrient flux in lake and reservoir systems, including developing a decision support tool to optimize multi-objective reservoir operations. She has applied advanced statistical tools, her knowledge of programming, and her background in water resources planning and water quality, to develop models useful for planning and increasing overall understanding of lake and reservoir systems. Her strong technical skills in statistics, water quality, data analysis, modeling, managing staff, and scheduling will be valuable skills in the Environmental Quality's Data Management Unit.

Dr. Homa earned a Bachelor of Science, Cum Laude, in International Economics from Georgetown University, a Master of Science in Computer Science from Harvard University, a second Master of Science degree in Environmental and Water Resource Engineering, and a Ph.D. in Environmental and Water Resource Engineering from Tufts University.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY15 CEB. The recommended salary is in accordance with Unit 9's current collective bargaining agreement.

ATTACHMENTS:

Resume of Elizabeth Steele Homa
Position Description
Organization Chart

Elizabeth Steele Homa

SUMMARY

- Unique combination of education and experience in Environmental & Water Resource Engineering (PhD) and Computer Science (MS)
- Robust modeling, coding and data management skills developed in both complex research and high tech product development environments.
- Extensive project leadership and management experience, including interfacing with customers and internal departments.
- Skilled in R, Python, ARC GIS, C/C++, VB, MS Access, with additional exposure to many other tools and ability to quickly learn new ones.

EDUCATION

Tufts University, Medford, MA

PhD in Environmental and Water Resource Engineering 2005-2010

Award: Jonathan Curtis Fellowship

Master of Science in Environmental and Water Resource Engineering 2003-2005

Award: Littleton Fellowships for Graduate Studies

Harvard University, Cambridge, MA

Master of Science in Computer Science 1993 - 1996

Certificate in Applied Sciences 1991 - 1993

Georgetown University, Washington, DC

Bachelor of Science: International Economics 1986 - 1990

Cum Laude honors.

RESEARCH EXPERIENCE

University of Massachusetts, Amherst, MA

Research Associate, Department of Environmental Conservation 7/2013 - 1/2014

Postdoc, Civil & Environmental Engineering 5/2011 - 6/2013

In cooperation with Landscape Ecology Laboratory, Department of Environmental Conservation

- Developed a novel statistical modeling approach to estimate anthropogenic alteration of streamflow and aquatic nutrient concentrations from drainage basin characteristics, utilizing spatial data from a full range of point and non point sources.
- Results published in high quality, peer reviewed journal.

Tufts University, Medford, MA

Research Assistant for Dr. Steven Chapra 2005 - 2009

- Developed a time variable mass balance model of the biological, physical and chemical processes driving calcite precipitation naturally occurring in the epilimnion of lakes.

- Added a carbon mass balance to a three layer lake model, requiring the simultaneous consideration of instantaneous inorganic carbon equilibrium with rate limiting processes.
- Planned and oversaw field data collection in Torch Lake, MI

Research Assistant for Dr. Richard Vogel

2003 - 2004

- Created software for a decision support tool to analyze the daily operation of a reservoir with the multiple objectives of maximizing supply reliability while meeting instream flow requirements.
- Developed new statistical index to represent ecological impact on a flow regime. Genetic algorithm used for optimal regime selection given multiple objectives.

PROFESSIONAL EXPERIENCE

i2 Technologies, Cambridge, MA

1996 - 2002

Director, Semi-Custom Scheduling

- Lead group of computer optimization experts providing customized scheduling software solutions based on i2's genetic algorithm optimization and constraint network technology.
- Managed team in the planning, design and development of a new service-scheduling product.

Senior Software Engineer, Project Manager, Optimization Lead

- Designed, tested and implemented new optimization approaches for complex sequencing and job shop scheduling problems.
- Designed and managed implementations of genetic algorithm based scheduling solutions for large automotive and electronics manufacturing customers.

Dragon Systems, Newton, MA

1991 - 1996

Manager, International Product Development

- Coordinated the planning, development, and release of all international speech recognition products, directing twelve employees comprising six language teams.
- Facilitated knowledge transfer between research scientists and product development group.

Software Engineer, Research Staff

- Conducted acoustic and language modeling research for the development of large vocabulary speech recognition systems.

PUBLICATIONS

Homa, E. S., C. Brown, K. McGarigal, B. W. Compton, and S. D. Jackson (2013), Estimating hydrologic alteration from basin characteristics in Massachusetts, *Journal of Hydrology*, 503, 196-208

Homa, E.S. and Chapra, S.C. (2011), Modeling the impacts of Calcite precipitation on the epilimnion of an ultraoligotrophic, hard-water lake., *Ecological Modelling*, Volume 222, Issue 1, 76-90

Chapra, S.C. and Homa, E.S. (2008) pH2K: pH/Calcite Model for a Lake Epilimnion, Tufts Research Report, Tufts University, Medford, MA

Homa, E.S., R.M. Vogel, M.P. Smith, C. D. Apse, and A. Huber-Lee (2005), An Optimization Approach for Balancing Human and Ecological Flow Needs, EWRI 2005 World Water and Environmental Resources Congress, Anchorage, Alaska

SKILLS

Software: R Statistical Programming Language, Python, ARC GIS, C/C++, MathCAD, VB, MS Access
Language: Working knowledge of French, conversational Mandarin Chinese and Spanish.

INTERESTS

Eastern Mass BKL Ski Club, Volunteer Coordinator and Board Member	2012-present
Wellesley Cancer Prevention Project, Board Member	2005-2009
Charles River Watershed Association, Volunteer	2001-2002, 2005-2006

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Data Management

PCR#: 5821017

DIVISION: Operations

DEPARTMENT: Quality Assurance

BASIC PURPOSE:

Manages the overall activities of the Data Management group relative to quality assurance and quality control of complex water quality monitoring data, database management, and compliance-required reporting. Develops a comprehensive master plan for data storage and management, utilizing essential QA/QC and robust back-up methodologies.

SUPERVISION RECEIVED:

Works under the general direction of the Senior Program Manager, Quality Assurance.

SUPERVISION EXERCISED:

Directs the work of scientific data management staff. Exercises close supervision of subordinate project managers and assigned data management staff. Provides technical assistance to the overall Quality Assurance group.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises and manages staff, including assignment of projects, evaluation of performance, and staff development planning to ensure that the compliance-required data are complete, accurate and accessible. Provides technical and administrative assistance to staff in the development and management of projects.
- Supervises professional multi-discipline scientific and data management work of substantial difficulty and importance, requiring application of scientific principles and the exercise of independent professional judgment.
- Establishes and oversees data quality control and quality assurance procedures, and maintains records of QA/QC activities. Ensures accuracy and integrity of data. Documents data anomalies or water quality problems.
- Oversees the development of algorithms for calculation of compliance limits, and the procedure for determining when MWRA exceeds those thresholds within the time required by the DEP Drinking water Regulations.

- Provides leadership and planning to develop and implement a master plan for integrating a large amount of complex data from various sources and data platforms into a unified database that can efficiently produce accurate, informative reports of key water quality information in a timely manner to help improve the operations of the water treatment process and meet regulatory needs.
- Oversees the preparation and distribution of the Weekly Water Quality Report, monthly Water Quality Update, monthly DEP Compliance Report, monthly Yellow Notebook, Quarterly Orange Notebook, and annual water quality report/CCR.
- Oversees and coordinates cooperative database project development with other MWRA divisions and departments to ensure complete and coordinated projects. Oversees preparation of department MIS budget request, coordination with MIS to ensure resources are available, and within-department assistance with hardware and software issues. Coordinates intra-agency resources to complete projects in a timely and efficient manner.
- Supports and develops efficient, timely, well integrated databases for purposes of WQ monitoring and reporting including Complaints Database, CT database, etc. Develops "Golden Database" for unified storage of all final/validated water quality data used for compliance and related reporting.
- Develops improved water quality reporting functions and implement automated systems for compliance calculations, staff notifications, and reporting.
- Acts as On-Call Manager for Quality Assurance in rotation with other QA staff.

SECONDARY DUTIES:

- Performs other duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of principles and practice of engineering, chemistry, biology, environmental science or related field as normally obtained through a four-(4) year college program. A master's degree or Ph.D. is preferred.; and
- (B) Comprehensive knowledge of database management and reporting systems including experience in designing and implementing unified, well-integrated database systems, as acquired through seven (7) to nine (9) years of experience. A Ph.D. can be substituted for up to three (3) years of work experience; and

- (C) Demonstrated knowledge of laboratory and/or water quality data, reporting, drinking water regulations, water treatment, biology and/or chemistry is preferred; and
- (D) Three (3) to five (5) years supervisory experience.

Necessary Knowledge, Skills and Abilities:

- (A) Strong leadership skills and demonstrated ability to lead a project team and develop and maintain productive working relationships with external parties. Ability to efficiently and productively utilize resources authority wide.
- (B) Strong analytical and computer skills, including proficiency with statistical and graphical analyses, such as parametric, non-parametric, multivariate and multivariable analyses, spreadsheets, word processing and database application programs.
- (C) Demonstrated ability to design and implement well-integrated, complex, and robust databases and reporting systems. High level proficiency in database management and statistical analysis of water quality data.
- (D) Advanced user of Oracle, SQL, Access, Excel. Knowledge of LIMS, PI, Crystal Reports, Python, and/or Aquarius preferred.
- (E) Proven expertise in the areas of experimental design, data analysis, and statistical process control. Knowledge of process control theory, practices and principles.
- (F) Outstanding organizational, written and verbal communication skills. Excellent demonstrated ability to gather, analyze and present technical information in a clear, concise, and understandable manner.

SPECIAL REQUIREMENTS:

None

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

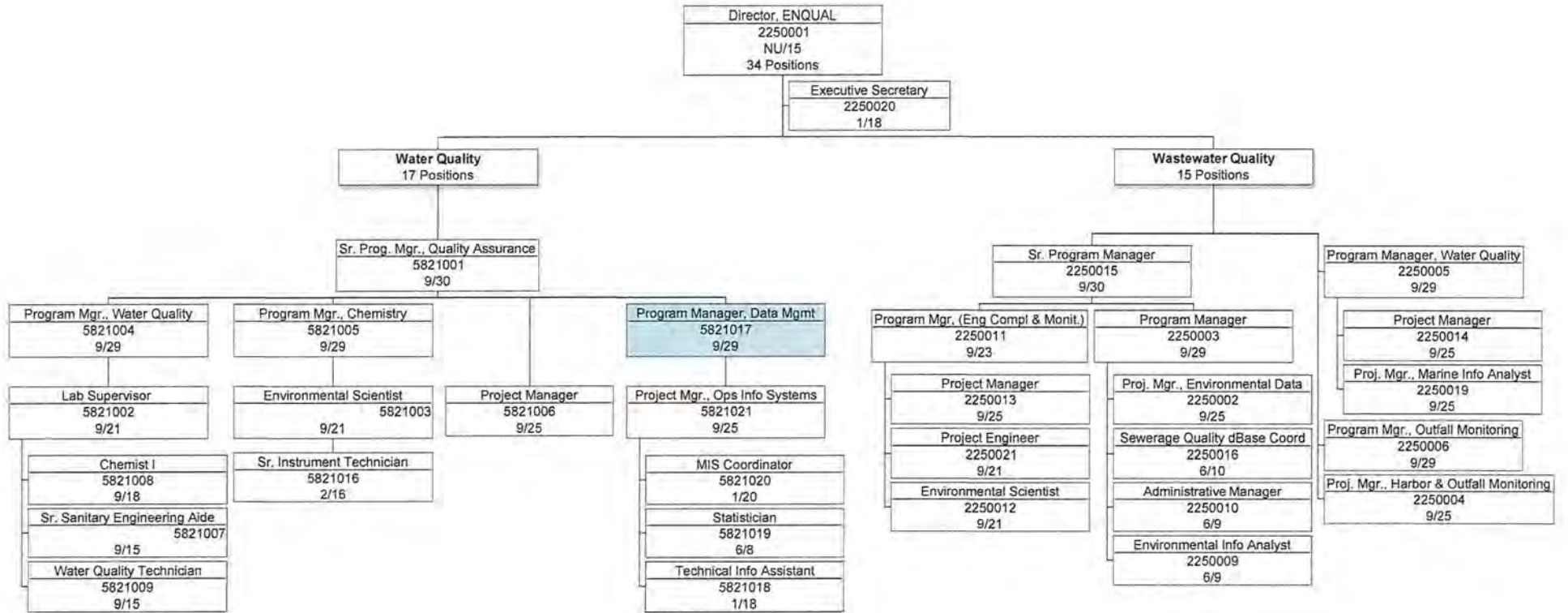
While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, including office equipment or controls and reach with hands and arms. The employee frequently is required to sit, talk and hear. The employee is occasionally required to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

There are no requirements that weight be lifted or force be exerted in the performance of this job, although the employee will have the opportunity to participate in field activities that involve lifting weight (e.g. water, sediment, or other environmental samples) or exerted force. Specific vision requirements required by this job include close vision, distance, vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment. The noise level in the work environment is usually a moderately quiet office setting.

Programs, Policy & Planning
Environmental Quality
 November 2014



STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: Appointment of Program Manager
Engineering & Construction Department



COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Robert G. Donnelly, Director, Human Resources
John P. Vetere, Deputy Chief Operating Officer
A. Navanandan, P.E., Chief Engineer
Preparer/Title



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Ms. Ester N. Lwebuga, P.E., Project Manager (Unit 9/25) to the position of Program Manager in the Engineering & Construction Department (Unit 9/29), at the recommended salary of \$100,808.66, to be effective November 15, 2014.

DISCUSSION:

This position, one of two currently vacant Program Manager positions in the Engineering & Construction Department, became vacant upon the retirement of the previous incumbent. The Program Manger position provides supervision and technical oversight of engineering staff and is responsible for managing various engineering projects that would include modifications, upgrades, or repairs to MWRA water and wastewater facilities, pipeline rehabilitation and replacement, and other water and wastewater engineering projects as assigned. In addition, this position is responsible for project scheduling and prioritization, CIP budget preparation and projections, and close coordination with MWRA's Metropolitan and Western Operations communities, and external agencies.

Selection Process

Both vacant Program Manager positions were posted internally as it was determined that there was sufficient experience and expertise within the current MWRA workforce. A total of thirteen candidates applied, seven of whom were determined to have met the minimum qualifications for this position. All seven qualified candidates were interviewed by a committee that included the Assistant Director, Engineering, a Senior Program Manager, Engineering, and a representative from MWRA's Affirmative Action and Compliance Unit. Upon completion of the interviews, Ms. Ester N. Lwebuga was selected as the best candidate to fill one of these two positions.

Ms. Lwebuga has fourteen years experience in the engineering field, with the last eight years serving at the MWRA as a Project Manager on water engineering projects. She has worked on several MWRA important projects, including Section 36/New 11B Interconnection/Watertown Section/Waltham Connection, Design, Construction Administration, and Resident Engineering/Inspection Services, and the design of the Section 28 Rehabilitation. Ms. Lwebuga has accumulated a thorough knowledge of engineering, planning, and design practices and she has successfully supervised and provided technical support to staff. She has earned the respect of her managers and peers.

Ms. Lwebuga earned a Bachelor of Science degree in Civil Engineering from Calvin College and a Master of Science degree in Civil Engineering from the University of Massachusetts. She is a registered Professional Engineer in Massachusetts. Ms. Lwebuga also is a Grade IV Distribution Operator in Training, and is a certified Envision Sustainability Professional (Institute for Sustainable Infrastructure).

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY15 CEB for this position. The recommended salary is in accordance with the Unit 9's current collective bargaining agreement.

ATTACHMENTS:

Resume of Ester N. Lwebuga
Position Description
Organization Chart

ESTER N. LWEBUGA, P.E.

OBJECTIVE To obtain a Program Manager position in Engineering and Construction Department.

EXPERIENCE

MASSACHUSETTS WATER RESOURCES AUTHORITY

Project Manager, Engineering and Construction Department

June 2009 – Current

Manage engineering services during design and construction including:

- Overseeing professional engineering consultant contracts including the development of scope of services, plans and specifications, cost estimates, work schedules, negotiation and preparation of contract award recommendations, and ensuring project compliance with budgets, schedules and terms.
- Coordinating projects with other Authority departments, host communities and permitting agencies to ensure designs comply with the Authority policies and procedures, regulatory requirements and applicable engineering standards.
- Reviewing of projects budgets and schedules for compliance with Capital improvement Program goals.
- Attending Construction progress meetings and performing site visits to observe work progress; participating in discussions to resolve construction issues including change orders, claims and cost proposal reviews.
- Supervising subordinate engineering staff in reviewing record drawings; collecting, compiling and reporting field data; performing dams inspections, and utilizing the GIS system to support MWRA Engineering and Operations projects.

Projects Include:

- *Contract 6540 Design (\$2.9M):* Replacement of approximately 4,500 linear feet of a 16 inch with a 24-inch water main and installation of approximately 1,250 linear feet of a 36 inch redundant water suction line connecting from a 60-inch lock-bar steel main to a 36-inch reinforced concrete main (estimated construction cost \$11.2M); rehabilitation of an 85-year old 30-inch riveted steel main by sliplining with HDPE pipe (estimated construction cost \$2.65M); and installation of approximately 8,800 linear feet of a new 36-inch main (estimated construction cost \$12M).
- *Contract 6546, Section 28 Rehabilitation:* Cleaning and cement mortar lining of approximately 6,250 feet of 20-inch cast iron pipe and replacement of a connection to a 56-inch diameter lock-bar steel transmission main.
- *Technical Assistance Task Order Contracts:*
 - Belden Bly Bridge Water Main Relocation Feasibility Study: Relocation of a 20-inch water main using trenchless technology. The study included evaluating river crossing methodology, alignment and work limits that would provide the shortest permitting duration, easement acquisition process and construction schedule, while meeting design and schedule constraints required by the MassDOT for replacement of the bridge structure.
 - Shaft E and Shaft L Cathodic Protection Troubleshooting.
 - Shaft 5A/5 Cathodic Protection System Design: Prepare a design for providing cathodic protection for the surface pipping at this site.
 - Subsurface Utility Engineering Investigations – Quality Level B: To determine the approximate horizontal location of existing utilities and their major laterals to existing buildings at specific locations within the project limits.

Operations Engineering, Field Operations Department
Acting Project Manager
Senior Engineer
Junior Civil Engineer

March 2006 – August 2006
April 2005 – June 2009
May 2000 – April 2005

Provided engineering support for Field Operations department including:

- Acting as liaison on select Engineering and Construction projects including participating in reviewing designs and construction submittals.
- Coordinating Field operations support actions and facilities start-up activities including valve operations, pipeline leakage and pressure tests, and disinfections. Coordinating distribution system shutdowns with communities to minimize impact to water service.
- Developing and coordinating review and execution of Operations plans and constraints. Acting as Responsible Person for execution of Plans including monitoring of the distribution system for potential service impacts.
- Preparing Emergency Action Plans and Contingency Plans for work performed on critical parts of the distribution system.
- Overseeing Metro-Operations Dams Inspection program including review of inspection reports, performing routine dam and reservoir visual inspections, developing scope of work for Dams maintenance, and ensuring execution of recommended repairs and maintenance.

Engineering Intern

July 1999 – April 2000

- Valve Replacement Design: Researched record plans, detail records, and field books to support the valve replacement program. Prepared designs for several blow-off valves replacement sites in the metropolitan area. Coordinated designs with local utilities. Analyzed metering data for Water Meter sizing.
- Performed administrative duties including writing correspondences, revising design reports, retrieving record plans to support ongoing design projects, publishing reports and preparing visual aids for presentations.

EDUCATION

M.S. Civil Engineering, Environmental, University of Massachusetts – Lowell, MA, May 2005

B.S. Civil Engineering, Calvin College, Grand Rapids, MI, May 1995

LICENSES AND CERTIFICATES

- Registered Professional Civil Engineer – Massachusetts
- Project Management for Engineers Certificate
- Envision Sustainability Professional
- 40 Hour Hazardous Waste Site Worker
- Grade IV Distribution Operator in Training
- First Aid/CPR/AED

PROFESSIONAL MEMBERSHIPS

- American Society for Civil Engineers
- Boston Society for Civil Engineers

COMPUTER EXPERIENCE

Microsoft Windows, GIS ArcMAP, Auto CAD and Telogers for Windows

VOLUNTEER

EverybodyWINS /Read-to-a-Child, 09/06 – 06/07, 09/07 – 06/08; 09/12 – 06/13; 09/13 – present

MathCounts, 09/08 – 06/09; 09/09 – 06/10.

Global Children Ministry, 2000 – present

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager
PCR#: 5525039
DIVISION: Operations
DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

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

SUPERVISION RECEIVED:

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

SUPERVISION EXERCISED:

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

ESSENTIAL DUTIES AND RESPONSIBILITIES:

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

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

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil or related engineering field; and

- (B) Seven (7) to nine (9) years of civil engineering experience of which three (3) years must be in a supervisory capacity and three (3) years in project management; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

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

SPECIAL REQUIREMENTS:

Registered Massachusetts Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer, including word processing and other software, copy fax machine, measuring equipment, light tools and mobile radio.

PHYSICAL DEMANDS:

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

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

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

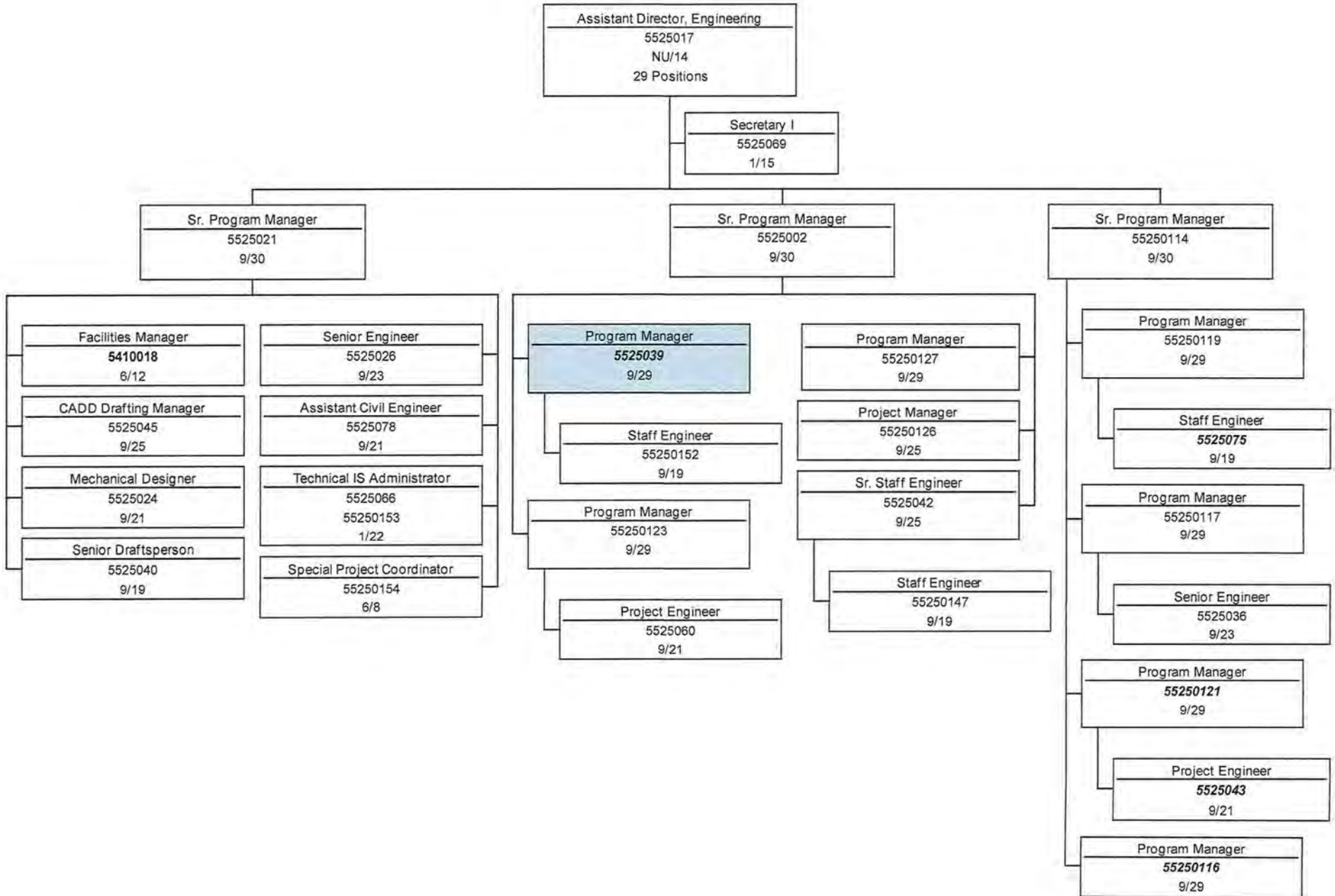
WORK ENVIRONMENT:

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

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

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

Engineering & Construction
Engineering
 November 2014



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: November 12, 2014
SUBJECT: Appointment of Program Manager
Engineering & Construction Department



COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Robert G. Donnelly, Director, Human Resources
John P. Vetere, Deputy Chief Operating Officer
A. Navanandan, P.E., Chief Engineer
Preparer/Title



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Patrick E. Smith, P.E., Project Manager (Unit 9/25) to the position of Program Manager in the Engineering & Construction Department (Unit 9/29), at the recommended salary of \$100,808.66, to be effective November 15, 2014.

DISCUSSION:

This position, one of two currently vacant Program Manager positions in the Engineering & Construction Department, became vacant as a result of the promotion of the previous incumbent. The Program Manager position provides supervision and technical oversight of engineering staff and is responsible for managing various engineering projects that would include modifications, upgrades, or repairs to MWRA water and wastewater facilities, pipeline rehabilitation and replacement, and other water and wastewater engineering projects as assigned. In addition, this position is responsible for project scheduling and prioritization, CIP budget preparation and projections, and close coordination with MWRA's Metropolitan and Western Operations communities, and external agencies.

Selection Process

Both vacant Program Manager positions were posted internally as it was determined that there was sufficient experience and expertise within the current MWRA workforce. A total of thirteen candidates applied, seven of whom were determined to have met the minimum qualifications for this position. All seven qualified candidates were interviewed by a committee that included the Assistant Director, Engineering, a Senior Program Manager, Engineering, and a representative from MWRA's Affirmative Action and Compliance Unit. Upon completion of the interviews, Mr. Patrick E. Smith was selected as the best candidate to fill one of these two positions.

Mr. Smith has 26 years experience in the engineering field, with the last 16 years serving at the MWRA as a Project Manager for both water and wastewater engineering projects. He has broad experience on large, complex MWRA water and wastewater pump station and pipeline projects, such as, Braintree-Weymouth Replacement Pump Station, Intermediate Pump Station, Boston Low Service Water Main Rehab., North Metropolitan Sewer Rehab., North High System Pipeline Improvements, and the Interceptor Renewal Program. Mr. Smith's experience also includes the Hingham Pump Station project, which involved the design and installation of a sluice gate in a diversion chamber to isolate the station and bypass flow, and the Caruso Pump Station project, which involved a facility generator replacement, HVAC improvements, new fire alarm and suppression systems, a new gas line to the facility, and boiler modifications.

Mr. Smith has accumulated a thorough knowledge of engineering, planning, and design practices and has successfully supervised and provided technical support to staff. He is well respected by his managers and peers.

Prior to his employment at MWRA, Mr. Smith worked for 10 years on engineering projects for a major consultant engineering firm.

Mr. Smith earned a Bachelor of Science degree in Civil Engineering from the University of Massachusetts and is a registered Professional Engineer. Mr. Smith also holds a Grade IV Collection System Operator Certificate and is a certified Envision Sustainability Professional (Institute for Sustainable Infrastructure)

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY15 CEB for this position. The recommended salary is in accordance with the Unit 9's current collective bargaining agreement.

ATTACHMENTS:

- Resume of Patrick E. Smith
- Position Description
- Organization Chart

PATRICK E. SMITH, P.E., ENV SP

EDUCATION: University of Massachusetts, Amherst, MA
Bachelor of Science in Civil Engineering; Cum Laude, February 1988

REGISTERED PROFESSIONAL ENGINEER: PE State of Massachusetts, No. 42836
PE State of Vermont, No. 7022

PROFESSIONAL MEMBERSHIPS/ ORGANIZATIONS:

American Society of Civil Engineers, Boston Society of Civil Engineers
Water Environment Federation, New England Water Environment Federation,
Grade IV Collection Systems Operator – NE Water Environment Association
Institute for Sustainable Infrastructure – Envision Sustainability Professional
Chi Epsilon (National Civil Engineering Honor Society)
Tau Beta Pi (National Engineering Honor Society)

GENERAL BACKGROUND:

Project Manager (January 2000 to Present) and Environmental/Civil Engineer (1998-2000) with the MWRA Engineering & Construction Division, Charlestown & Chelsea, MA.
Project Civil Engineer with Metcalf & Eddy, Inc. in Wakefield, MA (1988 to 1998), and Metcalf & Eddy International in Alexandria Egypt (September 1996 to May 1997). Experience in design, construction, and management of wastewater collection, pumping and treatment, and water distribution projects.

PROFESSIONAL EXPERIENCE:

Massachusetts Water Resources Authority (MWRA), E&C (Present to January 1998)

- **Boston Low Service System – Beacon Street Line (BSL) (on-going):** Project Manager for preliminary design rehabilitation of 3,000ft of 48-in water main in Brookline. Prepared concept design documentation, scope of work and managed consultant technical assistance task order. Prepared RFQ/P scope for Final Design and ESDC services and organized/scheduled Selection Committee. Prepared Staff Summary for Contract 7474 awarded at 7/17/2014 BOD. Also responsible for preparing Master Plan New Project Worksheet, providing budget CIP Capital Expenditure Forecast updates and CIP schedule and narratives. Reported directly to Grade 30 supervisor until Oct 2013, presently reporting directly to Engineering Assistant Director.
- **Caruso Pump Station Improvements Project, Contract 7037 (on-going):** Project Manager for generator/HVAC/security/fire replacement/upgrades. Prepared concept design memo, Scope of Work for RFQ/P (design/CARI) and resulting Staff Summary for \$773k Professional Services Contract. Schedule/invoice/deliverables management of Consultant. Project currently starting Phase II final Design. (Estimated Construction value \$3.5 million). Prepared RFQP Scope and scheduled Selection Committee for ranking and negotiations. Responsible for FY14/15 CIP Capital Expenditure Forecast updates and CIP schedule and narratives. Reported directly to Grade 30 supervisor.
- **Interceptor Renewal Program (on-going):** Project Manager for evaluating MWRA wastewater system interceptors for construction bid packages prioritization. Evaluation of inspections, modeling, site location, and other factors to determine Interceptor Renewal priority package No.1 and subsequent

construction packages 2 through 5. Project to become an RFQ/P for consultant professional services for design and CARL services. Project will require consultant management for schedule/invoice/submittals. Evaluation will also determine subsequent interceptor design packages for future CIP projects. Led meetings for Deputy Chief Operating Officer John Vetere and staff on 10/8/13 and 10/29/13 to present Program for next 10-15 years for 3 construction/design packages totaling \$24M+ and assistance with presentation to Wastewater Advisory Committee (WAC) on 10/4/13. Prepared program scheduling and CIP Capital Expenditure Forecast updates and narratives. Reported directly to Grade 30 supervisor. (10/2014 Update – Prepared Scope for RFQP for Design Package No.1 – Reading Extension Sewer Sections 73/74/75. Selection Committee organized and scheduled to meet October 2014)

- **North Metropolitan Sewer Section 156 Rehabilitation, Contract 7393:** Project Manager for rehabilitation of 1,800ft of 61-inch sewer and structures. Project fast-tracked due to Everett technology park proposed construction over pipe area. Provided consultant management for technical services task order for preliminary design including schedule/invoice/deliverables. Initiated design/build documents to completion level that allowed for a general bid with supplementary design requirements. Prepared bid evaluation and staff summary for \$2.5 million construction, provided construction administration and technical reviews, and coordinated meetings.
- **Hingham Pump Station Improvements, Contract 7033:** Project Manager for the design/construction of influent gate, structure, site, and related work. Prepared concept design, preliminary design and final contract documents. Prepared/provided bid evaluation, staff summary, construction administration, shop drawing review, and site assistance. Managed/Coordinated design with MWRA Tech Support, Operations, Maintenance and SCADA groups. Managed Consultant technical services task order for environmental services for asbestos removal.
- **Delauri Pump Station Wind Turbine Generator, Contract 7302:** Co-Project Manager for Preparation of design/build RFQ/P scope and contract documents for 1.5 MW wind turbine. Project Manager for two Consultant technical assistance task orders (survey and environmental assessment). Design/Build awarded for \$4.6 million under the American Recovery and Reinvestment Act. Accelerated schedule required to meet award date for funding.
- **Northern High Service Revere Pipeline Improvements Section 53, Contract 5177:** Project Manager for the rehabilitation of 6,500 ft of 30-inch pressure main in Revere. Work includes open cut pipe replacement, pipe sliplining rehabilitation, meter abandonment, structures and valves. Completed/designed preliminary design report evaluating feasible rehabilitation alternatives, final design contract documents, permits, coordination with MHD, Engineer's estimate, bid period services, Staff Summary, bid evaluation, and provided construction administrative services and technical reviews. Managed three consultant task orders (haz/mat, traffic mgmt, weld inspection), and supervised one in-house design staff. Project Construction cost \$2.6 million.
- **North Metropolitan Sewer Section 160, Contract 6843:** Project Manager for rehabilitation of 11,000 ft of 15 to 28 x 26-inch brick, clay and concrete sewer in Winchester. Prepared/designed Conceptual Design and Preliminary Design Reports describing existing conditions, identifying feasible rehabilitation alternatives, establishing scope of work, budget and schedule. Completed final design documents, engineers estimate, MBTA and DCR permits, bid period services, Staff Summary and bid evaluation, and engineering construction administrative services. Presented project before Town Officials and coordinated meetings with DCR and MBTA. Managed three (3) Consultant technical assistance task orders for survey, environmental study and traffic management plans including schedule/invoice/submittal management. Project Construction \$1.7 million.

- **On-Site Treatment at Shaft 4/Lonergan Intake/Nash Hill (Contract A418) and Cosgrove Intake Stormwater System and Non-Contact Cooling (part of WHCP-8):** Project Manager for three (3) contracts at five (5) MWRA facilities for compliance with Governor's Clean States Initiative through the Executive Office of Environmental Affairs (EOEA). Contracts included three on-site treatment facilities (Southboro-Shaft 4, Barre-Lonergan Intake, Ludlow-Nash Hill), a stormwater conveyance system (Cosgrove Intake) and turbine cooling system (Cosgrove and Oakdale). Developed task order scope of services; developed and managed the preparation of preliminary technical reports, plans, specifications, NOI and other related permits; and managed technical assistance consultants. Managed two in-house staff, one full time one part time. Provided bid period and construction services for two resulting construction contracts.
- **Somerville Sewer Project Contract S389:** MWRA In-House Design Group: Project Manager for rehabilitation of 36-inch combine sewer in Somerville. Work included CIPP lining and manhole rehabilitation. Prepared Conceptual and Preliminary Design Reports, plans, specifications, permits, bid period services and construction administrative services. Provided coordination and resolved issues with Somerville Officials and DCR (former MDC). Managed one in-house staff full time.
- **Braintree-Weymouth Relief Facilities:** MWRA ECD Consultant Management Group: Served as project engineer (and acting Project Manager) for Braintree-Weymouth (B-W) Relief Facilities 45mgd pump station (IPS) and Tunnel. Coordinated, reviewed and scheduled design submittals for 60%, 100%, and final contract documents and environmental permit applications. Coordinated and organized meetings with other agencies and MWRA departments. Project included work in Weymouth, Deer Island and Fore River. Provided assistance at CAC and Fire Department tunnel rescue meetings. Developed B-W community flow analysis technical memos, drafted Staff Summaries, and coordinated SRF application for B-W project. Managed/Supervised bid-ready documents and bid evaluation for \$30 million construction of IPS. Low bid not responsible requiring project to be rebid. Promotion to Project Manager in other MWRA unit ended work on B-W before re-bid.

Metcalfe & Eddy, Inc. and M&E International (February 1988 to January 1998)

- M&E International (USAID Project- Alexandria, Egypt): Developed layouts for three agricultural drain pump stations (60 to 150 MGD); evaluated sanitary sewer system flows and loads for Alexandria's Central Zone; assisted preliminary design and report preparation for expansion and secondary treatment alternatives of the primary West Treatment Plant, conducted present worth analyses of process and conveyance system design alternatives. Supervised drafting and estimating staff. (September 1996 to May 1997).
- Served as Project Engineer for 29 and 45 mgd wastewater pump stations in conjunction with the Massachusetts Water Resources Authority (MWRA), Braintree-Weymouth Relief Facilities Project. Coordinated and assisted work of MBE/WBE Subcontractors and prepared preliminary design documents. Prepared life cycle cost analyses in accordance with MWRA guidelines to establish preliminary design philosophy. Revised, prepared MWRA contract compensation tables (E-2, E-3, E-4, E-5). Coordinated work of technical support disciplines, conducted hydraulic analyses, provided conceptual designs for screening, grit, pumping, and odor control systems. Completed site layouts, contract plans, and specifications to 60% design submittal.
- Served as resident engineer (RE) for the construction of 15,000 feet of 12-inch to 36-inch sanitary sewers and drains and 12-inch water main for the Boston Water and Sewer Commission combined

sewer separation in the Boston South End. Completed daily progress and quantity reports, prepared change orders, and provided field oversight of Contractors.

- Served as project engineer for the design and construction of 50,000 feet of 8- to 18-inch sanitary sewers and force mains, and five submersible pump stations with capacities of 100- to 350-gpm for Milford, Connecticut. Provided conceptual design, site layouts, capacity analyses, construction administration and prepared Operation and Maintenance manuals.
- Prepared Operations and Maintenance manuals for additions and modifications of two pumping stations with capacities of 1 and 4 mgd in Providence, Rhode Island. Manuals included standby power, pumping operations and instrumentation and controls.
- Served as project engineer for the design and construction of 6,000 feet of sewers and force mains for the City of Westfield, Massachusetts. Prepared design plans and specifications, provided construction administration, reviewed shop drawings.
- Provided facility planning for Westfield, Massachusetts. Performed capacity analysis for two major interceptors to evaluate feasibility of connecting adjacent towns. Updated existing facility plan with regards to population projections, wastewater, and sludge projections. Assisted in screening and evaluating sludge treatment and disposal alternatives.
- Served as project engineer for design of rehabilitation and improvements for the Greenfield, Massachusetts sanitary sewer system. Conducted SSES review, field investigations, verified suspect infiltration and inflow sources, and designed sanitary improvements and rehabilitation for over 200 suspect locations. Prepared contract plans and specifications.

SPECIAL SKILLS:

Computer Literate (Excel, Word, PowerPoint, ArcMap)

SPECIAL TRAINING:

Grade IV Collections Systems Operator Certificate, Confined Space Entry, H₂ONET Water Distribution Modeling seminars, ArcGIS information sessions.

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager
PCR#: 55250121
DIVISION: Operations
DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

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

SUPERVISION RECEIVED:

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

SUPERVISION EXERCISED:

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

ESSENTIAL DUTIES AND RESPONSIBILITIES:

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

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

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil or related engineering field; and

- (B) Seven (7) to nine (9) years of civil engineering experience of which three (3) years must be in a supervisory capacity and three (3) years in project management; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

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

SPECIAL REQUIREMENTS:

Registered Massachusetts Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer, including word processing and other software, copy fax machine, measuring equipment, light tools and mobile radio.

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

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

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

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

Engineering & Construction
Engineering
 November 2014

