

STAFF SUMMARY

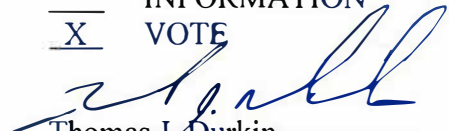
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 19, 2019
SUBJECT: FY20 Final Capital Improvement Program



COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE

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



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

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

DISCUSSION:

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

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

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

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

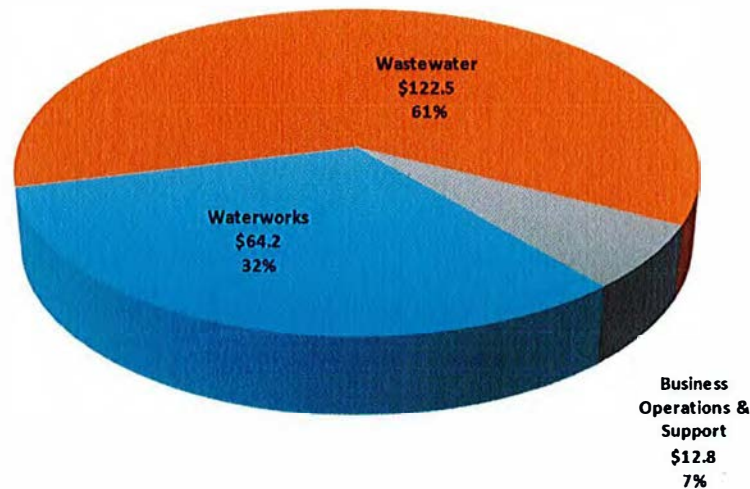
The CIP Program continues to address critical redundancy improvements for the Metropolitan Tunnel System. The FY20 CIP includes approximately \$1.4 billion in spending, the same as in the FY20 Proposed budget. The initial contract that was recently awarded is for Program Support Services which is budgeted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

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

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

FY20 Final CIP Spending

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



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

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

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

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

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

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

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

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

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

Deer Island Wastewater Treatment Plant Asset Protection and Residuals:

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

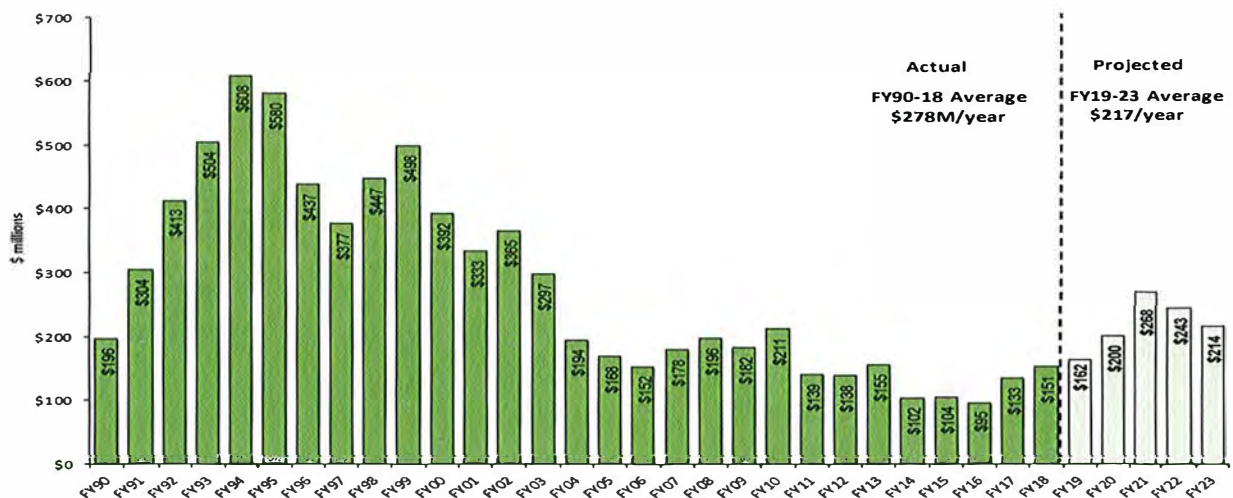
Gravity Thickener Rehabilitation - \$6.3 million (\$19.6 million total construction cost). This project involves installing catwalks around the perimeter of several tanks, removing concrete blocks in the effluent channels, and modifying the sludge thickener roofing to improve staff access and operating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

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

Historical Spending

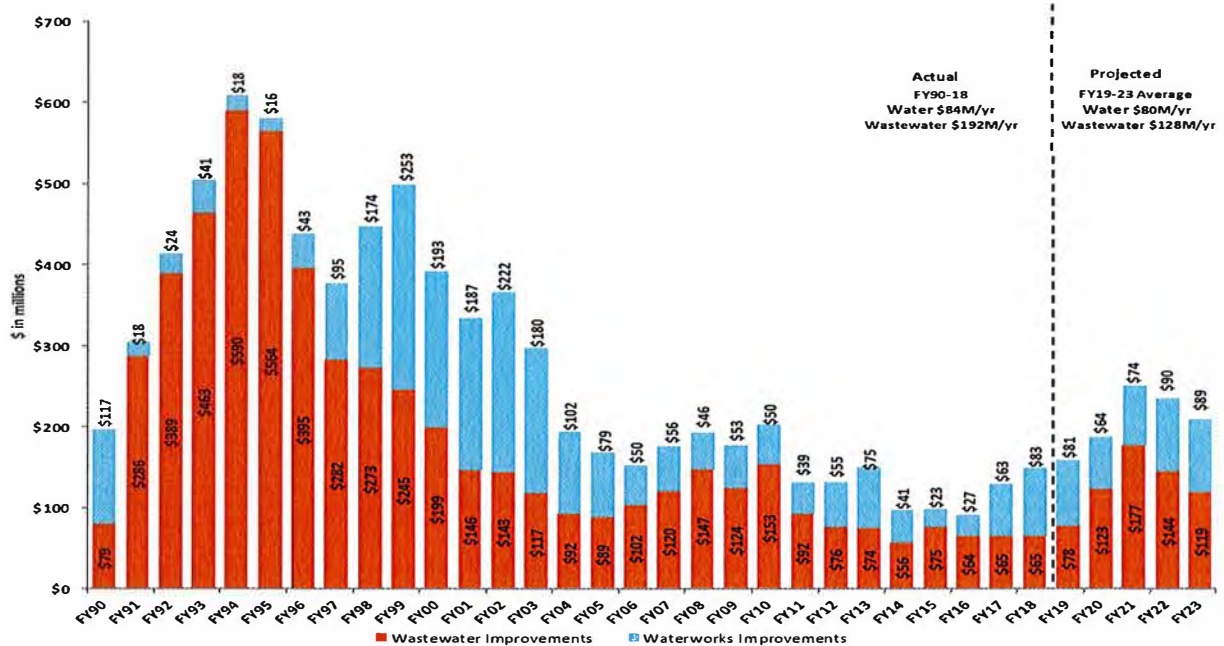
The chart below captures the historical CIP spending through FY18 and projects spending through FY23 based on the FY20 Final CIP. Average annual CIP spending through FY18 was \$278 million. Average annual CIP spending for the proposed FY19-23 Cap is projected to be \$217 million.

Annual CIP Spending



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

Annual CIP Spending by Utility



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

FY19-23 Five-Year Spending Cap

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

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

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

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

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

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

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

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

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

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

Changing nature of the CIP by Category

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

FY20 New Projects

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

\$ in millions

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

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

\$ in millions

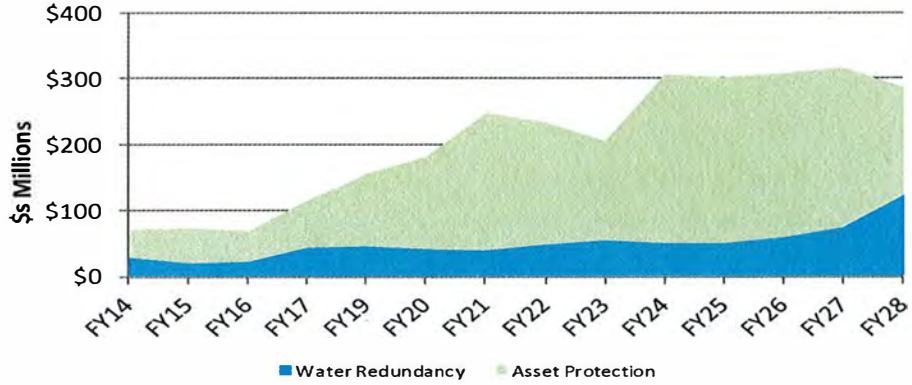
Project	Total Contract Amount	FY19-23
Section 191 & 192 Charles River Valley Sewer	\$ 0.5	\$ 0.5
Pump Stations & CSO Facility Rehabilitation Design/CA/REI	\$ 7.5	\$ 0.7
Pump Stations & CSO Facility Rehabilitation Construction	\$ 37.5	\$ -
Clinton Equipment & Supplies Storage Building	\$ 0.3	\$ 0.3
Carroll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

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

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

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

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

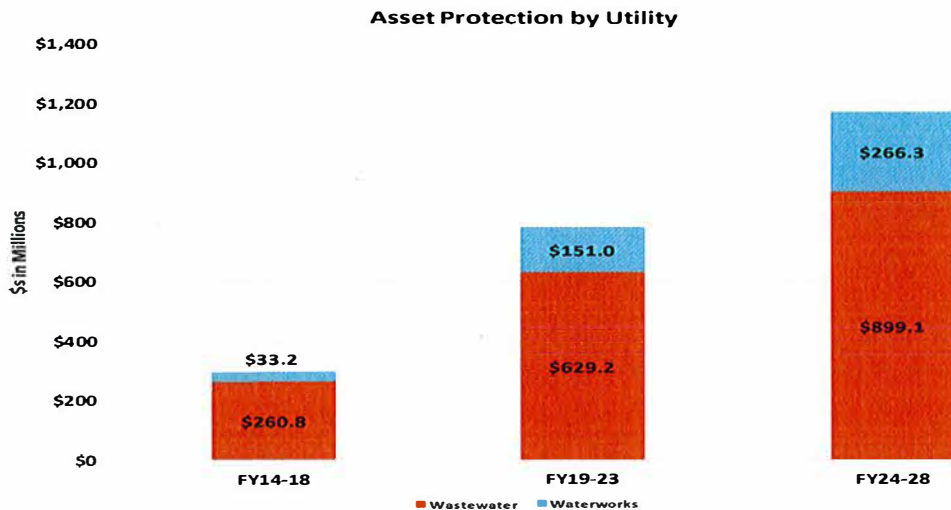


FY20 CIP Future Expenditures

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

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

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



Major Planned Contract Awards for FY20:

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

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

CIP Review and Adoption Process

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

ATTACHMENTS:

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

ATTACHMENT A
New Capital Projects Added to the FY20 CIP

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

ATTACHMENT B
FY20 Final CIP
Expenditure Forecast at Project Level

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

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

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

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

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

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

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

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

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