



MASSACHUSETTS WATER RESOURCES AUTHORITY

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COMMITTEE OF THE WHOLE

HEARINGS ON THE DRAFT FINAL FY13 CAPITAL IMPROVEMENT PROGRAM AND CURRENT EXPENSE BUDGET

to be held on

Wednesday, June 6, 2012

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

Time: 10:00 a.m.

AGENDA

- Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY12 CIP and CEB
- MWRA's FY13 Budget Hearings Presentation
- CIP Review
- CEB Review

**Materials for Board Hearings on the FY13 Draft Final CIP and CEB
Index of Attachments**

1) **Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY13 CIP and CEB**

2) **MWRA's FY13 Budget Hearings Presentation:**

- Draft Final FY13 Capital Improvement Program and Current Expense Budget – Budget Hearings Presentation (To be Distributed at June 6th Board Meeting)

3) **CIP Related Attachments:**

Attachments CIP-1:

- Cap Spending FY09–FY13
Draft Final FY13 Expenditure Forecast

4) **CEB Related Attachments:**

Attachment CEB-1:

- Draft Final FY13 CEB: Changes between FY13 Proposed & FY13 Draft Final Budget

Attachment CEB-2:

- Comparison of FY12 Approved Budget & FY13 Draft Final Budget

Attachment CEB-3:

- Comparison of FY12 Projection & FY13 Draft Final Budget

5) **Rates Related Attachments:**

- Preliminary Draft Final FY13 Rate Revenue Requirement
- Current Expense Budget Planning Estimates
 - Proposed (Preliminary)
 - Draft Final

6) **Reserves Attachment:**

- MWRA Reserve Summary



Advisory Board Comments

Appendix A

List of Recommendations

1. The FY13 rate revenue requirement should be no higher than \$607,391,000, representing an increase of 3.0%.
2. The FY13 rate increase should be no lower than \$607,391,000, representing an increase of 3.0%.
3. The reduction of \$5,226,105 necessary to achieve a 3.0% rate increase could come from revised assumptions including:
 - Timing of the NPDES permit for Deer Island
 - Updates for fringe benefits costs
 - Updates related to the ambulance contract for Deer Island
 - Personnel-related revisions
 - Reduction of the budget by \$6,749 to reflect the Advisory Board's amended FY13 budget
 - Several adjustments to elements of capital financing expense
 - A modest use of the rate stabilization fund (which is funded at \$0 this year, for the first time in five years)
 - Inclusion of the receipt of Debt Service Assistance (approximately \$350 thousand for the Authority's share) consistent with the Commonwealth's current budget process
4. Fund both the design and construction contracts of the Clinton Phosphorus Removal project exclusively from the reserve account containing the watershed fringe benefits accruals.
5. Include Phase VIII of the Inflow/Infiltration Local Financial Assistance Program in the final CIP, beginning in FY13.
6. Revise the cap calculation beginning in FY14 to exclude the local assistance programs from the cap calculations.
7. The Advisory Board challenges the Authority to limit the next five-year cap (FY14-18) to no more than \$800 million after removing the local assistance programs from the cap calculation.
8. Revisit proposed senior debt service assumptions for new borrowings and the defeasance.
9. Assess what the appropriate level of variable rate debt is going forward and prepare a plan to reach that level in the next five years.
10. Analyze the other factors that are considered with each rating agency review and report on steps that could be taken to ensure the Authority obtains the highest possible ratings from each rating agency. Such an analysis should be conducted in time for the due diligence process associated with the next bond issue.
11. Conduct a cost-benefit analysis of using interim SRF loan funding until Pool 16, Pool 17 and Pool 18 bond series are issued.
12. Moving forward, formally adopt the current approach to transfer all surplus funds related to debt service into a fund dedicated for future defeasance to ensure that the funds are utilized for their originally intended purpose.
13. Use any FY12 surplus not associated with debt service as a tool to reduce the rate revenue requirement to 3% in FY13 with any remaining funds deposited into the rate stabilization account.

Appendix A

14. Build upon efforts already achieved and develop a comprehensive and detailed succession plan utilizing internal resources and outside consultants if deemed necessary.
15. Redirect the \$4.7 million proposed for Other Post-Employment Benefits to the retirement fund.
16. DCR should remove projected revenues from the forestry program and reduce its operating expenses by the same amount by delaying projects such as the Wachusett Carpenter Shop Replacement, abandoned structures demolition, and equipment storage facilities at Quabbin currently scheduled for FY13.
17. Bring the most recent draft of the Science and Technical Advisory Committee (STAC) report to the MWRA Board of Directors in June 2012 to allow for its findings to be included in the Final Current Expense Budget.
18. Remove or have DCR find alternative funding for any dam work that does not directly impact the water supply.
19. Begin the process of investigating options for an extension of the current pelletization contract.
20. Target a goal of reducing costs associated with pelletization (or any alternative process selected) by \$2 million per year.
21. Revise the chemicals budget to reflect updated pricing, and to remove the assumption of 6 months of the next NPDES permit at Deer Island.
22. Actively engage and participate in a process with the necessary stakeholders to allow the Commonwealth of Massachusetts to assume primacy with regard to wastewater issues.
23. Participate with the Advisory Board on a formal study to quantify the local and regional economic benefits of system expansion.
24. Support legislation the Advisory Board intends to file seeking \$100 million in state funds for the purposes of economic development to fund capital connection costs for new water service member communities.
25. Actively seek and pursue an exemption of 9 MGD from the regulatory review process to expedite waterworks system expansion.
26. Expend no further staff resources or funds for the Hatchery Pipeline project until a streamlined regulatory review for system expansion is adopted by the Commonwealth.
27. Convene a committee to examine the Water Rate Methodology with specific emphasis on standby fees.
28. Pursue a proactive dialogue with non-member communities that have connections to the MWRA to outline where and how they could connect to our system if they choose to do so.
29. Participate on the task force the Advisory Board intends to convene with community and state police representatives to arrive at an agreement, or standard rate, on hourly charges and conditions for requiring the details.

Appendix B

List of Comments

1. The Advisory Board supports using the recently completed Information Technology study to guide future MIS projects, and expects them to be added into the Business Plan.
2. The Advisory Board again asserts that neither the additional Cross Harbor Cable costs nor Chelsea Creek dredging initiative are the responsibility of the Authority or the ratepayers to fund.
3. The Advisory Board expects any additional surplus from debt service line items will be used to augment the defeasance transaction currently scheduled for June 2012, consistent with the policy voted by the MWRA Board of Directors.
4. The Advisory Board trusts that the final FY13 state budget will include DSA, but fully expect that the 3% rate revenue requirement will not be achieved without it.
5. Price assumptions for the final budget may need to be increased to reflect recent changes in fuel pricing.
6. The Advisory Board expects the Authority will participate in any additional discussions with stakeholders to see that a streamlined process for system expansion regulatory review is developed.



MWRA Presentation (to follow)



CIP Related Attachments

**FY13 Final CIP
Cap Analysis**

Base-Line Cap		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Total FY09-18
		Projected Expenditures	\$230.0	\$251.7	\$224.3	\$196.7	\$178.7	\$1,081.4	\$173.7	\$164.3	\$143.7	\$75.8	\$48.6	\$606.0
Contingency	15.6	13.8	12.0	12.1	11.4	64.8	13.2	12.5	11.3	7.0	4.6	48.5	113.3	
Inflation on Unawarded Construction	0.0	0.5	2.8	7.8	11.3	22.4	12.7	9.0	9.7	9.5	4.1	44.9	67.2	
Less: Chicopee Valley Aqueduct Projects	(1.2)	(1.9)	(9.1)	(9.5)	(2.9)	(24.8)	0.0	0.0	0.0	0.0	0.0	(0.0)	(24.8)	
FY09-13 Base-Line Cap		\$244.4	\$264.1	\$230.0	\$207.0	\$198.4	\$1,143.8	\$199.6	\$185.8	\$164.6	\$92.2	\$57.2	\$699.4	\$1,843.2

FY13 Draft Final		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Total FY09-18
		Projected Expenditures	\$182.2	\$211.4	\$139.3	\$148.8	\$156.3	\$838.1	\$193.4	\$208.4	\$202.8	\$195.6	\$197.0	\$997.3
Contingency	0.0	0.0	0.0	0.0	8.6	8.6	12.0	13.6	13.5	12.9	13.0	65.0	73.6	
Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	0.6	0.6	4.7	10.8	15.7	19.9	25.3	76.4	77.0	
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(0.9)	(0.4)	(3.4)	(5.8)	(7.5)	(8.4)	(5.6)	(1.1)	0.0	(22.5)	(28.3)	
FY13 Draft Final FY09-13 Cap		\$181.6	\$210.9	\$138.4	\$148.4	\$162.1	\$841.5	202.6	224.5	226.4	227.3	235.4	\$1,116.2	\$1,957.7

FY13 Proposed		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Total FY09-18
		Projected Expenditures	\$182.2	\$211.4	\$139.3	\$164.3	\$191.4	\$888.7	\$210.5	\$226.7	\$199.7	\$162.4	\$165.0	\$964.1
Contingency	0.0	0.0	0.0	7.2	9.7	16.8	13.3	15.5	13.5	11.1	11.6	65.0	81.9	
Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	1.5	1.5	6.7	13.0	16.2	17.1	22.3	75.1	76.6	
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(0.9)	(0.8)	(5.4)	(8.2)	(8.1)	(8.7)	(2.7)	0.0	0.0	(19.5)	(27.7)	
FY13 Proposed FY09-13 Cap		\$181.6	\$210.9	\$138.4	\$170.7	\$197.2	\$898.8	222.3	246.5	226.7	190.5	198.8	\$1,084.8	\$1,983.6

FY12 Final		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Total FY09-18
		Projected Expenditures	\$182.2	\$211.4	\$151.9	\$165.5	\$225.6	\$936.7	\$245.2	\$237.8	\$216.3	\$181.3	\$119.2	\$999.9
Contingency	0.0	0.0	0.0	8.4	11.9	20.3	15.5	16.2	14.8	13.3	9.2	69.0	89.3	
Inflation on Unawarded Construction	0.0	0.0	0.0	1.0	5.1	6.2	12.5	19.8	23.3	24.0	18.5	98.0	104.2	
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(0.6)	(0.4)	(6.2)	(8.4)	(4.8)	(0.5)	(0.1)	0.0	0.0	(5.3)	(13.7)	
FY12 Final FY09-13 Cap		\$181.6	\$210.9	\$151.3	\$174.5	\$236.4	\$954.7	268.4	273.4	254.4	218.6	146.9	\$1,161.6	\$2,116.3

**FY13 Final CIP
Cap Analysis**

FY13 Draft Final vs. Base-Line Cap		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14- 18	FY09-18
	Projected Expenditures	(\$47.8)	(\$40.2)	(\$85.0)	(\$47.9)	(\$22.4)	(\$243.3)	\$19.7	\$44.1	\$59.1	\$119.8	\$148.4	\$391.2	\$148.0
Contingency	(15.6)	(13.8)	(12.0)	(4.9)	(1.7)	(48.0)	0.2	3.0	2.2	4.1	7.0	16.5	(31.5)	
Inflation on Unawarded Construction	0.0	(0.5)	(2.8)	(7.8)	(10.7)	(21.8)	(8.0)	1.8	6.0	10.4	21.3	31.5	9.8	
Less: Chicopee Valley Aqueduct Projects	0.6	1.4	8.3	9.1	(0.4)	18.9	(7.5)	(8.4)	(5.6)	(1.1)	0.0	(22.5)	(3.6)	
FY09-13 Cap (\$ Change)	(\$62.8)	(\$53.2)	(\$91.6)	(\$58.6)	(\$36.3)	(\$302.4)	\$3.0	\$38.7	\$61.8	\$135.1	\$178.2	\$416.8	\$114.5	
FY09-13 Cap (% Change)	-25.7%	-20.1%	-39.8%	-28.3%	-18.3%	-26.4%	1.5%	20.8%	37.5%	146.6%	311.4%	59.6%	6.2%	

FY13 Draft Final vs. FY13 Proposed		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14- 18	FY09-18
	Projected Expenditures	\$0.0	\$0.0	\$0.0	(\$15.4)	(\$35.1)	(\$50.5)	(\$17.0)	(\$18.2)	\$3.1	\$33.2	\$32.1	\$33.1	(\$17.4)
Contingency	0.0	0.0	0.0	(7.2)	(1.1)	(8.2)	(1.4)	(1.9)	0.0	1.9	1.4	0.0	(8.2)	
Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	(0.9)	(0.9)	(2.0)	(2.1)	(0.5)	2.8	3.1	1.3	0.4	
Less: Chicopee Valley Aqueduct Projects	0.0	0.0	0.0	0.3	2.0	2.4	0.7	0.3	(2.9)	(1.1)	0.0	(3.0)	(0.7)	
FY09-13 Cap (\$ Change)	\$0.0	\$0.0	\$0.0	(\$22.2)	(\$35.1)	(\$57.3)	(\$19.7)	(\$22.0)	(\$0.2)	\$36.8	\$36.6	\$31.4	(\$25.9)	
FY09-13 Cap (% Change)	0.0%	0.0%	0.0%	-13.0%	-17.8%	-6.4%	-8.9%	-8.9%	-0.1%	19.3%	18.4%	2.9%	-1.3%	

FY13 Draft Final vs. FY12 Final		FY09	FY10	FY11	FY12	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14- 18	FY09-18
	Projected Expenditures	\$0.0	\$0.0	(\$12.6)	(\$16.7)	(\$69.3)	(\$98.5)	(\$51.8)	(\$29.4)	(\$13.5)	\$14.3	\$77.8	(\$2.6)	(\$101.1)
Contingency	0.0	0.0	0.0	(8.4)	(3.3)	(11.7)	(3.6)	(2.6)	(1.3)	(0.4)	3.8	(4.0)	(15.7)	
Inflation on Unawarded Construction	0.0	0.0	0.0	(1.0)	(4.5)	(5.6)	(7.8)	(9.0)	(7.6)	(4.1)	6.9	(21.6)	(27.2)	
Less: Chicopee Valley Aqueduct Projects	0.0	0.0	(0.3)	0.0	2.8	2.6	(2.7)	(7.9)	(5.5)	(1.1)	0.0	(17.2)	(14.6)	
FY09-13 Cap (\$ Change)	\$0.0	\$0.0	(\$12.9)	(\$26.1)	(\$74.3)	(\$113.2)	(\$65.8)	(\$48.9)	(\$27.9)	\$8.7	\$88.5	(\$45.3)	(\$158.6)	
FY09-13 Cap (% Change)	0.0%	0.0%	-8.5%	-14.9%	-31.4%	-11.9%	-24.5%	-17.9%	-11.0%	4.0%	60.3%	-3.9%	-7.5%	

**Massachusetts Water Resources Authority
FY13 Final Capital Expenditure Forecast**

Program / Project	Contract No.	Notice to Proceed	Substantial Completion	Total Contract Amount	Payments through FY11	Remaining Balance	FY12	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
Total MWRA				5,524,897,758	3,395,948,934	2,128,948,824	148,837,485	156,336,932	838,129,743	997,266,593	826,507,797
Wastewater				2,645,510,455	1,586,043,429	1,059,467,025	77,572,626	71,353,553	517,298,625	533,949,510	376,591,341
Interception & Pumping				822,656,064	512,615,430	310,040,634	6,599,662	6,434,741	37,483,054	156,752,077	140,254,161
102 Quincy Pump Facilities	completed project			25,908,066	25,908,076	(10)	0	0	0	0	0
104 Braintree-Weymouth Relief Facilities				233,734,969	227,932,058	5,802,911	527,252	775,656	14,203,442	4,500,000	0
Geotechnical - Marine	10001_5333	Nov-91	Apr-92	442,860	442,860	0	0	0	0	0	0
Geotechnical - Land	10044_5332	Nov-91	Mar-92	7,980	7,980	0	0	0	0	0	0
Facilities Planning - Phase 1	10045_5311	Oct-81	Dec-90	331,140	331,140	0	0	0	0	0	0
EIR - Phase 1	10046_5312	Nov-84	Oct-90	513,530	513,530	0	0	0	0	0	0
Design 1/CS/RI	10047_5313	Nov-94	Jun-06	18,882,312	18,882,312	0	0	0	0	0	0
Land Acquisition	10048_5314	Mar-97	Jun-10	13,221,359	12,857,238	364,120	364,120	0	9,561,562	0	0
Tunnel Construction/Rescue	10049_5315	Jun-99	Jul-03	83,550,809	83,550,809	0	0	0	0	0	0
Intermediate Pump Station - Construction	10050_5316	Dec-00	Apr-05	47,444,929	47,444,929	0	0	0	0	0	0
North Weymouth Relief Interceptor	10051_5303	Mar-01	Jun-02	4,704,618	4,704,618	0	0	0	0	0	0
HDD Siphon - Construction	10052_5373	Jul-03	May-07	16,357,407	16,357,407	0	0	0	0	0	0
B-W Replacement Pump Station	10054_5375	Jan-05	Apr-08	17,728,028	17,728,028	0	0	0	76,562	0	0
Design - Rehab	10055_5308	Sep-88	Dec-89	23,710	23,710	0	0	0	0	0	0
Construction - Rehab	10056_5309	Jan-92	Dec-96	255,490	255,490	0	0	0	0	0	0
Final EIR/Facility Plan	10057_5324	Apr-91	Aug-93	1,111,007	1,111,007	0	0	0	0	0	0
Design 2/CS/RI	10058_5331	Apr-95	Dec-11	15,015,432	14,869,633	145,799	145,799	0	1,106,427	0	0
Rehabilitation of Section 624 - Construction	10060_5310	Jul-10	Dec-10	2,505,769	2,503,621	2,148	2,146	0	2,505,767	0	0
Technical Assistance	10061_5951	Nov-84	Apr-07	144,264	144,264	0	0	0	0	0	0
Sedimentation Testing	10251_6016	Sep-94	Apr-96	95,880	95,880	0	0	0	0	0	0
Legal	10263_6072	Jul-95	Apr-08	849,220	834,033	15,187	15,187	0	104,666	0	0
Hazardous Waste	10265_6074	Jul-95	Apr-07	7,937	7,937	0	0	0	6,037	0	0
Marine Pipeline - Design	10278_6119	Feb-97	Aug-97	1,100,000	1,100,000	0	0	0	0	0	0
Mill Cove Siphon - Construction	10302_6368	Aug-97	Jun-98	2,748,908	2,748,908	0	0	0	0	0	0
Community Technical Assistance	10354_6631	Jul-99	Apr-07	1,111,451	1,111,451	0	0	0	0	0	0
Geotechnical Consultant	10375_6766	Sep-00	Mar-03	56,045	56,045	0	0	0	0	0	0
IPS/RPS Communication System	10378_6792	Dec-02	Apr-08	224,884	224,884	0	0	0	42,421	0	0
Wetlands Replication	10470_7290	Jun-12	Mar-13	700,000	24,344	675,656	0	675,656	700,000	0	0
Mill Cove Siphon Sluice Gates - Design	10479_7326			0	0	0	0	0	0	0	0
Mill Cove Sluice Gates - Construction	10480_7327	Jan-13	Jun-14	600,000	0	600,000	0	100,000	100,000	500,000	0
B/W Improvements - Construction	10493_7366	Sep-15	Aug-17	3,200,000	0	3,200,000	0	0	0	3,200,000	0

**Massachusetts Water Resources Authority
FY13 Final Capital Expenditure Forecast**

Program / Project	Contract No.	Notice to Proceed	Substantial Completion	Total Contract Amount	Payments through FY11	Remaining Balance	FY12	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
B/W Improvements - Design/CS/RI	19567_9586	Apr-14	Aug-17	800,000	0	800,000	0	0	0	800,000	0
105 New Neponset Valley Relief Sewer	completed project			30,300,306	30,300,304	2	0	0	0	0	0
106 Wellesley Extension Replacement Sewer	completed project			64,358,544	64,358,543	1	0	0	0	0	0
107 Framingham Extension Relief Sewer	completed project			47,855,986	47,855,986	0	0	0	0	0	0
127 Cummingsville Replacement Sewer	completed project			8,998,766	8,998,768	(2)	0	0	43,382	0	0
130 Siphon Structure Rehabilitation				2,670,539	939,770	1,730,769	0	29,696	29,696	1,701,072	0
Planning	10253_6017	Jan-96	Nov-98	937,670	937,670	0	0	0	0	0	0
Land Acquisition	10280_6165	Jun-06	Dec-10	2,100	2,100	0	0	0	0	0	0
Design/CS/RI	10293_6224	Jan-13	Mar-17	494,943	0	494,943	0	29,696	29,696	465,246	0
Construction	10294_6225	Apr-15	Mar-16	1,235,826	0	1,235,826	0	0	0	1,235,826	0
131 Upper Neponset Valley Sewer System				54,941,724	53,776,931	1,164,793	11,491	1,153,302	1,792,068	0	0
Design/CS/RI	10256_6031	May-00	Apr-09	4,584,683	4,584,683	0	0	0	91,606	0	0
Legal	10266_6075	Jun-00	Apr-08	131,259	66,466	64,793	11,491	53,302	130,000	0	0
Sewer Sections 685-686 - Replacement	10290_6191	Mar-05	Mar-08	37,004,923	37,004,923	0	0	0	509,867	0	0
Land Acquisition	10311_6450	Jun-00	Apr-08	2,602,325	1,502,325	1,100,000	0	1,100,000	1,100,045	0	0
Sewer Section 687 Replacement - Construction	10352_6629	Oct-06	Nov-07	7,663,585	7,663,585	0	0	0	(181,000)	0	0
Boston Paving	10393_6830	Apr-05	Apr-08	609,723	609,723	0	0	0	43,280	0	0
Resident Engineering / Inspection	10439_7072	Apr-05	Feb-09	2,345,226	2,345,226	0	0	0	98,270	0	0
132 Corrosion & Odor Control				16,139,782	3,002,809	13,136,973	0	0	0	5,706,052	7,430,921
Planning / Study	10279_6137	Jan-97	Dec-98	587,422	587,422	0	0	0	0	0	0
Land Acquisition	10323_6549	Aug-02	Jun-05	3,341	3,341	0	0	0	0	0	0
Legal	10325_6551	Dec-00	Jul-08	1,925	1,925	0	0	0	0	0	0
Design/CS/RI	10327_6553	Aug-02	Jun-05	1,787,912	1,787,912	0	0	0	0	0	0
Interim Corrosion Control	10373_6743	Jul-00	Dec-01	622,209	622,209	0	0	0	0	0	0
FES Tunnel Rehab - Construction	10405_6918	Dec-17	Jun-19	6,800,000	0	6,800,000	0	0	0	1,431,579	5,368,421
FES/FERS Biofilters - Design	10406_6919	Jul-14	Apr-17	1,031,726	0	1,031,726	0	0	0	1,031,726	0
FES Tunnel Rehab - Design	10453_7196	Jul-17	Jun-19	1,700,000	0	1,700,000	0	0	0	637,500	1,062,500
FES/FERS Biofilters - Construction	10456_7215	Apr-16	Apr-17	1,605,247	0	1,605,247	0	0	0	1,605,247	0
System-wide Odor Control - Study	10491_7364	Jul-18	Jul-20	1,000,000	0	1,000,000	0	0	0	0	1,000,000
Nut Island Odor Control System-Evaluation & Design	10492_7365	Jul-14	Jul-16	1,000,000	0	1,000,000	0	0	0	1,000,000	0

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136 West Roxbury Tunnel				11,309,178	10,284,737	1,024,441	24,441	0	1,429,376	0	1,000,000
Inspection	10299_6230	Jul-98	Sep-99	344,202	344,202	0	0	0	0	0	0
Tunnel Easements & Permits	10329_6566	Mar-10	Dec-15	53,789	53,789	0	0	0	53,789	0	0
Legal	10330_6567	Apr-00	Mar-10	2,133	2,133	0	0	0	295	0	0
Land Acquisition	10331_6568	Apr-00	Mar-10	440,154	440,154	0	0	0	0	0	0
Construction	10332_6569	Jun-01	Jun-02	6,673,671	6,673,671	0	0	0	0	0	0
Design/CS/RI	10333_6570	Apr-00	Jun-03	1,412,185	1,412,185	0	0	0	0	0	0
Technical Assistance	10366_6709	Nov-99	Mar-10	7,752	7,752	0	0	0	0	0	0
Tunnel - Design	10400_6897	Feb-09	Jun-11	1,375,292	1,350,851	24,441	24,441	0	1,375,292	0	0
Tunnel Inspection	10401_6898	Sep-19	Jun-20	1,000,000	0	1,000,000	0	0	0	0	1,000,000
137 Wastewater Central Monitoring				20,839,477	19,782,201	1,057,276	0	407,276	6,241,741	650,000	0
Planning	10301_6232	Jan-98	Jul-99	563,425	563,425	0	0	0	0	0	0
Design and Integration Services	10319_6532	Jun-02	Jul-10	6,501,542	6,344,266	157,276	0	157,276	1,508,524	0	0
Construction 1 (CP1)	10320_6533	Mar-06	Jan-08	7,662,173	7,662,173	0	0	0	7,780	0	0
Construction 2 (CP2)	10321_6534	Feb-08	Jul-09	5,139,444	5,139,444	0	0	0	4,460,402	0	0
Technical Assistance	10322_6535	Sep-02	Jul-10	7,425	7,425	0	0	0	4,235	0	0
Equipment Prepurchase	10398_6861	Apr-05	Dec-09	65,468	65,468	0	0	0	10,800	0	0
Wastewater Redundant Communications	10490_7363	Nov-12	Apr-14	900,000	0	900,000	0	250,000	250,000	650,000	0
139 South System Relief Project				4,939,244	3,439,244	1,500,000	0	0	(645)	187,500	1,312,500
Archdale - CS/RI	10309_6419	Nov-98	Aug-99	5,379	5,379	0	0	0	(645)	0	0
Archdale - Construction	10310_6420	May-99	Aug-99	210,748	210,748	0	0	0	0	0	0
Sections 70 & 71 HLS - Evaluation	10318_6519	Sep-98	Oct-99	215,140	215,140	0	0	0	0	0	0
Outfall 023 - Design	10345_6595	Jun-99	Sep-99	509	509	0	0	0	0	0	0
Outfall 023 - Cleaning	10346_6596	Apr-00	Nov-00	1,097,526	1,097,526	0	0	0	0	0	0
Land Acquisition/Easements	10347_6605	Apr-99	Apr-05	5,053	5,053	0	0	0	0	0	0
Sections 70 & 71 HLS - Construction	10349_6611	Jun-99	Oct-99	417,021	417,021	0	0	0	0	0	0
Milton Financial Assistance	10350_6616	Oct-99	Jun-00	1,487,868	1,487,868	0	0	0	0	0	0
Outfall 023 - Structural Improvements	10386_6801	Jan-18	Dec-19	1,500,000	0	1,500,000	0	0	0	187,500	1,312,500
141 Wastewater Process Optimization				10,299,552	930,308	9,369,244	251,661	306,316	557,977	5,686,267	3,125,000
Planning	10367_6733	Aug-01	Aug-04	930,308	930,308	0	0	0	0	0	0
North System Hydraulic Study	10412_6930	Nov-11	Oct-12	557,977	0	557,977	251,661	306,316	557,977	0	0
Somerville Sewer - Design	10413_6931	Oct-14	Aug-17	200,000	0	200,000	0	0	0	200,000	0
Somerville Sewer - Construction	10414_6932	Mar-17	Aug-17	1,019,244	0	1,019,244	0	0	0	1,019,244	0
Siphon - Planning	10415_6933	Nov-16	Jun-17	150,000	0	150,000	0	0	0	150,000	0
Manhole Structure Flood Protection - Design	10416_6934	Jan-15	Dec-15	500,000	0	500,000	0	0	0	500,000	0

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Manhole Structure Flood Protection - Construction	10417_6935	Jul-17	Jun-19	5,000,000	0	5,000,000	0	0	0	1,875,000	3,125,000
Hydraulic Flood Engineering Analysis - North System	19401_7412	Jan-14	Jun-16	1,942,023	0	1,942,023	0	0	0	1,942,023	0
142 Wastewater Meter Sys - Equip. Replacement				26,578,429	5,137,912	21,440,517	0	160,517	209,664	8,587,393	12,692,607
Planning / Study	10371_6739	Mar-13	Jul-13	100,000	0	100,000	0	20,000	20,000	80,000	0
Equipment Purchase & Installation	10379_6793	Nov-03	Jun-08	5,278,429	5,137,912	140,517	0	140,517	189,664	0	0
Design	10410_6928	Jul-14	Jan-17	200,000	0	200,000	0	0	0	200,000	0
Construction	10411_6929	Jan-16	Jan-17	1,000,000	0	1,000,000	0	0	0	1,000,000	0
WW Metering Asset Protection / Equipment Purchase	10451_7191	Jul-13	Jul-26	20,000,000	0	20,000,000	0	0	0	7,307,393	12,692,607
143 Regional I/I Management Planning	completed project			168,987	168,987	0	0	0	0	0	0
145 Facility Asset Protection				257,862,517	9,798,797	248,063,720	5,784,817	3,601,978	12,976,353	124,608,794	114,068,133
Prison Point HVAC Upgrades - Construction	10380_6795	Dec-10	Mar-12	2,410,556	600,063	1,810,493	1,810,493	0	2,410,556	0	0
Remote Headworks Heating System Upgrade	10381_6796	May-05	May-06	1,175,181	1,175,181	0	0	0	0	0	0
Alewife Brook Pump Station Rehab - Construction	10382_6797	Jul-13	Oct-15	6,666,000	0	6,666,000	0	0	0	6,666,000	0
Rehab of Section 93A Lexington	10383_6798	Jul-03	Apr-04	1,565,742	1,565,742	0	0	0	0	0	0
Chelsea Creek Upgrade ESDC/REI	10387_6802	Sep-13	Mar-17	2,047,800	0	2,047,800	0	0	0	2,047,800	0
Technical Assistance	10392_6829	Jul-02	Nov-08	82,640	49,660	32,980	32,980	0	57,422	0	0
Sections 80 & 83	10394_6842	Apr-07	Sep-07	364,590	364,590	0	0	0	0	0	0
Section 160	10395_6843	Jun-07	Dec-08	1,581,369	1,581,369	0	0	0	(271,680)	0	0
Survey	10396_6857	Nov-04	May-05	10,708	10,708	0	0	0	0	0	0
Permits	10397_6858	May-03	Nov-08	8,146	8,096	50	50	0	1,099	0	0
Remote Headworks Concept Plan	10399_6886	May-08	Sep-09	687,885	687,888	(3)	0	0	635,888	0	0
Interceptor Renewal No. 2	10418_6936	Jul-16	Jan-18	9,192,664	0	9,192,664	0	0	0	9,192,664	0
Alewife Brook Pump Station Rehab - Design/CA	10419_6937	Apr-10	Oct-11	223,194	197,484	25,710	25,710	0	223,194	0	0
Prison Point HVAC Upgrades - Design	10420_6938	Jan-08	Mar-13	452,248	379,309	72,939	70,244	2,695	404,134	0	0
93A Force Main Replacement	10423_6987	May-06	Jan-07	461,962	461,962	0	0	0	0	0	0
Mill Brook Valley Sewer Section 79 & 92	10424_7004	Jun-04	Mar-05	542,292	542,292	0	0	0	0	0	0
Hingham Pump Station Isolation Gate - Construction	10427_7033	Sep-11	May-12	124,500	0	124,500	124,500	0	124,500	0	0
Alewife Brook Pump Station - Final Des/CA/REI	10428_7034	Mar-12	Oct-16	1,558,446	0	1,558,446	202,437	521,310	723,747	834,699	0
Caruso Pump Station Improvements - Design/CA/REI	10431_7037	Aug-12	Jan-16	593,862	0	593,862	0	115,874	115,874	477,988	0
Land/Easements	10440_7073	Jul-03	Jun-10	103,386	103,386	0	0	0	50	0	0
Nut Island Headworks Fire Alarm/Wiring Replacement	10444_7144	Jun-09	Dec-09	285,391	285,391	0	0	0	285,391	0	0
Chelsea Creek Upgrades - Construction	10445_7161	Sep-13	Mar-17	51,195,000	0	51,195,000	0	0	0	51,195,000	0
Pump Stations & CSOs Condition Assessment	10446_7162	Jul-13	Jul-15	3,000,000	0	3,000,000	0	0	0	3,000,000	0
Interceptor Renewal No.1 - Design	10447_7163			0	0	0	0	0	0	0	0
Interceptor Renewal No.1 - Construction	10448_7164	Feb-15	Sep-16	3,800,000	0	3,800,000	0	0	0	3,800,000	0

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Chelsea Creek Upgrades - Design/CA	10455_7206	Jul-10	Mar-18	6,682,531	1,011,250	5,671,281	423,370	777,468	2,212,088	3,887,340	583,104
Malden & Melrose Hydraulics & Structural - Study	10457_7216	Jan-14	Dec-14	300,000	0	300,000	0	0	0	300,000	0
Malden & Melrose Hydraulics & Structural - Construct.	10458_7217	Jan-15	Dec-17	1,000,000	0	1,000,000	0	0	0	1,000,000	0
Nut Island Fire Pump Building - Study	10459_7218	Jan-13	Feb-14	300,000	0	300,000	0	64,286	64,286	235,714	0
NI Mechanical & Electrical Replacements	10460_7219	Jul-13	Jun-16	3,000,000	0	3,000,000	0	0	0	3,000,000	0
Headworks Effluent Shaft - Study	10463_7237	Jul-15	Jul-16	500,000	0	500,000	0	0	0	500,000	0
Melrose Sewer	10464_7248	Feb-10	Feb-11	653,640	653,639	1	0	0	653,639	0	0
Interceptor Renewal No. 3 Camb/Somer. Sects. 26&27	10467_7279	Jul-18	Jun-19	5,000,000	0	5,000,000	0	0	0	0	5,000,000
Interceptor Renewal No. 4 Everett Sections 23/24/156	10468_7280	Jul-16	Jun-17	3,000,000	0	3,000,000	0	0	0	3,000,000	0
Cottage Farm Fuel System Upgrade	10469_7281	May-12	Apr-13	356,141	0	356,141	0	326,461	326,461	29,679	0
NI Electrical & Grit/Screens Conveyance - Design	10477_7312	Mar-11	Oct-15	1,124,877	120,787	1,004,090	144,118	267,756	532,661	592,216	0
NI Electrical & Grit/Screens Conveyance - Construction	10478_7313	May-13	Oct-14	7,066,166	0	7,066,166	0	0	0	7,066,166	0
Interceptor Renewal No. 5 - Milton	10481_7328	Jul-17	Jun-20	4,000,000	0	4,000,000	0	0	0	1,000,000	3,000,000
Interceptor Renewal No. 6 - Chelsea	10482_7329	Jul-18	Jun-21	11,000,000	0	11,000,000	0	0	0	0	11,000,000
Somerville/Marginal Influent Gates Replacement	10484_7344	Jul-11	Nov-11	366,851	0	366,851	366,851	0	366,851	0	0
PP Dry Weather Flow&Stripping Pump Improvements	10485_7358	Jan-14	Dec-16	750,000	0	750,000	0	0	0	750,000	0
PP/CF CSO Rehab Preliminary Design/Study	10486_7359	Jan-13	Jul-14	1,000,000	0	1,000,000	0	157,895	157,895	842,105	0
System Relief & Contingency Planning	10487_7360	Jul-13	Jun-15	500,000	0	500,000	0	0	0	500,000	0
DeLauri Pump Station Improvements	10488_7361	Sep-12	Sep-13	420,400	0	420,400	0	245,233	245,233	175,167	0
Caruso Pump Station Improvements - Construction	10489_7362	Jan-14	Feb-15	2,180,825	0	2,180,825	0	0	0	2,180,825	0
Pump Station Rehab - Preliminary Design/Study	10500_7375	Jul-15	Jul-20	750,000	0	750,000	0	0	0	412,500	337,500
Prison Point Pump & Gearbox Rebuilds	10501_7389	Sep-12	Nov-14	3,370,000	0	3,370,000	0	873,000	873,000	2,497,000	0
Section 156 Rehab - Design/Build	10503_7393	Jul-11	Jul-12	2,584,064	0	2,584,064	2,584,064	0	2,584,064	0	0
Interceptor Renewal No. 2 - Design/CA/REI	10504_7410	Jan-14	Jan-19	2,000,000	0	2,000,000	0	0	0	1,700,000	300,000
Sections 4,5,6 North Met - Design CS/RI	10505_7421	Jul-13	Jul-18	1,000,000	0	1,000,000	0	0	0	950,000	50,000
Sections 4,5,6 North Met - Construction	10506_7422	Jul-15	Jul-17	4,000,000	0	4,000,000	0	0	0	4,000,000	0
Rehab of Sects 186 and 4 - Construction	10507_7423	Feb-13	Feb-15	3,000,000	0	3,000,000	0	250,000	250,000	2,750,000	0
Ward St. Headworks Upgrades - Design ESDC/REI	10510_7429	Sep-15	Mar-22	6,860,130	0	6,860,130	0	0	0	2,691,950	4,168,180
Ward St. Headworks Upgrades - Construction	10511_7430	Sep-17	Mar-21	45,051,600	0	45,051,600	0	0	0	7,333,981	37,717,619
Columbus Park Headworks Upgrades-Des/ESDC/REI	10512_7431	Sep-19	Mar-26	6,860,130	0	6,860,130	0	0	0	0	6,860,130
Columbus Park Headworks Upgrades - Construction	10513_7432	Sep-21	Mar-25	45,051,600	0	45,051,600	0	0	0	0	45,051,600
146 D.I. Cross Harbor Tunnel				5,000,000	0	5,000,000	0	0	0	4,375,000	625,000
Tunnel Shaft Repairs - Plan/Design/Construction	10454_7199	Jul-16	Jun-18	5,000,000	0	5,000,000	0	0	0	4,375,000	625,000
147 Randolph Trunk Sewer Relief				750,000	0	750,000	0	0	0	750,000	0
Study	10461_7220	Jul-15	Jun-17	750,000	0	750,000	0	0	0	750,000	0

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Treatment				626,107,436	152,344,515	473,762,920	21,285,092	34,421,678	156,257,225	270,123,034	147,933,116
200 DI Plant Optimization	completed project			33,455,814	33,455,814	0	0	0	296,298	0	0
206 DI Treatment Plant Asset Protection				580,899,764	117,067,039	463,832,725	20,257,163	31,637,950	151,601,455	264,004,499	147,933,116
DIIP Roof Replacements	18045_6196	Jun-10	Jun-11	2,299,881	2,299,881	0	0	0	2,299,881	0	0
DISC Application	19162_6241	Jun-96	Jun-14	250,000	125,077	124,923	0	0	0	124,923	0
Pump Packing Replacement	19176_6422	Sep-03	Jun-08	732,447	732,447	0	0	0	0	0	0
Deminerlizer Construction	19177_6423	Jul-00	Dec-00	50,527	50,527	0	0	0	0	0	0
Equipment Replacement Projection	19182_6478	Jul-18	Jun-23	25,000,000	0	25,000,000	0	0	0	0	25,000,000
Ancillary Mods - Construction 4	19188_6538	Nov-14	Mar-18	10,565,000	0	10,565,000	0	0	0	10,565,000	0
Equipment Condition Monitoring	19193_6594	May-04	Jan-05	1,776,946	1,776,946	0	0	0	0	0	0
Expansion Joint Repair - Design	19204_6668	Apr-99	Oct-04	149,421	149,421	0	0	0	0	0	0
Expansion Joint Repair - Construction 1	19205_6669	Aug-02	Nov-03	304,726	304,726	0	0	0	0	0	0
Expansion Joint Repair - Construction 2	19217_6704	May-12	Oct-13	2,000,000	0	2,000,000	0	1,384,615	1,384,615	615,385	0
Expansion Joint Repair - Construction 3	19218_6705	May-14	Nov-14	528,850	0	528,850	0	0	0	528,850	0
As-needed Design Phase 6-1	19220_6721	May-09	May-12	1,950,000	1,204,851	745,149	645,149	100,000	1,950,000	0	0
As-needed Design Phase 6-2	19221_6722	May-09	May-12	1,850,000	938,554	911,446	911,446	0	1,850,000	0	0
Eastern Seawall - Design 1	19222_6723	Jan-13	Nov-15	514,150	0	514,150	0	85,692	85,692	428,459	0
Eastern Seawall - Construction 1	19223_6724	May-14	Nov-15	2,203,500	0	2,203,500	0	0	0	2,203,500	0
Digester Gas Flare No.4 - Design	19227_6728	Jun-13	Mar-16	445,680	0	445,680	0	0	0	445,680	0
Digester Gas Flare No.4 - Construction	19228_6729	Oct-14	Mar-16	1,002,780	0	1,002,780	0	0	0	1,002,780	0
Roof Replacement - Phase I	19230_S464	Mar-09	Mar-10	2,749,941	2,749,941	0	0	0	2,749,941	0	0
Drive Chain Replacement	19231_6742	Oct-01	Jul-03	264,000	264,000	0	0	0	0	0	0
Busduct Replacement (2+22)	19236_6763	Jan-01	Oct-01	195,500	195,500	0	0	0	0	0	0
Reline Hypochlorite Tanks 1 & 3	19237_6764	May-07	Nov-07	1,691,095	1,691,095	0	0	0	220	0	0
CTG Modifications	19238_6765	Mar-01	May-02	482,339	482,339	0	0	0	0	0	0
Electrical Equipment Upgrades - Construction 2	19239_6767	Apr-05	Feb-07	1,913,183	1,913,183	0	0	0	0	0	0
Document Format Conversion	19241_6791	May-07	Jun-14	145,275	55,698	89,577	0	0	21,300	89,577	0
Outfall Modification - Inspection	19243_6811	Dec-01	Jul-02	173,500	173,500	0	0	0	0	0	0
Secondary Clarifier Access	19244_6812	Sep-01	Jul-02	274,874	274,874	0	0	0	0	0	0
Transformer Replacement	19245_6813	Jul-08	Jun-15	2,537,993	876,808	1,661,185	826,264	0	1,665,079	834,921	0
Reline Hypochlorite Tanks 2 & 4	19250_6849	Apr-08	Oct-08	2,241,692	2,241,692	0	0	0	1,787,192	0	0
Chemical Pipe Replacement - Design	19252_6851	Dec-12	Apr-15	519,802	0	519,802	0	108,292	108,292	411,510	0
Chemical Pipe Replacement - Construction	19253_6852	Apr-14	Apr-15	2,115,400	0	2,115,400	0	0	0	2,115,400	0
Sodium Hypochlorite Pipe Replacement - Design	19254_6853	Nov-12	Jan-17	2,115,400	0	2,115,400	0	705,133	705,133	1,410,267	0
Sodium Hypochlorite Pipe Replacement - Construction	19255_6854	Nov-13	Nov-16	7,403,900	0	7,403,900	0	0	0	7,403,900	0
Electrical Equipment Upgrades -Construction 3	19256_6855	Feb-08	Aug-11	15,066,089	14,316,443	749,646	749,646	0	14,423,089	0	0

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WTF VFD Replacement - Construction	19258_6875	Jan-13	Jan-15	3,775,850	0	3,775,850	0	314,654	314,654	3,461,196	0
Heat Loop Pipe Replacement - Construction 1	19259_6876	Mar-05	Dec-05	615,000	615,000	0	0	0	0	0	0
Miscellaneous VFD Replacements	19260_6877	May-05	Jun-14	2,625,000	932,451	1,692,549	0	1,000,000	1,029,840	692,549	0
LOCAT Scrubber Replacement - Design	19263_6880	Nov-14	Sep-16	900,000	0	900,000	0	0	0	900,000	0
Grit Air Handler Replacements	19264_6881	Jul-08	Jun-10	1,751,687	1,751,687	0	0	0	1,751,687	0	0
CEMS Equipment Replacement	19265_6882	Nov-05	Mar-06	100,392	101,872	(1,480)	(1,480)	0	(1,480)	0	0
Heat Loop Pipe Replacement - Construction 2	19266_6883	Dec-06	Feb-08	1,488,356	1,488,356	0	0	0	0	0	0
PICS Replacement - Construction	19267_6884	Jul-11	Oct-12	1,302,198	0	1,302,198	791,121	511,077	1,302,198	0	0
Primary & Second Clarifier Rehab - Construction	19268_6899	Feb-09	Feb-12	59,155,155	50,743,233	8,411,922	8,411,922	0	59,155,155	0	0
Electrical Equipment Upgrades - Construction 4	19270_6901	Jun-12	Jul-15	5,000,000	0	5,000,000	0	1,351,351	1,351,351	3,648,649	0
NMPS VFD Replacement - Design/ESDC	19271_6902	Dec-07	Apr-12	1,306,063	1,088,745	217,318	217,318	0	1,087,306	0	0
NMPS VFD Replacement - Construction	19272_6903	Dec-11	May-15	24,079,200	0	24,079,200	2,243,000	5,820,000	8,063,000	16,016,200	0
Fire Alarm System Replacement - Design	19273_6904	Jul-12	Aug-16	2,100,000	0	2,100,000	0	750,000	750,000	1,350,000	0
Gravity Thickener Rehab - Design	19274_6963	Jul-12	Dec-15	977,500	0	977,500	0	375,961	375,961	601,539	0
Primary & Second Clarifier Rehab - Design	19276_6965	Mar-09	Feb-13	1,699,379	1,185,512	513,867	513,867	0	1,699,379	0	0
Gravity Thickener Improvements-Constr	19277_6966	Apr-10	Jun-12	1,083,118	679,118	404,000	404,000	0	1,083,118	0	0
STG System Modifications - Design	19278_6967	Jun-09	Apr-11	405,732	405,732	0	0	0	405,732	0	0
Electrical Equipment Upgrades 3 - REI	19279_6968	Feb-08	Nov-11	1,111,984	1,029,823	82,161	82,161	0	1,042,825	0	0
Fuel Transfer Pipe Replacement - Design	19280_6969	Nov-18	Feb-22	1,150,000	0	1,150,000	0	0	0	0	1,150,000
Fuel Transfer Pipe Replacement - Construction	19281_6970	Feb-20	Feb-22	2,941,920	0	2,941,920	0	0	0	0	2,941,920
NMPS Motor Control Center - Design	19282_6971			0	0	0	0	0	0	0	0
NMPS Motor Control Center - Construction	19283_6972	Jan-12	Feb-13	915,000	0	915,000	303,500	611,500	915,000	0	0
STG System Modifications - Construction	19284_6973	May-10	Apr-11	2,583,557	2,546,172	37,385	37,385	0	2,583,557	0	0
Digester Chiller Replacement	19287_7005	Sep-05	May-06	635,244	635,244	0	0	0	0	0	0
Dystor Tank Membrane Replacement	19288_7006	Sep-04	Oct-05	640,195	640,195	0	0	0	0	0	0
Fire Alarm System Replacement - Construction	19289_7051	Jun-13	Jun-16	16,000,000	0	16,000,000	0	0	0	16,000,000	0
Digester & Storage Tank Rehab - Design/ESDC	19290_7052	Nov-12	Nov-17	3,000,000	0	3,000,000	0	500,000	500,000	2,500,000	0
Thickened Primary Sludge Pump Replacement - Design	19291_7053			0	0	0	0	0	0	0	0
Thickened Primary Sludge Pump Replacement - Const.	19292_7054	Jul-13	Apr-15	2,551,250	27,297	2,523,953	0	0	0	2,523,953	0
Digester Modules 1 & 2 Pipe Replacement	19293_7055	Aug-11	Aug-14	6,959,666	(4)	6,959,670	1,680,509	4,479,156	6,159,661	800,005	0
LOCAT Scrubber Replacement - Construction	19294_7056	Mar-16	Sep-16	4,082,000	0	4,082,000	0	0	0	4,082,000	0
Centrifuge Backdrive Replacement	19295_7057	Jun-12	Jun-14	2,790,347	25,952	2,764,395	0	921,464	925,177	1,842,931	0
Switchgear Replacement - Design	19296_7058	Nov-12	Apr-14	1,213,434	0	1,213,434	0	202,239	202,239	1,011,195	0
Switchgear Replacement - Construction	19297_7059	Dec-12	Sep-16	4,082,000	0	4,082,000	0	340,166	340,166	3,741,834	0
Power Consultant Recommendations - Design	19298_7060	Jan-06	Jul-09	2,097,404	2,097,404	0	0	0	271,600	0	0
Power System Improvements - Construction	19299_7061	Jan-09	Feb-14	8,644,402	3,380,954	5,263,448	2,263,448	1,166,667	6,811,069	1,833,333	0
NMPS VFD Replacement - REI	19300_7062	Jul-12	Jul-15	2,000,000	0	2,000,000	0	555,555	555,555	1,444,445	0

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Heat Loop Pipe Replacement - Construction 3	19301_7063	Jun-09	Jun-11	11,338,800	11,329,102	9,698	9,698	0	11,338,800	0	0
Ancillary Modifications - Final Design 4	19303_7088	Oct-12	Mar-18	2,325,620	0	2,325,620	0	452,205	452,205	1,873,416	0
Sodium Hypo Tank Liner Removal	19304_7089	May-06	Sep-06	196,400	196,400	0	0	0	0	0	0
As-needed Design Phase 5-1	19305_7090	Aug-07	Aug-09	955,174	955,174	0	0	0	267,876	0	0
As-needed Design Phase 5-2	19306_7091	Jul-07	Jul-09	1,055,822	1,055,822	0	0	0	428,663	0	0
Thermal Power Plant Fuel System Modifications - REI	19307_7094	Aug-12	Jun-14	800,000	0	800,000	0	290,909	290,909	509,091	0
HVAC Equipment Replacement - Design/ESDC	19309_7111	Sep-12	Jun-17	3,500,000	0	3,500,000	0	765,624	765,624	2,734,376	0
HVAC Equipment Replacement - Construction	19310_7110	Apr-14	Apr-17	17,100,600	0	17,100,600	0	0	0	17,100,600	0
DI As-needed Technical Design	19311_7121	May-15	Dec-25	21,050,000	0	21,050,000	0	0	0	6,000,000	15,050,000
Digester Sludge Pump Replacement - Construction	19313_7123	Oct-09	Oct-13	4,381,604	1,338,295	3,043,309	168,209	479,184	1,985,688	2,395,916	0
Electrical Equipment Upgrades - Phase 5	19314_7124	Dec-13	Mar-21	23,161,875	0	23,161,875	0	0	0	13,577,650	9,584,225
Future SSPS VFD Replacements - Design	19316_7126	Jul-15	Jun-20	4,800,000	0	4,800,000	0	0	0	3,700,000	1,100,000
Future SSPS VFD Replacements - Construction	19317_7127	Nov-16	Jun-20	19,200,000	0	19,200,000	0	0	0	6,600,000	12,600,000
Future NMPS VFD Replacements - Design	19318_7128	Jun-21	Sep-24	4,420,000	0	4,420,000	0	0	0	0	4,420,000
Future NMPS VFD Replacements - Construction	19319_7129	Sep-22	Sep-24	17,680,000	0	17,680,000	0	0	0	0	17,680,000
Future Misc. VFD Replacements - Design	19320_7130	Dec-13	May-18	1,333,000	0	1,333,000	0	0	0	1,295,973	37,027
Future Misc. VFD Replacements - Construction	19321_7131	May-15	May-18	5,334,000	0	5,334,000	0	0	0	5,037,667	296,333
DI Switchgear Replacement - Design	19322_7132	Jul-15	Apr-20	4,500,000	0	4,500,000	0	0	0	2,937,500	1,562,500
DI Switchgear Replacement - Construction	19323_7133	Apr-17	Apr-20	16,000,000	0	16,000,000	0	0	0	4,888,889	11,111,111
DI PICS Replacement - Construction	19324_7134	Feb-21	Feb-23	5,400,000	0	5,400,000	0	0	0	0	5,400,000
DI Dystor Membrane Replacements	19325_7135	Jul-14	Oct-14	3,000,000	0	3,000,000	0	0	0	1,000,000	2,000,000
DI CTG Rebuilds	19326_7136	Jun-13	Jun-16	6,000,000	0	6,000,000	0	0	0	4,000,000	2,000,000
DI Centrifuge Replacements - Design	19327_7137	Dec-13	Mar-16	4,160,000	0	4,160,000	0	0	0	1,040,000	3,120,000
DI Centrifuge Replacements-Construction	19328_7138	Mar-15	Mar-16	16,640,000	0	16,640,000	0	0	0	4,160,000	12,480,000
Cryogenics Plant - Equipment Replacement - Design	19329_7139	Dec-13	Oct-16	1,600,000	0	1,600,000	0	0	0	1,600,000	0
Cryogenics Plant - Equipment Replacement - Construct.	19330_7140	Apr-15	Oct-16	3,800,000	0	3,800,000	0	0	0	3,800,000	0
Future Sodium Hypochlorite Tank Rehab	19332_7142	Jul-17	Jul-19	10,000,000	0	10,000,000	0	0	0	2,500,000	7,500,000
Barge Berth and Facility Replacement	19334_7168	Apr-13	Aug-14	2,264,750	0	2,264,750	0	188,729	188,729	2,076,021	0
South System Pump Station Lube System Replacement	19335_7169	Jul-18	Jul-20	2,900,000	0	2,900,000	0	0	0	0	2,900,000
East/West Odor Control Air Handler Replacement	19336_7170	Jun-25	Jun-30	2,000,000	0	2,000,000	0	0	0	0	2,000,000
PICS Distributed Process Units Replacement	19338_7172	Feb-21	Feb-23	8,000,000	0	8,000,000	0	0	0	0	8,000,000
NMPS & WTF Butterfly Valve Replacement	19339_7275	Sep-12	Sep-14	2,500,000	0	2,500,000	0	625,000	625,000	1,875,000	0
Digester & Storage Tank Rehab - Construction	19345_7373	Jun-14	Jun-17	21,700,000	0	21,700,000	0	0	0	21,700,000	0
Clarifier W3H Flush System	19346_7374	May-12	Nov-13	2,000,000	0	2,000,000	0	1,111,111	1,111,111	888,889	0
Clarifier Rehab Phase 2 - Design	19347_7394	Sep-12	Jul-16	3,000,000	0	3,000,000	0	583,333	583,333	2,416,667	0
Clarifier Rehab Phase 2 - Construction	19348_7395	Jan-14	Jul-16	27,000,000	0	27,000,000	0	0	0	27,000,000	0
Clarifier Tip Tube Replacement	19349_7396	Jul-12	Jul-14	4,000,000	0	4,000,000	0	1,333,333	1,333,333	2,666,667	0

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Cryogenic Compressor Replacement	19351_7397	Jan-14	Jul-15	1,500,000	0	1,500,000	0	0	0	1,500,000	0
Cryogenic Chillers Replacement	19352_7398	Sep-12	Sep-13	1,100,000	0	1,100,000	0	550,000	550,000	550,000	0
As-Needed Design 7-1	19353_7399	Aug-12	Aug-15	2,600,000	0	2,600,000	0	650,000	650,000	1,950,001	0
As-Needed Design 7-2	19354_7400	Aug-12	Aug-15	2,600,000	0	2,600,000	0	650,000	650,000	1,950,000	0
Thermal Power Plant Boiler Controls Replacement	19355_7401	Jun-12	Jun-13	1,000,000	0	1,000,000	0	833,333	833,333	166,667	0
Sodium Hypochlorite Piping & Tank Replace. - REI	19356_7413	Nov-13	Nov-16	600,000	0	600,000	0	0	0	600,000	0
NMPS Harmonic Filter Replacement	19557_7414	May-13	May-15	6,000,000	0	6,000,000	0	0	0	6,000,000	0
Fuel Pipe Abandonment	19558_7415	May-12	Jan-13	750,000	0	750,000	0	750,000	750,000	0	0
Electrical Equipment Upgrades 4 - REI	19559_7416	Apr-12	Oct-15	700,000	0	700,000	0	175,000	175,000	525,000	0
NMPS Motor Control Center Phase 2 - REI	19560_7419	Jun-13	Jun-15	603,410	0	603,410	0	0	0	603,410	0
NMPS Motor Control Center Phase 2 - Construction	19561_7420	Jun-13	Jun-15	6,085,725	0	6,085,725	0	0	0	6,085,725	0
Roof Replacement Phase 3	19562_7424	Jan-13	Jan-14	1,000,000	0	1,000,000	0	250,000	250,000	750,000	0
Fire System Replacement - REI	19563_7426	Jun-13	Jun-16	1,200,000	0	1,200,000	0	0	0	1,200,000	0
Gravity Thickener Center Columns Replacement	19564_7427	Aug-12	Aug-13	1,000,000	0	1,000,000	0	666,667	666,667	333,333	0
Gravity Thickener Rehab	19565_7428	Dec-13	Dec-15	5,786,060	0	5,786,060	0	0	0	5,786,060	0
210 Clinton Wastewater Treatment Plant				9,537,661	648,872	8,888,789	0	2,770,253	3,074,342	6,118,536	0
Clinton Soda Ash Replacement	19302_7075	Nov-07	Aug-08	267,221	267,221	0	0	0	152,878	0	0
Clinton Permanent Standby Generator	19308_7095	Feb-07	Nov-07	230,440	230,440	0	0	0	0	0	0
Clinton Plant-Wide Concrete Repair	19340_7276	Feb-13	Feb-15	1,500,000	62,615	1,437,385	0	119,782	182,397	1,317,603	0
Clinton Digester Cleaning & Rehab	19341_7277	May-10	Sep-14	1,800,000	88,600	1,711,400	0	570,467	659,067	1,140,933	0
Clinton Aeration Efficiency Improvement	19342_7278	Apr-12	Apr-13	1,840,000	(4)	1,840,004	0	1,840,004	1,840,000	0	0
Phos Remov Des/ESDC	19350_7377	Nov-12	Jan-17	900,000	0	900,000	0	240,000	240,000	660,000	0
PhosRemov Constr	19400_7411	Jan-14	Jan-16	3,000,000	0	3,000,000	0	0	0	3,000,000	0
211 Laboratory Services				2,214,195	1,172,790	1,041,405	1,027,929	13,476	1,285,131	0	0
Metals Lab Fume Hood Replacem - Const	19152_6197	Mar-11	Feb-12	969,214	16,000	953,214	953,214	0	969,214	0	0
Metals Lab Fume Hood Replacem - Desig	19249_6848	Jan-09	Feb-12	276,144	187,953	88,191	74,715	13,476	276,144	0	0
Metals Lab Modification - Construction	19251_6850	May-07	Sep-08	968,837	968,837	0	0	0	39,773	0	0

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Residuals				211,740,619	64,156,045	147,584,574	0	595,478	940,675	54,337,096	92,652,000
261 Residuals	completed project			63,810,848	63,810,848	0	0	0	0	0	0
271 Residuals Asset Protection				147,929,771	345,197	147,584,574	0	595,478	940,675	54,337,096	92,652,000
Residual Facility Plan / EIR	26069_7143	Dec-13	Sep-14	870,000	0	870,000	0	0	0	870,000	0
Residuals Facility Upgrade - Design	26070_7145	Jan-15	Jan-17	4,000,000	0	4,000,000	0	0	0	4,000,000	0
Residuals Facility Upgrade-Construct.	26071_7146	Jul-16	Jul-21	10,000,000	0	10,000,000	0	0	0	3,500,000	6,500,000
Condition Assess/Tech & Reg Review	26072_7147	May-09	Jul-13	1,059,771	345,197	714,574	0	595,478	940,675	119,096	0
Six Rotary Dryer Replacements-Design	26073_7148			0	0	0	0	0	0	0	0
Six Rotary Dryer Replacements-Const.	26074_7149	Jul-15	Jul-18	57,000,000	0	57,000,000	0	0	0	18,890,000	38,110,000
Six Air Scrubber Replacements-Design	26075_7150			0	0	0	0	0	0	0	0
Six Air Scrubber Replacements-Const.	26076_7151	Jul-16	Jul-18	8,000,000	0	8,000,000	0	0	0	2,750,000	5,250,000
Plant MCC Replacements - Design	26077_7152			0	0	0	0	0	0	0	0
Plant MCC Replacements - Construction	26078_7153	Jul-17	Jul-19	4,500,000	0	4,500,000	0	0	0	625,000	3,875,000
Rail System Rehabilitation - Design	26081_7175			0	0	0	0	0	0	0	0
Rail System Rehabilitation - Construct.	26082_7176	Jul-17	Jul-19	3,000,000	0	3,000,000	0	0	0	417,000	2,583,000
Replace 9 Pellet Storage Silos-Design	26083_7177			0	0	0	0	0	0	0	0
Replace 9 Pellet Storage Silos-Const.	26084_7178	Jul-16	Jul-18	6,000,000	0	6,000,000	0	0	0	1,833,000	4,167,000
Sludge Conveyor Replacement - Design	26085_7179			0	0	0	0	0	0	0	0
Sludge Conveyor Replacement - Const.	26086_7180	Jul-15	Jul-16	3,000,000	0	3,000,000	0	0	0	1,000,000	2,000,000
Sludge Storage Tank Rehab - Design	26087_7181			0	0	0	0	0	0	0	0
Sludge Storage Tank Rehab - Const.	26088_7182	Jul-16	Jul-17	3,000,000	0	3,000,000	0	0	0	1,000,000	2,000,000
Upgrade Pumping System - Design	26089_7183			0	0	0	0	0	0	0	0
Upgrade Pumping System - Construction	26090_7184	Jul-15	Jul-17	6,000,000	0	6,000,000	0	0	0	2,000,000	4,000,000
Replace 12 Centrifuges - Design	26091_7185			0	0	0	0	0	0	0	0
Replace 12 Centrifuges - Construction	26092_7186	Jul-16	Jul-18	34,000,000	0	34,000,000	0	0	0	16,500,000	17,500,000
Utility Upgrades - Design	26093_7187			0	0	0	0	0	0	0	0
Utility Upgrades - Construction	26094_7188	Jul-17	Jul-19	6,000,000	0	6,000,000	0	0	0	833,000	5,167,000
Odor Control System Upgrade - Design	26095_7189			0	0	0	0	0	0	0	0
Odor Control System Upgrade - Const.	26096_7190	Jul-18	Jul-19	1,500,000	0	1,500,000	0	0	0	0	1,500,000

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CSO				862,140,475	754,703,558	107,436,917	48,196,777	28,057,753	308,739,954	31,172,967	9,417
CSO MWRA Managed				438,329,440	425,936,976	12,392,464	3,837,888	1,771,097	162,095,792	6,783,477	0
339 North Dorchester Bay				226,562,204	218,375,077	8,187,127	3,501,597	1,162,296	83,996,876	3,523,233	0
North Dorchester Outfall-Design/CA/RI	10426_7032	Mar-11	Apr-13	1,010,264	39,556	970,708	489,035	200,000	728,591	281,673	0
Tunnel - Design/ESDC	32660_6220	Aug-97	Aug-12	23,200,009	23,015,346	184,663	153,663	31,000	1,575,044	0	0
Tunnel - Construction (Ch30)	32661_6244	Aug-06	Nov-09	147,531,347	147,395,547	135,800	135,800	0	38,673,105	0	0
Dewatering Pump Station & Sewers-Con	32662_6245	Apr-09	Apr-11	27,144,169	25,448,475	1,695,694	1,695,694	0	27,144,169	0	0
Tunnel & Facilities - CM Services	32726_6993	Oct-05	Jul-12	9,379,114	8,317,896	1,061,218	668,552	392,666	6,215,998	0	0
Pleasure Bay - Construction	32732_7012	Sep-05	May-06	3,194,885	3,194,885	0	0	0	0	0	0
Design/ESDC/Facilities	32733_7013	Nov-06	Jul-12	4,887,695	4,600,811	286,884	248,254	38,630	2,889,396	0	0
Tunnel Rescue/Emergency Response	32744_7103	Mar-07	Dec-09	793,354	793,354	0	0	0	590,767	0	0
Ventilation Building - Construction	32745_7259	Dec-09	May-11	5,462,324	5,353,252	109,072	109,072	0	5,462,324	0	0
Communication Systems	32746_7345	Jul-10	May-11	217,483	215,955	1,528	1,527	0	217,482	0	0
No. Dorchester Outfall Dredging-Const	32747_4094	Sep-12	Feb-13	3,741,560	0	3,741,560	0	500,000	500,000	3,241,560	0
347 East Boston Branch Sewer Relief				85,705,860	85,598,769	107,091	64,291	42,801	75,000,482	0	0
Design	32673_6256	Mar-00	Sep-06	3,463,306	3,463,306	0	0	0	582	0	0
East Boston Branch Relief Sewer	32674_6257	Jul-08	Jul-10	62,095,343	62,095,343	0	0	0	62,095,343	0	0
East Boston Branch Sewer Rehab	32719_6840	Apr-03	May-04	5,222,005	5,222,005	0	0	0	0	0	0
Sections 38 & 207 Replacement	32720_6841	Apr-09	Jul-10	8,875,990	8,875,990	0	0	0	8,875,990	0	0
Design 2 CS	32742_7087	Jun-06	Jul-11	2,859,834	2,810,498	49,337	36,769	12,568	839,185	0	0
Resident Inspection Services	32743_7097	Jul-08	Mar-11	3,189,382	3,131,627	57,755	27,522	30,233	3,189,382	0	0
348 BOS019 Storage Conduit	completed project			14,287,581	14,287,581	0	0	0	(44,067)	0	0
349 Chelsea Trunk Sewer	completed project			29,779,319	29,779,320	(1)	0	0	0	0	0
350 Union Park Detention Treatment Facility	completed project			49,583,407	49,583,407	0	0	0	(227,192)	0	0
353 Upgrade Existing CSO Facilities	completed project			22,385,200	22,385,200	0	0	0	0	0	0
354 Hydraulic Relief Projects	completed project			2,294,549	2,294,549	0	0	0	0	0	0
355 MWR003 Gate & Siphon				4,098,244	0	4,098,244	272,000	566,000	838,000	3,260,244	0
Design	32722_6952	Mar-12	Sep-16	1,456,244	0	1,456,244	272,000	566,000	838,000	618,244	0
Construction 1	32723_6953	Sep-13	Jun-14	600,000	0	600,000	0	0	0	600,000	0
Construction 2	32755_7409	Aug-14	Oct-15	2,042,000	0	2,042,000	0	0	0	2,042,000	0

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357 Charles River CSO Controls	completed project			3,633,077	3,633,077	0	0	0	2,531,693	0	0
CSO Community Managed				373,494,610	279,759,472	93,735,138	43,746,803	26,268,656	142,095,385	23,719,678	0
340 Dorchester Bay Sewer Separation (Fox Pt)				54,187,068	53,762,619	424,449	389,676	0	389,676	34,773	0
Design	32651_6155	Jun-96	Aug-09	11,432,929	11,153,942	278,987	244,214	0	244,214	34,773	0
Construction	32664_6247	Apr-99	Nov-06	42,754,139	42,608,677	145,462	145,462	0	145,462	0	0
341 Dorchester Bay Sewer Separation (Comm Pt)				64,725,351	59,870,559	4,854,792	580,910	911,000	6,471,880	3,362,881	0
Design	32650_6154	Jun-96	Jun-14	17,737,961	15,655,785	2,082,175	580,910	911,000	3,464,205	590,265	0
Construction	32665_6248	Apr-99	Jun-14	46,987,390	44,214,774	2,772,616	0	0	3,007,675	2,772,616	0
342 Neponset River Sewer Separation	completed project			2,444,395	2,444,395	0	0	0	0	0	0
343 Constitution Beach Sewer Separation	completed project			3,768,888	3,768,888	0	0	0	0	0	0
344 Stony Brook Sewer Separation				44,332,539	44,198,384	134,155	0	0	(855,440)	134,155	0
Design/CS/RI	32667_6395	Jul-98	Sep-08	10,137,127	10,137,127	0	0	0	343,167	0	0
Construction	32668_6251	Jul-00	Sep-06	34,195,412	34,061,257	134,155	0	0	(1,198,607)	134,155	0
346 Cambridge Sewer Separation				56,790,965	28,188,682	28,602,283	7,299,970	12,171,000	29,208,521	9,131,313	0
Design/CS/RI	32654_6161	Jan-97	Jun-16	22,327,050	12,363,846	9,963,204	3,044,173	3,695,000	10,419,849	3,224,031	0
Construction	32672_6255	Jul-98	Dec-15	34,463,915	15,824,836	18,639,079	4,255,797	8,476,000	18,788,672	5,907,282	0
351 BWSC Floatables Controls	completed project			932,979	932,979	0	0	0	0	0	0
352 Cambridge Floatables Control	completed project			1,086,925	1,086,925	0	0	0	164,727	0	0
356 Fort Point Channel Sewer Separation				12,007,175	11,932,708	74,467	74,468	0	3,716,018	0	0
Design	32724_6991	May-04	Jun-11	1,868,401	2,341,391	(472,989)	(472,989)	0	507,468	0	0
Construction	32725_6992	Mar-05	Dec-10	10,138,774	9,591,317	547,457	547,457	0	3,208,550	0	0
358 Morrissey Boulevard Drain				32,904,744	35,585,080	(2,680,336)	(3,238,292)	338,000	18,008,616	219,957	0
Construction	32713_6696	Dec-06	Jun-09	28,320,645	31,595,438	(3,274,792)	(3,274,792)	0	16,626,959	0	0
Design	32735_7015	Jun-05	Jun-13	4,584,099	3,989,642	594,457	36,500	338,000	1,381,657	219,957	0
359 Reserved Channel Sewer Separation				64,329,635	20,093,888	44,235,747	21,435,148	11,964,000	50,776,042	10,836,599	0
Construction	32727_6994	May-09	Dec-15	50,130,543	12,218,031	37,912,512	18,488,495	9,495,000	40,201,526	9,929,017	0
Design	32734_7014	Jul-06	Jun-16	14,199,092	7,875,857	6,323,235	2,946,653	2,469,000	10,574,516	907,582	0

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360 Brookline Sewer Separation				25,998,074	8,036,910	17,961,164	17,204,923	756,241	24,726,474	0	0
Design/CS/RI	32736_7076	Nov-06	Jun-13	5,342,004	3,328,763	2,013,241	2,013,241	0	4,070,404	0	0
Construction	32737_7077	Nov-08	Nov-12	20,656,070	4,708,147	15,947,923	15,191,682	756,241	20,656,070	0	0
361 Bulfinch Triangle Sewer Separation				9,985,871	9,857,456	128,415	0	128,415	9,488,871	0	0
Design/CS/RI	32738_7078	Aug-06	Jun-11	1,365,361	1,236,946	128,415	0	128,415	868,361	0	0
Construction	32739_7079	Sep-08	Jul-10	8,620,510	8,620,510	0	0	0	8,620,510	0	0
Planning & Support				50,316,424	49,007,110	1,309,314	612,086	18,000	4,548,777	669,812	9,417
324 CSO Support				50,316,424	49,007,110	1,309,314	612,086	18,000	4,548,777	669,812	9,417
Technical Assistance	32400_5790	Feb-94	Dec-95	228,320	228,320	0	0	0	0	0	0
Planning/EIR	32401_5791	Mar-88	Sep-90	10,768,610	10,768,610	0	0	0	0	0	0
Master Planning	32403_5716	Mar-92	Sep-04	21,762,805	21,762,805	0	0	0	(114,342)	0	0
Technical Assistance - Geotech	32407_5970	Jun-90	Jun-92	61,110	61,110	0	0	0	0	0	0
Modeling	32409_5795	May-92	Mar-95	299,840	299,840	0	0	0	0	0	0
SOP Program	32411_5767	Jan-94	May-01	1,956,550	1,956,550	0	0	0	0	0	0
Watershed Planning	32645_6036	Dec-94	Apr-01	877,134	877,134	0	0	0	0	0	0
Technical Review	32648_6150	Jul-96	Dec-20	793,593	528,932	264,661	0	0	0	264,661	0
Land Acquisition/Easement	32658_6169	Jul-96	Jun-14	13,244,962	12,496,960	748,002	554,586	18,000	4,605,619	166,000	9,417
System Assessment	32691_6372	May-97	Dec-20	323,500	26,849	296,651	57,500	0	57,500	239,151	0
Other Wastewater				122,865,861	102,223,881	20,641,980	1,491,095	1,843,903	13,877,717	21,564,335	(4,257,353)
128 I/T Local Financial Assistance				122,584,985	101,943,005	20,641,980	1,491,095	1,843,903	13,877,717	21,564,335	(4,257,353)
Phase II - Grants	10273_6084	May-93	May-06	15,928,524	15,928,524	0	0	0	0	0	0
Phase II - Loans	10274_6085	May-93	May-06	47,664,000	47,664,000	0	0	0	0	0	0
Phase II - Repayments	10282_6170	May-94	May-11	(47,664,000)	(47,663,995)	(5)	(5)	0	(1,121,836)	0	0
Public Participation	10348_6609	Feb-99	Jun-02	6,461	6,461	0	0	0	0	0	0
Phase IV - Grants	10368_6736	Nov-99	May-10	34,650,000	34,650,000	0	0	0	1,294,358	0	0
Phase IV - Loans	10369_6737	Nov-99	May-10	42,350,000	42,350,000	0	0	0	1,581,995	0	0
Phase IV - Repayments	10370_6738	Nov-00	May-15	(42,350,000)	(39,497,282)	(2,852,718)	(1,813,465)	(451,291)	(13,715,912)	(587,962)	0
Phase V - Grants	10407_6925	Aug-04	May-12	18,000,000	16,561,210	1,438,790	1,438,790	0	6,216,126	0	0
Phase V - Loans	10408_6926	Aug-04	May-12	22,000,000	20,241,473	1,758,527	1,758,527	0	7,597,488	0	0
Phase V - Repayments	10409_6927	Aug-05	May-17	(22,000,000)	(13,446,233)	(8,553,767)	(3,051,386)	(2,530,416)	(15,704,829)	(2,971,965)	0
Phase VI - Grants	10441_7107	Nov-06	Jun-15	18,000,000	9,943,785	8,056,215	807,008	2,025,000	10,177,333	5,224,207	0
Phase VI - Loans	10442_7108	Nov-06	Jun-15	22,000,000	12,153,514	9,846,486	986,343	2,475,000	12,438,962	6,385,143	0
Phase VI - Repayments	10443_7109	Nov-07	Jun-20	(22,000,000)	(3,952,169)	(18,047,831)	(2,475,583)	(2,337,561)	(8,393,722)	(11,395,464)	(1,839,223)

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Phase VII - Grants	10471_7293	Aug-09	Jun-18	18,000,000	3,369,780	14,630,220	2,099,065	1,800,000	7,268,845	10,731,155	0
Phase VII - Loans	10472_7294	Aug-09	Jun-18	22,000,000	4,118,620	17,881,380	2,565,524	2,200,000	8,884,144	13,115,856	0
Phase VII - Repayments	10473_7295	Aug-10	Jun-23	(22,000,000)	(484,682)	(21,515,318)	(823,724)	(1,336,829)	(2,645,235)	(9,406,635)	(9,948,130)
Phase VIII - Grants	10474_7296	Aug-13	Jun-21	18,000,000	0	18,000,000	0	0	0	5,850,000	12,150,000
Phase VIII - Loans	10475_7297	Aug-13	Jun-21	22,000,000	0	22,000,000	0	0	0	7,150,000	14,850,000
Phase VIII - Repayments	10476_7298	Aug-14	Jun-26	(22,000,000)	0	(22,000,000)	0	0	0	(2,530,000)	(19,470,000)
138 Sewerage System Mapping Upgrade	completed project			280,876	280,876	0	0	0	0	0	0

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Waterworks				2,769,092,979	1,744,247,461	1,024,845,518	63,749,599	73,488,879	279,095,030	437,690,572	449,916,457
Drinking Water Quality Improvements				654,096,689	541,290,613	112,806,076	20,266,268	46,429,159	99,436,089	46,110,649	0
542 Carroll Water Treatment Plant				430,036,489	378,178,131	51,858,358	13,959,471	21,868,411	41,293,743	16,030,476	0
Study 1	53293_5023	Jan-88	Feb-89	444,190	444,190	0	0	0	0	0	0
Study 2	53294_5024	Jul-90	Mar-94	2,368,323	2,368,323	0	0	0	0	0	0
EIR / Conceptual Design	53296_5042	Nov-93	Jul-95	5,807,703	5,807,703	0	0	0	0	0	0
Technical Assistance	53300_5997	Jan-88	Jun-00	72,108	72,108	0	0	0	0	0	0
Wachusett WTP - Design/CS/RI	53301_5017	Oct-96	Sep-06	46,605,542	46,605,542	0	0	0	0	0	0
Permit Fees	53304_5157	Jul-93	Mar-14	80,000	76,924	3,076	3,076	0	31,680	0	0
Cryptosporidium Inactivation Study	53367_6118	Feb-97	May-00	150,000	150,000	0	0	0	0	0	0
Management Support - Design	53371_6134	Apr-97	Apr-00	1,729,937	1,729,937	0	0	0	0	0	0
AWWARF Study	53375_6182	Dec-96	Sep-03	650,342	650,342	0	0	0	0	0	0
Emerg Discharge Reserv Water Mgmt Study	53376_6206	Nov-98	Sep-02	1,453,825	1,453,825	0	0	0	0	0	0
Wachusett and Cosgrove Intakes - CP1	53377_6207	Jun-00	Jun-03	15,489,314	15,489,314	0	0	0	98,218	0	0
Construction Management / RI	53378_6208	Aug-98	Sep-06	31,437,824	31,437,824	0	0	0	0	0	0
Cosgrove Disinfection - Phase II	53390_6365	Apr-98	May-99	2,169,292	2,169,292	0	0	0	0	0	0
Cosgrove Disinfection - Phase I	53391_6397	Jul-97	Oct-97	150,380	150,380	0	0	0	0	0	0
Distribution Water Consultant	53392_6401	Jul-97	Jun-98	3,200	3,200	0	0	0	0	0	0
Immediate Disinfection - MECO	53393_6406	Jul-97	Jul-97	10,300	10,300	0	0	0	0	0	0
Cosgrove Disinfection Fac. - Underwater	53406_6479	Jan-98	Jun-98	217,400	217,400	0	0	0	0	0	0
Community Chlorine Analyzers	53410_6485	Apr-98	Jun-98	48,863	48,863	0	0	0	0	0	0
Wachusett Aqueduct Interim Rehab. - CP2	53412_5522	Dec-00	Oct-02	23,400,005	23,400,005	0	0	0	0	0	0
Sitework & Storage Tanks - CP3	53413_6488	Mar-99	Nov-02	67,367,673	67,367,673	0	0	0	0	0	0
Treatment Facilities - CP4	53414_6489	Dec-00	Jul-05	145,871,496	145,871,496	0	0	0	0	0	0
Late Sitework - CP6	53416_6491	Jul-04	Jan-06	4,087,831	4,087,831	0	0	0	0	0	0
OCIP	53418_6494	Mar-99	Dec-07	5,107,089	5,107,089	0	0	0	0	0	0
Professional Services	53419_6495	Sep-98	Oct-05	2,752,328	2,752,328	0	0	0	0	0	0
Marlboro MOA	53420_6497	Sep-98	Jun-05	5,859,141	5,859,141	0	0	0	0	0	0
CWTP- MECO	53421_6520	Sep-98	Mar-05	128,328	128,328	0	0	0	0	0	0
Site Security Services	53425_6613	May-99	Mar-05	1,263,635	1,263,635	0	0	0	0	0	0
Existing Facilities Modifications - CP7	53426_6650	Sep-12	Feb-14	5,602,875	0	5,602,875	0	2,064,000	2,064,000	3,538,875	0
CSX Crossing	53427_6670	Aug-01	Dec-01	64,700	64,700	0	0	0	0	0	0
Wachusett Algae - Design CS/RI	53428_6671	Jul-14	Dec-17	450,000	0	450,000	0	0	0	450,000	0
Public Health Research	53432_6691	Jul-00	Jun-07	1,702,560	1,702,560	0	0	0	0	0	0
Security Equipment	53435_6756	Jun-00	Jun-00	570,721	570,721	0	0	0	0	0	0
Cosgrove Screens, CP8 - Construction	53437_6773	Aug-03	Aug-04	3,238,306	3,238,306	0	0	0	0	0	0

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AWWARF - Evaluation Ozone & UV	53443_6815	Jul-01	Jan-04	301,750	301,750	0	0	0	0	0	0
Fitout / Construction	53445_6827	Oct-03	Jun-14	1,500,000	547,679	952,321	(1,750)	423,000	226,320	531,071	0
Wachusett Algae - Construction	53448_6889	Feb-15	Dec-16	1,800,000	0	1,800,000	0	0	0	1,800,000	0
CWTP Ultraviolet Disinfection-Des/ESDC/R	53450_6923	Jul-08	Apr-15	4,393,797	1,161,837	3,231,960	726,110	900,000	2,787,947	1,605,850	0
CWTP Ultraviolet Disinfection-Constr.	53451_6924	May-11	Mar-14	30,745,144	780,000	29,965,144	11,169,706	15,977,406	27,927,112	2,818,032	0
As-needed Technical Assistance #1	53452_6939	Jan-06	Jun-08	491,274	491,274	0	0	0	330	0	0
Existing Fac Modif., CP7 - Design	53453_6951	Jul-05	Feb-15	1,772,611	636,165	1,136,446	372,805	400,000	1,295,192	363,641	0
As-needed Technical Assistance	53455_6989	Jan-06	Jun-08	702,024	702,024	0	0	0	21,023	0	0
Ancillary Modifications - Construct. 1	53456_7084	Jul-06	Jun-08	160,475	160,475	0	0	0	0	0	0
Ancillary Modifications - Construct. 2	53457_7085	Jan-09	Jun-15	6,735,670	2,202,555	4,533,115	1,396,108	1,200,000	4,798,663	1,937,007	0
Ancillary Modifications - Design 3	53458_7192	Mar-08	Sep-10	299,101	299,101	0	0	0	296,601	0	0
Ancillary Modifications - Design 4	53459_7208	Mar-08	Sep-10	527,412	527,412	0	0	0	480,657	0	0
Technical Assistance 5	53464_7315	Sep-10	Mar-13	563,000	47,093	515,907	159,178	356,729	563,000	0	0
Technical Assistance 6	53465_7316	Sep-10	Mar-13	563,000	21,486	541,514	134,238	407,276	563,000	0	0
CWTP Storage Tank Roof Drainage Sys.	53470_7376	Jan-15	Jan-16	2,000,000	0	2,000,000	0	0	0	2,000,000	0
Technical Assistance 7	75530_7406	Jan-13	Jan-15	563,000	0	563,000	0	70,000	70,000	493,000	0
Technical Assistance 8	75531_7407	Jan-13	Jan-15	563,000	0	563,000	0	70,000	70,000	493,000	0
543 Quabbin Water Treatment Plant				17,666,962	10,767,179	6,899,783	191,663	2,538,450	3,353,770	4,169,670	0
Quabbin WTP - Design/CA/RI	53363_6043	May-95	Aug-01	3,793,701	3,793,701	0	0	0	(29,021)	0	0
Permit Fees	53380_6210	Jan-98	Dec-13	12,300	9,745	2,555	2,105	450	5,190	0	0
Utilities	53381_6211	Aug-98	Jan-12	13,400	13,400	0	0	0	0	0	0
Construction	53382_6212	Nov-98	Sep-00	5,070,892	5,070,892	0	0	0	0	0	0
Ware Fire Department - MOA	53433_6706	Oct-99	Jul-00	25,000	25,000	0	0	0	0	0	0
Water Quality Analysis Equipment	53434_6711	Jan-01	Jun-06	48,620	48,620	0	0	0	0	0	0
Quabbin UVWTP - Design/CA/RI	53439_6775	Dec-08	Oct-14	1,790,740	663,549	1,127,191	189,558	413,000	1,266,107	524,633	0
Quabbin UVWTP - Construction	53440_6776	Sep-12	Mar-14	5,770,037	0	5,770,037	0	2,125,000	2,125,000	3,645,037	0
Quabbin UVWTP -Study/Pilot	53442_6804	May-02	Dec-05	1,142,272	1,142,272	0	0	0	(13,506)	0	0
544 Norumbega Covered Storage	completed project			106,674,147	106,674,146	1	0	0	101,670	0	0
545 Blue Hills Covered Storage				40,687,106	39,969,625	717,481	15,191	266,169	21,362,131	436,121	0
Technical Support & Permit Compliance	53385_6215	Apr-02	Dec-15	104,000	25,758	78,242	191	0	2,687	78,051	0
Design / Build	53386_6216	Jan-07	Apr-10	37,667,883	37,544,510	123,373	0	123,373	20,971,530	0	0
Roadway Resurfacing - Design	53460_7213	Jul-13	Jan-15	58,700	0	58,700	0	0	0	58,700	0
Roadway Resurfacing - Construction	53461_7214	Apr-14	Jan-15	299,370	0	299,370	0	0	0	299,370	0
EIR/Preliminary Design/OR	68025_6139	May-97	Jun-10	2,557,153	2,399,357	157,796	15,000	142,796	387,914	0	0

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550 Spot Pond Storage Facility				59,031,987	5,701,533	53,330,454	6,099,943	21,756,129	33,324,775	25,474,382	0
Environmental Review	53400_6455	Apr-02	Feb-03	232,830	232,830	0	0	0	0	0	0
Design / Build	53402_6457	Nov-11	Nov-14	49,561,000	0	49,561,000	4,960,939	20,888,129	25,849,068	23,711,932	0
Easement/Land Acquis/Permits	53447_6868	Oct-08	Dec-14	6,000,000	5,099,700	900,300	75,075	275,000	5,449,775	550,225	0
Owners' Representative	53462_7233	Mar-10	Jul-15	2,892,096	369,003	2,523,093	717,868	593,000	1,679,871	1,212,225	0
Early Construction Water Connection	53463_7314	Jul-11	Feb-12	346,061	0	346,061	346,061	0	346,061	0	0
Transmission				1,157,005,132	719,536,942	437,468,190	20,401,477	17,633,829	84,687,788	151,538,497	247,894,382
597 Winsor Station Pipeline				26,426,562	1,346,511	25,080,051	192,646	573,000	2,073,875	24,314,405	0
Preliminary Permit, Study & Licensing	60032_6276	Nov-97	Jun-99	38,282	38,282	0	0	0	0	0	0
Quabbin Aqueduct TV Inspection	60033_6277	Oct-13	Apr-16	2,682,282	0	2,682,282	0	0	0	2,682,282	0
Hatchery Pipeline - Design/ESDC/RI	60077_7017	Jul-12	Jul-16	749,577	0	749,577	144	140,000	140,144	609,433	0
Quabbin Aqueduct & WPS Upg. Design/CA/RI	60087_7114	Feb-10	Apr-17	2,520,000	523,534	1,996,466	192,502	433,000	1,149,036	1,370,964	0
Winsor Station Rehab & Improvement	60088_7115	Oct-13	Apr-16	8,931,605	0	8,931,605	0	0	0	8,931,605	0
Shaft 12 Construction	60095_7197	Oct-13	Apr-16	8,398,016	0	8,398,016	0	0	0	8,398,016	0
Shaft 2 Construction	60096_7198	Oct-13	Apr-16	316,151	0	316,151	0	0	0	316,151	0
Winsor Station Chapman Valve Repai	60101_7212	Feb-09	Nov-09	416,425	416,425	0	0	0	416,425	0	0
Purchase of Sleeve Valves	60105_7234	Jul-08	May-09	368,270	368,270	0	0	0	368,270	0	0
Hatchery Pipeline - Construction	60106_7235	Dec-13	Jul-15	2,005,954	0	2,005,954	0	0	0	2,005,954	0
601 Sluice Gate Rehabilitation	completed project			9,158,418	9,158,411	7	0	0	0	0	0
604 MetroWest Tunnel				709,476,986	669,794,980	39,682,006	13,187,436	9,881,601	59,063,191	15,512,968	1,100,000
Study	59794_5043	Jun-84	Oct-89	414,770	414,770	0	0	0	0	0	0
Design/EIR - Tunnel/ESDC	59795_5044	Apr-92	Mar-07	37,938,693	37,938,693	0	0	0	51,985	0	0
Sudbury Pipe Bridge - Construction	59796_5048	Nov-91	Jun-92	295,910	295,910	0	0	0	0	0	0
West Tunnel Segment - CP1	59798_6054	Apr-97	Apr-03	147,787,135	147,787,135	0	0	0	0	0	0
Construction Management/Resident Inspec	59799_5284	May-95	Apr-04	39,427,799	39,427,799	0	0	0	0	0	0
Technical Assistance	59804_5976	Jun-84	Jun-98	131,400	131,400	0	0	0	0	0	0
Land Acquisition	59805_5139	Oct-95	Jul-13	6,258,741	6,258,741	0	0	0	0	0	0
Hultman Study	59806_5141	Apr-95	Mar-05	1,863,998	1,863,998	0	0	0	0	0	0
DEP Permit Fees	60012_6037	Oct-94	Sep-14	58,000	55,842	2,158	1,158	1,000	7,438	0	0
Middle Tunnel Segment - CP2	60013_6055	Jun-96	Apr-03	245,809,358	245,809,358	0	0	0	0	0	0
MHD Salt Sheds - CP5	60014_6056	Sep-96	Jun-97	1,313,900	1,313,900	0	0	0	0	0	0
Shaft 5A - CP3	60015_6059	Aug-97	Aug-98	5,871,954	5,871,954	0	0	0	0	0	0
Local Supply Contingency - Design/CA/RI	60017_6063	May-96	Oct-99	858,703	858,703	0	0	0	0	0	0
Community Technical Assistance	60018_6067	Jun-95	Apr-99	297,408	297,408	0	0	0	0	0	0

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Professional Services	60020_6117	Nov-95	Dec-03	730,860	730,860	0	0	0	0	0	0
OCIP	60021_6122	Jun-96	May-06	26,021,794	26,021,794	0	0	0	(1,034)	0	0
Hultman Leak Repair	60022_6128	Aug-96	May-97	307,281	307,280	1	0	0	0	0	0
Framingham MOU	60023_6129	May-96	Dec-03	2,444,171	2,444,171	0	0	0	0	0	0
Local Supply Contingency - Construction	60024_6130	Jun-97	Dec-03	4,298,444	4,298,444	0	0	0	10,023	0	0
Local Supply Contingency - Legal/Easemen	60025_6131	Apr-97	Jun-02	9,110	9,110	0	0	0	0	0	0
Hultman Repair Bands	60026_6140	Aug-96	Dec-96	28,400	28,400	0	0	0	0	0	0
Loring Road Storage Tanks - CP-8	60029_6203	Sep-97	Nov-00	41,367,921	41,367,921	0	0	0	0	0	0
Testing & Disinfection - CP7	60030_6204	Jan-03	Oct-03	3,612,435	3,612,435	0	0	0	0	0	0
Upper Hultman Rehab - CP6B	60031_6205	Apr-12	Jan-15	5,763,850	0	5,763,850	164,000	1,976,000	2,140,000	3,623,850	0
Southboro MOA	60038_6366	May-97	Jun-03	254,883	254,883	0	0	0	0	0	0
Weston MOA	60039_6367	Apr-96	Oct-04	1,005,524	1,005,524	0	0	0	0	0	0
East Tunnel Segment - CP3A	60040_6374	Nov-98	Sep-02	55,975,616	55,975,616	0	0	0	0	0	0
Hultman Investigation and Repair	60042_6430	Jun-99	Nov-00	1,604,381	1,604,381	0	0	0	0	0	0
Hultman Repair Bands 98-99	60043_6492	Apr-99	Jun-99	116,457	116,457	0	0	0	0	0	0
Wayland MOA	60053_6762	Jun-00	Dec-02	35,040	35,040	0	0	0	0	0	0
Equipment Prepurchase	60054_6777	Jun-05	Mar-06	198,000	198,000	0	0	0	0	0	0
Hultman Rehab - CP9	60058_6856	Nov-05	Dec-06	3,256,702	3,256,702	0	0	0	0	0	0
Interim Disinfection	60059_6872	Jan-03	Oct-05	1,244,540	1,244,540	0	0	0	0	0	0
Hultman Interconnect - Final Design/CA/I	60066_6911	Sep-05	Sep-14	6,383,947	4,408,900	1,975,047	565,034	500,000	2,444,373	910,013	0
Valve Chamber Modifications - Design CA/	60072_6950	Jul-14	Dec-18	1,111,698	0	1,111,698	0	0	0	1,111,698	0
Lower Hultman Rehab -CP6A	60073_6975	Sep-09	May-13	52,699,240	33,577,867	19,121,373	12,053,782	6,710,801	52,342,450	356,790	0
Hultman Interconnect - RI Services	60083_7082	Jan-10	Sep-14	2,499,909	887,905	1,612,004	379,675	613,800	1,881,380	618,529	0
CP6 Easements	60085_7105	Jan-08	Apr-14	175,000	25,917	149,083	23,787	80,000	129,354	45,296	0
CP6A Demolition	60086_7106	Sep-08	Jan-09	57,222	57,222	0	0	0	57,222	0	0
Valve Chamber & Storage Tank Access Impr	60109_7283	Jul-14	Jul-18	3,000,000	0	3,000,000	0	0	0	2,900,000	100,000
Shaft 5 Electrical Upgrade	60128_7367	Jan-19	Jan-20	1,000,000	0	1,000,000	0	0	0	0	1,000,000
Shaft 5A/5 Surface Piping Inspect./Resto	60129_7368	Jan-14	Jan-15	1,500,000	0	1,500,000	0	0	0	1,500,000	0
Valve Chamber Modifications - Constructi	75525_7755	Jan-16	Dec-17	4,446,792	0	4,446,792	0	0	0	4,446,792	0
615 Chicopee Valley Aqueduct Redundancy	completed project			8,666,747	8,666,746	1	0	0	95,143	0	0
616 Quabbin Transmission System				13,525,576	4,743,754	8,781,822	1,512,348	1,070,985	2,903,660	3,718,489	2,480,000
Facilities Inspection	60055_6828	Oct-05	Oct-07	1,005,413	1,005,413	0	0	0	(2,049)	0	0
Equipment Pre-purchase	60075_7007	Feb-05	Jun-08	534,366	534,366	0	0	0	0	0	0
Oakdale Phase 1A Electrical - Design	60103_7229	Oct-09	Jan-14	799,880	322,376	477,504	200,000	200,000	722,376	77,504	0
Oakdale Phase 1A Electrical - Constructi	60104_7230	Apr-12	Jul-13	2,204,318	0	2,204,318	1,312,348	870,985	2,183,333	20,985	0
Ware River Intake Valve Replacement	60108_7282	Jul-14	Jul-17	1,200,000	0	1,200,000	0	0	0	1,200,000	0

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CVA Intake Motorized Screens Replacement	60112_7332	Jul-17	Jun-18	500,000	0	500,000	0	0	0	500,000	0
Wachusett Lower Gatehouse Rehab	60113_7333	Jul-14	Dec-18	2,200,000	0	2,200,000	0	0	0	1,920,000	280,000
Rehabilitate Oakdale Turbine	60135_7378	May-20	Jan-21	1,000,000	0	1,000,000	0	0	0	0	1,000,000
Geo-Thermal Heat Wachusett Gatehouse	60136_7379	May-19	Nov-19	200,000	0	200,000	0	0	0	0	200,000
Rehab Wach. Gatehouse Chamber 4 Piping	60137_7380	Jan-19	Jan-20	1,000,000	0	1,000,000	0	0	0	0	1,000,000
Oakdale Valves - Phase 1 Construction	75491_6690	Oct-05	Jun-06	1,811,309	1,811,309	0	0	0	0	0	0
Oakdale Valves - Phase 1 Study & Design	75496_6831	Apr-04	Jun-07	1,070,290	1,070,290	0	0	0	0	0	0
617 Sudbury/Weston Aqueduct Repairs				4,308,053	659,948	3,648,105	0	0	25,000	3,648,103	0
Sudbury Aqueduct Inspection	60056_6838	Aug-05	Oct-06	369,520	369,520	0	0	0	0	0	0
Technical Assistance	60057_6839	Sep-09	Dec-11	25,002	25,000	2	0	0	25,000	0	0
Weston Aqueduct Inspection	60070_6947	Jul-14	Mar-15	150,000	0	150,000	0	0	0	150,000	0
Sudbury Short-Term Repairs	60076_7016	Jul-14	Jun-15	400,103	0	400,103	0	0	0	400,103	0
Sudbury Short-Term Repairs - Phase 2	60110_7317	Jul-15	Jul-15	2,098,000	0	2,098,000	0	0	0	2,098,000	0
Ash Street Sluice Gates	60130_7369	Jan-16	Jan-17	1,000,000	0	1,000,000	0	0	0	1,000,000	0
Hazardous Material Sudbury Aqueduct	75486_6617	Apr-99	May-05	265,428	265,428	0	0	0	0	0	0
620 Wachusett Reservoir Spillway Improvements	completed project			9,287,460	9,287,460	0	0	0	1,237,499	0	0
621 Watershed Land				19,000,000	13,899,500	5,100,500	2,164,000	2,936,500	10,793,000	0	0
Land Acquisition	60081_7069	Apr-06	Jun-13	19,000,000	13,899,500	5,100,500	2,164,000	2,936,500	10,793,000	0	0
623 Dam Projects				5,650,998	719,452	4,931,546	2,431,590	275,641	3,426,683	2,224,315	0
Dam Safety Modificat. & Repairs - Constr	60094_7194	Aug-11	Dec-12	2,165,257	0	2,165,257	2,165,257	0	2,165,257	0	0
Dam Safety Modificat. & Repairs Design/C	60100_7211	Sep-09	Jun-14	1,534,741	719,293	815,448	266,133	275,000	1,260,426	274,315	0
Oakdale Dam Permits	60118_7346	Jan-12	Dec-12	1,000	159	841	200	641	1,000	0	0
Oakdale Dam - Design/ESDC/RI	60119_7347	Jan-14	Dec-17	200,000	0	200,000	0	0	0	200,000	0
Oakdale Dam Removal - Construction	60120_7348	Jul-15	Dec-16	750,000	0	750,000	0	0	0	750,000	0
Goodnough Dike Drainage Improvements	60131_7370	Jul-14	Jul-15	1,000,000	0	1,000,000	0	0	0	1,000,000	0
625 Long Term Redundancy				351,504,334	1,260,178	350,244,156	913,457	2,896,102	5,069,737	102,120,217	244,314,382
Water Transmission Redundancy Plan	60035_6273	Oct-08	Sep-11	1,918,971	1,260,178	658,793	658,793	0	1,918,971	0	0
Wachusett Aqueduct PS Des/ESDC/RI	60090_7156	Feb-12	Mar-17	4,542,283	0	4,542,283	254,664	902,656	1,157,320	3,384,963	0
Wachusett Aqueduct PS Const	60091_7157	Sep-13	Mar-16	43,596,000	0	43,596,000	0	0	0	43,596,000	0
Sudbury Aqueduct - Design/CA/RI	60092_7159	Jul-14	Jun-22	48,630,248	0	48,630,248	0	0	0	22,795,428	25,834,820
Sudbury Aqueduct Slipline - Construction	60093_7160	Jul-18	Jun-21	89,962,163	0	89,962,163	0	0	0	0	89,962,164
MWWST/Sudbury Aqueduct Connection Const.	60107_7291	Jul-17	Jun-21	148,580,618	0	148,580,618	0	0	0	27,858,867	120,721,752
Sudbury Aqueduct - MEPA Review	60122_7352	Jul-12	Jun-14	5,315,855	0	5,315,855	0	1,993,446	1,993,446	3,322,409	0
Chestnut Hill Final Connection - Constr	60123_7353	Jul-17	Dec-19	3,699,850	0	3,699,850	0	0	0	1,109,955	2,589,895

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Tops of Shafts Rehab - Design/CA/RI	60126_7356	Jan-18	Dec-22	1,051,904	0	1,051,904	0	0	0	52,595	999,309
Tops of Shafts Rehab - Construction	60127_7357	Jan-20	Dec-21	4,206,442	0	4,206,442	0	0	0	0	4,206,442
Distribution And Pumping				914,532,663	354,009,055	560,523,608	15,731,059	9,317,127	73,605,501	204,703,870	330,771,547
618 Northern High NW Transmission Section 70				1,000,000	0	1,000,000	0	0	0	1,000,000	0
Planning	60063_6895	Jul-14	Jun-15	1,000,000	0	1,000,000	0	0	0	1,000,000	0
677 Valve Replacement				22,391,783	9,338,478	13,053,305	2,408,465	924,974	4,092,589	4,510,866	5,209,000
Construction 1	67559_5126	Nov-95	Nov-96	717,800	717,800	0	0	0	0	0	0
Technical Assistance	67560_5124	Oct-95	May-10	113,776	113,338	438	438	0	2,033	0	0
Equipment Purchase	68005_6088	Oct-95	Jun-18	4,037,670	1,111,804	2,925,866	50,000	200,000	574,790	2,675,866	0
Construction 2	68012_6105	Nov-97	Jul-99	1,356,516	1,356,516	0	0	0	0	0	0
Construction 3	68039_6278	Feb-00	Aug-01	1,337,571	1,337,571	0	0	0	0	0	0
Construction 4	68079_6345	May-02	Oct-03	1,539,911	1,539,911	0	0	0	0	0	0
Construction 5	68080_6346	Mar-04	Jul-05	1,389,006	1,389,006	0	0	0	0	0	0
Construction 6	68126_6435	May-07	Dec-08	1,571,992	1,571,992	0	0	0	238,765	0	0
Construction 7	68127_6436	Apr-11	Apr-13	3,275,271	194,000	3,081,271	2,356,877	724,394	3,275,271	0	0
Permits	68239_6859	Jan-02	May-10	2,500	770	1,730	1,150	580	1,730	0	0
Easements	68240_6860	Jan-02	May-10	5,770	5,770	0	0	0	0	0	0
Construction 8	68300_7195	Jan-17	Jun-19	2,935,000	0	2,935,000	0	0	0	1,468,000	1,467,000
Construction 9	68307_7236	Dec-19	Jun-21	2,935,000	0	2,935,000	0	0	0	0	2,935,000
Phase 8 Design/CA/RI	68330_7417	Jan-16	Jan-20	587,000	0	587,000	0	0	0	324,000	263,000
Phase 9 Design/CA/RI	68331_7418	Dec-17	Jun-22	587,000	0	587,000	0	0	0	43,000	544,000
678 Boston Low Service - Pipe & Valve Rehab	completed project			23,690,863	23,690,863	0	0	0	0	0	0
683 Heath Hill Road Pipe Replacement	completed project			19,358,038	19,358,036	2	0	0	(9,817)	0	0
689 James L. Gillis Pump Station	completed project			33,419,007	33,419,008	(1)	0	0	0	0	0
692 Northern High Service - Sect 27 Improvement				3,475,091	123,646	3,351,445	0	0	0	777,506	2,573,939
Section 27 - Construction	67769_6333	Mar-18	Nov-19	3,350,520	26,581	3,323,939	0	0	0	750,000	2,573,939
Easements	68192_6589	Apr-16	Mar-18	22,800	0	22,800	0	0	0	22,800	0
Technical Assistance	68211_6712	Oct-99	Mar-18	64,500	59,794	4,706	0	0	0	4,706	0
Surveying	68229_6809	Jun-01	Mar-17	37,271	37,271	0	0	0	0	0	0

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693 NHS - Revere & Malden Pipeline Improve.				37,276,204	26,832,740	10,443,464	0	0	2,938,022	4,494,000	5,949,463
Revere & Malden - Design/CS/RI	67780_5185	May-88	Sep-94	1,785,747	1,785,747	0	0	0	0	0	0
Revere Beach - Construction	67781_5186	Aug-92	Oct-94	6,314,186	6,314,186	0	0	0	0	0	0
Malden Section 53 - Construction	67782_5176	Apr-92	Sep-94	10,026,430	10,026,430	0	0	0	0	0	0
Revere Section 53 - Construction	67784_5177	Sep-08	Aug-09	2,938,022	2,938,022	0	0	0	2,938,022	0	0
Control Valves - Construction	67785_5191	Jun-88	Aug-89	948,780	948,780	0	0	0	0	0	0
DI Pipeline Cleaning & Lining - Construc	67786_5179	Jun-90	Sep-90	157,930	157,930	0	0	0	0	0	0
Winthrop Cleaning & Lining - Constructio	67787_5178	Jun-90	Aug-90	575,040	575,040	0	0	0	0	0	0
Sections 68 & 53A - Construction	67790_6335	Jul-17	Dec-18	5,804,875	0	5,804,875	0	0	0	3,500,000	2,304,875
Technical Assistance	67791_5986	Jul-06	Mar-18	246,445	246,445	0	0	0	0	0	0
Linden Square - Construction	67792_5238	Apr-91	Nov-91	1,849,430	1,849,430	0	0	0	0	0	0
Linden Square - Construction Admin.	67793_5239	Apr-91	Nov-91	125,380	125,380	0	0	0	0	0	0
Road Restoration - Design/CA/RI	67996_6033	Nov-94	Dec-95	77,250	77,250	0	0	0	0	0	0
Road Restoration - Construction	67997_6034	Jul-95	Jun-96	1,713,790	1,713,790	0	0	0	0	0	0
Malden Section 53 - Landscaping	68020_6113	Apr-96	Jun-96	20,000	20,000	0	0	0	0	0	0
Sidewalk Restoration	68033_6183	Sep-96	Oct-96	54,100	54,100	0	0	0	0	0	0
Revere Section 53 - Easements	68078_6334	Sep-02	Jul-09	210	210	0	0	0	0	0	0
Shaft 9A-D Extension - Construction	68258_6958	Mar-19	Nov-20	2,850,297	0	2,850,297	0	0	0	0	2,850,296
Easements	68265_6978	Jul-06	Mar-19	30,000	0	30,000	0	0	0	25,000	5,000
Permits	68280_7049	Apr-05	Mar-18	5,000	0	5,000	0	0	0	5,000	0
Sections 68&53A Design/CA/RI	75526_7402	Jul-15	Dec-19	1,161,820	0	1,161,820	0	0	0	750,000	411,820
Shaft 9A-D Design/CA/RI	75527_7403	Mar-17	Nov-21	591,472	0	591,472	0	0	0	214,000	377,472
702 New Connect Mains-Shaft 7 to WASM 3				32,763,248	9,839,318	22,923,930	1,158,838	0	5,679,430	10,664,000	11,101,092
Routing Study	67846_5163	Aug-94	Nov-96	397,087	397,087	0	0	0	0	0	0
Watertown MOU	68035_6199	Jun-94	Sep-97	167,000	167,000	0	0	0	0	0	0
CP1 - Design/CA/RI	68110_6383	Sep-98	Jul-11	3,532,814	3,532,814	0	0	0	42,395	0	0
Des/CA/RI DP2/4 Meter 120	68111_6384	Aug-02	Oct-08	1,277,722	1,277,722	0	0	0	30,720	0	0
CP3 - Final Design/CA/RI	68112_6385	Oct-14	Aug-20	1,533,560	0	1,533,560	0	0	0	1,220,000	313,560
CP1 A&B - Easements	68114_6387			16,919	16,919	0	0	0	0	0	0
CP3 - Easements	68115_6388	Jan-16	Dec-16	40,000	0	40,000	0	0	0	40,000	0
CP5 - Easements	68117_6390	Dec-06	Jan-11	29,000	21,659	7,341	7,341	0	28,701	0	0
CP3 - South Segment	68119_6392	Oct-16	Aug-19	7,030,877	0	7,030,877	0	0	0	4,219,000	2,811,877
CP5 - Northeast Segment	68121_6394	Aug-09	Nov-11	5,577,614	4,426,117	1,151,497	1,151,497	0	5,577,614	0	0
CP2 - Clean&Line Sections 59&60 - Constr	68174_6548	Jan-18	Nov-19	4,724,791	0	4,724,791	0	0	0	1,150,000	3,574,791
CP2 - Easements	68175_6547	May-17	Nov-17	33,000	0	33,000	0	0	0	33,000	0
Replacement of Section 25 - Design/CA/RI	68255_6955	Apr-16	Aug-20	509,651	0	509,651	0	0	0	259,000	250,651
Replacement of Section 25 - Construction	68256_6956	Apr-18	Aug-19	2,548,255	0	2,548,255	0	0	0	500,000	2,048,255

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Section 59 & 60 - Design/CA/RI	68286_7086	Jan-16	Nov-20	944,958	0	944,958	0	0	0	603,000	341,958
Section 75 Extension	68315_7284	Oct-15	Oct-19	4,400,000	0	4,400,000	0	0	0	2,640,000	1,760,000
704 Rehab of Other Pump Stations				55,057,844	30,058,049	24,999,795	(197)	0	12,072,270	0	25,000,000
Preliminary Design	67885_5153	Aug-94	Mar-96	351,000	351,000	0	0	0	0	0	0
Design/CS/RI	68017_6110	May-97	Nov-04	2,545,826	2,545,826	0	0	0	0	0	0
Construction II & C	68072_6304	Jan-00	Feb-01	639,272	639,272	0	0	0	0	0	0
Rehab of 5 Pump Stations	68102_6375	Oct-06	Jun-10	21,847,848	21,847,856	(8)	0	0	10,137,081	0	0
Legal	68179_6557	Jul-99	Jan-10	6,097	6,097	0	0	0	3,292	0	0
Proprietary Equipment Purchases	68204_6676	Jun-99	Jan-10	157,638	157,638	0	0	0	0	0	0
Design 2 CS/RI	68266_6980	Dec-04	Jun-11	4,510,163	4,510,360	(197)	(197)	0	1,931,897	0	0
Pump Station Rehabilitation	75522_7383	Jul-19	Jun-24	25,000,000	0	25,000,000	0	0	0	0	25,000,000
706 NHS-Connecting Mains from Section 91	completed project			2,360,194	2,360,194	0	0	0	0	0	0
708 Northern Extra High Service - New Pipelines				7,478,503	3,632,119	3,846,384	0	13,000	13,000	2,908,114	925,270
Design/CA/RI	67970_5242	Sep-94	Jun-01	587,802	587,802	0	0	0	0	0	0
Appraisal & Easements	67971_6339	Sep-94	Jun-01	389	389	0	0	0	0	0	0
Construction	67972_6340	Aug-99	Sep-01	3,031,572	3,031,572	0	0	0	0	0	0
Regulatory Compliance	68010_6099	Nov-95	Oct-00	250	250	0	0	0	0	0	0
Sections 34 & 45 - Construction	68162_6522	Jul-16	Dec-18	3,154,392	0	3,154,392	0	0	0	2,400,000	754,392
Public Participation	68176_6554	Jul-99	Jan-17	5,000	0	5,000	0	1,000	1,000	4,000	0
Legal	68177_6555	Jul-99	Jan-17	5,000	0	5,000	0	1,000	1,000	4,000	0
Technical Assistance	68210_6707	Nov-10	Jan-17	54,000	7,886	46,114	0	10,000	10,000	36,114	0
PLC Equipment Purchases	68215_6749	Dec-99	Dec-00	4,220	4,220	1	0	0	0	0	0
Permits	68281_7050	Nov-10	Jan-17	5,000	0	5,000	0	1,000	1,000	4,000	0
Section 34 & 45 Design/CA/RI	75528_7404	Jul-14	Dec-19	630,878	0	630,878	0	0	0	460,000	170,878
712 Cathodic Protection Of Distribution Mains				1,526,883	140,913	1,385,970	0	0	0	0	1,385,970
Planning Phase I	68002_6058	Apr-95	Dec-97	107,680	107,680	0	0	0	0	0	0
Test Station Installation 2	68129_6438	Jun-19	Jun-20	461,990	0	461,990	0	0	0	0	461,990
Test Station Installation 3	68130_6439	Jun-20	Jun-21	461,990	0	461,990	0	0	0	0	461,990
Test Station Installation 4	68131_6440	Jun-21	Jun-22	461,990	0	461,990	0	0	0	0	461,990
Technical Assistance	68216_6751	Jan-00	May-09	33,233	33,233	0	0	0	0	0	0

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713 Spot Pond Supply Mains Rehab				66,187,435	60,980,158	5,207,277	0	0	501,659	4,725,000	482,277
Sec 4 Webster Ave Bridge Pipe Rehab Des	60114_7334	Jul-13	Jul-17	500,000	0	500,000	0	0	0	500,000	0
Sec 4 Webster Ave Bridge Pipe Rehab Con	60115_7335	Jul-14	Jan-16	1,500,000	0	1,500,000	0	0	0	1,500,000	0
Section 50 Pipe Rehab - Design/ESDC/RI	60116_7336	Jul-14	Jun-18	500,000	0	500,000	0	0	0	500,000	0
Section 50 Pipe Rehab - Construction	60117_7337	Jul-16	Jun-17	1,500,000	0	1,500,000	0	0	0	1,500,000	0
Preliminary Design & Design/CA/RI	68038_6223	Sep-98	Oct-08	10,868,582	10,868,582	0	0	0	76,155	0	0
Easements & Paving - CP1	68059_6316	May-00	Mar-02	143,347	143,347	0	0	0	0	0	0
North (Medford/Melrose)	68060_6317	May-00	Jan-02	6,597,330	6,597,330	0	0	0	0	0	0
Easements - CP2	68106_6379	May-02	Jun-06	49,601	49,601	0	0	0	0	0	0
Easements - CP3	68107_6380	Apr-04	Nov-07	79,782	79,782	0	0	0	0	0	0
Middle (Medford/Somerville)	68108_6381	Jun-02	Jul-06	22,176,813	22,176,813	0	0	0	0	0	0
South (Cambridge/Boston)	68109_6382	Oct-04	Apr-08	17,590,133	17,590,133	0	0	0	326,397	0	0
Early Valve Replacement Contract	68150_6475	Sep-98	Jan-00	2,387,073	2,387,073	0	0	0	0	0	0
Easements - CP4	68151_6476	Sep-06	May-09	1,451	1,451	0	0	0	0	0	0
Early Valve Equipment Purchase	68153_6483	May-98	Nov-01	161,390	161,390	0	0	0	0	0	0
Construction 4 - Bridge Trusses	68209_6697	Apr-17	Dec-18	1,207,277	0	1,207,277	0	0	0	725,000	482,277
CA/RI - CP3	68274_7003	Sep-04	Apr-09	924,656	924,656	0	0	0	99,107	0	0
714 Southern Extra High Sections 41 & 42	completed project			3,657,244	3,657,244	0	0	0	0	0	0
719 Chestnut Hill Connecting Mains				30,041,232	17,486,675	12,554,557	0	0	25,061	6,315,000	6,239,557
Pump Stn. Potable Connect.-Design/CA/RI	68026_6141	Mar-00	Dec-04	1,359,533	1,359,533	0	0	0	0	0	0
Preliminary Engineering	68051_6301	Jan-05	Apr-06	457,200	457,200	0	0	0	25,061	0	0
Shaft 7 Building - Design & Construct.	68052_6302	Jan-22	Jan-26	5,379,746	0	5,379,746	0	0	0	0	5,379,746
Easements	68053_6303	Apr-03	Dec-07	80,575	80,575	0	0	0	0	0	0
Emergency Pump Relocation - Const.	68155_6501	Feb-99	Mar-01	6,502,187	6,502,187	0	0	0	0	0	0
Emergency Pump Relocation - Design/CA/RI	68157_6503	May-98	May-01	1,120,816	1,120,816	0	0	0	0	0	0
Boston Paving	68180_6558	Jul-99	Dec-07	132,896	132,896	0	0	0	0	0	0
Legal	68182_6560	Jul-99	Jun-08	1,137	1,137	0	0	0	0	0	0
BECO Emergency Pump Construction	68199_6623	Sep-99	Jun-00	430,641	430,641	0	0	0	0	0	0
Pump Station Potable Connection - Const	68203_6651	Apr-02	Dec-03	7,132,109	7,132,109	0	0	0	0	0	0
Equipment Pre-purchase	68230_6814	Apr-01	Oct-01	154,337	154,337	0	0	0	0	0	0
Demolition of Garages	68231_6820	Feb-02	May-02	71,600	71,600	0	0	0	0	0	0
Utilities	68244_6869	Jun-02	Aug-02	43,644	43,644	0	0	0	0	0	0
CHEPS Emerg Gen/Elec Upgr Constr	68267_6982	Jul-16	Jul-18	5,739,413	0	5,739,413	0	0	0	5,239,000	500,413
CHEPS Emerg Gen/Elec Upgr Final Des/CA	68268_6995	Jul-14	Jun-19	1,435,398	0	1,435,398	0	0	0	1,076,000	359,398
CH Underground Pump Stn. Electrol Rehab	75521_7382			0	0	0	0	0	0	0	0

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720 Warren Cottage Line Rehab	completed project			1,204,820	1,204,821	(1)	0	0	0	0	0
721 South Spine Distribution Mains				72,465,444	32,754,548	39,710,896	3,905,185	907,587	19,957,385	1,013,000	33,885,116
Sections 21, 43 & 22 - Design	68083_6290	Sep-00	May-13	7,776,068	6,403,281	1,372,787	693,022	679,765	2,673,012	0	0
Sections 21, 43 & 22 - Easements	68084_6291	Mar-02	May-12	134,000	102,707	31,293	6,279	25,014	59,384	0	0
Section 22 South - Construction	68085_6292	Jul-03	Jun-05	4,993,131	4,993,131	0	0	0	0	0	0
Section 20 & 58 - Design	68089_6296	Jun-18	Nov-23	2,739,254	0	2,739,254	0	0	0	0	2,739,254
Section 20 & 58 - Easements	68090_6297	Sep-16	Sep-20	35,070	0	35,070	0	0	0	13,000	22,070
Section 20 & 58 - Construction	68091_6298	Sep-20	May-22	12,891,058	0	12,891,058	0	0	0	0	12,891,058
Adams Street Bridge	68122_6396	Jul-98	Dec-99	153,783	153,783	0	0	0	0	0	0
Southern High Public Participation	68193_6601	Oct-98	May-99	15,000	15,000	0	0	0	0	0	0
Southern High Extension Study	68194_6602	Sep-98	May-99	242,372	242,372	0	0	0	0	0	0
Boston Paving	68228_6787			3,194	3,194	0	0	0	0	0	0
Section 22 North - Construction	68235_6844	Jan-21	Jan-23	15,732,734	0	15,732,734	0	0	0	0	15,732,734
Section 107 Phase 1 - Construction	68236_6845	Jul-07	Jan-09	6,184,370	6,184,362	8	0	0	2,182,350	0	0
Legal	68237_6846	May-04	Jun-10	5,000	1,192	3,808	1,000	2,808	3,934	0	0
Technical Assistance	68238_6847	Feb-04	Oct-05	28,102	28,102	0	0	0	0	0	0
Contract 1A - Construction	68247_6885	Nov-03	Jun-05	2,858,603	2,858,603	0	0	0	0	0	0
Section 107 Phase 2 - Construction	68290_7099	Jan-10	Jan-12	15,038,705	11,633,821	3,404,884	3,204,884	200,000	15,038,705	0	0
Milton Pressure Regulator Valve	68291_7104	Jun-06	Nov-06	135,000	135,000	0	0	0	0	0	0
Section 22 North - Design/ESDC	68298_7120	Jul-18	Jan-24	2,500,000	0	2,500,000	0	0	0	0	2,500,000
Section 22 North - Facility Plan/EIR	68299_7155	Jul-15	Jun-17	1,000,000	0	1,000,000	0	0	0	1,000,000	0
722 NIH Redundancy & Storage				83,659,734	1,469,640	82,190,094	4,457,753	3,770,000	9,063,420	51,456,123	22,506,218
Concept Plan	53454_6954	Feb-06	Aug-10	826,748	796,748	30,000	30,000	0	192,775	0	0
Easements	68093_6306	Jul-12	Jun-14	300,000	0	300,000	0	275,000	275,000	25,000	0
Section 89/29 Redundancy - Design	68252_6906	Mar-11	Jun-18	4,644,381	7,000	4,637,381	629,947	700,000	1,336,947	3,258,000	49,434
Purchase Mobile Pump Unit	68276_7026	Jul-09	Jan-10	291,315	290,848	467	467	0	291,315	0	0
Short Term Improvements - Design/CA/RI	68277_7045	Sep-09	Sep-13	825,171	375,044	450,127	200,000	150,000	725,044	100,127	0
Permits	68278_7047	Jan-10	Dec-18	5,000	0	5,000	2,000	2,000	4,000	1,000	0
Technical Assistance	68279_7048	Jan-10	Dec-18	18,000	0	18,000	4,000	4,000	8,000	10,000	0
Sec 89 & 29 Redundancy Const. Phase 1	68282_7066	May-14	May-17	20,376,200	0	20,376,200	0	0	0	20,376,200	0
Sec 89 & 29 Redundancy Const. Phase 2	68283_7067	Jun-14	Jun-17	20,735,780	0	20,735,780	0	0	0	20,735,780	0
NIH Storage - Construction	68284_7068	Jan-19	Jan-21	16,540,680	0	16,540,680	0	0	0	0	16,540,680
Section 89 & 29 Rehab - Design	68294_7116	Jul-14	Jun-19	1,396,867	0	1,396,867	0	0	0	1,047,000	349,867
Section 89 & 29 Rehab - Construction	68295_7117	Jul-16	Jun-19	6,982,157	0	6,982,157	0	0	0	4,073,000	2,909,157
Gillis Pump Station Improvements	68309_7260	Sep-12	Apr-13	3,770,016	0	3,770,016	0	2,639,000	2,639,000	1,131,016	0
Reading/Stoneham Interconnections	68310_7261	Aug-11	Oct-12	3,591,339	0	3,591,339	3,591,339	0	3,591,339	0	0

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NIH Storage - Design	68316_7311	Jan-17	Dec-22	3,356,080	0	3,356,080	0	0	0	699,000	2,657,080
723 Northern Low Service Rehab - Section 8				21,698,013	2,320,986	19,377,027	2,007	3,000	2,268,010	4,149,088	15,222,932
Easements	68094_6321	Jul-15	Jun-22	80,000	0	80,000	0	0	0	40,000	40,000
Section 8 - Construction	68095_6322	Jul-20	Jul-22	12,821,323	0	12,821,323	0	0	0	0	12,821,323
Rehab Sects. 37 & 46 Chelsea/EB Constr.	68262_6962	Jul-17	Jun-18	3,200,000	0	3,200,000	0	0	0	3,200,000	0
Permits	68263_6977	Jul-05	Jul-18	299,000	284,912	14,088	2,000	3,000	276,174	9,088	0
Technical Assistance	68264_6979	Jul-05	Jul-17	44,245	44,245	0	0	0	0	0	0
Section 97A - Construction	68275_7021	Oct-08	Oct-09	1,991,836	1,991,829	7	7	0	1,991,836	0	0
Section 8 - Design/CA/RI	68287_7092	Jul-17	Jul-22	2,564,265	0	2,564,265	0	0	0	300,000	2,264,265
Rehab Sec 37&46 Chel/BosDes/CA/RI	75529_7405	Jul-15	Jun-19	697,344	0	697,344	0	0	0	600,000	97,344
724 Northern High Service - Pipeline Improve.				0	0	0	0	0	(1,600)	0	0
Design/CA/RI	68098_6336	May-11	Nov-15	0	0	0	0	0	(1,600)	0	0
Appraisal/Easement	68099_6337	Jul-12	Jul-13	0	0	0	0	0	0	0	0
Construction	68100_6338	Feb-14	Nov-15	0	0	0	0	0	0	0	0
725 Hydraulic Model Update	completed project			598,358	598,358	0	0	0	0	0	0
727 SEH Redundancy & Storage				101,848,792	6,664,412	95,184,380	62,652	250,620	5,310,415	11,997,833	82,873,275
Concept Plan/Prelim. Design/Env. Review	53397_6452	Feb-07	Feb-13	840,072	526,800	313,272	62,652	250,620	428,097	0	0
Redundancy/Storage Ph 1 Final Des/CA/RI	53398_6453	Jul-15	Jun-21	5,789,647	0	5,789,647	0	0	0	3,606,000	2,183,647
Redundancy/Storage Phase 1 - Construct.	53399_6454	Jul-17	Jun-20	28,948,235	0	28,948,235	0	0	0	7,237,000	21,711,235
Redundancy/Storage Ph 2 Final Des/CA/RI	68135_6444	Jul-18	Jun-23	4,440,424	0	4,440,424	0	0	0	0	4,440,424
University Avenue Water Main	68136_6445	Mar-08	Nov-08	6,137,445	6,137,445	0	0	0	4,882,318	0	0
Sections 77 & 88 Rehab - Design	68292_7112	Jul-25	Jun-30	1,239,965	0	1,239,965	0	0	0	0	1,239,965
Sections 77 & 88 Rehab - Construction	68293_7113	Jul-27	Jun-29	4,959,859	0	4,959,859	0	0	0	0	4,959,859
Short Term Improvements - Design/CA/RI	68302_7223	Jul-14	Jun-18	200,000	0	200,000	0	0	0	200,000	0
Short Term Improvements - Construction	68303_7224	Jul-16	Jun-17	750,000	0	750,000	0	0	0	750,000	0
Easements	68305_7226	Aug-08	Jul-27	300,000	0	300,000	0	0	0	200,000	100,000
Permits	68306_7227	Aug-08	Jul-27	5,000	167	4,833	0	0	0	4,833	0
Redundancy/Storage Phase 2 Construct.	68308_7245	Jul-20	Jun-22	22,202,119	0	22,202,119	0	0	0	0	22,202,119
Phase 4, 2nd Tank - Construction	68311_7262	Jul-25	Jun-27	9,484,188	0	9,484,188	0	0	0	0	9,484,188
Phase 4, 2nd Tank - Design	68312_7263	Jul-23	Jun-28	1,896,838	0	1,896,838	0	0	0	0	1,896,838
Phase 3, Pump Station - Construction	68313_7264	Jul-23	Jun-25	11,724,000	0	11,724,000	0	0	0	0	11,724,000
Phase 3, Pump Station - Design	68314_7265	Jun-21	Jun-26	2,931,000	0	2,931,000	0	0	0	0	2,931,000

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730 Weston Aqueduct Supply Mains				276,166,242	64,377,912	211,788,330	778,297	1,827,000	6,082,348	100,111,340	109,071,692
Newton Water Mains - Construction	59774_5034	Apr-95	Oct-96	668,790	668,790	0	0	0	0	0	0
Technical Assistance	59776_5975	Mar-95	Oct-18	186,424	186,424	0	0	0	0	0	0
WASM 4 - Design/CA/RI	67865_5147	Mar-95	Sep-07	6,013,476	6,013,476	0	0	0	133,999	0	0
WASMs 1 & 2 - Design/CA/RI	68027_6142	Jun-97	Jul-06	5,066,028	5,066,028	0	0	0	(8,624)	0	0
Appraisal / Easement	68030_6174	Mar-95	Oct-18	753,000	293,352	459,648	0	20,000	20,954	359,000	80,648
WASM 1, 2 & 4 - Auburndale	68031_6175	Jun-97	Nov-98	4,001,461	4,001,461	0	0	0	0	0	0
Meter 103 - Construction	68032_6176	Oct-96	Jul-98	61,027	61,027	0	0	0	0	0	0
WASMs 1 & 2 - Newton	68041_6280	Mar-00	Jun-02	9,218,520	9,218,520	0	0	0	0	0	0
WASMs 1 & 2 - Boston	68042_6281	Feb-03	Jun-05	7,038,896	7,038,896	0	0	0	0	0	0
WASMs 2 & 4 - Newton	68069_6312	Apr-98	Mar-01	8,281,877	8,281,877	0	0	0	0	0	0
WASM 4 - Allston & Western Ave. Sewer	68070_6313	Feb-02	Dec-04	17,330,800	17,330,800	0	0	0	0	0	0
WASM 3 - MEPA/Design/CA/RI	68166_6539	Jan-13	Aug-23	31,524,268	0	31,524,268	0	750,000	750,000	15,010,000	15,764,268
Sect 36/WS/Waltham Conn. - Design/CA/RI	68167_6540	Jan-11	Dec-16	2,988,492	177,530	2,810,962	778,297	427,000	1,382,827	1,605,665	0
WASM 3 Waltham - CP2	68170_6543	Jan-16	Mar-18	62,582,058	0	62,582,058	0	0	0	62,582,058	0
WASM 3 Belmont - CP3	68171_6544	Apr-18	Jun-21	77,338,214	0	77,338,214	0	0	0	0	77,338,214
WASM 3 Arlington - CP4	68172_6545	Jul-21	Aug-22	15,888,562	0	15,888,562	0	0	0	0	15,888,562
Section 28, Arlington - CP1	68173_6546	Aug-09	Feb-11	2,303,626	2,303,626	0	0	0	2,303,626	0	0
Survey	68245_6870	Dec-01	Oct-18	210,000	88,681	121,319	0	61,000	61,000	60,319	0
Arlington Pipe Work	68269_6996	Dec-09	May-10	401,036	401,035	1	0	0	401,035	0	0
WASM3 Section 12 Replacement - Constr.	68272_7000	Oct-04	Sep-05	2,113,693	2,113,693	0	0	0	0	0	0
WASM3 Section 12 Replacement - Design	68273_7001	May-04	Aug-06	266,008	266,008	0	0	0	0	0	0
Section 28 - Design/CA/RI	68285_7083	Oct-06	Apr-11	866,688	866,688	0	0	0	468,531	0	0
Sect 36/Watertown/Waltham Conn. Constr.	68301_7222	Apr-13	Mar-16	21,063,298	0	21,063,298	0	569,000	569,000	20,494,298	0
731 Lynnfield Pipeline				5,562,807	983,802	4,579,005	2,958,059	1,620,946	5,050,086	0	0
Construction Phase 2	68187_6584	Jan-11	Jan-13	4,331,713	361,900	3,969,813	2,375,439	1,594,374	4,331,713	0	0
Easement, Legal, License & Permits	68196_6619	Jul-07	Jul-11	200,000	3,399	196,601	196,601	0	200,000	0	0
Design/CA/RI	68251_6905	Nov-07	Jul-13	759,093	346,502	412,591	386,019	26,572	519,210	0	0
Temporary Interconnect - Phase 1 Constr	68289_7096	Jun-07	Dec-07	272,001	272,001	0	0	0	(837)	0	0
732 Walnut St. & Fisher Hill Pipeline Rehab	completed project			2,717,141	2,717,141	0	0	0	563,223	0	0
735 Section 80 Rehabilitation				8,927,746	0	8,927,746	0	0	0	582,000	8,345,746
Section 80 - Construction	68249_6891	Jan-19	Dec-20	7,142,197	0	7,142,197	0	0	0	0	7,142,197
Section 80 - Design/CS/RI	68250_6892	Jan-17	Dec-21	1,785,549	0	1,785,549	0	0	0	582,000	1,203,549

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Other Waterworks				43,458,496	129,410,851	(85,952,356)	7,350,795	108,764	21,365,652	35,337,556	(128,749,472)
753 Central Monitoring System				16,992,423	15,704,996	1,287,427	98,733	188,694	325,478	1,000,000	0
Study	75300_5025	Mar-84	Sep-86	189,590	189,590	0	0	0	0	0	0
Design	75301_5026	Oct-87	Jan-92	2,651,250	2,651,250	0	0	0	0	0	0
Equipment Prepurchase	75302_5027	Oct-87	Dec-93	2,161,920	2,161,920	0	0	0	0	0	0
SCADA Implementation	75303_5028	Aug-96	Mar-12	2,101,110	1,813,683	287,427	98,733	188,694	325,478	0	0
Communications Structures	75304_5160	Nov-92	May-93	161,290	161,290	0	0	0	0	0	0
Construction & Start-up Services	75305_5173	Jul-92	Aug-98	352,040	352,040	0	0	0	0	0	0
Construction 1	75306_5171	Nov-97	Nov-98	208,950	208,950	0	0	0	0	0	0
Operations Center - Construction	75308_5849	Sep-92	Jun-94	1,498,980	1,498,980	0	0	0	0	0	0
Technical Assistance	75309_5987	Jul-92	Dec-97	385,601	385,601	0	0	0	0	0	0
Microwave Equipment	75474_6125	Mar-96	Dec-01	781,987	781,987	0	0	0	0	0	0
Permits Monitoring & Control Comm Net	75487_6652	Dec-99		0	0	0	0	0	0	0	0
Microwave Comm System-Wide Backbone	75488_6653	Sep-01	Jun-02	1,694,018	1,694,018	0	0	0	0	0	0
Monitoring & Control - Study & Design	75489_6654	Dec-99	Sep-04	1,807,784	1,807,784	0	0	0	0	0	0
Microwave Communic for Waterworks Fac.	75494_6816	Sep-02	Jul-04	1,957,399	1,957,399	0	0	0	0	0	0
Ludlow Communications	75495_6825	Sep-01	Oct-01	40,504	40,504	0	0	0	0	0	0
Winsor Dam High Line Replacement	75512_7338	Jul-13	Dec-13	1,000,000	0	1,000,000	0	0	0	1,000,000	0
763 Distribution System Facilities Mapping				1,798,919	1,036,368	762,551	0	0	0	762,551	0
Planning and Design	75458_5162	Feb-95	Dec-98	936,368	936,368	0	0	0	0	0	0
Data Purchase	75476_6152	Nov-95	Aug-96	100,000	100,000	0	0	0	0	0	0
Records Development	75484_6525	Jul-14	Dec-16	762,551	0	762,551	0	0	0	762,551	0
764 Local Water Infrastructure Rehab	completed project			7,487,762	7,487,762	0	0	0	0	0	0
765 Local Water Pipeline Assistance Program				0	104,944,176	(104,944,176)	6,948,824	(79,930)	20,736,936	22,179,006	(133,992,075)
Community Loans	75485_6608	Aug-00	Jun-13	220,000,000	196,808,346	23,191,655	8,756,954	14,434,700	79,920,748	0	0
Community Repayment	75493_6759	Aug-01	Jun-23	(220,000,000)	(98,010,473)	(121,989,527)	(18,100,000)	(17,200,000)	(84,307,354)	(65,847,844)	(20,841,684)
Local Water System Assistance Loans	75513_7339	Aug-10	Jun-20	200,000,000	6,146,303	193,853,697	15,000,000	4,000,000	25,146,303	121,000,000	53,853,697
Local Water System Assistance Repayment	75514_7340	Aug-11	Jun-30	(200,000,000)	0	(200,000,000)	(614,630)	(2,114,630)	(2,729,261)	(35,473,150)	(161,797,588)
CVA Loans	75515_7350	Nov-10	Jun-20	10,000,000	0	10,000,000	2,000,000	1,000,000	3,000,000	5,000,000	2,000,000
CVA Repayments	75516_7351	Nov-11	Jun-30	(10,000,000)	0	(10,000,000)	(93,500)	(200,000)	(293,500)	(2,500,000)	(7,206,500)

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766 Waterworks Facility Asset Protection				17,179,391	237,550	16,941,841	303,238	0	303,238	11,396,000	5,242,603
Meter Vault Manhole Retrofits	75490_6689	Sep-15	Jun-18	1,843,603	0	1,843,603	0	0	0	1,680,000	163,603
Walnut Hill Tank - Design	75497_6832	Jul-13	Jul-17	300,000	0	300,000	0	0	0	300,000	0
Walnut Hill Tank - Construction	75498_6833	Jan-15	Jul-16	1,000,000	0	1,000,000	0	0	0	1,000,000	0
Waltham Bridge Pipe Replacement	75501_6910	Mar-04	Sep-04	237,550	237,550	0	0	0	0	0	0
Permits and Legal Fees	75502_6920	Mar-04	Mar-12	16,340	0	16,340	1,340	0	1,340	15,000	0
Cosgrove Turbine Isolation - Design	75506_7023	Jul-14	Dec-18	480,000	0	480,000	0	0	0	401,000	79,000
Cosgrove Valve Seat Replacement - Constr	75509_7064	Jul-15	Dec-15	500,000	0	500,000	0	0	0	500,000	0
Cosgrove Valve Seat Replacement - Design	75510_7065	Jul-14	Dec-16	100,000	0	100,000	0	0	0	100,000	0
Transformer at Cosgrove Intake Building	75511_7228	Jun-11	Jul-12	301,898	0	301,898	301,898	0	301,898	0	0
Shaft 9 Rehab	75520_7381	Jul-14	Jul-17	2,000,000	0	2,000,000	0	0	0	2,000,000	0
Elevated Water Storage Tank Repainting	75523_7384	Jul-14	Jul-17	5,000,000	0	5,000,000	0	0	0	5,000,000	0
Covered Storage Tank Rehab	75524_7385	Jul-19	Jul-23	5,000,000	0	5,000,000	0	0	0	0	5,000,000
Electrical Distr Upgr Southboro	75535_7425	Jul-14	Jun-15	400,000	0	400,000	0	0	0	400,000	0
Business & Operations Support				110,294,324	65,658,043	44,636,281	7,515,261	11,494,500	41,736,088	25,626,511	0
881 Equipment Purchase				16,743,964	9,148,384	7,595,580	1,228,250	2,442,330	7,561,856	3,925,000	0
TV Inspection Truck	92367_6732	Jul-00	Mar-01	0	0	0	0	0	(174,977)	0	0
Security Equipment & Installation	92374_6760	Jan-01	Jun-13	7,350,353	5,367,393	1,982,960	758,630	1,224,330	4,303,433	0	0
ICP-MS Lab Testing Equipment	92379_6808	Oct-08	Dec-08	117,432	117,432	0	0	0	0	0	0
Back Hoe	92381_6866	Apr-03	Jun-04	0	0	0	0	0	(129,921)	0	0
Vactor Truck	92382_6867	Apr-03	Jun-03	0	0	0	0	0	(219,890)	0	0
Water Service Truck	92383_6907	Apr-04	Jun-04	0	0	0	0	0	(114,357)	0	0
Bucket Machine	92384_6944	Oct-04	Dec-04	0	0	0	0	0	(136,936)	0	0
Excavator	92385_6945	Apr-07	Jun-07	0	0	0	0	0	(232,699)	0	0
Grove Crane	92386_6946	May-05	Aug-05	0	0	0	0	0	(310,800)	0	0
Land Fill Loader	92388_6981	May-05	Aug-05	0	0	0	0	0	(112,682)	0	0
PowerSweeper/Catch Basin	92392_6986	Apr-04	Jun-04	0	0	0	0	0	(154,958)	0	0
Back Hoe (WRA385)	92394_6990	Jan-08	Mar-08	0	0	0	0	0	(96,900)	0	0
Front-End Loader	92396_7028	Jul-05	Mar-06	0	0	0	0	0	(110,258)	0	0
Dump Truck WRA-558	92397_7029	Apr-09	Jun-09	0	0	0	0	0	0	0	0
Dump Truck (WRA 522)	92398_7030	Jan-09	Mar-09	0	0	0	0	0	0	0	0
Crane (WRA-185)	92400_7074	Apr-06	Jun-06	0	0	0	0	0	(298,378)	0	0
High Lift Fork Loader (Lull)	92411_7239	Oct-10	Dec-10	121,449	121,449	0	0	0	121,449	0	0
Ford Ramp Truck	92416_7246	Apr-10	Jun-10	121,572	121,572	0	0	0	121,572	0	0
Street Sweeper	92417_7247	Jul-09	Sep-09	181,673	181,673	0	0	0	181,673	0	0
International Tractor Trailer	98449_7301	Jan-09	Mar-09	0	0	0	0	0	0	0	0

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Prior Vehicle Purchases	98454_7306	Jul-00	Jun-10	2,415,190	2,415,190	0	0	0	2,415,190	0	0
FY09-13 Vehicle Purchases	98455_7307	Jul-09	Jun-13	2,210,074	702,454	1,507,620	469,620	1,038,000	2,210,074	0	0
FY14-18 Vehicle Purchases	98456_7308	Jul-13	Jun-18	3,105,000	0	3,105,000	0	0	0	3,105,000	0
FY09-13 Major Lab Instrumentation	98457_7309	Mar-13	Mar-16	1,000,000	0	1,000,000	0	180,000	180,000	820,000	0
Front-End Loader	98467_7325	Oct-10	Dec-10	121,221	121,221	0	0	0	121,221	0	0
925 Technical Assistance				1,200,000	0	1,200,000	0	400,000	400,000	800,000	0
Land Appraisal	77000 LAND			150,000	0	150,000	0	50,000	50,000	100,000	0
Surveying	80000 SURV			150,000	0	150,000	0	50,000	50,000	100,000	0
Hazardous Material	90000 HAZM			900,000	0	900,000	0	300,000	300,000	600,000	0
930 MWRA Facility - Chelsea	completed project			9,814,076	9,822,603	(8,527)	(8,527)	0	(72,831)	0	0
931 Business Systems Plan				26,583,017	24,123,873	2,459,144	161,893	107,251	2,384,937	2,190,000	0
Network - Phase I	92322_6015	Jul-94	Dec-96	141,610	141,610	0	0	0	0	0	0
Phase I (FY95-97)	92338_6014	Jul-94	Mar-03	1,146,321	1,146,321	0	0	0	0	0	0
Hardware - Phase I	92339_6013	Jul-94	Dec-96	440,770	440,770	0	0	0	0	0	0
Phase II (FY97-10)	92343_6177	Jul-96	Jun-13	4,174,368	4,081,117	93,251	46,000	47,251	923,507	0	0
Phase III (FY99-01)	92347_6362	Dec-97	Jun-04	10,746,841	10,748,465	(1,624)	(1,624)	0	(1,624)	0	0
Phase IV / Year 2000 Improvements	92352_6508	Jul-98	Jan-00	3,018,373	3,018,373	0	0	0	(19,600)	0	0
Phase V (FY01-10)	92353_6509	Jul-01	Jun-11	1,993,104	1,940,351	52,753	52,753	0	1,029,310	0	0
Phase VI (FY04-09)	92380_6865	Jan-03	Jun-11	2,036,689	2,036,689	0	0	0	(241,597)	0	0
Laboratory Instrument Data Management	92410_7238	Oct-12	Oct-13	250,000	0	250,000	0	60,000	60,000	190,000	0
DITP/OMS	92418_7249	Jul-12	Dec-12	0	0	0	0	0	0	0	0
GIS/TV Inspection	92419_7250	Apr-09	Jun-10	80,363	30,731	49,632	49,632	0	80,363	0	0
MIS Licensing	92423_7254	Jul-08	Mar-10	14,060	14,060	0	0	0	14,060	0	0
Lawson Conversion	92424_7255	Jun-08	Jun-11	186,727	186,727	0	0	0	186,727	0	0
Cyber Security	92425_7256	Apr-09	Sep-11	98,742	89,288	9,454	9,454	0	98,742	0	0
Original SAN	92426_7257	Jul-09	Jun-11	255,049	249,371	5,678	5,678	0	255,049	0	0
Document Cntrl Sys Software App Replac	92438_7289	Sep-13	Sep-15	2,000,000	0	2,000,000	0	0	0	2,000,000	0
932 Environmental Remediation				1,478,802	1,479,202	(400)	(400)	0	10,602	0	0
Technical Assistance/Envir. Remediation	92369_6745	Feb-99	Jun-07	543,255	543,655	(400)	(400)	0	(1,724)	0	0
Prison Point Tank Removal - Construct.	92370_6746	Feb-99	Oct-10	452,523	452,523	0	0	0	12,326	0	0
Cottage Farm Tank Replacement - Const.	92371_6747	Jun-02	Dec-02	427,749	427,749	0	0	0	0	0	0
Oakdale Power Station	92376_6805	Sep-03	Dec-04	47,066	47,066	0	0	0	0	0	0
Cosgrove Power Station	92377_6806	Jun-02	Aug-02	8,209	8,209	0	0	0	0	0	0

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933 Capital Maintenance Planning & Develop.				10,616,842	6,296,081	4,320,761	1,828,139	1,881,623	6,286,463	611,000	0
Inventory & Evaluation - 1 & 2	19175_6421	Apr-00	Jul-05	2,579,434	2,579,434	0	0	0	0	0	0
As-Needed Design Contract 1	92387_6976	Mar-05	Sep-07	313,302	313,302	0	0	0	(1,122)	0	0
As-Needed Design Contract 2	92393_6988	Mar-05	Sep-07	317,539	317,539	0	0	0	0	0	0
As-Needed Design Contract 5	92399_7070	Sep-08	Mar-11	558,111	558,111	0	0	0	558,111	0	0
As-Needed Design Contract 3	92402_7101	Aug-07	Feb-10	578,622	578,623	0	0	0	259,017	0	0
As-Needed Design Contract 4	92403_7102	Aug-07	Aug-09	343,744	343,744	0	0	0	155,367	0	0
As-Needed Design Contract 6	92413_7242	Aug-08	Aug-10	704,220	704,220	0	0	0	704,220	0	0
As-Needed Design Contract 7	92414_7243	Jan-10	Jul-12	982,313	544,303	438,010	407,945	30,065	982,313	0	0
As-Needed Design Contract 8	92415_7244	Feb-10	Feb-12	1,039,557	356,805	682,752	682,752	0	1,039,557	0	0
As-Needed Design Contract 9	98470_7390	Jul-11	Jul-13	1,600,000	0	1,600,000	387,747	909,253	1,297,000	303,000	0
As-Needed Design Contract 10	98471_7391	Aug-11	Aug-13	1,600,000	0	1,600,000	349,695	942,305	1,292,000	308,000	0
934 MWRA Facilities Management & Planning				2,150,535	370,533	1,780,002	0	0	370,533	1,780,002	0
Design/Engineering Services	92389_6983	Apr-13	Jun-14	150,000	(2)	150,002	0	0	(2)	150,002	0
Facilities Construction	92390_6984	Jul-13	Jul-14	2,000,535	370,535	1,630,000	0	0	370,535	1,630,000	0
935 Alternative Energy Initiatives				27,225,088	13,881,487	13,343,601	3,611,516	2,778,927	19,679,887	6,953,150	0
Deer Island Solar	19285_6974	Sep-07	May-08	903,714	903,714	0	0	0	311,671	0	0
DI Wind	92428_6974C	Nov-08	Apr-10	4,063,294	4,063,294	0	0	0	4,063,294	0	0
Future DI Wind Constr (Battery D Locat)	92430_7270	Sep-13	Aug-14	4,411,200	0	4,411,200	0	0	0	4,411,200	0
Loring Road Hydro - Design	92432_6974E	Mar-08	Sep-09	2,344	2,344	0	0	0	2,344	0	0
Technical Assistance - Solar	92439_7274	May-09	May-13	385,000	143,250	241,750	241,750	0	385,000	0	0
Energy Advisory Consultant Services	92440_6974B	Jun-08	Jun-09	58,780	45,632	13,148	13,148	0	58,780	0	0
Wind Power Feasibility Study	92441_OP67	Mar-07	Jun-10	386,426	346,426	40,000	40,000	0	386,426	0	0
DI Photovoltaic System Phase 1 - Const.	92442_7292	Sep-09	Mar-10	1,119,000	1,119,000	0	0	0	1,119,000	0	0
Technical Assistance-Energy Efficiency	92443_7274A	May-09	May-13	500,000	25,627	474,373	179,167	295,206	500,000	0	0
Technical Assistance - Solar II	92444_7274B	May-09	May-13	380,000	90,213	289,787	227,600	62,187	380,000	0	0
Tech Assistance - Emerging Technology	92445_7274C	May-09	May-13	200,000	4,041	195,959	61,441	134,518	200,000	0	0
Technical Assistance - Wind	92446_7274D	May-09	May-13	750,000	259,123	490,877	203,861	287,016	750,000	0	0
Wachusett Hydro - Design & Construction	98448_7300	Jul-15	Dec-16	1,382,500	0	1,382,500	0	0	0	1,382,500	0
Charlestown Wind - Construction	98450_7302	Feb-10	Oct-11	5,202,569	2,585,117	2,617,452	2,617,450	0	5,202,567	0	0
John J. Carroll WTP Solar-Construction	98452_7304	Jan-10	Aug-11	2,428,043	2,426,314	1,729	1,723	0	2,428,037	0	0
Loring Road Hydro - Construction	98459_6974F	Jan-10	May-11	1,882,218	1,856,842	25,376	25,376	0	1,882,218	0	0
DI Wind Phase II Construction (CSB)	98463_7321	Nov-12	May-14	2,500,000	10,550	2,489,450	0	2,000,000	2,010,550	489,450	0
Fish Hatch Pipeline Hydro	98465_7323	Dec-13	Jul-15	670,000	0	670,000	0	0	0	670,000	0

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940 Application Improvement Program				3,800,000	0	3,800,000	0	787,000	787,000	3,013,000	0
GIS Applications & Integration	92420_7251	Jul-13	Jun-17	350,000	0	350,000	0	0	0	350,000	0
Lawson Enhancements	92435_7286	Jan-12	Jun-15	1,250,000	0	1,250,000	0	287,000	287,000	963,000	0
Maximo Upgrade	92436_7287	Sep-12	Jun-17	750,000	0	750,000	0	450,000	450,000	300,000	0
PIMS Enhancements	92437_7288	Apr-12	Jun-17	100,000	0	100,000	0	50,000	50,000	50,000	0
Enterprise Performance mgmt Enhancements	92469_7386	Jan-16	Jun-17	200,000	0	200,000	0	0	0	200,000	0
Enterprise Content Mgmt	98475_7438	Oct-14	Jun-17	1,000,000	0	1,000,000	0	0	0	1,000,000	0
Mobile Integrations	98476_7439	Oct-15	Jun-16	150,000	0	150,000	0	0	0	150,000	0
942 Information Security Program				1,000,000	0	1,000,000	407,641	292,000	699,641	300,359	0
IT Security Program (ISP) Development	92434_7285	Sep-11	Jun-17	600,000	0	600,000	407,641	167,000	574,641	25,359	0
Electronic Sec Impl	98477_7440	Jul-12	Jun-14	400,000	0	400,000	0	125,000	125,000	275,000	0
944 Information Technology Management Prog.				2,562,000	0	2,562,000	262,000	750,000	1,012,000	1,550,000	0
Implement IT Governance	92412_7240	Apr-12	Jun-17	457,000	0	457,000	50,000	116,000	166,000	291,000	0
Service Delivery & Best Practices	92421_7252	Jul-12	Dec-13	282,000	0	282,000	0	166,000	166,000	116,000	0
Reorganize MIS Department	92422_7253	Apr-12	Jun-17	100,000	0	100,000	0	100,000	100,000	0	0
Manage Implementation Program	98472_7408	Apr-12	Jun-17	461,000	0	461,000	50,000	118,000	168,000	293,000	0
Implementation Approach	98478_7441	Apr-12	Jun-17	662,000	0	662,000	62,000	175,000	237,000	425,000	0
Change Mgmt	98479_7442	Jun-12	Jun-17	600,000	0	600,000	100,000	75,000	175,000	425,000	0
946 IT Infrastructure Program				7,120,000	535,882	6,584,118	24,749	2,055,369	2,616,000	4,504,000	0
IT System Architecture	92404_7200	Jul-12	Jun-17	1,000,000	0	1,000,000	0	330,000	330,000	670,000	0
Net 2020/Net 2020 DITP/Southborough	92405_7201	Mar-11	Jun-17	2,500,000	535,882	1,964,118	24,749	500,369	1,061,000	1,439,000	0
Storage Upgrades	92406_7203	Apr-12	Jun-17	800,000	0	800,000	0	330,000	330,000	470,000	0
Backup Upgrades	92407_7204	Apr-12	Jun-17	500,000	0	500,000	0	280,000	280,000	220,000	0
Server Management	92408_7205	Jul-12	Jun-17	500,000	0	500,000	0	200,000	200,000	300,000	0
Enterprise Applic Integr	98480_7443	Oct-12	Jun-17	600,000	0	600,000	0	230,000	230,000	370,000	0
E-Mail Upgrades	98481_7444	Jul-13	Jun-17	150,000	0	150,000	0	0	0	150,000	0
Enterprise Data Mgmt	98482_7445	Jan-13	Jun-17	1,000,000	0	1,000,000	0	150,000	150,000	850,000	0
User Data Mgmt	98483_7446	Apr-13	Jun-17	70,000	0	70,000	0	35,000	35,000	35,000	0



CEB Related Attachments



FY13 Draft Final vs. FY13 Proposed

ATTACHMENT CEB-1

FY13 Draft Final vs FY13 Proposed Budget

TOTAL MWRA	FY13 Proposed	FY13 Draft Final	Change FY13 Draft Final vs FY13 Proposed Budget	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 94,122,594	\$ 94,059,400	\$ (63,194)	-0.1%
OVERTIME	3,684,062	3,573,496	(110,566)	-3.0%
FRINGE BENEFITS	18,803,154	18,241,926	(561,228)	-3.0%
WORKERS' COMPENSATION	2,100,000	2,100,000	-	0.0%
CHEMICALS	10,371,752	10,672,183	300,431	2.9%
ENERGY AND UTILITIES	23,966,664	23,690,171	(276,493)	-1.2%
MAINTENANCE	28,333,643	28,229,070	(104,573)	-0.4%
TRAINING AND MEETINGS	385,617	385,617	-	0.0%
PROFESSIONAL SERVICES	5,766,212	5,900,785	134,573	2.3%
OTHER MATERIALS	5,603,469	5,591,291	(12,178)	-0.2%
OTHER SERVICES	23,998,784	23,743,608	(255,176)	-1.1%
TOTAL DIRECT EXPENSES	\$ 217,135,952	\$ 216,187,546	\$ (948,403)	-0.4%
INSURANCE	\$ 2,037,875	\$ 2,097,875	\$ 60,000	2.9%
WATERSHED/PILOT	26,433,175	26,413,175	(20,000)	-0.1%
HEEC PAYMENT	3,741,915	3,741,915	-	0.0%
MITIGATION	1,566,923	1,566,923	(0)	0.0%
ADDITIONS TO RESERVES	970,958	1,610,272	639,314	65.8%
RETIREMENT FUND	5,750,085	10,474,376	4,724,291	82.2%
POSTEMPLOYMENT BENEFITS	4,724,291	-	(4,724,291)	-100.0%
TOTAL INDIRECT EXPENSES	\$ 45,225,222	\$ 45,904,536	\$ 679,314	1.5%
DEBT SERVICE (before offsets)	\$ 377,496,538	\$ 376,018,756	\$ (1,477,782)	-0.4%
VARIABLE RATE DEBT	-	-	-	-
VARIABLE RATE DEBT/OTHER	-	-	-	-
BOND REDEMPTION	-	-	-	-
DEBT SERVICE ASSISTANCE	-	(350,000)	(350,000)	-
TOTAL DEBT SERVICE	\$ 377,496,538	\$ 375,668,756	\$ (1,827,782)	-0.5%
TOTAL EXPENSES	\$ 639,857,712	\$ 637,760,838	\$ (2,096,871)	-0.3%
REVENUE & INCOME				
RATE REVENUE	612,617,101	\$ 610,301,000	\$ (2,316,101)	-0.4%
OTHER USER CHARGES	7,845,688	7,763,802	(81,886)	-1.0%
OTHER REVENUE	5,831,445	6,132,561	301,116	5.2%
RATE STABILIZATION	-	-	0	-
INVESTMENT INCOME	13,563,475	13,563,475	0	0.0%
TOTAL REVENUE & INCOME	\$ 639,857,712	\$ 637,760,838	\$ (2,096,871)	-0.3%

**ATTACHMENT CEB-1 NOTES
FY13 Draft Final vs FY13 Proposed**

TOTAL MWRA	FY13 Proposed	FY13 Draft Final	Change		Notes
			FY13 Draft Final vs FY13 Proposed		
			\$	%	
EXPENSES					
WAGES AND SALARIES	\$ 94,122,594	\$ 94,059,400	\$ (63,194)	-0.1%	Reduction of Temp employees (\$88k) offset by increased interns +\$25k.
OVERTIME	3,684,062	3,573,496	(110,566)	-3.0%	Mainly reduction of Hultman related OT of (\$97k).
FRINGE BENEFITS	18,803,154	18,241,926	(561,228)	-3.0%	Reduction of health care cost of (\$561k). New rates are lower than estimated.
WORKERS' COMPENSATION	2,100,000	2,100,000	-	0.0%	Level funded
CHEMICALS	10,371,752	10,672,183	300,431	2.9%	Increase due to dosing change for UV at Carroll Plant of \$152k and price changes of \$148k.
ENERGY AND UTILITIES	23,966,664	23,690,171	(276,493)	-1.2%	Mainly due to decreased electricity of (\$715k) based on recent bids offset by increased diesel pricing of +\$465k.
MAINTENANCE	28,333,643	28,229,070	(104,573)	-0.4%	Mainly due to realignment of MIS related cost to Professional Services of (\$185k) offset by increases for OPS maintenance.
TRAINING AND MEETINGS	385,617	385,617	-	0.0%	Level funded
PROFESSIONAL SERVICES	5,766,212	5,900,785	134,573	2.3%	Mainly due to realignment of MIS related cost from Maintenance +\$185k.
OTHER MATERIALS	5,603,469	5,591,291	(12,178)	-0.2%	Mainly due to increased fuel pricing of +\$60k offset by lower postage of (\$16k).
OTHER SERVICES	23,998,784	23,743,608	(255,176)	-1.1%	Elimination of the Deer Island Ambulance contract funding of (\$250k).
TOTAL DIRECT EXPENSES	\$ 217,135,952	\$ 216,187,546	\$ (948,403)	-0.4%	
INSURANCE	\$ 2,037,875	\$ 2,097,875	\$ 60,000	2.9%	Increase in premiums based on latest bid information. Staff summary being presented at today's Board.
WATERSHED/PILOT	26,433,175	26,413,175	(20,000)	-0.1%	Nominal decrease to operating expenses.
HEEC PAYMENT	3,741,915	3,741,915	-	0.0%	Level funded

ATTACHMENT CEB-1 NOTES
FY13 Draft Final vs FY13 Proposed

TOTAL MWRA	FY13 Proposed	FY13 Draft Final	Change		Notes
			FY13 Draft Final vs FY13 Proposed		
			\$	%	
MITIGATION	1,566,923	1,566,923	(0)	0.0%	Level funded
ADDITIONS TO RESERVES	970,958	1,610,272	639,314	65.8%	1/6 of operating expenses as per Bond Resolution, related to the redirection of the OPEB funding to the Pension.
RETIREMENT FUND	5,750,085	10,474,376	4,724,291	82.2%	Reflects redirecting to the pension fund the \$4.7 million intended to fund the OPEB liability in the proposed budget.
POSTEMPLOYMENT BENEFITS	4,724,291	-	(4,724,291)	-100.0%	See above.
TOTAL INDIRECT EXPENSES	\$ 45,225,222	\$ 45,904,536	\$ 679,314	1.5%	
DEBT SERVICE (before offsets)	\$ 377,496,538	\$ 376,018,756	\$ (1,477,782)	-0.4%	Decrease due to increased defeasance and the recent refunding.
VARIABLE RATE DEBT	-				
VARIABLE RATE DEBT/OTHER		-			
BOND REDEMPTION					
DEBT SERVICE ASSISTANCE		(350,000)	(350,000)		Reflects the inclusion of Debt Service Assistance.
TOTAL DEBT SERVICE	\$ 377,496,538	\$ 375,668,756	\$ (1,827,782)	-0.5%	
TOTAL EXPENSES	\$ 639,857,712	\$ 637,760,838	\$ (2,096,871)	-0.3%	
REVENUE & INCOME					
RATE REVENUE	612,617,101	\$ 610,301,000	\$ (2,316,101)	-0.4%	Reduction based on revised numbers.
OTHER USER CHARGES	7,845,688	7,763,802	(81,886)	-1.0%	Decrease mainly due to reductions for the CVA communities based on updated information, mostly related to capital projects.
OTHER REVENUE	5,831,445	6,132,561	301,116	5.2%	Increase of +\$432k for increased RPS credit pricing offset by other reductions.
RATE STABILIZATION	-		0		
INVESTMENT INCOME	13,563,475	13,563,475	0	0.0%	
TOTAL REVENUE & INCOME	\$ 639,857,712	\$ 637,760,838	\$ (2,096,871)	-0.3%	



FY13 Draft Final vs. FY12 Approved Budget

ATTACHMENT CEB-2

FY13 Draft Final vs FY12 Approved Budget

TOTAL MWRA	FY11 Actual	FY12 Approved Budget	FY13 Draft Final	Change	
				FY13 Draft Final vs FY12 Approved Budget	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 88,505,698	\$ 90,319,013	\$ 94,059,400	\$ 3,740,387	4.1%
OVERTIME	3,899,297	3,508,630	3,573,496	64,866	1.8%
FRINGE BENEFITS	17,357,067	17,954,076	18,241,926	287,850	1.6%
WORKERS' COMPENSATION	2,228,175	2,100,000	2,100,000	-	0.0%
CHEMICALS	8,697,048	9,047,275	10,672,183	1,624,908	18.0%
ENERGY AND UTILITIES	21,977,294	22,654,931	23,690,171	1,035,240	4.6%
MAINTENANCE	27,964,126	29,470,020	28,229,070	(1,240,950)	-4.2%
TRAINING AND MEETINGS	127,569	251,550	385,617	134,067	53.3%
PROFESSIONAL SERVICES	5,638,342	5,892,441	5,900,785	8,344	0.1%
OTHER MATERIALS	4,327,538	4,765,482	5,591,291	825,809	17.3%
OTHER SERVICES	23,551,456	23,323,074	23,743,608	420,534	1.8%
TOTAL DIRECT EXPENSES	\$ 204,273,610	\$ 209,286,493	\$ 216,187,546	\$ 6,901,053	3.3%
INSURANCE	\$ 1,002,044	\$ 2,285,866	\$ 2,097,875	\$ (187,991)	-8.2%
WATERSHED/PILOT	24,709,345	25,576,274	26,413,175	836,901	3.3%
HEEC PAYMENT	3,875,371	3,965,499	3,741,915	(223,584)	-5.6%
MITIGATION	1,474,834	1,528,705	1,566,923	38,218	2.5%
ADDITIONS TO RESERVES	(407,581)	195,467	1,610,272	1,414,805	723.8%
RETIREMENT FUND	5,342,856	7,340,438	10,474,376	3,133,938	42.7%
POSTEMPLOYMENT BENEFITS	-	-	-	-	-
TOTAL INDIRECT EXPENSES	\$ 35,996,869	\$ 40,892,249	\$ 45,904,536	\$ 5,012,287	12.3%
DEBT SERVICE (before offsets)	\$ 360,157,926	\$ 368,329,918	\$ 376,018,756	\$ 7,688,838	2.1%
VARIABLE RATE DEBT/OTHER					
BOND REDEMPTION					
DEBT SERVICE ASSISTANCE		(350,000)	(350,000)		0.0%
TOTAL DEBT SERVICE	\$ 360,157,926	\$ 367,979,918	\$ 375,668,756	\$ 7,688,838	2.1%
TOTAL EXPENSES	\$ 600,428,405	\$ 618,158,660	\$ 637,760,838	\$ 19,602,178	3.2%
REVENUE & INCOME					
RATE REVENUE	\$ 569,800,000	589,700,000	\$ 610,301,000	\$ 20,601,000	3.49%
OTHER USER CHARGES	7,218,641	7,142,494	7,763,802	621,308	8.7%
OTHER REVENUE	7,335,377	4,872,342	6,132,561	1,260,219	25.9%
RATE STABILIZATION	5,029,744	1,091,781		(1,091,781)	-100.0%
INVESTMENT INCOME	15,193,091	15,352,043	13,563,475	(1,788,568)	-11.7%
TOTAL REVENUE & INCOME	\$ 604,576,854	\$ 618,158,660	\$ 637,760,838	\$ 19,602,178	3.2%



FY13 Draft Final vs. FY12 Preliminary Projection



Rates Related Attachments

MWRA PLANNING ESTIMATES

Proposed FY2013

		FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
3.9%	Direct Expenses (\$ in Mil)	\$ 209,286	\$ 217,136	\$ 226,114	\$ 235,269	\$ 244,364	\$ 254,504	\$ 264,347	\$ 275,079	\$ 285,924	\$ 297,361	\$ 309,256
	Indirect Expenses (\$ in Mil)	\$ 40,892	\$ 45,225	\$ 47,975	\$ 48,732	\$ 48,429	\$ 48,254	\$ 54,835	\$ 51,962	\$ 54,091	\$ 58,510	\$ 60,918
	Capital Expenses (\$ in Mil)	\$ 368,330	\$ 377,497	\$ 410,294	\$ 456,826	\$ 493,949	\$ 549,660	\$ 533,372	\$ 606,071	\$ 571,624	\$ 620,466	\$ 652,680
	Total Rate Revenue (\$ in Mil)	\$ 589,700	\$ 612,617	\$ 640,966	\$ 694,210	\$ 736,338	\$ 800,843	\$ 811,913	\$ 879,214	\$ 869,028	\$ 920,505	\$ 976,896
	Rate Revenue Change (\$ in Mil)	\$ 19,900	\$ 22,917	\$ 28,349	\$ 53,243	\$ 42,128	\$ 64,505	\$ 11,069	\$ 67,301	\$ (10,186)	\$ 51,478	\$ 56,391
	Rate Revenue Change	3.49%	3.9%	4.6%	8.3%	6.1%	8.8%	1.4%	8.3%	-1.2%	5.9%	6.1%
	Use of Reserves (\$ in Mil)	\$ 1,092	\$ -	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ 12,000	\$ 866
Reserves Balance (\$ in Mil)		\$ 72,866	\$ 72,866	\$ 60,866	\$ 48,866	\$ 36,866	\$ 24,866	\$ 24,866	\$ 12,866	\$ 12,866	\$ 866	\$ (0)

Draft Final FY13 - 3.49% Rate Increase in FY13

		FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
3.49%	Direct Expenses (\$ in Mil)	\$ 209,286	\$ 216,188	\$ 225,458	\$ 234,591	\$ 243,354	\$ 253,398	\$ 263,120	\$ 273,803	\$ 284,755	\$ 295,981	\$ 307,821
	Indirect Expenses (\$ in Mil)	\$ 40,892	\$ 45,905	\$ 47,278	\$ 48,773	\$ 48,420	\$ 48,287	\$ 54,866	\$ 52,008	\$ 54,164	\$ 58,533	\$ 60,970
	Capital Expenses (\$ in Mil)	\$ 368,330	\$ 376,019	\$ 405,721	\$ 444,649	\$ 484,427	\$ 540,385	\$ 526,178	\$ 564,468	\$ 600,813	\$ 613,659	\$ 643,261
	Total Rate Revenue (\$ in Mil)	\$ 589,700	\$ 610,301	\$ 636,139	\$ 682,886	\$ 727,579	\$ 792,343	\$ 805,410	\$ 838,555	\$ 887,046	\$ 925,606	\$ 969,139
	Rate Revenue Change (\$ in Mil)	\$ 19,900	\$ 20,601	\$ 25,838	\$ 46,748	\$ 44,692	\$ 64,764	\$ 13,066	\$ 33,145	\$ 48,491	\$ 38,560	\$ 43,534
	Rate Revenue Change	3.49%	3.49%	4.2%	7.3%	6.5%	8.9%	1.6%	4.1%	5.8%	4.3%	4.7%
	Use of Reserves (\$ in Mil)	\$ 1,092	\$ -	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -	\$ 12,000	\$ 12,000	\$ 866	\$ -
Reserves Balance (\$ in Mil)		\$ 72,866	\$ 72,866	\$ 60,866	\$ 48,866	\$ 36,866	\$ 24,866	\$ 24,866	\$ 12,866	\$ 866	\$ 0	\$ 0

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	ASSUMPTIONS				
COMBINED UTILITIES																
EXPENSES												Run Date	15-Feb-12			
Direct Expenses	\$209,286	\$217,136	\$226,114	\$235,269	\$244,364	\$254,504	\$264,347	\$275,079	\$285,924	\$297,361	\$309,256	Run Time	1:51 PM			
Indirect Expenses	40,892	45,225	47,975	48,732	48,429	48,254	54,835	51,962	54,091	58,510	60,918	CEB Inflation	FY2014-2030		4.0%	
Capital Financing (before offsets)	368,330	377,497	410,294	456,826	493,949	549,660	533,372	606,071	571,624	620,466	652,680					
Sub-Total Expenses	\$618,509	\$639,858	\$684,383	\$740,827	\$786,743	\$852,418	\$852,554	\$933,113	\$911,639	\$976,338	\$1,022,854					
Debt Service Assistance	(350)	0	0	0	0	0	0	0	0	0	0					
Bond Redemption Savings	0	0	(5,060)	(2,858)	(1,992)	(2,727)	0	(12,000)	0	(7,351)	(866)					
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0					
Total Expenses	\$618,159	\$639,858	\$679,323	\$737,969	\$784,751	\$849,691	\$852,554	\$921,113	\$911,639	\$968,987	\$1,021,989					
REVENUE & INCOME																
Non-Member and Other Revenue	\$12,015	\$13,677	\$14,369	\$14,824	\$15,226	\$15,611	\$16,115	\$16,551	\$16,726	\$17,175	\$17,724					
Interest Income	15,352	13,563	17,047	19,793	23,178	23,963	24,527	25,348	25,886	26,657	27,369					
Rate Stabilization	1,092	0	6,940	9,142	10,008	9,273	0	0	0	4,649	0					
Total Other Revenue	\$28,459	\$27,241	\$38,356	\$43,764	\$48,413	\$48,848	\$40,642	\$41,899	\$42,612	\$46,481	\$45,092					
Total Rate Revenue	\$589,700	\$612,617	\$640,966	\$694,210	\$736,338	\$800,843	\$811,913	\$879,214	\$869,028	\$920,505	\$976,896					
Rate Revenue Increase	3.49%	3.9%	4.6%	8.3%	6.1%	8.8%	1.4%	8.3%	-1.2%	5.9%	6.1%					
Estimated Annual Household Charge **																
Based on water use of 61k gpy (weighted)	\$883	\$925	\$969	\$1,034	\$1,092	\$1,161	\$1,213	\$1,289	\$1,313	\$1,391	\$1,476					
Based on water use of 90k gpy (weighted)	\$1,303	\$1,365	\$1,430	\$1,525	\$1,611	\$1,713	\$1,790	\$1,902	\$1,937	\$2,052	\$2,178					
WASTEWATER UTILITY																
EXPENSES																
Direct Expenses	\$145,298	\$151,586	\$157,573	\$163,837	\$170,052	\$177,185	\$184,077	\$191,543	\$199,049	\$207,011	\$215,292					
Indirect Expenses	11,784	14,505	15,350	15,400	14,354	13,391	18,118	14,352	15,601	19,105	19,253					
Capital Financing (before offsets)	259,702	263,884	280,692	307,819	328,261	377,768	338,395	382,204	380,991	386,665	393,124					
Sub-Total Wastewater Expenses	\$416,784	\$429,974	\$453,615	\$487,057	\$512,668	\$568,343	\$540,590	\$588,099	\$595,642	\$612,782	\$627,668					
Debt Service Assistance	(324)	0	0	0	0	0	0	0	0	0	0					
Bond Redemption Savings	0	0	0	(2,537)	(1,843)	(1,403)	0	0	0	0	0					
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0					
Total Wastewater Expenses	\$416,460	\$429,974	\$453,615	\$484,519	\$510,826	\$566,940	\$540,590	\$588,099	\$595,642	\$612,782	\$627,668					
REVENUE & INCOME																
Non-Member and Other Revenue	\$3,962	\$4,883	\$4,993	\$5,112	\$5,232	\$5,376	\$5,471	\$5,622	\$5,749	\$5,889	\$6,032					
Interest Income	9,979	8,853	10,311	11,934	13,967	14,487	14,612	15,028	15,269	15,479	15,701					
Rate Stabilization	(3,295)	0	0	0	0	5,239	0	0	0	0	0					
Total Other Revenue	\$10,646	\$13,736	\$15,303	\$17,046	\$19,199	\$25,102	\$20,083	\$20,650	\$21,018	\$21,367	\$21,733					
Wastewater Rate Revenue	\$405,814	\$416,239	\$438,312	\$467,474	\$491,627	\$541,838	\$520,506	\$567,448	\$574,624	\$591,415	\$605,935					
Rate Revenue Increase	4.17%	2.6%	5.3%	6.7%	5.2%	10.2%	-3.9%	9.0%	1.3%	2.9%	2.5%					
Estimated Annual Household Charge **																
Based on water use of 61k gpy (weighted)	\$526	\$548	\$576	\$608	\$639	\$684	\$694	\$739	\$765	\$798	\$830					
Based on water use of 90k gpy (weighted)	\$777	\$808	\$850	\$898	\$943	\$1,009	\$1,024	\$1,090	\$1,129	\$1,177	\$1,225					
WATER UTILITY																
EXPENSES																
Direct Expenses	\$63,989	\$65,550	\$68,541	\$71,432	\$74,312	\$77,319	\$80,270	\$83,536	\$86,875	\$90,350	\$93,964					
Indirect Expenses	29,108	30,721	32,625	33,332	34,075	34,863	36,717	37,611	38,489	39,405	41,665					
Capital Financing (before offsets)	108,628	113,612	129,602	149,007	165,687	171,892	194,977	223,867	190,633	233,801	259,556					
Sub-Total Water Expenses	\$201,725	\$209,883	\$230,767	\$253,770	\$274,074	\$284,075	\$311,964	\$345,014	\$315,998	\$363,556	\$395,186					
Debt Service Assistance	(26)	0	0	0	0	0	0	0	0	0	0					
Bond Redemption Savings	0	0	(5,060)	(321)	(149)	(1,324)	0	(12,000)	0	(7,351)	(866)					
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0					
Total Water Expenses	\$201,698	\$209,883	\$225,707	\$253,449	\$273,925	\$282,751	\$311,964	\$333,014	\$315,998	\$356,205	\$394,320					
REVENUE & INCOME																
Non-Member and Other Revenue	\$8,053	\$8,794	\$9,377	\$9,712	\$9,994	\$10,235	\$10,644	\$10,929	\$10,976	\$11,287	\$11,692					
Interest Income	6,373	4,710	6,736	7,860	9,211	9,476	9,915	10,320	10,617	11,179	11,667					
Rate Stabilization	4,387	0	6,940	9,142	10,008	4,034	0	0	0	4,649	0					
Total Other Revenue	\$17,813	\$13,505	\$23,053	\$26,713	\$29,214	\$23,746	\$20,558	\$21,249	\$21,594	\$27,114	\$23,359					
Water Rate Revenue	\$183,886	\$196,378	\$202,655	\$226,736	\$244,712	\$259,005	\$291,406	\$311,765	\$294,404	\$329,091	\$370,961					
Rate Revenue Increase	2.03%	6.8%	3.2%	11.9%	7.9%	5.8%	12.5%	7.0%	-5.6%	11.8%	12.7%					
Estimated Annual Household Charge **																
Based on water use of 61k gpy (weighted)	\$357	\$378	\$393	\$426	\$453	\$477	\$519	\$550	\$548	\$593	\$646					
Based on water use of 90k gpy (weighted)	\$526	\$557	\$580	\$628	\$668	\$704	\$766	\$812	\$808	\$875	\$953					
Debt Terms																
Type	Fiscal Year	Term	Rate													
Fixed Debt	FY13	30	5.50%													
Fixed Debt	FY14	30	5.75%													
Fixed Debt	FY15-FY30	40	6.00%													
SRF - Sewer	FY13	See Below	See Below													
SRF - Sewer	FY14-FY30	30	2.50%													
SRF - Water	FY13-FY30	20	2.00%													
Variable Rate	FY13	Existing Issues	3.25%													
Variable Rate	FY14	Existing Issues	3.50%													
Variable Rate	FY15	Existing Issues	3.75%													
Variable Rate	FY16-FY30	Existing Issues	4.00%													
TECP	FY13-FY30		3.75%													
Water Pipeline	FY13-FY30	20	3.25%													
FY13 Borrowing Plan																
Type	Amount	Term	Rate													
Fixed Debt	125,000	30	5.50%													
SRF-Sewer	20,000	30	2.50%													
SRF-Sewer	10,000	14	2.08%													
SRF-Sewer	5,000	10	2.08%													
SRF-Water	15,000	20	2.08%													
TOTAL	175,000															
Average Investment Rates																
Type	Fiscal Year	Rate														
Short Term	FY13	0.30%														
Short Term	FY14	0.50%														
Short Term	FY15	0.75%														
Short Term	FY16-FY30	1.00%														
Long Term	FY13	3.50%														
Long Term	FY14	4.00%														
Long Term	FY15	4.50%														
Long Term	FY16-FY30	5.00%														
Other Comments																
1) Based on CEB Model PFY13 #3.0																

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the 2011 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.

Final FY13 (#3.0)

MASSACHUSETTS WATER RESOURCE AUTHORITY
RATES AND BUDGET PROJECTIONS (2010)

DRAFT FINAL

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	ASSUMPTIONS			
COMBINED UTILITIES															
EXPENSES															
Direct Expenses	\$209,286	\$216,188	\$225,458	\$234,591	\$243,354	\$253,398	\$263,120	\$273,803	\$284,755	\$295,981	\$307,821	Run Date	1-Jun-12		
Indirect Expenses	40,892	45,905	47,278	48,773	48,420	48,287	54,866	52,008	54,164	58,533	60,970	Run Time	9:53 AM		
Capital Financing (before offsets)	368,330	376,019	405,721	444,649	484,427	540,385	526,178	564,468	600,813	613,659	643,261	CEB Inflation	FY2014-2030		4.0%
Sub-Total Expenses	\$618,509	\$638,111	\$678,457	\$728,013	\$776,201	\$842,069	\$844,164	\$890,278	\$939,733	\$968,174	\$1,012,051	Use of Reserves for Rate Stabilization			
Debt Service Assistance	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	(350)	Rate Stabilization		Bond Redemption	Combined
Bond Redemption Savings	0	0	(1,162)	(3,500)	(2,745)	(6,734)	0	(5,846)	(12,000)	(866)	0	FY2013	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0	FY2014	10,838	1,162	12,000
Total Expenses	\$618,159	\$637,761	\$676,945	\$724,162	\$773,105	\$834,986	\$843,814	\$884,082	\$927,383	\$966,958	\$1,011,701	FY2015	8,500	3,500	12,000
REVENUE & INCOME												FY2016	9,255	2,745	12,000
Non-Member and Other Revenue	\$12,015	\$13,896	\$14,794	\$15,166	\$15,571	\$15,973	\$16,466	\$16,700	\$17,097	\$17,533	\$17,972	FY2017	5,266	6,734	12,000
Interest Income	15,352	13,563	15,174	17,610	20,701	21,403	21,939	22,673	23,240	23,819	24,589	FY2018	0	0	0
Rate Stabilization	1,092	0	10,838	8,500	9,255	5,266	0	6,154	0	0	0	FY2019	6,154	5,846	12,000
Total Other Revenue	\$28,459	\$27,460	\$40,806	\$41,276	\$45,526	\$42,643	\$38,405	\$45,527	\$40,337	\$41,352	\$42,562	FY2020	0	12,000	12,000
Total Rate Revenue	\$589,700	\$610,301	\$636,139	\$682,886	\$727,579	\$792,343	\$805,410	\$838,555	\$887,046	\$925,606	\$969,139	FY2021	0	866	866
Rate Revenue Change	3.49%	3.49%	4.2%	7.3%	6.5%	8.9%	1.6%	4.1%	5.8%	4.3%	4.7%	FY2022	0	0	0
Estimated Annual Household Charge **												TOTAL	40,012	32,853	72,866
Based on water use of 61k gpy (weighted)	\$883	\$924	\$967	\$1,026	\$1,085	\$1,155	\$1,208	\$1,258	\$1,325	\$1,397	\$1,469	FY13 B.O.Y.	40,012	32,853	72,866
Based on water use of 90k gpy (weighted)	\$1,303	\$1,364	\$1,427	\$1,513	\$1,601	\$1,705	\$1,782	\$1,856	\$1,955	\$2,060	\$2,168				
WASTEWATER UTILITY												Debt Terms			
EXPENSES												Type	Fiscal Year	Term	Rate
Direct Expenses	\$145,298	\$150,492	\$156,783	\$162,996	\$168,877	\$175,977	\$182,745	\$190,158	\$197,764	\$205,513	\$213,734	Fixed Debt	FY13	30	5.00%
Indirect Expenses	11,784	14,895	14,900	15,427	14,335	13,424	18,137	14,384	15,661	19,115	19,289	Fixed Debt	FY14	30	5.75%
Capital Financing (before offsets)	259,702	263,154	278,646	300,201	324,428	373,944	336,807	369,094	391,747	385,364	393,462	Fixed Debt	FY15-FY30	40	6.00%
Sub-Total Wastewater Expenses	\$416,784	\$428,541	\$450,328	\$478,624	\$507,640	\$563,344	\$537,690	\$573,636	\$605,172	\$609,992	\$626,486	SRF - Sewer	FY13	See Below	See Below
Debt Service Assistance	(324)	(323)	(321)	(321)	(319)	(322)	(318)	(311)	(321)	(312)	(312)	SRF - Sewer	FY14-FY30	30	2.50%
Bond Redemption Savings	0	0	0	0	0	(5,783)	0	0	0	0	0	SRF - Water	FY13-FY30	20	2.00%
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0	Variable Rate	FY13	Existing Issues	3.25%
Total Wastewater Expenses	\$416,460	\$428,218	\$450,008	\$478,303	\$507,321	\$557,239	\$537,372	\$573,325	\$604,851	\$609,680	\$626,175	Variable Rate	FY14	Existing Issues	3.50%
REVENUE & INCOME												Variable Rate	FY15	Existing Issues	3.75%
Non-Member and Other Revenue	\$3,962	\$5,194	\$5,301	\$5,422	\$5,545	\$5,689	\$5,785	\$5,929	\$6,075	\$6,205	\$6,350	Variable Rate	FY16-FY30	Existing Issues	4.00%
Interest Income	9,978	8,853	9,196	10,663	12,577	13,074	13,195	13,560	13,879	14,028	14,248	TECP	FY13-FY30		3.75%
Rate Stabilization	(3,295)	0	3,803	0	0	1,436	0	0	0	0	0	Water Pipeline	FY13-FY30	20	3.25%
Total Other Revenue	\$10,646	\$14,047	\$18,300	\$16,086	\$18,122	\$20,199	\$18,980	\$19,489	\$19,954	\$20,233	\$20,598	FY13 Borrowing Plan			
Wastewater Rate Revenue	\$405,814	\$414,171	\$431,708	\$462,217	\$489,199	\$537,041	\$518,392	\$553,835	\$584,897	\$589,447	\$605,577	Type	Amount	Term	Rate
Rate Revenue Change	4.17%	2.06%	4.2%	7.1%	5.8%	9.8%	-3.5%	6.8%	5.6%	0.8%	2.7%	Fixed Debt	100,000	30	5.00%
Estimated Annual Household Charge **												SRF-Sewer	26,900	varies	2.50%
Based on water use of 61k gpy (weighted)	\$526	\$547	\$573	\$606	\$638	\$681	\$693	\$732	\$771	\$797	\$830	SRF-Water	11,100	varies	2.08%
Based on water use of 90k gpy (weighted)	\$777	\$807	\$845	\$894	\$941	\$1,005	\$1,022	\$1,080	\$1,137	\$1,176	\$1,225	TOTAL	138,000		
WATER UTILITY												Average Investment Rates			
EXPENSES												Type	Fiscal Year	Rate	
Direct Expenses	\$63,989	\$65,696	\$68,675	\$71,595	\$74,477	\$77,421	\$80,375	\$83,645	\$86,991	\$90,468	\$94,087	Short Term	FY13	0.30%	
Indirect Expenses	29,108	31,009	32,379	33,345	34,085	34,863	36,729	37,623	38,503	39,419	41,681	Short Term	FY14	0.50%	
Capital Financing (before offsets)	108,628	112,864	127,075	144,448	159,999	166,441	189,371	195,374	209,066	228,295	249,798	Short Term	FY15	0.75%	
Sub-Total Water Expenses	\$201,725	\$209,569	\$228,129	\$249,389	\$268,561	\$278,725	\$306,475	\$316,642	\$334,560	\$358,181	\$385,566	Short Term	FY16-FY30	1.00%	
Debt Service Assistance	(26)	(27)	(29)	(29)	(31)	(28)	(32)	(39)	(29)	(38)	(39)	Long Term	FY13	3.00%	
Bond Redemption Savings	0	0	(1,162)	(3,500)	(2,745)	(951)	0	(5,846)	(12,000)	(866)	0	Long Term	FY14	3.50%	
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0	0	Long Term	FY15	4.00%	
Total Water Expenses	\$201,698	\$209,543	\$226,937	\$245,859	\$265,784	\$277,747	\$306,443	\$310,757	\$322,532	\$357,278	\$385,527	Long Term	FY16-FY30	4.50%	
REVENUE & INCOME															
Non-Member and Other Revenue	\$8,053	\$8,702	\$9,493	\$9,744	\$10,026	\$10,285	\$10,681	\$10,771	\$11,023	\$11,328	\$11,622				
Interest Income	5,373	4,710	5,979	6,947	8,124	8,329	8,744	9,113	9,361	9,791	10,342				
Rate Stabilization	4,387	0	7,035	8,500	9,255	3,831	0	6,154	0	0	0				
Total Other Revenue	\$17,813	\$13,413	\$22,507	\$25,190	\$27,404	\$22,444	\$19,425	\$26,038	\$20,383	\$21,119	\$21,964				
Water Rate Revenue	\$183,886	\$196,130	\$204,431	\$220,669	\$238,380	\$255,303	\$287,018	\$284,720	\$302,148	\$336,158	\$363,563				
Rate Revenue Change	2.03%	6.66%	4.2%	7.9%	8.0%	7.1%	12.4%	-0.8%	6.1%	11.3%	8.2%	Other Comments			
Estimated Annual Household Charge **												1) Based on CEB Model FY13 #3.0			
Based on water use of 61k gpy (weighted)	\$357	\$377	\$395	\$420	\$447	\$474	\$515	\$526	\$555	\$600	\$639				
Based on water use of 90k gpy (weighted)	\$526	\$557	\$583	\$620	\$660	\$699	\$760	\$775	\$819	\$885	\$943				

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the 2011 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.



Reserve Attachments

MWRA Reserve Summary

MWRA Rate Stabilization, Bond Redemption, and Funded Reserves (Updated based on FY11 Year End)

Under the terms of its General Bond Resolution, MWRA maintains two funds, Rate Stabilization and Bond Redemption, which are used to smooth rate increases. Monies in the funds come from year-end CEB surpluses. The amounts in the funds and the permitted and planned uses are discussed below. Amounts do not reflect FY11 year end transfers.

Rate Stabilization - \$37.0 million. Under the terms of the General Bond Resolution, the annual use of Rate Stabilization monies cannot exceed 10% of the year's senior debt service. The MWRA FY11 budget included the use of \$5.0 million in rate stabilization funds. This amount may be offset by a deposit of \$4.1 million in FY11 surplus funds which would result in a total withdrawal of \$0.9 million. The Final FY12 CEB includes the use of \$1.1 million of rate stabilization funds. Current planning estimates assume use of all of the Rate Stabilization monies by FY19.

Bond Redemption - \$32.9 million. Monies in the Bond Redemption Fund can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year. However, there are constraints based on bond maturity dates. The FY11 CEB assumes no use of Bond Redemption. Current planning estimates assume that the remaining funds are exhausted by FY21.

In addition to the Rate Stabilization and Bond Redemption funds, MWRA maintains five funded reserves required by the terms of the General Bond Resolution: Debt Service, CORE, Operating, Insurance, and Renewal and Replacement. The amount in each reserve, the basis for determining the funding requirement and when a reserve can be used to reduce rate revenue requirements are discussed on the right:

Debt Service Reserve - \$244.9 million. This is MWRA's largest reserve, and is funded from bond proceeds. This balance reflects the deposit of \$9.6 million from the 2011 B bonds. The required balance is equal to the sum of the average annual debt service for outstanding issues. The fund can be used to pay debt service when the amount for a specific debt series in the reserve is greater than the remaining debt service.

CORE - \$20 million. The required balance is 10% of each year's senior debt service on senior bonds outstanding as of July 1. Excess monies can be transferred to the revenue fund when reserve amounts are greater than required.

Operating Reserve - \$37.6 million. The required balance is one-sixth of operating expenses for a year. Based on the Final FY09 CEB, the required balance was \$38.3 million. Based on a reduction in expenses during FY10 the required balance at year end was \$37.6 million.

Insurance Reserve - \$14 million. MWRA mitigates the budgetary risk of self-insurance by maintaining an insurance reserve. The reserve which was established as part of the Bond Resolution requires that an independent insurance consultant review the adequacy of the funding level every three years. The \$14 million level has been determined to be acceptable and reasonable based on the February 2011 report. The next review is due in February 2014.

Renewal and Replacement Reserve - \$35 million. The required balance is based on the triennial recommendation of a consulting engineer. The current recommendation is \$35 million. MWRA's consulting engineer has updated its triennial report in FY12 and the consultant recommended no changes to the requirement.

MWRA RESERVE SUMMARY
MWRA Rate Stabilization, Bond Redemption, and Funded Reserves

<u>Name of Reserve</u>	<u>Current Balance</u> <u>(\$ million) as of</u> <u>6/30/2011</u>	<u>Estimated</u> <u>Release of</u> <u>funds</u>	<u>Estimated Future Balance</u> <u>after Amendment to</u> <u>General Bond Resolution</u> <u>(\$ million)</u>	<u>Description</u>	<u>Restrictions</u>	<u>Source of Funds</u>
Rate Stabilization	\$37.0		\$37.0	Under the terms of the General Bond Resolution, the annual use of Rate Stabilization monies cannot exceed 10% of the year's senior debt service.	Annual use cannot exceed 10% of the year's net senior debt service.	Current Revenue
Bond Redemption	\$32.9		\$32.9	Monies in the Bond Redemption Fund can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year. However, there are constraints based on bond maturity dates by utility.	Can be used only to retire or prepay outstanding debt. Also, restricted by utility specific bond maturity dates.	Current Revenue
Debt Service Reserve	\$244.9	\$96.3	\$148.6	This is MWRA's largest reserve, and is funded from bond proceeds. This balance reflects the deposit of \$9.6 million from the 2011 B bonds. The required balance is equal to the sum of the average annual debt service for outstanding issues. The fund can be used to pay debt service when the amount for a specific debt series in the reserve is greater than the remaining debt service.	Can be used only towards debt service or to retire debt when released.	Bond Proceeds
CORE (Community Obligation and Revenue Enhancement Fund)	\$20.0	\$20.0	\$0.0	The required balance is 10% of each year's senior debt service on senior bonds outstanding as of July 1. Excess monies can be transferred to the revenue fund when reserve amounts are greater than required.		Current Revenue
Operating Reserve	\$37.6		\$37.6	The required balance is one-sixth of operating expenses for a year.		Current Revenue
Insurance Reserve	\$14.0		\$14.0	MWRA mitigates the budgetary risk of self-insurance by maintaining an insurance reserve. The reserve which was established as part of the Bond Resolution requires that an independent insurance consultant review the adequacy of the funding level every three years. The \$14 million level has been determined to be acceptable and reasonable based on the latest review. The next review is due in February 2014.	Insurance consultant review and recommendation.	Current Revenue
Renewal and Replacement Reserve	\$35.0	\$25.0	\$10.0	The required balance is based on the triennial recommendation of a consulting engineer. The current recommendation is \$35 million.	Consulting Engineer review and recommendation.	Current Revenue
TOTAL	\$421.4	\$141.3	\$280.1			



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

Chair: A. Pappastergion

Vice-Chair: M. Gove

Committee Members:

J. Barrera

J. Carroll

K. Cotter

J. Foti

J. Hunt

V. Mannering

to be held on

Wednesday, June 6, 2012

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

Time: Immediately following Budget Hearings

AGENDA

A. Approvals

1. MWRA FY13 Insurance Program Renewal

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

May 16, 2012

A meeting of the Administration, Finance and Audit Committee was held on May 16, 2012 at the Authority headquarters in Charlestown. Chairman Pappastergion presided. Present from the Board were Messrs. Cotter and Walsh; Messrs. Barrera, Hunt, Foti and Carroll joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Michele Gillen, Mike Hornbrook, Marcis Kempe, Steve Estes-Smargiassi, Rachel Madden, Kristen Patneaude, and Bonnie Hale. The meeting was called to order at 10:25 a.m.

Delegated Authority Report – April 2012

There was question and answer on a couple of the items in the report.

Updating of MWRA's Radio System

Staff described the current radio system and plans to update it. There was general discussion.

(Mr. Barrera joined the meeting.)

FY2012 3rd Quarter Orange Notebook

Staff gave a presentation highlighting portions of the report, and there was general discussion.

(Mr. Hunt joined the meeting.)

Staffing Study Report: Amawalk Consultant Group, Contract A550

Representatives from Amawalk and Peer Consultants gave a presentation on selected portions of the report. There was general discussion and question and answer. (Messrs. Foti and Carroll joined the meeting during the discussion.) Committee members indicated that they would like some more time to digest the report and discuss it further in the future. There was also a request to receive a chart outlining historical staffing levels in the categories itemized in the report.

FY12 Financial Update and Summary as of April 2012

Staff provided a brief summary of the April financials.

(Mr. Cotter temporarily left the meeting.)

Approvals

***Bond Defeasance of Future Debt Service**

The Committee recommended approval of the bond defeasance (ref. agenda item B.1).

Contract Amendments/Change Orders

***Renewable and Alternative Energy Portfolio Services: Nexant, Inc., Contract RPS-36, Amendment 2**

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

(Mr. Cotter returned to the meeting.)

***Security Guard Services for Various MWRA Facilities: U. S. Security Associates, Inc., Contract EXE-025, Amendment 6**

There was general discussion and question and answer. Mr. Walsh again requested a cost comparison of using in-house security guards vs. contracting the services out; staff apologized and indicated that that information would be provided to him. The Committee recommended approval of Amendment 6 (ref. agenda item C.2).

The meeting adjourned at 11:35 a.m.

* Approved as recommended at May 16, 2012 Board of Directors meeting.

AFDA A.1
IV A.1
6/6/12

STAFF SUMMARY

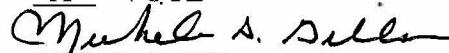
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: MWRA FY13 Insurance Program Renewal



COMMITTEE: Administration, Finance & Audit

INFORMATION

X VOTE



Michele S. Gillen

Deputy Director, Admin. & Finance



Rachel C. Madden

Director, Admin. & Finance

Paul F. Whelan, Risk Manager



Preparer/Title

MWRA's Insurance Program is renewed on an annual basis at the beginning of each fiscal year. Annual renewals are required due to the insurance industry's reluctance to provide firm pricing for more than a one-year period. This year's recommended program renewal (FY13) totals \$1,823,840 which is \$120,314 or 7% more than the expiring FY12 program.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to award to the lowest eligible and responsive bidders, insurance policies, bonds and contracts for services for MWRA's FY13 Insurance Program, for the period beginning July 1, 2012, through June 30, 2013, for the premiums and fees described below for a total program amount not to exceed \$1,823,840.

- (1) Workers' Compensation Excess Policy with N.Y. Marine, submitted by broker Willis of MA, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$114,668;
- (2) Property Policy (including Boiler & Machinery coverage) with FM Global Insurance Co, with various limits of coverage with a \$2.5 million self-insured retention, for a premium of \$782,641;
- (3) General Liability Policy (including Automobile Liability, Protection and Indemnity, Wharfingers, and Employment Practice Liability) with C.V. Starr Insurance Co. submitted by broker William Gallagher Associates, with a \$25 million limit and a \$2.5 million self-insured retention, for a premium of \$485,806;
- (4) Excess Liability Policies with Civic Risk (National), Westchester (ACE) and AXIS/

Great American Insurance companies, submitted by broker William Gallagher Associates, providing a combined total of \$75 million of coverage excess of primary coverages for a total combined premium of \$285,376;

- (5) Public Official's Liability Policy with State National Insurance Co., submitted by broker Wells Fargo Insurance Services, with a \$5 million limit and a \$1 million deductible, for a premium of \$48,728;
- (6) Fiduciary Liability Policy with Chubb Insurance Co., submitted by broker Wells Fargo Insurance Services, with a \$5 million limit and a \$1 million deductible, for a premium of \$8,193;
- (7) Public Official's/Crime Bond with The Hartford Insurance Co., submitted by broker William Gallagher Associates, with a \$1 million limit and a \$25,000 deductible for a premium (including commission) of \$6,078;
- (8) Treasurer's Bond with a \$1 million limit with a vendor to be determined in an amount not to exceed \$3,000; and
- (9) Broker contracts with William Gallagher Associates for an amount of \$70,000; Willis of Massachusetts for an amount of \$10,250; and Wells Fargo Insurance Services for an amount of \$9,100.

BACKGROUND:

MWRA's insurance program consists of various types of coverage including: Excess Workers' Compensation, Property (including Boiler and Machinery coverage), General Liability, Excess Liability, Public Official's Liability, Fiduciary Liability, Public Official's/Crime Bond and Treasurer's Bond. The Workers' Compensation Excess policy is required by state statute and is a prerequisite for MWRA to operate as a self-insured entity for Workers' Compensation benefits. Insurance coverage required by MWRA's Enabling Act includes Public Official's/Crime Bond and Treasurer's Bond which serve to protect the Authority against losses due to fraudulent or dishonest acts, failure to perform duties faithfully or improper accounting of monies or property by employees. Other policies are maintained in order to protect MWRA assets and limit MWRA's financial exposure to loss. In addition, policies are maintained to comply with covenants contained within MWRA's General Revenue Bond Resolution. All policies under the current program (except the Treasurer's Bond) expire on June 30, 2012, and require renewal.

DISCUSSION:

MWRA's insurance program has been renewed on an annual basis for the past nine years due to the reluctance on the part of insurance companies to issue policies for more than a one-year term. The existing (FY12) insurance program was procured through a competitive bid process for all lines of

coverage. For FY13, staff again conducted a full competitive bid process for all lines of coverage in an effort to obtain the most competitive pricing and coverage available.

During the past year insurers have been increasing premiums to bolster reserves and improve their overall financial position. Based on conversations with brokers and others in the insurance marketplace, staff expected insurers to raise their rates an average of 5%. This rate increase, when combined with variables specific to MWRA such as the value of insured property and projected payrolls, account for the overall program cost increase of 7%. Thus, the results of this procurement appear to be in-line with staff expectations and are reflective of overall insurance market conditions.

PROCUREMENT PROCESS:

In February, staff began the procurement process by advertising for Letters of Interest from insurance brokers and direct writers¹. In addition, staff sent direct solicitations to 22 brokers and direct writers that were known to staff as having an interest in or prior participation in previous MWRA insurance procurements. In response to the solicitation, 7 brokers and one direct writer indicated their interest in participating and provided their list of preferred insurance markets. Staff reviewed all requests and assigned more than 30 insurance companies to the brokers. Technical specifications and rating data were prepared and sent to all parties. During the bid process, staff received and responded to multiple questions and requests for additional information and issued one Addendum and one set of Question and Answer documents providing further information and rating data. On Friday, May 11th, six proposals were received from five brokers and one direct writer.

Proposals received varied with respect to the lines of coverage bid. As shown on the attached chart, multiple bids were received for some lines of coverage and others were limited. MWRA reserved its right to select different lines of coverage from different broker proposals. All proposals were reviewed by MWRA's insurance consultant, Kevin F. Donoghue and Associates, for adherence to insurance technical specifications and then ranked by cost and coverage. The approvals requested herein represent those recommended by MWRA's Insurance Consultant for each line of coverage sought. The attached chart provides a summary of all lines of coverage with the limits, deductibles, and premiums comparing the expiring FY12 premiums with the proposed FY13 policies. Below is a brief summary of each line of coverage.

Workers' Compensation Excess – One proposal was received for this line of coverage from Willis of Massachusetts with New York Marine Insurance Co. (incumbent provider) providing a quote for a policy with a \$500,000 retention level and a \$25 million limit, for an annual premium of \$114,668. This bid is \$15,244 (or 15.0%) more than last year's cost for this coverage. This increase is due to a 9% increase in the rate charged applied to a 6% increase in projected payroll for FY13². In response to staff's request, the insurer also provided a quote showing costs for a similar policy with a

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

² The FY13 projection includes payroll adjustments from union contract agreements which were not included in FY12 estimates.

\$750,000 self-insured retention. This premium was \$96,239, or \$18,429 less than the premium with a \$500,000 self-insured retention. Staff have reviewed historical workers compensation claims data and have concluded that the potential premium savings do not justify assuming the risk of an additional \$250,000 for each occurrence, as just one catastrophic claim would eliminate more than ten years of accumulated premium savings. Staff recommend the purchase of the \$25 million policy from N.Y. Marine Insurance Co. with a \$500,000 per occurrence self insured retention through broker Willis of Massachusetts for a premium amount of \$114,668 with an associated broker fee of \$10,250.

Property Insurance (including Boiler & Machinery) – One proposal was received for this line of coverage from direct writer FM Global Insurance Company (FM Global), the incumbent provider. The FM Global proposal contained various policy limits with a \$2.5 million self-retention level. The option shown on the attached chart and recommended by staff includes a policy limit of \$500 million with a \$2.5 million self-retention for a net premium of \$782,641 which is \$57,508 (or 8%) more than the expiring FY12 premium. This year's increased premium is attributable to an increased Total Insured Value (TIV) of 3% and an insurer rate increase of 5%. FM Global also submitted a second option with a lower premium and a higher self-retention level of \$5 million. This option was deemed not cost effective since it exposed the Authority to an additional \$2.5 million of risk exposure in return for annual premium savings that would quickly evaporate with just one event over a span of more than 25 years. Because FM Global is a direct writer, there are no broker fees associated with this policy.

General Liability – Two responses were received for General Liability offering \$25 million in coverage. The proposal received from broker William Gallagher Associates with insurer C.V. Starr (the incumbent) for a premium of \$485,806, meets the specification and is recommended for approval. This premium cost is \$23,134 or 5% higher than the expiring policy. An additional proposal was received from broker Richards Robinson Sheppard utilizing insurer Aegis with a premium cost of \$534,987 or \$49,181 higher than the William Gallagher Associates offering. Staff recommend the acceptance of the proposal from William Gallagher Associates with policies purchased from C.V. Starr insurance company for a total premium of \$485,806 and an associated broker fee for William Gallagher Associates of \$70,000, which includes fees associated with placement of the excess liability policies outlined below.

Excess General Liability – Broker William Gallagher Associates solicited and obtained premium quotes from excess insurers Civic Risk (National), Westchester (ACE), AXIS and Great American insurance companies for the additional excess layers. These are the incumbent insurers providing this coverage. The premium amount proposed for this additional \$75 million of excess coverage is \$285,376. This amount represents an increase in premium of 8% from the same FY12 coverage. Staff recommend acceptance of the proposal offered by broker, William Gallagher Associates, with participation from Civic Risk (National), Westchester (ACE), AXIS and Great American insurance companies for \$75 million of excess liability coverage for an amount of \$285,376.

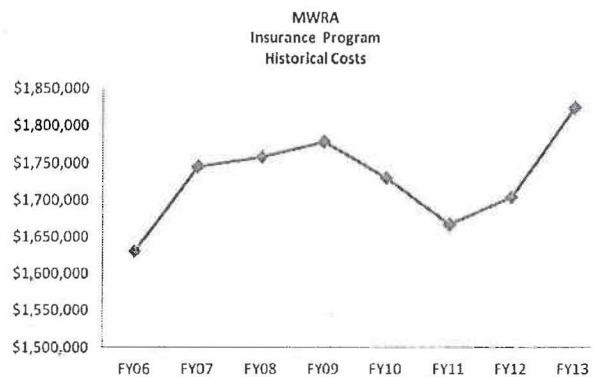
Public Official's Liability – One proposal was received for this line of coverage from Wells Fargo Insurance Services with a bid provided by State National Insurance Co./ Hiscox for a premium of \$48,728. This premium is \$1,555 or 3% higher than the FY12 premium. Staff recommend acceptance of this proposal with a policy from State National Insurance Co. / Hiscox for an amount of \$48,728 with an associated broker fee to Wells Fargo Insurance Services of \$7,400.

Fiduciary Liability – Two bids were received for this line of coverage with the required \$5 Million limit, one from Chubb Insurance Company through broker Wells Fargo Insurance Services for a premium of \$8,193 and a second proposal submitted by broker Alliant with RLI Insurance Co. for a premium of \$14,249. Chubb Insurance is the incumbent, and the FY13 premium is 15% higher than the expiring FY12 premium. Alliant provided a second proposal with a \$10 Million Limit for \$23,454 which was deemed to be more coverage than necessary for the MWRA. Staff recommend the renewal of this policy with Chubb Insurance Company for a premium of \$8,193 with an associated broker's fee to Wells Fargo Insurance Services of \$1,700.

Public Official's/Crime Bond – Three proposals were received for this line of coverage with the most responsive bid from broker William Gallagher Associates with Hartford Insurance Company with a premium cost of \$6,078 (1% higher than last year). This price is \$583 higher than the lowest offer, from broker Wells Fargo Insurance Services, utilizing insurer Berkeley with a premium of \$5,495. The policies received were reviewed by MWRA's Insurance Consultant and the policy form provided by Hartford Insurance Company was determined to provide the most comprehensive coverage. Wells Fargo Insurance Services also submitted a third bid, from insurer Hanover, with a cost of \$8,614. Broker commissions are included in the bids which are shown on the attached chart. Staff recommend purchase of this bond from Hartford Insurance Company through William Gallagher Associates for an amount of \$6,078.

Treasurer's Bond – The Treasurer's Bond is required by the MWRA Enabling Act and is written in the name of the person holding the position of Treasurer. Due to changes in this position several years ago, the renewal of this bond is off-cycle from the rest of the insurance program and does not expire until February 5, 2013. To keep all insurance program approvals consolidated in one staff summary, staff included a not-to-exceed amount of \$3,000 for the renewal of this bond upon its expiration.

In conclusion, staff recommend the renewal of MWRA's insurance program for a one-year period (FY13), with the various coverages, limits and self-insured retention levels from various brokers and insurance companies as outlined above and as included on the attached chart. If approved, the FY13 total program renewal cost will be \$1,823,840 representing a 7% increase in costs from the expiring FY12 program. The chart at right provides MWRA



Insurance Program Historical Costs for the past seven fiscal years.

BUDGET/FISCAL IMPACT:

The Draft Final FY13 CEB includes \$2.1 Million for the total cost of maintaining MWRA's insurance program; consisting of \$1.8 Million for the payment of premiums and fees and \$.3 Million for payment of estimated claims and damages in FY13. The budget contains sufficient funds for the renewal of the insurance program outlined above.

MBE/WBE PARTICIPATION:

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

MWRA FY13 INSURANCE PROPOSALS

Item #	Coverage	Deductible/ Limit	FY12 Premium	FY12 Insurer (Broker)	FY 13 BIDS	FY13 Insurer (Broker)	Notes
1	Excess Workers Comp.	\$500K / \$25M \$750K / \$25M	99,424	NY Marine (Willis of MA)	114,668 96,239	NY Marine (Willis of MA) NY Marine (Willis of MA)	Net Increase of 15% FY13 bids based on 9% increase in rate applied to increased estimated payroll of \$97 Million. Cost benefit analysis favors \$500K Deductible.
2	Property Insurance (including Boiler & Machinery)	\$2.5M / \$500M \$5.0M / \$500M	725,133	FM Global (No Broker)	782,641 720,029	FM Global (No Broker) FM Global (No Broker)	Net Increase of 8% FY13 bids based on a 5% increase in rate applied to an increased Total Insured Value.
3	General Liability (Incl., Auto, P&I, Wharfingers, Limited Pollution and Employment Practice Liability)	\$2.5M/\$25M	462,672	C.V. Starr (W. Gallagher)	485,806 534,987	C.V. Starr (W. Gallagher) Aegis (Richards, Robinson, Sheppard)	Net Increase of 5% FY13 bids based on increase in premium.
4	Excess Liability	\$25M/\$75M	264,300	Civic Risk, Westchester (ACE), AXIS/Great American (W. Gallagher)	285,376	Civic Risk, Westchester (ACE) AXIS/Great American (W. Gallagher)	Net Increase of 8% FY13 bids based on increase in premium.
5	Public Official's Liability	\$1M / \$5M	47,173	State National Ins. (Wells Fargo)	48,728	State National Ins. (Wells Fargo)	Net Increase of 3% FY13 bid based on increase in premium.
6	Fiduciary Liability	\$1M / \$5M \$1M / \$10M	7,125	Chubb (Wells Fargo)	8,193 14,249 23,454	Chubb (Wells Fargo) RLI Ins. (Alliant) RLI Ins. (Alliant)	Net Increase of 15% FY13 bid based on increase in premium. \$5M limit of coverage deemed appropriate.
7	Public Official's/Crime Bond	\$25K / \$1M	5,999	Hartford (W. Gallagher)	6,078 5,495 8,614	Hartford (W. Gallagher) Berkley (Wells Fargo) Hanover Ins. (Wells Fargo)	Net Increase of 1% All bids include Broker's Commissions. MWRA's Insurance Consultant recommends policy form of Hartford.
8	Treasurers Bond		2,750	Hartford (Wells Fargo)	3,000	To Be Determined	Renews in February 2013. Amount shown is not-to-exceed amount.
9	Broker Fees -Various		88,950	Various - See Note 2	89,350	Various - See Note 3	Increased Broker Fees of \$400.
			\$ 1,703,526		1,823,840		Total Increase \$120,314 or 7%

Note 1: Proposed for approval shown in bold.

Note 2: Broker Fees include \$70,000 for W.Gallagher; \$10,250 for Willis of Mass ; \$8,700 for Wells Fargo.

Note 3: Broker Fees include \$70,000 for W.Gallagher; \$10,250 for Willis of Mass ; \$9,100 for Wells Fargo.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

Chair: J. Foti
Vice-Chair: J. Walsh
Committee Members:
J. Carroll
M. Gove
J. Hunt
A. Pappastergion
M. Turner

to be held on

Wednesday, June 6, 2012

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

Time: Immediately following AF&A Comm.

AGENDA

A. Information

1. Update on the Remote Headworks Upgrade Project

B. Approvals

1. Wastewater Advisory Committee Contract

C. Contract Amendments/Change Orders

1. North Main Pump Station Variable Frequency Drive and Motor Replacement, Design and Engineering Services during Construction: Malcolm Pirnie, Inc., Contract 6902, Amendment 4
2. Prison Point CSO Facility HVAC and Odor Control Systems Upgrade: Arden Engineering Constructors, LLC, Contract 6795, Change Order 9

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Wastewater Policy and Oversight Committee

May 16, 2012

A meeting of the Wastewater Policy and Oversight Committee was held on May 16, 2012 at the Authority headquarters in Charlestown. Chairman Foti presided. Present from the Board were Messrs. Barrera, Carroll, Cotter, Hunt, Pappastergion and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Dave Kubiak, John Vetere, and Bonnie Hale. The meeting was called to order at 11:35 a.m.

Information

There was general discussion and question and answer on the following two information items:

- Progress of City of Cambridge-Implemented CSO Projects and Projected Financial Assistance through September 2012
- Progress Update of BWSC-Implemented CSO Projects and Projected Financial Assistance through December 2012.

Mr. Hunt again requested benchmarking comparing MWRA's CSO progress with other major U.S. cities. Staff indicated that they were working on it, were having difficulty obtaining that information, and would continue to try to get it to him.

Approvals

*Memorandum of Understanding and Financial Assistance Agreement with the Town of Brookline for Implementation of CSO Control Project, Amendment 3, and Progress of Town of Brookline-Implemented CSO Project and Projected Financial Assistance through July 2013

The Committee recommended approval of Amendment 3 (ref. agenda item B.1).

* Approved as recommended at May 16, 2012 Board of Directors meeting.

Contract Awards

Primary and Secondary Clarifier W3H Flushing System, Deer Island Treatment Plant:
Delta Control Engineers, Inc., d/b/a Harding and Smith, Contract 7374

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

The meeting adjourned at 11:45 a.m.

* Approved as recommended at May 16, 2012 Board of Directors meeting.

W.A.1
6/6/12

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: Update on the Remote Headworks Upgrade Project



COMMITTEE: Wastewater Policy & Oversight

X INFORMATION
 VOTE

Margery J. Johnson, Project Manager
Jae R. Kim, Chief Engineer
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

On January 18, 2012, staff presented an informational staff summary to the Board on the upgrade of the three remote headworks facilities, which included a detailed discussion of the need for the project, as well as a discussion of the various benefits and risks of three separate design and construction scheduling options that staff were considering. This staff summary recaps the information presented in January and includes staff's recommendation to move forward first with the design and construction of the Chelsea Creek Headworks only, and use "lessons learned" from that single project in completing the design and construction of Ward Street and Columbus Park together in a single subsequent construction contract.

This recommendation will impact the current design contract with Malcolm Pirnie, Inc. Staff will prepare a separate staff summary recommending approval of Amendment 1 to Contract 7206, Remote Headworks Upgrade Contract at the June 27, 2012 Board meeting.

RECOMMENDATION:

For information only.

DISCUSSION:

Wastewater flows from MWRA's Northern Service Area are collected at the three remote headworks, Chelsea Creek Headworks in Chelsea, Columbus Park Headworks in South Boston, and Ward Street Headworks in Roxbury, before reaching the Deer Island Treatment Plant (see figure on the following page). Flows at these headworks are controlled, preliminarily treated, and measured before dropping into deep rock tunnels for transport to the Deer Island Wastewater Treatment Plant for full treatment.

The three remote headworks were placed in operation in the 1960s and in 1987 were upgraded with replacement of mechanical equipment and associated structural, electrical, and instrumentation improvements. Since 1987, several other smaller improvements have been implemented. However, most of the major equipment is beyond its reliable service life and is in fair to poor condition. All three headworks need to be upgraded to meet a number of current building code requirements, including plumbing, electrical, ventilation, fire protection, and egress.



Project Scope

The Remote Headworks Upgrade Project is part of MWRA's program for asset protection and addresses critical needs for system rehabilitation and optimization of MWRA's wastewater system. Due to the age of these facilities, any new construction work, however small in scope, triggers more extensive renovations to meet current Massachusetts Building Code requirements. The planned upgrades will replace more than 1,000 pieces of equipment with significant improvements in screenings and grit removal and handling, HVAC and odor control, instrumentation and electrical systems, and automation of processes which will permit limited staffing during dry weather conditions. All operations will be automated. The buildings' egress and fire suppression systems will be modified to meet applicable codes. All equipment upgrades or replacement will include energy efficiency considerations to the maximum extent practicable.

As part of Preliminary Design under Contract 7206, Remote Headworks Upgrade, with Malcolm Pirnie, Inc., a Hazardous Building Materials Evaluation was performed. The results of that evaluation indicated the presence of Polychlorinated Biphenyls (PCBs) in the caulking and

painted surfaces at the Chelsea Creek Headworks at levels which must be abated during construction. With the exception of one exterior location at Ward Street, PCBs identified at Columbus Park and Ward Street are below regulated levels and, as such, are considered an *Excluded PCB Product* and do not require abatement. Staff recommend including the PCB abatement work in the overall rehabilitation construction project at Chelsea Creek rather than having the PCB abatement work performed under a separate contract prior to the rehabilitation contract. The benefit of this option will be that full responsibility for successful PCB abatement will remain with the general contractor, minimizing the potential for construction conflicts, delays, and change orders.

Final Design and Construction Scheduling Options

Three options for Final Design and construction, with varying risks and benefits, were presented to the Board on January 18, 2012. These options are based on identified constraints, including design and construction sequencing requirements necessary to maintain treatment capacity and process and auxiliary systems, performing the required PCB abatement, and maintaining a safe working environment. The three options considered – complete sequential, partial sequential, and combined – are presented in the following table:

SUMMARY OF OPTIONS

	Option 1 (Complete Sequential)	Option 2 (Partial Sequential)	Option 3 (Combined)
Design/CA/REI Costs	\$22.4M	\$17.8M	\$17.7M*
Construction Costs	\$141.4M	\$140M	\$138.5M
Total Costs	\$163.8M	\$157.8M	\$156.2M
Construction Duration	12 years	8 years	5 years

*After the presentation to the Board in January 2012, staff updated the above Design/CA/REI costs for Option 3, due to the requirements of additional scope of work and a time extension of 33 months for delay of commencement of Final Design services and an extended construction duration for the three headworks.

After carefully considering all factors, staff recommend Option 2, which is the partial sequential option, as the preferred option with Chelsea Creek Headworks being the first facility to be upgraded, followed by a subsequent combined larger contract that would include the Ward Street and Columbus Park Headworks. Staff recommend that Chelsea Creek be the first facility to be rehabilitated because it is the oldest and the largest of the three headworks, both hydraulically and physically, and it serves the largest area in MWRA’s Northern Service Area.

Staff believe that Option 2 presents only moderate risks and the total estimated cost is only slightly higher than the least costly option. The ability to employ lessons learned from the first contract carried substantial weight in staff’s recommendation. These are old facilities and unlike new construction, the likelihood of change orders resulting from unforeseen conditions is high. Although Chelsea Creek will be the most challenging upgrade due to the elevated levels of PCBs, staff believe that it can offer the most lessons learned for the subsequent, combined upgrade of the Ward Street and Columbus Park Headworks. Being able to address some of these unforeseen conditions in the final design for Ward Street and Columbus Park, although immeasurable at present, will likely result in a lower ultimate final cost. Although Option 2 does create some coordination efforts and risks because two facilities in the subsequent combined contract will be impacted at the same time, staff believe they will be manageable and staff

estimate that design and inflationary construction costs will be reduced. Staff estimate that this option would cost \$157.8 million and take approximately eight years to complete.

Staff are of the opinion that Option 3, combining all three headworks facilities into one large construction contract, is the least desirable option. While it is clear that this option, at least initially, is the least costly and would be completed the earliest, staff believe that it also presents the greatest operational and change order risks because of concurrent construction work taking place at all three facilities. As mentioned earlier, MWRA's experience with rehabilitation of older facilities that must remain operational during construction is that not all issues can be identified and addressed in design and these types of projects result in significantly higher change order costs than construction of new facilities. Once work commences and systems and equipment are fully exposed and removed, additional work that could not be identified during design is discovered requiring costly change orders and potential schedule delays. Option 3 does not allow for any opportunity to employ a lessons-learned strategy.

Option 3 could present some additional financial risks and complexity associated with the requirement to maintain each facility operational during rehabilitation, while simultaneously rehabilitating or replacing major facility systems, such as HVAC, electrical, pneumatic, etc. Option 3 also would likely limit competition as the available pool of contractors with the experience and capacity to successfully undertake a large combined contract such as this would be reduced. Staff are of the opinion that although Option 3 would carry the lowest estimated cost of \$156.2 million and only take approximately five years to complete, multiplying all factors inherent in one concurrent rehabilitation project is just too risky.

Staff also do not recommend Option 1, (complete sequential), which is currently included in the Proposed FY13 CIP. Design of the second facility would begin two years into construction of the first facility, and design of the third would begin two years into construction of the second. Although Option 1 poses the least operational and change order risks, and MWRA would be able to maximize the lessons-learned approach and could include successfully-tested proprietary mechanical, HVAC, electrical, and instrumentation equipment into the design and construction of subsequent contracts, it carries the highest cost and would likely require 12 years to complete. Staff do not believe this is cost effective and pushes out too far the time that would be necessary for these older facilities to continue to operate with existing systems and equipment. The bottom line in Option 1 is that sequential construction scheduling will take longer and will result in overall higher costs due to additional design costs and inflation factors for the extended construction period. Staff estimate that this option would cost \$163.8 million.

BUDGET/FISCAL IMPACT:

The FY12 CIP includes a total of \$138,708,469 for the Remote Headworks Upgrade. The Proposed FY13 CIP amends that amount to \$163,748,791 to reflect the inclusion of PCB abatement and separate design and construction contracts for the three headworks facilities. The recommended option will require an amendment to Contract 7206, Remote Headworks Upgrades Design and Construction Administration Services, with Malcolm Pirnie, Inc., which includes additional level of effort and some off-setting credit items. Staff will prepare a separate staff summary to be presented to the Board at the June 27, 2012 meeting.

WOB1
IX.4.2
6/6/12

STAFF SUMMARY

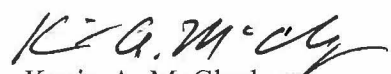
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: Wastewater Advisory Committee Contract



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Pamela Heidell, Policy and Planning Manager
Preparer/Title


Kevin A. McCluskey
Director, Public Affairs

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Wastewater Advisory Committee for a term of one year, beginning on July 1, 2012, with a total cost of \$58,500.

DISCUSSION:

The Wastewater Advisory Committee (WAC) was created in 1990 to offer independent recommendations on wastewater programs and policies; it is a successor to the Facilities Planning Citizen Advisory Committee established during the planning of Deer Island Treatment Plant. WAC's members include citizen advocates, representatives from the MWRA Advisory Board, Massachusetts Area Planning Council, watershed associations, the engineering and business communities, and science and education fields.

WAC's monthly meetings are geared towards engendering discussion and facilitating timely recommendations to MWRA staff and the Board of Directors on wastewater policies, project and program initiatives directly related to MWRA, and public concerns. Current topics of interest to WAC include operations and maintenance, the CSO program, inflow and infiltration reduction, harbor monitoring, and wastewater/water policy initiatives in Massachusetts.

Pursuant to the terms of the attached contract, WAC's members are approved by the MWRA Board of Directors. WAC elects its chairman and employs an Executive Director (selected by WAC's membership with the concurrence and approval of MWRA Public Affairs). WAC's current chairman is Stephen Greene and WAC's current Executive Director is Ed Bretschneider.

WAC's proposed FY13 contract is level funded from FY12, and the wages and reimbursable expenses line items in FY13 are exactly the same as FY12. The wages line item in the proposed FY13 contract is \$53,375; WAC's budget assumes the Executive Director is part-time position, and will work an average of approximately four days per week. WAC's reimbursable expenses

are budgeted at \$5,125 and include: a) reimbursement for a portion of the Executive Director's health insurance costs up to an annual maximum of \$3,500; and b) stationery, payroll services expenses, bank expenses, miscellaneous expenses, and highway tolls and parking expenses for meeting attendance of WAC's Executive Director and members, up to \$1,625. Office space and support services for WAC are provided by MWRA in the Charlestown Navy Yard. The proposed total FY13 WAC funding is \$58,500.

BUDGET/FISCAL IMPACT:

Sufficient funds for the WAC contract are available in the Proposed FY13 Current Expense Budget under the Advisory Board and Advisory Committees' cost center.

AGREEMENT
BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
WASTEWATER ADVISORY COMMITTEE

This Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“Authority”), a body politic and corporate and a public instrumentality of the commonwealth, created by Chapter 372 of the Acts of 1984 as amended from time to time, with offices at 100 First Avenue, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Wastewater Advisory Committee (“WAC”) a body created by the Authority’s Board of Directors (“Board”).

WHEREAS, the WAC was created to offer independent advice to the Board and to the professional staff of the Authority, regarding wastewater programs and policies directly related to the Authority; and

WHEREAS, the WAC will (i) review and comment to the Authority on wastewater reports and related proposed documents, and (ii) offer independent commentary and advice on current and proposed wastewater program and policy directions to further Authority objectives; and

WHEREAS, the WAC membership is designed to reflect the knowledge and interest of major affected constituencies, including engineering, construction, business/industry, planning, academic research, and environmental advocacy; and

WHEREAS, the Authority desires the WAC to advise the Authority in wastewater planning, and

WHEREAS, the WAC desires to have a role advising the Authority on such matters.

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WAC agree as follows:

ARTICLE 1. EFFECTIVE DATE

This Agreement shall be effective from July 1, 2012 through June 30, 2013, inclusive.

ARTICLE 2. COMPENSATION, BUDGET, PAYMENT AND EXPENSES

2.1 The Authority shall make funds available as follows:

(a) Wages and Salaries.

In order to minimize the WAC's expenses and for the WAC's convenience, the Authority shall make direct payments to the WAC for WAC wages and salaries. Such payments shall not exceed \$53,375 from July 1, 2012 through June 30, 2013, inclusive.

(b) Reimbursable expenses.

The Authority shall reimburse WAC for a portion of the health insurance premium of the WAC Executive Director, up to an annual maximum of \$3,500.00. Stationery, payroll services expenses, bank expenses, highway tolls and parking expenses for meeting attendance by WAC's Executive Director and membership, and other miscellaneous expenses of the WSCAC staff approved by the Authority on a case-by-case basis, will be reimbursed when submitted to the Public Affairs Unit.

The total annual expense reimbursement to WAC, excluding health insurance reimbursements, shall not exceed \$1,625.00.

(c) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WAC.

(a) The WAC shall employ an Executive Director who will be prohibited from being a member of the WAC while serving his/her term as a paid consultant. The MWRA Public Affairs Office must concur with and approve the selection of the WAC Executive Director by the WAC. The duties of the Executive Director and hourly reimbursement rate shall be in accordance with the job description prepared by the WAC, and on file with the Authority.

(b) The WAC shall submit weekly statements to the Authority requesting payment for expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, summaries of work performed, and by such other supporting data as may be required by the Authority.

(c) The WAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The Authority and its duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.

(d) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.

(e) The Parties shall consent to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.

(f) The WAC acknowledges that the Authority is a state agency for purposes of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WAC staff and members are special state employees.

(g) The WAC shall administer and maintain compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

(h) The WAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

ARTICLE 4. RESPONSIBILITIES OF THE WAC STAFF.

4.1 The WAC staff shall be responsible for the following tasks:

(a) aiding WAC in its tasks under Article 6, educating the public, and acting as liaison with the Authority and its staff;

(b) maintaining financial records, minutes of the WAC meetings, and other WAC records;

(c) providing to the Authority copies of the notices for and minutes of all meetings of WAC and of all WAC correspondence relative to Authority projects and proposals as soon as such materials are available.

ARTICLE 5. MEMBERSHIP, MEETINGS, TERMS.

5.1 The WAC membership, meetings and terms shall be as follows:

- (a) The WAC will have a maximum of twenty (20) members (“Members”) approved by the Board. (Alternates or designees are prohibited).
- (b) The WAC shall meet once per month and maintain records of its meetings.
- (c) To the extent reasonable, Members will meet as a committee of the whole, without resort to subcommittees.
- (d) Members will elect their chairman.
- (e) Member’s terms will be three (3) years; members may succeed themselves.
- (f) Members unable to maintain reasonable participation in the committee’s work will be expected to resign. The Authority’s Public Affairs Unit, in consultation with the WAC chairman, will nominate a replacement for Board approval.

ARTICLE 6. WAC TASKS.

The WAC shall undertake the following tasks:

6.1 Wastewater Policies and Programs Review.

Advise the Authority staff and Board. Participate in review and evaluation of wastewater management plans (e.g., local limits, I/I, CSO), reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of wastewater planning and policy directly related to MWRA.

6.2 Outreach and Education.

Strive to increase citizen participation and education by providing assistance in outreach to various groups regarding the Authority’s wastewater programs and state wastewater resource policies. Review programs and explain plans and policies to organizations and citizens.

6.3 Working Group Representation.

When possible, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to wastewater programs and policy, including the Advisory Board and its subcommittees and the Water Supply Citizens Advisory Committee.

6.4 Recommendations on Long Term Public Involvement .

Provide to the Authority staff and Board, proposals for continued effective and efficient long term public involvement in wastewater programs.

6.5 Recommendations and Discussion Documents.

The WAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on wastewater programs and policy. Documents may be in the form of minutes of WAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity

The WAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by the WAC to fulfill its obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority, an equitable adjustment shall be made providing for payment to the WAC for services rendered and expenses incurred prior to the termination.

(c) No termination hereunder may be effected unless the terminating party gives the other party:

(1) not less than forty-five days' written notice delivered by certified mail, return receipt request of intent to terminate; and

(2) an opportunity for consultation with the other party prior to termination, or

(3) by mutual agreement of the Parties.

8.3 Assignability.

The WAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this contract.

8.4 Integration Clause.

This Agreement integrates and supersedes all prior negotiations, representations, or agreements.

8.5 Amendment.

This Agreement may be amended only by a writing executed by each of the Parties.

8.6 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.7 Massachusetts Law to Govern.

All Parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.8 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.90 Notices.

Communication shall be deemed to have been made when mailed postage prepaid or delivered to:

Executive Director
Wastewater Advisory Committee
c/o MWRA
100 First Avenue
Charlestown Navy Yard
Boston, MA 02129

Executive Director
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

Director Public Affairs
Massachusetts Water Resources Authority
Charlestown Navy Yard

100 First Avenue
Boston, MA 02129

IN WITNESS WHEREOF, this Agreement is executed as of this ____th day of
June, 2012.

FOR; WASTEWATER ADVISORY COMMITTEE

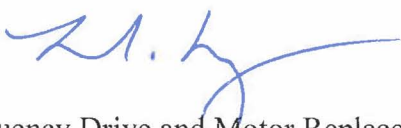
By: _____
Stephen H. Greene, Chairman

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____
Frederick A. Laskey, Executive Director

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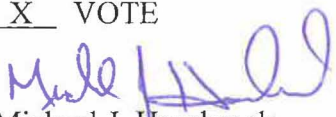
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 6, 2012
SUBJECT: North Main Pump Station Variable Frequency Drive and Motor Replacement,
Design and Engineering Services During Construction
Malcolm Pirnie, Inc.
Contract 6902, Amendment 4

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Daniel K. O'Brien, P.E., Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 4 to Contract 6902, North Main Pump Station Variable Frequency Drive and Motor Replacement, Design and Engineering Services During Construction, with Malcolm Pirnie, Inc., extending the contract term by six months, from April 20, 2012 to October 20, 2012, with no increase in contract amount.

DISCUSSION:

The North Main Pump Station on Deer Island contains ten 3,500-horsepower wastewater pumps, each of which lifts up to 110 million gallons per day of raw wastewater from the Boston Main and North Metropolitan Relief Tunnels. The motors for the pumps were installed as they became available during construction of the Boston Harbor Project between 1995 and 1999. The speed and voltage of these wastewater pumps are controlled by variable frequency drives (VFDs), which determine the amount of wastewater flow through each pump. The VFDs have become obsolete and the original manufacturer no longer supports parts or service for this equipment.

On November 14, 2007, the Board approved the award of Contract 6902 to Malcolm Pirnie, Inc. to provide design and engineering services during construction for the replacement of Deer Island's North Main Pump Station's variable frequency drives and motors. The contract did not include resident engineering/inspection services.

Malcolm Pirnie completed the design and on October 12, 2011, the Board approved the award of the construction contract, Contract 6903, North Main Pump Station Variable Frequency Drive and Synchronous Motor Replacement, Deer Island Treatment Plant, to J.F. White Contracting Company in the bid amount of \$24,079,200 and the Notice to Proceed was issued November 30, 2011.

To date, the contract is only approximately 5% complete. The contractor has installed equipment pads, pumps, piping, and various raceway systems. MWRA has approved some of the basic electrical and mechanical submittals and some items, such as conduit, conductors, condensers, piping, and pumps have been ordered. Final submittals on the critical equipment, the motors and VFDs, have not been received.

This Amendment

Both the design and bidding phases of this project took significantly longer than staff originally anticipated. The design phase had to be extended because of the complexity of the large motors and VFDs, resulting in numerous internal design reviews, as well as extended research/discussions with the potential vendors for the major equipment. In addition, completion of the bidding process for the construction contract took significantly longer than anticipated. Staff were required to respond to an unusually large number of contractor questions, which resulted in numerous bidding addenda. Additional delays resulted from unanticipated problems with some of the filed sub-bids.

These delays have impacted the schedule of Malcolm Pirnie’s contract, which expired on April 20, 2012. Staff originally planned to perform the major equipment submittal reviews and early construction oversight activities between the expiration of this contract and the award of the future resident engineering contract, which will be competitively bid, rather than awarding a large amendment to Malcolm Pirnie. Staff anticipate that the specifications for the resident engineering services contract will be finalized and advertised for bid before the end of June 2012.

In the meantime, staff have determined that it would be in MWRA’s best interest to keep the responsibility for review and approval of major equipment submittals with the original Design Engineer, Malcolm Pirnie. Staff expect to receive final submittals shortly. Therefore, staff recommend that Contract 6902 be extended by an additional six months. Because these tasks were included in the original scope of services, there are sufficient funds remaining for Malcolm Pirnie to complete this work with no increase in contract amount.

CONTRACT SUMMARY:

	<u>AMOUNT</u>	<u>TIME</u>	<u>DATED</u>
Original Contract:	\$1,302,699	42 Months	12/21/07
Amendment 1:	\$295,332	4 Months	12/17/08
Amendment 2*:	\$98,786	0 Months	11/08/10
Amendment 3*:	\$0.00	6 Months	03/28/12
Proposed Amendment 4	<u>\$0.00</u>	<u>6 Months</u>	Pending
Adjusted Contract:	\$1,696,817	58 Months	

*Approved under delegated authority

BUDGET/FISCAL IMPACT:

The FY12 CIP includes a budget of \$1,696,817 for Contract 6902. Amendment 4 is for a time extension only and will have no budgetary impact.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract are 7.20% and 5.80%, respectively, and will be unchanged by this amendment.

ATTACHMENTS:

Photographs of NMPS Motors and VFD for Motor 8
Photograph of Deer Island Wastewater Treatment Plant



North Main Pump Station Motors/Ten in Total/Pumps are in Lower Level



North Main Pump Station VFD for Motor 8 (One of Ten)

Deer Island Wastewater Treatment Plant



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director *F. A. Laskey*
DATE: June 6, 2012
SUBJECT: Prison Point CSO Facility HVAC and Odor Control Systems Upgrade
Arden Engineering Constructors, LLC
Contract 6795, Change Order 9

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Kenneth Chin, Sr. Construction Manager
A. Navanandan, P.E., Director, Construction
Preparer/Title

M. J. Hornbrook
Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 9 to Contract 6795, Prison Point CSO Facility HVAC and Odor Control Systems Upgrade, with Arden Engineering Constructors, LLC, for a lump sum amount of \$114,151.64, increasing the contract amount from \$2,328,867.65 to \$2,443,019.29, with no increase in contract term.

DISCUSSION:

The Prison Point CSO Facility, located in Cambridge (photo on right and map attached), began operation in 1981 and provides both dry- and wet-weather flow handling capabilities. During dry weather, flows of up to five million gallons per day collected in the Cambridge Marginal and Boston Marginal Conduits are screened and pumped into the Charlestown Branch Sewer. During wet weather, flows from the Cambridge Marginal and Boston Marginal Conduits exceed the dry-weather capacity and treatment for peak flows is required. The facility provides screening, sedimentation, and disinfection treatment of CSO flows, as well as overflow from a regulator on the Charlestown Branch Sewer. The treated flow is then discharged to Boston Harbor.



The facility provides screening, sedimentation, and disinfection treatment of CSO flows, as well as overflow from a regulator on the Charlestown Branch Sewer. The treated flow is then discharged to Boston Harbor.

With the exception of the boiler, temperature controls, and some SCADA instrumentation, most of the HVAC and odor control equipment at the Prison Point CSO Facility is original, has exceeded its design life, and is in need of replacement. The HVAC system improvements under Contract 6795 include replacement of components for the ductwork, air handling equipment, dampers, louvers, and odor control.

The contract was declared substantially complete on March 9, 2012. To date, there have been eight previous change orders. The cumulative value of all change orders, including Change Order 9, totals 14.96% of the original contract amount of which \$106,070.31 or 4.99% resulted from design errors, \$20,913.57 or .98% resulted from design omissions, and \$191,135.41 or 8.99% were related to unforeseen conditions. Change Order 9 will be the final change order to this contract before contract close-out.

Staff have compiled a list of all change order items in this contract that have resulted from an error or omission on the part of the Design Consultant, AECOM, and have notified AECOM, in writing, of the current status of these findings and of MWRA’s intention to seek appropriate cost recovery.

This Change Order

Change Order 9 consists of the following 11 items:

Repair leaks in the Engine Room \$27,871.19

After commencement of the contract, water was found leaking from the ceiling in the Engine Room at the exhaust stack for Generator 1 and the two exhaust stacks adjacent to Stairwell 4. Although repair of these exhaust stack leaks were not part of the contract, it was necessary for the Contractor to repair and seal the leaks by applying a waterproof sealant and flashing around the sleeves where the exhaust pipes penetrate the roof slab (which is located three feet below grade – see picture to the right) of the Engine Room and flash around the sleeves to prevent water from leaking into the Engine Room onto and around the generators and adjacent equipment.



The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$27,871.19 for this additional work with no extension in contract term.

Install Circuit Breaker and Furnish and Install 90 Feet of 1½-Inch Conduit from the Electric Room to an Odor Control Fan in the Control Room Lobby \$22,360.65

The contract requires replacement of an existing 30,000-cubic-feet-per minute (cfm) odor control fan with an 48,000-cfm fan, and installation of a NEMA 1¹ motor starter. The existing 100-amp circuit breaker for the existing fan was located in Motor Control Center in the Electric Room. The specified 200-amp circuit breaker was too large and could not fit in the Motor Control Center because it is larger than the existing circuit breaker. Therefore, the Contractor was required to return the larger specified circuit breaker and purchase a new 100-amp circuit breaker that could fit in the Motor Control Center with required amperage to power the fan. The existing ¾-inch rigid conduit could not be used as it did not meet code requirements for the NEMA 1 starter and had to be abandoned in place. The Contractor was required to furnish and install 40 feet of 1½-inch conduit from the Motor Control Center to the Control Room Lobby and 50 feet of 1½-inch conduit from the motor starter to the fan in the Odor Control Room. The cost includes the 90 feet of 1½-inch conduit, bends, and accessories.

The PCO for this item of work has been identified by MWRA staff as a design error. MWRA staff and the Contractor have agreed to a lump sum amount of \$22,360.65 for this additional work with no extension in contract term.

Remove 226 Square Feet of Hard Ceiling and Hatch and Replace with Suspended Ceiling; Furnish and Install Light Fixtures \$12,041.52

The contract requires removal and replacement of heating coils and ductwork above the Men's Locker Room. The existing ceiling was plaster. In order to replace the heating coils and ductwork, the Contractor was to remove the existing light fixtures, and cut out 3 two-foot by three-foot openings in the ceiling. Once the heating coils and ductwork replacement was complete, the Contractor was to patch the ceiling and restore it to its original condition, and then re-install the existing lighting fixtures. However, when the Contractor began to cut the access holes, the existing ceiling began to crack and break off making it impossible to patch. Therefore, the Contractor was required to completely remove the existing ceiling and replace it with a suspended ceiling and grid (see picture on the right), which also required replacement of the existing lighting fixtures with new fluorescent lights.



¹ The National Electrical Manufacturers Association's rating system for enclosures, connectors, and other equipment that is exposed to liquids, rain, ice, corrosion, and contaminants such as dust.

The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$12,041.52 for this additional work with no extension in contract term.

Perform Additional Work Related to the Installation of Supply Air Fan 6 \$11,896.70

The contract requires the Contractor to install Supply Air Fan 6 and utilize the existing circuit breaker shown on the contract drawings and located at the Motor Control Center in the Electrical Room. The contract drawings erroneously show existing conduit and wire for power. While accessing the Motor Control Center, the Contractor discovered that the circuit breaker, conduit, and wire do not exist. Therefore, the Contractor was required to furnish and install a 20-amp circuit breaker, including associated starter, and controls, along with 50 feet of 3/4-inch rigid conduit, and wire for the supply air fan.

The PCO for this item of work has been identified by MWRA staff as a design error. MWRA staff and the Contractor have agreed to a lump sum amount of \$11,896.70 for this additional work with no extension in contract term.

Remove Isolation Valves and Reinstall at a Revised Location in the Control Room Lobby adjacent to the Engine Room \$10,237.72

Under Change Order 8, the Contractor was required to remove and replace a 12-foot by 10-foot fresh air plenum in the sub-basement of the Control Room Lobby. While performing this work, the Contractor discovered a leak in the 1/2-inch copper pipe that serviced the upstairs water bubbler along with two other severely corroded pipes, one 3/4-inch and one 2-inch copper pipe at the same location. Because the pipes were mounted along the ceiling directly above the fresh air plenum, the deteriorated condition of the pipes could not be identified at the time of design and was not noticed until the pipe began to leak. In order to prevent the leaking pipe and corroded pipes from damaging the ductwork insulation to be installed around the new fresh air plenum, the Contractor was required to remove and replace 240 linear feet of 1/2-inch copper pipe, 80 linear feet of 3/4-inch copper pipe, and 80 linear feet of 2-inch copper pipe and remove and replace associated isolation valves at an accessible location on the Control Room Lobby wall adjacent to the Engine Room (see photo on the right).



The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$10,237.72 for this additional work with no extension in contract term.

Relocate Monorail \$8,557.90

While saw cutting the 12-inch-thick concrete patio (the ceiling of Stairwell 5) to install the 5-foot by 5-foot escape hatch for Stairwell 5, the Contractor severed the existing conduit and wire, which powers the existing monorail located in the Engine Room. There are no electrical record drawings and because the conduit and wire were buried in the concrete, the Design Engineer nor the Contractor could have known of their existence. Due to limited space inside Stairwell 5, the new hatch could not be relocated. Because the majority of the conduit was embedded in the 12-inch thick concrete patio, repair of the conduit and wire would have required substantial work to remove and restore the concrete patio, which would have been more costly than re-routing the conduit and wire. Therefore, the Contractor was required to disconnect the conduit from the Motor Control Center and abandon it in place, and install a new ¾-inch rigid conduit and wire from the Motor Control Center 10 feet from its original location through the Control Room ceiling to the monorail located in the Engine Room.

The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$8,557.90 for this additional work with no extension in contract term.

Disconnect, Remove, and Reinstall 11 Air Flow Switches of the SCADA System \$6,853.19

During design, AECOM was informed that each existing exhaust and supply fan had an air flow switch located between the damper and the fan, which was connected to the SCADA system, and each must be removed and reinstalled in the new ductwork. However, AECOM failed to incorporate the flow switches along with SCADA into the new fans and dampers. Therefore, the Contractor was required to disconnect and remove the switches, and then reinstall them in the new ductwork.

The PCO for this item of work has been identified by MWRA staff as a design omission. MWRA staff and the Contractor have agreed to a lump sum amount of \$6,853.19 for this additional work with no extension in contract term.

Disconnect and Reconnect Hot Water Supply and Return Piping for 2 Unit Heaters in the Screen Room \$4,817.48

The contract requires new hot water supply and return piping for the two new unit heaters in the Screen Room. After installation, during testing of the heaters, it was determined that they were not generating the specified heat output. An investigation revealed that the connections for the existing hot water supply and return piping, which were not marked, were reversed but the reversed connections were not shown on record drawings. Therefore, the Contractor was required to disconnect and reconnect the supply and return piping so that the two unit heaters operate to maintain the required minimum room temperature in the Screen Room.

The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$4,817.48 for this additional work with no extension in contract term.

Re-route Exhaust Duct for Exhaust Fans EF-9 and EF-9a \$4,636.55

Prior to the re-activation of the facility, MWRA staff tested the exhaust efficiency of the ductwork for two of the exhaust fans (EF-9 and EF-9a) that remove exhaust air from the Sample Room into the odor control exhaust plenum. AECOM should have known that the force of air coming from Odor Control Fans 1, 2, and 3 (74,000 cfm) would block the exhaust air because the larger volume of air creates a virtual wall that the lower volume of air from the exhaust fans (700 cfm) cannot penetrate. Therefore, the Contractor was required to re-route the ductwork for the two exhaust fans to the suction side of Odor Control Fan 1, which will allow maximum exhaust for the Sample Room.

The PCO for this item of work has been identified by MWRA staff as a design error. MWRA staff and the Contractor have agreed to a lump sum amount of \$4,636.55 for this additional work with no extension in contract term.

Re-route Exhaust Duct for Exhaust Fan 7 \$2,618.27

During the re-activation of the facility, a significant chlorine odor was coming from the Odor Control Room. The cause was determined to be the lack of air being exhausted from the Odor Control Room. Similar to the exhaust fans described above, AECOM should have known that the force of air coming from Odor Control Fans 1, 2, and 3 would block the exhaust air from Fan EF-7. Therefore, the Contractor was required to re-route the ductwork for Fan EF-7 to the exhaust plenum adjacent to the Odor Control Exhaust Plenum, which services the Engine Room, which will allow maximum exhaust for the Odor Control Room.

The PCO for this item of work has been identified by MWRA staff as a design error. MWRA staff and the Contractor have agreed to a lump sum amount of \$2,618.27 for this additional work with no extension in contract term.

Remove 36 Square Feet of Hard Ceiling and Replace with Suspended Ceiling in First Floor Lobby \$2,260.47

The contract requires removal and replacement of heating coils and ductwork above Vestibule 103. The existing ceiling was plaster and there was no existing hatch to access the existing heating coils and ductwork for removal and replacement. Similar to Item 3 in this change order described above, in order to replace the heating coils and ductwork, the Contractor was required to remove the existing light fixtures and doorbell, and cut a two-foot by three-foot opening in the ceiling. When the replacement work was complete, the Contractor was to patch and restore the ceiling back to its original condition, and then re-install the lighting fixtures and doorbell. However, when the Contractor began to cut the access hole to perform the contract work, the existing ceiling began to crack and break off making it impossible to patch and restore the ceiling back to its original condition. Therefore, the Contractor was required to completely remove the existing ceiling and replace it with a suspended ceiling and grid after replacement of the heating coils.

The PCO for this item of work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$2,260.47 for this additional work with no extension in contract term.

The Contractor has completed the work in this change order at its own risk in order to complete the remainder of the contract work.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	\$2,124,900.00	450 Days	12/06/10
CHANGE ORDERS			
Change Order 1*:	\$22,452.40	0 Days	06/08/11
Change Order 2*:	\$99,292.51	0 Days	11/16/11
Change Order 3*:	\$22,162.07	0 Days	01/05/12
Change Order 4*:	\$5,197.00	0 Days	01/17/12
Change Order 5*:	(\$34,555.05)	0 Days	02/14/12
Change Order 6*:	\$42,731.33	0 Days	04/05/12
Change Order 7*:	\$24,599.58	0 Days	04/10/12
Change Order 8*:	\$22,087.81	0 Days	05/11/12
Change Order 9:	<u>\$114,151.64</u>	<u>0 Days</u>	Pending
Total Change Orders:	\$318,119.29	0 Days	
Adjusted Contract:	\$2,443,019.29	450 Days	

*Approved under delegated authority

If Change Order 9 is approved, the cumulative value of all change orders to this contract will total \$318,119.29 or 14.97% of the original contract amount. Work on this contract is approximately 99% complete.

BUDGET/FISCAL IMPACT:

The FY12 Capital Improvement Program budget includes \$2,124,900 for Contract 6795. Including this change order for \$114,151.64, the adjusted subphase total will be \$2,443,019.29 or \$318,119.29 over budget. This amount will be covered within the five-year CIP spending cap.

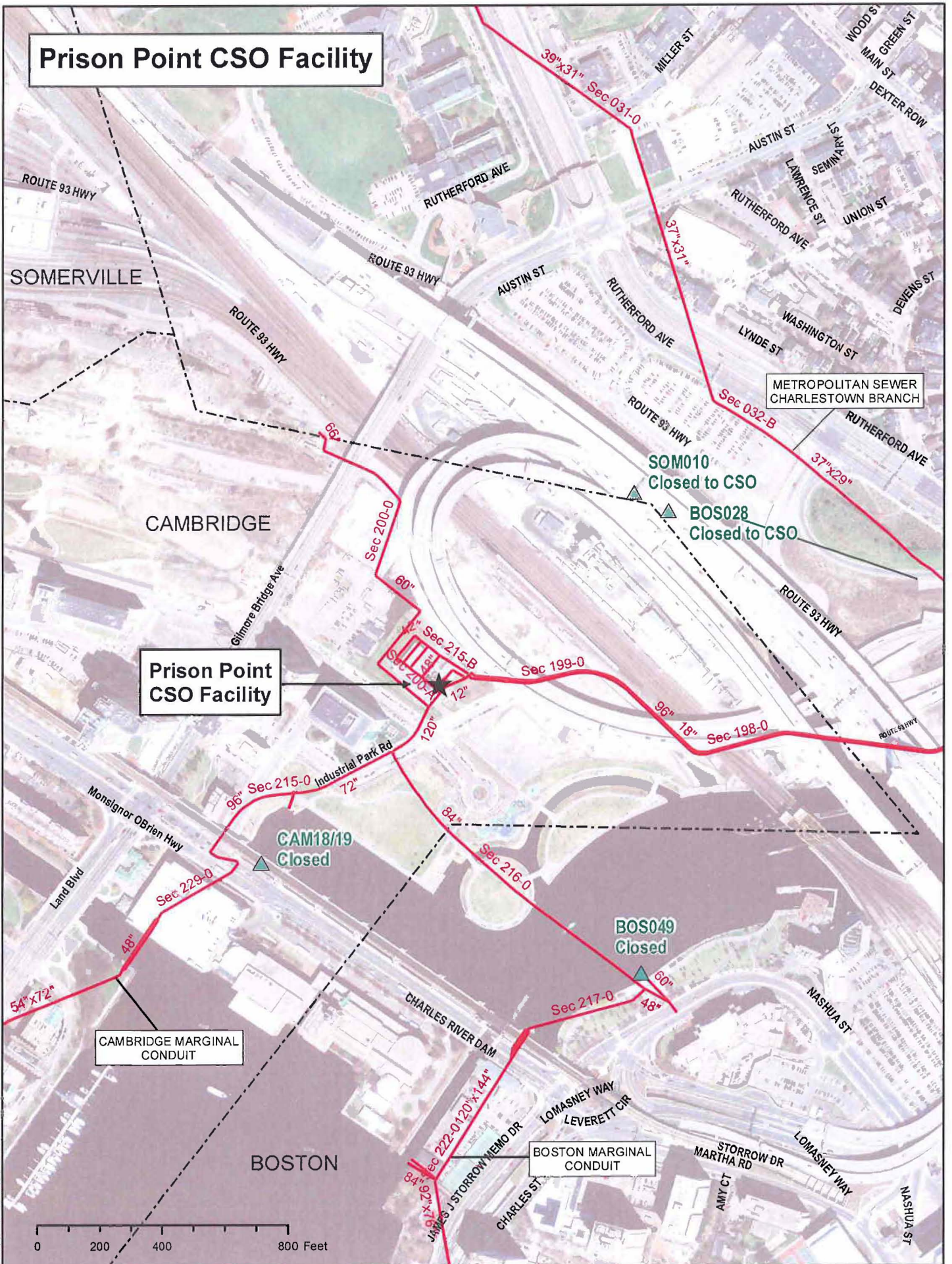
MBE/WBE PARTICIPATION:

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

ATTACHMENT:

Location Map of Prison Point CSO Facility

Prison Point CSO Facility





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WATER POLICY AND OVERSIGHT COMMITTEE MEETING

Chair: J. Hunt
Vice-Chair: V. Mannering
Committee Members:
J. Barrera
J. Carroll
J. Foti
M. Gove
A. Pappastergion
J. Walsh

to be held on

Wednesday, June 6, 2012

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

Time: Immediately following Wastewater Comm.

AGENDA

A. Information

1. 2011 Annual Water Quality Report (Consumer Confidence Report)

B. Approvals

1. Water Supply Citizens Advisory Committee Contract

C. Contract Amendments/Change Orders

1. Lynnfield/Saugus Pipelines Project: Albanese Brothers, Inc., Contract 6584, Change Order 16
2. Hultman Aqueduct Interconnections: Barletta Heavy Division, Inc., Contract 6975, Change Order 24

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

May 16, 2012

A meeting of the Water Policy and Oversight Committee was held on May 16, 2012 at the Authority headquarters in Charlestown. Chairman Hunt presided. Present from the Board were Messrs. Barrera, Carroll, Cotter, Foti, Pappastergion and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Steve Estes-Smargiassi, and Bonnie Hale. The meeting was called to order at 11:45 a.m.

Update on Major Dam Improvements

A presentation on major dam improvements was referred to the full Board meeting in the afternoon (ref. agenda item A.1).


Update on EPA Unregulated Contaminant Monitoring Rule (UCMR)

Staff reviewed EPA's issuance of the final round of the UCMR and its anticipated effects and costs on MWRA communities.

The meeting adjourned at 11:50 a.m.

* Approved as recommended at May 16, 2012 Board of Directors meeting.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 6, 2012
SUBJECT: *2011 Annual Water Quality Report* (Consumer Confidence Report)

COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE

Joshua Das, Project Manager, Public Health
Stephen Estes-Smargiassi, Director, Planning
Ria Convery, Special Asst. to the Exec. Director
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only. The *2011 Annual Water Quality Report* will be mailed to every household in MWRA's service area between the week of June 4 and June 25, 2012 to meet EPA's Consumer Confidence Report Rule deadline of July 1. This staff summary highlights the report's key findings and features. Copies will be available at the Board meeting.

DISCUSSION:

EPA's Consumer Confidence Report (CCR) program has been an important national initiative that has promoted better information and education for consumers about their publicly supplied drinking water. The CCR has been an integral part of MWRA's drinking water communication program since 1999 and staff endeavor to produce an easy-to-read, visually appealing document.

MWRA produces three separate versions of the CCR for 2011: one for each of the fully-supplied communities in metropolitan Boston and MetroWest, one for each of the partially-supplied communities in metropolitan Boston and MetroWest, and one for the three Chicopee Valley Aqueduct communities. A Spanish translation is also produced. All communities in metropolitan Boston and MetroWest that use MWRA's CCR again took the opportunity to provide a community-specific letter to report additional local information.¹ This year, per DEP's request, each community was asked to include in its letter information on local contact names, telephone numbers, and information on local meetings.

As in prior years, the 2011 CCR emphasizes MWRA's excellent source water, the test results from the reservoir to the tap, and indicates that system-wide, MWRA again met the Lead and Copper Rule. There was one community that had higher lead levels and additional information is available in the community-specific letter.

¹ The partially-served communities of Peabody, Stoughton, and Wellesley each send their own CCR geared toward local source water quality, with additional information on MWRA water provided in their reports by MWRA staff.

The cover letter discusses a few current issues, including the current construction of ultra-violet disinfection facilities at the Carroll Water Treatment Plant, as well as MWRA's ongoing work to improve system redundancy. The theme of the report this year is "Generations of Great Water," and emphasizes the legacy that the Boston area has in water and wastewater engineering, and includes historic photos from the turn of the 20th Century. All writing and graphic design are performed in-house by MWRA staff.

Since 2009, in an effort to lower printing costs, MWRA has reduced the total number of pages in the report from eight to six. The report is printed on recycled paper and certified by the Forest Stewardship Council and Sustainable Forestry Initiative, with appropriate logos included on the cover.

MWRA conducts an outreach effort to increase awareness of the CCR, including e-mailing copies to local officials, health care professionals, and other interested parties, and sending press releases to more than 50 weekly publications and all regional newspapers. Information and links to MWRA's website will be provided to cable access television stations, community web pages, and local public health and environmental organizations.

The reports will be arriving in customers' mailboxes through the last week of June. Certification of the CCR to DEP is due by July 1, 2012. MWRA provides certification materials to DEP on behalf of each community.

BUDGET/FISCAL IMPACT:

The FY12 Current Expense Budget includes \$204,600 for the 2011 CCR, which is more than sufficient for the estimated \$70,000 for printing and mailhouse services, and the estimated \$125,000 for postage. The cost of preparing, printing, and mailing almost 900,000 copies of the 2011 CCR is approximately \$0.22 per copy.

W.B.1
IV A.3
6/6/12

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: Water Supply Citizens Advisory Committee Contract

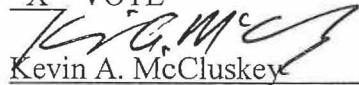


COMMITTEE: Water Policy & Oversight

 INFORMATION

VOTE

Stephen Estes-Smargiassi, Director, Planning
Preparer/Title


Kevin A. McCluskey
Director, Public Affairs

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Water Supply Citizens Advisory Committee for a one-year period beginning July 1, 2012, with a total contract cost of \$96,430.

DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Water Supply Citizens Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC).

WSCAC originated in 1978 when its predecessor committee, the Northfield Citizens Advisory Committee, was formed at the direction of the Secretary of the Executive Office of Environmental Affairs. WSCAC has received direct funding from MWRA since MWRA's formation in 1984.

The proposed FY13 WSCAC budget is level funded from FY12. The WSCAC Executive Committee has recommended some reallocations within the budget, but balanced increases and decreases. No changes in the Salary section of the budget were requested by WSCAC, nor in hours or hourly rates. Within the Expenses section of the budget, health care costs increased, but postage, office expenses and telephone/internet expenses all decreased resulting in an unchanged budget.

Current topics of interest to WSCAC include water system expansion issues, implementation of the updated Water System Master Plan; the impacts of the state's Sustainable Water Management Initiative, and periodic reviews of watershed management and protection issues. WSCAC's office is located at Quabbin Reservoir, and most meetings are held at MWRA's Southborough facility. WSCAC's current Executive Director is Lexi Dewey (selected by

WSCAC's Executive Committee), and the current chairman is Whitney Beals, elected from among the members.

BUDGET/FISCAL IMPACT:

Sufficient funds for the WSCAC contract are available in the proposed FY13 CEB Advisory Board and Advisory Committees' cost center.

AGREEMENT
BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
WATER SUPPLY CITIZENS ADVISORY COMMITTEE

This Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“Authority”), a body politic and corporate and a public instrumentality of the commonwealth created by Chapter 372 of the Acts of 1984 with offices at Building 39 First Avenue, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Water Supply Citizens Advisory Committee (“WSCAC”) an organization initially created under the Massachusetts Environmental Policy Act (“MEPA”) to ensure public representation and participation in Authority water supply activities, with offices currently at 485 Ware Road, Belchertown, MA 01007 (collectively “Parties”).

WHEREAS, the Authority is required to meet the water needs of its communities;

WHEREAS, the Authority desires WSCAC to continue to advise in water supply planning and programming; and

WHEREAS, WSCAC desires to have a continued role advising the Authority;

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WSCAC agree as follows:

Article 1. Effective Date.

This Agreement shall be effective from July 1, 2012 through June 30, 2013, inclusive.

Article 2. Compensation, Budget, Payment and Expenses.

2.1 The Authority shall make funds available as follows:

(a) Salaries and Duties.

Director. An Executive Director shall be chosen by WSCAC members at a salary not to exceed \$61,600 for the year commencing on July 1, 2012 through June 30, 2013, inclusive. The hourly salary rate shall be \$36.88 with annual total hours of 1670 (average 34 hours per week for 49 weeks). The duties of the Executive Director shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

Executive Consulting. Up to \$2,000 shall be allocated for consulting by previous staff members of WSCAC or other external experts for the purposes of special project reviews. The hourly salary rate shall not exceed that of the current Executive Director.

Administrative Assistant. A part-time Administrative Assistant shall be chosen by the WSCAC Executive Director in consultation with the Executive Committee of WSCAC at a salary not to exceed \$12,800 for the year commencing on July 1, 2012 through June 30, 2013, inclusive. The hourly salary rate shall be \$19.00 with annual total hours of 673 (average 14 hours per week for 48 weeks). The duties of the Administrative Assistant shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

(b) Annual Expenses.

The Authority shall reimburse WSCAC for the following items: 80% of the health insurance for the Executive Director, travel for WSCAC staff and members, office supplies (such as letterhead, envelopes, pencils, paper clips), postage, office telephone and internet access, and general administrative and office expenses. The percentage rate for reimbursement of health insurance costs shall be changed to match that of MWRA staff if the Group Insurance Commission changes the rate.

(c) Miscellaneous Expenses.

The Authority shall also reimburse WSCAC for the following expenses when submitted with a written reimbursement request supported by a receipt or voucher:

(1) mileage costs incurred by WSCAC staff and members from attendance at WSCAC meetings, pertinent conferences and seminars, or while performing other functions directly related to its scope of services. Mileage costs will be reimbursed at the prevailing Authority rate per mile;

(2) postage, phone calls, public transportation costs, highway tolls and parking expenses incurred by WSCAC staff and members while performing WSCAC duties;

(3) the purchase or rental by WSCAC staff of books, films, cassettes, tapes, etc., if specifically approved by the Authority in advance, except that single copies of individual publications, books, and other written documents may be purchased for the WSCAC library use without prior approval, provided that the cost per item does not exceed \$200. All materials purchased under this section shall be considered property of the Authority.

(4) other miscellaneous expenses of the WSCAC staff approved by the Authority on a case-by-case basis. When possible, approval of the Authority should be received in advance of incurring such expenditures.

The Authority may advance up to \$750 to WSCAC, such advance to be applied to the payment of Miscellaneous Expenses as defined herein and as approved and budgeted under the terms of this Agreement. Payments made from an advance shall be accounted for in the same manner as all other Miscellaneous Expense payments. Prior to the expiration of this Agreement, any outstanding balance on an advance shall be applied against amounts due WSCAC.

The annual total reimbursement to WSCAC for annual and miscellaneous expenses combined shall not exceed \$20,030 from July 1, 2012 through June 30, 2013 inclusive.

(e) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees, or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WSCAC.

(a) WSCAC shall employ an Executive Director, who is prohibited from being a member of WSCAC while serving his or her term as a paid employee.

(b) WSCAC shall, whenever applicable, take all necessary steps to receive an exemption from the Massachusetts Sales and Use taxes for materials, printing and equipment purchased by WSCAC on behalf of the Authority.

(c) WSCAC shall submit monthly or periodic statements to the Authority requesting payment for salary, and for annual and miscellaneous expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, and by such other supporting data as may be required by the Authority.

(d) WSCAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The Parties and their duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.

(e) The Authority or its duly authorized agent shall have the right at any and all reasonable times, to examine and audit WSCAC's records, documents and other evidence.

(f) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.

(g) The Parties agree to consent to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.

(h) WSCAC acknowledges that the Authority is a state agency for purpose of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WSCAC staff and members are special state employees.

(i) WSCAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

ARTICLE 4. RESPONSIBILITIES OF THE WSCAC STAFF.

4.1 The WSCAC staff shall be responsible for the following tasks:

- (a) aiding WSCAC in its tasks under Article 6, managing the WSCAC office, educating the public, and acting as liaison with the Authority and its staff;
- (b) preparing monthly progress reports for submission to the WSCAC Executive Committee, the WSCAC members, and the Authority;
- (c) maintaining financial records, minutes of the WSCAC meetings, and other WSCAC records;
- (d) assuring that at least every other meeting be held in Eastern Massachusetts at a location to be jointly agreed upon by WSCAC and the Authority where Authority attendance is expected.
- (e) providing to the Authority copies of the notices for and minutes of all meetings of WSCAC and of all the WSCAC correspondence as soon as such materials are available.
- (f) administering and maintaining compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

ARTICLE 5. MEMBERSHIP

5.1 Membership of WSCAC

- (a) Membership of WSCAC shall maintain parity between those individuals representing the interests of the communities listed in section 8(d) of the Authority's Enabling Act, c. 372 of the Acts of 1984, ("User Representatives") and those individuals representing the interests of the watershed communities ("Donor Representatives") and those individuals representing the interests of statewide or other appropriate interests as mutually agreed upon by WSCAC and the MWRA ("Other Representatives").
- (b) In order to maintain WSCAC membership status, members must be active participants, as defined in the WSCAC by-laws.

5.2 The appointment of WSCAC members shall be by joint designation by WSCAC and the MWRA and shall have a goal of achieving at least 10% minority representation on WSCAC.

ARTICLE 6. WSCAC TASKS.

WSCAC shall undertake the following tasks:

6.1 Water Supply Programs Review.

Advise the Authority staff and Board in the performance of their duties relating to water supply planning and policies. Participate in the design, review and evaluation of research, reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of water planning and policy development.

6.2 Outreach and Education.

Assure informed public input by providing assistance in outreach to various groups regarding the Authority's water supply programs and policies, and state water resources legislation and policies. Review programs with and explain plans and policies to organizations and citizens, including the scheduling of workshops, meetings and conferences. Provide comments and assistance on legislation of importance to the Authority.

6.3 Working Group Representation.

When requested, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to water supply planning and policy development, including the Advisory Board and its subcommittees and the Wastewater Advisory Committee.

6.4 Recommendations on Long Term Public Involvement.

Provide to the Authority staff and Board, proposals for continued effective and efficient long-term public involvement in water programs.

6.5 Recommendations and Discussion Documents.

The WSCAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on the subjects of the above tasks. Documents may be in the form of minutes of WSCAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity.

(a) WSCAC agrees to comply with all Federal and State laws pertaining to Civil Rights and Equal Opportunity, including executive orders and rules and regulations regarding employment, demotion, transfers, recruitment, layoffs or termination, rates of pay or other compensation and

training, including apprenticeships. With regard to WSCAC membership, WSCAC agrees to affirmatively solicit minority representation.

(b) WSCAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract.

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by WSCAC to fulfill their obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority an equitable adjustment shall be made providing for payment to WSCAC for services rendered and expenses incurred prior to the termination. In addition, termination settlement costs reasonably incurred by WSCAC relating to commitments, which had become firm prior to the termination, shall be paid.

(c) This agreement may be terminated at any time, in whole or in part, in writing by WSCAC in the event of substantial failure by the Authority to fulfill its obligations or for violation by the Authority to fulfill its obligations or for violation by the Authority of any of the covenants and stipulations of this agreement.

(d) No termination hereunder may be effected unless the terminating party gives the other party: (1) not less than forty-five days' written notice delivered by certified mail, return receipt requested of intent to terminate; and (2) an opportunity for consultation with the other party prior to termination, or (3) by mutual agreement of the parties.

8.2 Ownership of Property.

Upon termination of this Agreement for any reason, WSCAC shall turn over to the Authority all materials, equipment, including computer equipment currently on loan from the Authority and owned by the Authority, unused office supplies, books, pamphlets, publications and all other properties for which Authority or MDC reimbursements were made in whole or in part, directly or indirectly.

8.3 Assignability.

WSCAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this contract.

8.4 Integration Clause.

This Agreement may be amended only by a writing executed by each of the Parties.

8.6 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.7 Massachusetts Law to Govern.

All parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.8 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.9 Notices.

Communications shall be deemed to have been made when mailed postage prepaid or delivered to among:

Chair and
Executive Director
Water Supply Citizens Advisory Committee
485 Ware Road
Belchertown, MA 01007

Director of Public Affairs
Massachusetts Water Resources Authority
Charlestown Navy Yard
Building 39, First Avenue
Boston, Massachusetts 02129

Executive Director
Massachusetts Water Resources Authority
Charlestown Navy Yard
Building 39, First Avenue
Boston, Massachusetts 02129

IN WITNESS WHEREOF, this Agreement is executed as of this day of , 2012.

FOR: WATER SUPPLY CITIZENS ADVISORY COMMITTEE

By: _____
Title: Chair, Water Supply Citizens
Advisory Committee

Dated:

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____
Title: Executive Director

Dated:

W.C.1
X.C.3
6/6/12

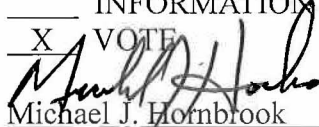
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: Lynnfield/Saugus Pipeline Project
Albanese Brothers, Inc.
Contract 6584, Change Order 16



COMMITTEE: Water Policy & Oversight

Eleanor Duffy, P.E., Construction Coordinator
A. Navanandan, P.E., Director, Construction
Preparer/Title

 INFORMATION
 X VOTE

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 16 to Contract 6584, Lynnfield/Saugus Pipeline Project, with Albanese Brothers, Inc., for an not to exceed amount \$466,406.54, increasing the contract amount from \$5,421,911.47 to \$5,888,318.01, and extending the contract term by 21 calendar days from January 17, 2013 to February 7, 2013.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 6584 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

The Lynnfield Water District is currently supplied by MWRA through an eight-inch water main located in the median strip of Route 1 in the Town of Saugus. This water main, installed in 1957, provides suction to Lynnfield Water District's pump station located on the northbound side of Route 1 near the Lynnfield/Saugus line. MWRA's eight-inch water main is undersized for current and anticipated future demands and a new, larger main is needed. After several alternative alignments for a new pipeline were evaluated, staff recommended that a new pipeline be installed along Route 1.

Contract 6584, approved by the Board on December 22, 2010, includes the construction of approximately 1,800 feet of 36-inch water main, 4,700 feet of 24-inch water main, 6,000 feet of 12-inch water main and blow-off piping, including main line valves, air valves, and one new revenue meter. The contract also includes pavement restoration, some sidewalk reconstruction, and traffic and environmental controls during construction. Construction is taking place within heavily-traveled Route 1 during night-time hours with up to two travel lanes being temporarily closed (see attached project map).

The Town of Saugus has experienced numerous breaks in its water main along Route 1. The Town's consultant investigated various options and the town decided to construct a new 12-inch water main along the same alignment as MWRA's proposed work on Route 1. MWRA and Saugus agreed to combine their respective projects to reduce design and construction costs and minimize traffic impacts. On May 12, 2010, the Board approved a Memorandum of Agreement (MOA) between MWRA and the Town of Saugus for the cost sharing and coordination necessary to include a portion of Saugus' water main as part of MWRA's contract. Contract 6584, includes construction of both MWRA's and Saugus' 6,000 feet of 12-inch water mains.

This Change Order

Change Order 16 consists of the following six items

Increase the Depth Of Jacking and
Receiving Pits and Install Additional Bends \$150,000

The contract includes jacking underneath a bottomless box culvert (a culvert without a bottom side) crossing to install an MWRA 24-inch water main and a Saugus 12-inch water main within a common 54-inch sleeve casing. During construction of the jacking and receiving pits, the Contractor encountered an unknown footing that could not be exposed because excavation might undermine the geological bottom of the culvert. Therefore, the depth of the pits had to be increased to clear the footing, which resulted in the casing and water mains being installed lower than the designed elevation. Additional bends were required in order to align with the water mains previously installed on either side of the jacking pits. Further realignment was necessary to maintain the required separation where the mains cross over a 10-inch Saugus sewer.

The PCO for this item has been identified by MWRA staff as an unforeseen condition. The Design Engineer, Fay, Spofford, and Thorndike (FST), MWRA staff, and the Contractor are currently negotiating the final cost of this item. Therefore, staff recommend that this item be approved for an amount not to exceed \$150,000.

Excavate Ledge at the Lynnfield Water District Pump Station and Replace 8-inch Pipe on Section 70 Suction Main Feed \$95,632.45

The contract includes installation of a revenue meter vault, two gate valves in manholes and associated 8-inch ductile iron pipe on the Lynnfield Water District's pump station property. During excavation, the Contractor encountered ledge but was prohibited by contract from blasting on Lynnfield Water District's property and attempted to excavate by hoe-ramming. When it was determined that the hoe-ramming was causing vibration within the Lynnfield Water District's building, MWRA ordered the Contractor to stop the hoe-ramming.

The Contractor was required to utilize a non-explosive demolition agent to remove the ledge. This required the Contractor to mobilize a drill rig to drill more than 200 1-5/8-inch holes into the ledge and insert multiple applications of the demolition agent. No borings were taken on the Lynnfield Water District's property because FST and MWRA staff believed that two borings less

than 50 feet away were reasonably adequate to accurately represent conditions in the area. The picture on the right shows a portion of the ledge outcrop that was encountered and the Contractor's staff applying the non-explosive demolition agent.



Also, while installing a gate valve in a manhole on the suction main to the Lynnfield Water District's pump station, the Contractor discovered that the main was sitting directly on ledge with insufficient pipe bedding. Therefore, it was necessary for the Contractor to replace a portion of the suction main.

The PCO for this item has been identified by MWRA staff as an unforeseen condition. FST, MWRA staff, and the Contractor have agreed to a lump sum amount of \$95,632.45 for this additional work.

Perform 24/7 Jacking
Operation Under Bottomless Culvert

\$86,719.26

The Contractor is required to obtain a MassDOT permit to perform pipe-jacking. Prior to bid, an owner is required to submit a preliminary permit application based on the location and design of the jacked pipe and boring logs, which is followed up with an application by the Contractor containing detailed information on the jacking operation. FST failed to obtain MWRA's preliminary permit prior to bid, which prevented the Contractor from obtaining a permit in sufficient time to perform the jacking operations while installing the water mains in the same area. This resulted in extra work and additional traffic control.



Further, based on the general MassDOT permit included in the contract, the Contractor may only perform work between 9 p.m. and 5 a.m., Sunday through Thursday. However, in contravention of the general MassDOT permit, the contract allows jacking operations to be performed 24 hours a day/7 days a week. Since it is necessary to jack the casing continuously (see picture of the Contractor's pipe-jacking set-up above right), MassDOT agreed to allow 24/7 jacking of the casing but required that the work start on the night of Friday, April 13, 2012 and proceed on a 24/7 basis until Monday morning, April 16, 2012.

In addition, there was insufficient space to construct jacking pits in the designed location in the breakdown lane without impacting the right travel lane. Therefore, additional traffic control, including repeated installation and removal of traffic control devices and an additional police officer, was required during the entire jacking operation.

The PCO for this item has been identified by MWRA staff as a design omission. FST, MWRA staff, and the Contractor have agreed to a lump sum amount of \$86,179.26 for this additional work.

Staff are compiling a list of all change order items in this contract that have resulted from an error or omission on the part of the Design Consultant, FST, and have notified FST, in writing, of the current status of these findings and of MWRA's intention to seek appropriate cost recovery.

Perform Additional Exploratory Excavation Around Concrete Footing
Remove Abandoned Water Main; Realign the 12-inch Saugus Water Main \$79,508.31

While excavating test pits within the proposed alignment of MWRA's 36-inch water main, the Contractor encountered a large concrete obstruction running from the sidewalk into the first travel lane of Route 1 South, which was not shown on MassDOT's record drawings. MWRA's 36-inch water main was realigned to avoid this obstruction under Change Order 9. Additional test pits revealed that the obstruction also conflicts with the proposed alignment of Saugus's 12-inch water main. A clear path was established in the first travel lane in the exact location of an abandoned 6-inch water main, which had to be removed to install the 12-inch water main in this location.

The PCO for this work has been identified by MWRA staff as an unforeseen condition. FST, MWRA staff, and the Contractor have agreed to a lump sum amount of \$79,508.31 for this additional work.

Remove Saugus' Asbestos Concrete Sewer and Replace with PVC Pipe \$50,000

The contract drawings indicate that jacking and receiving pits are to be installed adjacent to a Saugus 10-inch asbestos concrete sewer, which runs through the culvert below the water surface. Due to years of water exposure, the asbestos concrete pipe has significantly deteriorated. Construction of the access pits within a few feet of the deteriorated sewer pipe disturbed the pipe bedding and a 19-foot section of the sewer partially collapsed. Therefore, the Contractor had to remove 60 feet of the asbestos concrete sewer pipe and replace it with PVC pipe to prevent sewage from leaking into the pits during the jacking operations and to prevent future leaks adjacent to the new water main.

The PCO for this item has been identified by MWRA staff as an unforeseen condition. FST, MWRA staff, and the Contractor are currently negotiating the final cost of this item. Therefore, staff recommend that this item be approved for an amount not to exceed \$50,000.

Install Temporary Carrier Pipe Within Bottomless Box Culvert

\$4,546.52

As a condition of issuing the jacking permit referenced above, MassDOT required a temporary “carrier” pipe to be installed within the culvert to decrease seepage through the geological bottom of the culvert into the sleeve casing and as a contingency plan in the event of a breach of the geological bottom. The 18-inch PVC pipe will be removed at the completion of the jacking operations.

The PCO for this item has been identified by MWRA staff as an unforeseen condition. FST, MWRA staff, and the Contractor have agreed to a lump sum amount of \$4,546.52 for this item.

Extend the Contract Time by 21 Days

\$0.00

MWRA staff have conducted a schedule analysis of the critical path, which shows that the Contractor is entitled to a 21-calendar-day time extension because of the cumulative impact of all change order work to date. Staff are currently evaluating alternatives to mitigate time extensions. One alternative involves obtaining MassDOT approval to perform work on the Northbound side of Route 1 after 5:00 a.m., which was recently allowed in a MassDOT permit issued to the Town of Saugus. Also, if winter conditions permit, it may be possible to obtain a MassDOT waiver of the ban on work during the winter moratorium, which was allowed during winter 2011/2012.

Although the Contractor agrees with the pricing in this change order, it does not agree with MWRA’s determination of the amount of extended contract time and staff anticipate that the Contractor will refuse to sign this change order due to potential schedule impacts and it will likely be executed unilaterally.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$4,924,400.00	730 Days	01/18/11
Change Orders:			
Change Order 1	\$265,000.00	0 Days	06/01/11
Change Order 2*	\$24,000.00	0 Days	07/28/11
Change Order 3*	\$21,000.00	0 Days	09/01/11
Change Order 4*	\$5,402.42	0 Days	10/18/11
Change Order 5*	\$23,300.00	0 Days	11/07/11
Change Order 6*	\$10,687.41	0 Days	11/07/11
Change Order 7*	\$12,873.81	0 Days	12/13/11
Change Order 8*	\$20,449.60	0 Days	12/20/11
Change Order 9*	\$91,634.26	0 Days	01/27/12
Change Order 10*	\$16,946.97	0 Days	01/30/12
Change Order 11*	\$9,691.71	0 Days	02/09/12
Change Order 12	(\$67,036.70)	0 Days	02/21/12

Change Order 13*	\$24,689.20	0 Days	03/09/12
Change Order 14*	\$24,836.44	0 Days	03/19/12
Change Order 15*	\$14,036.35	0 Days	05/14/12
Change Order 16	<u>\$466,406.54</u>	<u>21 Days</u>	Pending
Total of Change Orders:	\$963,918.01	21 Days	
Adjusted Contract:	\$5,888,318.01	751 Days	

*Approved under delegated authority

If Change Order 16 is approved, the cumulative total value of all change orders to this contract will be \$963,918.01 or 19.6% of the original contract amount. Work on this contract is approximately 51.5% complete.

BUDGET/FISCAL IMPACT:

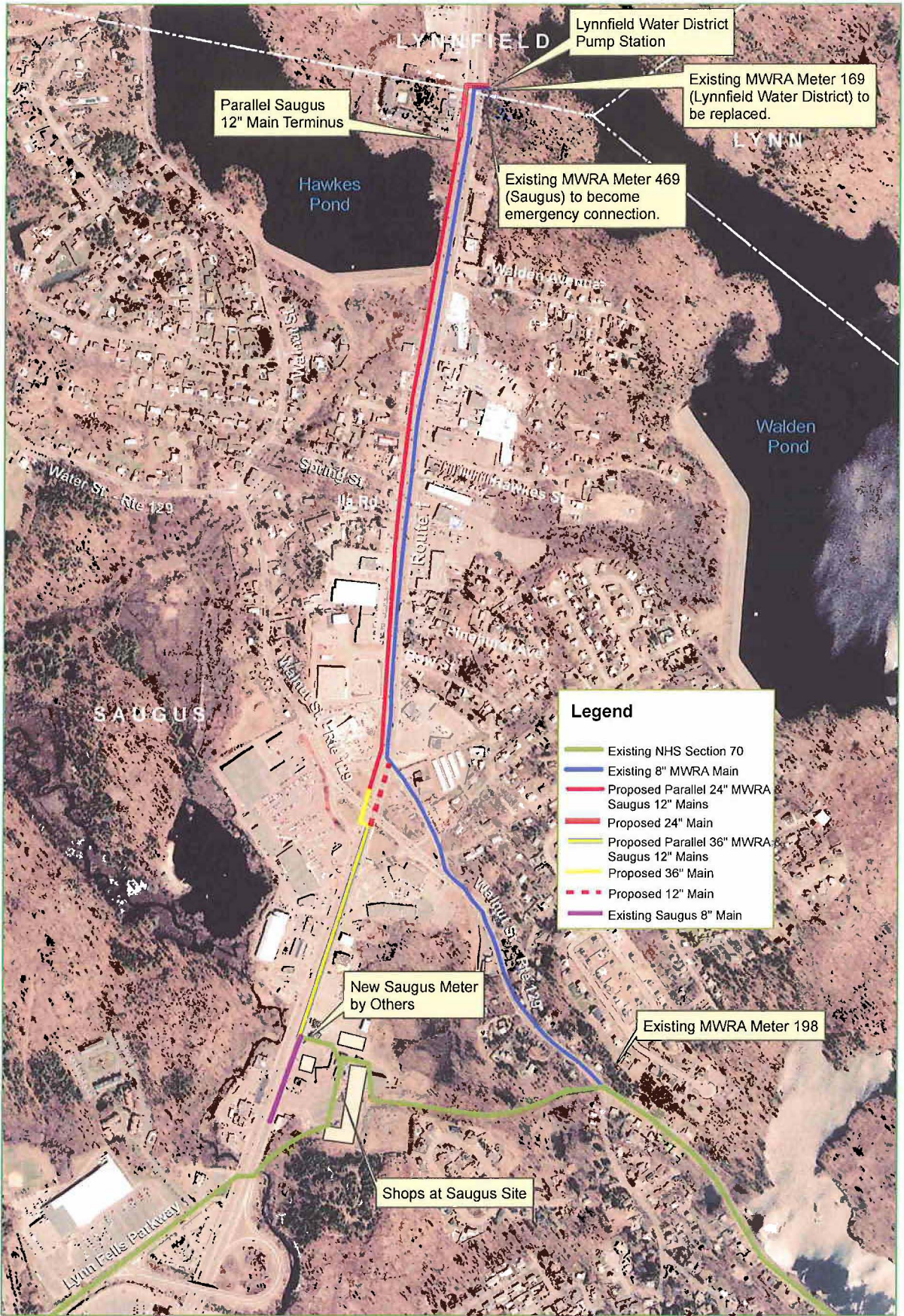
The FY12 CIP contains a budget of \$5,189,400 for Contract 6584. Including this change order for \$466,406.54, the adjusted subphase total is \$5,888,318.01 or \$698,918.01 over budget. This amount will be covered within the five-year spending cap. According to the cost sharing agreement specified in the MOA with Saugus, MWRA's and the Town of Saugus's portion are approximately 72% and 28% of the total contract price, respectively. In accordance with the MOA, Saugus will be assessed for any portion of these change order costs that are associated with its water line.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this contract were established at 7.24% and 3.6%, respectively, and will remain unchanged by this change order.

ATTACHMENT:

Lynnfield/Saugus Pipelines Project Map



LYNNFIELD/SAUGUS PIPELINES PROJECT

Fay, Spofford & Thorndike



FIGURE 1-1
PROJECT LOCATION MAP
PIPELINE ROUTING

W.C.2
D.B.4
6/6/12

STAFF SUMMARY

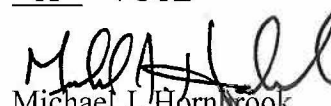
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: Hultman Aqueduct Interconnections
Barletta Heavy Division, Inc.
Contract 6975, Change Order 24



COMMITTEE: Water Policy & Oversight

 INFORMATION
 X VOTE

A. Navanandan, P.E., Director, Construction
Frank Westberg, P.E. Construction Coordinator
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 24 to Contract 6975, Hultman Aqueduct Interconnections, with Barletta Heavy Division, Inc., for a lump sum amount of \$79,116, increasing the contract amount from \$52,470,657 to \$52,549,773, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 6975 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

Contract 6975 calls for the construction of interconnections on the Hultman Aqueduct at Shaft L in Framingham, and at Shafts N, 5, and W in Weston. These interconnections consist of 10-foot-diameter pipes and valves housed inside underground, reinforced-concrete valve chambers varying in size from 30 feet to 60 feet long, 25 feet to 40 feet wide and approximately 30 feet deep. The Contractor has also constructed two large concrete overflow structures on the Hultman at Norumbega to protect the aqueduct from potential transient hydraulic pressure surges. The Hultman Aqueduct has been inspected and rehabilitated, and all interconnections are complete between Shaft 4 and Shafts 5 and W, a distance of approximately 13.2 miles, except for minor electrical and site work. For the first time, MWRA has in place and available for service, two independent, reliable, and fully interconnected water transmission lines to provide system redundancy from Southborough to Weston.

Magnetic flow meters have been installed on the Hultman downstream of Shaft 4 in Southborough and downstream of Shaft N/Norumbega Covered Storage in Weston. Existing community connections, air relief structures, blow-off manholes, access hatches, and numerous culverts under the Hultman have been repaired or replaced to restore the aqueduct to safe and efficient operation after more than 65 years of service without an overhaul.

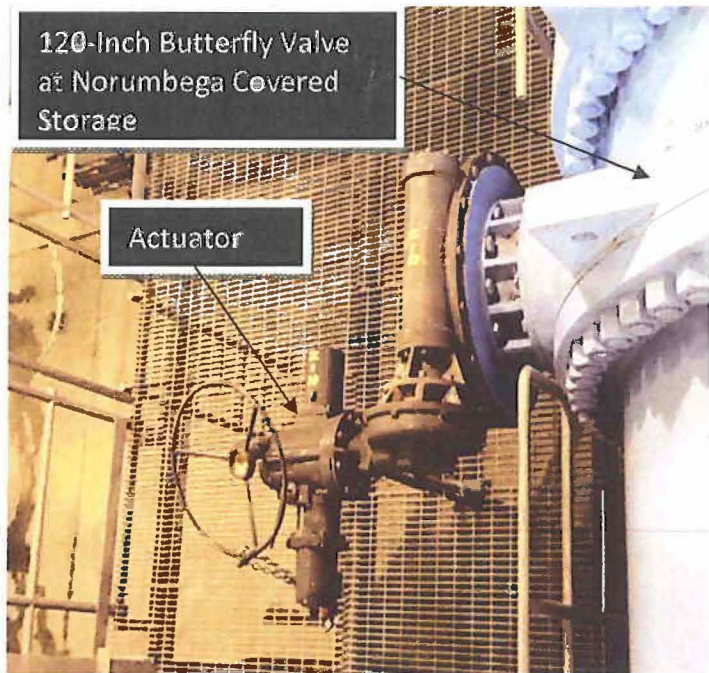
The remaining contract work at Loring Road and River Road will commence on June 1, 2012 and will be completed by March 31, 2013. All landscaping work at Norumbega Covered Storage is due to be completed according to the current contract end date of May 31, 2013.

This Change Order

Change Order 24 consists of the following three items:

Furnish and Install Conduit and Cable for
Six Torque Alarms and Valve Position Indicators for Actuators \$44,994

The Contractor is scheduled to replace a total of six actuators on existing butterfly valves in Valve Chambers L, N1, and 5A1. (Pictured on the right is one of two actuators that will be replaced at the Norumbega Covered Storage Facility.) However, the Design Engineer, Jacobs Civil, Inc., omitted required electric conduit and wiring for torque alarms and position indicators between the actuators and the remote terminal unit cabinet. In order to allow control of these valves and display alarms for MWRA Operations staff through the SCADA system (as with all other new valves on the Hultman, the Contractor must furnish and install additional conduit and wiring from all six actuators to the remote terminal unit.



The PCO for this item has been identified by MWRA staff as a design omission. MWRA staff, MWRA's Resident Engineering Consultant, Dewberry, and the Contractor have agreed to a lump sum amount of \$44,994 for this additional work.

Furnish and Install a Four-Foot-Diameter Manhole;
Plug Two Existing 36-inch Drain Lines and Delete a Blow Off Structure \$23,909

During excavation to install a new blow-off structure on the 84-inch Hultman Branch Line, the Contractor discovered a Town of Weston 12-inch water main in the proposed location for the blow-off structure. The Town of Weston's record drawings showed the water line in a different location. The water line could not be relocated so the blow-off structure could not be installed where it was originally designed. Therefore, based on a re-design by Jacobs Civil, the Contractor was required to modify an adjacent concrete transition chamber, which was used as a blow-off and which discharged to a nearby stream, to serve as a blow-off structure. This work included installation of a four-foot-diameter man-hole with a frame and cover on top of the

chamber and filling two existing 36-inch blow-off drain lines that enter the transition chamber with concrete.

The picture to the right shows the location of this change order work. The designed location for the blow-off structure was actually where the Jersey barriers are shown. These were added temporarily to hold back the embankment while the work was completed. The Contractor was required to plug the two existing 36-inch drain lines (which had been previously abandoned), in accordance with DEP regulations, to prohibit the blow-off structure from directly discharging to rivers or streams.



The PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff, MWRA's Resident Engineering Consultant, Dewberry, and the Contractor have agreed to a lump sum amount of \$23,909 for this additional work.

Cut and Remove Existing Steel Sheeting;
Excavate a Test Pit at Valve Chamber 5A-1

\$10,213

Record drawings do not show the subgrade material under Valve Chamber 5A-1. Therefore it was necessary to remove a portion of the steel sheeting around the perimeter of Valve Chamber 5A-1 and excavate a test pit to confirm the subgrade material prior to installing Valve Chamber 5A-2 to confirm that both structures will be on a similar subgrade foundation to prevent differential settlement.

The PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff, MWRA's Resident Engineering Consultant, Dewberry, and the Contractor have agreed to a lump sum amount of \$10,213 for this additional work.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$47,542,388.00	1,826 Days	09/02/09
Change Orders:			
Change Order 1:	\$18,215.00	0 Days	04/29/10
Change Order 2*:	\$21,079.00	0 Days	05/13/10

Change Order 3*:	\$0.00	0 Days	05/18/10
Change Order 4*:	\$13,917.00	0 Days	05/27/10
Change Order 5	\$1,259,041.00	(155 Days)	07/14/10
Change Order 6*:	\$44,900.00	0 Days	09/28/10
Change Order 7*:	\$85,000.00	0 Days	09/30/10
Change Order 8	\$357,919.00	0 Days	10/14/10
Change Order 9*	\$10,392.00	0 Days	12/07/10
Change Order 10*	\$20,100.00	0 Days	12/14/10
Change Order 11*	\$16,000.00	0 Days	01/03/11
Change Order 12*	\$21,860.00	0 Days	01/19/11
Change Order 13*	\$7,200.00	0 Days	02/24/11
Change Order 14*	\$24,913.00	0 Days	02/25/11
Change Order 15*	\$148,885.00	0 Days	06/01/11
Change Order 16	\$1,772,345.00	0 Days	07/14/11
Change Order 17*	\$247,190.00	0 Days	10/06/11
Change Order 18	\$110,086.00	0 Days	10/13/11
Change Order 19	\$504,427.00	(304 Days)	01/04/12
Change Order 20*	\$15,754.00	0 Days	01/04/12
Change Order 21*	\$19,768.00	0 Days	01/17/12
Change Order 22*	\$23,922.00	0 Days	01/19/12
Change Order 23*	\$185,356.00	0 Days	05/17/12
Change Order 24	<u>\$79,116.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$5,007,385.00	(459 Days)	
Adjusted Contract:	\$52,549,773.00	1,367 Days	

*Approved under delegated authority

If Change Order 24 is approved, the cumulative total value of all changes orders to this contract will be \$5,007,385 or 10.5 % of the original contract amount. Of the \$5,007,385, \$1,643,960 (3.45%) is due to acceleration costs and \$1,003,643 (2.1%) is due to Shaft 5 change order work, which reduces the total remaining change order work to 4.98%. Work on this contract is approximately 85% complete.

BUDGET/FISCAL IMPACT:

The FY12 CIP contains a budget of \$51,188,615 for Contract 6975. Including this change order for \$79,116 the adjusted subphase total is \$52,549,773 or \$1,361,158 over budget. This amount will be covered within the five-year spending cap.

MBE/WBE PARTICIPATION:

The minimum MBE and WBE participation requirements for this project were established at 5.30% and 4.40%, respectively. The Contractor will be notified that these requirements are still expected to be met.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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PERSONNEL & COMPENSATION COMMITTEE MEETING

Chair: K. Cotter
Vice-Chair: J. Barrera
Committee Members:
J. Foti
V. Mannering
J. Walsh

to be held on

Wednesday, June 6, 2012

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

Time: Immediately following Water Comm.

A. Approvals

1. PCR Amendment – June 2012

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Personnel and Compensation Committee

May 16, 2012

A meeting of the Personnel and Compensation Committee was held on May 16, 2012 at the Authority headquarters in Charlestown. Chairman Cotter presided. Present from the Board were Messrs. Barrera, Carroll, Foti, Hunt, Pappastergion and Walsh. The meeting was called to order at 11:50 a.m. All MWRA staff, with the exception of the recording secretary, left the meeting prior to any consideration of the first agenda item (A.1) under the Authority Accountability and Transparency Act.

Annual Meeting of the Personnel and Compensation Committee Independent of Management

Authority Accountability and Transparency Act (G.L. c. 29, §29K)

In accordance with the above statute, the annual meeting of the Personnel and Compensation Committee independent of management was called to order.

Members of the Committee analyzed and assessed the data provided regarding executive compensation at comparable state agencies and authorities, as well as for-profit and non-profit private sector employees. There was general discussion. It was stated that the comparison data was very useful, showed that the level of MWRA executive compensation was in the middle to lower range of similar positions at other entities, and would be kept for reference when evaluating and establishing MWRA executive compensation.

(Various MWRA staff returned to the meeting after most of the remaining agenda items had been completed.)

Approvals

***Changes in Existing Sick Time Payout Benefits for Executives Required by the Authority Accountability and Transparency Act**

The Committee recommended approval of the change in the sick time payout benefit for executives of the Authority from 30% to 25% (ref. agenda item B.1).

* Approved as recommended at May 16, 2012 Board of Directors meeting.

*Renewal of Employment Contract, Part-Time Administrative Assistant at the Clinton Wastewater Treatment Plant

The Committee recommended approval of the renewal of the employment contract for Ms. Jane Densmore (ref. agenda item B.2).

*Renewal of Employment Contract, Part-Time Principal Civil Engineer, Deer Island Treatment Plant

The Committee recommended approval of the renewal of the employment contract for Mr. William Haynes (ref. agenda item B.3).

The meeting adjourned at 12:00 p.m.

* Approved as recommended at May 16, 2012 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 6, 2012
SUBJECT: June PCR Amendments

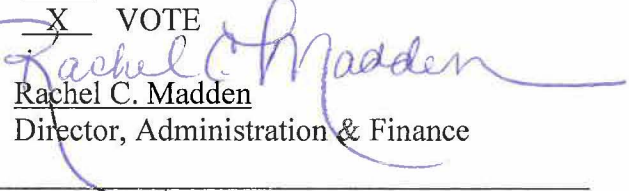


COMMITTEE: Personnel and Compensation

 INFORMATION

 X VOTE

Robert Donnelly, Director of Human Resources



Joan C. Carroll, Manager, Compensation

Rachel C. Madden

Preparer/Title

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 in the Operations Division.

The amendment is:

1. A location and title change for a vacant position in the Engineering & Construction unit needed to address critical water and wastewater meter flow issues in the Meter Data unit.

This is an amendment to a vacant position and requires Personnel and Compensation Committee approval.

BUDGET/FISCAL IMPACT:

There are no costs associated with this change.

ATTACHMENTS:

New/Old Job Descriptions

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.

**MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2012**

PCR AMENDMENTS REQUIRING PERSONNEL COMMITTEE APPROVAL - June 6, 2012

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	Operations Engineering & Construction 5525022	V	T,L	Project Manager	9	25	Project Manager, Meter Engineering	9	25	N/A	N/A - N/A	\$0 - \$0	To better meet the staffing needs of the Meter Data Unit
PERSONNEL COMMITTEE TOTAL =					1		TOTAL					\$0 - \$0	
BOARD TOTAL =					0		SUBTOTAL:					\$0 - \$0	
GRAND TOTAL =					1		TOTAL ESTIMATED COSTS:					\$0 - \$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



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Secretary: J. Foti
Board Members:
J. Barrera
K. Cotter
M. Gove
J. Hunt
V. Mannering
A. Pappastergion
M. Turner
J. Walsh

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, June 6, 2012

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

Time: 1:00 p.m.

AGENDA

- I. **APPROVAL OF MINUTES**
- II. **REPORT OF THE CHAIR**
- III. **REPORT OF THE EXECUTIVE DIRECTOR**
- IV. **BOARD ACTIONS**
 - A. **Approvals**
 1. MWRA FY13 Insurance Program Renewal (ref. AF&A A.1)
 2. Wastewater Advisory Committee Contract (ref. WW B.1)
 3. Water Supply Citizens Advisory Committee Contract (ref. W B.1)
 4. PCR Amendment – June 2012 (ref. P&C A.1)

B. Contract Amendments/Change Orders

1. North Main Pump Station Variable Frequency Drive and Motor Replacement, Design and Engineering Services during Construction: Malcolm Pirnie, Inc., Contract 6902, Amendment 4 (ref. WW B.1)
2. Prison Point CSO Facility HVAC and Odor Control Systems Upgrade: Arden Engineering Constructors, LLC, Contract 6795, Change Order 9 (ref. WW B.2)
3. Lynnfield/Saugus Pipeline Construction: Albanese Brothers, Inc., Contract 6584, Change Order 16 (ref. W C.1)
4. Hultman Aqueduct Interconnections: Barletta Heavy Division, Inc., Contract 6975, Change Order 24 (ref. W C.2)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Litigation

1. Update on Mediation of Cost Recovery Action – May 1, 2010 Water Main Break

VIII. ADJOURNMENT

Meeting of the Board of Directors

May 16, 2012

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on May 16, 2012 at the Authority headquarters in Charlestown. Chairman Sullivan presided. Present from the Board were Messrs. Carroll, Cotter, Foti, Hunt, Pappastergion and Walsh; Mr. Barrera joined the meeting in progress. Ms. Turner and Messrs. Gove and Mannering 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, John Gregoire, Program Manager, Reservoir Operations, 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 the Board of Directors' meeting of April 11, 2012, as presented and filed with the records of the meeting.

(Mr. Barrera joined the meeting.)

REPORT OF THE CHAIR

On behalf of the Board of Directors, Chairman Sullivan congratulated Board member Joseph Foti on his election to the North Reading Board of Selectmen. He reported that there had been numerous discussions regarding the pending Forestry Report, and that Dr. Barton had indicated that by June 1, 2012 the report would be sent to

his own Board for review, would be back with any comments by June 15, and would be finalized by the end of June.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported that: Secretary Sullivan was hosting an announcement of the recently-issued Public Access to Water Supply Lands policy at the State House on May 22; MWRA had received two awards for water quality and water supply; Standard & Poor's had issued a report on the MWRA Retirement System, giving it the highest possible rating; and the Long-Term Rates Management Committee was having its second meeting on formulating a strategic plan for long-term management of debt and rates following the Board meeting.

BOARD ACTIONS

APPROVALS

Bond Defeasance of Future Debt Service

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director or his designee, on behalf of the Authority, to enter into and execute all necessary agreements and other instruments to escrow cash and/or securities in an amount necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$34,020,000 of outstanding MWRA senior bonds to maturity to reduce FY13 through FY16's debt service requirement by \$39,237,938.

Memorandum of Understanding and Financial Assistance Agreement with the Town of Brookline for Implementation of CSO Control Project, Amendment 3, and Progress of Town of Brookline-Implemented CSO Project and Projected Financial Assistance through July 2013

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute Amendment 3 to the *Memorandum of Understanding and Financial*

Assistance Agreement with the Town of Brookline for Implementation of CSO

Control Project, increasing the amount by \$1,944,184.00 and revising the language of the agreements in regard to the use of interest to fund eligible costs.

Changes in Existing Sick Time Payout Benefits for Executives Required by the Authority Accountability and Transparency Act

Upon a motion duly made and seconded, it was

Voted to approve a change in the sick time payout benefit at retirement for “executives” of the Authority by reducing from 30% to 25% the percentage of accumulated unused sick time that may be paid to such “executives” upon their retirement from MWRA in order that the benefit not exceed the level of benefit afforded to state employees, and further to designate the Executive Director, Chief Operating Officer, Chief Financial Officer and General Counsel as “executives” of the Authority under the Authority Accountability and Transparency Act and its regulations.

Renewal of Employment Contract, Part-Time Administrative Assistant at the Clinton Wastewater Treatment Plant

Upon a motion duly made and seconded, it was

Voted to approve the renewal of the part-time employment contract for Ms. Jane Densmore, Administrative Assistant, Clinton Wastewater Treatment Plant, for a period of one year from July 1, 2012 to June 30, 2013, increasing the hourly rate from \$21.00 to \$21.32, for an annual compensation not to exceed \$22,173.00.

Renewal of Employment Contract, Part-Time Principal Civil Engineer, Deer Island Treatment Plant

Upon a motion duly made and seconded, it was

Voted to approve the renewal of the part-time employment contract for Mr. William A. Haynes, Principal Civil Engineer, Deer Island Treatment Plant, for a

period of one year, from June 1, 2012 to June 1, 2013, increasing the hourly rate from \$46.65 to \$47.35, for an annual compensation not to exceed \$55,400.00.

CONTRACT AWARDS

Primary and Secondary Clarifier W3H Flushing System, Deer Island Treatment Plant: Delta Control Engineers, Inc., d/b/a Harding and Smith, Contract 7374

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract No. 7374, Primary and Secondary Clarifier W3H Flushing System, Deer Island Treatment Plant, to the lowest eligible and responsible bidder, Delta Control Engineers, Inc., d/b/a Harding & Smith, and to authorize the Executive Director, on behalf of the Authority, to execute and deliver said contract in the bid amount of \$1,198,141.00 for a term of 365 calendar days from the Notice to Proceed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Renewable and Alternative Energy Portfolio Services: Nexant, Inc., Contract RPS-36, Amendment 2

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract RPS-36, Renewable and Alternative Energy Portfolio Services, with Nexant, Inc., in accordance with the terms and conditions of an existing contract with the Commonwealth of Massachusetts, *Contract FAC68designatedDCAM*, for a share of revenue received from sales of MWRA's Class I Renewable Energy Certificates, in an amount not to exceed \$60,000.00 and extending the term by 477 calendar days to October 8, 2013.

Security Guard Services for Various MWRA Facilities: U. S. Security Associates, Inc., Contract EXE-025, Amendment 6

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Amendment No. 6 to increase the amount of Contract No. EXE-025 with U.S. Security Associates, Security Guard Services for Various MWRA Facilities, in the amount of \$2,487,086.79 and reallocating certain unexpended funds within the contract, and extending the term by 18 months to February 4, 2014.

OTHER BUSINESS

Update on Major Dam Improvements

Staff gave a presentation on this item, which was referred to the full Board by the Water Policy and Oversight Committee. It was suggested that a press release be issued once all the projects were complete.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and real estate.

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		
Foti		
Hunt		
Pappastergion		
Walsh		
Sullivan		

Voted to enter executive session for the purpose of discussing strategy with respect to litigation, and to consider the purchase, exchange, lease or value of real property, in that such discussion may have a detrimental effect on the litigating and negotiating positions of the Authority.

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

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session at 1:50 p.m. and adjourned.