FISCAL YEAR 2026

Capital Improvement Program

MASSACHUSETTS WATER RESOURCES AUTHORITY

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November 17, 2025

Richard Raiche, Chairman
MWRA Advisory Board
2 Griffin Way
Chelsea, MA 02150

Dear Chairman Raiche:

This letter transmits to the Advisory Board the MWRA's Capital Improvement Program (CIP) for Fiscal Year 2026. The MWRA Board of Directors approved the FY26 CIP at its June 18, 2025 meeting. The FY26 CIP represents an update to the FY25 CIP approved by the Board in June 2024 and includes the latest cost estimates, revised schedules, and new projects. The FY26 CIP spending falls within the FY24-28 approved spending cap of $1.4 billion.

The FY26 Capital Improvement Program projects $380.8 million in spending for FY26, of which $175.1 million supports Wastewater System Improvements, $173.9 million supports Waterworks System Improvements, and $31.8 million is for Business and Operations Support. The projects with significant spending in FY26 include Inflow and Infiltration (I/I), Deer Island Clarifier Rehabilitation Phase 2 Construction, Metropolitan Tunnel Final Design/ESDC, Hayes Pump Staton Rehabilitation, Metropolitan Tunnel Redundancy Admin, Legal & Public Outreach, New Connecting Mains Section 75 Extension Construction CP-1, and Northern Extra High Service (NEH) CP-2 NEH Improvements Construction.

FY24-28 spending is projected at $2.0 billion with Asset Protection accounting for the largest share of capital spending. The FY26 CIP includes $1.1 billion for Asset Protection initiatives, representing 57.7% of projected total MWRA spending in this timeframe. Water System Redundancy project spending totals $355.7 million in the same FY24-28 period, accounting for 17.9% of total spending.

The FY26 Capital Program reaffirms MWRA's commitment to the community financing assistance programs on both the water and wastewater sides.

A copy of the CIP document is available on-line at www.mwra.com. Questions or comments on this document can be directed to the MWRA Budget Department at (617) 788-2206. Thank you for your continued support.

Sincerely,

Frederick A. Laskey
Executive Director

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MWRA AT A GLANCE

Purpose

Provide wholesale water and sewer services to customer communities, funded primarily through rates and charges

Legal Status

Massachusetts public authority established by an enabling act in 1984 – Chapter 372 of the Acts of 1984 as most recently amended August 2025

Management

- 11-member Board of Directors (3 Governor appointees, 3 Mayor of Boston appointees, 1 City of Quincy appointee, 1 Town of Winthrop appointee, and 3 Advisory Board appointees)
- 1 Executive Director (5 divisions: Office of the Executive Director, Operations, Finance, Administration, Law)

Advisory Board

Established by the enabling act to make recommendations to the MWRA on the MWRA budget and programs and to serve as liaison to the customer communities

Service Area

- 64 Local Bodies named in the Enabling Act (43 sewerage, 56 water)
- 3.1 million people (44% of MA population)
- 5,500 businesses

FY26 Operating Budget ($ in millions)

Direct Expenses	$328.0
Indirect Expenses	$83.0
Capital Finance	$508.7
Total Operating Budget	$919.7
Revenues*	$919.7

**95.5% of Revenues raised from rate assessments*

Bond Ratings - General Revenue Bonds (senior/subordinate)

Moody's -	Aa1/Aa2
S&P -	AA+/AA
Fitch -	AA+/AA

Capital Improvement Program

- Total CIP spending: $9.6 billion since 1984
- Total Current Indebtedness: $4.1 billion
- FY26 CIP Planned Spending: $380.8 million

Water System

- 2 protected reservoirs
  - Quabbin
  - Wachusett
- 2 water treatment facilities
  - John J. Carroll
  - William A. Brutsch
- 395 miles of distribution infrastructure including aqueducts, deep rock tunnels, and pipeline
- 14 active storage reservoirs and standpipes
- 11 active pumping stations
- Average Daily flow: 200 mgd
- Safe yield: 300 mgd
- Treatment Capacity: 405 mgd
- Percentage of capacity utilized: 67%*

  **based on safe yield*

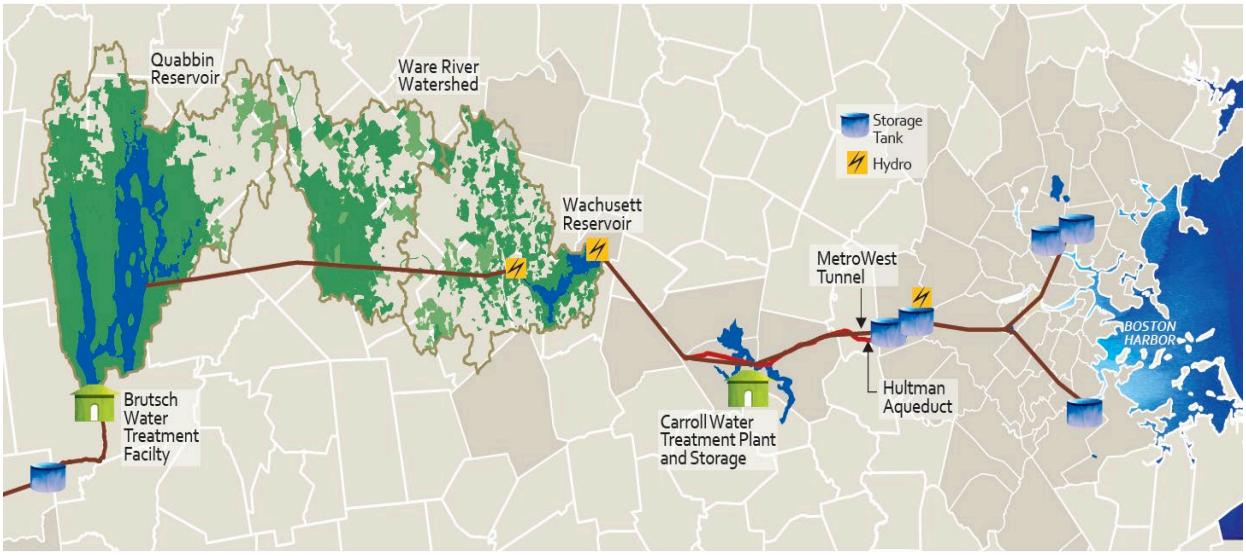
Wastewater System

- 274 miles of sewer pipelines and cross-harbor tunnels
- 13 pump stations
- 1 screening facility/gate house
- 6 CSO treatment/storage facilities
- 2 wastewater treatment plants
  - Deer Island Treatment Plant
  - Clinton Wastewater Treatment Plant
- 4 remote headworks
- 1 Pellet Plant for residuals processing
- Average daily flow: 360 mgd
- Peak wet weather capacity: 1,270 mgd

Renewable Energy

Approximately 30% of MWRA's energy requirement is self-generated from renewable sources (biomass, hydro, wind, & solar assets).

MWRA is voluntarily purchasing New England sourced renewable energy certificates to meet 100% of its purchased electricity needs.



MWRA's water comes from the Quabbin Reservoir, 65 miles west of Boston, and the Wachusett Reservoir, 35 miles west of Boston. The Quabbin alone holds a 4-year supply of water.

The reservoirs are filled naturally. Rain and snow fall onto watersheds (protected land around the reservoirs) and eventually turn into streams that flow into the reservoirs. This water comes into contact with soil, rock, plants and other material as it follows its path. This process helps to clean the water.

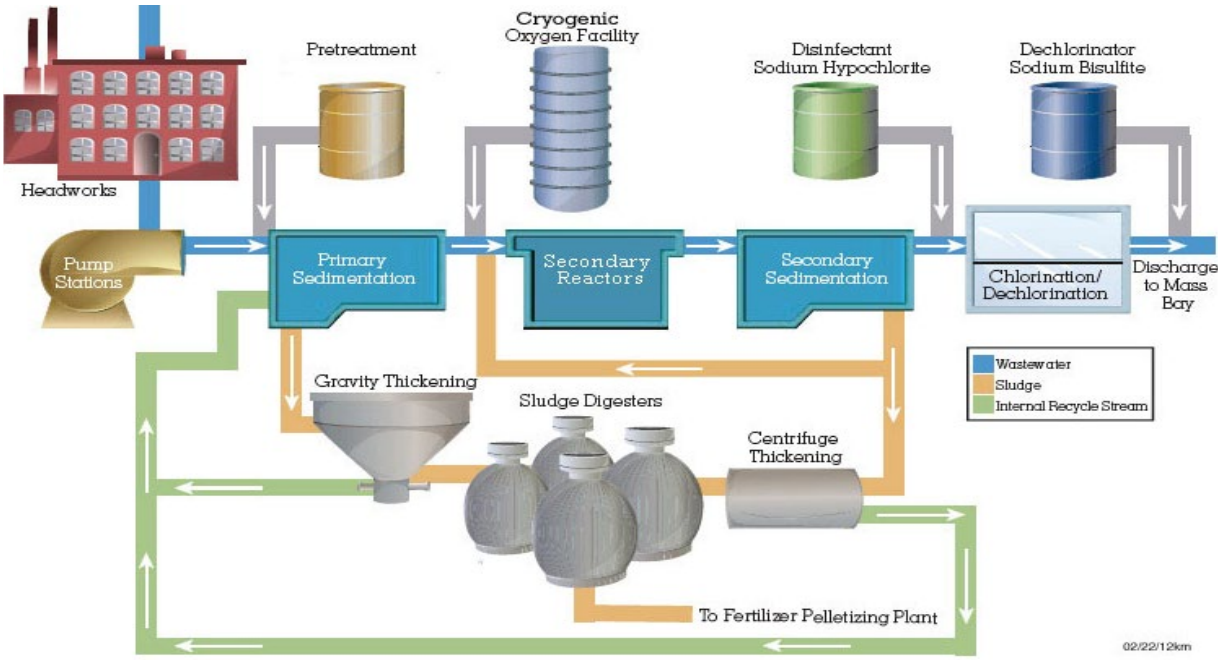
The Quabbin and Wachusett Reservoirs are protected. Over 85% of the watershed lands that surround the reservoirs are covered in forest and wetlands. About 75% of the total watershed land cannot be built on. The natural undeveloped watersheds help to keep MWRA water clean and clear. Because they are well-protected, the water in the Quabbin and Wachusett Reservoirs is of very high quality. The MWRA has won numerous awards for quality, taste, and sustainability.

Water for most MWRA communities is treated at the Carroll Water Treatment Plant in Marlborough, Massachusetts. Water from the Quabbin and Wachusett Reservoirs enters the plant through the Cosgrove or Wachusett Aqueduct. The treated water leaves the plant through the MetroWest Water Supply Tunnel and the Hultman Aqueduct. Water from the Quabbin Reservoir for Chicopee, South Hadley Fire District #1 and Wilbraham is treated at the Brutsch Water Treatment Facility in Ware, Massachusetts, and leaves the plant through the Chicopee Valley Aqueduct.

For MetroWest and Metro Boston communities**,** treated water is sent through the MetroWest Water Supply Tunnel and the Hultman Aqueduct and is stored in covered tanks. From there it is drawn into distribution mains and many smaller community pipes. For Chicopee Valley Area Communities, treated water is sent through the Chicopee Valley Aqueduct to the local distribution mains and smaller community pipes. Water meters log the water entering each community.

Local pipes serve each street in the customer communities and eventually carry water into buildings. Meters installed by the local communities measure the amount of water delivered to each home or business.

To maintain and measure water quality, MWRA tests over 1,600 water samples per month, from the reservoirs all the way to household taps.



Water is flushed through a building's pipes into customer community sewers. These 5,100 miles of local sewers transport the wastewater into 227 miles of MWRA interceptor sewers. The interceptor sewers, ranging from 8 inches to 11 feet in diameter, carry the region's wastewater to two MWRA treatment plants. Most communities' wastewater flows to the Deer Island Treatment Plant with the Clinton Wastewater Treatment Plant serving the town of Clinton and the Lancaster Sewer District.

The following describes the Deer Island treatment process:

Collection and Pumping: Sewage is piped to headworks where bricks, logs and other large objects are screened out. Pumps draw the screened sewage through deep-rock tunnels under Boston Harbor to Deer Island.

Preliminary Treatment: Mud and sand settle in a tank called a grit chamber. This material, known as grit and screenings, is taken to a landfill for environmentally safe disposal.

Primary Treatment**:** The sewage then flows to primary settling tanks where up to 60% of the solids in the waste stream settle out as a mixture of sludge and water.

Secondary Treatment: Plant oxygen is added to the wastewater to speed up the growth of micro-organisms. These microbes then consume the wastes and settle to the bottom of the secondary settling tanks. After secondary treatment, 80-90% of human waste and other solids have been removed.

The treated wastewater is disinfected before it is discharged to the Massachusetts Bay. The treated wastewater, known as effluent, travels through a 9.5-mile Outfall Tunnel bored through solid rock more than 250 feet below the ocean floor. The tunnel's last mile and a quarter include 55 separate release points known as "diffusers." With water depths up to 120 feet, this outfall provides a much higher rate of mixing and/or dilution than possible with discharges into the shallow waters of Boston Harbor.

Sludge from primary and secondary treatment is processed further in sludge digesters, where it is mixed and heated to reduce its volume and kill disease-causing bacteria. It is then transported through the Inter-Island Tunnel to the pelletizing plant in Quincy, Massachusetts where it is dewatered, heat-dried and converted to a pellet fertilizer for use in agriculture, forestry and land reclamation.

MWRA Capital Improvement Program Overview

In 1984, legislation was enacted to create the Massachusetts Water Resources Authority, an independent agency with the ability to raise its revenues from ratepayers, bond sales and grants. The primary mission was to modernize the area's water and sewer systems and clean up Boston Harbor. Since its establishment, the MWRA has invested nearly $9.6 billion to improve the wastewater and waterworks systems, serving its 64 local bodies with projected future spending of $6.6 billion. The system serves 3.1 million people and more than 5,500 businesses.

Since 1985, MWRA has been subject to a Clean Water Act enforcement action to end years of wastewater pollution of Boston Harbor and its tributaries from the old Deer Island and Nut Island treatment plants and combined sewer overflows (CSOs). The enforcement case was initiated by the Conservation Law Foundation in 1983 and taken up by the U.S. Environmental Protection Agency in 1985. The Commonwealth of Massachusetts, the Boston Water and Sewer Commission, the City of Quincy and the Town of Winthrop are also parties to the case.

The Orders of the Court set forth the schedules of activities to be undertaken to achieve compliance with the law. Since 1985, MWRA has complied with 422 milestones which include the completion of extensive new wastewater treatment facilities at Deer Island in Boston and Nut Island in Quincy, a residuals facility in Quincy, and 35 CSO control projects in Boston, Cambridge, Chelsea, Brookline, and Somerville which comprise the long-term CSO control plan, the last of which were completed in December 2015.

As part of compliance with the Court's Orders, MWRA was required to file monthly compliance and progress reports on its ongoing activities through December 15, 2000 and quarterly compliance and progress reports through December 2016. MWRA was required to submit bi-annual compliance and progress reports through December 2020. Bi-annual reports were also submitted in 2021 prior to the approval of a 3-year extension to the court ordered Long Term Control Plan (December 2024). Under this extension period, annual updates were submitted to the court. The most recent variances were issued by DEP on August 30, 2024, for the period September 1, 2024, to August 31, 2029. The Variances include the requirement that a draft updated CSO control plan be submitted to DEP and EPA by December 31, 2025, and that such draft plan include, among other requirements, a recommended plan, an evaluation of CSO control alternatives up to and including full elimination, an affordability analysis, and documentation necessary to support further issuance of variances or reclassification of the Massachusetts Surface Water Quality Standards to permit limited CSO discharges in the Variance Waters. The Variances include the requirement to submit, following a public comment period, a final updated CSO control plan by January 31, 2027, for review by the Massachusetts Environmental Policy Act (MEPA) office. Pursuant to the Variances, between the period of January 31, 2027 and August 31, 2029, DEP, in coordination with EPA, will review the final updated CSO control plan and take action to approve or disapprove the plan.

During the same time, MWRA complied with regulatory mandates to improve waterworks facilities. The mandated waterworks projects included the MetroWest Water Supply Tunnel, the Carroll Water Treatment Plant, and several covered water storage facilities.

The mandated projects account for most of the Capital Improvement Program (CIP) spending. The five initiatives below account for nearly $6.1 billion or approximately 64% of life spending to date:

- Boston Harbor Project - $3.8 billion
- Combined Sewer Overflow - $936 million
- MetroWest Tunnel - $697 million
- Carroll Water Treatment Plant - $431 million
- Covered Storage Facilities - $239 million

As the MWRA reaches maturity as an agency, the infrastructure modernization and new facilities construction phase is nearing completion, and, barring new mandates, most of the Authority's future capital budget will be designated for Asset Protection, Water System Redundancy, Pipeline Replacement and Rehabilitation, and Business System Support.

Asset Protection focuses on the preservation of the Authority's operating facilities. Currently over $3.8 billion in future spending is targeted for asset protection initiatives. Water System Redundancy aims to reduce the risks of service interruption and facilitate planned maintenance where major sections of the water delivery system assets can be taken off-line. Long-term water redundancy will be a critical future CIP initiative with estimated spending in excess of $2.6 billion over the next 17 years. Pipeline Replacement and Rehabilitation focuses on the maintenance and replacement of water and sewer pipelines. Business System Support provides for the continuing improvement and modernization of technology and security systems.

The FY26 CIP Budget reaffirms MWRA's commitment to the community financial assistance programs on both the water and wastewater side.

Capital initiatives to date have been primarily funded through long-term borrowings, and the debt service on these outstanding bonds represents a significant and growing portion of the Authority's operating budget. As of June 30, 2025, MWRA's total debt was $4.1 billion. The Authority's capital finance (including debt service) obligation as a percent of total expenses has increased from 36% in 1990 to 55.3% in the Final FY26 Current Expense Budget.

The MWRA's credit ratings of Aa1 from Moody's, AA+ from S&P, and AA+ from Fitch, reflect strong management of financial performance, application of operating surpluses to early debt defeasance, satisfactory debt service coverage ratios, well maintained facilities, comprehensive long-term planning of both operating and capital needs, and the strong credit quality of its member service communities.

To arrive at the FY26 CIP, the Authority identified the needs of the capital programs taking into account the recommendations of the Master Plan. The long-term strategy for capital work is

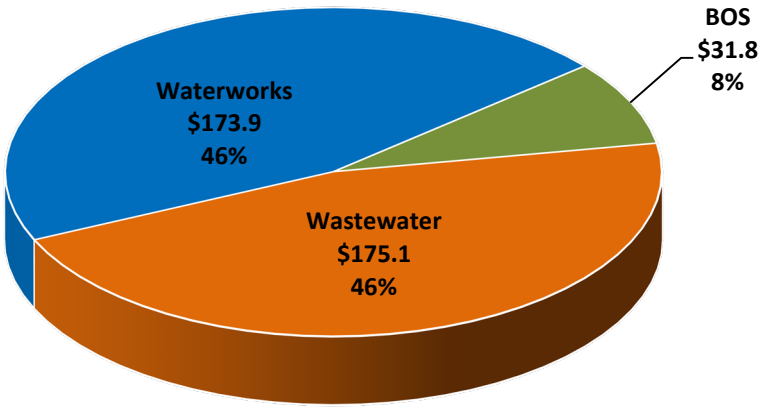
identified in the Authority's Master Plan which was published in 2006 and updated in 2013 as well as 2018. The Master Plan serves as a road map for inclusion of projects in the CIP in every budget cycle. Additionally, the Authority's 5-Year Strategic Plan for FY21-FY25 was released in early 2021. The next 5-Year for the FY26-30 period is expected to be released in the early 2026.

The FY26 CIP represents an update to the FY25 CIP and was approved by the MWRA Board in June 2025. The spending projections are the result of prioritizing the projects, establishing realistic estimates based on the latest information, striking a balance between maintenance and infrastructure improvements, and ensuring that there is adequate support for MWRA's core operations to meet all regulatory operating permit requirements.

FY26 Capital Spending

The FY26 Final Capital Improvement Program projects $380.8 million in spending for FY26, of which $175.1 million supports Wastewater System Improvements, $173.9 million supports Waterworks System Improvements, and $31.8 million is for Business and Operations Support.

FY26 Spending



The FY26 Final CIP includes $83.9 million for community assistance programs, which are a combination of loan and partial grant programs, with net expenditures of $51.1 million for the local Infiltration/Inflow program and net expenditures of $32.8 million for the local water pipeline program.

The Fiscal Year 2026 Capital Improvement Program (CIP) represents an update to the FY25 CIP Program approved by the Board in June 2024 for Fiscal Year 2025. This budget 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. It also reaffirms MWRA's commitment to the community financing assistance programs on both the water and wastewater sides. The FY26 Final CIP projects $380.8 million in spending for FY26, of which $175.1 million supports Wastewater System Improvements, $173.9 million supports Waterworks System Improvements, and $31.8 million is for Business and Operations Support. The projects with spending of $10.0 million or greater in FY26 include Deer Island Clarifier Rehabilitation Phase 2 Construction ($50.0 million), Metropolitan Tunnel Redundancy Final Design/Engineering Services During Construction ($26.5 million), Hayes Pump Station Rehabilitation ($12.4 million), Metropolitan Tunnel Redundancy Admin, Legal & Public Outreach ($12.0 million), New Connecting Mains Section 75 Extension Construction CP-1 ($12.0 million), and Northern Extra High Service (NEH) – CP-2 NEH Improvements – Construction ($10.0 million).

The $380.8 million in projected spending is driven by 41 active wastewater and water projects. Of this $380.8 million in projected spending, the top spending project contracts in FY26, excluding

local community assistance programs, total $146.9 million and account for 38.6% of the total annual spending. Of the top 10 projects, 9 have already been awarded. These projects are presented in the following table:

Project	Subphase	FY26 Spending $s in Millions
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	$50.0
Metro Water Tunnel Program	Final Design/ESDC	$26.5
Facility Asset Protection	Hayes Pump Station Rehab Construction	$12.4
Metro Water Tunnel Program	Admin Legal & Public Outreach	$12.0
New Connect Mains-Shaft 7 to WASM 3	Section 75 Extension - Construction CP-1	$12.0
Northern Extra High Service New Pipelines	CP-2 NEH Improvements	$10.0
Waterworks Facility Asset Protection	Steel Tank/Improvements Construction	$6.9
NHS - Revere & Malden Pipeline	Section 56 Replacement- Construction	$6.4
NHS - Revere & Malden Pipeline	CP-1 Section 68 Construction	$6.0
Quabbin Transmission System	Wachusett Lower Gate House Pipe & Boiler Replacement	$4.8
Total Top 10 Spending Subphases (excluding Loan Programs)		**$146.9**
% of FY26 Spending		**38.6%**
Other Project Spending		**$233.9**
Total FY26 Spending		**$380.8**

Clarifier Rehabilitation Phase 2 Construction - $50.0 million ($294.8 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.

Final Design/ESDC for the Metropolitan Tunnel - $26.5 million ($135.4 million total contract cost). Final Design and Engineering Services During Construction of the Northern and Southern Tunnels, including connecting mains.

Hayes Pump Station Rehab Construction - $12.4 million ($25.6 million total project cost). Construction of improvements to Hayes Pump Station, which was constructed in 1987. Due to its age, all major facility components require replacement or rehabilitation.

Metro Tunnel Program Administration Legal and Public Outreach - $12.0 million ($150.3 million total project cost). Includes community agreements and land acquisition for the North and South Tunnels. Also, includes electric service for tunnel boring machine launch shaft sites.

New Connecting Mains to WASM 3 Section 75 Extension Construction CP-1 - $12.0 million ($17.3 million total project cost). Addition of approximately 4,000 feet of new 30-inch diameter pipe to extend Section 75 easterly to Section 24 in Newton, to provide a redundant feed to the Intermediate High pressure zone supplying Arlington, Belmont and Watertown, and rehabilitation of a portion of Section 47, and replacement of Meters 111 and 81.

Northern Extra High CP-2 NEH Improvements - $10.0 million ($26.8 million total project cost). CP2 includes installation of up to 11,100 linear feet of new water main in Lexington to interconnect an existing MWRA water main to the new water main installed in CP1 to help improve redundancy. CP2 also includes installation of a new meter for Lexington and replacement of 3,400 linear feet of existing, undersized water main in Arlington.

FY24-28 Expenditures & Five-Year Spending Cap

The concept of a five-year spending Cap was first introduced at the Advisory Board's recommendation in 2003 for the FY04-08 period. The FY24-28 Cap is the fifth cap established by the Authority at $1.4 billion when the FY24 CIP was adopted. The Cap represents a targeted maximum spending limit to ensure adequate capital program funding and to serve as a guide for long-term planning estimates and community assessments. The following graph illustrates the history of the past four five-year Caps and the Final FY24-28 Cap, both in terms of the Cap levels and actual spending:

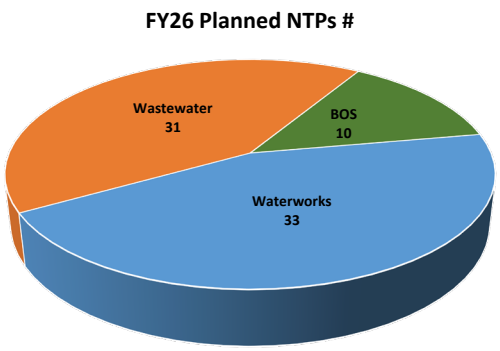
Major Planned Contract Awards for FY26:

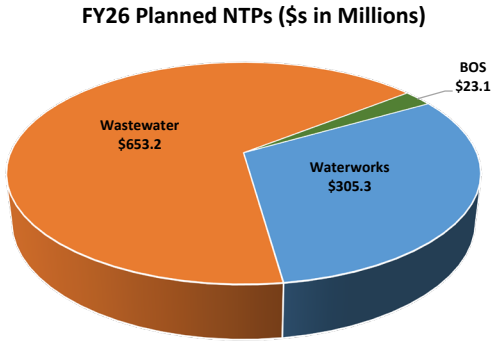
In Fiscal Year 2026, 74 contracts totaling $981.6 million are projected to be awarded. The largest ten projected contract awards total $183.5 million and account for 49.4% of expected awards.

Those planned awards are presented in the following table.

Project	Subphase	Notice to Proceed	Total Contract Amount $s in Millions
DI Treatment Plant Asset Protection	Digestor/Storage Tank Rehab Construction	Jun-26	$400.0
Metro Water Tunnel Program	Construction Management	Jan-26	151.1
DI Treatment Plant Asset Protection	Eastern Seawall Construction - 1	Apr-26	45.0
DI Treatment Plant Asset Protection	Motor Control Center & Switchgear Replace Construction	Mar-26	39.0
Northern Extra High Service New Pipeline	CP-3 NEH Improvements	Jun-26	29.2
Metro Redundancy Interim Improvements	WASM 3 Rehab CP-2	Apr-26	24.7
Residuals Asset Protection	Various Equipment Replacement	Dec-25	20.0
NHS - Revere & Malden Pipeline	CP-1 Section 68 Construction	Oct-25	18.0
DI Treatment Plant Asset Protection	Odor Control Rehab - Design/ESDC	Oct-25	14.0
DI Treatment Plant Asset Protection	Centrifuge Replacement Design/ESCD/REI	Dec-25	14.0
Top 10 Planned Contract Awards			**$755.0**
% of Total Planned Awards			**76.9%**
74 Planned Contract Awards			**$981.6**

Of the 74 planned contract awards for FY26, 33 are for Waterworks, 31 are for Wastewater, and 10 for Business and Operation Services with associated dollar awards of $305.3 million, $653.2 million, and $23.1 million, respectively. Deer Island's Digester/Storage Tank Rehab Construction is the largest planned award at $400.0 million with a targeted notice to proceed of June 2026.





The FY26 CIP adds 9 new projects at a total cost of $18.0 million with projected spending of $17.5 million over the FY24-28 period. There are 4 water projects totaling $7.3 million, 3 wastewater project at $3.2 million, and 2 BOS projects at $7.5 million. The largest new project is the replacement of the failed Wind Turbine at Deer Island for $4.5 million. Energy grants and insurance proceeds are expected to fully fund the turbine project. A complete listing of projects is included as Attachment C.

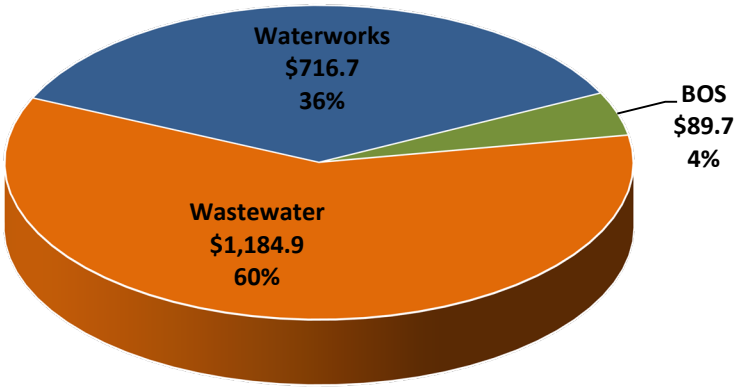
Project	Total Contract Amount	FY24-28 Spending	Beyond FY28
Lonergan Intake Bldg Walkway and Wall Improvements	$4.0	$3.5	$0.5
Ware River Shaft 8 Retaining Wall Replacement	$1.4	$1.4	$0.0
Pipe Bridge Inspections/Structural Analysis	$0.9	$0.9	$0.0
Southboro Paving	$1.0	$1.0	$0.0
Total Waterworks(#4)	**$7.3**	**$6.8**	**$0.5**
Ward Street Headworks Air Handling Replacement	$2.0	$2.0	$0.0
Heat Pump Squantum PS	$0.3	$0.3	$0.0
Heat Pumps var WW facilities (BW, Hough's Neck, Quincy)	$0.9	$0.9	$0.0
Total Wastewater (#3)	**$3.2**	**$3.2**	**$0.0**
DITP Wind Turbine 1 Replacement	$4.5	$4.5	$0.0
Chelsea Administration Building Heat Pumps	$3.0	$3.0	$0.0
Total Business & Operation System (#2)	**$7.5**	**$7.5**	**$0.0**
Total 9 New Projects	**$18.0**	**$17.5**	**$0.5**

Additional details on these new projects with cash flows and descriptions can be found in Appendix 3.

FY24-28 Expenditures & Five-Year Spending Cap

Spending during the FY24-28 timeframe is planned to be $2.0 billion, including local community spending of $242.1 million for the I/I loan and grant program and $128.8 million for the water pipeline loan program. Spending under the Wastewater and Waterworks programs is projected at $1,184.9 million and $716.7 million, respectively, followed by Business and Operations at $89.7 million. The spending projections set forth here include updates to the approved FY25 CIP with the latest cost estimates, revised schedules, and new projects.

FY24-28 Spending



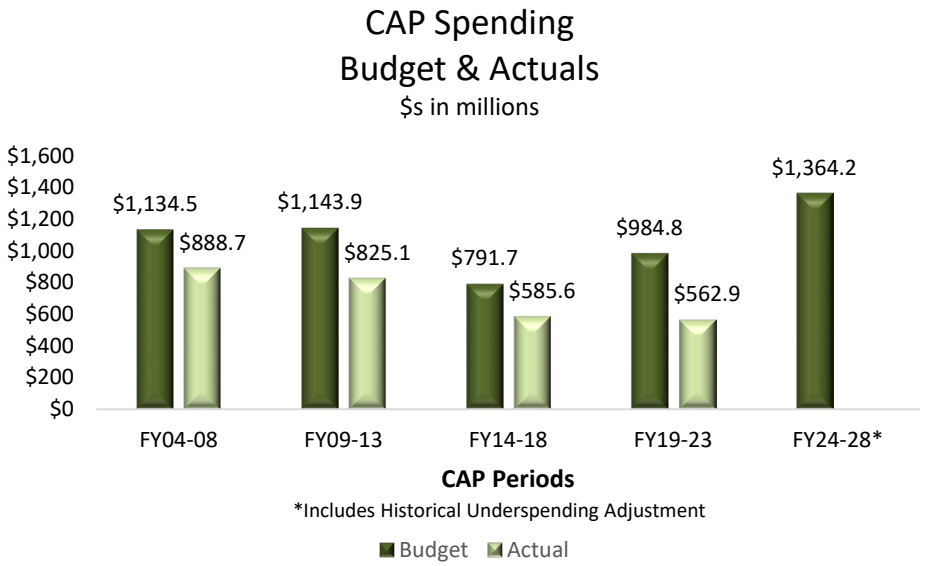
Yearly projected expenditures for the FY24-28 period by program are shown below in millions:

	FY24	FY25	FY26	FY27	FY28	Total FY24-28
Wastewater System Improvements	$94.0	$153.4	$175.1	$308.0	$454.5	$1,184.9
Waterworks System Improvements	$105.0	$125.0	$173.9	$149.6	$163.3	$716.7
Business & Operations Suppport	$9.3	$12.8	$31.8	$23.2	$12.6	$89.7
Total MWRA	$208.2	$291.1	$380.8	$480.8	$630.4	$1,991.3

FY24-28 Five-Year Spending Cap

The concept of a five-year spending Cap was first introduced at the Advisory Board's recommendation in 2003 for the FY04-08 period. The FY24-28 Cap is the fifth cap established by the Authority at $1.4 billion when the FY24 CIP was adopted. The Cap represents a targeted maximum spending limit to ensure adequate capital program funding and to serve as a guide for long-term planning estimates and community assessments. The following graph illustrates the history of the past four five-year Caps and the FY26 Final FY24-28 Cap, both in terms of the Cap levels and actual spending:

MWRA project spending (excluding water and wastewater loan programs) has been approximately 25% under plan levels on average since FY04. Underspending for the past two Cap periods, FY14-18 and FY19-23, were 26% and 43%, respectively. To better predict future spending, the Authority discounts projected Cap spending by applying a Spend Rate Adjustment of 25%. This will be a better reflection of likely spending targets without removing future projects from plan. The FY24-28 Base-Line Cap is set at $1.4 billion. The Base-Line Cap includes Cap cash flows total $1.8 billion and net to $1.4 billion after applying the 25% Spend Rate Adjustment. Annual cash flows for the Cap period are shown in the following table (in millions):



		FY24	FY25	FY26	FY27	FY28	FY24-28
FY26 Final CAP	Projected Expenditures excl. Metro Tunnel	$199.2	$268.9	$334.4	$436.7	$561.7	$1,800.9
	Metropolitan Tunnel	$9.0	$22.2	$46.4	$44.1	$68.6	$190.4
	I/I Program	(22.0)	(67.4)	(51.1)	(48.6)	(53.0)	(242.1)
	Water Loan Program	(26.2)	(34.0)	(32.8)	(18.9)	(16.9)	(128.8)
	MWRA Spending	**$160.1**	**$189.7**	**$296.9**	**$413.3**	**$560.4**	**$1,620.4**
	Contingency	0.0	0.0	19.5	27.9	40.5	88.0
	Inflation on Unawarded Construction	0.0	0.0	1.4	10.9	29.5	41.9
	Chicopee Valley Aqueduct Projects	0.0	0.0	0.0	(0.8)	(0.3)	(1.1)
	Projected Spending before Adjustment	**$160.1**	**$189.7**	**$317.8**	**$451.3**	**$630.1**	**$1,749.1**
	Spend Rate Adjustment (25%)*	0.0	(47.4)	(79.5)	(112.8)	(157.5)	(397.2)
	FY26 Final FY24-28 Spending	**$160.1**	**$142.3**	**$238.4**	**$338.5**	**$472.6**	**$1,351.8**

*Based on historical underspending FY04-FY22 excluding community loan programs

In addition to the Spend Rate Adjustment, the format of the Cap table is adjusted to account separately for MWRA and Metropolitan Water Tunnel Program spending, and excludes the local I/I grant and loan program and the local water pipeline loan spending which are both outside of MWRA's control. The Cap also excludes Chicopee Valley Aqueduct system projects. 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.

The Capital Improvement Program includes on-going Combined Sewer Overflow improvements in Boston, Chelsea and Somerville, rehabilitation of MWRA's Somerville Marginal, Prison Point and Cottage Farm CSO treatment facilities, and a new placeholder at the end of the cap period for design of any projects that come out of the Variance Water updated CSO Long-Term Control Plan process. MWRA continues to evaluate the needs of the program and will refine cost projections as more information becomes available.

The Capital Improvement Program continues to address critical redundancy improvements most notably the Metropolitan Water Tunnel Program. The FY26 CIP includes $2.1 billion in spending for this project, matching the FY25 Approved CIP. The initial contract for Program Support Services began in April 2019 in the amount of $10.2 million with an increase of $7.0 million and 24-month time extension (with one additional optional contract extension for $7.5 million in the CIP) and has a total budget of $24.7 million that spans over a nine-year period. This contract provides assistance with program-wide activities, such as risk management, quality management, design and construction package planning, independent technical reviews, construction practices review and implementation, independent cost estimates, critical path scheduling, and budget tracking. The second contract, Preliminary Design & MEPA Review (Massachusetts Environmental Policy Act), for $15.7 million was awarded in May 2020 and ended in January 2024. Spending for Preliminary Design and MEPA Review began in early FY21 and was completed in January 2024. The third contract, Metropolitan Water Tunnel Program Geotechnical Support Services, for $12.8 million and a term of 36 months was awarded in December 2022. This contract focuses on the collection of geotechnical/geological data to support final design, bidding and construction of the Program. The Final Design was awarded in October 2024 for $93.6 million.

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 resulting from positive current expense budget variances for defeasances resulting in the reduction of future fiscal years debt service expense. MWRA projects an overall reduction in outstanding principal of debt during the FY24-28 cap period.

FY24-28 Expenditures

Yearly projected expenditures for the FY24-28 period by program are shown below in millions:

Yearly projected expenditures for the FY24-28 period by program are shown below in millions:

	Future Spending Beyond FY24	FY25	FY26	FY27	FY28	Total FY24-28
Wastewater System Improvements	**$3,374.6**	**$153.4**	**$175.1**	**$308.0**	**$454.5**	**$1,184.9**
Interception & Pumping	855.6	15.9	33.0	49.5	92.3	211.1
Treatment	2,184.2	65.0	82.7	201.2	292.7	683.0
Residuals	113.4	0.0	3.8	7.8	14.9	26.5
CSO	16.2	5.0	4.5	0.9	1.5	22.1
Other Wastewater	205.2	67.4	51.1	48.6	53.0	242.1
Waterworks System Improvements	**$3,163.9**	**$125.0**	**$173.9**	**$149.6**	**$163.3**	**$716.7**
Drinking Water Quality Improvements	73.0	2.7	4.9	3.3	5.8	19.4
Transmission	2,427.7	53.9	68.1	69.2	96.5	327.0
Distribution & Pumping	674.6	28.7	51.3	43.3	34.9	189.5
Other Waterworks	(11.4)	39.7	49.6	33.8	26.0	180.9
Business & Operations Suppport	**$84.3**	**$12.8**	**$31.8**	**$23.2**	**$12.6**	**$89.7**
Total MWRA	**$6,622.8**	**$291.1**	**$380.8**	**$480.8**	**$630.4**	**$1,991.3**

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 FY24-28 timeframe. The top 10 project contracts in terms of spending for the FY24-28 period total $681.3 million, which excludes local community assistance programs. These 10 projects account for over 34.2% of total period spending and 6 of those contracts have already been awarded. Largest construction initiatives in terms of FY24-28 spending include the Clarifier Rehabilitation at Deer Island of $232.1 million (total cost $294.8 million), Digester Storage Tank Rehab of $140.0 million (total cost $400 million), Tunnel Final Design $82.0 million (total cost $135.4 million), Deer Island Combined Heat & Power $55.0 million (total cost $210.0 million), Tunnel Admin and Public Outreach $36.6 million (total cost $150.3 million), and Deer Island Asset Protection South System Pump Station VFD Replacement of $30.0 million (total cost $197.0 million).

The table below highlights major project spending in the FY24-28 timeframe:

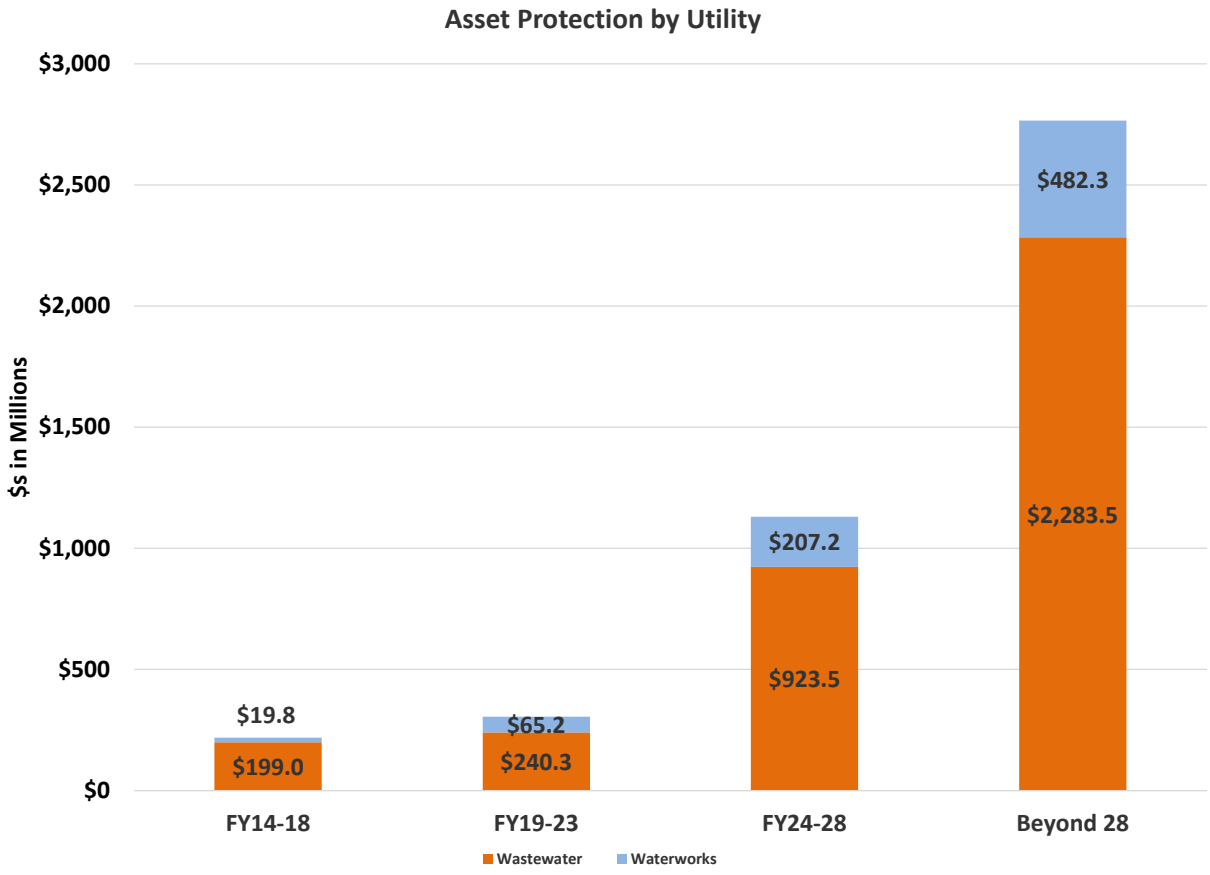
Project	Subphase	FY24-28 Spending $s in Millions
Deer Island Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	$232.1
Deer Island Treatment Plant Asset Protection	Digester/Storage Tank Rehab Construction	$140.0
Metro Water Tunnel Program	Final Design/ESDC	$82.0
Deer Island Treatment Plant Asset Protection	Combined Heat & Power - Construction	$55.0
Metro Water Tunnel Program	Admin Legal & Public Outreach	$36.6
Deer Island Treatment Plant Asset Protection	SSPS VFD Replace Construction	$30.0
Metro Redundancy Interim Improvements	Waltham Water Pipeline Construction	$28.6
Northern Extra High Service New Pipelines	CP-2 NEH Improvements	$26.8
Facility Asset Protection	Hayes Pump Station Rehab Construction	$25.6
Metro Water Tunnel Program	Tunnel Construction South CP2	$24.6
Total Top 10 Spenders (excluding Loan Programs)		**$681.3**
% of FY24-28 Spending		**34.2%**
Other Project Spending		**$1,310.0**
Total FY24-28 Spending		**$1,991.3**

Asset Protection accounts for the largest share of capital expenditures for the FY24-28 period. The FY26 Final CIP includes $1.1 billion for asset protection initiatives, representing 57.7% of total MWRA spending in this timeframe. Asset protection spending by program is as follows: Wastewater ($923.5 million), Waterworks ($207.2 million), and Business and Operations Support ($18.9 million). Spending for Water Redundancy projects totals $355.7 million in the same FY24-28 period, accounting for 17.9% of total spending.

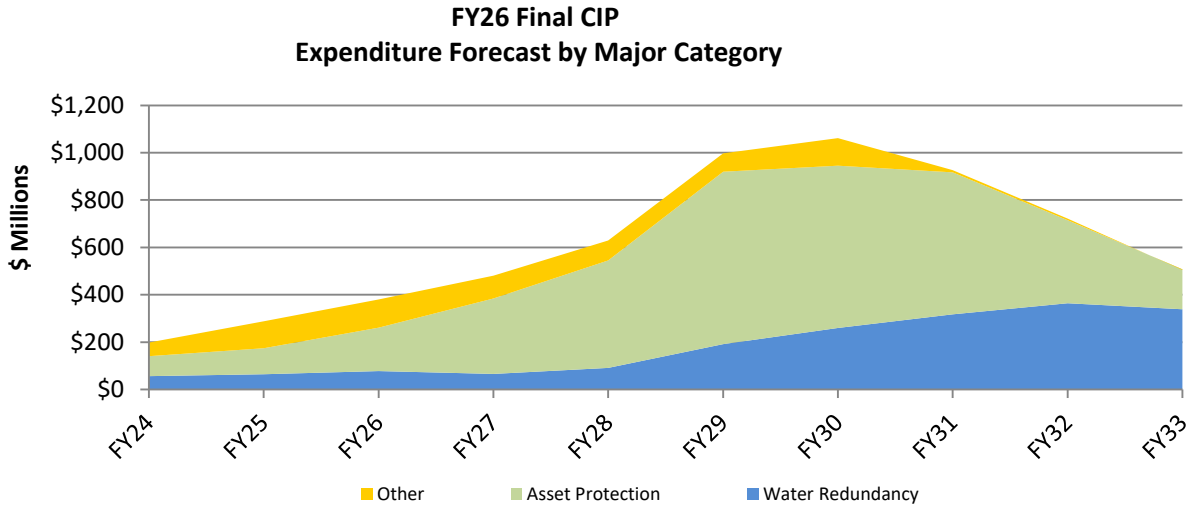
Changing nature of the CIP by Category
($s in millions)

Project Category	FY19-23	FY24-28	Beyond 28
Asset Protection	$313.4	$1,149.6	$2,767.4
Water Redundancy	$186.9	$355.7	$2,251.4
CSO	$12.6	$16.9	$4.3
Other	$238.4	$469.1	-$183.3
Total	**$751.3**	**$1,991.3**	**$4,839.7**
Asset Protection	**41.7%**	**57.7%**	**57.2%**
Water Redundancy	**24.9%**	**17.9%**	**46.5%**
CSO	1.7%	0.8%	0.1%
Other	31.7%	23.6%	-3.8%
Total	**100.0%**	**100.0%**	**100.0%**

In terms of utility spending, Wastewater Asset Protection accounts for 80.3% of the FY24-28 projected Asset Projection spending at $923.5 million of which $665.1 million is designated for the Deer Island Wastewater Treatment Plant and $258.3 million for headworks and pipelines. The $207.2 million targeted for Waterworks Asset Protection includes $130.7 million for water pipeline projects.



As illustrated by the following graph, the next two waves of spending over the FY24-28 and the FY29-33 periods 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.



FY26 CIP Future Expenditures

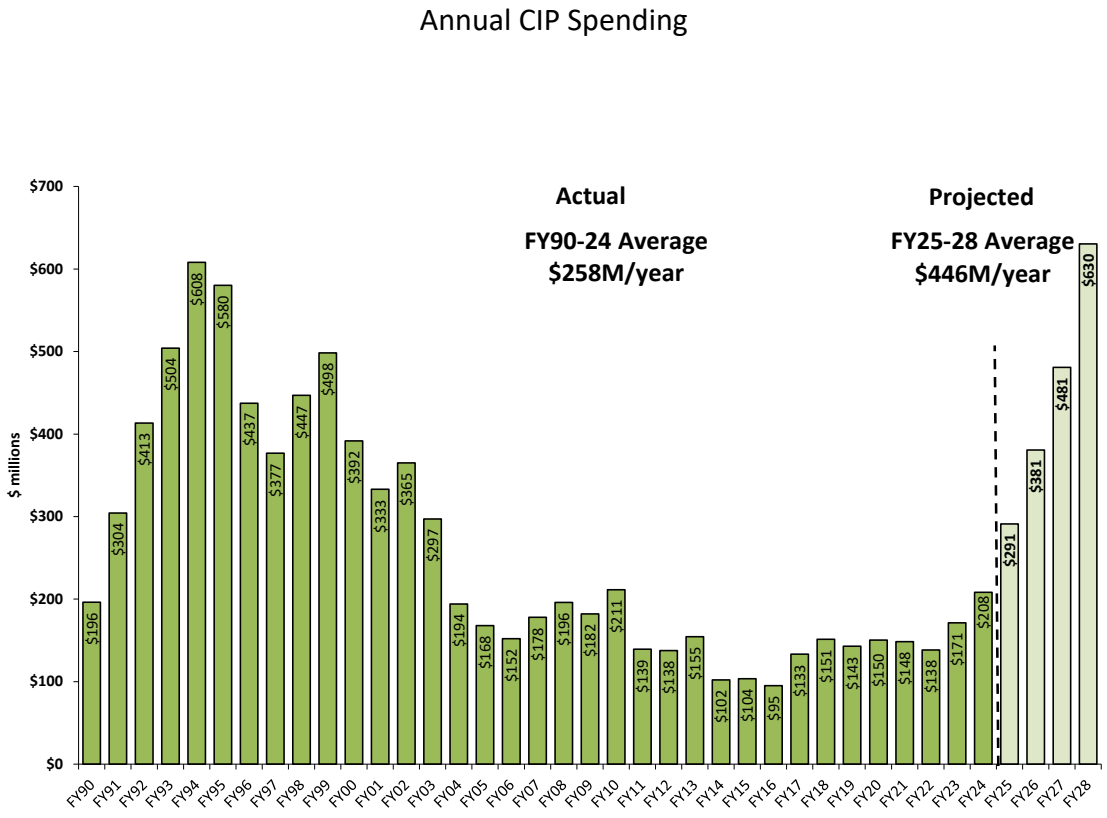
The FY26 CIP contains future spending (beyond FY24) estimated at $6.6 billion, including $3.4 billion for Wastewater (primarily Asset Protection of $3.1 billion) and $3.2 billion for Waterworks (primarily Redundancy projects of $2.6 billion). Wastewater Asset Protection includes $2.1 billion for Deer Island and $759.6 million for Wastewater Facility Asset Protection (primarily pump station rehabilitation). Redundancy projects include the Metropolitan Water Tunnel Program and Metropolitan Redundancy Interim Improvement projects with future spending of $2.1 billion and $184.0 million, respectively. FY24-FY28 spending is projected at $2.0 billion or 30.1% of future spending.

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

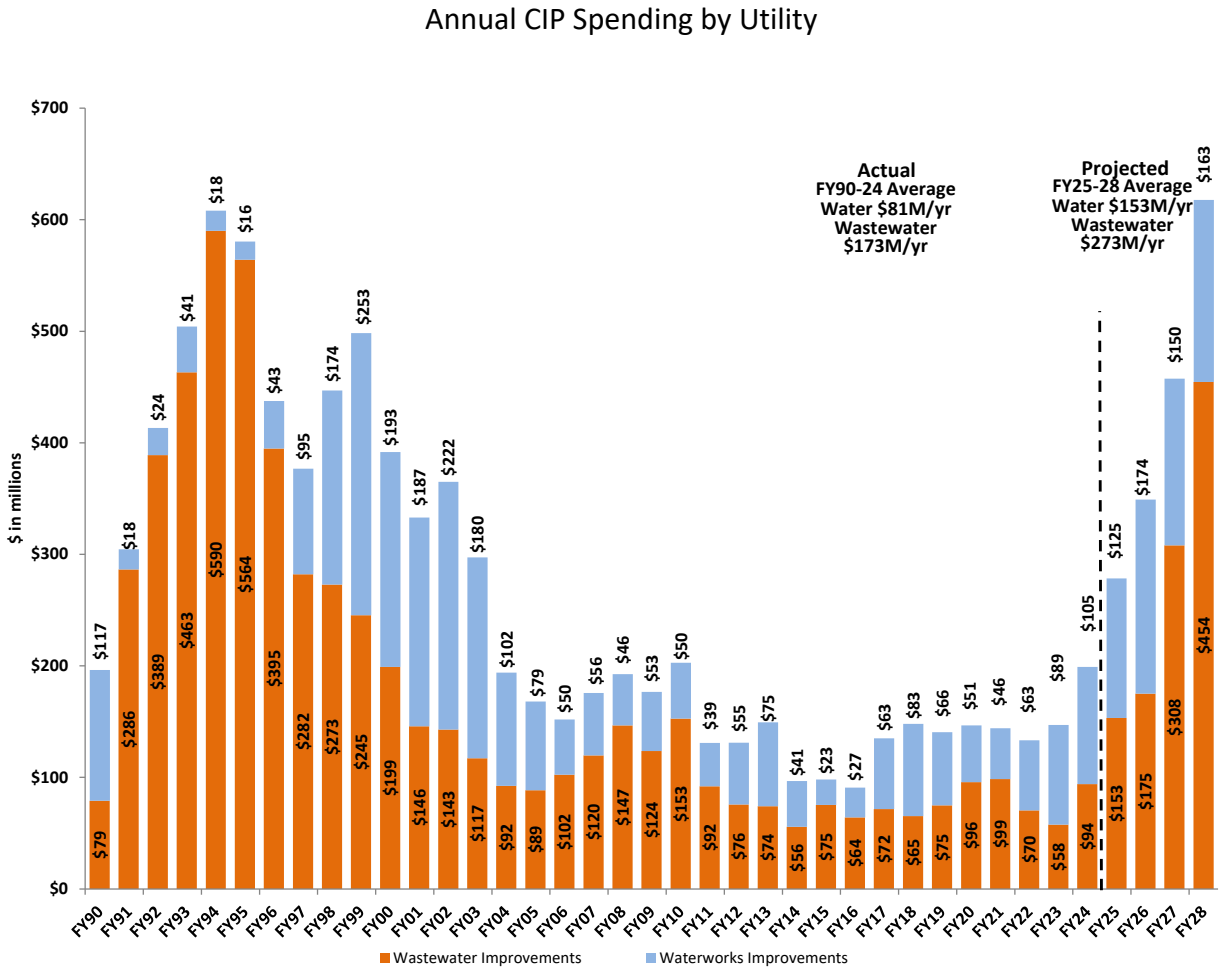
	Future Spending Beyond FY24	Total FY19-23	Total FY24-28	Beyond 28
Wastewater System Improvements	**$3,374.6**	**$397.1**	**$1,184.9**	**$2,283.7**
Interception & Pumping	855.6	161.5	211.1	664.8
Treatment	2,184.2	63.3	683.0	1,542.6
Residuals	113.4	15.6	26.5	86.9
CSO	16.2	12.6	22.1	4.3
Other Wastewater	205.2	144.1	242.1	(14.9)
Waterworks System Improvements	**$3,163.9**	**$314.4**	**$716.7**	**$2,552.1**
Drinking Water Quality Improvements	73.0	10.8	19.4	56.2
Transmission	2,427.7	105.6	327.0	2,140.0
Distribution & Pumping	674.6	127.9	189.5	516.4
Other Waterworks	(11.4)	70.2	180.9	(160.5)
Business & Operations Suppport	**$84.3**	**$39.7**	**$89.7**	**$3.9**
Total MWRA	**$6,622.8**	**$751.3**	**$1,991.3**	**$4,839.7**

Historical & Projected Spending

The following chart captures the historical CIP spending through FY24 and projects spending through FY28 based on the FY26 CIP. Average annual CIP spending through FY24 was $258 million. Average annual CIP spending for the FY25-28 period is projected to be $446 million.



The following chart shows the historical CIP spending from FY90 through FY24 by utility with projections through FY28. Average annual CIP spending through FY24 was $81 million for Waterworks and $173 million for Wastewater. Average annual CIP spending for FY25-28 is projected to be $153 million for Waterworks and $273 million for Wastewater.



Community Loan Programs

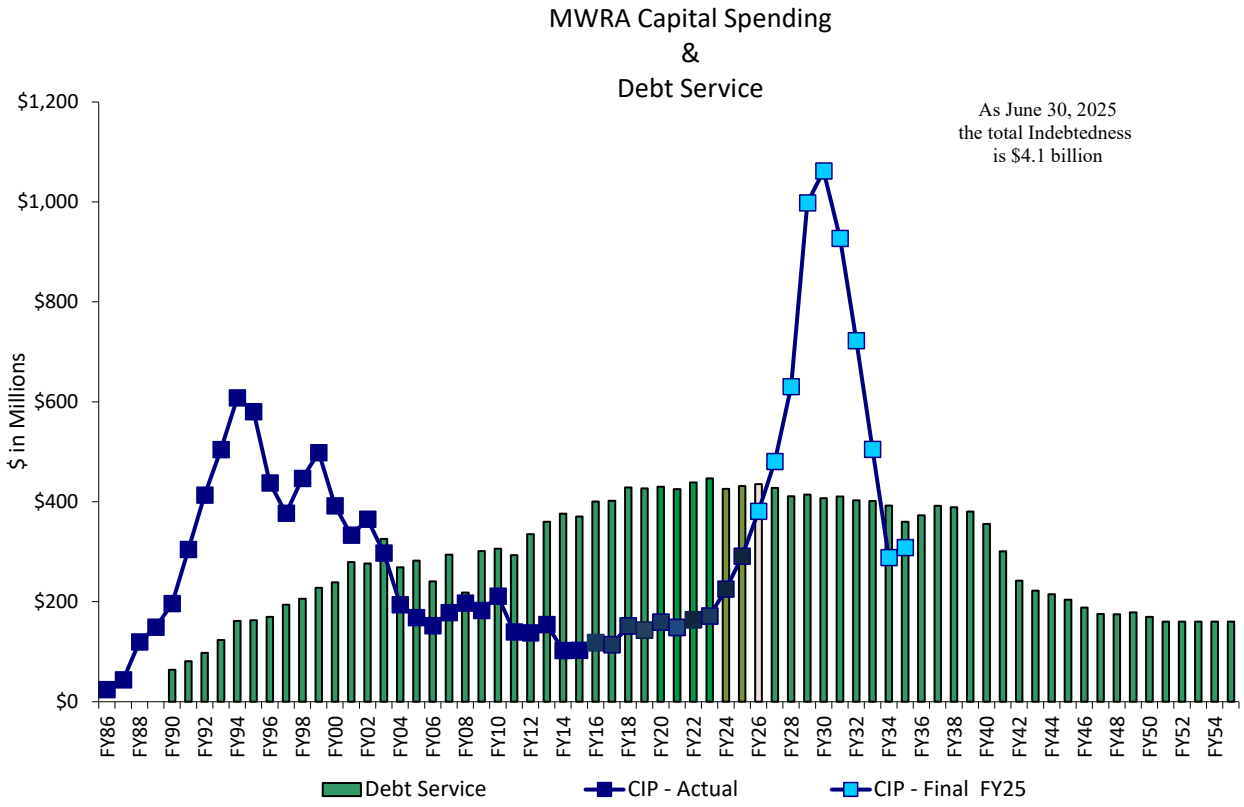
The MWRA offers its water and wastewater communities loan and grant opportunities for infrastructure preservation. Community loans are interest-free and repaid to MWRA over a 5-year or a 10-year period. On the water side, the program's goal is to improve local water system pipeline conditions to help maintain high water quality distribution from MWRA's treatment plant through local pipelines to customers' taps. The water loan program was established in 1998 and over 625 miles of pipeline have been improved. Similarly, on the wastewater side, the local financial assistance program provides MWRA sewer communities funding to perform local infiltration and inflow "I/I" reduction and sewer rehabilitation. The I/I program was established in 1993 and funds are currently approved for distribution through Fiscal Year 2030. Unlike the water loan program, the I/I program is a partial grant program. The FY25 CIP includes the expansion of the community assistance programs based on the MWRA Advisory Board recommendations. I/I Phase 15 with interest free loans only for $100 million was included as well as Phase 16 for $125 million (75% grant, 25% loan). Phase 4 water loans was added for $300 million and Lead Service Line Replacement program was increased from $100 million to $200 million and now includes a 25% grant portion. No additional community loan or grant programs were added in the FY26 budget cycle.

Over the FY24-28 timeframe, $242.1 million in funding is projected to be distributed to MWRA wastewater communities and $128.8 million is projected to be distributed to MWRA water communities for a total of $370.9 million in community support.

$s in Millions	FY24	FY25	FY26	FY27	FY28	FY24-28
I/I Financial Assistance (Net of repayments)	$22.0	$67.4	$51.1	$48.6	$53.0	$242.1
Local Water System Assistance (Net of Repayments)	$26.2	$34.0	$32.8	$18.9	$16.9	$128.8
Total Community Loan Programs	$48.2	$101.4	$83.9	$67.5	$69.9	$370.9

MWRA Capital Improvement Spending and Debt Service

As of June 30, 2025, MWRA's total debt is $4.1 billion, which is $288.3 million less than the MWRA's total debt as of June 30, 2024. While total outstanding debt is decreasing, debt service obligations continue to rise and are projected to increase in coming years.



Project Level Budget Summaries and Detail of Changes

Information on individual project budgets and detail of changes is provided in the supplemental appendices attached to this document.

Capital Improvement Program

FISCAL YEAR 2026

APPENDICES

MASSACHUSETTS WATER RESOURCES AUTHORITY

APPENDIX 1

Project Budget Summaries and Detail of Changes

Wastewater System Improvements

Wastewater System Improvements

Deer Island Wastewater Treatment Plan

S. 104 Braintree-Weymouth Relief Facilities

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Fulfills a regulatory requirement*

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

In accordance with a DEP administrative consent order, construction of relief facilities and the resulting reduction in community infiltration and inflow will provide capacity for peak sewage flow from Braintree, Hingham, Holbrook, Randolph, Weymouth, and sections of Quincy. This project will reduce surcharging in Braintree and Weymouth, and reduce frequent overflows into the Weymouth Fore River during wet weather.

Project History and Background

The Braintree-Weymouth interceptor system and pump station serves Braintree, Hingham, Holbrook, Randolph, Weymouth, and sections of Quincy. Because of population increases, the sewerage system could not handle the volume of sewage received and sewage overflows were frequent along the Weymouth Fore River during wet weather.

Interim rehabilitation work was required to ensure continued operation of the existing Braintree-Weymouth Pump Station during the long-term design and construction period. After initially proceeding with a dual track design approach for part of this project, MWRA decided to construct a deep rock tunnel rather than a marine pipeline from the new pump station to the Nut Island shaft of the Inter-Island Tunnel to Deer Island. Construction of the Emergency Mill Cove Siphon was completed in June 1998. Construction of the deep rock tunnel was completed in September 2003, and the North Weymouth Relief Interceptor was completed in June 2002. The Intermediate Pump Station and sludge pumping facilities at Deer Island were completed in April 2005. The Fore River Siphons construction contract was completed in May 2005. Construction of the Replacement Pump Station was completed in April 2008. Rehabilitation of Section 624 was completed in December 2010. Remaining phases include Braintree-Weymouth Improvements.

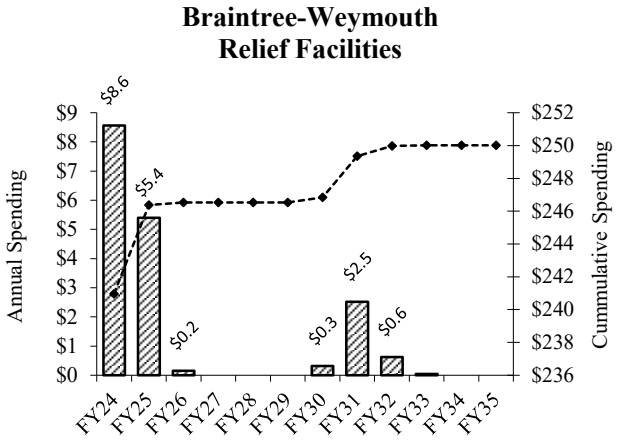
Scope

Sub-phase	Scope	Status
Design 1/CS/RI – Tunnel & IPS (5313)	Design of the tunnel and Intermediate Pump Station (IPS). Includes completion of design modifications for sludge pumping facilities at Deer Island and residuals filtrate facilities at Fore River.	Completed
Sediment Tests (6016)	Tests required as part of the evaluation of marine pipeline option.	Completed
Design 2/CS/RI – Surface (5331)	Design of remaining construction including siphons and replacement pump station.	Completed
Tunnel Construction & Rescue (5315)	Construction of a 2.9-mile, 12-feet diameter tunnel beginning at the Nut Island shaft of the Inter-Island Tunnel and ending at the Fore River Staging Area. Two 14-inch sludge pipelines within the tunnel will convey Deer Island sludge from the Inter-Island Tunnel to the pelletizing plant. 0.4 miles of twin 12-inch pipelines within the tunnel will convey filtrate from the pelletizing plant to the Intermediate Pump Station. 2.5 miles of 42-inch force main will carry flows and filtrate to the Inter-Island Tunnel. Also includes a MOA with Quincy, Braintree, and Weymouth for tunnel rescue and fire support services.	Completed
Intermediate Pump Station Construction (5316)	Construction of a 45-mgd pump station and headworks in North Weymouth. Also includes modifications to the sludge pumping facilities at Deer Island and the filtrate facilities at Fore River.	Completed
No. Weymouth Relief Interceptor Construction (5303)	Construction of 2,000 linear feet of 60-inch gravity sewer running from the Intermediate Pump Station and along the Exelon Energy site.	Completed
Fore River Siphons Construction (5373)	Construction of 36-inch, 3,900-feet long twin siphons beneath the Fore River from the Idlewell section of Weymouth to the southeast corner of the Exelon Energy site in North Weymouth. Constructing 1,000 linear feet of 36-inch to 54-inch new sewers in Idlewell.	Completed
B-W Replacement Pump Station (5375)	Construction of a new 28-mgd Braintree-Weymouth Pump Station which will handle flows from Hingham, Weymouth, and portions of Quincy.	Completed
Rehab Section 624 (5310)	Rehabilitation of 2,000 feet of Section 624 in North Weymouth.	Completed
Mill Cove Siphon Construction (6368)	Installation of 1,700 linear feet of 42-inch siphon pipe between Newell Playground and Aspinwall Street in North Weymouth to act as second barrel of existing Mill Cove Siphon.	Completed

Sub-phase	Scope	Status
Construction –Rehab (5309)	Interim rehabilitation of the existing Braintree-Weymouth Pump Station.	Completed
Community Tech Assistance (6331)	Technical assistance for the Town of Weymouth for hydraulic modeling of its sewer system, leak detection for the water system, and mitigation.	Completed
Geotechnical Consultant (6766)	Consulting services related to the tunnel shaft excavation.	Completed
Communication System (6792)	Radio systems for the intermediate and replacement pump stations.	Completed
Mill Cove Sluice Gates Design (7326) and Construction (7327)	Install a single gate to provide for system flushing to reduce sediment deposition and to control odors at the Braintree-Weymouth Pump Station.	Future
Braintree-Weymouth Improvements Design CS (7435), Construction (7366), and REI (7683)	Design/ESDC services for modifications needed to improve facility safety, reliability and performance. Design and construction improvements are required to address deficiencies in odor control, monitoring/instrumentation systems, solids screenings/handling and pumping operations. Corresponding REI services procured under separate contract.	Completed
IPS Transformer Replacement (7995)	Replace the transformer at the Intermediate Pump Station.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$250,017	$240,969	$9,049	$5,401	$156	$14,116	$3,492	$0



Project Status 5/25	98.2%	Status as % is approximation based on project budget and expenditures. Braintree-Weymouth Improvements Design/Construction Services commenced in December 2018. Construction commenced in September 2022.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$249,042	$250,017	$975	Apr-31	Apr-31	None	$13,081	$14,116	$1,034

Explanation of Changes

- Project cost and spending changed due to additional change orders for Braintree/Weymouth Improvements.

CEB Impacts

- None identified at this time.

S. 130 Siphon Structure Rehabilitation

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

Master Plan Project ☑ 2009 Priority Rating 2 (see Appendix 3)

Design and construction of improvements to headhouses and structures.

Project History and Background

Siphon chambers are located at the upstream and downstream ends of depressed sewers. Depressed sewers are constructed to avoid obstructions in sewer alignments such as rivers and subsurface utilities. Upstream siphon chambers allow attainment of proper water elevation so that the depressed sewer flows under pressure. Downstream chambers provide transitions between depressed sewers and downstream gravity sewers.

Connecting structures are facilities at which flows from sewers are redirected to converge with or receive flows from other sewers.

There are 92 siphon chambers and 111 connecting structures in the MWRA wastewater system. Wastewater flows through many of these siphon chambers and connecting structures can be impacted by irregular maintenance due to the inaccessibility of many structures. Inadequate or reduced hydraulic capacity could in turn contribute to significant surcharges or overflows. Odor problems have also been identified at some siphon chambers and connecting structures due to hydraulic transitions.

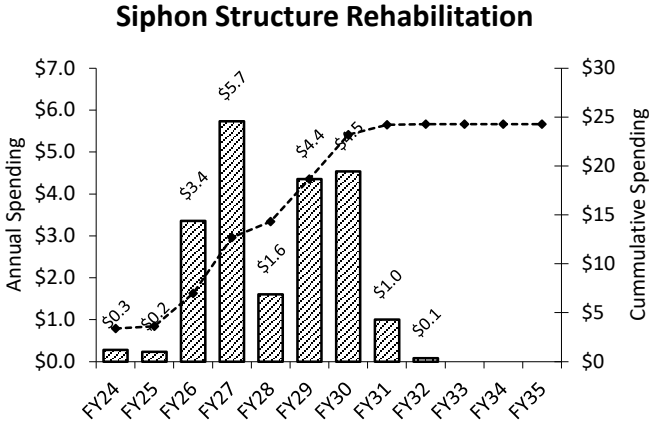
MWRA completed a study in 1998 to evaluate rehabilitation of these structures in order to permit greater accessibility to provide regular maintenance to alleviate the above problems. 83 siphon chambers and 63 connecting structures were included in the study which recommended rehabilitation and improvements to 127 of these structures. MWRA has prioritized the design and construction of improvements to these structures. Phase 1 will provide access improvements and rehabilitation of structures at locations that are subject to inundation from potential surface flooding and are in greatest need of access and/or repair.

Scope

Sub-phase	Scope	Status
Planning (6017)	Identification of methods to improve accessibility and structures. Inspection of the siphon chambers and diversion structures along with recommendations for rehabilitation.	Completed
Phase 1 Design/CS/RI (6224) and Construction (6225)	Design, ESDC, REI and construction of improvements at high priority siphon locations. Scope includes 41 structures. Construction (6225) expected to commence FY25.	Active
Phase 2 Design/CA (7685), Construction (7686) , and REI (7997)	Design, ESDC, and construction of improvements at high priority siphon locations. Scope anticipated to include 40 structures.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$24,286	$3,382	$20,904	$234	$3,353	$11,205	$9,978	$0



Project Status 5/25	14.3%	Status as % is approximation based on project budget and expenditures. Initial Planning subphase was completed in 1998. Phase 1 Design began in April 2020.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$24,362	$24,286	($77)	Jan-30	Jul-30	6 mos.	$13,590	$11,205	($2,386)

Explanation of Changes

- Scheduled Completion Date changed due to updated schedule for Phase 2 Construction.
- Project spending changed primarily due to updated schedules and cash flows for Phase 1 and Phase 2 Construction.

CEB Impacts

- None identified at this time.

S. 132 Corrosion and Odor Control

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

High sulfide levels in the Framingham Extension System cause corrosion and odors in that system and downstream in the Wellesley Extension Sewer System and West Roxbury Tunnel. A study has identified the causes of corrosion and odors and recommended corrective measures. Completion of corrosion control measures will extend the useful life of these assets and minimize the impact on the existing wastewater conveyance infrastructure. Improved odor control will mitigate the impact on surrounding areas.

Project History and Background

Hydrogen sulfide produces sewer odors and is highly corrosive to pipes and pump stations. Collapses in the Framingham Extension Sewer (FES) have alerted MWRA to problems in that area. Odor complaints have been received from residents abutting both the Framingham Extension Relief Sewer (FERS) and the Wellesley Extension Sewer (WES) systems resulting in legal claims totaling several hundred thousand dollars. Severe corrosion has occurred in the drop chamber leading to the West Roxbury Tunnel as well as documented corrosion in the tunnel itself.

While MWRA attempts to minimize odor and corrosion impacts through chemical intervention and sealing locations where odors escape, a more permanent solution is being sought. MWRA awarded a Planning/Study contract in January 1997. The consultant completed inspections in Ashland, Framingham, and Natick and drafted a report identifying, locating, and categorizing the sources and the extent of odor and corrosion problems. The Odor and Corrosion report indicated that significant levels of sulfides are discharged into the FES from Ashland and Framingham. These sulfide levels where documented to increase as the wastewater flows through the FES/FERS system. The report recommends a combination of MWRA and community actions, such as modifications to industrial discharge limits and municipal permits, chemical addition at community pump stations and the FES, and air treatment. The final planning/inspection report was completed in December 1998.

Following the Planning/Study the MWRA began the Interim Corrosion Control project. This design project included modifications to the FERS pump station, FES Tunnel, and air treatment systems. The design project was discontinued in June 2005, leaving the different project components a various level of design. At the time, a decision was made to allow other recommendations made during the

Planning/Study phase to be further implemented (i.e., modifications to community collection systems, industrial discharge limits, municipal permit modifications). This decision has proven to be prudent give the significant reduction in hydrogen sulfide over the past decade. However, the high hydrogen sulfide levels are still prevalent enough to require chemical addition during the seasonal high period of the year to maintain hydrogen sulfide levels in an acceptable range for both corrosion control and to help reduce nuisance odors.

The Corrosion and Odor Control program has recently been expanded to include odor control and mechanical/ electrical modification to the downstream Nut Island Headworks.

Scope

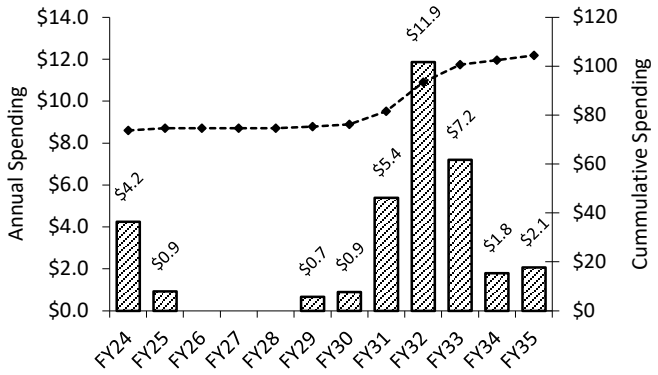
Sub-phase	Scope	Status
Planning (6137)	Identification of causes and sources of odors; collection of local sewer system information in Ashland, Natick, and Framingham; recommendations for long-term corrective measures.	Completed
Design/CS/RI (6553)	Design, construction services, and resident inspection for FERS Pump Station, FES tunnel, and air treatment systems. By June 2005, the FERS Pump Station achieved 50% Design status, the FES tunnel achieved 30% Design status and the air treatment systems achieved 100% Design status.	Completed
Interim Corrosion Control (6743)	Implementation of chemical addition program at the FERS Pump Station. The program includes the addition of potassium permanganate, and monitoring of the wastewater flows and hydrogen sulfide levels downstream.	Completed
FES/FERS Biofilters Design (6919) & Construction (7215)	FES/FERS Corrosion Control (Biofilters) is a design and construction project to make improvements in the MWRA sewers. Three air treatment systems (biofilters) are recommended to remove and treat hydrogen sulfide in the FES, FERS, WESR and WERS sewer systems. Rehabilitation of hydrogen sulfide meters will be included.	Future
Nut Island Mechanical and Electrical Upgrades Design/CA (7365), REI (7635), and Construction (7495)	This project provides design, ESDC/REI and construction for replacement/upgrades to the mechanical, electrical, instrumentation, and support systems at the Nut Island Headworks Facility.	Future
System-wide Odor Control Study (7364)	The prevalence of Hydrogen Sulfide gas in the collection system has been responsible for system wide odor complaints and infrastructure deterioration. This project will evaluate the system, identify the critical needs, and provide solutions.	Future

NI Headworks Odor Control and HVAC Improvements Evaluation (7494), Design, ESDC, REI (7517) and Construction Phase 2 (7548)	Design ESDC/REI and construction for improvements for the Nut Island Headworks Odor Control and HVAC systems and energy management system. This is the long term improvements project following the January 25-26, 2016 fire and following the Contract 7494 Odor Control, HVAC and Energy Management System Evaluation completed in February 2017. Failure of the odor control system would result in odors being released to surrounding areas and the discharge limits of the facility's air permit being exceeded.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY23	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$104,572	$73,683	$30,888	$929	$0	$5,170	$26,008	$3,952

Corrosion & Odor Control



Project Status 5/25	71.1%	Status as % is approximation based on project budget and expenditures. Odor Control Evaluation was completed in February 2017. NI Odor Control & HVAC Design CA/REI commenced in March 2017 and construction began in February 2020 and was substantially complete in September 2023.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$104,633	$104,572	($62)	Dec-34	Dec-34	None	$5,168	$5,170	$2

Explanation of Changes

- N/A

CEB Impacts

- None identified at this time.

S. 136 West Roxbury Tunnel

Project Purpose and Benefits

☑ *Contributes to improved public health* ☑ *Provides environmental benefit* ☑ *Extends current asset life*

☑ *Improves system operability and reliability*

Master Plan Project ☑ Priority Rating 1 (See Appendix 3)

Investigation and rehabilitation of the West Roxbury Tunnel sewer. This sewer, built in 1964, transports flows from the Wellesley Extension Relief Sewer System through the West Roxbury portion of Boston to the High Level Sewer. A structural failure could result in surcharging and overflows.

Project History and Background

During construction of the Wellesley Extension Replacement Sewer and inspection of the tunnel in 1999, visual observations indicated that severe corrosion due to hydrogen sulfide had occurred in a portion of the sewer directly upstream of the West Roxbury Tunnel (WRT), and that the tunnel entrance structure had lost cement lining, exposing the reinforcing steel. Manholes and other structures had been affected more severely.

A structural failure of the WRT would affect the tributary communities of Ashland, Brookline, Dedham, Framingham, Natick, Needham, Newton, Wellesley, and the Hyde Park and West Roxbury portions of Boston. Local failure of the tunnel could result in the discharge of 53 to 128 mgd of raw sewage into the Charles River until emergency repairs could be made, back-up of sewage into local residences and businesses, and the interruption of service to as many as 125,000 people. Section 638 is immediately upstream of the tunnel and crosses beneath the VFW Parkway in West Roxbury. Structural failure beneath this major transportation corridor would result in a severe public safety hazard.

Design for structural repairs to Section 638 and the West Portal of the tunnel were completed in June 2001. Construction of these repairs, Contract 6569, repairs to Sections 137 & 138, including the slipline of Section 138, were completed in June 2002. The design contract to rehabilitate the tunnel was awarded in February 2009 and ended in June 2011. The tunnel was inspected in August 2010 and there has been negligible deterioration since the 1999 inspection. Based on these findings and the significant reduction in hydrogen sulfide levels in the tributary sewers over the past decade, it was determined that the tunnel is not in need of immediate repair. In lieu of immediate repair, the West Roxbury Tunnel will be inspected to provide a condition assessment of the current conditions.

The design contract to inspect the tunnel and assess the condition was executed under Contract 7991 Task Order No. 4 in June 2023. The inspection contract was awarded to Black Dog Divers under Contract 6898 in July 2024. The inspection is anticipated to occur in August 2025.

Scope

Sub-phase	Scope	Status
Inspection (6230)	Inspection of Section 137 of the West Roxbury Tunnel, which includes 12,500 linear feet of 84-inch reinforced and unreinforced concrete tunnel. Initial inspection completed in 1999.	Completed
Design/CS/RI (6570)	Design, construction services, resident inspection for corrective actions to repair/rehabilitate 1,000 feet of Section 138 and the West Portal, and a conceptual design report for the rehabilitation of the tunnel. Design/construction completed in June 2002.	Completed
Construction (6569)	Rehabilitation of 1,000 feet of Section 138 and the West Portal. Completed in June 2002.	Completed
Tunnel Inspection (6898)	Inspection contract to monitor the conditions of the tunnel in approximately 10 year intervals. The NTP for the non-professional services contract to perform the inspection was issued on July 24, 2024 to Black Dog Divers. The inspection is tentatively scheduled for August 2025. The Design, ESDC and REI services contract is being completed under Agency-Wide Technical Assistance Contract 7991 Task Order #4 by Kleinfelder for a total of $247,794.41.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$11,970	$10,314	$1,656	$1,350	$306	$1,656	$ 0	$0

Project Status 5/25	87.2%	Status as % is approximation based on project budget and expenditures. Tunnel Inspection began in FY25.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$11,514	$11,970	$456	Jul-25	Jul-25	None	$1,200	$1,656	$456

Explanation of Changes

- Project cost and spending changed due to Tunnel Inspection contract award greater than budgeted.

CEB Impacts

- None identified at this time.

S. 137 Wastewater Central Monitoring

Project Purpose and Benefits

☑ *Extends current asset life.*

☑ *Results in a net reduction in operating costs*

☑ *Improves system operability and reliability*

To study, define, design, and implement a centralized monitoring and control system most appropriate for MWRA's wastewater transport system. Through facility automation and remote monitoring and control, SCADA implementation will result in cost savings and improve wastewater system operation and maintenance.

Project History and Background

MWRA has implemented automation and central monitoring and control of its water and wastewater systems and facilities. Substantial investments have been made in implementing such systems for the Deer Island Wastewater Treatment Plant, and Supervisory Control and Data Acquisition System (SCADA) implementation is fully operational at the wastewater transport facilities and the water conveyance and treatment system.

The SCADA Master Plan, which was completed in July 1999, recommended expansion of the automated control concepts developed for water system operation and identified long-term savings related to staffing reductions and optimization of operations and maintenance. Following the master planning recommendations, a detailed scope of services was prepared to procure professional services contract to provide design, integration, training, construction administration and resident inspection services for various SCADA improvements. Camp Dresser & McKee, Inc. (CDM) was awarded this contract in June 2002. The construction effort on the first and most complex of two construction packages began in March 2006 and reached substantial completion in January 2008. This construction addressed SCADA needs at most pumping and CSO facilities, as well as establishing overall data communications improvements. The second construction package provided for SCADA needs at the remote headworks facilities, taking into consideration future CIP improvements at Chelsea, Columbus Park, and Ward Street Headworks facilities. This contract reached substantial completion in July 2009.

Additional CIP sub-phases have been added and are being implemented to replace existing SCADA equipment that is nearing the end of its useful life or is no longer supported by the manufacturer. Additional efforts will be performed to enhance SCADA communications and improve on computer graphics used by operators to monitor and control facilities (Human Machine Interfaces) and PLC related systems to improve upon cyber security and maintainability.

Scope

Sub-phase	Scope	Status
Planning (6232)	Development of a plan for a monitoring and control system for the MWRA wastewater transport system.	Completed
Design and Integration Services (6532)	Includes design, integration (PLC programming, operator graphics development, MIS/CMMS data transfer), and development and implementation of training. Also covers preparation of documentation and manuals for automating equipment and systems and for remote monitoring and control of the wastewater transport systems and facilities. Includes construction administration, engineering services during and after construction, and resident inspection.	Completed
Construction 1 (CP1) (6533)	Construction and installation of SCADA equipment and systems at seven pumping facilities, three CSOs and one screen house. Also covers Operation Control Center improvements. Facilities include Alewife, Caruso, Hingham, New Neponset, Hayes, Delauri, Houghs Neck, Chelsea Screen House, Cottage Farm, Prison Point, and Somerville Marginal. This construction package included the major components of the SCADA communications infrastructure (microwave radios, routers, etc.).	Completed
Construction 2 (CP2) (6534)	Construction and installation of SCADA instrumentation and control equipment at the three older headworks facilities and Nut Island Headworks. OCC improvements were also made to support these additional facilities.	Completed
Equipment Pre-purchase (6861)	Purchase SCADA system components including computer hardware to ensure consistency with MWRA MIS infrastructure through existing Commonwealth of MA blanket contracts and low cost small quantity system components (ex. fuel tank monitoring units and interfaces, Prison Point Flow meter, CSU/DSUs), and additional instrumentation and control equipment at the Arthur St. Pump Station to ensure consistency and/or compatibility with installed systems.	Completed
Technical Assistance (6535)	Technical assistance work to support all subphases.	Completed

Wastewater Redundant Communications (7363)	To study and implement redundant communications alternatives for Wastewater facilities and improve upon existing communication systems, with an emphasis on wireless options. It is critical to have alternative communication means to ensure facility data, including important facility alarms from unstaffed facilities can reach the Operations Control Center.	Active
Wastewater SCADA/PLC Upgrades Design and Programming Services (7578), Construction (6656), and Equipment Hardware (7580)	Replacement of existing SCADA PLCs nearing their end of useful life with an updated PLC platform. New PLC platforms further provide increased security capabilities, improved programming functionality and maintainability enhancements. Secondary goals include standardizing PLC logic and HMI graphics, and upgrading aging field instrumentation. Project includes Design and Programming Services, Construction, and Equipment Hardware. During FY19 a contract was issued to provide programming to upgrade BOS019 and Framingham SCADA systems. Hardware has been purchased and the project was completed.	Active
Microwave Redundancy System Improvement Study (8156), Design/ESDC/REI (7363) and Construction (8157)	This project will study and provide improvements to the communication system. A study will be performed first to assess the network system at 22 sites (45 links) and provide recommendations to upgrade the current system. Design and Construction of the recommended upgrades will follow.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$30,982	$19,926	$11,056	$0	$232	$2,399	$ 8,657	$0

Project Status 5/25	64.3%	Status as % is approximation based on project budget and expenditures. Construction 1 contract was substantially complete in December 2007. Construction 2 contract was substantially complete in July 2009. Wastewater SCADA/PLC Upgrades Design and Programming Services began in April 2018.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$27,482	$30,982	$3,500	Nov-28	Jun-30	8 mos.	$1,955	$2,399	$444

Explanation of Changes

- Project cost changed due to addition of Microwave Redundancy System Improvement Study and Construction contracts.
- Scheduled Completion Date changed due to addition of Microwave Redundancy System Improvement Construction contract.
- Spending changed primarily due to addition of Microwave Redundancy System Improvement Study contract.

CEB Impacts

- None identified at this time.

S. 139 South System Relief Project

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

To protect public health and property from sanitary system overflows and back-ups into homes and businesses during extreme wet weather events. Completion of the project will also extend the useful life of system assets and potentially avoid extraordinary costs resulting from system failures.

Project History and Background

Archdale Road Diversion Structure

On October 20, 1996 a 100-year rainstorm caused the MWRA High Level Sewer (HLS) (Section 70) to overflow in the area of Archdale Road in Boston. Following this overflow event, MWRA established a task force to recommend action to mitigate and/or prevent future overflows. The task force developed an emergency response plan and examined several relief alternatives. The first component of the recommended relief plan consisted of construction of a diversion structure that includes two 30-inch by 60-inch sluice gates connecting the HLS to BWSC's Stony Brook drainage conduit. The diversion structure is located at the end of Bradeen Street in Roslindale. If, based on monitoring results, it appears that the High Level Sewer is about to overflow in the Archdale Road area due to an extraordinary storm event, the overflow volume is diverted to the Stony Brook Conduit through the sluice gates. This eliminates the need to deploy large emergency response crews to build temporary sandbag dikes. Construction of the diversion structure was completed in August 1999.

High Level Sewer Repair

Subsequent to the October 1996 storm, MWRA initiated some short-term modifications to the sewer system to reduce overflows. However, during a June 1998 storm, these modifications actually pressurized the HLS. As a result, MWRA began an emergency evaluation of the HLS in June 1998 to analyze its hydraulic capacity and structural integrity. The evaluation, which was completed in January 1999, discovered cracking at a 77-degree bend in the sewer in the Archdale Road area that required immediate attention. Inspection also indicated that approximately 40 feet of the HLS, located in the Arnold Arboretum, needed repair. A construction contract notice- to-proceed was issued in June 1999 and construction was completed in October 1999.

Outfall 023 Cleaning and Structural Improvements

Following the October 1996 storm, the City of Boston engaged a consultant to review the events and recommend remedial actions to prevent future flooding under similar conditions. One recommendation was to clean sediment and debris from the Stony Brook Conduit. Boston Water & Sewer Commission (BWSC) has cleaned the upstream portion of the conduit and MWRA has cleaned the outfall from the Metropolitan District Commission (MDC) gatehouse at Charlesgate to the Charles River. This part of the project also covers structural modifications to Outfall 023 to permit access points and diversion capabilities for future cleaning. This portion of the project has been moved out to fiscal year 2024 after a 2019 inspection discovered acceptable sedimentation levels. Staff will continue to periodically inspect the outfall for increased sedimentation levels and report if schedule modification need to be made.

Milton Financial Assistance

Two residential areas in the Town of Milton have experienced sewage backups into homes during wet weather events and periods of prolonged wet weather. One area affected is a direct tributary of MWRA's High Level Sewer and the other is a tributary to MWRA's New Neponset Valley Sewer. In September 1999, MWRA and Milton entered into a financial assistance agreement to fund design and construction of new sewers, rehabilitation of an existing pump station, and construction of a new pump station to mitigate downstream impacts from high flow conditions in the improved High Level Sewer.

Pump Station Feasibility

MWRA considered investigating the feasibility of constructing a small pump station to convey wastewater from a small area of Quincy away from the Braintree Howard Street Pump Station. The flow would be re-routed back to the Quincy collection system. The City of Quincy would own and operate the pump station. Upon further evaluation, MWRA has decided to delete this project and instead, will continue an MOU with Braintree to pay the town annually for use of 25 percent capacity of Braintree's Howard Street Pump Station.

Scope

Sub-phase	Scope	Status
Archdale Design/CS/RI (6419) and Construction (6420)	Design, construction services, and resident inspection for the Archdale Road Diversion Structure. Construction of an underground diversion structure that houses two 30-inch by 60-inch horizontal sluice gates on the sidewall of the HLS. This structure controls flow into BWSC's Stony Brook Conduit.	Completed
Sections 70 and 71 HLS Evaluation (6519), and Construction (6611)	Initial evaluation and construction of recommended improvements.	Completed
Milton Financial Assistance (6616)	Payment to the Town of Milton for local projects to mitigate downstream impacts from high flow conditions.	Completed
Construction and Improvements for Outfall 023 (6801)	Removal and disposal of sediment and debris from Outfall 023 as well as continuation of structural improvements to enable future cleaning operations.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$4,939	$3,439	$1,500	$0	$0	$0	$1,500	$0

Project Status 5/25	69.6%	Status as % is approximation based on project budget and expenditures. All sub-phases are complete except for Outfall 023 Structural Improvements which is scheduled to commence in FY30.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$4,939	$4,939	$0	Dec-31	Dec-31	None	$0	$0	$0

Explanation of Changes

- N/A.

CEB Impacts

- None identified at this time.

S. 141 Wastewater Process Optimization

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

To optimize wastewater system operating procedures and make system improvements and modifications to ensure maximum wastewater treatment, minimum operating and maintenance costs, and extension of the useful life of system assets.

Project History and Background

This project was established to support MWRA Business Plan strategies, which recommend the development of a wastewater process optimization plan, central monitoring facilities for the sewerage system, rehabilitation of wastewater interceptors, and the utilization of automation and new technology to increase efficiency.

The completed planning phase included the development of an updated hydrologic and hydraulic model (InfoWorks CS) and the evaluation of optimization alternatives under typical and extreme storm events. MWRA has evaluated several of the alternatives and has been using hydraulic information gained during this phase to develop facility control logic under the Wastewater Transport SCADA Implementation Project. Two alternatives, which include pipeline modifications, will be taken further as defined below. The model developed under this project continues to be used by MWRA staff for in-house system evaluation and NPDES reporting requirements and by outside consultants to support CSO-related and collection system improvement projects.

Scope

Sub-phase	Scope	Status
Planning (6733)	Evaluate collection system and facility modification alternatives to maximize wastewater treatment and minimize operating and maintenance costs.	Completed
North System Hydraulic Study (6930)	Review the frequency and extent of sanitary sewer overflows (SSOs) in the area tributary to Chelsea Creek Headworks and to evaluate and recommend alternatives to optimize the performance of the collection system and to eliminate or reduce SSOs or relocate them to minimize potential human health risks or environmental impacts.	Completed
Hydraulic Modeling Engineering Design and Construction (7412)	Model impacts of outfall on Mass Bay which is required under the NPDES permit using the Bay Eutrophication Model. Also, phase will be for future implementation of system optimization measures or more significant system modifications which were identified during the North System study. Additional follow-up analysis or project implementation may be done under this phase.	Completed/Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$8,310	$2,200	$6,111	$0	$0	$0	$6,111	$0

Project Status 5/25	26.5%	Status as % is approximation based on project budget and expenditures. Notice-to-Proceed for the North System Hydraulic Study was completed in June 2015. Modeling Massachusetts Bay Water Quality contract Notice to Proceed was completed in November 2022.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$8,310	$8,310	$0	Jun-31	Jun-31	None	$0	$0	$0

Explanation of Changes

- N/A.

CEB Impacts

- None identified at this time.

S. 142 Wastewater Metering System – Equipment Replacement Project

Project Purpose and Benefits

☑ *Replace Existing Permanent Wastewater Metering System*

☑ *Evaluate and Update Community's Flow Metering Methodologies*

☑ *Continue providing the most accurate and reliable Wastewater metering data for rates*

☑ *Improves system operability and reliability*

The Wastewater metering system primary purpose has been to quantify wastewater flow from each of the 43 MWRA wastewater member communities for use in the formulation of sewer charges. The existing metering system is 12 years old, it was designed with a life expectancy of 7 to 10 years; it is still running reasonably well and MWRA's staff has taken great care to ensure that the accuracy and reliability of meter data is not affected and the metering data is based upon sound engineering and business practices for rate purposes. The project will include planning, design, and Resident Engineering/Inspector (REI) services for the replacement of the wastewater metering system, conduct wastewater flow measurements in unmetered areas and incorporate them in the evaluation of existing community metering methodologies

Project History and Background

The MWRA's permanent wastewater metering system was initially constructed in 1994. The primary purpose has been to quantify wastewater flow from each of the 43 MWRA wastewater member communities for use in the formulation of sewer charges, which includes a flow-based component. Other uses of the data include collection and treatment system analysis and planning, infiltration and inflow quantification in member communities, use in hydraulic models and to a limited extent, operations support.

In 2005 the first wastewater metering system replacement project was completed, the existing MWRA wastewater meters were installed with wireless phone communication and data collection system. Currently the wastewater metering system consist of 212 metering sites located throughout the 43 wastewater member communities, 189 are rate meters and 23 non rate meters. Of the 212 meters, 187 are located inside of sewer manholes and 25 Remote Terminal Units (RTU) are installed inside of MWRA and community facilities. The majority of the meters are installed in gravity sewer lines, owned and operated by the Authority or its member communities. These sewer lines have various pipe shapes, ranging in size from 8 inches to 150 x 138 inches, with manhole depths ranging from 5 feet to over 40 feet deep. The metering sites are located in residential, commercial and industrial areas.

Contract 6739 is comprised of two phases. Phase One includes the evaluation, planning and design of the wastewater metering system of approximately 225 permanent meter sites. Phase Two consists of the metering system replacement installation which includes Resident Engineering and Resident Inspection Services to oversee meter equipment installation and acceptance.

Under Phase One of this project, the flows from all unmetered areas will be updated, using temporary meters, weirs and instantaneous depth of flow and velocity measurements, to account for any changes in flow from those areas over time. The metered areas and meter locations will be evaluated and recommendations to improve the percentage of metered flow above the 85% threshold will be considered where is reasonably feasible bearing in mind the benefits of adding meters versus associated capital and operational/maintenance cost. All existing and any proposed new metering sites will be evaluated and for each meter location the most suitable meter type to provide flow data with a high degree of accuracy and reliability will be recommended.

Phase One also includes the evaluation of the most current and emerging wastewater metering, wireless communication, data collection and analysis software technologies, including reviews of similar systems currently in use elsewhere in the country. The metering system replacement design documents (plans and specifications) for public bidding will be prepared for Contract 7191 and title Permanent Metering System Equipment Purchase and Installation.

Phase Two will include Resident Engineering and Resident Inspection Services to oversee meter equipment installation and acceptance plus the one-year warranty period. The purchase and installation of the meters will be a separate contract overseen by the Phase 2 services.

The wastewater metering system evaluation (including field evaluation and measurement of currently unmetered areas), planning, design and bidding services for purchasing a replacement meter system and equipment is estimated to take 26 months from Notice to Proceed. Phase Two meter installation and acceptance is estimated to take 15 months, followed by a 12-month warranty period.

Scope

Sub-phase	Scope	Status
Planning/Design/REI (6739)	Development of a long-term plan to upgrade or replace the existing wastewater metering system (technology, hardware, software, telemetry). Conduct Wastewater flow measurements in unmetered areas, evaluate and update Community Flow Formulas (CFF). Oversee purchase of metering system and perform REI services during meter installation.	Completed
Equipment Purchase/Installation (6793)	Purchase and installation of equipment.	Completed

Wastewater Metering Asset Protection/Equipment Purchase (7191)	Rehabilitation, replacement and upgrades (planning, design and construction) for the Wastewater Metering System to be required every 10 years over the 40 year planning period. Under this phase the Authority awarded Contract 7191 to replace 174 meters throughout the 43 wastewater member communities. The meter installations are expected to be completed by the end of calendar 2021. The next phase of meter installations are anticipated to commence in FY42.	Completed/Future
Community Unmetered Flows Evaluation (6928)	Study to reassess wastewater metering system non-metered flow areas.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$21,057	$11,930	$9,127	$0	$0	$1,061	$1,620	$6,426

Project Status 5/25	56.7%	Status as % is approximation based on project budget and expenditures. The purchase and installation of 2nd generation of meters was completed in June 2008. Planning/Design/REI contract was awarded in June 2017 and completed in March 2023. Metering Equipment Purchases and Installation was substantially complete in February 2022.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$21,057	$21,057	$0	Dec-42	Dec-42	None	$1,736	$1,061	($675)

Explanation of Changes

- Spending changed due to updated schedule and cash flows for the Community Unmetered Flows Evaluation contract.

CEB Impacts

- Potential cost savings associated with this project have yet to be quantified.

S. 145 Interception and Pumping Facility Asset Protection

Project Purpose and Benefits

☑ *Extends current asset life*

☑ *Improves system operability and reliability*

☑ *Improves energy efficiency*

To protect the investment of MWRA ratepayers by ensuring timely replacement of equipment and systems.

Project History and Background

This project was developed to ensure that MWRA maintains ongoing service while optimizing operations in its wastewater facilities. This project, in its current form, addresses immediate critical facility and equipment issues. This project will eventually include five areas:

1. Equipment replacement (pumps, HVAC equipment, blowers, etc.).
2. Architectural projects (concrete corrosion, etc.).
3. Utilities projects (water, sewer, drainage, electrical wiring, heating system, etc.).
4. Support Projects (process control system upgrades, etc.).
5. Specialty Projects (instrumentation upgrades, fuel storage tanks, etc.).

The Interception and Pumping Asset Protection project will be ongoing throughout the useful life of the facilities.

Scope

Sub-phase	Scope	Status
Rehabilitation of Section 93A Lexington (6798)	Rehabilitation of 4,000 linear feet of pipeline in Lexington (Section 93A). Completed in April 2004.	Completed

Sub-phase	Scope	Status
Sections 80 and 83 (6842)	Evaluation of the condition of Sections 80 and 83 and design and construct repairs to damaged portions. TV inspection revealed numerous cracks and holes, which impair the structural integrity of the pipe. Contract completed in September 2007.	Completed
Section 160 (6843)	Rehabilitation of 11,000 linear feet of Section 160 of the Mystic Valley Sewer in Winchester due to extensive deterioration of the brick and concrete sewer. Rehabilitation of sewer completed.	Completed
93A Force Main Replacement (6987)	Replacement of 1,100 feet of 24-inch ductile iron force main due to extensive corrosion from hydrogen sulfide. Contract was substantially complete in January 2007.	Completed
Mill Brook Valley Sewer Sections 79 & 92 (7004)	Rehabilitation of a portion of Section 79 pipeline in Arlington. Under MOU trust agreement, MWRA to absorb 50% of total cost of rehabilitation.	Completed
Prison Point HVAC Upgrades, Design (6938) and Construction (6795)	The HVAC system improvements are complete and included the replacement of components for the HVAC system as well as the ductwork, air handling equipment, dampers, louvers, and odor control were in need of upgrade. The conversion of the control system for the HVAC to electronic digital control was completed in FY05/FY06 under the CEB. The diesel engine fuel system modifications at this facility were completed under the SCADA contract and included the fuel oil delivery feed to the system boiler.	Completed

Sub-phase	Scope	Status
Chelsea Screenhouse Upgrades (7431), and ESDC/REI (7490)	The Chelsea Screenhouse has four climber screens and seven hydraulic gates and was built to screen sewage upstream of the Chelsea Creek Siphons and Caruso Pump Station, and to provide screening of flows diverted from the Chelsea Creek Headworks during wet weather events. Most of the operating equipment has passed its useful lifespan. A preliminary evaluation of the gates in 2007 identified maintenance and operational issues. In November 2011, a conceptual design report for the facility was performed within the Remote Headworks Upgrades Design contract, with recommendations for replacements and upgrades to equipment at the facility. A task order, under the As-Needed Technical Assistance contract, was executed in August 2012 to perform final design of the upgrades. ESDC/REI was performed under a separate contract.	Completed
Remote Headworks Heating System Upgrades (6796)	Existing boilers at each of the remote headworks require significant maintenance and consume substantial fuel. A preliminary design report was completed and alternative energy-saving systems are recommended to replace the existing heating systems. The replacement of the existing heating system at the Chelsea Creek Headworks has been completed. The systems at Ward Street and Columbus Park will be replaced under the Ward Street and Columbus Park Headworks Upgrade Project.	Completed
Remote Headworks Concept Design (6886)	A Concept Design was performed to identify the needs of the three remote headworks facilities to recommend equipment replacement and upgrades for further design and construction. The Concept Design included a Condition Assessment of all equipment and non-equipment assets to establish a basis for improvements and upgrades to meet business goals and objectives.	Completed

Sub-phase	Scope	Status
Hingham Pump Station Isolation Gate Construction (7033)	The Hingham Pump Station was built without an influent gate. The station services the Town of Hingham and had no direct means to isolate the flow to this station. Labor intensive and inefficient means using stop logs, sand bags, sewer plugs and pumps were required to isolate and divert flow. This project included the design and installation of a sluice gate in a diversion chamber, to isolate the station and bypass flow allowing maintenance to take place in the station without interruption of service.	Completed
Study Cambridge Branch 27,26,25, 25.5, 24,23 (7511)	The Cambridge Branch Sewer was constructed between 1892 and 1895. The sewer study was completed in 2018 to evaluate rehabilitation needs, feasibility, and scope.	Completed
Melrose Sewer (7248)	Design and construct an 18-inch diameter sewer extension of an existing MWRA sewer on Melrose St. to reduce MWRA sewer overflows at the Roosevelt School. The construction contract was awarded in January 2010 and completed in September 2010.	Completed
Nut Island Headworks Fire Alarm/Wire Conduit (7144)	This project will replace the existing obsolete and problematic fire alarm system and faulty wiring at Nut Island Headworks. There have been significant repair costs over the past several years to keep the system functional and to correct deteriorated connections and ground faults. An engineering task order was used to design upgrades to the system and upgrades and replacements were completed in FY10.	Completed

Sub-phase	Scope	Status
Nut Island Headworks Electrical & Grit/Screenings Conveyance System Design CA/RI (7312) and Construction (7313)	This subphase includes the design and construction of improvements to the electrical system, which is subject to groundwater infiltration, and to the grit and screenings conveyance system which have alignment and operations problems, at the Nut Island Headworks. Based on final preliminary design reports completed in July and August 2011, recommendations were made to improve or replace these systems. Design recommendations were included in one construction contract.	Completed
Cottage Farm Fuel System Upgrade (7281)	Replacement of existing fuel oil system to meet current code requirements, ensure reliable operation, and provide safeguards against accidental oil spills.	Completed

Sub-phase	Scope	Status
Somerville/Marginal Influent Gates and Stop-Log Replacement (7344)	The Somerville Marginal facility has two 5'X6' sluice gates that were installed in 1987. These 22-year old gates are used to hold wastewater in the upstream combined sewer system until the level reaches a predetermined elevation, at which point the sluice gates are opened and the facility is activated (chemicals added, screenings removed). The treated CSO is conveyed to the MWRA permitted CSO discharges MWR205 or MWR205A, upstream and downstream of the dam on the Mystic River. During October of 2009, MWRA staff discovered non-continuous, wet weather gate leakage. Repairs to the gates were made and an air barrier was created using stop planks and temporary sump pumps upstream of the gates to minimize gate leakage. However, given the age and frequent problems with these gates and need to create a more permanent and effective barrier between the CSO system and downstream receiving waters, this project was initiated. The project will replace the facility gate, as well as upstream and downstream stop planks and install permanent sump pumps downstream of the gates to create an air void to ensure CSO does not enter the receiving waters until a facility activation is required. Project design was completed under Task Order 20 (contract 7070) and construction was substantially complete in November 2011.	Completed

Sub-phase	Scope	Status
Caruso Pump Station Improvements Design/CA/RI (7037), and Construction (7362)	This project will replace the existing standby generator, HVAC system, fire detection/suppression system and security system at the Caruso Pump Station. The standby generator is 25 years old and is a one of a kind of this type of generator. The manufacturer is no longer making spare parts and there is only a limited quantity of available spare parts. The generator is being replaced with a newer model with readily available parts to ensure reliable back-up power and increased to 1,000 kW to provide power for the full design capacity of the station. The HVAC system is in need of improvement as is the fire detection/ suppression system and security system. Construction contract 7362 was awarded with an NTP dated March 24, 2016. Project substantial completion achieved June 9, 2017.	Completed
Prison Point/Cottage Farm Facilities Diesel Engine Upgrades/Pump and Gearbox Rebuilds ESDC (7330) and Construction (7452)	Refurbishment of the Prison Point CSO Gearboxes and pumps based on an inspection report performed in May 2010. It is critical during major wet-weather events to have all four pumps operational to provide maximum station capacity and provide redundancy at this critical CSO facility. Also, MWRA non-emergency generator upgrades required by EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations for Prison Point and Cottage Farm CSO facilities.	Completed

Sub-phase	Scope	Status
Section 156 Design/Build (7393)	Rehabilitation of sewer Section 156 and a portion of adjacent Sections 17 and 19, and associated structures/manholes located between Air Force Road and the Malden River in the City of Everett. The sewer is a 120-year old, 61-inch by 56-inch rounded horseshoe brick sewer, which conveys flows of up to 40 million gallons per day from Wakefield, Stoneham, Woburn, Winchester, and parts of Medford. The sewer is 1,800 feet long of which 125 feet was repaired in 2001. The design/build contract, including Cured-in-Place lining was completed.	Completed
North Collection Sewer System Rehabilitation Design/ESDC/REI (7513)	Design/ESDC for the Noth Collection Sewer System Rehab CP-1 and CP-2. Scopes of services are under development with Design services expected to commence in FY26.	Future
North Collection Sewer System Rehabilitation CP1 - Construction (6936)	Construction for the Rehabilitation of Cambridge Branch Sewer Sections 27, 26, 24 and 23 in Everett, Charlestown (Boston), Somerville, and Cambridge, and DeLauri Force Main.	Future
North Collection Sewer System Rehabilitation CP-2 Construction (7422)	Construction for the rehabilitation of the North Metropolitan Trunk Sewer 4/5/6/186 and Belle Isle Sandcatcher/Headhouse (Sections 6 and 7) in Winthrop and East Boston.	Future
Prison Point Piping Rehabilitation (7459)	As a recommendation of the Prison Point/Cottage Farm CSO Preliminary Design/Study, this project will repair weak spots, replace pipe saddle supports, and install an erosion/corrosion liner in the discharge piping.	Completed

Sub-phase	Scope	Status
Quincy/Hingham Pump Station Fuel Storage Upgrades Construction (7534)	Project to improve diesel fuel storage capacity at Quincy and Hingham pump stations. Hingham's underground tank failed and will be replaced with an above ground tank. Quincy tank storage to be increased from 1 day to 5 days of storage with the addition of an above ground tank.	Completed
Design/ESDC/REI (8014) CBS 3 Sec 25 New Siphon Des/ESDC/REI and Sect 25 New Siphon Construction (8015)	Design and Construction for the rehabilitation of Cambridge Branch Sewer Section 25 new siphon in Everett.	Future
Interceptor Renewal 7 Malden & Melrose Study/Design/CA (7216), Construction (7217), and REI (7751)	Rehabilitation of Melrose, Malden Sections 41,42,49,54 and 65. Anticipate bid documents available Spring 2026 for construction contract 7217.	Active
Interceptor Renewal No. 6 Chelsea Sections 12/14/15/62 Design/CA/REI (7514) and Construction (7329)	Rehabilitation of portions of Sections 12/14/15/62 in Chelsea.	Future
Ward Street and Columbus Park Headworks Upgrades Design/ESDC (7429), REI Services (7636), Ward Street Headworks Construction (7430), and Columbus Park Headworks Construction (7587)	Upgrade to include replacement of the screens, grit and screenings collection and conveyance systems, odor control, HVAC, mechanical, plumbing, instrumentation, and electrical systems, as well as the antenna tower at Columbus Park Headworks. Upgrade will include construction of new superstructure to replace the existing superstructures at Ward Street and Columbus Park, and rehabilitation of the effluent channels and shafts at Ward Street and Columbus Park.	Active

Sub-phase	Scope	Status
Hayes Pump Station Rehab Design (7162), Construction (7375), and REI (7668)	Design and construction of improvements to Hayes Pump Station, which was constructed in 1987. Due to its age, all major facility components require replacement or rehabilitation including the following: sluice/slide gates, climber screen and grinder system, pumps, valves, instrumentation, motor control center, and emergency generator. The odor control system will be redesigned with the odor control fan relocated outside of the Reading Pump Station. The architectural, fire protection, and building code requirements identified in the previous Code Evaluation Technical Memorandum will be constructed or waivers pursued where applicable. Hazardous materials identified from previous testing will be abated during construction. The project will also improve site drainage. Corresponding REI services to be procured under separate contract.	Active
Somerville-Marginal CSO Facility Rehabilitation Design/CA (7689), Construction (7688) and REI (7829)	Design & construction of upgrades 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. Malfunction of mechanical equipment may impact sewer service. Replacement of aging equipment will reduce emergency and corrective maintenance requirements. Somerville Marginal CSO followed by Hingham Pump Station have been selected as the first two facilities for rehabilitation. Scopes of services are under development with Design/ESDC services and are expected to commence in FY26.	Future

Sub-phase	Scope	Status
DeLauri Pump Station Rehabilitation Design/CA (7824), Construction (7826) and REI (7825)	Design & construction of upgrades to DeLauri Pump Station. 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. Malfunction of mechanical equipment may impact sewer service. Replacement of aging equipment will reduce emergency and corrective maintenance requirements.	Future
Hingham Pump Station Rehabilitation Design/CA (7827), Construction (7797), and REI (7796)	Design & construction of upgrades to Hingham Pump Station. 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. Malfunction of mechanical equipment may impact sewer service. Replacement of aging equipment will reduce emergency and corrective maintenance requirements. Somerville Marginal CSO followed by Hingham Pump Station have been selected as the first two facilities for rehabilitation. Scopes of services are under development with Design/ESDC services and are expected to commence in FY26.	Future
Houghs Neck Pump Station Rehabilitation Design/CA (7798), Construction (7828), and REI (7799)	Design & construction of upgrades to Hough's Neck Pump Station. 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. Malfunction of mechanical equipment may impact sewer service. Replacement of aging equipment will reduce emergency and corrective maintenance requirements.	Future

Sub-phase	Scope	Status
Cottage Farm Rehab and Chemical Building Improvements Design CA/REI (7970) and Construction (7971), and PCB Abatement Design CA/REI (7392), and Construction (7389)	The Cottage Farm CSO Facility was placed into operation in 1971. The Cottage Farm Chemical Building was built adjacent to the Cottage Farm CSO Facility and placed into operation in 1999. The rehabilitation of these facilities will be performed under two main phases as agreed to with EPA in the PCB abatement plan. The first phase will include PCB abatement to remove approximately 80-90% of PCBs within the facility. The second phase will include major equipment upgrades including pumps, engines, sluice gates, gearboxes for coarse screens, electrical distribution systems, and repair/replacement of miscellaneous equipment and structures as identified in the 2012 Cottage Farm CSO Planning Report. Improvement/installation of systems as appropriate for energy efficiencies, security and fire alarm will also be included. Chemical building improvements will also be addressed in phase 2 along with the remaining PCB abatement after completion of Phase 1. The professional services contract 7392, which includes the design, ESDC and REI services for Phase 1 PCB Abatement (80-90%) was awarded at the July 2024 BOD meeting to Weston and Sampson for $3,757,000.41. The anticipated NTP for construction (7389) is June 2026.	Active

Sub-phase	Scope	Status
Fuel Oil Tank Replacements at Various Facilities Construction Phases 1,2	Fuel tank replacement at all facilities (water and wastewater) to avoid tank failures. Phase 1 includes two tanks at Gillis Pump Station (one is out of service), one tank at Lexington Street Pumping Station, and one tank at Hayes Pumping Station. For Phase 2, two vehicle fuel tanks (one diesel, one gasoline) will be replaced at the Lonergan Intake Lower Garage and two vehicle fuel tanks (one diesel, one gasoline) at Southborough Facilities. Vehicle fuel management systems to be replaced at these two facilities. These projects are for fuel tank replacements at all facilities to avoid tank failures based on priorities (1) single wall tanks in vaults (2) double wall steel tanks, approximately 20 years old, and (3) double wall fiberglass tanks over 25 years old.	Completed
Phase 3 - Caruso, Delauri & Framingham Fuel Tank Replacements (7637)	Replace fuel tanks at the Caruso, DeLauri, and Framingham Pump Stations.	Future
Phase 4 - Neponset Pump Station and Cottage Farm CSO Facility Fuel Storage Tank Replacements (7986)	Replace fuel tanks at the Neponset Pump Station, and the Cottage Farm CSO Facility.	Future
Phase 5 - Fuel Tank Replacement at Alewife Brook PS, Newt St PS, Spring St. PS (7987)	Replace fuel tanks at the Alewife Brook Pump Station, and Newton Street and Spring Street Pumping Stations.	Future
Interceptor Renewal No. 3 Dorchester Interceptor Sewer Design CA/RI (7512), and Construction (7279)	Rehabilitation of Dorchester Interceptor Sewer Sections 240, 241, and 242.	Completed
Interceptor Renewal No. 5 New Neponset Valley Sewer Sections 607/608/609/610 Design/CA/REI (7515), and Construction (7328)	Rehabilitation of 15,000 linear feet of New Neponset Valley Sewer in Milton.	Future

Sub-phase	Scope	Status
Interceptor Renewal No. 1 Reading Extension & Metropolitan Sewer Design CA/RI (7163) & Construction (7164)	Reading Extension Sewer (Sections 75, 74, and 73), rehabilitation of 12,400 linear feet of 15, 18, 20-inch Vitrified Clay (V.C.) pipe, primarily in Stoneham, with short reaches in Wakefield and Woburn. Approximately 1,400 linear feet of Reading Extension Sewer Section 74 were CIPP lined in the mid 1990's. Also, included is rehabilitation of 2,280 linear feet of 15-inch V.C. pipe of the Metropolitan Sewer Section 46 in Stoneham. Construction contract 7164 was issued a NTP in August 2017. Project substantial completion achieved on December 10, 2018.	Completed
Alewife Brook Pump Station Rehabilitation Design CA/RI (6937), and Construction (6797)	The Alewife Brook Pump Station was built in 1951. The wet weather pumps are original equipment. The rehabilitation includes replacing the three wet weather pumps, motors, and piping, replacing the influent screens and grinders, updating the HVAC system, upgrading the electrical system, remediating PCB-containing paints, and modifying the building interior to meet current building codes, energy efficiency improvements, flood protection measures, and security improvements.	Completed

Sub-phase	Scope	Status
Remote Headworks Shaft Study (7237)	At each of the four remote Headworks, Chelsea Creek, Ward Street, Columbus Park and Nut Island, the wastewater is discharged into a vertical shaft connected to a tunnel that conveys the sewage to the Deer Island Treatment Plant. A past inspection of the shaft at Chelsea Creek indicated that the walls of the shaft are severely deteriorated. Failure of a shaft could incapacitate the Headworks facility. There is concern this may cause additional problems at Deer Island. To-date, there have been no reported issues but it is suggested that deterioration of the interior surfaces could be detrimental to pumps or other wastewater equipment. The Remote Headworks Shaft Study was completed and evaluated the condition and rehabilitation needs of the four effluent shafts and connecting structures receiving flow from the remote headworks facilities, and the three shafts located at Deer Island. The shafts at the Ward Street and Columbus Park Headworks are included in the ongoing Ward Street and Columbus Park Headworks Upgrade Design and Construction contracts. A smaller project was designed under the current study to remove grating in the three older Headworks and replace the shaft covers. This work was completed at Ward Street and Columbus Park under the Remote Headworks Shaft Access Improvements project.	Completed
Remote Headworks Shaft Access Improvements Construction (7550), and ESDC & REI (7781)	Removal of grating/ associated supports and shaft cover replacement at Ward Street and Columbus Park Headworks. This project allows for improved access to the shafts at the remote headworks for inspections and rehabilitation under the ongoing Ward Street and Columbus Park Headworks Upgrade Design and Construction contracts.	Completed

Sub-phase	Scope	Status
Chelsea Creek Headworks Upgrades Design/ESDC (7206), REI (6802) and Construction (7161)	The Remote Headworks Preliminary Design proposed recommendations to upgrade the Chelsea Creek, Columbus Park, and Ward Street Headworks, to be included in final design and construction documents. The recommendations include replacement/upgrades to the screens; grit and screenings collection and conveyance systems; odor control, HVAC, mechanical, plumbing, instrumentation, and electrical systems; PCB removal; and antenna towers at Chelsea Creek and Columbus Park. Construction at Chelsea Creek Headworks has been completed. Design of upgrades at Ward Street and Columbus Park is ongoing. Construction and REI contracts for Ward Street and Columbus Park Headworks will be procured under separate subphases.	Completed
Prison Point Rehabilitation Design/CA/RI (7359) and Prison Point CSO Repackaged Design CA/RI (8106) and Construction (8020)	The Prison Point CSO Facility was constructed in 1981. This rehabilitation will include upgrades to the facility including replacement of diesel pump engines, dry weather screen, 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 as identified in the 2012 Prison Point CSO Planning Report. Improvement/installation of systems as appropriate for energy efficiencies, security, and fire suppression and alarming systems will also be included. This project will also update the chemical feed/storage facility at Prison Point, including the replacement of chemical tanks and pumps. This project is the follow-up to Design/CA/RI Contract 7359. Design and Construction scope of work will be developed for these repackaged contracts.	Future

Sub-phase	Scope	Status
Study (7423) for the Rehabilitation of Sections 186, 4, 5, and 6	Rehabilitation projects in 1991 and 1997 lined Sections 4, 5, and 6 with silica/shotcrete covered with epoxy. Emergency removal of delaminated plastic liner from Section 186 was performed in June 2011. A Preliminary Engineering Report, completed in April 2018, included a manned inspection which identified rehabilitation needs, feasibility, and scope. Scope development for the design of the recommended rehabilitation improvements is on hold pending decision on construction packaging to minimize community impacts.	Completed
DeLauri Pump Station Screens & Security (7361)	This project replaces the existing catenary bar screens and will install security upgrades. Design was developed in-house with the security improvements reviewed by an outside consultant. The security improvements include motion detectors, door switches, small security items in the main building and emergency generator room. This includes work associated with bringing signals underground into underground conduit to run sensor lines for SCADA. The Construction contract was awarded in January 2018. Substantial completion was achieved in February 2019.	Completed
Wiggins Terminal Pump Station Design and Construction (7552)	The Wiggins Terminal Pump Station services a small seasonal flow from Castle Island and Conley Terminal. The Station is in need of rehabilitation and updating of remote operational control. The facility is located within Conley Terminal and requires MassPort security clearance to access.	Future

Sub-phase	Scope	Status
Section 191 & 192 Rehabilitation (Charles River Valley Sewer) (7643)	Section 192 of Charles River Valley Sewer is approximately 4,500-ft in length and is located in the City of Newton. Section 191 of Charles River Valley Sewer, located immediately downstream of Section 192, is approximately 3,738-ft in length. Inspections performed by MWRA found crown cracks in portions of both Sections 192 and 191. Due to these structural deficiencies of both Section 192 and 191, the affected sections require rehabilitation. A cured in place pipe system was designed by in-house engineering staff to rehabilitation the sewers. The construction contract was awarded in January 2020 with a 6-month contract duration. Construction was completed in June 2020.	Completed
Chelsea Creek Headworks Radio Equipment (7785)	This project will provide furnishing and installation of radio equipment at the Chelsea Creek Headworks and the Chelsea Tower Equipment Building at 2 Griffin Way in order to establish a radio communications link between the Chelsea Creek Headworks and the Chelsea Main Office. The scope of this project will include furnishing &installing a list of proprietary radio equipment, waveguide, required cabling & training.	Completed
Prison Point Construction 2 Discharge Piping Rehab (8013)	This project will structurally update and line the existing discharge header at Prison point CSO facility.	Completed
Columbus Park Headworks Air Handling Equipment (8100)	Award of an emergency contract for the replacement of Make-Up Air Handling Units located at the Columbus Park Headworks Facility.	Completed

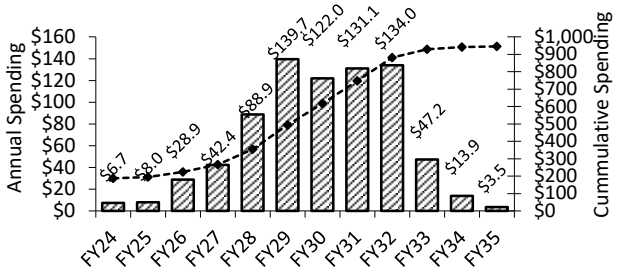
Sub-phase	Scope	Status
Intermediate Pump Station Rehab Design/ESDC (8049), Construction (8051), and REI (8050)	IPS receives wastewater from Braintree, Holbrook, Randolph, a small portion of Weymouth, and a very small area of Quincy (via the Braintree Howard Street Pump Station). The facility is critical to prevent SSOs and maintain level of service to the upstream communities. With many critical facility components (electrical, pumps, etc.) nearing the end of their useful life, rehabilitation is needed.	Future
New Neponset Pump Station Rehab Design/ESDC (8038), Construction (8037), and REI (8039)	The New Neponset Valley Sewer Pump Station was built in 1995. With many facility components near the end of their useful live, near term rehabilitation is required to ensure reliable facility operation. The facility was constructed to supplement the hydraulic capacity of the 60-inch New Neponset Valley Sewer (NNVS). The facility pumps wastewater through a 48-inch force main parallel to the NNVS to a downstream location where the capacity of the gravity sewer is greater. The tributary area includes Canton, Norwood, Stoughton, and Walpole and is served by separate sanitary sewers.	Future
Framingham Pump Station Rehab Design/ESDC (8040), Construction (8042), and REI (8041)	Although not operated frequently, during high flow conditions the facility is critical to prevent SSOs and maintain level of service to the upstream communities. With many critical facility components (electrical, pumps, etc.) nearing the end of their useful life, rehabilitation is needed.	Future
Quincy Pump Station Rehab Design/ESDC (8043), Construction (8045), and REI (8044)	The Quincy Pump Station lifts wastewater from upstream community-owned sewers in Quincy to the High Level Sewer that connects to the Nut Island Headworks. The facility is critical to prevent SSOs and maintain level of service to the upstream communities. With many critical facility components (electrical, pumps, etc.) nearing the end of their useful life, rehabilitation is needed.	Future

Sub-phase	Scope	Status
Squantum Pump Station Design/ESDC (8046), Construction (8048), and REI (8047)	The Squantum Pump Station lifts wastewater from upstream community-owned sewers in Quincy to the High Level Sewer that connects to the Nut Island Headworks. The facility is critical to prevent SSOs and maintain level of service to the upstream communities. With many critical facility components (electrical, pumps, etc.) nearing the end of their useful life, rehabilitation is needed.	Future
High Level Culverts Design/ESDC/REI (8155) and Construction (8087)	This project will rehabilitate two MWRA brick culverts that cross beneath the High Level Sewer near 693 Sea St. in Quincy. The culverts were recently inspected and found to have severe deterioration at their ends at the outlet side at Willows Marsh and minor deterioration at their ends at the inlet side at Rock Island Cove. Repairs at the inlet and outlet sides are required to ensure structural support of the High Level Sewer is maintained.	Future
Ward Street Headworks Air Handling Replacement (8151)	**Replacement of Make-Up Air Handling Units located at the Ward Street Headworks Facility. Air Handler units provide fresh air to the classified work space above the channels. Notice-to-Proceed anticipated for February 2026.**	**Future**
Heat Pump at Squantum Pump Station (8176)	**Replace fossil fuel heating system in the Squantum Pump Station with a heat pump system.**	**Future**
Heat Pumps at Various Wastewater Facilities (Braintree Weymouth, Hough's Neck, Quincy) (8175)	**Replace fossil fuel heating systems in the Braintree-Weymouth, Hough's Neck, and Quincy Pump Stations with heat pump systems.**	**Future**
Cottage Farm/Prison Point Chemical Storage Tank Rehab (8141)	Replacement of sodium hypochlorite tanks with insitu fiberglass tanks. Notice-to-Proceed anticipated for December 2025.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$946,229	$186,662	$759,567	$8,012	$28,912	$175,522	$573,952	$17,445

I&P Asset Protection



Project Status 5/25	20.4%	Status as % is approximation based on project budget and expenditures. Ward Street & Columbus Park Headworks Design/CA was awarded in December 2020. Chelsea Creek Headworks Upgrades Construction was substantially complete in April 2021. Fuel Oil Tank Replacement Phase 1 Construction was substantially complete in December 2021 and Phase 2 in January 2024. Remote Headworks Shaft Access Improvements was substantially complete in August 2023. Prison Point Construction 2 - Discharge Piping Rehabilitation was substantially complete in May 2024. Hayes Pump Station Rehab commenced in January 2025.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$960,202	$946,229	($13,973)	Jul-34	Jul-34	None	$246,123	$175,522	($70,602)

Explanation of Changes

- Project cost changed primarily due to the repackaging and rescheduling with updated cost estimates for the North Collection Sewer System which consists of multiple Cambridge Branch Sewer/North Metropolitan Trunk Sewer Rehabilitation design, construction and REI contracts as well as the Belle Isle Sandcatcher Rehabilitation contracts. Also, inflation adjustments for Columbus Park and Ward Street Headworks Upgrades Construction. Other updated cost estimates include the Caruso, DeLauri and Framingham Fuel Tank Replacements. These decreases were partially offset by awards greater than planned for the Hayes Pump Station Rehab and Cottage Farm PCB Abatement Design/CA, and updated cost estimates for the Cottage Farm/Prison Point Chemical Storage Tanks, and High Level Sewer Culvert Design/ESDC/REI contracts. Also, amendment for Ward Street and Columbus Park Headworks Design contract, and new projects added for Ward Street Head works Air Handling Unit, and Installation of Heat Pumps at Braintree-Weymouth, Quincy, Hough's Neck, and Squantum Pump Stations.

- Updated schedules for Columbus Park and Ward Street Headworks Design/CA, Construction and REI, Caruso, North Collection repackaged Sewer System contracts, Prison Point Rehab Repackaged, DeLauri & Framingham Fuel Tank Replacements, Interceptor Renewal 7, Somerville-Marginal CSO Facility Rehab Des/CA, Hayes Pump St Rehab REI, Phase 4 Fuel Tank Replacement New Neponset, Cottage Farm, Hingham Pump Station Rehab, Cottage Farm Rehab & PCB Abate - Des/CA/REI, Interceptor Ren 7- Malden & Melrose, and High Level Sewer Culverts.
- Project spending changed primarily due to updated cost estimates and schedules listed above.

CEB Impacts

- None identified at this time.

S. 146 Inspection of Deer Island Cross Harbor Tunnels

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Results in a net reduction in operating costs*

☑ *Improves system operability and reliability*

Master Plan Project ☑ 2008 Priority Rating 2 (see Appendix 3)

To inspect, design, and repair MWRA deep rock tunnels to ensure proper wastewater system operation.

Project History and Background

The MWRA sewer system includes three deep rock tunnels that carry wastewater from the headworks to the DITP. The MWRA currently does not have the technology and capability of inspecting deep rock tunnels.

Scope

Sub-phase	Scope	status
Tunnel Inspection and Condition Assessment (7199)	The MWRA sewer system includes three deep rock tunnels that carry wastewater from the headworks to the DITP. The MWRA currently does not have the technology and capability of inspecting deep rock tunnels. This subphase includes inspection and condition assessment.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$5,000	$0	$5,000	$0	$0	$0	$0	$5,000

Project Status 5/25	0.0%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY24**	**FY25**	**Chge.**	**FY25**	**FY26**	**Chge.**
$5,000	$5,000	$0	Jun-40	Jun-40	None	$0	$0	$0

Explanation of Changes

- N/A.

CEB Impacts

- None identified at this time.

S. 147 Randolph Trunk Sewer Relief

Project Purpose and Benefits

☑ *Contributes to improved public health*

☑ *Provides environmental benefits*

☑ *Extends current asset life*

☑ *Results in a net reduction in operating costs*

☑ *Improves system operability and reliability*

Master Plan Project ☑ 2009 Priority Rating 3 (see Appendix 3)

To identify system improvements to reduce sanitary sewer overflows that occur at MWRA's Sewer section 628 and Pearl Street siphon.

Project History and Background

The Randolph Trunk Sewer was constructed in 1958 and consists of three sections: 627, 628 and 628A. Section 628 is a 42-inch diameter reinforced concrete sewer located in Braintree. During extreme wet weather events, Section 628 experiences overflows, particularly at a 50-foot long double-barrel siphon located at Pearl Street next to residential property. A study will be performed to determine the best method of reducing excessive wet weather flows or to provide hydraulic relief to this section of the Randolph Trunk Sewer.

Scope

Sub-phase	Scope	Status
Study (7220)	Study to identify system improvements at Sewer Section 628 and Pearl Street Siphon.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$698	$0	$698	$0	$0	$0	$698	$0

Project Status 5/25	0.0%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$698	$698	$0	Jun-30	Jun-30	None	$0	$0	$0

Explanation of Changes

- N/A.

CEB Impacts

- None identified at this time.

S. 206 Deer Island Treatment Plant Asset Protection

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Fulfills a regulatory requirement*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*
☑ *Improves energy efficiency*

To protect the investment of MWRA ratepayers in the Deer Island Treatment Plant by ensuring timely replacement of DI's systems, which contain more than 60,000 pieces of equipment with an approximate value of $1 billion. Based on the Master Plan developed in 2006, most recently updated in 2013, MWRA expects to sequentially replace equipment and structures in the facility as they reach the end of their useful life. Staff are in the process of updating the Master Plan, which may result in additional changes being incorporated in FY26 for future projects beyond FY35.

Construction of the Deer Island Treatment Plant was one of the largest wastewater projects ever undertaken in the United States. DITP construction was a 12-year, $3.8 billion effort (not including the cost of off-island residuals facilities) started in 1988. MWRA commenced primary treatment in 1995 and secondary treatment in 1997. With the Effluent Outfall Tunnel completion in September 2000, the plant discharges treated effluent 9.5 miles offshore into the Massachusetts Bay through 55 diffusers spaced along the last 1.25 miles of the tunnel.

Project History and Background

At an expansive and complex facility like the Deer Island Treatment Plant (DITP), unanticipated equipment and system failures can cause operational and/or maintenance crises. It is prudent industry practice to take a proactive approach by establishing programs to anticipate when equipment and systems are near the end of their reliable service lives, and then overhaul, upgrade, or replace the equipment, systems, and structures as needed.

DITP staff implemented a "reliability-centered maintenance" (RCM) program to monitor, evaluate, and maintain all of the equipment and major systems within the facility. RCM includes using non-invasive methods of assessing the operational condition of equipment through programs such as vibration monitoring, lubricant and oil testing, thermography, and ultrasonics (audible sound). These programs involve developing a "base line" for equipment when it is relatively new or rehabbed, then comparing future test results to determine if there is a change in the base line which warrants invasive action or other maintenance procedures to mitigate the problems. In addition to RCM, staff follows original equipment manufacturer (OEM) maintenance protocols when appropriate. To assist staff in keeping all of the historic data; storing OEM maintenance instructions; monitoring costs associated with maintaining the equipment; providing work orders as needed, etc. - the maintenance software program MAXIMO was implemented at DITP and other Authority locations.

To augment the DITP maintenance program, contracts are issued to obtain the services of factory-authorized technicians with the expertise to maintain specialized equipment and systems, such as electricity-generating turbines (hydro, wind, steam and combustion-driven), the oxygen generation facility, Thermal Power Plant equipment, etc. Recommendations to add capital projects to the budget also come from staff managing these maintenance programs and service contracts.

The DITP Asset Protection project encompasses the following major functional categories:

1. Equipment Replacement (chains, pumps, motors, control systems, discrete process equipment, etc.).
2. Architectural projects (expansion joint replacements, concrete corrosion, etc.).
3. Utilities projects (water, sewer, drainage, piping, electrical wiring, heating systems, etc.).
4. Support projects (Technical Information Center projects, security projects, etc.).

5. Specialty projects (chemical pipelines and storage tanks, fuels storage tanks, etc.).

Scope

Sub-phase *Equipment Replacement:*	**Scope**	**Status**
Equipment Condition Monitoring (6594)	Installed temperature & vibration-monitoring equipment in NMPS and Winthrop Terminal Facility. Complete January 2005.	Completed
CEMS Equipment Replacement (6882)	Replaced data collection computers, upgraded software, and added PLCs to the Continuous Emissions Monitoring Systems on the two high-pressure Zurn boilers. Complete March 2006.	Completed
Pump Packing Replacement (6422)	Replace pump packing seals with mechanical seals in the North Main, South System, and Winthrop Terminal pump stations. Purchases completed in FY08, installations completed in FY09.	Completed
Cathodic Protection Construction (7056) (Designed under Digester & Storage Tank Rehab project, 7052)	Construction project to replace DI's cathodic protection systems as required. Design will be performed under separate construction contract.	Future
Digester Chiller Replacement (7005)	Replaced the refrigeration-based digester gas chiller with a chilled water system that performs better at low operational loads. Completed in May 2006.	Completed
Dystor Tank Membrane Replacement (7006)	Emergency replacement of a torn gas membrane on one digester storage tank, and preventive replacement on the second. Completed both by October 2005.	Completed
Dystor Membrane Replacements (7135)	Periodic replacement of the two gas & sludge storage tank membranes in the digester complex. Replaced both in 2005; expect 15 year life cycle. The membranes are scheduled to be replaced in FY26	Future
Digested Sludge Pump Replacement Design, and Construction (Phase 1) (7123)	The three positive displacement Abel pumps caused pipe vibration and required extensive maintenance. In Phase 1, one centrifugal pump and a flushing pump were installed in 2011, and tested to ensure they worked well before the three remaining pumps were replaced. (See Phase 2, below).	Completed
Digested Sludge Pump Replacement (Phase 2) (6821)	Sub-phase added in FY14, to complete replacement of the Abel pumps. Centrifugal pumps with higher flow rates were installed to minimize grit settlement in the pipes. Completed July 2017.	Completed
Centrifuge Back-drive Replacements (7057)	Replaced the centrifuge back-drives, which had become obsolete. Completed March 2015.	Completed
Grit & East/West Odor Ctrl Air Handler Unit (AHU) Replacements (6881)	Replaced deteriorated air handlers in FY09-16, then every 15 years. Grit AHU replacement completed in June 2010. The E/W Odor Control AHU Replacements are now in the HVAC Equipment Replacement project, below.	Completed
Fire Alarm System Replacement – Design (6904) contract, Construction (7051), and Design, ESDC & REI (7426)	To replace obsolete fire alarm monitoring & control systems. System will need to be replaced approximately every 20+ years. Design to be completed under existing task order contract.	Completed/Future

Sub-phase *Equipment Replacement:*	**Scope**	**Status**
Bidirectional Radio Repeater System Upgrade 1 (7122) and 2 (7134)	Install a bidirectional radio amplification system in throughout Deer Island to maintain emergency radio communications for Boston/Winthrop Fire Departments to meet current safety code. Equipment for Phase 1 was completed in 2020. Phase 2 Construction completed in 2023.	Completed
HVAC Equipment Replacement – Design/ESDC (7110, 7111), HVAC Control System Replacement (7745), HVAC Fume Hoods Replacement (7746), HVAC Mechanical Equipment Replacement Construction (7605, 7747) and REI (7094)	Replace the system-wide HVAC control system due to obsolescence. Redesign is required to include three separate construction contracts to ensure competitive bidding.	Active
Centrifuge Replacements – Design (7137), and Construction (7138)	Replace the sludge centrifuges are at the end of their useful life or after a catastrophic failure. Centrifuges thicken secondary waste sludge before it goes to the digesters. Units have a 25 to 30-year life.	Future
Cryogenics Plant Equipment Replacement – Design (7139), and Construction (7140)	Design and construction to the existing compressors, cold boxes, lox tanks and appurtances due to end of useful life and obsolescence. Replacement of 3 chillers was necessary in FY16; see below. Remaining plant overhaul construction work to commence in FY28-31 with future rehab and upgrade work occurring every 20 years. An annual maintenance contract keeps this facility in good operating condition, since it is critical to secondary treatment.	Active
Cryogenics Chillers Replacement (7398)	Replaced failing air chillers that required frequent maintenance in the oxygen generation plant. Completed in September 2016.	Completed
Digester Modules 1 & 2 Pipe Replacement Design and Construction (7055)	During digester cleaning in 2007, deterioration of the glass lining was noted. This project was completed by August 2014. Scope included plug valve replacements. A project for additional digester storage tank rehab work was added in FY13; see the DITP Digester & Storage Tank Rehab project under "Specialties".	Completed
Butterfly Valve Replacements at North Main Pump Station (NMPS) & Winthrop Terminal Facility (WTF) (7275)	There are twenty 60-inch butterfly valves in NMPS and eight 36-inch plug valves in WTF, for isolating the pumps when maintenance is required. One valve in NMPS was replaced; several others began to leak (gaskets and seals were failing). Scope revisions in FY10 added replacement of the magnetic flow meters, replacement of PSL piping and Eight (8) hydraulic actuators for the SSPS pump check valves. Work began in June 2014 and was completed in September 2017.	Completed

Sub-phase *Architectural:*	**Scope**	**Status**
Expansion Joint Repairs Design (6668), Construction 1 (6669), Construction 2 (6704)	Replace failed expansion joints in the concrete clarifier decks and/or various retaining walls. Phase 1 complete November 2003; phase 2 February 2014, Phase 3 has been included in Contract 7395.	Active
Eastern Seawall Design/ESDC/REI (6723), and Construction (6724)	Design and construction of repairs to the base of the seawall from tidal damage, exposing rebar. Seawall condition is monitored on a biannual basis. Design phase is on-going.	Active
Roof Replacement Phase 1 (S464)	Added in FY10, based on decision to capitalize these costs. Replaced the rubber membrane roof at Winthrop Terminal, the Admin./Warehouse building, the Cryogenics Facility, and the lower roofs on the Digester Modules. Completed March 2010.	Completed
DITP Roof Replacements Phase 2 (6196)	Added in FY10 to replace roof membranes at the North & South Main Pump Stations; East & West Odor Control; the Grit Facility; and the Centrifuge Thickener building. Completed July 2011.	Completed
Personnel Dock Rehabilitation (7168)	Rehabilitate the floating docks at Deer Island. To improve the safety, appearance, and reliability of the floating docks. Awarded in FY17, completed in mid-FY18.	Completed
Barge Berth and Facility Replacement Design/ESDC (6725), and Construction (6726)	Major rehabs of the barge berth & pier facilities due to damage and/or normal wear. Added per the Master Plan. Barge berth/facility work expected every on a 25-year repeat cycle.	Future
Rip-rap Material (6727)	Purchased 6,400 tons of rip-rap to reduce and prevent ocean wave soil erosion along the northeast and eastern shoreline at Deer Island. Placement completed by staff in June 2017.	Completed
DITP Roof Replacement Phase 3 (7424)	New roofing was needed at the Grit Facility, North Main Pump Station, Main Switchgear Building, and the gravity thickeners to protect the equipment in the buildings. Completed in July 2014.	Completed
DITP Roofing Replacement (7734)	Replacement of the following rubber roofs that are in need of replacement: Cryogenics, Residuals (Mod #1 and #2 Vestibule Roof), Gravity Thickener Buildings), Garage Building, Reception Training (slate tiles), and Admin Lab Building. Work completed.	Completed

Sub-phase *Utilities:*	**Scope**	**Status**
Outfall Modifications (6811)	Inspection of the old outfall tunnels (decommissioned after startup of the new outfall tunnel). Inspection completed in July 2002.	Completed
Electrical Equipment Upgrades Design (7130, 7750), and Construction (including future cycles from the Master Plan) (6767, 6855, 6901, 7124, 7414	Replace substation equipment. Phase 1-Bus duct 2 & 22 replacement completed October 2001: Phase 2 completed by March 2007; Phase 3 completed in August 2011. Phase 4 completed in June 2016; Phase-5 design to commence in FY29; Phase 6 to commence in FY31. Equipment needs to be replaced every 20 years.	Future

Sub-phase *Utilities:*	**Scope**	**Status**
VFD Replacements (6875, 6902, 6903, 7062, 7125, 7126, 7127, 7128, 7129, 7131	Replace obsolete variable frequency drives (VFDs) in the North Main Pump Station (in FY12-16); South System Pump Station in FY07-08, with the next cycle to start in FY23 (South System Pump Station Lube System Replacement was added to the scope in the FY19; Winthrop Terminal Facility (FY16-21); and miscellaneous smaller VFDs throughout the plant (on-going). Future replacements 15 years.	Active
Power System Improvement Design and Constrruction (7061, 7061A, 7061B, 7061C, 7061D)	For modifications to DITP's electrical system as recommended in the consultant report after an FY04 power outage. Design completed in FY09-11. Completing the construction in a series of projects in FY09-14; added 7061C, dump condenser replacement and 7061D for NMPS fuel tank removal in FY11. Two awarded in FY09, two in FY11. The last, 7061A, Thermal Power Plant Fuel System Upgrade was substantially completed by May 2017.	Completed
TPP Boiler Control Replacement (7401)	Replaced boiler controls in the Thermal Power Plant that were obsolete. Completed by November 2016.	Completed
Switchgear Replacements Design/ESDC/REI and Construction including future cycles added per the Master Plan (7133)	On-going program to replace obsolete electrical switchgear. Future cycles beyond that time are not currently funded.	Future
Transformer Replacements (6813)	Approximately 42 electrical substations and 87 transformers have been in service since DITP start-up. Sub-phase eliminated in FY14; replacements are now done in Electrical Equipment Upgrades.	Completed
PICS Replacement including future cycles from the Master Plan (6884)	Replace or upgrade the Process Information Control System (PICS) including keypads, consoles, and software when obsolete. Completed in FY16; may need to be repeated every 10-15 years.	Completed
PICS Fiber Loop Replacement (7172)	Replace the PICS system "backbone", the fiber optic loop.	Future
Chemical Tank & Pipe REI and Construction (to include Gravity Thickener Overflow Pipe Replacement) (7373)	Strip and reline three of the four Sodium Hypochlorite Tanks and the two Sodium Bisulfite Tanks, which are in fair condition on the outside (shows staining, rusting, and corrosion). If one bisulfite tank fails, there is no longer any back-up. (Tanks have been in service for 26 years; Hypo tanks 1 & 3 were relined in 2007, tanks 2 & 4 in 2008). Added the replacement of the Gravity Thickener overflow pipe in this project. Work complete in FY22.	Completed
Chemical Pipe Replacement Design (6851) and Construction (6852)	Planned periodic replacement of the various chemical pipelines in the odor control and disinfection facilities due to deterioration from corrosion.	Future
Heat Loop Pipe Replacement Construction (6876)	Rerouted heat loop piping into galleries to reduce underground corrosion and improve accessibility. Phase 1 complete Dec. 2005, Phase 2 complete February 2008. Phase 3 complete June 2011. Includes periodic valve replacements. Another project phase needs to be added to provide redundancy to the heat loop.	Completed
Fuel Pipe Abandonment (7415)	Cleaned and cemented the existing fuel pipeline in place instead of removing it. Completed December 2012.	Completed

Sub-phase *Utilities:*	**Scope**	**Status**
North Main Pump Station Motor Control Center (MCC) Construction (6972)	Replaced MCC equipment that had become obsolete and unreliable. Designed by As-Needed Design task order, construction completed in two phases in FY12-13. See Phase 2 below.	Completed
Motor Control Center (MCC) and Switchgear Replacement Design ESDC/REI (7419) and Construction (7420)	Sub-phase pulled from the project above, second phase being done FY20-22. In FY17, the design scope was revised to include replacement of switchgear in the Admin/Lab building. Construction is scheduled for FY26.	Active
Combustion Turbine Generator (CTG) Rebuilds (7136)	Rebuilds of the combustion turbines in the Thermal Power Plant. Scheduled for FY27with repeat cycles every 15 years. With the addition of the "Combined Heat & Power" facility, this work may eventually be eliminated.	Future
STG System Modifications Design (6967), and Construction (6973)	Added equipment to the steam turbine generator to increase electricity output by using the current steam production more efficiently. Helps the MWRA meet energy goals set out by executive order. Completed in February 2011. Added Pressure Reducing Valve to maximize electrical generation by July 2014.	Completed
Hydroturbine Replacements Design (7570) and Construction (7571)	There are two 1.1 megawatt hydroturbine generators (HTGs) at Deer Island. Electricity is generated using the force of plant effluent as it drops from the disinfection basins into the intake channel beneath each HTG. This facility came on line in July 2001. The HTGs have reached the end of their useful life, and repairs are costly. A condition assessment and LCCA will be performed to determine future repair/replacement options.	Active

Sub-phase **Support:**	**Scope**	**Status**
DISC Application (6241)	Hardware, software, and contract services to implement a plant-wide computerized database of all plant utility systems. Existing programs deemed sufficient, project removed in FY14.	Completed
Document Format Conversion (6791)	Convert DITP construction documents into electronic format and develop a document-reference database. Work is in process, and has several phases. Completed by the end of FY19.	Completed
As-Needed Design Phases 5, 6, 7, 8, 9, and 10 (7090, 7091, 7399, 7400, 7434, 7501, 7502, 7503, 7644, 7645, 7646, 8018, 7981, 7982)	On-going technical design services and/or construction support to supplement existing engineering resources for specialized or complex engineering issues. Initially, two contracts were issued and ran for two years each. For Phase 6, contract length was extended to three years each. Phases 6-1 and 6-2 ended by October 2012, phase 7-1, 7-2, and 7-3 (at $1.6M each, end April 2016). Phases 8-1, 8-2, and 8-3 were awarded in FY16 at $1.6M each, for FY17-FY19. Phase 9 Phases 9-1, 9-2, 9-3 were awarded in FY20 and completed in FY23. Phase 10 was awarded in FY24.	Active
Deer Island As-Needed Technical Design (7121)	A placeholder used to continue the technical design services as described above. Each series of new contracts will be deducted from this placeholder. Funding now runs from FY26 to FY30.	Future

Sub-phase *Specialties:*	**Scope**	**Status**
Sodium Hypochlorite Tank Liner Removal (7089)	Removed the failed lining in tank #1 of the four sodium hypochlorite storage tanks. Completed in September 2006.	Completed
Hypochlorite Tanks 1 & 3 Reline (6764)	Renamed the "Sodium Hypo Tank Repair 1" sub-phase. Included stripping, repairs and relining tank 3. Completed November 2007.	Completed
Hypochlorite Tanks 2 & 4 Reline (6849)	Strip & reline the two remaining sodium hypochlorite storage tanks. Scope included removing ladders and replacing safety railings on the tanks. Completed in October 2008.	Completed
Sodium Hypochlorite and Bisulfite Tanks Replacement Design/ESDC (7749), and Construction (7142)	Based on condition assessments, tanks will need to be replaced as required	Future
Primary & Secondary Clarifier Rehab – Design ESDC/REI (6965)	ESDC/REI Services during the Primary & Secondary Clarifier Rehab Constr., below (design by As-Needed Design consultant). Included secondary clarifiers due to deterioration in the longitudinal chains and scum collection systems. Completed September 2013.	Completed
Primary & Secondary Clarifier Rehab Construction (6899)	Replace longitudinal & cross collector chains and sprockets, chain drives, wear shoes; modify tip tubes, replace hose bibs; repair wall expansion joints, add more drop boxes, etc. Added secondary clarifier work in FY09, specified a higher-grade stainless steel which increased the cost by $30M. Separated out the gravity thickener scope due to the need for separate, distinct schedules. Project awarded at $59.4M; completed February 2012.	Completed

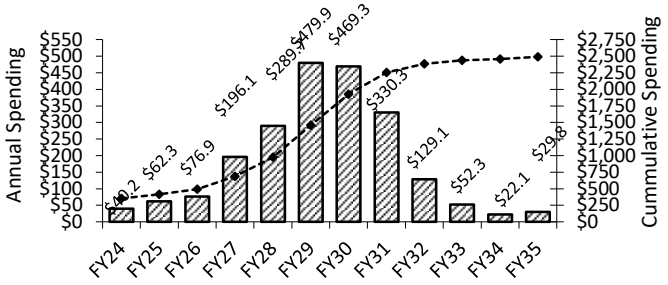
Sub-phase *Specialties:*	**Scope**	**Status**
Gravity Thickener Improvements – Construction (6966)	This subphase was eliminated in FY08, and the scope was included with the Primary Clarifier Rehab work above. Made a stand-alone project again in FY09. The first phase (6966) involved replacing failed fiberglass covers in FY10-12. 6966A, B, and C were added for emergency repairs to center columns in three tanks in FY11. Project completed in June 2012.	Completed
Gravity Thickener Rehabilitation (7428)	Sub-phase pulled from the project above. This phase 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 the operating efficiency.	Completed
Gravity Thickener Center Column Replacement (7427)	Complete replacement of the center columns in all 4 tanks with a higher grade steel, due to the failures experienced in FY11. Contract awarded in FY13, completed by January 2014.	Completed
Odor Control Rehabilitation Design/ESDC (7088), Construction (6538), and REI (6592)	The project involves modifications to the plant-wide odor control systems, including the digester gas systems and wet scrubber improvements. Also includes Phase 2 replacement of gas detection devices in 13 DITP locations: pump stations (NMPS, SSPS, Winthrop Terminal), odor control (East/West, Residuals, Winthrop Terminal) and process areas (Thermal Power Plant, Digesters, gas handling, primary & secondary galleries, disinfection, Grit Facility, and gravity thickeners). These detectors measure levels of oxygen, hydrogen sulfide, sulfur dioxide, chlorine, and other combustible gases. They are integral to ensuring the health & safety of employees and contractors.	Future
Clarifier W3H Flushing System (7374)	Replaced deteriorated water flushing lines in the clarifier batteries, completed July 2013.	Completed
Clarifier Rehabilitation Phase 2 Design/ESDC (7394), REI (7397), and Construction (7395)	Project to correct deficiencies noted during the first Primary & Secondary Clarifier project. Influent gates not sealing off tanks adequately; effluent launders and aeration systems need repair; and concrete corrosion in primary clarifiers above the water line needs repair and coating to prevent future corrosion. The sludge removal system in primary tanks and aeration/recirculation systems in secondary tanks need to be rehabilitated as well. Design/ESDC contract began in FY15, and construction is currently on-going.	Active
Scum Skimmer (Clarifier Tip Tube) Replacement (7396)	Scum tip tubes not working properly results in scum build-up in clarifiers that has to be manually collected and transported to the gravity thickeners. Secondary tip tubes replacement was added to the scope, greatly increasing the cost. Completed Oct-13 to Oct-16. Needs to be replaced in 20-year cycles.	Completed

Sub-phase *Specialties:*	Scope	Status
Digester and Storage Tank Design/ESDC/REI (7052), and Rehabilitation Phase 2 (6240)	The DITP residuals facility includes twelve digesters and two gas handling/sludge storage tanks. During Digester Mods Pipe Replacement (7055), it was noted that additional digester work was needed. Issues with plugged digester recirculation pipes, mixer failures, and overflow box deterioration resulted in increasing the scope needed to correct all deficiencies. Some steel plates in the digesters may also need repair or replacement, and the interior of the digesters needs to be coated.	Active
Combined Heat & Power (CHP) Study (6963), Design (6730), and Construction (6964) including Digester Gas Flare No 4	A system review was done to determine possible options for optimizing the use of methane gas produced from the existing sludge processing system. One option is to construct a CHP facility containing more efficient gas-fired turbines to increase electrical self-generation, and ensure beneficial re-use of all methane gas in the summer while still meeting all plant heat requirements. The CHP facility would be designed to handle the increased methane gas produced by co-digestion, if that project becomes feasible. Depending on the CHP facility design, portions of the 17-year old Thermal Power Plant will be modified or eliminated. A detailed energy alternatives project commenced in FY19, and will be followed by design and construction. Scope also includes installing a fourth gas flare to reduce the potential for air permit violations when an existing flare is out of service and/or the boilers have to be taken off-line.	Active/Future
Co-Digestion Design/ESDC/REI and Construction (6822)	Co-digestion construction is for the addition of piping and a receiving tank for the liquid food waste to be delivered to Deer Island. Food waste would be barged to the plant, pumped into the receiving tank, and from there pumped into the digesters.	Future
Co-Digestion Temporary Facility (7148)	Moved from the Residuals CIP to DITP in FY16. The budget was reduced to actual costs incurred since this project is not likely to be continued.	Completed
Cryogenics Facility Valve Replacement (8150)	Replace various valves on the Cryogenic piping distribution system. Inspect internal of the LOX tank to comply with Stat requirements.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$2,496,603	$351,760	$2,144,843	$62,304	$76,860	$665,142	$1,460,803	$59,065

DI Asset Protection



Project Status 5/25	16.7%	Status as % is approximation based on project budget and expenditures. Several previously completed phases for this project are included in the Completed Project list. Contracts in process include the following: As-Needed Design Phase 9-1, 9-2 and 9-3, Clarifier Phase 2 Design and REI, Fire Alarm System Replacement Design, DITP MCC & Switchgear Replacement Design, ESDC and REI, and SSPS VFD Replacement Design. Contracts scheduled to begin in FY23 are: Clarifier Rehab Phase 2 – Construction and REI, Fire Alarm System Replacement Construction, Odor Control Rehab Design, MCC Switchgear Replacement, Digester and Storage Tank Rehab Design, Dystor Membrane Replacement, Cryogenics Plant Equipment Replacement Design among others.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY25	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$1,613,142	$2,496,603	$883,462	Dec-35	Dec-35	None	$558,449	$665,142	$106,693

Explanation of Changes

- Project cost change primarily due updated cost estimates for Odor Control Rehabilitation which includes increased scope to include Gas Protection System Replacement Phase 2, Combined Heat and Power to include Digester Gas Flare No 4, Digester Storage Tank Rehabilitation Construction, South System Pump Station VFD Replacement Construction, Centrifuge Replacements, Deer Island Switchgear and Control System Replacements, DiStor Membrane Replacements, HVAC Mechanical Equipment Replacement, HVAC Control System Replacement, HVAC Fume Hoods Replacement, Cryogenics Plant Equipment Replacement, Fire Alarm System Replacement, Motor Control Center & Switchgear Replacement Construction, Eastern Seawall Construction – 1, Barge Berth Rehabilitation, addition of Cryogenics Facility Valve Replacement contract, and amendments and change orders for Clarifier Rehabilitation Phase 2 Design/ESDC and Construction. Also, updated cost estimates due to inflation adjustments on unawarded contracts.

- Spending change primarily due to updated schedules for Dystor Membrane Replacements, Centrifuge Replacements, Cryogenics Plant Equipment Replacement, Odor Control Rehab - Design/ESDC, South System Pump Station VFD Replacement, Hydroturbine Replacement Design/ESDC/REI, DITP Roofing Replacement,

HVAC Control System Replacement, Clarifier Rehab Phase 2 – REI, Motor Control Center & Switchgear Replacement Construction, Fire Alarm Replacement, Barge Berth Rehabilitation, Odor Control Rehabilitation, addition of Cryogenics Facility Valve Replacement contract, updated cost estimates, and amendments and change orders listed above.

CEB Impacts

- The majority of the projects are required to replace obsolete equipment and systems. Some of the projects are expected to result in decreased maintenance and/or operating costs such as the HVAC equipment replacement. However, the potential benefits from most of the projects are not quantified at this time.

- Benefits of several energy-related projects have been estimated resulting in anticipated annual electrical savings. Some examples include: HVAC Equipment Replacement of $140,000 (starting in FY33), Future SSPS VFD Replacements ($120,000 beginning in FY31), and Hydroturbine replacement ($50,000 in FY35). Any potential impacts of co-digestion and the combined heat and power facility have not yet been quantified or included in the planning estimates due to uncertainty regarding the scope and feasibility of the projects.

- Projects that are expected to reduce maintenance time and other resources are the Cryogenic Plant Equipment Replacement and the Hydroturbine Replacement.

S. 210 Clinton Wastewater Treatment Plant

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
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☑ *Improves system operability and reliability*

Project History and Background

The Clinton Wastewater Treatment Plant Rehabilitation was completed in 1992. The plant is generally in good condition. Some equipment rehabilitation and replacement projects were recommended in past CIP cycles. Operability of mechanical equipment and maintenance of electric/standby power systems are key elements to minimizing the risk of component failure. Any malfunction of mechanical equipment may impact wastewater treatment, particularly during large storm events that stress the hydraulic capacity of the facility. Key decision making to minimize risks includes the cost/benefit of when to replace aging equipment and which/how many spare parts to pre-purchase. Other uncertainties include technology upgrades to meet future regulatory requirements.

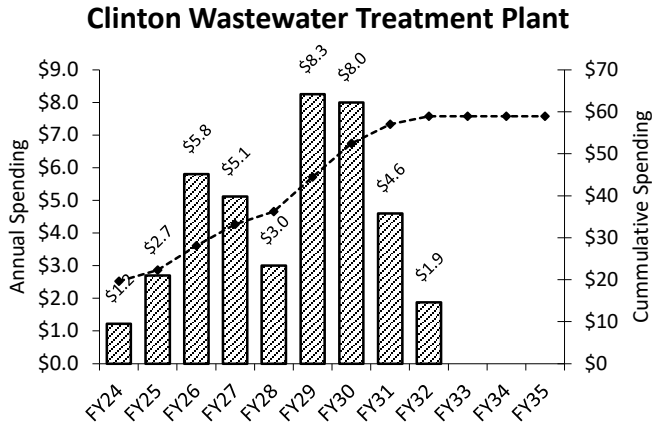
Scope

Sub-phase	Scope	Status
Clinton Soda Ash Replacement (7075)	The soda ash delivery system needed for pH control in the activated sludge process was replaced. Completed August 2008.	Completed
Clinton Permanent Standby Generator (7095)	Install a permanent standby generator at the Clinton Wastewater Treatment Plant. Completed November 2007.	Completed
Clinton Digester Cleaning & Rehabs (added concrete repairs and Influent Gates) (7277)	Clinton's two digesters were 20% filled with compacted grit, limiting their efficiency. The new discharge permit's phosphorus limits require both digesters to be used at all times. Therefore, the digesters needed to be emptied, cleaned, and rehabilitated. In FY12, the scope expanded to include installation of two 36-inch influent gates to control flow, to prevent flooding and protect plant assets. In FY14, plant-wide concrete repairs were added to the scope because rebar was exposed in walls, walkways and structural support beams across the primary clarifiers. All construction was completed in FY16; the warranty period ended in FY17.	Completed
Clinton Aeration Efficiency Improvement (and Auxiliary Pumps) (7278)	A study by FS&T recommended replacing mechanical mixers with fine bubble diffusers in three of the six secondary aeration tanks to improve the oxygen transfer and reduce electric costs. In FY12, the scope was expanded to include installation of four submersible auxiliary pumps to increase pumping capacity during high flow conditions. This avoids renting pumps, which was required four times in two prior years. Work completed February 2013.	Completed

Sub-phase	Scope	Status
Phosphorus Reduction Design/ESDC (7377), and Construction (7411)	The new NPDES permit requires compliance with lower phosphorus limits by April 2019 (18 months after the December 2017 start-up). New process equipment was installed to meet the set limit. Design began in FY14, construction in FY16 (which included adding a natural gas line for building heating, and a new electrical back-up generator) completed December 2017. The warranty extends to March 2019.	Completed
Clinton Roofing Rehabilitation (7450)	Replace the tar and gravel roofing on the Administration Building, Chemical Building, Headworks, Digester building, and the Dewatering and Maintenance Shop with EPDM rubber in FY19.	Completed
Clinton Facilities Rehab Design/ESDC/REI (7371), and Construction (7451)	Rehabilitate or replace the grit removal facilities, two belt filter presses, and design for closure of the landfill. Contract will also include Clinton fire alarm replacement work. This project will also provide three new 24-inch plug valves on the 24-inch clariflocculator influent piping as well as demolition of four 24-inch stop gates in Distribution Box 4 and installation of three new slide gates with extended stems and handwheel operators supported on the roof of the Sludge Pumping and Chemical Building.	Future
NGRID Gas Line (7528)	Agreement with NGrid to construct a natural gas pipeline to convert the plant from oil to natural gas heating. Completed FY17.	Completed
Screw Pumps Replacement Phase 1 (7704), and 2 (7591) and Valves and Pipe Replacement (7372)	There are fifty 4-inch to 8-inch return aerated sludge valves that need replacing, and six 48-inch screw pumps that are 25 years old. Design by As-Needed Consultant. Replace three plant influent screw pumps that are functioning poorly. The three intermediate screw pumps are scheduled to be replaced after Phase 1 is completed; and the valves and pipe replacements were completed in FY22 in a separate project. Phase 1 Screw Pump construction was completed in FY24. Phase 2 is expected to commence in FY25.	Completed/Future
Digester Cover Replacement (7648)	The primary digester cover has reached it's useful life and needs to be replaced. Project broken out from the Clinton Facilities Rehab project. Construction to commence in FY25.	Active
Clinton Storage Facility (7693)	A new facility to be built for parts storage, (valves, pumps, motors, etc.) receiving freight deliveries, and PVC pipe storage.	Future
Clinton SCADA Upgrades (7736)	Replace existing plant control system with a PLC based system. Existing system is obsolete and cannot attain spare parts. System is over 20 years old.	Future
Clinton Landfill Closure (7754)	Closure of Clinton Landfill will need to be capped and will include proper drainage. This is regulated per Dep – 310 CMR 19 (Mass Solid Waste Management Facility Regulations.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$58,923	$19,586	$39,337	$2,700	$5,800	$17,839	$22,723	$0



Project Status 5/25	34.2%	Status as % is approximation based on project budget and expenditures. Phosphorus Reduction Construction completed by March 2018. The Clinton Roofing Rehab work was completed in September 2019. Valve and Pipe Replacement was completed in December 2021. Screw Pumps Replacement Phase 1 was completed in FY24. Digester Cover Replacement commenced in March 2025.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$39,190	$58,923	$19,733	Jun-32	Jun-32	None	$17,387	$17,839	$452

Explanation of Changes

- Project cost change primarily due to updated cost estimate as a result of change in scope for Clinton WWTP Rehabilitation, award greater than budget for Digester Cover Replacement and updated cost estimate for Screw Pump Replacement Phase 2 Construction.

- Project spending changed due to updated cost estimates and award greater than budget as listed above.

CEB Impacts

- The projects are required to replace obsolete equipment and systems. The plant influent screw pump and valve and pipe replacements may result in decreased maintenance and/or operating costs although the potential benefits have not been quantified at this time.

S. 271 Residuals Asset Protection

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Results in a net reduction in operating costs*
☑ *Improves system operability and reliability*
☑ *Improves energy efficiency*

Master Plan Project ☑ 2008 Priority Rating 1 (see Appendix 3)

To protect the investment of MWRA ratepayers by ensuring timely replacement of equipment and systems. MWRA expects to replace equipment and structures in the facility as they reach the end of their useful life.

Project History and Background

The Residuals Asset Protection program was created in FY08 as part of the Master Plan. The program consists of the anticipated contracts for maintaining and improving the operations and infrastructure of the biosolids processing plant in the long term. MWRA's Biosolids Processing Facility (aka the "pellet plant") was built in 1991 and expanded in 2001. By 2019, most of the major pieces of processing equipment will be 30 years old. The facility is currently in good condition, but some reinvestment is planned in the FY18-22 timeframe, as discussed in more detail below. For this facility, operability of mechanical equipment and maintenance of electric/standby power systems are key elements to minimizing the risk of component failure. Key decisions to minimize risk hinge on the results from cost/benefit analyses, to determine when to replace equipment. The residuals pelletizing process is also currently energy-intensive; future uncertainties include long-term energy costs and supply.

Under the terms of the contract for operation of the biosolids processing facility, New England Fertilizer Company (NEFCO) was responsible for all facility operation and maintenance including any necessary capital improvements until December 2015. They were obligated to turn the facility back over to the MWRA in an operable condition. The Asset Protection phase is intended to provide a dual-track planning approach addressing: (1) the existing facility capital improvement needs beyond the year 2015, if the Authority continues with pelletization, and (2) the option of assessing alternative technologies prior to the current contract expiration date; which culminated in a decision point in FY15, and was performed as mentioned below.

A comprehensive Residuals Condition Assessment/Reliability Study begun in May 2009 was completed in July 2010. The study found the facility to generally be in good condition with only a few recommendations for improvement. A study to assess the latest technology and regulatory trends planned as a second phase started in FY13 and finished in FY14. The study was intended to narrow the list of viable options for the Authority to consider for long-term implementation. The study examined the feasibility of co-digestion which involves digestion of food wastes and/or fats, oils, and greases (in the digesters at Deer Island Treatment Plant (DITP) and Clinton Wastewater Treatment Plant) to generate additional methane, and determine if there are any changes in the sludge characteristics that may impact the pellet plant. This study also reviewed the adequacy of existing facility components and processes, to provide replacement recommendations based upon the latest existing or alternative technologies. Information developed by these projects will be used by MWRA to produce a prioritized list of recommended design and construction projects that will be scheduled over a 10-year period (FY19-28). Scheduling of upgrade projects will be based on equipment failure risk, construction sequencing to maintain facility operations, and capital expenditure planning.

The Technology and Regulatory Review study provided several major recommendations to the Authority. First, the study found co-digestion to be feasible and potentially beneficial and therefore recommended that the Authority proceeds with projects needed to further evaluate the benefits of that process. As a result, several projects were added to the DITP CIP to achieve that goal. Throughout 2016, efforts were made to determine the best means to transport food waste to DITP. It was determined that barging food waste was the primary acceptable option, but the collection, transport, and delivery via barge was not economically feasible at this time, so co-digestion is currently on hold until the market becomes more developed and associated costs can be more accurately predicted.

Secondly, it was determined that the Authority should continue with pelletization and pursue a five-year extension to the NEFCO contract. Third, it was recommended that larger sludge dryers be installed for increased pelletization capacity at a lower energy cost per ton of sludge processed (further cost-benefit analysis is needed before proceeding). Funding for this element of the project (and other capital expenditures) were also to be points of negotiation with NEFCO.

After considering these recommendations, Authority staff decided to continue with pelletization and negotiated a five-year extension to the pellet plant operations contract with NEFCO. On March 11, 2015 the Board of Directors approved Amendment 1 to contract S345 with NEFCO, which extends the end date to December 31, 2020 and included a $7 million capital budget funding commitment by the Authority for potential capital projects identified as being necessary over the five- year extension. The projects deemed necessary are being separately bid by the MWRA, and awarded subject to Board approval. This extension will be followed by another long-term competitive procurement. The additional time in this extension allows for a potential increase in competition over the five-year extension; the Authority to better define the operating parameters which may potentially increase competition for the next long-term competitive bid.

For the residuals biosolids processing facility, proposed spending of $180.3 million on eighteen projects was identified in the 40-year master plan timeframe of FY07 through FY48. The projects identified were merely placeholders in recognition that some capital improvements will likely be required at DITP and/or the pellet plant. Fifteen projects (equaling $148.6M) out of the eighteen were included in the FY08 CIP. The other three (addressing the rehabilitation of the polymer system, building envelope, and thermal oxidizers) have a priority rating of 3, and therefore have not yet been included in the CIP.

In the FY14 Proposed CIP cycle, the conceptual plan for future design and construction projects was modified; the overall project cost estimate was reduced to $103.83 million and fewer sub-phases included funding to cover the potential construction projects, since the plan for the future would not be fully developed until after the technology study mentioned above was completed and the findings evaluated, which has been done.

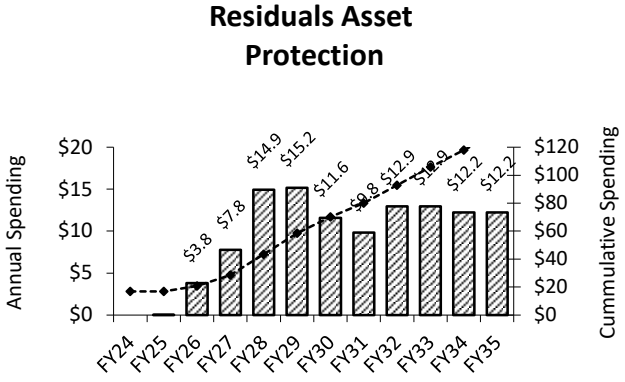
Scope

Sub-phase	Scope	Status
Condition Assessment/Reliability Study (7147)	Evaluate the condition of the entire facility at the mid-point of the current contract and then assess other residuals processing options and regulatory changes which may provide cost-saving opportunities. First phase work (present condition assessment) began in May 2009 and finished in July 2010. Work on implementing any short-term recommendations from this phase began in FY11. The 2nd phase, Technology & Regulatory review began in FY13 and finished in January 2014; recommendations were as discussed above.	Completed

Sub-phase	Scope	Status
Various Equipment Replacement Phase 1 (7143)	Design and construction of improvements to various process operating equipment (drum dyers, conveyor systems, electrical and control equipment) which requires replacement due to obsolescence and end of useful life. This CIP project will address issues and/or recommendations identified during internal facility asset inspection. This is Phase 1 of a two Phase project.	Future
Residuals Plant Upgrades – Phase 1 Design & Construction (7153) (includes initial phases to repaint sludge storage tanks and silos; mechanical and electrical improvements as part of the $7M commitment to NEFCo). Dryer Drum Replacements was added to the scope.	The $7M included in the NEFCo agreement is under Construction Phase 1, as part of the 5-year NEFCo extension. Funding of $10.5M is allocated in the Final FY21 CIP for (repainting the sludge storage tanks and pellet storage silos; mechanical improvements and electrical improvements) as agreed to by MWRA and NEFCo. Dryer Drum Replacements was added to the scope and $3.4M were used from the Residuals Phase 2 Construction Phase.	Completed
Residuals Phase 2 Design (7149), and Construction (7150)	For selection of a consultant to design a series of equipment replacements funded at $15M for design/ESDC and $71.6M for various unspecified construction phases. Following approval of the five year extension with NEFCo, phase 2 design work was moved out to begin in FY27; first construction project in FY29. Late in FY18, NEFCo staff informed DITP management that 2 of the 8 dryer drums were no longer functional, and a third drum was nearing the point of failure. NEFCo needs 6 dryer drums to process delivered sludge over a 5-day work week. Failure of a third drum would require adding weekend operations, increasing processing costs.	Future
Residuals Pellet Conveyance Piping Relocation (7173)	Build a separate support system to relocate the pipes (that convey pellets to the "high silo system") that are currently attached to the wall of a building that the MWRA does not own. This project commenced in FY20 and was completed in FY21.	Completed
Various Equipment Replacement Phase 2 Design, ESDC and REI (7175) and Construction (7176)	Design of improvements to various process operating equipment (drum dyers, conveyor systems, electrical and control equipment) which requires replacement due to obsolescence and end of useful life. This CIP project will address issues and/or recommendations identified during internal facility asset inspection. This is Phase 2 of a two Phase project. This was included in the FY26 CIP.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$130,315	$16,886	$113,429	$32	$3,800	$26,524	$62,429	$24,476



Project Status 5/25	13.2%	Status as % is approximation based on project budget and expenditures. The Residuals Plant Condition Assessment/Reliability Study was completed in July 2010. The Technology & Regulatory Review contract was completed in January 2014. Residuals Sludge Tank and Silo Coating was completed in September 2018. The Mechanical Improvements/Electrical/Drum Dryer Replacement contract began in June 2019. Pellet Pipe Relocation contract commenced in August 2019. Both were substantially completed by December 2020.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$107,515	$130,315	$22,800	Apr-35	Apr-35	None	$20,892	$26,524	$5,632

Explanation of Changes

- Project cost change due to project repackaging with updated cost estimates for Various Equipment Replacement Phase 1, Equipment Replacement Phase 2 Design/ESDC & REI and Construction contracts, and defunding of Residuals Facility Upgrades Phase 1 Design.

- Project spending changed due to all of the above.

CEB Impacts

- The majority of the projects are required to replace obsolete equipment and systems. Some of the projects may result in decreased maintenance and/or operating costs, however the potential benefits are not quantified at this time.

Introduction to Combined Sewer Overflow (CSO) Program

- 1987: MWRA (Massachusetts Water Resources Authority) accepted responsibility for developing and implementing a long-term CSO (Combined Sewer Overflow) control plan for systems connected to MWRA's, including those of Boston, Cambridge, Chelsea, and Somerville, following a stipulation in the Federal District Court Order (Boston Harbor Case).

- 1986-1990: MWRA conducted its first major planning effort, producing the 1990 CSO Facilities Plan, aligning primarily with the EPA CSO Strategy of 1989.

- 1992-1997: MWRA conducted a second planning effort, revising the long-term control plan for CSO, leading to a plan recommended by MWRA in July 1997.

- 1994: The EPA's National CSO Policy required CSO permitees, including MWRA, to develop and implement system optimization measures. MWRA submitted its NMC (Nine Minimum Controls) compliance documentation by January 1, 1997.

- 1988-1992: MWRA's improvements led to a reduction in annual CSO discharge from 3.3 billion gallons to 1.5 billion gallons, with significant reductions in the Charles River.

- 1993-1994: MWRA presented a System Optimization Plan (SOP), which was fully implemented by 1997, reducing CSO discharge by about 20%.

- 1997: MWRA presented a refined long-term control plan, which received federal and state approvals in early 1998, allowing for design and construction of projects. The elements of the final long-term CSO control plan and its numerical CSO discharge goals for each receiving water segment are presented in Table 1 on the following page.

- 1998-2006: MWRA made several adjustments to the long-term control plan based on regulatory inquiries and new information, leading to a final, comprehensive plan approved by EPA and DEP in March 2006.

- April 27, 2006: Federal District Judge Richard G. Stearns approved a joint motion resolving outstanding issues related to MWRA's CSO program. MWRA agreed to implement additional work for CSO reduction in the Charles River and other areas, adjusting previous project milestones in Schedule Seven. MWRA entered into memoranda of understanding (MOU) and financial assistance agreements (FAA) with BWSC, City of Cambridge and Town of Brookline, by which each community implemented one or more of the 35 CSO projects and MWRA funded eligible engineering, construction and force account costs. The BWSC MOU/FAA (9 projects) ended on June 30, 2017.

- 2006: MWRA entered the Second CSO Stipulation, replacing the 1987 stipulation. It required MWRA to implement its revised long-term control plan, with responsibilities transferring to CSO communities once MWRA met specified goals.

- 1996-2015: MWRA and CSO communities completed all 35 projects in the long-term control plan by December 2015, significantly reducing annual CSO discharge from 3.3 billion gallons in 1988 to 0.4 billion gallons. A table showing the Long-term CSO control plan projects and schedules are presented in Table 2. By December 2015, MWRA and the CSO communities had completed all 35 projects in the plan. The completed CSO projects, together with earlier improvements to MWRA's wastewater conveyance and treatment systems, including the upgraded Deer Island Treatment Plant and associated pump stations, are predicted and intended to reduce the total annual volume of CSO discharge in MWRA's federal and state regulatory-approved Typical Rainfall Year from 3.3 billion gallons in 1988 to 0.4 billion gallons, an 88% reduction, with 96% of the remaining overflow receiving treatment at MWRA's four long-term CSO facilities.

MWRA and BWSC entered into a new four-year financial assistance agreement for Dorchester Interceptor Inflow Removal (formerly part of the South Dorchester Bay sewer separation project) effective beginning July 1, 2017.

Under this agreement, BWSC completed an inflow removal construction contract by June 30, 2021 when the Dorchester Agreement came to an end. In June 2021, MWRA and BWSC entered a new financial assistance agreement transferring $2.2 million of remaining funds in the Dorchester Agreement for construction of "East Boston Sewer Separation Contract 3 and Other CSO Improvements". The Town of Brookline MOU/FAA (1 project) ended on July 31, 2014, and the City of Cambridge MOU/FAA (5 projects) ended on June 30, 2018. East Boston sewer separation work is ongoing and other construction includes the replacement of the tide gate at MWR205. Design work includes Somerville Marginal CSO Facility New Pipe, CHE008 Pipe Replacement. MWRA Board of Directors approved the FAA/MOU in association with the design and construction of improvements to BOS017, BOS062, BOS065 and BOS070. Amendment No. 2 increased the FAA amount from $10m to 11.9m. Construction is anticipated to be complete by December 2024.

2018-2021: MWRA conducted a system-wide performance assessment, required by the Federal Court schedule, to verify the benefits of CSO-related improvements. August 31, 2019: Mass DEP issued final determinations to adopt variances effective until August 31, 2024. MWRA, Cambridge, and Somerville were required to develop updated CSO control plans considering climate change impacts for a new 2050 Typical Year.

2021-2026: MWRA to complete the design and construction of the Somerville New Pipe Connection to allow for by-pass of the existing Somerville Marginal CSO facility and carry higher flows to Prison Point and design and construct modification to existing weir wall in regulator RE-031 in order to reduce the number of activations at CAM005 outfall.

Table 1: Approved CSO Control Plan and Capital Cost by Receiving Water Segment

Receiving Water	CSO Discharge Goals (Typical Year Rainfall)		Projects*	Capital Cost* ($ millions)
	Activations	Volume (million gallons)		
Alewife Brook/Upper Mystic River	7 untreated and 3 treated @ Somerville Marginal	7.3 3.5	• Cambridge/Alewife Sewer Separation • MWR003 Gate and Rindge Siphon Relief • Interceptor Connections/Floatables • Connection/Floatables at Outfall SOM01A • Somerville Baffle Manhole Separation • Cambridge Floatables Control (portion)	110.0
Mystic River/Chelsea Creek Confluence and Chelsea Creek	4 untreated and 39 treated @ Somerville Marginal	1.1 60.6	• Somerville Marginal CSO Facility Upgrade • Hydraulic Relief at BOS017 • BOS019 Storage Conduit • Chelsea Trunk Sewer Replacement • Chelsea Branch Sewer Relief • CHE008 Outfall Repairs • East Boston Branch Sewer Relief (portion)	99.1
Charles River (including Stony Brook and Back Bay Fens)	3 untreated and 2 treated @ Cottage Farm	6.8 6.3	• Cottage Farm CSO Facility Upgrade • Stony Brook Sewer Separation • Hydraulic Relief at CAM005 • Cottage Farm Brookline Connection and Inflow Controls • Brookline Sewer Separation • Bulfinch Triangle Sewer Separation • MWRA Outfall Closings and Floatables Control • Cambridge Floatables Control (portion)	88.9
Inner Harbor	6 untreated and 17 treated @ Prison Point	9.1 243.0	• Prison Point CSO Facility Upgrade • Prison Point Optimization • East Boston Branch Sewer Relief (portion)	49.7
Fort Point Channel	3 untreated and 17 treated @ Union Park	2.5 71.4	• Union Park Treatment Facility • BOS072-073 Sewer Separation and System Optimization • BWSC Floatables Control • Lower Dorchester Brook Sewer Modifications	73.9
Constitution Beach	Eliminate		• Constitution Beach Sewer Separation	3.7
North Dorchester Bay	Eliminate		• N. Dorchester Bay Storage Tunnel and	253.7

			Related Facilities • Pleasure Bay Storm Drain Improvements • Morrissey Blvd Storm Drain	
Reserved Channel	3 untreated	1.5	• Reserved Channel Sewer Separation	70.5
South Dorchester Bay	Eliminate		• Fox Point CSO Facility Upgrade (interim improvement) • Commercial Pt. CSO Facility Upgrade (interim improvement) • South Dorchester Bay Sewer Separation	124.4
Neponset River	Eliminate		• Neponset River Sewer Separation	2.4
Regional			• Planning, Technical Support and Land Acquisition	65.1
TOTAL **Treated**		**410** **381**		**941.4**

*Floatables controls are recommended at remaining outfalls and are included in the listed projects and capital budgets.

Table 2: CSO Control Plan Project Schedules

Project		Commence Design	Commence Construction	Complete Construction
North Dorchester Bay Storage Tunnel and Related Facilities		Aug 97	Aug 07	May 11
Pleasure Bay Storm Drain Improvements		Sep 04	Sep 05	Mar 06
Hydraulic Relief Projects	CAM005 Relief	Aug 97	Jul 99	May 00
	BOS017 Relief		Jul 99	Aug 00
East Boston Branch Sewer Relief		Mar 00	Mar 03	Jul 10
BOS019 CSO Storage Conduit		Jul 02	Mar 05	Mar 07
Chelsea Relief Sewers	Chelsea Trunk Sewer Relief	Jun 97	Sep 99	Aug 00
	Chelsea Branch Sewer Relief		Dec 99	Jun 01
	CHE008 Outfall Repairs		Dec 99	Jun 01
Union Park Detention/Treatment Facility		Dec 99	Mar 03	Apr 07
CSO Facility Upgrades and MWRA Floatables Control	Cottage Farm Upgrade	Jun 96	Mar 98	Jan 00
	Prison Point Upgrade		May 99	Sep 01
	Commercial Point Upgrade		Nov 99	Sep 01
	Fox Point Upgrade		Nov 99	Sep 01
	Somerville-Marginal Upgrade		Nov 99	Sep 01
	MWRA Floatables Control and Outfall Closings		Mar 99	Mar 00
Brookline Connection and Cottage Farm Overflow Interconnection and Gate		Sep 06	Jun 08	Jun 09
Optimization Study of Prison Point CSO Facility		Mar 06	Mar 07	Apr 08
South Dorchester Bay Sewer Separation		Jun 96	Apr 99	Jun 07
Stony Brook Sewer Separation		Jul 98	Jul 00	Sep 06
Neponset River Sewer Separation			Apr 96	Jun 00
Constitution Beach Sewer Separation		Jan 97	Apr 99	Oct 00
Fort Pt Channel Conduit Sewer Separation and System Optimization		Jul 02	Mar 05	Mar 07
Morrissey Boulevard Storm Drain		Jun 05	Dec 06	Jul 09
Reserved Channel Sewer Separation		Jul 06	May 09	Dec 15
Bulfinch Triangle Sewer Separation		Nov 06	Sep 08	Jul 10
Brookline Sewer Separation		Nov 06	Nov 08	Apr 13
Somerville Baffle Manhole Separation			Apr 96	Dec 96
Cambridge/Alewife Brook Sewer Separation	CAM004 Stormwater Outfall and Detention Basin		Apr 11	Apr 13
	CAM004 Sewer Separation	Jan 97	Jul 98/Sep 12	Dec 15
	CAM400 Manhole Separation	Oct 08	Jan 10	Mar 11

	Interceptor Connection Relief/Floatables Control at Outfalls CAM002, CAM401B and CAM001	Oct 08	Jan 10	Oct 10
	MWR003 Gate and Rindge Ave. Siphon Relief	Mar 12	Aug 14	Oct 15
	Connection Relief/Floatables Control at SOM01A	Mar 12	Sep 13	Dec 13
Region-wide Floatables Control and Outfall Closings		Sep 96	Mar 99	Dec 07

Program

The following projects are court mandated, are recommended in MWRA's approved long-term CSO control plan, and are required to meet Massachusetts Surface Water Quality Standards.

Project	Purpose
MWRA Managed	
North Dorchester Bay & Reserved Channel	Virtually eliminate CSO discharges (25-year storm control) and provide a 5-year storm level of separate stormwater control to minimize beach closings along North Dorchester Bay in South Boston.
Hydraulic Relief	Eliminate hydraulic restrictions between local and MWRA systems at two locations, in Boston (Outfall BOS017) and Cambridge (Outfall CAM005) to improve collection and conveyance of wet weather flows, thereby reducing CSO discharges into the Mystic and Charles Rivers, respectively. Somerville Marginal New Pipe Connection was added in FY23 that will allow for by-pass of the existing Somerville Marginal CSO facility and carry higher flows to the Prison Point Facility in storm events. Advertisement in May 2024, GC bids due July 26, 2024. Construction award expected and presented at the September 2024 BOD meeting. Anticipated completion of construction December 2025.
East Boston Branch Sewer Relief	Increase hydraulic capacity and provide long-term structural integrity to MWRA's East Boston Branch Sewer through the replacement or rehabilitation of the existing sewers. Completion of this project will increase wet weather transport capacity and reduce CSO discharges along the East Boston shoreline, minimizing CSO impacts to the Mystic/Chelsea Confluence, Chelsea Creek and Boston Inner Harbor and facilitating the beneficial uses of these receiving water segments.
BOS019 Storage Conduit	Control CSO discharges at Outfall BOS019, which discharges to the Little Mystic Channel in Charlestown, by storing most of the overflows and pumping them back into the interceptor system after storms.
Chelsea Trunk Sewer Relief	Control CSO discharges at Outfalls CHE002, CHE003, CHE004, and CHE008, which discharge to the Mystic/Chelsea Confluence and Chelsea Creek, by relieving a local trunk sewer and the MWRA Chelsea Branch Sewer and by repairing Outfall CHE008. The Chelsea Branch Sewer relief project also provides relief to the lower portion of the Revere Extension Sewer to improve service and control surcharging.
Union Park Detention Treatment Facility	Reduce the frequency and impacts of CSO discharges from the BWSC Union Park Pumping Station, which discharges into the Fort Point Channel at Outfall BOS070, by providing fine screening, disinfection, dechlorination and a level of detention and solids removal.
Upgrade Existing CSO Facilities and MWRA Floatables Control	Minimize CSO impacts to the Lower Charles River, Upper Inner Harbor, Mystic/Chelsea Confluence and South Dorchester Bay receiving waters by upgrading five MWRA CSO treatment facilities (Fox Point, Commercial Point, Cottage Farm, Prison Point, and Somerville Marginal), and providing floatables control at MWRA CSO outfalls along the Lower Charles River Basin that are not associated with treatment facilities.
MWR003 Gate, Rindge Ave. Siphon Relief and SOM01A	Minimize CSO discharges to Alewife Brook as part of MWRA's Alewife Brook CSO control plan and provide sewer system flood control in extreme storms with a control gate at outfall MWR003 and relief of MWRA's Rindge Ave. Siphon. Upgrade local connection capacity and provide floatables control at the City of Somerville's Outfall SOM01A.

Project	Purpose
Charles River CSO Controls	Bring the MWRA's "Brookline Connection" into service and implement Cottage Farm influent gate controls and other facility inflow controls to minimize treated discharges to Lower Charles River Basin at the Cottage Farm facility.
Community Managed	
South Dorchester Bay Sewer Separation (Fox Point)	Eliminate CSO discharges to South Dorchester Bay by separating combined sewer systems in Dorchester. This project allows MWRA to decommission the Fox Point CSO Facility. Includes additional inflow removal by BWSC from its Dorchester Interceptor system following the closing of CSO outfalls.
South Dorchester Bay Sewer Separation (Commercial Point)	Eliminate CSO discharges to South Dorchester Bay by separating combined sewer systems in Dorchester. This project allows MWRA to decommission the Commercial Point CSO Facility.
East Boston CSO Control	As part of the CSO Post construction assessment, it was determined that although BWSC CSO outfall BOS003, BOS009 and BOS014 have been substantially reduced as part of the East Boston Branch Sewer Relief project, additional work is needed to meet Long Term Control Plan (LTCP) goals. Therefore, MWRA has entered into a new financial assistance agreement to contribute to the construction of "East Boston Sewer Separation Contract 3" to begin in June 2021, and includes the replacement of 2,300 L.F. of sewer, 4,000 L.F. of sewer rehabilitation, and the installation of 7,600 L.F. of storm drains and a new connection from BOS014-2 to the East Boston Branch Relief Sewer (Condor St. Sewer) which is expected to achieve LTCP goals. Contract 3 was completed and has substantially reduced activation frequency and volume of discharge at BOS009 and BOS014.
Stony Brook Sewer Separation	Minimize CSO discharges to Stony Brook Conduit and the Back Bay Fens, both of which drain to the Lower Charles River Basin, by separating combined sewer systems in parts of Roxbury and Jamaica Plain. Implementation of this project is intended to reduce the number of overflows to the Stony Brook Conduit from as many as 22 to 2 in the Typical Year and reduce annual CSO discharge volume by 99.7%.
Neponset River Sewer Separation	Eliminate CSO discharges to the Neponset River and protect water quality at downstream swimming areas in South Dorchester (primarily Tenean Beach) by separating combined sewer systems in the Neponset section of Dorchester and by permanently closing CSO regulators associated with Outfalls BOS093 and BOS095.
Constitution Beach Sewer Separation	Eliminate CSO discharges at the Constitution Beach CSO Facility, allowing decommissioning of the facility, by separating combined sewer systems in parts of East Boston.
Cambridge Alewife Brook Sewer Separation	Minimize CSO discharges to Alewife Brook by separating combined sewer systems in parts of Cambridge and upgrading local system connections to MWRA's Alewife interceptors. Close certain outfalls.
BWSC Floatables Control	Limit the discharge of floatable materials from five BWSC combined sewer outfalls along Boston Inner Harbor and Fort Point Channel.
Cambridge Floatables Control	Limit the discharge of floatable materials from Cambridge CSO outfalls that will remain following completion of MWRA's CSO control plan.

Project	Purpose
Fort Point Channel Sewer Separation	Minimize CSO discharges to Fort Point Channel by separating sewer systems tributary to Outfalls BOS072 and BOS073. Implementation of the recommended sewer separation plan will reduce the number of overflows from these outfalls from as many as 23 to zero in the Typical Year. Also, relocate a CSO regulator and perform limited sewer separation to reduce CSO discharges from the Lower Dorchester Brook Sewer to Fort Point Channel with a MWRA funding cap of $2.03 million to BWSC. The work associated with the Fort Point Channel & Mystic includes modification to a siphon structure to divert flows away from BOS017; a secondary connection at BOS062; the raising of a weir at BOS065 and potential adjustments at BOS064 to address a slight increase given modification to 062 and 065; and, modifications to the Boston Main Interceptor to reduce CSO volumes and activations at 070 DBC. Amendment 1 to the FAA/MOU between MWRA and BWSC added BOS013 improvements to the work associated with the Fort Point Channel.
Morrissey Boulevard Drain	Reroute stormwater away from the Outfall BOS087 tributary area and the North Dorchester Bay storage tunnel to Savin Hill Cove in large storms, to increase the level of stormwater control along the South Boston beaches provided by the tunnel.
Reserved Channel Sewer Separation	Minimize CSO discharges to Reserved Channel by separating combined sewer systems in a portion of South Boston. Implementation of the recommended sewer separation plan will reduce the number of overflows to Reserved Channel from as many as 37 to 3 in the Typical Year.
Brookline Sewer Separation	Separate several areas of Brookline, totaling 72 acres, where there are remaining combined sewers tributary to MWRA's Charles River Valley Sewer. The project is intended to reduce treated CSO discharges to the Lower Charles River Basin at the Cottage Farm Facility.
Bulfinch Triangle Sewer Separation	Separate the combined sewers in a 61-acre area of Boston bounded by North Station, Haymarket Station, North Washington St., and Cambridge St. The project is intended to reduce CSO discharges to the Lower Charles River Basin and Upper Inner Harbor, reduce overflows to the Prison Point CSO Facility, and close outfall BOS049.
CSO Support	
CSO Planning and Support	The goals of the CSO Program are to minimize CSO discharges, greatly reduce beach closings following wet weather events, and maximize the beneficial use of CSO receiving waters, in compliance with state water quality standards. This project includes CSO conceptual planning, system master planning, and facilities planning/environmental review that support these goals. It also includes directly related watershed planning activities, development of short-term CSO control measures (known as System Optimization Plans, or SOPs), various as-needed technical support and system performance assessments, including the court-mandated CSO performance assessment in the period 2018-2021, project evaluations required by conditions in CSO variances, and the acquisition of land, easements and construction permits required for CSO project implementation. Future Design phase for further CSO control scope to be defined.

Expenditure Forecast (in $000s) and Program Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$941,428	$925,206	$16,222	$5,005	$4,539	$22,144	$4,321	$0

Program Status 5/25	98.7%	Status as % is approximation based on project budget and expenditures. MWRA and the CSO communities completed the remaining Long-Term CSO Control projects in December 2015 in compliance with Schedule Seven. (See individual project status and background information).

Changes to Program Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$940,245	$941,428	$1,183	Dec-25	Jul-26	7 mos.	$21,100	$22,144	$1,043

Explanation of Changes

- Project cost change due to updated cost for Somerville Marginal New Pipe Connection REI and additional amendment for CSO Performance Assessment.
- Project schedule changed due to updated schedule for Somerville Marginal New Pipe Connection.
- Project spending changed primarily due to additional amendment for CSO Performance Assessment.

CEB Impacts

- No impacts identified at this time.

S. 354 Hydraulic Relief

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Fulfills a regulatory requirement*

Elimination of hydraulic restrictions between local and MWRA systems at locations in Boston and Cambridge to improve transport of wet weather flows, thereby reducing CSO discharges into the Mystic and Charles Rivers. The project is court mandated, is in accordance with MWRA's approved long-term CSO control plan, and is required to meet DEP water quality standards.

Project History and Background

This project combines two local hydraulic relief projects, one in Cambridge to minimize CSO discharges at CAM005 and one in Charlestown to minimize CSO discharges at BOS017.

In Cambridge, the 24-inch, 40-foot long dry weather connection between the CAM005 regulator and the North Charles Metropolitan Sewer, adjacent to Mount Auburn Hospital, was relieved with a new 54-inch connection.

In Charlestown at BOS017, 190 feet of 36-inch pipe were installed in Sullivan Square to divert two local (BWSC) combined sewers to a direct connection with the Cambridge Branch Sewer. In addition, a 10-foot long restriction between the Charlestown and Cambridge Branch Sewers, adjacent to Sullivan Square, was eliminated. This improvement is expected to lower hydraulic grade lines in the Charlestown Branch Sewer during wet weather.

Somerville Marginal New Pipe Connection was added since additional CSO control was needed. The new pipe will allow for by-pass of the existing Somerville Marginal CSO facility and carry higher flows to the Prison Point Facility in storm events. The new pipe will include 20 feet of 36-inch diameter pipe, a connection chamber and associated monitoring systems. Substantial completion anticipated January 2026. Additionally, there will be modifications to the existing weir wall in regulator RE-051 in order to reduce the number of activations of the CAM005 outfall. Anticipated substantial completion for that work is April 2026.

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$7,531	$2,295	$5,236	$1,500	$3,536	$5,236	$0	$0

Project Status 5/25	32.3%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$7,373	$7,531	$158	Dec-25	Jul-26	7 mos.	$5,078	$5,236	$158

Explanation of Changes

- Project cost, schedule and spending changed due to updated cost estimates and schedules for Somerville Marginal New Pipe Connection.

CEB Impact

- No impacts identified at this time.

S. 356 Fort Point Channel Sewer Separation

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Fulfills a regulatory requirement*
☑ *Extends current asset life*

To minimize CSO discharges to Fort Point Channel by separating combined sewer systems tributary to outfall BOS073 and implementing system optimization measures at BOS072. Implementation of the recommended sewer separation plan will reduce the number of overflows from these outfalls from as many as 23 to zero in a typical year. This project is court mandated, is in accordance with MWRA's approved long-term CSO control plan, and is required to meet DEP water quality standards.

Project History and Background

On August 14, 2003, MWRA received a Certificate from the Secretary of Environmental Affairs accepting the Notice of Project Change that recommended replacing the Fort Point Channel CSO Storage Conduit project (1997 FEIR recommended plan) with a plan for sewer separation and system optimization. On September 17, 2003, the Board of Directors authorized the Executive Director to negotiate related revisions to the Federal Court Order in the Boston Harbor Case. On February 27, 2004, MWRA's motion to revise the court schedule was approved by the Federal Court.

MWRA and BWSC agreed that this project, like other sewer separation projects in the CSO control plan, would be implemented within the MOU and FAA, with BWSC performing final design, construction services and construction and MWRA funding eligible costs. BWSC would also own and operate the separated systems upon construction completion.

The project is intended to eliminate CSO discharges in a typical year at outfalls BOS072 and BOS073. On March 30, 2007, BWSC substantially completed construction of the project, in compliance with Schedule Seven. BWSC installed 4,550 linear feet of new storm drain and completed weir raising and floatables controls at the related CSO regulators. BWSC is conducting flow monitoring and hydraulics evaluations to verify that the CSO control goals have been met.

To reduce CSO discharges from the Lower Dorchester Brook Sewer to Fort Point Channel and to bring CSO discharges to the Fort Point Channel in line with the long-term level of control an additional phase was added to this project. BWSC has agreed to relocate a CSO regulator and perform limited sewer separation with a MWRA funding cap of $2.03 million.

Scope

Sub-phase	Scope
Design (6991)	Design services for construction contracts to be bid, awarded and managed by BWSC.

Sub-phase	Scope
Construction (6992)	Construction of approximately 4,550 linear feet of new storm drains and appurtenant structures tributary to outfalls BOS072 and BOS073, managed by BWSC. Relocation of storm runoff connections from the existing combined sewers to the new storm drains and rehabilitation of the existing combined sewers for use as sanitary sewers are also included.
Fort Point Channel and Mystic (8054)	The work associated with the Fort Point Channel & Mystic includes modification to a siphon structure to divert flows away from BOS017; a secondary connection at BOS062; the raising of a weir at BOS065 and potential adjustments at BOS064 to address a slight increase given modification to 062 and 065; modification to BOS013 to remove a hydraulic restriction, and modifications to the Boston Main Interceptor to reduce CSO volumes and activations at 070 DBC. Amendment to FAA increased total amount to $11,881,274.

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$23,389	$21,257	$2,131	$2,131	$0	$11,131	$0	$0

Project Status 5/25	100.0%	Status as % is approximation based on project budget and expenditures. Construction reached substantial completion in March 2007.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$23,389	$23,389	$0	Nov-25	Nov-25	None	$11,131	$11,131	$0

Explanation of Changes

- N/A

CEB Impact

- No impacts identified at this time.

S. 324 CSO Planning and Support

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Fulfills a regulatory requirement*

The goals of the CSO Program are to minimize CSO discharges and their impacts, eliminate beach closings caused by CSOs, and maximize the beneficial use of CSO receiving waters, in accordance with national and state CSO policies and in compliance with state water quality standards. This project includes CSO conceptual planning, system master planning, and facilities planning/environmental review. It also includes directly related watershed planning activities, development of short-term CSO control measures (known as System Optimization Plans or SOPs), various as-needed technical support activities and project evaluations required by conditions in CSO variances, and acquisition of land and easements required for CSO control plan implementation.

Project History and Background

MWRA CSO planning work began in 1986. A revised Final Conceptual Plan and System Master Plan were completed in 1994, and a Final CSO Facilities Plan and Environmental Impact Report were filed with MEPA in August 1997. A MEPA certificate was issued in October 1997. In December 1997, DEP issued water quality determinations that were necessary for final CSO plan approval by DEP and EPA. DEP issued a two-year variance for the Charles River in October 1998 and has extended this variance several times. DEP issued a three-year variance for Alewife Brook and Upper Mystic CSOs in March 1999 and has extended the term of the variance several times. Consultant services have included assistance to MWRA in satisfying variance conditions.

As part of CSO Planning and Support, MWRA provided financial and technical assistance to the Charles River Watershed Association in its watershed planning efforts for the Charles River in the 1990s, known as the IM3 Study. MWRA also funded a portion of the costs of a U.S. Geological Survey (USGS) water quality study of the Charles River Basin. Results of these studies will provide additional technical information to support the reassessment of the appropriateness of the recommended Charles River controls in MWRA's CSO plan. To comply with its requirements under the Charles River CSO variance, in 1999 MWRA began funding USGS efforts to collect updated information on Charles River water quality. Final payments to the Charles River Watershed Association and USGS were made in the fall of 1998 and the fall of 2001, respectively.

The federal court order in the Boston Harbor Case required MWRA to develop, by June 1993, a plan for optimizing the existing combined sewer systems to maximize transport and in-system storage capacities, thereby minimizing CSO discharges prior to developing and implementing a long-term control plan. In June 1993, MWRA completed a report entitled System Optimization Plans (SOP) for CSO Control, which recommended more than 100 relatively low cost and easily implemented projects to optimize operation of existing systems. The projects were designed and constructed primarily by the CSO communities, pursuant to SOP financial assistance agreements executed between MWRA and each CSO community. Under the agreements, MWRA reimbursed the communities for design and construction costs. SOP work also includes two projects that are part of the long-term plan: Somerville Baffle Manhole Separation and Somerville Floatables Control. Short-term plans for CSO SOPs were completed in 1997 and MWRA obtained regulatory approvals for its long-term plan in 1997 and 1998.

Various CSO plan reevaluations and systems assessments have been performed under amendments to the CSO Master Planning contract. These include: reevaluation of the Alewife Brook sewer separation plan; assessment of Cottage Farm CSO Facility performance: reevaluation of the need for the Dorchester Brook In-line Storage Project (not included in the CSO Plan or the CIP); reevaluation of the feasibility of closing MWR010; reassessment of CSO discharges from the Boston Marginal Conduit to reevaluate the need for floatables control; and reevaluation of the cost-effectiveness of the East Boston Branch Sewer Relief project in light of cost increases.

By amendment to the Master Planning contract MWRA also added system modeling services to estimate and report actual CSO discharges on an annual basis (through 2003), in compliance with provisions in MWRA's renewed NPDES permit. Since 2004, the annual modeling activities have been conducted by MWRA staff.

The performance of the sewerage system is constantly improving as CSO and non-CSO projects are completed and as maintenance efforts continue to increase the system's capacity. Updated assessments of the system's hydraulic performance and estimates of CSO discharges based on actual field data are essential to verify the predicted benefits of various CSO-related improvements, to recalibrate the system hydraulic model to reflect updated conditions, and to provide up-to-date information to support CSO planning and design efforts. This project provides for temporary flow metering and other efforts to gather and evaluate new data and track system performance. It also includes technical support and system assessments to support the CSO performance assessment required by Schedule Seven and project evaluations required by conditions in CSO variances.

This project has also supported land and easement acquisitions and funded permit costs for all MWRA managed projects in the long-term CSO Control Plan.

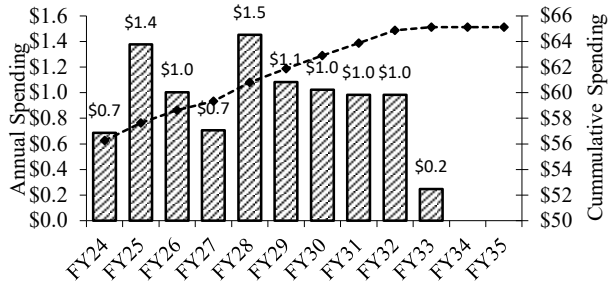
Scope

Sub-phase	Scope	Status
Technical Assistance (5790)	Preliminary planning services prior to and in support of the 1988-90 Facilities Planning/EIR efforts.	Completed
Planning/EIR (5791)	Facilities planning and environmental review of CSO control alternatives (1990 Recommended CSO Control Plan).	Completed
Master Planning (5716)	System inspections, flow monitoring, water quality monitoring, and performance assessments to improve MWRA's understanding of the combined sewer and regional wastewater systems, optimize the performance of the existing systems, and reassess CSO control needs in the context of evolving EPA policy and a system master plan. Development of the 1997 Facilities Plan/EIR and subsequent reassessments of, and revisions to, that plan.	Completed
Watershed Planning (6036)	External watershed planning efforts that may affect CSO control needs, including the Charles River Watershed Association IM3 Study and ongoing USGS water quality studies.	Completed
Modeling (5795)	Receiving water quality modeling support to the Master Planning efforts.	Completed
SOP Program (5767)	Development and implementation of System Optimization Plans for short-term CSO control. Implemented by CSO communities. Also includes funding for Somerville Baffle Manhole Separation in the long-term control plan.	Completed
System Assessment (6372)	Temporary flow metering and other efforts to gather and evaluate new data on system performance.	Active
Technical Review (6150)	Technical assistance for the entire CSO control plan including affordability analysis.	Active
CSO Performance Assessment (7572)	Study to assess the performance of completed CSO projects to verify whether CSO control goals are met.	Active
Land/Easements (6169)	Acquisition of land and easements for construction of MWRA-implemented projects. Also, permits not covered in design and construction contracts.	Active
Somerville Marginal In-System Storage (7539)	Memorandum of Agreement between MWRA and the City of Somerville approved on September 14, 2016 and executed on August 29, 2018. MWRA agreed to share the cost of the City's rehabilitation of a major combined sewer upstream of the Somerville Marginal CSO treatment facility, since MWRA's CSO control plan utilizes both the in-line storage and conveyance capacity of the current brick sewer to control and reduce the CSO volume discharged to the Mystic River from the CSO facility.	Completed
CSO Updated Control Plan Design (8057)	The MWRA, Cambridge and Somerville are expected to complete a Updated CSO Control plan for CSO discharges to the variance waters by January 2027. This plan is expected to include project that will require design of projects to further reduce CSOs under this phase that may include new MWRA or community infrastructure (tunnels, relief pipes, green infrastructure, etc.).	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$65,115	$56,257	$8,858	$1,377	$1,003	$5,225	$4,321	$0

CSO Support



Project Status 5/25	88.3%	Status as % is approximation based on project budget and expenditures. Master Planning was substantially complete in September 2004. On September 14, 2005, the MWRA Board of Directors approved an MOU with Massport that governs the Authority's construction and long-term operation on land owned by Massport, including the North Dorchester Bay tunnel mining shaft and dewatering pump station. Payments to Massport for temporary and permanent easements are complete. Schedule Seven requires MWRA to complete a CSO performance assessment in the period 2018-2021. MWRA issued the Notice to Proceed for Contract 7572, CSO Post-Construction Monitoring and Performance Assessment, on November 8, 2017, ahead of and in compliance with the January 2018 milestone. Five-year CSO variance to be issued August 29, 2024 by DEP lasting until August, 2019 include conditions requiring additional CSO control measures for the Lower Charles River and the Alewife Brook/Upper Mystic River, including but not limited to the evaluation of CSO optimization measures and the evaluation of alternatives that may provide further control of treated discharges from the Somerville-Marginal CSO Facility (outfalls MWR205 and SOM007/MWR205A). These were added to the scope of Contract 7572.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$64,068	$65,115	$1,047	Jun-32	Jun-32	None	$4,318	$5,225	$906

Explanation of Changes

- Project cost and spending changed due to additional amendment for CSO Performance Assessment.

CEB Impacts

- No impacts identified at this time.

S. 128 Infiltration/Inflow (I/I) Local Financial Assistance Program

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Fulfills a regulatory requirement*

Infiltration and inflow (I/I), groundwater and storm water that enter the collection system, contributes significantly to the total wastewater flow treated by MWRA. This depletes capacity that would otherwise be available to transmit sanitary flows, resulting in sewer surcharging, overflows of untreated sewage, more frequent combined sewage overflows, and higher pumping and treatment costs. The I/I Local Financial Assistance Program provides funding assistance for communities to rehabilitate their collection systems with the goal of structurally reducing I/I flows. Funding assistance for local projects complements other MWRA strategies for regional I/I reduction including wastewater metering to support flow based rates, provision of I/I estimates to communities, technical assistance to communities on local projects, regional coordination of I/I policy issues, and interaction with DEP and EPA.

Project History and Background

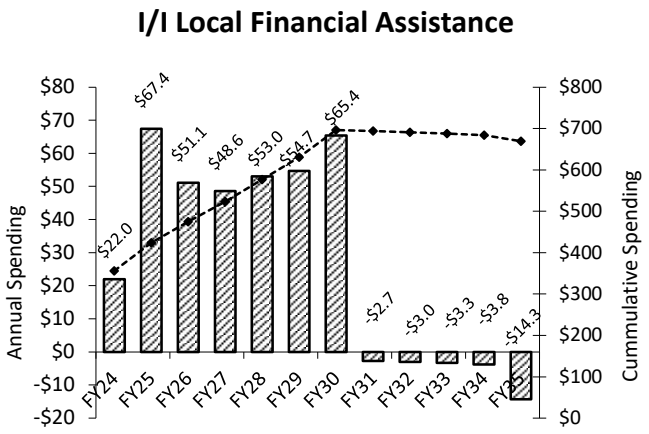
MWRA's Deer Island Wastewater Treatment Plant receives flow from 43 communities. The collection system encompasses 230 miles of MWRA interceptors and over 5,300 miles of community sewers. These sewers are of varying size, shape, age, material, depth, and conditions. All contribute some quantity of infiltration and inflow.

In August 1992, the Board of Directors approved $25 million to fund the initial phase of the I/I Local Financial Assistance Program. In June 1995, the Board approved $38.8 million to fund a second phase of the program. Both Phase1 and 2 funds were distributed as 25% grants and 75% interest-free loans. The Board approved $37 million to fund a third phase of the program in June 1998, an additional $40 million for Phase 4 in June 2001, an additional $40 million for Phase 5 in June 2004, an additional $40 million for Phase 6 in June 2006, an additional $40 million for Phase 7 and an additional $40 million for Phase 8 in June 2009. The grant/loan ratio was revised for Phases 3 through 8 to 45% grants and 55% interest-free loans. During the FY15 Final CIP development in June 2014, Phases 9 and 10 were added to the CIP at $80 million each to be distributed as 75% grants and 25% interest-free loans Payback period for Phases 9 and 10 loans was also extended from 5 years to 10 years**.** During the FY19 Final CIP development, Phases 11 and 12 were added at $100 million each to be distributed as 75% grants and 25% interest-free loans. During the FY19 Final CIP, $100 million in Phase 13 I/I Loans only was also added. Phase 14 was added during the FY24 Final CIP process at $100 million to be distributed as 75% grant and 25% interest free loans. Phase 15 was added during the FY25 Final process for Loans only at $100 million, and Phase 16 was added at $125 million to be distributed as 75% grants and 25% interest free loans. All program funds are allocated to the 43 member communities based on their share of MWRA's wholesale sewer assessment. Binding commitments for funds are issued by MWRA in the form of Financial Assistance Agreements. Distribution of funds is authorized through FY2035.

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$561,335	$356,108	$205,227	$67,399	$51,130	$242,125	$111,073	($126,016)

Project Distribution Status 5/25	53.8%	Through May 2025, MWRA has distributed $322.7 million in grants and $260.9 million in interest-free loans to fund 702 separate projects in 43 communities under the I/I Local Financial Assistance Program.



Project Repayment Status 5/25	40.5%	Through May 2024, a total of $212.4 million has been repaid by member communities receiving interest-free loans.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$561,335	$561,335	$0	May-40	May-40	None	$242,613	$242,125	($488)

Explanation of Changes

- Project spending changed due to updated cashflows.

CEB Impacts

- No impacts identified at this time.

Waterworks System Improvements

Wachusett Reservoir

Integrated Water Supply Improvement Program

MWRA's Integrated Water Supply Improvement Program is an initiative consisting of a series of projects to protect reservoir watersheds, build new water treatment and transmission facilities, upgrade distribution storage and MWRA and community pipelines and interim improvements to the Metropolitan Tunnel system redundancy. The program improves each aspect of the water system from the watersheds to the consumer to ensure that high quality water reliably reaches MWRA customers' taps. The program began in 1995 with the initial components which were completed by 2005 and the program remains active as the scope was expanded to continue to improve the water system. The main program components are as follows:

Watershed Protection The watershed areas around Quabbin and Wachusett Reservoirs are pristine areas with 85% of the land covered in forest or wetlands and about 75% protected from development by direct ownership or development restrictions. MWRA works in partnership with the Department of Conservation and Recreation (DCR) to manage and protect the watersheds. MWRA also finances all the operating and capital expenses for the watershed activities of DCR and on-going land acquisition activities.

MetroWest Water Supply Tunnel The 17-mile-long 14-foot diameter tunnel connects the new Carroll Water Treatment Plant at Walnut Hill in Marlborough to the greater Boston area. It is now working in parallel with the rehabilitated Hultman Aqueduct to move water into the metropolitan Boston area. Construction began on the tunnel in 1996 and the completed tunnel was placed in service in October 2003.

Carroll Water Treatment Plant The water treatment plant in Marlborough began operating in July 2005 and it has a maximum day capacity of 405 million gallons per day. This project consolidates all treatment steps into one plant which uses ozone for primary disinfection because ozone is a strong disinfection agent against pathogens such as Giardia and viruses while reducing levels of chlorine disinfection byproducts. Ultraviolet light treatment was added in 2014 as a second primary disinfection process for Cryptosporidium inactivation. The plant also provides corrosion control by adding carbon dioxide and sodium carbonate to raise the water's pH and alkalinity and thus control lead leaching from home plumbing fixtures. The treatment process concludes with fluoridation and residual disinfection with chloramines. A 45 million gallon storage tank on the site allows for daily variation in demand and flexibility in plant operation.

Water Storage Tanks As required by Massachusetts Department of Environmental Protection (DEP) rules, MWRA is building covered storage tanks to replace open distribution storage reservoirs near cities and towns to lessen the risk that contaminants will get into the tap water. A 20 million gallon tank in Stoneham replaced the open Fells Reservoir, two 12.5 million gallon circular tanks in Ludlow replaced the Nash Hill Reservoir and the 20 million gallon Loring Road tank replaced the Weston Reservoir. The largest tank, the 115 million gallon Norumbega Covered Storage Facility replaced the open Norumbega Reservoir in Weston and was placed in full service in 2004. In 2009, MWRA completed construction of a 20 million gallon tank to replace the currently off-line Blue Hills Reservoir in Quincy. The 20 million gallon Spot Pond Storage Facility replaced the off-line Spot Pond Reservoir in Stoneham and was put in service in 2015.

Pipeline Rehabilitation An important component of the overall Integrated Water Supply Improvement Program is focus on the long-term rehabilitation of older, unlined cast iron and steel water mains in the MWRA and community systems. Water in direct contact with the metal surface corrodes through both biological and chemical processes resulting in tuberculation, thus narrowing the pipes and providing surfaces for bacteria growth. These processes also often result in consumer complaints about rusty water. To reap the full value of the other investments in the water system, MWRA decided to replace or rehabilitate the poor quality pipe particularly given that as of 1993, more than 80 percent of MWRA pipes were unlined. Since then, MWRA has been proceeding with a program of replacing or rehabilitating (normally through cleaning and lining) unlined cast iron and steel mains. Furthermore, in 1998, almost half (47%) of community pipes were unlined. In 1999, MWRA created a $250 million zero-interest loan program to encourage and facilitate rehabilitation of local mains. An additional $210 million was added in FY11 for

the Phase 2 program known as Local Water System Assistance Program of which $10 million is allocated among the Chicopee Valley Aqueduct (CVA) communities. The Local Water System Assistance Program was expanded beginning in FY17 to include $100 million in interest-free loans to communities solely for efforts to fully replace lead service lines. In FY18 Local Water Assistance Program Phase 3 was added in the amount of $278 million and Phase 3 CVA for $14 million. The Local Water System Assistance Program was expanded beginning in FY17 to include $100 million in interest-free loans to communities solely for efforts to fully replace lead service lines. In FY25 the Lead Service Replacement Program was increased from $100 million to $200 million and now includes a 25% grant portion. The Lead Service Lone Replacement Loan Program is budgeted over twenty years. In FY25 the Local Water Assistance Program was again expanded to include Phase 4 for $285 million and Phase 4 CVA for $15 million.

Metropolitan Tunnel System Redundancy – Interim Improvements Plans for interim improvements to reduce the risk of failure and improve system operating conditions in the event that an emergency occurs are underway. The projects include the Top of Shafts Interim Improvements, WASM/SPSM PRV Improvements and rehabilitation of WASM 3. These projects will be completed while the proposed tunnel redundancy project goes through environmental review, design, and construction.

Metropolitan Water Tunnel Program The Metropolitan Tunnel System includes the City Tunnel (1950), the City Tunnel Extension (1963), and the Dorchester Tunnel (1976). Together, these tunnels carry approximately 60% of the total system daily demand with no redundancy. The tunnels and shafts represent a low risk of failure. However, many of the valves and piping at the surface are in need of repair or replacement. Failure of some valves could cut off a majority of the system's capacity to supply water and have not been exercised for fear of failing in a closed position. These valves should be, but cannot be, replaced because shut down of the City Tunnel would be required. The Metropolitan Tunnel Redundancy program consists of two deep rock tunnels beginning at the same location in Weston near the Massachusetts Turnpike/Route 128 interchange. The 4.5-mile Northern Tunnel generally follows the route of MWRA's existing Weston Aqueduct Supply Main (WASM) 3 transmission main to a point about midway along the pipeline near the Waltham/Belmont border, which will allow flow in WASM 3 in both directions. The 9.5-mile Southern Tunnel runs east to southeast to tie into the surface connections at Shaft 7C of the Dorchester Tunnel. After the tunnels are constructed, the existing tunnels can be removed from service for rehabilitation. The Metropolitan Tunnel Redundancy Program is currently at the very early stages of planning and design. The organizational framework to manage the program within MWRA is in place in the form of the Tunnel Redundancy Department. Program Support Services contract began in April 2019 and the Preliminary Design and MEPA Review contract was awarded in May 2020 and was completed in January 2024. Geotechnical Support Services contract was awarded in December 2022. Final Design commenced in November 2024.

S. 542 Carroll Water Treatment Plant

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Fulfills a regulatory requirement*

To provide high quality drinking water to MWRA customers and to ensure that the water delivered from the Wachusett Reservoir meets the drinking water quality standards established by the federal Safe Drinking Water Act (SDWA). Part of this objective was met by constructing a 405 million-gallon per day (maximum) water ozonation/chloramination treatment plant primarily in Marlborough with portions of the facility located in Southborough and Northborough. Ultraviolet light disinfection facilities were added in 2014 to comply with new drinking water regulations.

Project History and Background

MWRA provides drinking water to 2.3 million people in 42 metropolitan Boston communities. The source water supply comes from the Quabbin and Wachusett reservoirs; two large, high quality water bodies in Central Massachusetts. About 50% of the water flowing from the Wachusett Reservoir comes first from the Quabbin Reservoir, the larger reservoir to the west. MWRA received a waiver from filtration requirements for the Quabbin Reservoir in 1991 from the Massachusetts Department of Environmental Protection (Mass DEP), the agency granted primacy to enforce the Safe Drinking Water Act (SDWA) by the United States Environmental Protection Agency (USEPA) in Massachusetts.

In June 1993, MWRA negotiated an administrative consent order with DEP setting forth the steps needed to comply with the Surface Water Treatment Rule (SWTR). The consent order required MWRA to find a site, design a filtration plant, and build it, unless MWRA along with MDC could demonstrate to Massachusetts DEP no later than 1998 that the system met the criteria for avoiding filtration and therefore that filtration was not required. After an extensive research and decision-making process, the MWRA Board of Directors voted in October 1998 to request a waiver of the filtration requirements from Mass DEP and to build a new water treatment facility using ozonation with chloramination for the water from Wachusett Reservoir as part of the Integrated Water Supply Improvement Program. The decision recognized that an ozonation/chloramination plant would provide appropriate treatment of the MWRA water supply from Wachusett Reservoir and that adding filtration components costing $180 million to the new plant would not provide as much additional benefit as using funds to rehabilitate old, unlined cast iron pipes in the MWRA and local distribution systems. As part of the treatment technology decision, MWRA's Board also made a commitment to an expanded program of public health surveillance, financial incentives for communities to target rehabilitation of community pipes, and a full review of the need for further treatment including filtration when the plant was complete.

Mass DEP agreed with the MWRA approach in December 1998 and determined that filtration was not required for the MWRA system. Through the Department of Justice, USEPA sued under its SDWA “overfiling” rights, seeking to require MWRA to build a filtration plant and contending that the SDWA allowed no other option. After an extended trial, on May 5, 2000 Judge Stearns issued his decision that MWRA currently complies with all 11 federal criteria for avoiding filtration under the Surface Water Treatment Rule of the Safe Drinking Water Act. He evaluated the current quality of MWRA water and found MWRA’s integrated drinking water improvement program including ozonation treatment technology the better approach to “preserving its safety.” He found EPA failed to show that filtration of MWRA water was required either as a matter of cost-benefit or scientific necessity. The judge denied EPA’s request for injunctive relief but ordered MWRA to give the Court notice of any future violations of the avoidance criteria to allow the consideration of whether the type of relief requested by USEPA might be necessary. No other order was issued. On July 16, 2001, the U.S. Court of Appeals for the First Circuit affirmed Judge Stearns ruling.

The Carroll Water Treatment Plant (formerly Walnut Hill Treatment Plant) was placed in service in July 2005. It provides treatment necessary to fully comply with all current drinking water regulations. EPA issued new regulations in January 2006 for microbial protection (Long Term 2 Enhanced Surface Water Treatment Rule) and disinfection byproduct control (Stage 2 Disinfectants/Disinfection Byproducts Rule). MWRA will not need to make changes to comply with the Stage 2 D/DBP rule. The LT2ESWT rule required a second primary disinfectant and a somewhat more stringent inactivation of cryptosporidium than the plant's current design. This project included the addition of an ultraviolet light disinfection treatment process at the plant to meet requirements of the LT2ESWT rule. The UV system was placed in service in February 2014.

Scope

Sub-phase	Scope	Status
Study 1 (5023)	Investigation of the potential impacts of SDWA amendments on the MWRA system and evaluation of the need, feasibility, and benefits of improved treatment processes.	Completed
Study 2 (5024)	Evaluation of alternative filtration, disinfection, and corrosion control processes to determine the most appropriate for MWRA source waters. Construction and operation of a pilot plant at the Wachusett Reservoir to allow testing of various treatment technique combinations. Identification of potential locations for treatment facilities.	Completed
AWWARF Red Water Control Strategy Study (6182)	Evaluation of treatment options for eliminating discolored water caused by unlined cast-iron pipe. Also investigation of the fundamental aspects of iron chemistry and corrosion using unlined cast-iron pipe from the MWRA community distribution system.	Completed
Emergency Distribution Reservoir Water Management Study (6206)	Investigation of potential impacts on the emergency distribution reservoirs resulting from their replacement by new covered distribution reservoirs, and study of ways to maintain their water quality for emergency supply. Norumbega, Weston, Spot Pond, Fells, and Blue Hills Reservoirs have been studied. A pilot study was conducted to evaluate in-reservoir algae treatment for Wachusett Reservoir.	Completed
Cryptosporidium Inactivation Study (6118)	Determination of the site-specific efficacy of inactivating *Cryptosporidium* in Wachusett Reservoir source water using disinfectant alternatives (chlorine/chloramine and ozone/chloramine), and then development of design criteria for the full-scale disinfection contacting system.	Completed
Construction: Cosgrove Disinfection Facility Phases I (6397), and II (6365)	Construction of the Cosgrove Disinfection Facility. Free chlorine is applied at the Cosgrove Aqueduct to utilize travel time to achieve primary disinfection prior to corrosion control treatment and secondary disinfection.	Completed
Immediate Disinfection-MECo (6406)	Massachusetts Electric Co. power line installation to support the disinfection process at the Cosgrove Disinfection Facility.	Completed
Distribution Water Consultant (6401)	To provide technical assistance related to distribution system management.	Completed
EIR/Conceptual Design (5042)	Environmental reviews, data collection and analyses, and facility designs to support the dual track compliance approach, evaluation of design criteria, site plans, plant hydraulics, and construction of a small-scale demonstration water treatment plant.	Completed

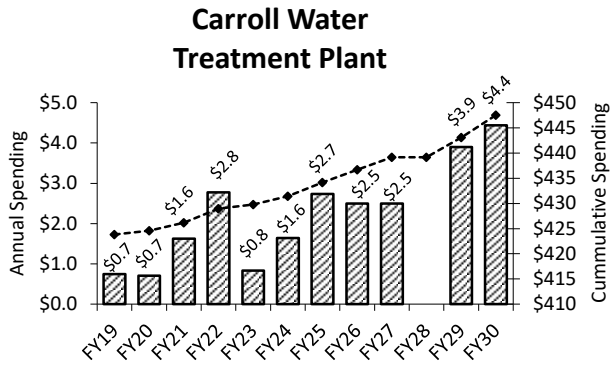
Sub-phase	Scope	Status
Design/CS/RI: Walnut Hill WTP (6043)	Design and Engineering Services During Construction for the water treatment plant and associated components.	Completed
WHCP1: Wachusett and Cosgrove Intakes (6207)	Upgrade of the Cosgrove Intake and powerhouse to allow automatic, unstaffed operation of the facility. Replacement of the valves and piping in the Wachusett Intake is required to allow this facility to serve as a backup water supply.	Completed
WHCP2: Interim Aqueduct Rehabilitation (5522)	Shotcrete lining of the Wachusett Aqueduct to ensure supply of water continues to greater Boston during modifications to Shaft C and to enable it to serve as a backup to the Cosgrove Tunnel.	Completed
WHCP3: Site Work and Storage Tank (6488)	Includes clearing and excavation, site access roads, yard piping, and construction of a 45-million gallon storage tank.	Completed
WHCP4: Treatment Facilities (6489)	Construction of ozonation, corrosion control, chloramination operations and emergency generator buildings, modifications to Shafts B and C, and installation of system wide instrumentation from Wachusett Reservoir to Norumbega Reservoir.	Completed
WHCP6: Late Site Work (6491)	Final grading, landscaping, and paving of treatment facility site.	Completed
Design (6951), and Construction (6650) WHCP7: Existing Facilities Modifications	Modification to and conversion of the Interim Corrosion Control Facility, Cosgrove Disinfection Facility, Transmission Maintenance Facility. These buildings will be converted from water treatment/quality uses to expanded maintenance shops and SCADA technicians shop facilities for the new water treatment plant. In addition, the project includes demolition of old electrical building, some miscellaneous items at Cosgrove Intake Building, conversion of Cosgrove Disinfection Facility to a Boat Storage Facility and replacement of the roof, lab improvements and HVAC system for Water Quality Lab at Southboro. Also, buildings rehab will incorporate achievable LEED (Leadership on Energy & Environmental Design) goals.	Completed
Design Management Support (6134)	Professional services and value engineering support to MWRA in review of the water treatment plant design.	Completed
Construction Management/RI (6208)	Construction management and resident inspection during construction of the water treatment plant.	Completed
Cosgrove Disinfection Facility Underwater Improvements (6479)	Installation of underwater piping needed to apply sodium hypochlorite at Shaft A.	Completed
Community Chlorine Analyzers (6485)	Purchase of free chlorine residual analyzers for eight communities to work in association with interim chloramination facilities.	Completed
OCIP (6494)	Owner Controlled Insurance Program, providing pollution liability, workers' compensation, general liability, and excess loss coverage during construction of the CWTP.	Completed
Professional Services (6495)	As needed legal, insurance, design, and construction specialty services for the Carroll Water Treatment Plant.	Completed
Marlborough MOA (6497)	Agreement to mitigate the impacts of the construction of the Carroll Water Treatment Plant on Marlborough.	Completed
WHWTP – MECo (6520)	Relocation of electric power lines.	Completed

Sub-phase	Scope	Status
Site Security Services (6613)	Site security services at the Carroll Water Treatment Plant.	Completed
CSX Crossing (6670)	Railroad track improvements adjacent to CWTP.	Completed
Wachusett Algae Design (6671), and Construction (6889)	Design and Construction of automated chemical dispensing system for algae control.	Future
Public Health Research (6691)	With the assistance of public health agencies and researchers, evaluation of the public health impact of the water treatment changes that occurred in 2004.	Completed
Security Equipment (6756)	Design and installation of card access, improved motion and intrusion alarm systems, video surveillance, and monitoring equipment for MWRA facilities.	Completed
WHCP8– Cosgrove Screens Design/CS/RI and Construction (6773)	Replace existing manual screens with finer automatically controlled traveling screens.	Completed
AWWARF-Evaluation Ozone and UV (6815)	Study of the effects of ozone and ultraviolet treatment on cryptosporidium to ensure inactivation in Wachusett Reservoir.	Completed
Fitout/Construction (6827)	Non-construction related items for start-up and operation of the new water treatment plant including furnishings, shop and maintenance equipment, audio/visual supplies, laboratory equipment, and miscellaneous consumable supplies.	Completed
Carroll Ultra Violet Disinfection Design (6923), and Construction (6924)	Design and construction programs to add Ultra Violet (UV) to the CWTP. UV system placed into service in February 2014.	Completed
As-Needed Technical Assistance No. 1 (6939), and No. 2 (6989)	As-needed design services to support the start-up of the CWTP including electrical engineering, HVAC engineering, mechanical engineering, civil engineering and a variety of geotechnical, environmental, and architectural technical assistance.	Completed
Ancillary Modifications Construction 1 (7084)	Follow-up construction from the As-Needed Technical Assistance contracts.	Completed
Ancillary Modifications Construction 2 (7085)	Address improvements in reliability, optimization of plant performance and/or reduce plant operating costs.	Completed
Ancillary Mods Design 3 (7192), and 4 (7208)	Additional As-Needed design services as a follow-up for additional improvements at the Carroll Water Treatment Plant.	Completed
Technical Assistance No. 5 (7315), and No. 6 (7316)	Continuation of as-needed engineering technical assistance for ancillary modifications design and plant optimization.	Completed
Carroll Water Treatment Plant Storage Tank Roof Drainage System Repair (7376)	Design and construct a solution that addresses trench drainage system's poor performance. Poor roof drainage could possibly result in water quality problems.	Future
Technical Assistance No. 7 (7406), and No. 8 (7407)	Continuation of as-needed engineering technical assistance for ancillary modifications design and plant optimization.	Completed
Technical Assistance No. 9 (7543), and No. 10 (7544)	Continuation of as-needed engineering technical assistance for ancillary modifications design and plant optimization.	Completed
Technical Assistance No. 11 (7713), and No. 12 (7714)	Continuation of as-needed engineering technical assistance for design and plant optimization.	Completed

Sub-phase	Scope	Status
Technical Assistance No. 13 (7973), and No. 14 (7974)	Continuation of as-needed engineering technical assistance for design and plant optimization.	Active
Technical Assistance No. 15 (8130), and No. 16 (8131)	Continuation of as-needed engineering technical assistance for design and plant optimization.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$447,780	$430,440	$17,340	$1,145	$4,194	$8,727	$9,250	$0



Project Status 05/25	96.3%	Status as % is approximate based on project budget and expenditures Assistance 8 was completed in June 20. Closed Loop Cooling System, a contract of Ancillary Modifications Construction 2 subphase, was substantially complete in April 2010. Second Gaseous Oxygen Line was substantially complete in May 2012. Wachusett Emergency Connection Valves reached substantial completion in August 2013. Carroll Ultraviolet Disinfection Facility Construction reached substantial completion in February 2014. Existing Facilities Modifications CP-7 Southborough Water Quality Laboratory Upgrades was substantially complete in November 2016 and Marlborough Maintenance Facility was substantially complete in July 2018. Technical Assistance 7 was completed in November 2015. Technical 18 and 9 and 10 completed in December 2020. Cosgrove Storage and Intake Improvements was substantially complete in August 2022. Sodium Hypochlorite System Modifications was substantially complete in September 2022. Technical Assistance 13 and 14 commenced in March 2023. Technical Assistance 11 and 12 was completed in December 2023.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$448,432	$447,780	($652)	Oct-30	Oct-30	None.	$9,379	$8,727	($652)

Explanation of Changes

- Project cost and spending changed primarily due to updated cost estimates for Technical Assistance contracts 11, 15, and 16.

CEB Impact

- Expect $100,000 in FY31 for utilities for the Wachusett Algae Facility.

S. 555 Carroll Water Treatment Plant Asset Protection

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*
☑ *Fulfills a regulatory requirement*
☑ *Improves energy efficiency*

To protect the investment of MWRA ratepayers by ensuring timely replacement of equipment and systems.

Project History and Background

The John J. Carroll Water Treatment Plant has been in service since 2005. Some components of the plant are approaching the end of their service lives while others will need replacement in the future. This project was developed to ensure that MWRA maintains ongoing service while optimizing operations in its water facilities. This project in its current form addresses immediate critical facility and equipment issues.

While the current schedule indicates a completion date of 2036 for construction, the CWTP Facility Asset Protection project will be ongoing throughout the useful life of the facilities.

Scope

Sub-phase	Scope	Status
Carroll Water Treatment Plant Asset Protection Study (7593)	A consultant's evaluation of CWTP's capital assets and recommendations for upgrades or modifications to ensure operational efficiency of these assets.	Future
LOX Yard Redundancy (7594)	Provide new piping, valves, vaporizer and/or additional liquid oxygen storage to eliminate single points of failure in the CWTP Liquid Oxygen Yard.	Future
Ozone Generator Re-Build (7596)	Periodic re-building of the ozone generators, including cleaning and gasket replacement, is necessary to maintain proper operation.	Future

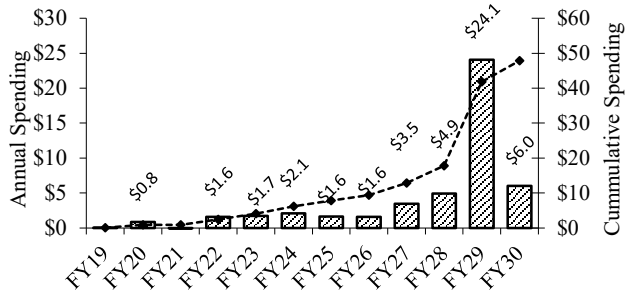
Sub-phase	Scope	Status
Chemical Feed System Improvements (7598) and REI (7972)	Replace the existing fluoride weigh feeder system and chemical feed piping and the soda ash feed equipment to maintain operability.	Completed
Carroll Water Treatment System Upgrades (Plant Chemical System Pipe Pumps, and Tank Replacement) (7597)	The condition of the plant chemical system components varies. There have been leaks in the hypochlorite pipes and tanks. The ammonia, bisulfite and fluoride feed systems are aging. This project will rehabilitate these systems as needed.	Future
HVAC Equipment Replacement (7605)	The HVAC equipment at CWTP is 20 years old. The refrigerant used in this equipment (R-22) is being phased out. The existing equipment will not function with the new refrigerant. Replacement of this equipment will be necessary.	Completed/Future
Water Pumps, motors and Variable Frequency Drives Replacement (7606)	The plant water pumps, motors and variable frequency drives need to be replaced in the future as they approach the end of their useful life's. The current schedule is to replace the pumps, motors and variable frequency drives by 2030.	Future
Ozone Generator Replacement (7607)	The PLCs for the ozone generators were replaced in 2024. Eventually spare parts will no longer be available. The current schedule is to replace the ozone generators by 2035.	Future
Ultra Violet Reactor Replacement (7608)	Replacement of the UV reactors will likely be required by 2034 as spare parts for the existing units may no longer be available then.	Future
Carroll Water Treatment Plant Control Room Fire Suppression System (7592)	Replace the existing wet fire sprinkler system in the CWTP Control Room, Communications Room, Electrical Room and Emergency Operations Center with a clean agent type system that does not use water to suppress a fire.	Future
Corrosion Control Pipe Loop Study (7737)	Conduct a corrosion control pipe loop study to determine the optimal corrosion control treatment strategy to achieve compliance with the Final Lead and Copper Rule Revisions (LCRR). The experimental phase of the project was completed in November 2025. The Corrosion Control Study is due to be completed by February 2026.	Active
CWTP Emergency Generator No. 1 Replacement (7642)	Replace the generator/alternator on emergency generator No. 1 due to failure.	Completed
CWTP UV Rooms Dehumidification (7790)	Address the tripping of the existing refrigerant type dehumidification units in the UV Rooms by installing desiccant type dehumidifiers, which will operate during the warmer months.	Active
CWTP Parapet Wall Repairs (7755)	Cover the CWTP parapet walls with aluminum caps and a waterproof membrane to prevent leaks into the walls. Replace portions of the existing lightning protection system. Install safety railings around roof hatches and equipment within 10 feet of roof edges. Construction NTP issued in February 2024.	Completed

Marlborough Emergency Pump Station Connection (7791)	Install a connection to emergency pumps that will be installed by the City of Marlborough near the Cedar Hill Pump Station to establish water supply redundancy.	Completed
CWTP Influent Control Improvements – Design/Construction/REI (8031,8032,8033)	Renamed to JJCWTP Influent Control Improvements to address overall redundancy/reliability issues associated with current plant influent configuration. Preliminary engineering is being completed via Technical Assistance task order to evaluate the addition of a parallel 120-inch influent line to completely isolate the A and B sides of the plant, the replacement of BFV-4; and the leaking slide/sluice gates in the ozone influent channel. The design/ESDC contract will be developed based on the recommendations of the preliminary engineering report.	Active
Interim Corrosion Control Construction & REI (7999 & 8000)	Construction and Resident engineering services for interim changes to corrosion control at CWTP to improve compliance with the Lead and Copper Rule. Will be funded as more information is known.	Future
Permanent Corrosion Control Design, Construction & REI (8001, 8002 & 8003)	Design, REI and Construction of permanent changes to corrosion control at CWTP to reduce lead concentrations and improve compliance with the Lead and Copper Rule. Will be funded as more information is known.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$61,713	$6,072	$55,640	$1,555	$683	$10,632	$46,966	$0

Carroll Water Treatment Plant
Asset Protection



Project Status 05/25	11.7%	HVAC Equipment Replacement reached substantial completion in April 2020. CWTP Emergency Generator No. 1 Replacement was completed in May 2020. Marlborough Emergency Pumping Station Connection commenced in November 2021. Soda Ash and Ammonia Equipment Replacement and REI were awarded in January 2022. Chemical Feed System Improvements were completed in March 2024. CWTP Parapet Wall Repairs was awarded in January 2024 and completed in November 2024.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$60,849	$61,713	$864	Oct-34	Aug-36	21 mos.	$13,668	$10,632	($3,036)

Explanation of Changes

- Project cost changed primarily due to updated cost estimate for CWTP Influent Control Improvements Resident Engineering and Inspection contract.

- Project spending changed primarily due to updated schedules for LOX Yard Redundancy and CWTP Influent Control Improvements as well as cost change listed above.

CEB Impacts

- None identified at this time.

S. 597 Winsor Station/Pipeline Improvements

Project Purpose and Benefits

☑ *Extends current asset life* ☑ *Results in a net reduction in operating costs*

Master Plan Project ☑ 2008 Priority Rating 1 (See Appendix 3)

Rehabilitation of the water supply infrastructure at the Winsor Station in Belchertown. Design and construct station piping improvements which would allow water to go to the Swift River without going through the isolation valve. Design and construct means to control flow in the Quabbin Aqueduct. Quabbin Release Pipeline work is also included.

Project History and Background

Winsor Dam impounds the Quabbin Reservoir. At the dam, an intake feeds two conduits that are interconnected at a powerhouse below the dam. One conduit discharges to the Chicopee Valley Aqueduct; the other conduit feeds a now inoperative hydroelectric turbine/generator unit. A bypass valve at the Winsor Station house also allows flow to be discharged directly to the Swift River.

The water supply infrastructure within the Winsor Station is in need of major repair and upgrade as much of it is over 75 years old. Several other sub-phases are needed to address the extensive work on the Quabbin Transmission System and the Swift River bypasses. These sub-phases include:

- Winsor Station Chapman Valve Repair & Purchase of Sleeve Valves - replacement of the existing damaged Chapman Valve with sleeve valves.
- Pipeline Replacement Phase 1 – To repair and upgrade large-diameter piping and valving in the basement of the Winsor Station including the bypasses.
- Quabbin Aqueduct – To replace the antiquated and unreliable shutter system at Shaft 12 with a gate to control flow in the Quabbin Aqueduct and inspect the Quabbin Tunnel and recommend maintenance or repairs. Make repairs to the Shaft 12 building and Shaft 2.
- Winsor Power Station Upgrades -. Rehabilitate Winsor Power Station and the CVA Intake Structure.
- Hatchery Pipeline- To convey cold, well-oxygenated hypolimnetic water from Quabbin Reservoir to the downstream trout hatchery, a hydro turbine is located in a vault near the connection of the pipeline to the CVA that captures some of the hydraulic energy contained in the pipeline as the water is conveyed to the hatchery. The power generated is sold back to the grid.

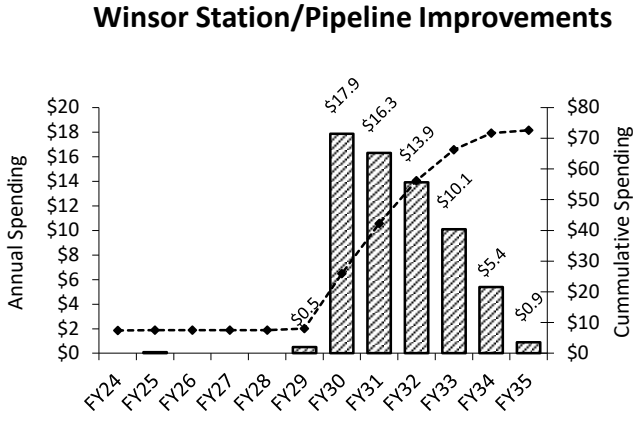
Scope

Sub-phase	Scope	Status
Quabbin Aqueduct & Winsor Power Station Preliminary Design (7114)	Preliminary design of improvements at Shafts 1, 2, 9 and 12 of the Quabbin Aqueduct and the Winsor Power Station.	Completed
Shaft 12 Isolation Gate Design CA/RI (7509/8034) and Construction (7197)	Installation of a gate to control flow at Shaft 12, the intake to the Quabbin Aqueduct, thereby improving safety and reliability of the transmission system.	Future

Sub-phase	Scope	Status
Quabbin Aqueduct TV Inspection (6277)	TV inspection of the Quabbin Aqueduct.	Future
Quabbin Aqueduct Winsor Power Station Final Design/CA/RI (7460) Construction (7115)	Design and Construction to address piping improvements and building rehabilitation for water supply and Swift River discharge. Will also include improvements to the CVA Intake Structure.	Future
Quabbin Aqueduct Shaft 2 Repairs (7198)	Replacement of deteriorated outer concrete layer at Shaft 2. Replacement of fence posts and cast iron vent pipes. Repainting of manhole frames and covers. Construction is substantially complete.	Completed
Hatchery Pipeline Design (7017) and Construction (7235)	Design and construction of approximately 5,000 feet of pipeline to convey 6 MGD of water from the CVA to the downstream trout hatchery. The project would provide a consistent and reliable source of high quality cold water to the hatchery, as well as supplement flows to the Swift River. The project will also include a hydro turbine that would capture some of the hydraulic energy contained in the pipeline as the water is conveyed to the hatchery which will be sold back to the grid. The hydro turbine portion is funded under the Alternative Energy Initiatives project and Massachusetts Leading by Example Program.	Completed
Winsor Station Chapman Valve Repair (7212)	Construction of replacement valving for the existing 36" Chapman Butterfly Valve (design by Technical Assistance consultant).	Completed
Purchase of Sleeve Valves (7234)	For replacing the damaged Chapman Butterfly Valve.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$72,570	$7,475	$65,095	$99	$0	$99	$58,686	$6,310



Project Status 05/25	10.4%	Status as % is approximation based on project budget and expenditures. Winsor Station Chapman Valve Repair was completed in November 2009. Shaft 12 isolation gate Design CA/RI notice to proceed was issued in March 2017. Preliminary design was completed and final design was subsequently cancelled. Hatchery Pipeline construction was substantially complete in September 2017. Shaft 2 construction was substantially complete in June 2022.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$71,835	$72,570	$735	Jan-35	Jan-35	None	$0	$99	$99

Explanation of Changes

- Project cost changed primarily due to inflation adjustments, and updated cost estimate for Quabbin Aqueduct TV Inspection.

- Project spending changed primarily due to updated final cost for Shaft 2 Construction.

CEB Impacts

- None identified at this time.

S. 604 MetroWest Water Supply Tunnel

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Fulfills a regulatory requirement*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To provide transmission redundancy for the Hultman Aqueduct ensuring reliable water delivery and providing sufficient hydraulic capacity to support the John J. Carroll Water Treatment Plant and covered storage distribution facilities. This project consists of construction of a 17.6-mile deep rock tunnel from Shaft D in Marlborough to Shaft 5 of the City Tunnel in Weston, and to Shaft W in Weston, as well as the construction of a covered storage facility at Loring Road in Weston. Also included construction of shafts and valve chambers for connections of Shaft 4 in Southborough and to the Norumbega Covered Storage facility.

Project History and Background

Adequate transmission capacity is a critical component of MWRA's Integrated Water Supply Improvement Program. MWRA's water delivery depends on a system of tunnels and aqueducts that transport water from the Quabbin and Wachusett Reservoirs to the distribution reservoirs in metropolitan Boston. The existing tunnels and aqueducts were deficient in several respects. First, the transmission system was unable to supply sufficient hydraulic capacity during peak flow periods, leading to pressure deficiencies in all high service areas during the summer months. Second, key sections of the transmission system, such as the Hultman Aqueduct and the Southborough Tunnel, relied on a single conduit. In the event of failure of any of the major transmission sections, the remaining waterworks system could not meet the demand for water.

Construction of the MetroWest Water Supply Tunnel and its extension to the Weston Aqueduct Terminal Chamber has provided the critically needed minimum level of transmission redundancy for the Hultman Aqueduct. Enhancements and improvements to the reliability of the City Tunnel and the City Tunnel Extension are being planned as part of the Long-Term Redundancy project. This will also enhance system maintenance by allowing each major supply conduit to be taken out of service for inspection, cleaning, and repair.

In June 1989, MWRA began engineering work on reconstruction of the Sudbury Aqueduct. In May 1990, the Board of Directors directed staff to put minimum effort into further study of the Sudbury Aqueduct reconstruction alternatives and maximum effort into study of the all-tunnel alternative. The advantages of tunneling included a large reduction in surface activities resulting in a reduced environmental impact, and the potential to obtain a large increase in water transmission capacity to enable the tunnel to supplant the Weston Aqueduct as well as provide redundancy to the Hultman Aqueduct. Other advantages included a higher pressure rating by constructing a tunnel deeper into rock, and the ability to construct along a straight line, reducing the overall length of the project by three miles.

In November 1990, the Board of Directors directed staff to eliminate the planned tunnel from Norumbega Reservoir to the Chestnut Hill Reservoir in favor of connecting to Shaft 5 of the City Tunnel and to the eastern end of the Weston Aqueduct. The connection allowed the Weston Aqueduct and Weston Reservoir to be taken off-line and used only for emergency supply as required by the Safe Drinking Water Act.

In December 1995, the Board of Directors authorized solicitation of bids on the first major construction contract of the MetroWest Tunnel project. In June 1996, a notice to proceed was issued on this contract, beginning the transition from design to construction of the project. In November 2003, the tunnel was placed in service.

In September 2005, the Board of Directors authorized an engineering services contract to rehabilitate the existing Hultman Aqueduct and to interconnect the MetroWest Tunnel with the Hultman Aqueduct. In the interim, Valve Chamber E-3 at Southborough was constructed in order to facilitate system operations and the demolition of an existing chlorine building was completed in preparation for construction of the interconnections.

In May 2013 construction was substantially complete on Contract CP6A to interconnect the MetroWest Tunnel with the Hultman Aqueduct and to rehabilitate the Hultman Aqueduct from Shaft 4 in Southborough to Shaft 5 of the City Tunnels and to Shaft W of the MetroWest Tunnel in Weston. A second construction contract (CP6B) was substantially complete to rehabilitate the remainder of the Hultman Aqueduct from Shaft C of the Cosgrove Tunnel to Shaft l of the Southborough Tunnel, and to rehabilitate the top-of-shaft facilities at Shaft 4 of the Southborough Tunnel in Southborough.

Program Elements

The MetroWest Tunnel is 17.6 miles long with a 14-foot finished diameter. The first segment of the tunnel extends from the water treatment plant site at Walnut Hill on the Marlborough/Southborough line to Shaft 4 of the Hultman Aqueduct in Southborough. From there, the tunnel continues to a "WYE" connection east of Norumbega Reservoir, and continues east from the "WYE" to Shaft 5 of the City Tunnel and northward to the Weston Aqueduct Terminal Chamber. The tunnel depth varies from 200 to 500 feet below ground surface along the alignment.

After the MetroWest Tunnel and the John Carroll Water Treatment Plant were in service, the Hultman Aqueduct was inspected and rehabilitated. Surface distribution facilities, including piping, valve chambers, and risers connect the tunnel to the Hultman Aqueduct and local community services. Intermediate connections between the MetroWest Tunnel and the Hultman Aqueduct permit operation of segments of either the aqueduct or the tunnel interchangeably, allowing flexibility in the maintenance of the two conduits.

Scope

Sub-phase	Scope	Status
Study (5043)	Study of the aqueduct/tunnel system to determine the best alternative to improve hydraulic capacity and create redundancy.	Completed
Construction-Sudbury Pipe Bridge (5048)	Rehabilitation of the Siphon Pipe Bridge at the Weston Aqueduct which experienced significant leakage.	Completed
Design/EIR-Tunnel-Engineering Services During Construction (5044)	Environmental impact report (EIR) process and design of the 17.6-mile long, 14-feet diameter tunnel. Construction support services, including environmental and safety compliance, claims assistance, contract administration, quality assurance testing, and community relations.	Completed
Construction: Western Tunnel Segment – CP1 (6054)	Construction of the western portion of the tunnel and associated surface facilities. Shaft E was constructed at the Sudbury Dam and a tunnel was excavated 4.9 miles to Shaft D, located adjacent to the clear well of the Walnut Hill Water Treatment Plant (WHWTP). A riser shaft has been excavated to connect the tunnel to Southborough's Hosmer Pump Station and includes the surface piping facilities necessary to bring water from the Wachusett Reservoir.	Completed

Sub-phase	Scope	Status
Construction: Middle Tunnel Segment – CP2 (6055)	Construction of approximately 11.9 miles of tunnel between Southborough and Weston. Construction was staged from Shaft L, located at a sand and gravel pit in Framingham, where a permanent connection to the Hultman will be constructed. Along the alignment, four small-diameter shafts have been constructed for community connections to Framingham and Weston. The western reach of the Middle Tunnel Segment portion of the tunnel terminates at Shaft E. The eastern reach terminates at the "WYE" where it meets the East Tunnel Segment. Shafts NE and NW will be constructed on the northwest side of Norumbega Reservoir where surface work included construction of valve chambers and surface piping to allow connections to the Hultman Aqueduct and Norumbega Reservoir. The design at Shaft N included provisions for connections to the Norumbega Covered Storage Facility and the proposed Metropolitan Tunnel Loop.	Completed
Construction: Shaft 5A- CP3 (6059)	Shaft 5A was excavated near the intersection of Route 128 and the Massachusetts Turnpike.	Completed
Construction: Eastern Tunnel Segment – CP3A (6374)	Construction of the eastern portion of the tunnel. An approximately 4,400-feet long, 12-feet finished diameter tunnel was constructed from the Shaft 5A bottom through the “WYE” where it meets the Middle Tunnel Segment and on to Shaft W where a shaft connection to the Loring Road storage tanks was made.	Completed
Construction: MHD Salt Sheds – CP5 (6056)	Massachusetts Highway Department (MHD) salt storage operations were relocated from the Shaft 5A site to a new, nearby location on MHD property on Recreation Road in Weston. This allowed demolition of the MHD salt sheds at the Shaft 5A site.	Completed
Testing and Disinfection – CP7 (6204)	Pressure testing of the MWWST from Shaft E (west) to Shaft W and 5A, and disinfection and dechlorination of the entire tunnel from Shaft D to Shafts W and 5A, and final disinfection of the Norumbega Covered Storage tanks. Also included the disinfection and dechlorination of the Wachusett Aqueduct and the piping connections through Walnut Hill to MetroWest Shaft D.	Completed
Construction: Loring Road Covered Storage-CP8 (6203)	Construction of surface facilities at the Shaft W site included a 20 million-gallon storage facility that replaced the function of the existing Weston Aqueduct/Weston Reservoir system, allowing the system to be taken off-line and placed on emergency stand-by status. The storage facility has been constructed as two concrete tanks partially buried in a hillside adjacent to Shaft W. Connections were made under this contract at Shaft W to two WASM (1 and 2) low service mains and the WASM 4 high service main, as well as to the 7-feet diameter branch of the Hultman Aqueduct. Also included rehabilitation of 4,100 linear feet of 60-inch diameter pipe and four master meters.	Completed
Construction Management/RI (5284)	Full inspection of all construction activity, as well as provision of construction support services including environmental and safety compliance, claims assistance, contract administration, quality assurance testing, community relations, labor relations, engineering services during construction, and provision of technical assistance.	Completed

Sub-phase	Scope	Status
Hultman Study (5141)	Risk analyses to determine which leaks should be repaired now and a monitoring plan for leaks which presently do not threaten the integrity of the aqueduct.	Completed
Hultman Leak Repair (6128)	Test pit excavation and leak repair on the Hultman Aqueduct.	Completed
Hultman Repair Bands (6140)	Purchase of external repair bands to be installed as part of Hultman investigation and repair.	Completed
Hultman Investigation and Repair (6430)	Evaluation of various segments of the Hultman Aqueduct and installation of repair bands at major leak sites.	Completed
Land Acquisition (5139)	Easements along the 17.6-mile tunnel construction route, as well as land at the Shaft W and Shaft L sites.	Completed
Professional Services (6117)	Services such as construction safety, contractor audit, legal services, risk management consulting services, and other miscellaneous services.	Completed
Framingham MOU (6129)	Agreement to mitigate the impacts of the construction on the Town of Framingham.	Completed
Weston MOU (6367)	Agreement to mitigate the impacts of the construction on the Town of Weston.	Completed
Southborough MOU (6366)	Agreement to mitigate the impacts of the construction on the Town of Southborough.	Completed
Local Water Supply Contingency Design/CA/RI (6063), and Construction (6130)	Design and implementation of a Water Supply Contingency Plan including the installation of new local mains where residential well supplies could be affected by tunnel construction.	Completed
Community Technical Assistance (5976)	Funds to assist communities with the redesign of utility plans.	Completed
Owner Controlled Insurance (6122)	Owner controlled insurance program providing workers' compensation, general liability, and pollution liability insurance for MetroWest Water Supply Tunnel construction.	Completed
Design CA/RI Hultman Interconnect CP6 (6911)	Design CA/RI of the interconnections between the MetroWest Water Supply Tunnel and the Hultman Aqueduct as well as inspection of the Southboro Tunnel and rehabilitation of the Hultman Aqueduct.	Completed
Construction: Hultman CP9 (6856)	Construction of Valve Chamber E-3.	Completed
Interim Disinfection (6872)	Temporary disinfection related to CP-7 sub-phase.	Completed
Equipment Prepurchase (6777)	Pre-purchased one 10-foot diameter butterfly valve for installation in Valve Chamber E3.	Completed
Construction CP6A Lower Hultman Rehab. (6975), and 6B Upper Hultman Rehab. (6205)	Construction of interconnections between Metrowest Tunnel and the Hultman Aqueduct, and rehabilitation of Hultman Aqueduct including replacement or repair of air relief structures, blow off valves, culverts beneath the aqueduct; replacement of existing valves; and additional items to restore the aqueduct to safe and efficient operation after more than 70 years of service without an overhaul.	Completed

Sub-phase	Scope	Status
Construction 6A Demolition (7106)	Demolition of existing chlorine storage building to allow for construction of a new valve chamber on the Hultman Aqueduct.	Completed
CP6 Easements (7105)	Easements for CP-6 Contract.	Completed
Valve Chamber and Storage Tank Access Improvements Design (7283), REI (8083) and Construction (7476)	Design and construction to provide better and safer access to valve chambers for Water Quality and Maintenance personnel. Provide secure hatches at Loring Road Tanks.	Future
Shaft L Interconnect Des/ESDC (8080) Construction (8081), and REI (8082)	New connection to provide water supply to MetroWest communities.	Active
Shafts 5A/5 Surface Piping Cathodic Protection Construction (7477)	Construction to replace Cathodic protection systems.	Completed
Hultman Shaft 5A Leak (7507)	Repair Hultman Leak at Shaft 5A.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$709,754	$697,182	$12,572	$0	$491	$3,467	$9,105	$0

Project Status 05/25	98.2%	Status as % is approximation based on project budget and expenditures. CP6A Lower Hultman Rehab was substantially complete in May 2013. Upper Hultman CP6B contract was substantially complete in June 2013. Shaft 5A/5 Surface Pipe Cathodic Protection was substantially complete in June 2017.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$709,574	$709,754	$180	Mar-29	Apr-30	13 mos.	$8,524	$3,467	($5,057)

Explanation of Changes

- Project cost change due to updated cost estimate for Shaft L Interconnect Design/ESDC.
- Project schedule and spending change due to cost and schedule changes for Shaft L Interconnect Design/ESDC, Construction, REI.

CEB Impact

- None identified at this time.

S. 616 Quabbin Transmission Rehabilitation

Project Purpose and Benefits

☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*
☑ *Improves energy efficiency*

To ensure continued reliable delivery of high quality water to MWRA customer communities through inspection, evaluations, and rehabilitation of the aging transmission system. Many of the transmission facilities and structures were constructed in the 1930s and 1940s and are in need of repair, routine maintenance, updating, and modifications for code compliance, health and safety, and security. Based on the findings and recommendations of this inspection phase, MWRA has and will continue to add design and construction phases to the CIP.

Project History and Background

This project provided an engineering assessment of key water transmission facilities, structures, and operations. Many of the 44 facilities were constructed in the 1930s and 1940s and are in need of repairs, routine maintenance, and modifications for code compliance, health and safety, and security. The facilities and structures include dams and spillways, structures on tops of shafts, hydraulic diversion facilities, gatehouses, intake buildings, service buildings, and garages. The facilities are spread over a large geographic area ranging from Quabbin Reservoir eastward to the Boston Metropolitan area.

The engineering assessment utilized existing information and site visits to inventory the condition of each facility. The work yielded a facility report that identifies existing conditions and provides recommendations for needed improvements, rehabilitation, and repairs. The project resulted in the development of a conceptual design for each facility including alternatives, basic design criteria, cost estimates, required permits, and schedules. MWRA uses the final conceptual design reports to develop a detailed scope of work for the future procurement of engineering services for subsequent design, construction administration, and resident inspection services. Staff will integrate and coordinate project findings with MWRA's current master planning efforts.

One critical component of the Quabbin Tunnel, the pressure-reducing valves at the Oakdale Power Station, was targeted for immediate replacement. These valves were in poor condition. Due to their important function of reducing hydraulic head to allow water from the Quabbin Reservoir to flow into Wachusett Reservoir, replacement of the Oakdale Valves was a high priority.

Scope

Sub-phase	Scope	Status
Facilities Inspection (6828)	Assessment of existing conditions; update of infrastructure rehabilitation evaluation; identification of improvements/repairs/upgrades, establishment of priorities for repairs, and preparation of cost estimates.	Completed
Oakdale Valves Phase 1 (6690)	Study, design, and construction for the rehabilitation/replacement of two valves and miscellaneous support equipment at the Oakdale facility.	Completed
Equipment Pre-Purchase (7007)	The two large butterfly valves (84 inch and 72 inch) and the fixed orifice valve (48 inch) that were needed in Phase I Valve Rehabilitation, required 6 to 10 months to fabricate and had to be pre-purchased so the valves were available for installation.	Completed

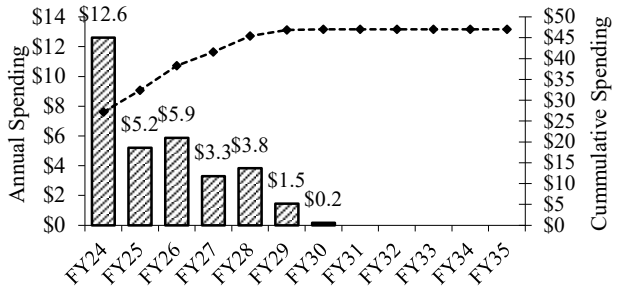
Sub-phase	Scope	Status
Oakdale Phase 1A Design (7229), & Construction (7230)	Upgrade the 60-year old Oakdale facility and electrical control systems and the switchyard which are antiquated and unsafe to personnel. Will lower the station service voltage from 2,200 to 480.	Completed
Ware River Intake Valve Replacement Design (7282) and Construction (7487)	Replace oil-actuated valves currently underwater and inaccessible for maintenance with electric actuated valves. Also, replace siphons with hard piped intakes and automate equipment with remote control capabilities.	Future
CVA Intake Motorized Screen Replacement Construction (7488)	Replace current motorized screens on the CVA Intake. One screen has failed. Both have reached the end of their useful life. The screens keep debris from entering CVA.	Completed
Rehabilitation of Oakdale Turbine Design (7545) and Construction (7378)	Rehabilitate turbine. Turbine was last rehabilitated in 1986. 40 plus years exceeds the expected life of an overhaul.	Future
Rehabilitate Wachusett Bastion Design (7333), Construction (7697), and REI (7716)	Make structural improvements to the Bastion including a new roof, repairs of the concrete walls, and drainage and ventilation systems. Construction is substantially complete.	Completed
Wachusett Lower Gatehouse Pipe and Boiler Replacement Construction (7380) and REI (7717)	Replace the oldest piping in the Lower Gatehouse. Existing piping and valves have failed or are of poor condition. Provide CFRP lining of the pipes between the dam and the Lower Gatehouse. Other piping and valves of the same age in this facility have already been replaced. Abatement of the lead based paint on the exterior brick walls and turbines and the asbestos tile near the windows and radiators.	Active
Wachusett Lower Gatehouse Interim Pipe Repair (7379)	Install blind flanges on the three 48-inch pipes in the Lower Gatehouse to isolate the pipes from the broken Equalizer pipe.	Completed
Wachusett Lower Gatehouse Windows and Doors (7788), Roof and Repointing (7789)	Replace the leaking roof, gutters, and repair/seal masonry and degraded windows and doors. Sealing of the building will allow more efficient heating of building space to prevent further deterioration. Windows & Doors completed, Roof and repointing preliminary engineering to be completed through the current Technical Assistance contract. Final design to follow with the new Technical Assistance contract.	Completed/ Active
Oakdale High Line Replacement (6940)	Replacement of 70 year old 69kv overhead transmission line and ground operated switch that supplies power and delivers power from the Oakdale Power Station.	Future
Wachusett Dam Bridge Crane Removal (7780)	Demolition of old bridge crane that was removed from the Wachusett Dam Lower Gatehouse as it represented a safety hazard.	Completed

Lonergan Intake Building Walkway and Wall Improvements (8138), REI (8160) and ESDC (8161)	This project will complete required improvements within and adjacent to the Shaft 8 Intake Building. The existing suspended walkway was recently inspected and found to have severe corrosion rendering it unsafe for access. Improvements within the Shaft 8 Intake Building will include removal and replacement of the existing suspended walkway assemblies, installation of two new segments of suspended walkway, removal and replacement of the existing fixed ladder, and removal and replacement of existing frames and covers for stop logs and valves. Improvements at the exterior of the Shaft 8 Intake Building will include removal and replacement of existing stone retaining wall and foundation, replacement of existing stairway to exterior platform, removal and replacement of existing ladder to exterior platform, and modifications to existing guardrail. Replacement ladders will be equipped with personal fall arrest systems. Improvements are required to ensure continued operation at Shaft 8 is maintained.	Future
Ware River Shaft 8 Retain Wall (8159), REI (8163) and ESDC (8162)	Project includes replacement of the retaining wall at the Lonergan (Shaft 8) Lower Garage. Design is by in-house staff. The existing retaining wall has partially collapsed rendering it unsafe for staff to access the paved area used for maintenance vehicle storage and parking. The existing retaining wall will be replaced with a precast modular block wall in the same location with a comparable footprint and elevations. The exposed faces of the precast wall will have a stone texture to maintain the historic appearance of the wall. The work will also include removal and replacement of the existing reinforced concrete slabs and fencing for the propane tank and the salt storage areas.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$46,991	$27,174	$19,817	$5,200	$5,877	$30,803	$1,615	$0

Quabbin Transmission Rehabilitation



Project Status 05/25	71.7%	Status as % is approximation based on project budget and expenditures. . Wachusett Dam Lower Gate House Interim Pipe Repair was completed in June 2020. Wachusett Dam Bridge Crane Removal was completed in September 2021. Rehabilitate Wachusett Bastion Rehab Construction was completed in April 2023. Rehabilitation of the Wachusett Lower Gatehouse windows and doors was completed in October 2023. Wachusett Lower Gatehouse Pipe and Boiler Replacement commenced in February 2023.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$42,487	$46,991	$4,504	Sept-29	Sept-29	None	$26,799	$30,803	$4,004

Explanation of Changes

- Project cost and spending changed primarily due to the addition of new contracts for Lonergan Intake Building Walkway and Wall Improvements and Ware River Shaft 8 Retain Wall.

CEB Impacts

- None identified at this time.

S. 617 Sudbury/Weston Aqueduct Repairs

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To ensure continued reliable delivery of high quality water to MWRA customer communities through study, design, and implementation of repairs to the Sudbury and Weston Aqueducts. These backup systems are both more than 100 years old, and need to be ready for emergency use.

Project History and Background

This project includes the inspection of the Sudbury Aqueduct in preparation for future repairs. This aqueduct constructed in 1878 is almost 140 years old and is in need of renewal and upgrade. This is a critical back-up facility for the City Tunnel and the Sudbury Reservoir emergency supply. The inspection phase of the Sudbury Aqueduct was conducted in 2006. The Inspection Report identified several short-term repairs required to better prepare the aqueduct for short-term use. This project will also fund inspections of the Weston Aqueduct which is more than 110 years old. The results of the inspection will allow MWRA to evaluate and prioritize future construction and repair work for this aqueduct.

Scope

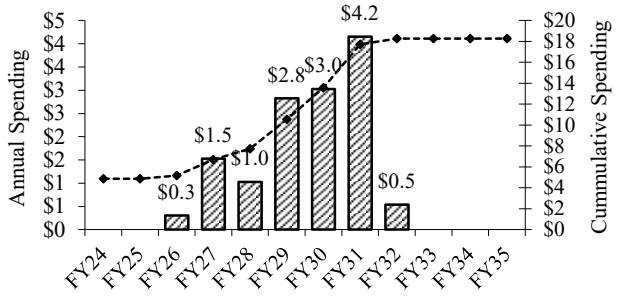
Sub-phase	Scope	Status
Hazardous Materials (6617)	Remove contaminated sediment from aqueduct.	Completed
Sudbury Aqueduct Inspection (6838)	Inspection of the Sudbury Aqueduct to identify need for future repair work.	Completed
Weston Aqueduct Sluice Gates Construction (7369)	Construct a means to isolate the Weston Reservoir from a break west of Ash Street that could detrimentally affect the elevation in the Weston Reservoir. The construction contract will replace antiquated stop-plank gates in Siphon Chambers 3 and 4 blow-off valves along the Weston Aqueduct and an air valve on the Sudbury River Pipe Bridge. Under construction.	Completed
Weston Aqueduct Gatehouse Rehabilitation Design (7700), Construction (8134), and REI (8135)	Evaluation of the structural integrity of the gatehouse and design of modifications necessary to rehabilitate the structure. Design for replacement of stop logs and stop log guides. Construction of the necessary modifications to rehabilitate the structure.	Future
Sudbury Short-Term Repairs Phase 1 (7016), and 2 Construction (7317)	Repairs needed in order to better prepare the Sudbury Aqueduct for short-term use (flow test and emergency activation).	Future
Rosemary Brook Siphon Building Repairs (7472)	Repairs to stabilize structures for functional use as emergency water supply facility. Repairs include re-pointing and rebuilding of brick structures and roof replacement. Rosemary Brook Siphon in conjunction with the Sudbury Aqueduct supplies raw water to the Chestnut Hill Reservoir in the event of an emergency.	Completed
Evaluation of Farm Pond Buildings-Waban Arches (7473)	Assessment of historic structures to determine measures to repair and stabilize facilities. Will include Massachusetts Historical Commission review of proposed alternative.	Completed

Sub-phase	Scope	Status
Waban Arches Rehabilitation Design (7616) and Construction (7617)	Design and construction of repairs to the Waban Arches of the Sudbury Aqueduct.	Future
Farm Pond Inlet Chamber & Gatehouse Construction (7619)	Demolition of the Farm Pond Inlet Chamber and Gatehouse of the Sudbury Aqueduct. Design to be done via task order.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$18,275	$4,870	$13,405	$0	$306	$2,860	$10,545	$0

Sudbury/Weston Aqueduct Repairs



Project Status 05/25	26.6%	Status as % is approximation based on project budget and expenditures. Inspection of Sudbury Aqueduct was completed in October 2006. Rosemary Brook Siphon Building Repair and Evaluation of Farm Pond Buildings-Waban Arches reached substantial completion in FY18. Weston Aqueduct Sluice Gates Construction was substantially complete in September 2021.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$18,284	$18,275	($9)	Jun-31	Jun-31	None	$2,860	$2,860	$0

Explanation of Changes

- Project cost changed due to updated cost estimate for Sudbury Short-Term Repairs Phase 1.

CEB Impacts

- None identified at this time.

S. 621 Watershed Land

Project Purpose and Benefit

☑ *Fulfills regulatory requirement.*
☑ *Provides water quality benefits.*
☑ *Continues to improve public health.*

Acquire, in the name of the Commonwealth, parcels of real estate or interests in real estate that are important or critical to the maintenance of water quality in MWRA water supply sources and the advancement of watershed protection.

Project History and Background

The Watershed Protection Act (WsPA) regulates land use and activities within critical areas of the Quabbin Reservoir, Ware River, and Wachusett Reservoir watersheds for the purpose of protecting the quality of drinking water. Since the passage of the WsPA in 1992, watershed lands had been purchased by the Commonwealth through its bond proceeds. The MWRA was then billed for and, over the years, paid increasing percentages of the debt service on those bonds, eventually reaching 100% of the debt service. MWRA also makes Payments in Lieu of Taxes (PILOT) to each watershed community for the land owned for water supply protection.

Since 1992, land acquisition has evolved into program-status and is a significant component of the Watershed Protection Plans for Quabbin Reservoir/Ware River and Wachusett Reservoir. Land in the watersheds undergoes analysis by the Land Acquisition Panel (LAP), which is comprised of Department of Conservation and Recreation (DCR) and MWRA staff. The LAP analyzes critical criteria for protection of the source water resources, including presence of streams and aquifers, steep slopes, forest cover, and proximity to the reservoirs. Parcels are ranked as to their value to the water supply system and, when the desirable parcels become available, are pursued through the LAP for acquisition through a "friendly taking" in fee or conservation restriction. LAP maintains an active list of parcels to pursue as seller and LAP interest, and funding availability, exist to support acquisition.

Under the revised Memorandum of Understanding between MWRA and DCR, executed April 2004, MWRA will utilize its own bond issuances for the purpose of acquiring, in the name of the Commonwealth, parcels of real estate or interests in real estate for the purpose of watershed protection. At its December 2004 meeting, the MWRA Board of Directors approved the use of MWRA bond proceeds for such purpose.

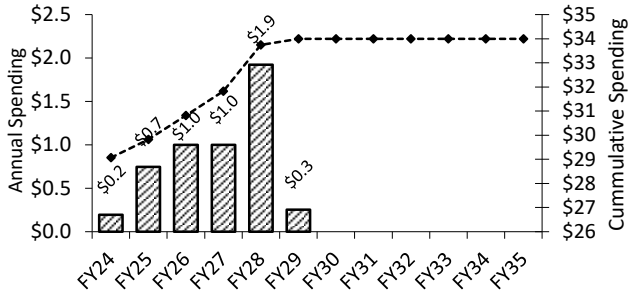
Scope

Sub-phase	Scope	Status
Land Acquisition (7069)	Acquire parcels of real estate or interests in real estate critical to protection of the watershed and source water quality.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$34,000	$29,075	$4,925	$745	$1,000	$4,866	$255	$0

Watershed Land



Project Status 05/25	86.2%	Status as % is approximation based on project budget and expenditures. MWRA began purchasing land in FY07.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$34,000	$34,000	$0	Jun-28	Jun-28	None	$5,121	$4,866	($255)

Explanation of Changes

- Project spending changed due to updated cost estimates for future land purchases.

CEB Impacts

- None identified at this time.

S. 623 Dam Projects

Project Purpose and Benefits

☑ *Contributes to improved public health and safety*
☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Results in a net reduction in operating costs*
☑ *Improves system operability and reliability*

Master Plan Project ☑ 2008 Priority Rating 2 (See Appendix 3)

To evaluate, design, and make necessary safety modifications and repairs to dams for proper operation as a result of the 2004 MOU between MWRA and DCR.

Project History and Background

Massachusetts Dam Safety Regulations, 302 CMR 10.00, require modifications to the Framingham Reservoir No. 3 (Foss) Dam to provide a spillway system capable of passing the applicable Spillway Design Flood (SDF) or safely storing this same flood within the reservoir without a spillway or other emergency overflow structure. Based on existing Hydraulics and Hydrology studies for Foss Dam, needed improvements include dam embankment armoring and turf improvements to protect against wind-induced overtopping at the Spillway Design Flood (SDF).

All earthen dams and masonry dams under MWRA responsibility were built in the late 1800s to early 1900s and are in periodic need of maintenance. Based on completed regulatory inspections, repairs are needed including rip rap re-setting and replacement, mitigation of erosion features, and addressing mortar loss and consequent minor leakage at gatehouses are necessary at Foss, Weston, Chestnut Hill, Sudbury and Wachusett Open Channel Lower dams.

Scope

Sub-phase	Scope	Status
Dam Safety Modifications and Repairs (7211 &7194)	Provide Design and ESDC for required Dam Safety Modifications and Repairs. Construct parapet wave walls on dam crests to safely contain the SDF at the Weston Reservoir Dam. At present, alternatives are being evaluated at Foss.	Completed
Quinapoxet Dam Removal Design/ESDC (7347), Construction (7348), and REI (7690)	Provide final design, ESDC/RI, and construction for the removal of the Quinapoxet Dam adjacent to the Oakdale Pump Station. The removal of the dam will provide climate resiliency benefits, negate expenditure of $0.5 M in repairs and studies for an obsolete dam, and restore Quinapoxet River spawning habitat to landlocked fish in the Wachusett Reservoir.	Active

Sub-phase	Scope	Status
Sudbury/Foss Dam Improvements/Wachusett North Dike Overtopping Protection Design CA/RI (7614), and Construction (7615) and (7615A)	Regulatory requirement for dam safety compliance for the SudburyDam spillway includes substantial repointing to ensure spillway will properly function during spillway activation. Also, a gatehouse sluicegate deflector plate and vent pipe require restoration for proper release control (Active). Foss Dam requires embankment overtopping protection to handle the regulatory spillway design flood (Active). Regulatory requirement for dam safety compliance for the Wachusett North Dike to ensure earthen dam structure will withstand overtopping. Dike requires embankment raising and parapet wall at the Leominster Pump Station to protect against wave run-up/overtopping at the spillway design flood (Completed). Area of dike was removed in mid 1960s to build the P.S. Instrumentation (piezometers) is required to monitor internal conditions at all High Hazard class earthen dams. Wachusett North and South Dikes were the first of the remaining dams to have this installed (Completed).	Completed/Future
Foss Reservoir 3 Sluice Gates - Repoint Construction (8058)	This facility is used for active flood control via sluice gates in the wet wells. Scope includes removal of existing debris and sediment accumulated inside the upstream wet wells along with all deteriorated mortar, repointing joints below the water surface with a product specific for underwater installation as well as repointing joints above the water surface, install trash racks in front of upstream wet wells, and conduct routine inspections to identify defects or deformities.	Active (pending design)

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY24
$12,857	$4,293	$8,565	$4,538	$2,827	$9,126	$0	$0

Project Status 05/25	67.5%	Status as % is approximation based on project budget and expenditures. Design phase for Dam Safety Modifications and Repairs began in September 2009. Dam Safety Modifications and Repairs Construction reached substantial completion in September 2012. Sudbury/Foss Dam Design CA/RI commenced in March 2019. Construction on Sudbury Dam is underway FY26 Q1. Foss Dam design at 90% in FY26 Q1. Quinapoxet Dam Removal Design/ESDC commenced in November 2019. Construction is underway FY24 Q4. Sudbury Reservoir Dam Spillway & Gatehouse Repairs was completed in February 2025.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$12,222	$12,857	$635	Jul-28	Jul-28	None	$8,491	$9,126	$635

Explanation of Changes

- Project costs and spending due to updated costs for Quinapoxet Dam Removal Construction and Sudbury Foss Dam Design CA/RI and Construction.

CEB Impacts

- None identified at this time.

S. 625 Metropolitan Water Tunnel Program

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

Master Plan Project ☑ 2018 Priority Rating 1 (See Appendix 3)

To plan, design and construct the recommended redundancy improvements to the City Tunnel, the City Tunnel Extension and the Dorchester Tunnel.

Project History and Background

This project includes the study, permitting, design, and construction of redundancy improvements to critical elements of the water transmission system. The study phase evaluated alternatives and developed conceptual designs and cost estimates to provide redundancy for the metropolitan tunnel system.

The metropolitan tunnel system was evaluated first with emphasis on providing redundancy for Shaft 7 of the City Tunnel. Historically, the plan for providing redundancy for the metropolitan tunnel system was based on one or more proposed parallel deep rock tunnel loops from the terminus of the Hultman Aqueduct and MetroWest Tunnel in Weston into the metropolitan area. The focus of this study was to develop and evaluate alternative surface pipe improvements, in addition to revisiting previously proposed tunnel loops, to achieve an acceptable level of redundancy at a lower cost.

The tunnels in the Metropolitan Boston area, i.e. the City Tunnel, City Tunnel Extension, and Dorchester Tunnel remain a weak link in the water transmission system. While the integrity of the underground tunnel sections is believed to be good based on very low unaccounted-for-water in the MWRA transmission system, there is still risk of failure mainly due to pipe and valve failures at the surface connections to the distribution system or due to major subsurface failures as a result of earthquakes or movement along geological faults. A rupture of piping or a valve failure at critical surface connections points on the metropolitan area tunnel shafts would cause an immediate loss of pressure throughout the entire High Service area and would require difficult emergency valve closures, activation of emergency supplies with a boil-water order and lengthy system repairs. The assumption is that tunnels have a useful life of 100 years, but these subsurface structures have not been inspected and their actual condition is unknown because they cannot be shut down for inspection. Facilities at the top of tunnel shafts have been examined and a number of hardening measures are needed for risk reduction at these sites. Completion of distribution system storage projects at Blue Hills and the Spot Pond Storage Facility have assisted in mitigating the effects of local pipe ruptures.

In the event of a failure of the City Tunnel, a limited amount of water could be transferred through the WASM 3 (scheduled for major rehabilitation) and WASM 4 (rehabilitation completed) pipelines and the Sudbury Aqueduct would need to be brought on-line. Extensive use of the Sudbury Aqueduct/Chestnut Hill Emergency Pump Station and open distribution storage at Spot Pond and Chestnut Hill would be required. Supply would be limited and a boil order would be put in place. Failure of the City Tunnel Extension would be similar with reliance on WASM 3 and open storage at Spot Pond.

The redundancy study was undertaken to recommend a phased program which could be implemented over a period of years. The study reviewed currently proposed MWRA pipeline improvement projects and

recommendations as to changes in size and/or alignment to contribute to the objective of transmission redundancy within the metropolitan system.
Additional study of the Metropolitan system has focused on the evaluation of new tunnels for providing redundancy. Several tunnel alternatives were considered and staff presented a recommended plan to the Board of Directors in the fall of 2016. Staff also presented recommended plan to the MWRA water communities in December 2016. The recommended plan which was approved by the Board in February 2017 includes a deep rock tunnel option for both northern and southern components. The northern and southern components are identified below in the Planning, Design and Construction phases.

Subsequent Design, Permitting and Construction phases will follow-up on the recommendations of the study. The Design and Construction costs have been updated based on the recommendations of the study. Long-Term Redundancy is one of the MWRA's largest undertakings in the next decade, and a variety of options are still being evaluated.

Scope

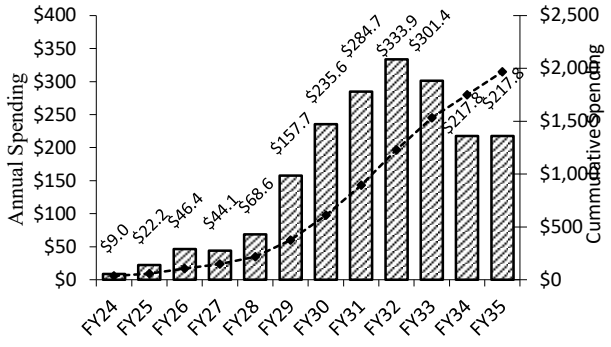
Sub-phase	Scope	Status
Water Transmission Redundancy Plan (6273)	Evaluation and recommendations of alternatives for long term redundancy.	Completed
Sudbury Aqueduct Pre-MEPA Review & Preliminary Design/EIR (7352)	Study and Pre-MEPA review of the Sudbury Aqueduct as a potential element for providing redundancy in the southern portions of the metropolitan tunnel system. Evaluate alternatives and conduct MEPA review for Sudbury pressurization. Also, includes final design and CA/RI for Rosemary Brook Siphon Building repair/stabilization.	Completed
Preliminary Design and MEPA Review (7159)	Preliminary design, geotechnical investigation, permitting and MEPA environmental review of the Northern and Southern Tunnels. (S/C Jan-2024)	Completed
Construction Management (7356)	Constructability review of final documents. Full inspection of all construction activity, as well as provision of construction support services including environmental and safety compliance, claims assistance, contract administration and quality assurance testing.	Future
Final Design/Engineering Services During Construction (7556)	Final Design and Engineering Services During Construction of the Northern and Southern Tunnels, including connecting mains.	Active
Tunnel Construction North CP1 (7291)	Construction of the North Tunnel.	Future
Tunnel Construction South CP2 (7357)	Construction of South Tunnel.	Future
Tops of Shafts Rehabilitation Design CA/RI (7521) and Construction (7522)	Design CA/RI and Construction to rehabilitate the Tops of Shafts of the existing tunnel system.	Future
Shaft 7 Buildings Design CA/RI (7558), and Construction (7559)	Design and construction of a new access building above the Shaft 7 Top of Shaft structure including new electrical service, HVAC equipment, piping corrosion protection, PRV replacement, new flow meters, and structural and access improvements to the facility.	Future
Administration Legal and Public Outreach (7516)	Community agreements, land acquisition and possible Owner Controlled Insurance Program for the North and South Tunnels.	Active

Sub-phase	Scope	Status
Program Support Services (7655)	The Program Support Services consultant firm provides technical professional resources and staff augmentation to the Tunnel Redundancy Department to support program-wide management, risk management, quality management, standardization, program controls, contract delivery and contract packaging. The Program Support Services includes independent technical reviews, constructability reviews, critical path schedule evaluations, and cost estimating/opinions.	Active
Tunnel Construction CP3 (8086)	Early enabling construction contracts to support the start of the tunnel construction.	Future
Geotechnical Support Services (7557)	The contract provides geotechnical field investigation, laboratory testing, and reporting for a two-part geotechnical program of deep rock test borings conducted to support the Tunnel Program.	Active
Owners Representative Services (8153)	Provision of technical program management for contract procurement, monitoring, and administration.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$2,127,642	$36,850	$2,090,791	$22,226	$46,396	$190,391	$1,313,280	$596,162

Metropolitan Water Tunnel Program



Project Status 05/25	2.7%	Status as % is approximation based on project budget and expenditures. Program Support Services commenced in April 2019. Preliminary Design and MEPA Review commenced in July 2020 and was completed in January 2024. Geotechnical Support Services commenced in January 2023. Final design was awarded in October 2024.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$2,142,343	$2,127,642	($14,701)	Apr-42	Apr-42	None	$180,410	$190,391	$9,981

Explanation of Changes

- Project cost change primarily due to updated costs due to inflation adjustments for Tunnel Construction North CP-1, Tunnel Construction South CP-2, Preliminary Design and MEPA Review, Construction Management, Shaft 7 Buildings Design CA/RI and Construction. Also, final cost for the Preliminary Design & MEPA Review contract, and award amount for the Final Design/Engineering Services during Construction.

- Project spending changed primarily due to updated cost for Final Design/ESDC, inflation adjustments on the unawarded contracts, updated cashflows for Program Support Services, and final cost for Preliminary Design and MEPA Review.

CEB Impacts

- None identified at this time.

S. 628 Metropolitan Redundancy Interim Improvements

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Results in a net reduction in operating costs*
☑ *Improves system operability and reliability*

Master Plan Project ☑ 2008 Priority Rating 1 (See Appendix 3)

To plan, design and construct the recommended interim redundancy improvements to the existing tunnel system, to protect or needed as back-up in case of failure.

Project History and Background

Design and Engineering Services during construction for four construction contracts that will be completed in the near term while the proposed tunnel redundancy project goes through environmental review, design and construction. These construction projects are needed to protect and improve critical facilities related to the existing tunnel system, or are needed as back-up means of supply in the event that one or more elements of the existing tunnel system fail. The construction projects include the Top of Shafts Interim Improvements, Chestnut Hill Emergency Pump Station improvements, WASM/Spot Pond Supply Mains, Shaft 5 Building Improvements, PRV Improvements, and Rehabilitation of WASM 3. The Waltham Water Pipeline Project will provide water to Waltham during shutdown of WASM 3 CP-3.

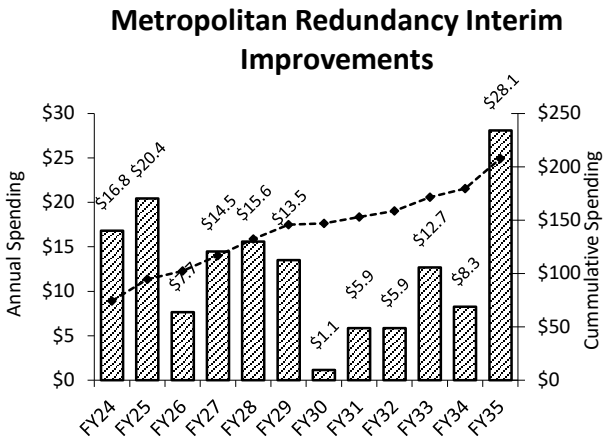
Scope

Sub-phase	Scope	Status
CP1 Shafts 6,8,9A (7561), CP2 Shaft 5 (7671) and REI (7702), CP3 Shafts 7,7B,7C,7D (7670) and REI (7703)	This project will provide strengthening of pipe directly connected to the tunnel system, waterproofing of underground vaults, and replacement of nuts on valve connections if found to be at risk.	CP1 Completed/ CP2 Completed / CP3 Active
Chestnut Hill Emergency Pump Station Improvements Design CA/RI (7574)	Preliminary Design investigated surge loads and pressure differentials when the Dorchester Tunnel is out of service and the ability to isolate the pump station from the Dorchester Tunnel if the tunnel is shut down. Surge modeling determined that surge and pressure differentials are best mitigated by operating procedures. Construction and REI contracts will not proceed. Project was closed out.	Completed
WASM 3 Rehabilitation MEPA/Design CA/RI (6539) and WASM 3 Rehab CP- 1 (6544), CP-2 (6543)	MEPA/Design CA/RI and construction of the WASM 3 rehabilitation on Waverley Oaks, Prospect St., and Felton St. in Waltham, and Pleasant St. in Arlington to the existing PRV chamber near Section W16 at Medford Square. Construction will include cleaning and cement mortar lining, some structural lining and some pipe replacement. CP-1 cleaned, and cement mortar lined 13,180 feet of 56-inch and 60-inch steel water main and replaced 150 feet of 56-inch and 320 feet of 60-inch steel water main in Arlington, Medford, & Somerville. CP-2 will rehabilitate 3,417 feet of 60-inch steel pipe located in Waltham and Meter 152 in Belmont.	Design Active/ CP-1 Completed / CP-2 Future

Sub-phase	Scope	Status
WASM/SPSM PRV Des/CA (7575), WASM/SPSM West PRV Constr. (7563), WASM/SPSM REI (7674)	The project will allow the Low Service system to be utilized to increase the supply to the Gillis Pump Station in Stoneham to avoid the need to pump out of the Spot Pond Reservoir in an emergency. The Low Service pipelines would be operated at grade lines consistent with WASM 3 grade line to push additional flow to the Gillis Pump Station in an emergency. Some Low Service revenue meters may require pressure reducing valves to lower pressures to communities along the way. In addition, PRV's on WASM 3/4 would also require replacement to maximize the supply to the north.	Completed
Shaft 5 Building Improvements Design/CA (7599), Construction (7600), and REI (7673)	Electrical and architectural improvements at Shaft 5 building in Weston. Includes improvements to dewatering systems inside shafts. Building code and hazardous material assessment completed under Technical Assistance Task Order prior to design.	Active
Shaft 9 Building Improvements Design/ESDC (8075), Construction (8074), and REI (8076)	Electrical and architectural improvements at Shaft 9 building in Somerville. Building code and hazardous material assessment completed under Technical Assistance Task Order prior to design.	Future
Section 101 Extension - Waltham Water Pipeline CA (7547), Construction (7457), and REI (7672)	Construction of 9,000 lf of new 36" diameter pipe. Provide a new connection to Waltham from the Northern Extra High pressure zone improving reliability and providing redundancy if Lexington Street Pumping Station is off line.	Active
WASM3 CP4 Weston/Waltham (8133)	WASM 3 CP-4 will rehabilitate 25,870 feet of 56-inch and 60-inch steel water main in Weston and Waltham.	Future
WASM3 CP-3 Belmont W11 (6545)	WASM 3 CP-3 will rehabilitate 9,888 feet of 56-inch steel water main in Belmont.	Future
WASM3 Des/ESDC CP3 & CP4 (8027) and WASM3 REI CP3 & CP4 (8026)	Design / ESDC and REI of the WASM 3 rehabilitation from the Hultman Aqueduct Branch in Weston through Belmont excluding the CP2 limits. Rehabilitation will include cleaning and cement mortar lining, some sliplining and some pipe replacement.	Future
Commonwealth Avenue Pump Station Improvements Design CA/RI (7523) and Construction (7524)	Design, engineering services during construction, resident engineering/inspection services and construction to provide improvements to the Commonwealth Avenue Pump Station. The project includes new pipe connections to the Low Service Pipes and two new pumps (one replacement and one additional) for redundancy. Also, includes Supervisory Control and Data Acquisition (SCADA) controls, and heating, ventilation and air conditioning equipment to replace older equipment.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$258,269	$74,221	$184,048	$20,437	$7,657	$74,966	$39,022	$86,864



Project Status 05/25	36.9%	Status as % is approximation based on project budget and expenditures. WASM 3 MEPA/Design CA/RI commenced in July 2013. Chestnut Hill Emergency Pump Station Design/CA commenced in May 2019. WASM 3- CP-1 commenced in October 2020. Commonwealth Avenue Pump Station construction was substantially complete in March 2021. WASM SPSM/PRV Construction commenced in June 2021. CP1 Shafts 6,8,9A was substantially complete in April 2022. Waltham Water Pipeline Improvements was awarded in May 2022 and Construction Administration and Resident Engineering/Resident Inspection awarded July 2022. CP2 Shafts 5 was awarded in February 2024. WASM SPSM/PRV Construction, Design and REI was completed in March 2024. WASM 3 Rehab CP- 1 was substantially completed in August 2024.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$245,418	$258,269	$12,851	Jul-38	Jul-38	None	$70,016	$74,966	$4,950

Explanation of Changes

- Project cost changes primarily due to updated cost estimates for WASM 3 Rehab CP-2, additional change orders for Waltham Water Pipeline Construction, and final costs for WASM/SPSM West PRV Construction and WASM 3 CP-1 contracts.

- Project spending changes primarily due to updated cost for WASM 3 Rehab CP-2, additional change orders for Waltham Water Pipeline Construction, and final costs for WASM/SPSM West PRV Construction and WASM 3 CP-1 contracts.

CEB Impacts

- None identified at this time.

S. 630 Watershed Division Capital Improvements

Project Purpose and Benefit

☑ *Extends current asset life*
☑ *Fulfills regulatory requirement*
☑ *Improves system operability and reliability*
☑ *Continues to improve public health*
☑ *Improves energy efficiency*

To renovate an aging Quabbin Administration Building complex to address existing code or operational deficiencies, energy efficiency, employee and public access. Also, to comply with regulatory requirements by Massachusetts Department of Environmental Protection related to Quabbin Administration Buildings water and wastewater systems.

Project History and Background

DWSP Quabbin/Ware Region facilities support a staff of approximately 80 employees, and provide recreational opportunities and services to more than 500,000 visitors annually to the reservoir.

Construction of the QAB was completed in 1938 and it is not uncommon to find original system controls still operational today (77 years). One of the more pressing needs is the rehabilitation of critically important utilities and support systems that both distribute power and water throughout the facility. Most of these system components are exhibiting signs of deterioration (e.g. wiring, plumbing, heating) and preemptive actions are necessary to avoid catastrophic failures.

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

Mechanical control systems for the distribution of steam throughout the Complex are very old, antiquated systems that need modernization to ensure continued reliable operation. Many components also fail to satisfy current building code requirements and would require upgrading.

As discussed above in the Quabbin Administration Building Complex: Major Renovations Project, there are many building components that need work. Two issues that need immediate attention are the boiler room wastewater discharges and the leaking water system. In 2013, the Quabbin Administrative Building (QAB) water supply system came under scrutiny by the MA Department of Environmental Protection and the State Plumbing Inspector. DEP is requiring that floor drains located inside of the buildings boiler room be abandoned and that daily well withdrawal levels be brought down to acceptable levels. Also, in 2014 wastewater discharges from the MWRA laboratory inside of the QAB facility were authorized by the DEP under the condition that daily wastewater flows be verified and shown to be within approved limits. The DWSP has initiated monitoring of wastewater flows from the QAB facility and anticipates that future upgrades to the septic system will be needed. In order to satisfy these mandates, significant investments are needed to retrofit existing mechanicals and make significant improvements to the distribution of water and handling of wastewater throughout the building immediately.

These improvements will be needed no matter what form of Quabbin Administration Building renovations are determined to be needed under the larger capital project. These two issues are essentially "fast-track" components on the larger project needed for regulatory compliance. DCR will use professional engineering consultants to complete repair designs.

Scope

Sub-phase	Scope	Status
Quabbin Administration Building Rehabilitation Conceptual Design Report (7569), Design/Construction Administration (7564), and Construction (7565)	Design and Construction for improvements at the Quabbin Administration Building. Code study was completed under Technical Assistance Contract 7713.	Future
River Road Improvements – Wachusett (7701)	Improvements to River Road at Wachusett including paving and drainage.	Completed
Quabbin Water Supply Construction (7753)	Project to supply water to the Quabbin Reservoir buildings. Design completed. Construction underway	**Completed**
New Salem Building Construction (7911) and Design (8073)	This facility will house DCR construction maintenance staff and provide office space for natural resource and forestry staff assigned to the northern region of the Quabbin Reservoir. The scope of this project includes a new office building, pump chamber and septic tank, and new aboveground unleaded gasoline storage tank. Conceptual design of a new pre-fabricated office building to be completed via Technical Assistance contract task order.	Future
Quabbin Maintenance Garage/Wash Bay/Storage Building Design and ESDC, and limited RE (7677), and Construction (7577)	Design, engineering services during construction, limited resident engineering services, and Construction of a modular building in stockroom area off Blue Meadow Road for large vehicle maintenance, washing, and equipment storage. Includes demolition of old sheds, paving and installation of potable water treatment system from well.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$31,640	$3,164	$28,476	$623	$3,549	$10,394	$18,150	$0

Project Status 05/25	10.7%	Status as % is approximation based on project budget and expenditures. River Road Improvements was substantially complete in November 2021. Quabbin Water Supply Construction was awarded in April 2022 and completed in May 2023.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$30,282	$31,640	$1,358	Apr-30	Jul-31	15 mos.	$12,566	$10,394	($2,172)

Explanation of Changes

- Project cost changed primarily due to updated cost estimate for Maintenance/Wash Bay/Storage Building Construction and Design/ESDC.
- Project spending changed primarily due to updated schedules for New Salem Building Design and Construction, Quabbin Admin Building Rehab Design and Construction contracts and costs listed above.
- Project schedule changed due to updated schedule for New Salem Building Construction contract.

CEB Impacts

- $100,000 for lab work in FY29 during the Quabbin Administration Building Rehabilitation.

S. 692 Northern High Service – Section 27 Improvements

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To rehabilitate/replace a segment of pipe originally installed in 1898 in Lynn which suffers from poor hydraulic performance and frequent leakage. Rehabilitate/replacement of approximately 7,200 linear feet of pipeline will improve service to the communities north of Lynn.

Project History and Background

Section 27 is a 12–20 inch diameter cast iron main installed in 1898 that serves the communities north of Lynn. The main has become severely corroded. As a result of this deterioration, various major leaks have occurred since 1966. Because the main runs under major thoroughfares in Lynn, repair of leaks is disruptive and costly. Appropriate corrosion control methods will be employed on the pipeline to minimize corrosion potential in Section 27. During preliminary design, an evaluation determined MWRA should abandon the portion of Section 27 that parallels Section 91 and an adjacent pipeline, Section 35.

Scope

Sub-phase	Scope	Status
Section 27 Design/CA, Construction and REI (7721, 6333, 7722)	Rehabilitation/replacement of 7,200 linear feet of pipeline to replace severely corroded pipe.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$2,136	$124	$2,013	$0	$0	$0	$2,013	$0

Project Status 05/25	5.8%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$2,136	$2,136	$0	Nov-31	Nov-31	None	$0	$0	$0

Explanation of Changes

- None identified at this time.

CEB Impacts

- None identified at this time.

S. 693 Northern High Service - Revere and Malden Pipeline Improvements

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To improve the delivery capabilities of major distribution lines serving the Northern High System. The existing pipelines are inadequate and suffer from extensive corrosion and leakage. Replacement, rehabilitation, and/or reinforcement will provide a strong and reliable means to convey water from the City Tunnel Extension to communities in the northern and eastern portions of the Northern High Service Area.

Project History and Background

The southeast corner of the Northern High Service Area has experienced pressure deficiencies because of undersized pipes and extensive pipeline corrosion. The corrosion problems have led to numerous leaks and pressure deficiencies which can cause fire-fighting difficulties. These deficiencies particularly affect Malden, Revere, Lynn, Winthrop, Deer Island, East Boston, Saugus, Nahant, Peabody, Marblehead, and Swampscott. To correct these problems, MWRA is implementing a series of pipeline improvements.

This project includes installation of pipeline on Sections 97, 97A and 68 in Revere and Sections 49, 53, 53A and Shaft9A-D in Malden; rehabilitation of Sections 53 and 55 in Revere; and installation of control valves to improve water pressure. All the work for this project, with the exception of the design and construction of Section 53 connections and Section 53A, Section 68 and the Shaft 9A-D Extension is complete. Completion of this construction will improve the pressure and flow of water conveyed to the Northern High Service Area.

A hydraulic study of the distribution system recommended that MWRA install a new pipeline in Revere, beginning at the Everett/Chelsea/Revere border and extending through Revere to the East Boston border. This new pipeline runs parallel with existing pipelines and carries a large portion of the flow formerly carried by the existing system, thereby increasing water pressure and flow to Revere, East Boston, Winthrop, and Deer Island, particularly during periods of high demand. Installation of new control valves was required to regulate water pressure and fill the Winthrop standpipe. The original control valves between Winthrop pipelines and MWRA transmission mains were inadequate. Fluctuations in pressure threatened to rupture the town's pipelines. More efficient valves were required to eliminate the danger. Flow tests performed on Sections 32 and 55 of the existing Revere and Winthrop pipelines revealed that these sections had severe flow problems. The pipelines were only able to carry a fraction of the designed capacity because of internal corrosion. Cleaning and lining the pipelines restored flow capacity.

Section 53 in Malden and Revere was an 18,900-feet long, 30-inch diameter steel pipeline, exceeding 60 years of age. Workers dug four test pits to determine the condition of this pipeline and uncovered 18 holes in the pipe. Investigations into recent failures revealed severe corrosion through the pipe wall in several locations. Replacement of the Malden portion of Section 53 with a new 48-inch diameter pipe has been completed. The Revere portion of Section 53 has been sliplined with 24-inch diameter steel pipe. In addition to feeding into the new 48-inch Saugus/Lynn pipeline, this pipe plays an important role in the supply network for Deer Island. Sections 49 and 49A, old 24-inch pipelines, are used to connect Section 53 to Shaft 9A of the City Tunnel. They are undersized for this purpose and are a severe restriction. A new 5,000 -lf, 48-inch diameter pipe (proposed Section 116~~)~~ is needed to reinforce Sections 49 and 49A. A 1,000-lf, 20-inch diameter pipe, portion of Section 68, interconnects Section 53 with the new Saugus/Lynn pipeline. This section is undersized and needs to be reinforced with 1,000 lf of new 48-inch diameter pipe to improve hydraulic capacity. Approximately 5,400 lf of Section 14, an existing 30-inch diameter cast-iron pipe installed in 1916, will be cleaned and cement mortar lined to improve redundancy for Section 84. Approximately 4,500 lf of Sections 49 and 49A will be replaced. The Shaft 9A-D

Extension will provide a more reliable connector from Shaft 9A of the City Tunnel Extension to the Section 99 pipe that serves as the suction line to the Gillis Pump Station.

Scope

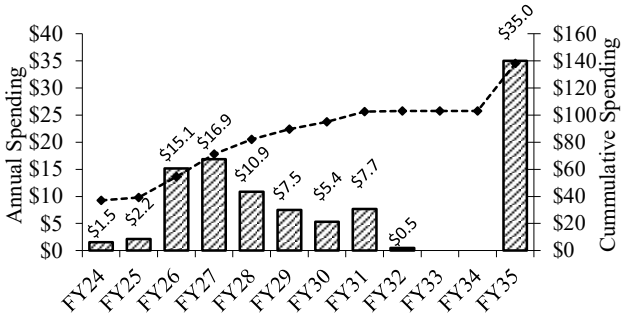
Sub-phase	Scope	Status
Design/CS/RI – Revere/Malden (5185)	Design, construction services, and resident inspection for Section 53 in Malden and Sections 97 and 97A in Revere.	Completed
Construction Revere Beach (5186)	Installation of 5,491 linear feet of 36-inch pipeline and 10,111 linear feet of 30-inch pipeline on Section 97, as well as 3,872 linear feet of 24-inch pipeline, and 1,350 linear feet of 20-inch pipeline on Section 97A in the vicinity of Revere Beach Parkway.	Completed
Construction Malden Section 53 (5176)	Installation of 11,907 feet of 48-inch diameter pipeline in Malden on Section 53.	Completed
Construction Linden Square (5238)	Construction and construction administration of a 1,000 linear feet segment of Section 53 in the Linden Square area of Malden. The Massachusetts Highway Dept constructed this section as part of its roadway reconstruction project around Linden Square.	Completed
Construction Revere Section 53 (5177)	Rehabilitation of 4,900 linear feet of 30-inch pipe in Revere on Section 53 and replacement of 1,500 linear feet under Route 1 in Revere.	Completed
Construction Road Restoration (6033 & 6034)	Design, construction administration, and construction of the full road restoration to ensure a stable road surface without cracking on Eastern Avenue in Malden in compliance with the requirements of the Massachusetts Architectural Access Board. The City of Malden will do this work.	Completed
Construction Control Valves (5191)	Installation of control valves needed to regulate water pressure and fill the Winthrop standpipe.	Completed
Construction DI Pipeline Cleaning & Lining (5179)	Design and cleaning and lining of the 2,000 linear feet, 8-inch diameter water supply main to Deer Island.	Completed
Construction – Winthrop C&L (5178)	Rehabilitation of 7,900 linear feet of 16-inch diameter pipe on Section 32 and 20-inch diameter pipe on Section 55 in Revere and Winthrop.	Completed
Section 53 and 99 Improvements Design CA (7485), and REI (7682)	Design /Construction Administration and Resident Inspection for Sections 53 and 99 Improvements.	Active/Future
CP-1 Section 68 (6335)	Construction of 900 linear feet of 48-inch Section 68, rehabilitation of 100 linear feet of 48-inch Section 84, and replacement of valve vault 53-1-A.	Future
CP-2 Section 14 (7699)	Replacement of 3,600 linear feet of 24-inch of Sections 49 and 49A. Rehabilitation of 5,400 linear feet of 30-inch pipe of Section 14.	Future

Sub-phase	Scope	Status
Section 56 Repl./Saugus River Feasibility Study (7500), Design CA (7454) and Construction (7486), and REI (7681)	Feasibility Study, Design CA and REI, and Construction to replace failed 20/30-inch diameter steel water main crossing of the Saugus River by trenchless methods. Main was installed in 1934 and no longer conveys water through Lynn to NH system over the General Edwards Bridge. This main used to provide redundancy to Section 26. 7454 Sect 56 Design CA is currently underway to design a new river crossing using Horizontal Directional Drilling (HDD) and is in the final design phase. Feasibility Study was complete in 2017.	Active
Section 56 Demolition Construction (7536)	Section 56 Construction Pipe Demolition at General Edwards Bridge.	Completed
Section 14 Pipe Relocation (Malden) (6957)	Abandon 540 lf of existing Section 14 water main in Malden Center and replace with 400 feet of new 36-inch ductile iron water pipe in a new alignment. A 36-inch gate valve will also be installed as well as a blow-off setup.	Completed
CP-3 Section 116 (6958)	-Construction of 4,500 linear feet of 48-inch Section 116.	Future
Sections 13 & 48 Rehabilitation Design CA/RI and Construction (7602/7603)	Design and construction of the rehabilitation of Section 13 (7,300 lf of 36-inch cast-iron 1896 vintage pipe) and Section 48 (7,300 lf of 38-inch diameter and 1,400 lf of 30-inch diameter riveted steel 1929 vintage pipe) in Stoneham, Malden and Melrose from the Gate House at Fells Reservoir partially along Highland Avenue to Pleasant Street and Charles Street will improve hydraulics and water quality.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$173,145	$37,101	$136,045	$2,167	$15,147	$46,566	$21,010	$70,000

Northern High Service -
Revere and Malden Pipeline Improvements



Project Status 05/25	22.6%	Status as % is approximation based on project budget and expenditures. Revere Beach, Malden Section 53, Revere Section 53 Construction and Linden Square construction are complete. Section 56 Feasibility Study was substantially complete in June 2017. Section 14 Pipe Relocation – Malden was completed in May 2018. Section 56 Pipe Demolition on General Edwards Bridge was substantially completed in May 2019. Section 56 Replacement/Saugus Design/CA commenced in November 2019. Sections 53 and 99 Connections Design/CA commenced in February 2020.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$128,739	$173,145	$44,406	Jul-31	Jul-36	60 mos.	$78,227	$46,566	($31,661)

Explanation of Changes

- Project cost and spending change due to updated cost estimate for CP3 Section 116 Construction, CP-1 Section 68 Construction, Section 14 Construction, and Section 56 Construction and REI contracts.
- Project schedule changed due to updated schedule for CP-3 Section 116 Construction.
- Project spending changed due to updated cost for CP-1 Section 68 Construction, and updated cost and schedule for for Section 56 and CP-2 Section 14 contracts.

CEB Impacts

- None identified at this time.

S. 702 New Connecting Mains - Shaft 7 to WASM 3

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To provide redundancy and improve the reliability of WASM 3 (Weston Aqueduct Supply Main); provide hydraulic looping and redundancy, enable Intermediate High Sections 59 and 60 to be taken off-line for rehabilitation, and improve water quality by reducing the length of unlined cast iron water mains in the MWRA system. Completion of this project will help provide the basis for a strong hydraulic network of piping among WASM 3, WASM 4, and the City Tunnel. The future conversion of Sections 23 and 24 in an emergency to provide a redundant supply to the Intermediate High Service system Section 25 and 59 that serve Belmont and Watertown via the WASM Commonwealth Avenue Pump Station.

Project History and Background

WASM 3 is a 56-inch to 60-inch diameter lock-bar steel pipe installed in 1926 and 1927. It is connected to the MetroWest Tunnel and Hultman Branch at the west end and the City Tunnel Extension at its east end. It extends from Weston through Waltham, Belmont, Arlington and Somerville to Medford. Most of its flow comes from the MetroWest Tunnel Shaft W, with peak flow of 57 million gallons per day. A lesser amount enters the main from the City Tunnel Extension Shaft 9. Upon completion of the Hultman Aqueduct and its interconnection to the Weston Aqueduct Terminal Chamber in 1941, WASM 3 became part of the High Service system. There are no connecting mains along the length of this 11-mile pipeline, and no other means available to adequately supply the nine communities it serves. WASM 3 serves communities northwest of Boston and is the sole source of supply to the Northern Extra High Service Area (Bedford, Lexington, Waltham, Arlington, and Winchester) and the Intermediate High Service Area (Belmont, Arlington, and Watertown). It also supplies a portion of the Northern High Service Area (Waltham, Watertown, Belmont, Arlington, Medford, and Somerville), and is a means of supplying the Spot Pond Supply Mains and Reservoir. WASM 3 serves a population of more than 250,000.

A break almost anywhere on this pipeline would result in severe service disruptions in Waltham, Watertown, Belmont, Arlington, Lexington, Bedford, and Winchester. Virtually no water would reach Waltham if a break were to occur at the west end of the pipeline; water normally supplied through the Shaft W connection would be forced through the Shaft 9 connection, increasing flows and reducing hydraulic grade lines in WASM 3, the City Tunnel, and City Tunnel Extension. The lack of redundancy also makes routine cleaning and lining of the 90± year old pipeline impossible. The need for maintenance is indicated by a significant number of leaks, particularly on the most vulnerable west end, which are the result of corrosion pitting through the pipe wall, as well as by the reduced carrying capacity of the line.

Completion of this project will facilitate conveyance of high service water from Shaft 9 of the City Tunnel Extension to WASM 3. This will be accomplished by rehabilitating existing mains between the City Tunnel Extension and WASM 3.

Previously proposed portions of this project have been eliminated or placed on hold until the Long-Term Redundancy study is completed. Specifically, the proposed new 48-inch diameter pipe through Newton and Waltham has been eliminated. The rehabilitation of Sections 23, 24, and 47 will proceed. Also, extension of Section 75 and replacement of Section 25 with a new 20-inch pipe will allow a redundant supply connection to Sections 25 and 59 serving Belmont and Watertown by way of the Commonwealth Avenue Pump Station.

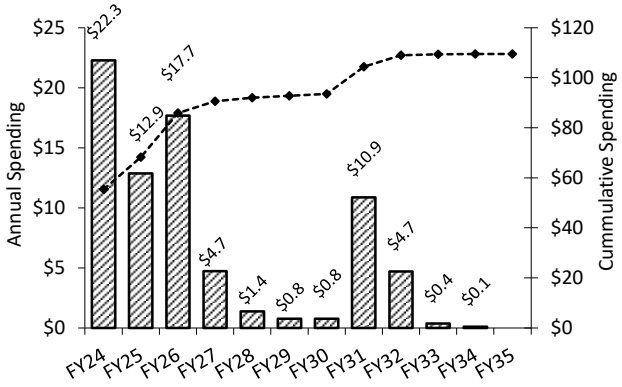
Scope

Sub-phase	Scope	Status
Watertown MOU	Payment to the City of Watertown to fund a portion of its Galen Street project to replace an existing 10-inch diameter pipeline with a new 12-inch diameter water main.	Completed
Routing Study (5163)	Identification of alternatives to determine the optimum approach for providing additional strong connections to WASM 3.	Completed
Design/CA/RI-DP1 (6383)	Design, construction administration and resident inspection services for a new 48-inch pipeline to interconnect WASM 3 with WASM 4 (CP-1). This design work was terminated based on the recommendation of the Long Term Redundancy Study.	Completed
Design DP2/4 Meter 120 (6384)	Design services for Section 47 from Meter 120 to WASM4. Construction Administration and Resident Inspection services to be performed by in-house staff.	Completed
Clean & Line 59&60 CP-3 (6548) and REI (8068)and CP-3 Design/ESDC (8128)	Cleaning and lining of 16,400 linear feet of 20-inch diameter pipe on Sections 59 and 60 (Intermediate High) from Section 25 in Watertown to Meter 121 in Arlington, 3,400 linear feet of 20-inch diameter pipe on Section 24 crossing the Charles River extending into Newton, and rehabilitation or replacement of Meters 110, 111 and 121 and associated valves/cabinets.	Future
CP3-Sect 23,24,47, Rehab (6392) CP3 (Sect 23,24,47)-Final Des/CA/RI (6385)	Cleaning and cement mortar lining of 4,500 feet of 36-inch diameter Section 23 and 11,000 feet of 20-inch Section 24 and Section 47; Replacing 3,600 feet of Section 23 water main, and 6,200 feet of Section 24 water main; Replacement of the check valve assembly at existing Revenue Meter 120 to Boston; and Replacement of 2,325 feet of Newton's 20-inch diameter water main in Ward Street, parallel to Sections 23 and 24.	Active
NE Segment CP5 (6394)	Rehabilitation of 15,000 linear feet of 20 and 48-inch diameter pipe for Sections 18, 50, and 51 for the Northeast Segment plus Meter 32 replacement.	Completed
Sect 25,75,24, 47, 59 & 60 Des/CA (6955)	Design/Construction Administration for Intermediate High pipeline improvements under three construction packages including Extension of Section 75, rehabilitation of a portion of Section 47, and rehabilitation or replacement of Meter 81 (CP-1). Replacement and relocation of Section 25 and rehabilitation of a portion of Section 24 (CP-2). Rehabilitation of Sections 59 & 60 (CP-3) to be completed under future design and construction contracts.	Active
Sect 24 & 25 - Construction CP-2 (6956) and Section 24 & 25 REI CP2 (7680)	Replacement and partial re-location of existing Section 25 (approximately 5,900 linear feet of existing 16" pipe) with a new 20-inch diameter pipeline, and cleaning and lining of 3,200 linear feet of 20-inch diameter pipe on Sections 24. Also includes rehabilitation or replacement of Meters 2 & 40 and associated valves/cabinets. Ductile Iron Material Pre-Purchase contract required for work on Mt Auburn Street. All 3 contracts active with 2023 NTPs.	Active
Section 75 Extension Construction CP-1 (7484) and REI (8067)	Addition of approximately 4,000 feet of new 30-inch diameter pipe to extend Section 75 easterly to Section 24 in Newton, to provide a redundant feed to the Intermediate High pressure zone supplying Arlington, Belmont and Watertown, and rehabilitation of a portion of Section 47, and replacement of Meters 111 and 81.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$109,470	$55,323	$54,147	$12,855	$17,673	$58,910	$17,417	$100

New Connecting Mains



Project Status 05/25	58.4%	Status as % is approximation based on project budget and expenditures. Northeast Segment CP-5 construction contract was completed in November 2011. Section 24 & 25 CP-2 commenced in March 2023. CP3 (Sections 23, 24 & 47) was substantially complete in March 2024. Section 75 Extension CP-1 commenced in February 2025.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$106,475	$109,470	$2,995	Jun-30	Jul-32	25 mos.	$56,452	$58,910	$2,458

Explanation of Changes

- Project cost changed primarily due to additional change orders for Section 24 & 25 Construction CP-2 and CP3-Sect 23, 24, 47, Rehab, updated cost estimates for Section 75 Extension Construction CP-1 and REI, and Clean & Line 59 & 60 CP-3 contracts.

- Project schedule changed due to updated schedule for Clean and Line 59 & 60 CP-3.

- Project spending changed primarily due to updated costs for Section 24 & 25 Construction CP-2, CP3-Sect 23, 24, 47, Rehab, Section 75 Extension Construction CP-1 and REI and updated schedule for CP-3 Design/ESDC.

CEB Impacts

- None identified at this time.

S. 704 Rehabilitation of Other Pump Stations

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Results in a net reduction in operating costs*
☑ *Improves system operability and reliability*
☑ *Improves energy efficiency*

To rehabilitate five active pump stations (Brattle Court, Reservoir Road, Hyde Park, Belmont, and Spring Street) - each of which is more than 40 years old and is overdue for renewal for safety, reliability, and efficiency reasons. Project includes a future phase to rehabilitate Gillis, Newton Street, Lexington Street, and Commonwealth Ave pump stations.

Project History and Background

MWRA's waterworks distribution system includes ten active pump stations. Extensive rehabilitation of the James L. Gillis, Newton Street, Lexington Street, and Commonwealth Avenue pump stations was completed 20 years ago.

The Brattle Court, Reservoir Road, Hyde Park, Belmont, and Spring Street pump stations were built in 1907, 1936, 1937 and 1958, respectively and were overdue for major rehabilitation. The Brattle Court Pump Station serves the towns of Arlington, Lexington, Waltham, and Winchester. The Reservoir Road Pump Station serves Brookline. The Hyde Park Pump Station serves Boston, Milton, Norwood, Canton, Dedham, Westwood and Stoughton. The Belmont Pump Station serves Belmont, Arlington, and Watertown. The Spring Street Pump Station serves Lexington, Bedford, part of Waltham, Belmont, Arlington, and Winchester. Some equipment at each pump station were inoperable, and system demand patterns had shifted during the life of the stations, requiring adjustments to pumping capacity. In addition, station improvements have not kept pace with changes in building and safety codes.

MWRA has divided construction for these five pump stations into two contracts. The first contract (Construction - Interim Automation), based on a fast-track design was completed in February 2001, involved installation of Supervisory Control and Data Acquisition (SCADA) systems at each station. Under the second construction contract, MWRA completed rehabilitation of the five pump stations (Brattle Court, Reservoir Road, Hyde Park, Belmont, and Spring Street). The second construction contract was awarded in October 2006 and was substantially complete in June 2010.

The next phase will be to rehabilitate the Gillis, Newton Street, and Lexington Street pump stations. The Commonwealth Avenue Pump Station rehabilitation is included in Metropolitan Redundancy Interim Improvements project.

Scope

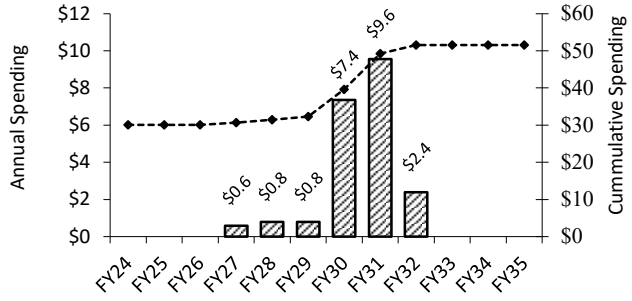
Sub-phase	Scope	Status
Preliminary Design (5153)	Planning and conceptual design including inspection and evaluation of the HVAC systems, buildings, pipes, valves, and other systems at the pump stations; determination of the need for improvements; and preparation of a conceptual design report.	Completed
Design 1/CA/RI (6110)	Design, Construction Administration and Resident Inspection for rehabilitation of five pump stations, including installation of SCADA systems.	Completed

Sub-phase	Scope	Status
Construction II and C (6304)	Installation of instrumentation at five pump stations to enable remote operation and monitoring.	Completed
Rehabilitation of 5 Pump Stations (6375)	Rehabilitation of Brattle Court, Reservoir Road, Hyde Park, Belmont, and Spring Street pump stations, including installation of new mechanical, electrical, instrumentation, and security systems, and building and site refurbishment, and SCADA installation.	Completed
Proprietary Equipment Purchases (6676)	Purchase of proprietary materials for SCADA system for Interim Instrumentation and Control.	Completed
Design 2 CS/RI (6980)	Final Design, construction services, and resident inspection for rehabilitation of five pump stations.	Completed
Technical Assistance (6556)	As-Needed Technical Assistance work.	Active
Pump Station Rehabilitation Design CA (7526), Construction (7527), and REI (7720)	Rehabilitation of the Gillis, Newton Street, and Lexington Street pump stations. The pumps in these stations are over 20 years old and maintenance of the existing units will be an issue mostly due to availability of replacement parts. More efficient units will be installed based upon age and life of the equipment. Lexington Street is the only pump stations for its respective service area.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$51,572	$30,090	$21,482	$0	$0	$1,387	$20,095	$0

Rehab of Other Pump Stations



Project Status 05/25	58.3%	Status as % is approximation based on project budget and expenditures. Construction rehabilitation of 5 pump stations (Brattle Court, Reservoir Road, Hyde Park, Belmont, and Spring Street) was substantially complete in June 2010.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$51,572	$51,572	$0	Jun-30	Jun-31	12 mos.	$2,180	$1,387	($793)

Explanation of Changes

- Project schedule and spending changed primarily due to updated schedules for Pump Station Rehab Design and Construction.

CEB Impacts

- None identified at this time.

S.708 Northern Extra High Service - New Pipelines

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To provide redundancy in the Northern Extra High (NEH) system and improve hydraulic service and reliability for major portions of the NEH system. Existing lines are undersized and frequently experience pressure problems. Improvements will include construction of two new pipe segments and rehabilitation of existing mains.

Project History and Background

The Northern Extra High (NEH) Pressure Zone provides water to Arlington, Bedford (through Lexington), Belmont, Lexington, Waltham, and Winchester. The six communities are supplied an average of 11.55 million gallons per day (mgd) from the MWRA through twelve community meters. Water is pumped to these communities and into storage facilities in Arlington, Lexington, and Waltham by three pumping stations: Spring Street PS, Brattle Court PS, and Lexington Street PS. The pumping stations draw water from the Norumbega Covered Storage Facility via the Weston Aqueduct Supply Main 3 (WASM 3). There are two construction contracts planned to repair and replace WASM 3. The initial contract is currently in construction and the second contract is in design.

In addition, the Town of Burlington has been approved for admission to the MWRA Water System to purchase up to 6.5 mgd via a connection to the Town of Lexington's water system, and will also be supplied via the NEH Pressure Zone.

The NEH Pressure Zone Improvements project to be performed by MWRA involves installation of up to 23,100 linear feet of new water main, replacement of approximately 8,400 linear feet of existing water main, rehabilitation or replacement of approximately 4,800 linear feet of existing water main, installation of two new community meters, and rehabilitation or replacement of existing community meters. The project will improve redundancy and rehabilitate or replace aging infrastructure in the NEH Pressure Zone. These improvements are necessary to help ensure that new and existing user communities receive services that meet or exceed the obligations of the MWRA.

Scope

Sub-phase	Scope	Status
NEH Improvements Design/ESDC (7404) and REI CP-1 (7724)	Design and engineering services during construction and REI Services for CP-1 and CP-2.	Active
CP-1 NEH Improvements (6522)	CP1 includes installation of approximately 5,300 linear feet of new water main in Lexington to connect the MWRA system to the water main installed as part of Burlington's Phase 2 project. Construction of CP1 was completed and activated by the time Burlington's Phase 2 project was complete.	Complete
CP-2 NEH Improvements (7725) and REI CP-2 (8004)	CP2 includes installation of up to 11,100 linear feet of new water main in Lexington to interconnect an existing MWRA water main to the new water main installed in CP1 to help improve redundancy. CP2 also includes installation of a new meter for Lexington and replacement of 3,400 linear feet of existing, undersized water main in Arlington.	Future

CP-3 NEH Improvements (7910) and REI CP-3 (8005)	CP3 includes installation of up to 6,700 linear feet of new water main in Lexington to interconnect an existing MWRA water main to the new water main installed in CP2 to help improve redundancy. CP3 also includes replacement of approximately 5,000 linear feet of existing, undersized water main in Arlington, rehabilitation or replacement of approximately 4,800 linear feet of existing water main in Arlington, installation of one new meter for Belmont, and rehabilitation and replacement of existing community water meters for Arlington, Lexington, Belmont, Waltham, and Winchester.	Future
Design/CA/RI and Construction Sections 45, 101, 63, and 83 (5242/6340 / 7457 / 7725)	Replacement of approximately 2,600 linear feet of Section 45 with 24-inch diameter pipe extending from the connection point at Meter 47 to Section 82 on Park Street at the Intersection of Paul Revere Road in Arlington (6340); (7457) installation of about 2,100 linear feet of new 24-inch pipeline (Section 101), parallel to a portion of Section 83, starting from Meter 182 and proceeding to the intersection of Waltham Street (in Lexington and part of Waltham) and Concord Ave (in Lexington). Also, (7725) Replacement of Section 63, consisting of about 3,400 linear feet of 20-inch pipeline connecting Section 63 to Meter 136 with new 24-inch diameter pipe.	6340 Completed / 7457 Active / 7725 Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$81,311	$16,182	$65,129	$3,978	$11,206	$46,815	$17,448	$0

Project Status 05/25	24.2%	Status as % is approximation based on project budget and expenditures. Construction of a portion of Section 45 was completed in September 2001. NEH Improvements Design/ESDC was awarded in January 2021 and construction was awarded in February 2022. CP-1 REI was awarded in April 2022.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$67,511	$81,311	$13,800	Nov-30	Aug-30	(3 mos.)	$38,914	$46,815	$7,901

Explanation of Changes

- Project cost changed primarily due to updated cost for CP-3 NEH Improvements and CP-2 NEH Improvements additional change orders and amendments for CP-1 NEH Improvements Construction and Design, and deletion of REI CP-2.
- Project schedule changed due to updated CP-3 NEH Improvements schedule.
- Project spending changed primarily due to updated costs listed above.

CEB Impacts

- None identified at this time.

S. 712 Cathodic Protection of Distribution Mains

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To evaluate the condition of existing cathodic protection systems and determine the feasibility of upgrading or installing cathodic protection systems to protect the system from corrosion.

Project History and Background

Within the MWRA water system there are approximately 300 miles of distribution pipe, 10 active pump stations, and 12 distribution storage facilities. A majority of the pipes are made of steel, cast iron and ductile iron and as a result are subject to corrosion due to the environmental conditions in which they reside. In order to maintain pipe integrity, cathodic protection is utilized within the system. Proper cathodic protection decreases the number of pipeline leaks and failures and ensures the integrity of the water distribution system is maintained.

Approximately 68 miles or 24% of MWRA's waterworks pipelines ranging from 24 inches to 60 inches in diameter are made of steel and are particularly subject to corrosion from acidic soils, fluctuating groundwater levels (especially where the groundwater is saline), and stray electrical currents. These steel pipelines are located in 26 of MWRA's 50 water communities.

Cathodic protection reduces deterioration of structural material, thereby increasing pipeline and storage tank life and deferring the need for replacement. Without proper cathodic protection, pipeline leaks and premature pipeline and storage tank failures increase, causing potentially costly property damage and possible loss of service to customers.

Some sections of MWRA's existing steel pipes were originally equipped with cathodic protection systems intended to reduce the effects of corrosion. Other steel pipelines had cathodic protection systems installed sometime after the original pipe installation. Other steel pipelines have been rehabilitated and still other sections of steel pipeline have never received cathodic protection.

Scope

Sub-phase	Scope	Status
Planning	Evaluation of the condition of the steel pipelines, identification of areas of rapid corrosion due to stray currents, and design and installation of corrosion test stations.	Completed
Cathodic Protection Testing and Evaluation Program (6438)	Test and evaluate 1,019 cathodic protection test stations and 16 rectifiers including: level of protection; functionality of insulation joints; perform repairs; and indentify, recommend and test replacement electrodes.	Completed
Cathodic Protection Shafts E & L Construction (6440)	Construction of new cathodic protection systems at Shafts E & L to replace the old systems.	Completed
Cathodic Protection Shaft E,L, N & W Improvements	Construction to replace the existing cathodic protection systems in order to maintain pipe and steel storage tanks integrity for	Active

Construction and REI (6439/7610)	Shafts E, N & W. One bid received on 7/25/25. Construction NTP anticipated by October 2025 with 30 month duration.	

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$6,718	$1,160	$5,558	$0	$1,359	$5,558	$0	$0

Project Status 05/25	17.3%	Status as % is approximation based on project budget and expenditures. Project Planning phase is complete. Cathodic Protection Testing and Evaluation Program was completed in August 2017. Cathodic Protection Shafts E&L was substantially complete in August 2019.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$7,268	$6,718	($550)	Mar-27	Apr-28	13 mos.	$6,108	$5,558	($550)

Explanation of Changes

- Project costs, schedule and spending changed due to updated costs and schedule for Cathodic Protection E, L, N & W Construction.

CEB Impacts

- None identified at this time.

S. 713 Spot Pond Supply Mains - Rehabilitation

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To improve the condition, carrying capacity, and valve operability of the two long supply mains which extend north from Chestnut Hill to Spot Pond. These cast-iron mains, originally installed in 1899, deliver water to the Northern Low Service System. Improvements involve a combination of replacement, cleaning and lining, and valve replacement depending on specific site conditions and needs. Improving these supply lines will reduce the need to take water from the City Tunnel to augment the Low Service System and improve the quality of water delivered to eight user communities.

Project History and Background

The East and West Spot Pond Supply Mains (SPSMs) serve the Northern Low Service Area, including portions of Brighton, East Boston, Charlestown, Chelsea, Malden, Medford, Somerville, and Everett. The lines are also designed to fully supply Cambridge during drought or emergency. The mains have historically supplied Spot Pond and subsequently the James L. Gillis Pump Station (formerly the Spot Pond Pump Station). With the closure of Spot Pond as a water supply source and the construction of the Spot Pond Suction Main (Section 99) as the primary supply to the Gillis Pump Station, the Spot Pond Supply Mains serve as distribution mains to the eight communities and provide emergency backup supply to the Gillis Pump Station. In the event Section 99 is out of service, the station would take suction directly from these mains, rather than from Spot Pond. These mains interconnect with the new Spot Pond Covered Storage and pump station.

The East Spot Pond Supply Main consists of 61,000 linear feet of mostly 48-inch diameter pipe which passes through Brookline, Boston, Cambridge, Somerville, Medford, Malden, Melrose, and Stoneham. The West Spot Pond Supply Main consists of 53,000 linear feet of 48-inch and 60-inch diameter pipe that passes through Brookline, Boston, Cambridge, Somerville, Medford, and Stoneham. Portions of the SPSMs in Brookline, primarily on Beacon Street, were rehabilitated under the Boston Low Service Pipe and Valve Rehabilitation project.

The carrying capacities of the pipes had been significantly reduced as a result of the build-up of rust deposits (tubercules) and other matter along the pipe walls, which also contributed to water quality deterioration in the Low Service System. The ability of the mains to withstand service pressures was drastically reduced in some areas due to exterior corrosion of pipes. In addition, inoperable or poorly operating valves along the mains made isolation and re-routing of flow difficult to implement.

Section 67 is included in this project because it provides a connection between the East and the West SPSM from Section 11 at Porter Square in Cambridge to Section 4 at Union Square in Somerville. Section 67 consists of 6,900 linear feet of 48-inch diameter steel pipe constructed in 1949. Rehabilitation of this main was needed because of the age of the pipe and the critical role of the main in providing flow to the East and West mains during shut downs for maintenance and construction.

Internal lining of these mains to restore capacity and improve structural integrity, will ensure adequate peak and emergency flow to user communities, alleviate water quality deterioration, and provide emergency back-up capacity for the Northern High System and Northern Intermediate High via the Gillis Pump Station. MWRA's reconfiguration of the water distribution system provides for the Spot Pond Supply Mains to be fed from the City Tunnel Extension only during periods of peak demand, thus conserving tunnel supply for High Service use. Supply to the Low Service System will be provided by Weston Aqueduct Supply Mains 1 and 2, which are connected to the new Loring Road covered storage tanks in Weston that have been constructed as part of MWRA's MetroWest Water Supply Tunnel project. A portion of the supply is from WASM 4, which connects to the East and West Spot

Pond Supply Mains at Western Avenue and North Harvard Avenue and on Memorial Drive at Magazine Beach in Cambridge.

Completion of this project will improve pressures to the far reaches of the Northern High Service Area by reducing the demand burden on the City Tunnel Extension. The quality of water delivered to eight communities will improve as a result of the upgrade of 18 miles of deteriorated pipe.

Scope

Sub-phase	Scope	Status
Preliminary Design and Design/CA/RI (6223)	Preliminary design, design, construction administration, and resident inspection of the rehabilitation or replacement of Sections 3, 4, 5, 6, 7, 9, 10, 11, 12, 67, and portions of Sections 2, 16W, and 57.	Completed
North (Medford/ Melrose) Construction-CP1 (6317)	Cleaning and lining of 20,300 feet of 48-inch and 60-inch pipe in Medford, Malden, Melrose, and Stoneham (Sections 7 and 12). Replacement of valves and reconfiguration of blow-off valves to eliminate cross-connections with storm drains or sewers. Elimination of connection with Spot Pond (considered a cross connection with a non-potable water source), and configuration to allow emergency reconnection if needed.	Completed
Middle (Medford/ Somerville) Construction – CP2 (6381)	Cleaning and lining of 24,100 feet of the East Spot Pond Main (48-inch pipe) in Somerville and Malden (Sections 4, 5, 6, and 7) including reinforcement at rail and MBTA crossings; cleaning and lining of 14,000 feet of the West Spot Pond Main (48-inch pipe) in Medford and Somerville; and some steel pipe replacement on the Mystic Valley Parkway (800 feet, 60-inch, Section 16W), and Middlesex Fells Parkway (700 feet, 48-inch, Section 5 on land). Cleaning and lining on Somerville Avenue (Section 67, 6,500 feet of 48-inch steel). Replacement of valves throughout the pipelines, including in Medford Square at the interconnections of Sections 12, 16W, and 57.	Completed
South (Cambridge/ Boston) CA/RI Construction – CP3 (6382)	Cleaning and lining of 11,700 linear feet of the East Spot Pond Main in Charles River Crossing and Cambridge (48-inch, Sections 3 and 4) including valve replacement, and cleaning and lining of 16,800 linear feet of the West Spot Pond Main in Harvard St., Franklin St., No. Harvard Avenue, and Massachusetts Avenue (48-inch, Sections 9 and 11, Brighton and Cambridge).	Completed
Early Valve Replacement Contract (6475)	Installation of nine main line valves and associated blow-off valves, as well as permanent by-pass piping to meters and air valves. Also includes removal of pipe at three locations for materials strength testing.	Completed
Walnut Street Bridge Truss Construction and Repair (7787/7483)	Section 4 Bridge Truss at Walnut Street spans New Hampshire-Maine Railroad Line is in need of repair, painting and possible replacement. Bridge structural analysis needs to be done before maintenance life cycle scope can be developed. CIP 7483 for replacement of rods and inspection of bridge.	Future/ Completed
Early Valve Equipment Purchase (6483)	Purchase Order for 12 valves that were installed from 1998-2001 as a precursor to the cleaning and lining contracts.	Completed

Sub-phase	Scope	Status
Section 4 Webster Ave Bridge Pipe Rehabilitation Design and Construction (7334/7335)	Section 4 is a 48-inch diameter cast iron main crossing the Webster Ave Bridge in Somerville that needed to be rehabilitated and was currently out of service due to pipe deflection and leakage. This project returned an isolated pipeline to service to provide redundancy.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$66,805	$65,675	$1,130	$230	$0	$233	$900	$0

Project Status 05/25	98.6%	Status as % is approximation based on project budget and expenditures. Construction of CP1 (North), CP2 (Middle), CP3 (South), the Early Valve Replacement Contract and Section 4 Webster Ave Bridge Pipe Replacement are complete.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$67,285	$66,805	($480)	Oct-29	Oct-29	None	$813	$233	($580)

Explanation of Changes

- Project cost and spending changed due to updated cost estimates for Walnut Street Bridge Truss work.

CEB Impacts

- None identified at this time.

S. 719 Chestnut Hill Connecting Mains

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To simplify the complex arrangement of old pipes near the former Chestnut Hill pump stations for safety and operability. Also, create a connection between Shaft 7 of the City Tunnel and the Southern Distribution surface mains to provide redundancy along the Dorchester Tunnel. MWRA is restructuring the piping arrangement through a combination of constructing new pipelines, rehabilitating older pipelines, sliplining, abandoning aqueducts, replacing pressure regulating valves, replacing the emergency pumps at Chestnut Hill, and abandoning pipes and valves which are no longer needed for service.

Project History and Background

The City Tunnel divides into two branches at Chestnut Hill: The City Tunnel Extension going north to supply the Northern High, Northern Intermediate High and Northern Extra High Systems, and the Dorchester Tunnel, which goes south to supply the Southern High and Southern Extra High Systems. There are two shafts in the Chestnut Hill area: Shaft 7 on the City Tunnel, located immediately west of the Chestnut Hill Reservoir, and Shaft 7B on the Dorchester Tunnel, located immediately east of the reservoir. At each of these shafts two newer pipes extend to connect to the older pipelines of the Boston Low, Northern Low and Southern High Systems.

Previously, the Southern High System could only be supplied from Shaft 7B. If the Dorchester Tunnel were to be out of service, it would be necessary to activate the Sudbury Reservoir System, transport water from there via the Sudbury Aqueduct (currently on standby) to the Chestnut Hill Reservoir (currently on standby) and utilize the emergency pump station at Chestnut Hill to pump water from the reservoir to the Southern High System. This water would not be of acceptable quality and its use would require a boil order. A new potable water connection has been constructed from the low service pipes to the new emergency pump station.

The older pipes in the area were originally designed to be supplied from the Cochituate and Sudbury Aqueducts, the Chestnut Hill Reservoir, or the Chestnut Hill High Service and Low Service pump stations. None of these facilities are presently in normal use, and a new underground pump station has replaced the Chestnut Hill pump stations. The pipe network is not only old and inordinately complex, but it is not designed to take water from the two tunnel shafts that are the present sources of potable supply. Portions of this pipe network have been rehabilitated and integrated into the present operation of the system. Considerable lengths of pipe with minimal or stagnant flow, which are a source of discolored water, have been abandoned. Some new pipe was added to better connect the two tunnel shafts with the surface pipe network. The interconnections between the potable water system and standby facilities, which are considered non-potable, have been rebuilt to eliminate the possibility of cross-connections during normal operation.

The High and Low Service pump station buildings at Chestnut Hill housed facilities which served four functions: emergency pumping, surge relief for the Boston Low System, level control for the Chestnut Hill Reservoir, and remote hydraulic operation of large valves on and near the site of the High Service pump station. Construction of a new underground pump station provides more reliable emergency pumping capacity and has enabled MWRA to abandon the pump station buildings and return them to the Commonwealth. Surge relief was provided in a new Shaft 7B pressure reduction chamber that also interconnects restructured piping. Gate House No. 2 has also been refurbished to provide supply to the new pump station. New valves have been constructed to replace the old hydraulic valves.

Scope

Sub-phase	Scope	Status
Design/CA/RI and Construction – Pump Station Potable Connection (6141/6651)	Construction of potable suction and discharge piping to the emergency pump station, restructuring piping to permit surplusing of Chestnut Hill pump station site, elimination of potential cross connections with non-potable suction and discharge lines, reconstruction of the Shaft 7B PRV Station, upgrade of the Shaft 9A PRV station, rehabilitation of valves at Waban Hill Reservoir, and abandonment of the Ward Street Pumping Station and associated piping. Construction to provide potable low service suction to the new pump station and to restructure piping to permit surplusing of the historic pumping stations site. Completion of upgrades of facilities that also may be used during the Walnut Hill Water Treatment Plant startup at Shaft 7B, Shaft 9, and Ward Street.	Completed
Preliminary Engineering (6301)	Provide preliminary design services for the rehabilitation and upgrade of facilities so that MWRA is able to operate the water system during normal conditions and specific emergency scenarios.	Completed
Design/CA/RI and Construction – Emergency Pump Relocation (6503/6501)	Relocation of the emergency pumping function and other minor facilities from the existing High and Low Service pump station buildings to a new 90-mgd underground pump station constructed adjacent to the Low Service building. The relocation enables MWRA to surplus these historic buildings. The new pump station has the capacity to pump 90-mgd from the Sudbury Aqueduct/Chestnut Hill Reservoir to the Southern High Distribution System.	Completed
Boston Paving (6558)	Payment(s) to the City of Boston for paving work provided.	Completed
BECo Emergency Pump Connection (6623)	Payment to Boston Edison Company for installation of electrical service to meet special requirements.	Completed
Chestnut Hill Final Connections Design ESDC, Construction, REI (6995/6982/7705)	Chapter 30 and Chapter 149 final pipe connections.	Future
Equipment Pre-Purchase (6814)	Valve pre-purchase to support potable connection construction so that the Chestnut Hill Pump Station site could be returned to the Commonwealth of Massachusetts as surplus property.	Completed
Demolition of Garages (6820)	Demolition of garages prior to transfer of property to the Commonwealth, at request of state Department of Capital Asset Management.	Completed
Chestnut Hill Gatehouse No. 1 Repairs (7382)	This project provided structural stability of sub-structure of gatehouse which involved flowable fill and structural support walls.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$59,475	$18,287	$41,188	$0	$0	$0	$23,205	$17,983

Project Status 05/25	30.7%	Status as % is approximation based on project budget and expenditures. Chestnut Hill Gatehouse Repairs was substantially complete in April 2018.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$55,509	$59,475	$3,966	Dec-33	Dec-33	None	$0	$0	$0

Explanation of Changes

- Project cost changed due to inflation adjustments for Chestnut Hill Final Connections work.

CEB Impacts

- None identified at this time.

S. 721 Southern Spine Distribution Mains

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To increase carrying capacity and improve valve operability along the large surface mains that run parallel to the Dorchester Tunnel and provide service to the Southern High and Southern Extra High systems. These mains have serious hydraulic deficiencies and many inoperable valves. Hydraulic performance improvements are needed to provide redundancy for the Dorchester Tunnel. Work will include rehabilitation of more than 12 miles of large diameter pipeline.

Project History and Background

The Southern Spine Distribution Mains comprise the surface piping which parallels the Dorchester Tunnel. The mains begin in the vicinity of Shaft 7B in Brookline and end at the Blue Hills Reservoir in Quincy. The mains serve the Southern High and Southern Extra High System communities of Boston, Brookline, Milton, Quincy, Norwood, Canton, Stoughton and Dedham-Westwood.

Because of the poor conditions of the valves, MWRA operations staff must frequently close several valves in order to shut down a line. This practice often results in closing more of the system than is otherwise necessary. Several of these pipelines are currently functioning at approximately 50% of their original carrying capacity due to the build-up of rust deposits and other matter along the pipeline walls. In their present condition, these mains could not provide adequate service to users if the Dorchester Tunnel was taken off-line.

Construction of the first two contracts for Section 22 South was completed by June 2005. The contracts for Section 107 Phase 1 and Phase 2 were completed in January 2009 and January 2012, respectively.

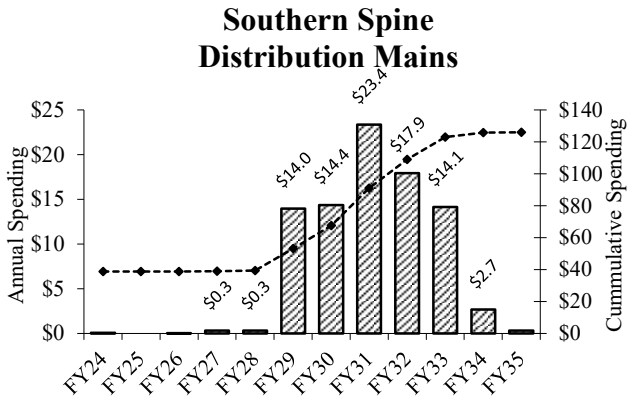
Scope

Sub-phase	Scope	Status
Sections 21,43, 22 Design/CA/RI	Design, construction administration, and resident inspection for five construction contracts in Phase 1, including rehab of 32,000 linear feet of 24- to 48-inch diameter pipes, and installation of 17,000 linear feet of 36- to 48-inch pipes. Rehabilitation to consist of cleaning and cement mortar lining, and replacement of the main line valves, blow-off valves, and appurtenances.	Completed
Section 22 South Construction	Rehabilitation of approximately 10,000 linear feet of 48-inch diameter Section 22 South, and installation of 1,700 linear feet of new pipe.	Completed
Adams Street Bridge (6396)	Relocation of a pipeline made necessary by the reconstruction of this bridge by the MBTA.	Completed
Southern High Ext Study (6602)	Study to determine the feasibility of expanding water services to additional communities in the Southern High Service Area. Cost of the study and public participation was fully funded by the Commonwealth of Massachusetts. Completed in May-1999.	Completed

Sub-phase	Scope	Status
Section 22 Rehab Alternative Analysis/Environmental Permitting (7155)	Section 22 rehabilitation alternatives analysis and environmental permitting.	Completed
Section 22 Design/ESDC (7120)	Design/ESDC for Section 22 and Section 21.	Future
Section 22 Construction (6844) and REI (7723)	Rehabilitation of 16,000 linear feet of 48-inch diameter steel Section 22 piping and 5,000 linear feet of 24-inch diameter cast iron Section 21 piping.	Future
Section 20 and 58 Design/ESDC (6296) Easements (6297) REI (8009) and Construction (6298)	Rehabilitation of approximately 19,000 feet of 36-inch diameter steel and cast iron pipes in Morton Street from Shaft 7C of the Dorchester Tunnel to Washington Street.	Future
Section 22-Neponset River Cross Inspection (8105) and Design/ESDC (8104)	Inspection to assess the condition of Section 22 Neponset River crossing. Future design & ESDC services will be based on inspection results.	Future
Section 107 Phase 1 Construction (6845)	Construction of 4,400 linear feet of new 48-inch diameter pipe from East Milton Square to Furnace Brook Parkway in Milton and Quincy.	Completed
Section 107 Phase 2 Construction (7099)	Replacement of Sections 21 and 43 with 9,200 linear feet of new 48-inch diameter pipe from Dorchester Lower Mills in Boston to East Milton Square, and cleaning and lining of 4,000 feet of existing water mains	Completed
Contract 1 A Construction (6885)	Rehabilitation of 4,400 linear feet of Section 22 South.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$127,034	$38,715	$88,319	$0	$1	$681	$83,794	$3,898



Project Status 05/25	30.7%	Status as % is approximation based on project budget and expenditures. Section 22 Rehabilitation Alternatives Analysis and Environmental Permitting was awarded in July 2019 and completed in September 2023.	

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$111,964	$127,034	$15,071	Jul-33	Jul-33	None	$4,709	$681	($4,028)

Explanation of Changes

- Project cost and spending changed primarily due to updated cost estimates for Sections 20 & 58 Design, Construction, and Section 22 CP-1 Construction.

CEB Impacts

- None identified at this time.

S. 722 Northern Intermediate High (NIH) Redundancy and Storage

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

Master Plan Project ☑ 2008 Priority Rating 1 (see Appendix 3)

The Northern Intermediate High System lacks both pipeline redundancy and sufficient storage. The intent of this project is to identify and take measures that reduce both the risk and impacts of a pipeline failure within the Northern Intermediate High System.

Project History and Background

This system serves Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn with an average daily demand of 9.9 million gallons. The population served is approximately 150,000. The current six million gallon capacity of MWRA's Bear Hill Tank in Stoneham is both insufficient to meet MWRA's goal of one day of storage for the service area and is not advantageously placed within the NIH system.

Section 89 is a three mile, four foot diameter Prestressed Concrete Cylinder Pipe (PCCP) transmission main with no redundancy other than the low capacity, century old Section 29 that parallels its route for a short distance. The 10,500 foot length of Section 89 northwest of Spot Pond is constructed of Class IV wire which is of significant concern given experience with catastrophic failures elsewhere in the country. Section 29 was originally constructed in 1901 and measures 6,300 feet in length and 24 inches in diameter. Because of its age and the fact that it is unlined cast-iron pipe, tuberculation has reduced the pipeline carrying capacity to approximately 45% of the original design capacity (C-value: 58). In the event of a shut down in Section 89, Section 29 may not be able to meet the minimum hydraulic needs of the area and additional chlorination to maintain water quality may be required.

Scope

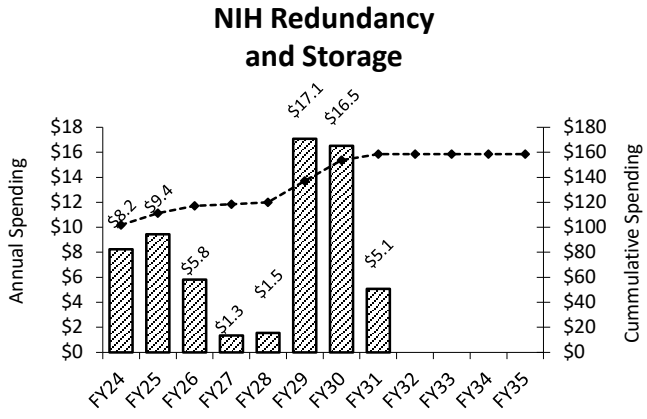
Sub-phase	Scope	Status
Concept Plan, ENF, and Mobile Pump Unit	Developed a concept level plan to evaluate options to reduce the risk and the impacts of potential failures in Sections 29 and 89. Measures evaluated included valve improvements, improved community interconnections, pipeline redundancy, targeted emergency response plans, additional storage and other improvements that can be implemented within the NIH system. Concept planning work included environmental review of the recommended plan and specification and purchase of the Mobile Pump Unit.	Completed
Design CA/RI and construction NIH Impr/Gillis PS Impr./Reading-Stoneham Interconnection (7045/7260/7261)	This phase includes the design and construction of short-term measures identified in the conceptual plan including Gillis PS Improvements and the Reading/Stoneham Interconnection.	Completed

Sub-phase	Scope	Status
Design CA/RI and Construction Section 89/29 Redundancy Phases 1A, 1B, 1C & 2 (6906/7066/7067/7471/7478)	Contract 6906 includes design and CA/RI for the redundant pipeline Section 110 (approximately 7 miles) consisting of 4 construction contracts. Phase 1 includes Phase 1A West Street Section 110 Woburn/Reading (7066), Phase 1B Section 110 Reading (7471) and Phase 1C Section 110/112 Stoneham and Wakefield (7478). Phase 2 includes Section 110 in Stoneham (7067).	Completed
NIH Storage Design/CA/RI & Construction and RE/RI (7311/8077/7068)	Design, CA/RI and construction contracts for a new 6 million gallon above ground storage tank to be located at one of two alternative sites in the NIH pressure zone.	Active / Future
Section 89 & 29 Replacement Design/ESDC (7116), RE/RI Services (7633) and Construction (7117)	Section 89 replacement after the redundant pipeline is completed. These phases include Design/CA, RE/RI and construction for the replacement of Section 89.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$158,657	$101,819	$56,839	$9,430	$5,817	$26,380	$38,700	$0

Project Status 05/25	67.9%	Status as % is approximation based on project budget and expenditures. Section 89/29 Redundancy Design/CA/RI contract was awarded in March 2011. Reading/Stoneham Interconnections was substantially complete in October 2012. Gillis Pump Station Improvements was substantially complete in December 2014. West St Pipeline Reading Construction Phase 1A was substantially complete in May 2015. Phase 1B and Phase 1C were substantially complete in May 2018 and September 2018, respectively. Phase 2 Construction was substantially complete in June 2020. Section 89 & 29 Replacement Construction was awarded in May 2021. REI services was awarded in April 2021.



Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$156,075	$158,657	$2,582	Oct-29	May-30	7 mos.	$40,712	$26,380	($14,332)

Explanation of Changes

- Project cost increased primarily due to additional change orders for Section 89 & 29 Replacement Construction and updated cost estimate NIH Storage Design and Construction.
- Project scheduule changed due to updated schedule for NIH Storage Design and Construction.
- Project spending changed primarily due to updated schedule and cash flows for NIH Storage Design and Construction.

CEB Impacts

- None identified at this time.

S. 723 Northern Low Service Rehabilitation - Section 8

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

To improve the condition and reliability of unlined cast-iron pipes serving a portion of the Northern Low System. These pipelines, have reduced carrying capacity because of rust build-up, and have experienced leaks at above average rates. Improvements will consist of a combination of replacement, cleaning, lining, and valve repairs. Rehabilitation of Sections 37 and 46 will improve the service to East Boston and will allow the shutdown of Section 8. The construction of Section 97A provides needed redundancy to East Boston via the Northern High System.

Project History and Background

Section 8 was installed between 1897 and 1915 and serves Malden, Everett, Chelsea, and East Boston. Section 8 is currently functioning at approximately 45% of its original capacity (C-value: 60) due to the build-up of rust deposits and other matter along the interior pipe wall. Excavations for the installation of new valves along portions of Section 8 have indicated severe external corrosion on the pipe wall, which could affect the structural stability of the pipeline.

Before rehabilitating Section 8, the distribution system supplying East Boston must be strengthened. Sections 37 and 46, located in Chelsea, are 36-inch diameter cast iron pipes. These two pipe sections connect between Section 57, portions of which were previously rehabilitated, and the two Chelsea River crossings to East Boston at Sections 8 and 38. It is anticipated that Sections 37 & 46 will need cleaning and cement mortar lining. Section 97A, a new 16-inch diameter pipe provides redundancy to East Boston via Northern High System. The pipeline connects to existing Meter 99 in East Boston and to the Boston low-pressure system through a new pressure-reducing valve.

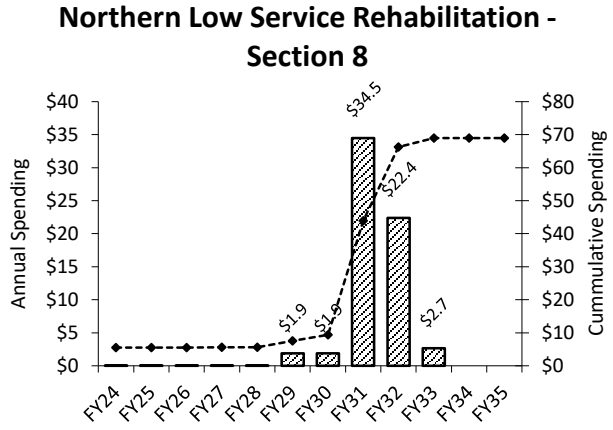
Scope

Sub-phase	Scope	Status
Design/CA, Construction, and REI – Section 8 and 57 (7092/6322/7719)	Cleaning and cement mortar lining of the pipeline interior, replacement of all defective and inoperable valves, and the addition of new valves for 7,500 linear feet of 48-inch pipe on Section 8 in Malden and Everett. Replacement work consists of replacing 9,722 feet of 42-inch pipeline with new 36-inch ductile iron main and replacement of blow-off connections from Second Street in Everett to the Mystic River Bridge in Chelsea.	Future
Rehab Sections 37 and 46 Chelsea, East Boston Design/CA, Construction and REI (7405/6962/7718)	Rehabilitation of approximately 3,550 linear feet of 36-inch cast iron main (Section 37) and approximately 2,500 linear feet of 36-inch cast iron main (Section 46). Both sections are located in Chelsea and are critical to the supply of water to East Boston. Section 38, the 36-inch ductile iron pipeline under the Chelsea River, is assumed to not need rehabilitation.	Future
Section 97A Construction (7021)	Installation of approximately 3,000 linear feet of 20-inch, 16-inch and 12-inch water main and a new pressure-reducing valve. This completed work is part of the Northern High System and adds redundancy to East Boston, including Logan Airport.	Completed

Sub-phase	Scope	Status
Sections 50/57 Water Rehabilitation Design CA/RI (7540) and Construction (7541)	Design, CA/RI and construction of rehabilitation of: 600 feet of 20-inch cast iron Northern High System water pipe; and 2,500 feet of 48-inch steel Northern Low System water pipe and associated valves and structures located in Medford, MA.	Complete/Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$68,982	$5,557	$63,425	$4	$13	$52	$63,384	$0



Project Status 05/25	8.1%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$68,970	$68,982	$12	Jul-32	Jul-32	None	$48	$52	$4

Explanation of Changes

- Project cost changed primarily due to project closeout for Section 50 & 57 Water & 21/20/19 Sewer Design/ESDC.

- Project spending changed primarily due to updated schedule and cash flow for Easements and costs above.

CEB Impacts

- None identified at this time.

S. 727 Southern Extra High Redundancy & Storage

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Provides environmental benefits*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

Master Plan Project ☑ 2008 Priority Rating 2 (see Appendix 3)

To provide redundancy to the southern extra high mains Section 77 and 88 serving Boston, Canton, Norwood, Stoughton and Dedham-Westwood by construction a redundant pipeline. Also, to increase distribution storage within the service area to improve system operation and reliability.

Project History and Background

This project will provide redundancy to Sections 77 and 88 serving Boston, Canton, Norwood, Stoughton, and Dedham-Westwood, through construction of a redundant pipeline. The project will also increase distribution storage within the service area to improve system operation and reliability.

MWRA's Southern Extra High pressure zone serves Canton, Dedham, Norwood, Stoughton, Westwood, portions of Brookline, Milton, Newton, and the Roslindale and West Roxbury sections of Boston. Water is pumped to this pressure zone from the Dorchester tunnel through two pump stations.

The Southern Extra High pressure zone is currently deficient in distribution storage and lacking in redundant distribution pipelines. MWRA maintains two distribution storage tanks (Bellevue Tank 1 and Bellevue Tank 2) totaling 6.2 million gallons of storage for the entire Southern Extra High service area, which is significantly below the goal of one day of storage. Further highlighting the deficiency is the fact that the overflow elevation for the 2.5-million-gallon Bellevue Tank 1 is 25 feet lower than the overflow elevation for the newer 3.7-million-gallon Bellevue Tank 2, limiting its useful capacity.

The five communities in the southern portion of the service area (Canton, Norwood, Dedham, Westwood, and Stoughton) are served by a single MWRA 36-inch diameter transmission main (Section 77), which is five miles long. Canton and Stoughton are served by a branch (Section 88) off of Section 77. Although several of these communities are partially supplied by MWRA, the loss of this single transmission main would result in a rapid loss of service in Norwood and Canton, and water restrictions for Stoughton and Dedham/Westwood.

In addition, the Southern Extra High service area has expanded during the past several years with the addition of the partially-supplied Town of Stoughton and the Dedham-Westwood Water District. This growth has been concentrated to the south while the Bellevue tanks are located at the northern end of the service area. Although several of these communities are partially supplied by MWRA, the Town of Norwood is fully supplied by this line and has no back-up source of supply. There have been several instances when the water supply to Norwood has been interrupted due to valve and/or pipe failures.

Scope

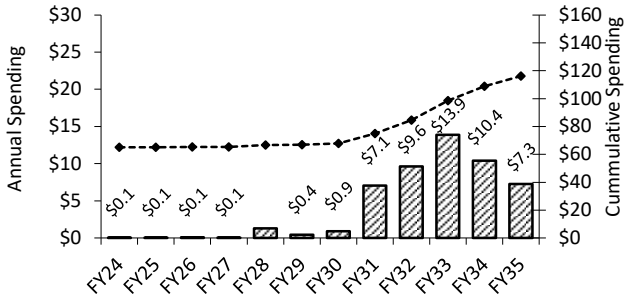
Sub-phase	Scope	Status
Concept Plan (6452)	A study to assess storage, capacity and condition of existing distribution pipes, new pipeline routing options and tank sites were identified.	Completed

Sub-phase	Scope	Status
University Ave Water Main Section 108 (6445)	Initial phase to provide redundant pipeline on University Avenue in Norwood. Project broken out from the larger SEH redundancy and storage projects. This work has been completed.	Completed
Redundancy Pipeline Section 111 Design (6453) & Construction Ph 1 Contracts 1, 2, and 3 (6454, 7504, 7505)	The first phase funds the design and construction of a pipeline from the Bellevue storage tank to East Street in Westwood, which will provide redundancy to Sections 77 & 88.	Completed
Redundancy/Storage Phase 2 – Design/CA/RI (6444), Construction (7245) REI (8010)	The second phase will provide redundancy to Sections 77 & 88 through design and construction of one (1) 2.5 million gallon distribution storage tank. This tank is needed to provide adequate one day storage to the service area.	Future
Storage Design & Construction Phase 3 Second Tank (7263/7262) and REI (8011)	The third phase will provide additional redundancy to Sections 77 & 88 through design and construction of an additional one (1) 2.5 million gallon distribution storage tank. This tank is needed to provide additional one day storage to the service area.	Future
Section 77/88 Design/ESDC, Construction and REI (7112/7113/7706)	Rehabilitation of Sections 77 & 88 after redundant pipeline is in place.	Future
SEH Redundancy/Storage Phase 2 Study (8029)	Concept Plan to identify potential storage locations in the Southern Extra High pressure zone.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$176,133	$65,077	$111,055	$62	$73	$1,572	$31,849	$77,690

SEH
Redundancy & Storage



Project Status 05/25	37.0%	Status as % is approximation based on project budget and expenditures. Conceptual Design began in February 2007. University Ave Water Main was substantially complete in November 2008. Redundancy/Storage Phase 1 Final Design/CA/RI commenced in February 2014. Redundancy Pipeline Section 111 Construction 1 was substantially complete in September 2018. Redundancy Pipeline Section 111 Construction 2 was substantially complete in February 2020. Redundancy Pipeline Section 111 Construction 3 was substantially complete in May 2021.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$172,202	$176,133	$3,931	Jun-37	Jun-37	None	$1,572	$1,572	$0

Explanation of Changes

- Project cost changed primarily due to updated cost estimates for Section 77/88 Design/ESDC, Construction and REI.

CEB Impacts

None identified at this time

S.735 Section 80 Rehabilitation

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*

Master Plan Project☑ 2009 Priority Rating 3 (see Appendix 3)

Rehabilitation of approximately 16,197 feet of pipe along Route128/95. Section 80 supplies water to Wellesley and Needham. Rehabilitation will improve water quality to these two MWRA communities.

Project History and Background

Section 80 is a steel main that runs from Shaft 5 of the City Tunnel in Weston extending through Newton to supply Wellesley and Needham. The main runs along portions of 128/95 and has been exposed to highly corrosive conditions and the cathodic protection system has not been maintained. Complaints from residents in Needham and Wellesley of a tar-like smell in the water indicate deterioration of the pipe liner. Testing indicated phenols levels 10 times above allowable limits. Failure of Section 80 would create huge traffic challenges on this major metro-Boston highway.

Scope

Sub-phase	Scope	Status
Section 80 Rehabilitation Design/CA (6892), Construction (6891), and REI (7675)	Design and rehabilitation of approximately 16,197 feet of Section 80 along route 128/95.	Future
Section 80 Replacement Construction (7532)	Replacement of 200 linear feet of Section 80 that was leaking.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$30,201	$1,925	$28,276	$1	$2	$1,347	$26,929	$0

Project Status 05/25	6.4%	Status as % is approximation based on project budget and expenditures. Section 80 Repair Construction was substantially complete in June 2018.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$25,322	$30,201	$4,879	Jul-31	Jul-31	None	$1,348	$1,347	($1)

Explanation of Changes

- Project cost changed primarily due to inflation adjustments on Section 80 Rehabilitation Design/Construction Administration and Construction.

CEB Impacts

- None identified at this time.

S. 753 Central Monitoring System

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Improves system operability and reliability*
☑ *Extends current asset life*
☑ *Results in a net reduction in operating costs*

To provide a modern centralized system for monitoring, coordinating, and controlling critical waterworks functions. Many existing MWRA facilities are monitored and operated using obsolete methods and equipment, which can hinder emergency response capabilities and prevent coordinated system operation. Two operations control centers are already operational, and various field facilities have been equipped with telemetry and communications equipment as part of this project.

Project History and Background

MWRA has been converting to system-wide remote monitoring and control of essentially all hydraulic and hydroelectric operations. The original instrumentation used to measure operating parameters was incomplete, old, and in poor condition. In many cases necessary instrumentation did not exist. The system also lacked telemetry to provide centralized and immediate information on system performance, and the ability to remotely intervene when malfunctions occurred. Without telemetry, operating decisions had to be delayed until field personnel were dispatched to collect measurements. This was a cumbersome and undesirable mode of operation, particularly in emergency situations.

The lack of flow measurement within the water delivery system also impeded identification of sources of unmetered water. When fully implemented, the central monitoring system will generate instantaneous data on water flow and pressure in 18 subsystems beginning with the supply sources and ending at the delivery points to user communities. The data will assist operations staff in detecting and pinpointing leaks in the system. The response time for leak repair work can then be lessened, resulting in significant savings of water and reduction in potential MWRA liability for public safety and property damage.

The central monitoring project has grown from the initial automation of the Reservoir Road Pump Station to include eight other pump stations. Monitoring and control of water treatment facilities has expanded to include the Interim Corrosion Control Facility in Marlborough, the Cosgrove Disinfection Facility, the Norumbega Temporary Disinfection Facility and the Ware Disinfection Facility. In addition, water quality is monitored at seven locations from two Operations Control Centers. Real time Supervisory Control and Data Acquisition (SCADA) monitoring of Telog data is being established with 150 sites currently active. Operation control centers (OCCs) at the MWRA Chelsea and Clinton facilities provide remote monitoring and control of all the SCADA facilities. Also, as part of its Integrated Water Supply Improvement Program, MWRA built several new and upgraded facilities. These included the Nash Hill Covered Storage facility and the Loring Road Covered Storage facility, Carroll Water Treatment Plant, MetroWest Water Supply Tunnel, and the Norumbega Covered Storage facility. The existing system-wide backbone microwave communications network has been improved to connect these facilities to the waterworks communications system.

Scope

Sub-phase	Scope	Status
Study	Study to determine the implementation phases.	Completed
Design	Design of the replacement and rehabilitation of 34 existing master meter sites, 22 new master meter sites, 15 western revenue meter sites, 28 reservoir level instrumentation sites, ten pumping stations, eight pressure regulator control sites, four major throttle valve sites, six chemical feed sites, four hydroelectric sites, five weather stations, five sluice gate control sites, one stream gauging station, and other facilities.	Completed
Communications Structures	Installation of two radio towers, five antennas, one satellite dish, and an equipment shelter.	Completed
CS/Start-Up Services	Construction and startup services for the metropolitan Operations Control Center, as well as metering and monitoring construction.	Completed
Equipment Pre-Purchase	Purchase of instrumentation equipment, mechanical equipment, and new master meters.	Completed
Construction 1 – Reservoir Road and Cosgrove Pilots	Purchase and installation of equipment to automate the Reservoir Road Pump Station and an aqueduct monitoring system for use by the Cosgrove Intake and Shaft 4 operators. MWRA staff installed the equipment.	Completed
SCADA Implementation	Purchase of Supervisory Control and Data Acquisition System (SCADA) equipment for monitoring, control and metering sites.	Completed
Microwave Equipment	Purchase of services and equipment necessary to allow MWRA to convert from analog to digital communications to continue to utilize the Commonwealth's Interagency Microwave System.	Completed
Construction – Operations Center	Construction of a 5,000 square feet center including an environmentally controlled computer room, a printer room, a control room, office space, and sanitary facilities in Chestnut Hill.	Completed
System Wide Backbone C.P. Construction– Monitoring & Control Communications Network	Improvement of the existing Waterworks system wide backbone including upgrades of microwave antennas at MDC Hill and Bellevue water tank and provision of new microwave antennas at five facilities.	Completed
Study and Design – Waterworks Monitoring & Control Communications Network	Provision of microwave antennas and radio equipment at twelve facilities.	Completed

Sub-phase	Scope	Status
Microwave Communication for Waterworks Facilities	Furnish and install seventeen microwave antennas (dishes), three 3-legged, 90- to 100-foot towers, one unpowered 80-foot steel monopole, and two prefabricated concrete shelters to house radio equipment with associated racks, cabinets and wiring.	Completed
Quabbin Power, Communication & Security Design CA/RI and Construction	Design and construction of 2.4 miles of power, and communication to Quabbin Aqueduct Shaft 12 and 1,500 feet to the DCR Boat Cove. Also, upgrading 9,000 feet of existing overhead power line from Winsor Power Station to Quabbin Lookout Tower to insure uninterrupted service of the communication network. Increased security will be provided at Shaft 12, Winsor Power Station, CVA Intake, Nash Hill gate house, William A. Brutsch Water Treatment Facility, DCR Boat Cove and Quabbin Administration building. The Verizon communications service needed for the security devices to communicate to the Chelsea Head-end Facility was extended to support this function.	Completed
Waterworks SCADA/PLC Upgrades (5218) CWTP SCADA Upgrades Design Programming RE (7581) and Construction (7582), Other Design and Programming Services (7583) , Other Construction (7584), and Other Equipment/Hardware(7585)	Replacement of existing SCADA PLC's nearing their end of life with an updated PLC platform. New PLC's further provide enhanced security capabilities, continued vendors support and future reliability. Secondary goals include standardizing PLC logic and HMI graphics, and upgrading aging field instrumentation. During FY17 staff purchased equipment and contracted outside support to replace the obsolete PLC at the Commonwealth Ave. West Pump Station. This work was complete in the spring of 2017. Additional work to upgrade the Brutsch Water Treatment facility chemical feed PLC through CIP purchases and use of In-house staff for design and installation will be complete in 2019. The design work for the CWTP SCADA Improvement was completed and the Construction Contract for the replacement of legacy SCADA system began in September 2021. Work continues to replace legacy SCADA hardware at other MWRA facilities through new construction contracts including CAPS West, Wachusetts Bastion, Shaft 5, Arlington Tanks etc.	Active/Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$46,709	$37,619	$9,090	$3,249	$1,144	$11,768	$1,837	$0

Project Status 05/25	87.3%	Status as % is approximation based on project budget and expenditures. Quabbin Power Communications & Security Construction was substantially complete in April 2017. CWTP SCADA Design Programming RE was awarded in December 2018 and construction commenced in September 2021.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$45,061	$46,709	$1,648	Oct-29	Oct-29	12 mos.	$10,392	$11,767	$1,375

Explanation of Changes

- Project cost and spending changed primarily due to updated additional change orders and amendments for CWTP SCADA.

- Project spending changed primarily due to updated schedule for Other Design and Programming services, Other Equipment/Hardware and amendments for CWTP SCADA Construction and Upgrade Design.

CEB Impacts

- None identified at this time.

S. 763 Distribution Systems Facilities Mapping

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Improves system operability and reliability*

To produce a complete, up-to-date set of appropriate scale maps of all underground waterworks facilities, along with a comprehensive database inventory. Existing maps were outdated and unreliable, complicating emergency response, field repairs, and planning.

Project History and Background

In 1995 MWRA did not have an adequate, updated set of maps of all of its underground waterworks facilities. Existing maps did not consistently show current conditions and were often incompatible or contradictory with MWRA databases. Engineering, operations, and emergency response were all affected by this inadequacy. Outdated maps hampered engineering because maps needed to be re-created. Field operations crews could not predict with certainty the results of valve shut-offs during repair efforts. The planning process was impaired because management did not have authoritative, consolidated data to evaluate pipe condition, age, C-Values, materials, and soil conditions. Additionally, the lack of a comprehensive understanding of the relationships between MWRA and local community pipe systems could result in service delays. The former mapping system created the possibility of incorrect actions, and in critical instances could have resulted in exacerbated property damage.

Reliable engineering records do not exist for certain sections of the distribution system. The Records Development sub-phase will create, update and automate record drawings and detail records for high priority areas.

Scope

Sub-phase	Scope	Status
Planning/Design	Creation of a complete set of 200 to 400 scale maps of the distribution system with an associated verified inventory of size, material, age, and condition of pipes.	Completed
Data Purchase	Purchase of project related data from Boston Edison.	Completed
Records Development (6525)	Automation of MWRA record drawings.	Future
Update of Record Drawings (7489)	Update record drawings and detail record information for selected water pipeline sections using information from detail records, plans, field books, surveys, and valve inventories. Establish procedures for continued updating and maintenance of detail record information.	Future
Water System Hydraulic Model (7613)	Upgrade and calibrate the water system hydraulic model.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$3,087	$1,700	$1,387	$75	$150	$941	$572	$0

Project Status 05/25	56.9%	Status as % is approximation based on project budget and expenditures. Water System Hydraulic Model was awarded in May 2021.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$3,087	$3,087	$0	Oct-29	Oct-29	None	$941	$941	$0

Explanation of Changes

- None identified at this time.

CEB Impacts

- None identified at this time.

S. 765 Local Water System Assistance Program

Project Purpose and Benefit

☑ *Contributes to improved public health*
☑ *Provides environmental benefits.*

To provide loans to facilitate water system improvements in MWRA communities.

Project History and Background

The Local Water System Assistance Program is a critical piece of MWRA's Integrated Water Supply Improvement Program. In November 1999, the Board of Directors approved the Phase 1 Local Pipeline Assistance Program, supported through a Tax Exempt Commercial Paper (TECP) program, to make $25 million available annually in loans to MWRA communities for pipeline relining and replacement in proportion to each community's share of total unlined pipe miles. Communities are required to pay back principal for each loan during a ten-year time period beginning one year after the project funding is approved. MWRA increased the initial total program budget to $256,796,500 to provide funds for additional water system communities: Stoughton ($4,480,000), Reading ($1,916,000), Lynnfield ($320,000), Dedham/Westwood ($7,500), and Wilmington ($73,000). The Phase 1 Local Pipeline Assistance Program concluded at the end of FY13 with a total of $222.3 million in interest-free loans distributed to member water communities.

An additional $210 million was added to the FY11 budget for the Phase 2 Local Water System Assistance Program. Community distributions from this program will be made from FY11 through FY 23 with repayments scheduled for FY12 through FY33. The $210 million is split with $200 million allocated among 42 Metro-Boston/Metro-West communities and $10 million allocated among three Chicopee Valley Aqueduct (CVA) communities.

The Local Water System Assistance Program was expanded beginning in FY17 to include $100 million in interest-free loans to communities solely for efforts to fully replace lead service lines. The *Lead Service Line Replacement Loan Program* is budgeted over twenty years, but the pace of spending for the program will depend on the level of participation by communities, the communities' ability to work with individual homeowners, and future regulatory requirements. In FY25 the Lead Service Replacement Program was increased from $100 million to $200 million and now includes a 25% grant portion.

In FY18 Local Water System Assistance Program Phase 3 was added in the amount of $292 million. Community distributions from this program will be made from FY18 through FY30 with repayments scheduled for FY19 through FY40. In FY21, MWRA increased the initial total program budget to $293,346,800 to provide funds for additional water system communities: Ashland ($519,400) and Burlington ($827,400). In FY25 the Local Water Assistance Program was again expanded to include Phase 4 for $285 million and Phase 4 CVA for $15 million.

Scope

Sub-phase	Scope	Status
Community Loans	Loans for MWRA water communities to replace and rehabilitate local water pipelines based on each community's share of total unlined pipe miles. These loans will be complete by the end of FY13.	Completed
Community Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
Local Water System Assistance Program	This is a continuation of the program of providing interest-free loans to water system communities for pipeline replacement, cleaning and lining,	Active

Loans	water metering and other local water system improvements.	
Local Water System Assistance Program Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
CVA Loans	This is an extension of the Local Water System Assistance program to the CVA communities to provide interest-free loans to water system communities for pipeline replacement, cleaning and lining, water metering and other local water system improvements.	Active
CVA Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
Lead Service Line Replacement Grants	Grant portion of the replacement of lead service lines added during the FY25 Final process.	Active
Lead Service Line Replacement Loans	Replacement of lead service lines budgeted over a twenty year period beginning in FY17.	Active
Lead Service Line Replacement Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
Local Water System Assistance Phase 3 Loans	This is a continuation of the program (Phase 3) of providing interest-free loans to water system communities for pipeline replacement, cleaning and lining, water metering and other local water system improvements.	Active
Local Water System Assistance Phase 3 Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
Local Water System Assistance Phase 3 CVA Loans	This is an extension of the Local Water System Assistance program to the CVA communities to provide interest-free loans to water system communities for pipeline replacement, cleaning and lining, water metering and other local water system improvements.	Active
Local Water System Assistance Phase 3 CVA Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Active
Local Water System Assistance Phase 4 Loans	This is a continuation of the program (Phase 4) of providing interest-free loans to water system communities for pipeline replacement, cleaning and lining, water metering and other local water system improvements.	Active
Local Water System Assistance Phase 4 Repayments	Principal repayment over a ten-year period beginning one year after origination of the loans.	Future
Local Water System Assistance Phase 4 CVA Loans	Continuation of the program (Phase 4) to provide interest-free loans to CVA water system communities for pipeline replacement, cleaning and lining, water metering and other local water system improvements.	Active
Local Water System Assistance Phase 4 CVA Repayments	Principal repayment over a ten-year period beginning one year after origination of Phase 4 CVA loans.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget *	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$38,459	$210,672	($172,213)	$34,026	$32,785	$128,811	($5,348)	($269,476)

***Total Grants and Loan Distributions less Loan Repayments.**

Project Distribution Status 05/25	53.8%	Through May 2025, MWRA has distributed $599.0 million in loans to fund 540 projects in 45 communities under the Local Water System Financial Assistance Program, and $60.0 million in loans to fund 60 projects in 20 communities under the Lead Service Line Replacement Program.

Project Repayment Status 05/25	37.5%	Through May 2024, a total of $409.5 million has been repaid by member communities receiving interest-free loans under the Local Water System Assistance Program.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$38,459	$38,459	$0	May-46	May-46	None	$130,89	$128,811	($2,083)

Explanation of Changes

- Spending changed due to updated cash flows for Local Water System Assistance Program Phase 2, Phase 3, Phase 4, Lead Service, and CVA repayments.

CEB Impact

- The annual interest paid for the Commercial Paper program supporting the Local Water System Assistance Program initiative is $3.5 million average per year based on the last 5 years of actual spending.

S. 766 Waterworks Facility Asset Protection

Project Purpose and Benefits

☑ *Contributes to improved public health*
☑ *Extends current asset life*
☑ *Improves system operability and reliability*
☑ *Improves energy efficiency*

To protect the investment of MWRA ratepayers by ensuring timely replacement of equipment and systems.

Project History and Background

This project was developed to ensure that MWRA maintains ongoing service while optimizing operations in its water facilities. This project in its current form addresses immediate critical facility and equipment issues. This project will eventually include five areas:

1. Equipment replacement (pumps, HVAC equipment, blowers, etc.).
2. Architectural projects (concrete corrosion, etc.).
3. Utilities projects (water, sewer, drainage, electrical wiring, heating system, etc.).
4. Support Projects (process control system upgrades, etc.).
5. Specialty Projects (instrumentation upgrades, fuel storage tanks, etc.).

While the current schedule indicates a completion date of 2023 for construction, the Waterworks Facility Asset Protection project will be ongoing throughout the useful life of the facilities.

Scope

Sub-phase	Scope	Status
Meter Vault Manhole Retrofits Construction (7479)	Retrofit approximately 195 meter manholes.	Future
Painting for Deer Island Water Storage Tank (7601)	Exterior and interior abrasive blast cleaning and painting for Deer Island Tank. Structural and concrete repairs. Removing, storing, installing and reinstalling components of the microwave communication system. Erection and maintenance for scaffolding and staging including enclosures with protection and ventilation.	Completed
Painting for Bellevue 2 and Turkey Hill Steel Water Storage Tanks (7634)	Exterior and interior abrasive blast cleaning and painting for Bellevue 2 and Turkey Hill Tanks. Structural and concrete repairs and design and erect scaffolding to support the temporary antenna relocation at Turkey Hill. Installation of the interior components of the cathodic protection system.	Completed
Steel Tank Improvements Design/CA (6832), Construction (7493) REI (7676), Phase 2 Constr. (7727) and REI (7728)	Design and construction to recoat the interior and exterior, replace cathodic protection systems and make necessary improvements to the Walnut Hill steel water storage tank. Design and construction for improvements to SCADA, Security, and Water Quality at 6 steel water storage tanks (Bellevue 1 & 2, Turkey Hill, Walnut Hill, Arlington Heights, and Deer Island Water Tank).	Active/Future

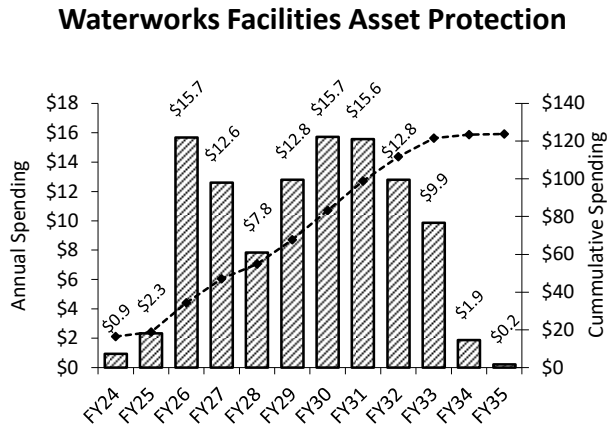
Waltham Pipe Bridge Replacement (6910)	Replacement of approximately 100 feet of 30-inch steel pipe over commuter rail tracks in Waltham including a bridge crossing.	Completed

Sub-phase	**Scope**	**Status**
Design and Construction Cosgrove Valve Replacement (7064/7065)	Replacement of isolation sluice gates at Cosgrove Intake to improve reliability for emergency shut down of Cosgrove facility and to isolate new sliding sleeve valves to facilitate preventive maintenance and any future corrective maintenance.	Future
Transformer at Cosgrove Intake Building (7228)	Replacement of a 45 year old main service transformer and load break switch. This transformer supplies power to the Cosgrove Intake Building. If it were to fail, the building would be running on generator power for a significant period of time.	Completed
Fells/Loring RD Tanks Rehab REI (8085) Design/CA (7385) and Construction (7482)	Rehabilitation of Fells and Loring Road Covered storage facilities commencing in FY19. The valves, sluice gates, and piping should be considered for rehabilitation by this time, as each facility will be more than 20 years old.	Future
Southborough Headquarters Electrical System Upgrades (7425)	Upgrade of existing 13.8kV distribution system that supplies the various buildings at Southborough Headquarters due to on-going service disruptions. Install electrical metering equipment to better manage electrical use in facility.	Completed
Water Meter Upgrade Replacement and Meter Vault Manhole Retrofit Phase 1 Design (In-House)	Upgrade of 11 Boston water meters. Scope includes removing fire flow bypasses and increasing venturi tube size at four meters, installing new aboveground cabinets and replacing the venturi tube at five meters, and installing new aboveground cabinets at two meters. Retrofit the manholes of a total of nine of these existing meters. This will provide more accurate and reliable meter data since current meters are beyond their life expectancy.	Future
Beacon Street Line Repair Design CA/RI (7474) and Construction (7458)	Repair of 48” water main in Brookline serving Boston Meter 44. This main provides important water supply redundancy to Meter 60 which serves the Longwood Medical Center in Boston.	Completed
Cosgrove Construction (7022)/and Gillis PS/Cottage Farm CSO Construction (6888) Flat Roof Replacements	Replacement of the entire flat roofs at Cosgrove, Gillis Pump Station, and Cottage Farm CSO Facility. Designs have been developed with the assistance of Technical Assistance Consulting Services Task Orders. Limited Task Order services were also used to support ESDC services.	Completed
New Roofs at Water Pumping Stations Construction (7626)	Replace pump station roofs at Belmont (membrane), Spring St (membrane), and Lexington St in Belmont, Arlington, Waltham and Brookline.	Completed
New Roofs at Gillis, Brattle Court, Newton Street Pumping Stations Design CA (7902), Construction (7901), and REI (7900)	Replace pump station roofs at Gillis, Brattle Ct (slate), and Newton Street (membrane) Pumping Stations.	Active

Sub-phase	Scope	Status
Generator Docking Station (7025) and REI (7024)	To install an electrical switchboard at eleven facilities, 5 - Water and 6 - Wastewater as a means for a quick connection to a towable generator. Generator will be deployed for use as a back-up in the event of prolonged utility failure or failure of the in-house emergency power generator. Construction Contract 7025 was awarded with an NTP on April 23, 2019. REI Contract 7024 awarded at April 17, 2019 BOD meeting.	Completed
Water Tank Masonry/Struct. Cond. Assessment/Evaluation (7711), Construction (7694), and REI (7712)	Evaluate/Repair/Replacement of the structurally impaired concrete/masonry structures at the Bellevue 1 standpipe and the Arlington Heights tank. Prior to Repair/ Replacement Design Services, the Structural Condition Assessment and Evaluation with the detailed sampling and testing program to be done with the assistance of Technical Assistance Consulting Services Task Orders. Bellevue 1 Standpipe task order to be done first.	Future
Water Tanks Paint Phase 1 Design/ESDC, Construction, REI Bellevue 2/Deer Island/Turkey Hill (7739, 7740, 7748, 7741)	Rehabilitate Bellevue 2, Deer Island, and Turkey Hill storage facilities including repaint, replace cathodic protection and other improvements.	Future
Water Tanks Paint Phase 2 Design/ESDC, Construction Bellevue 1/Park Circle/Walnut Hill (7742, 7743) Paint Tanks Phase 2 REI (7744)	Rehabilitate Bellevue 1, Park Circle, and Walnut Hill storage facilities including repaint, replace cathodic protection and other improvements.	Future
Cosgrove Tunnel Rehabilitation Inspection (8030), Design/ESDC (7738)	Repairs need to the Cosgrove Tunnel as a result of an inspection in 2003. A new inspection will be performed. This project would be for the design and engineering services during construction for these repairs.	Future
Beacon Street Line Rehabilitation Design/ESDC, REI Construction (7729, 7730)	Rehabilitation of the remaining portion of the Beacon Street line near the Chestnut Hill area. The project will include the replacement of thirty cathodic protection systems on pipe sections located in Brookline and Boston.	Future
Brutsch Treatment Plant Sodium Hypo Upgrade (8021)	Design of sodium hypochlorite system upgrade including new storage tanks, pumps, pipes and controls is being completed by a Technical Assistance contract task order. Construction NTP anticipated early FY27.	Future
Phase VI Com, Brat., HP Fuel Tank Rep (8182)	Replace fuel tanks at the Commonwealth Ave, Brattle Ct., and Hyde Park Pumping Stations.	Future
Pipe Bridge Inspections/Structural Analysis (8137)	MWRA has eight independently supported bridge trusses carrying water pipelines across MBTA tracks, DOT highways, and a river. Per bridge best practices, these pipe bridges should be inspected for safety once every two years. In addition, a structural analysis is necessary (if one doesn't already exist) in order to determine the bridge's useful life for CIP replacement purposes.	Active
Southboro Paving (8183)	**Paving at the Southborough Complex.**	**Future**

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$166,718	$16,402	$150,316	$2,341	$15,658	$39,378	$66,728	$45,147



Project Status 05/25	9.9%	Status as % is approximation based on project budget and expenditures. Transformer Replacement at Cosgrove Intake Building contract was completed in July 2012. Beacon Street Line Repair construction was substantially complete in April 2017. Cosgrove Roof Replacement was substantially complete in September 2019. Bellevue Hill II and Turkey Hill Tanks Repainting were substantially complete in October 2019. Generator Docking Station construction was substantially complete in April 2020. Gillis PS/Cottage Farm CSO Roof Replacement was completed in July 2020. Steel Tanks Painting and Improvements Design/ESDC was awarded in November 2020.Southborough Electrical Upgrades was completed in March 2024.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$145,869	$166,718	$20,849	Jul-41	Jul-41	None	$48,872	$39,378	($9,494)

Explanation of Changes

- Project costs changed primarily due to additional new contracts for Pipe Bridge Inspections/Structural Analysis and Southboro Paving, and a separate contract established for Phase VI Commonwealth Ave, Brattle Ct, HP pumping stations Fuel Tank Replacements. In addition, updated cost estimates for Steel Tank Improvements Construction Phase 2, Roofs Gillis/Bratt/Newt Construction and REI, Water Tanks Paint Phase 2 Design/ESDC, Construction, REI Bellevue 1/Park Circle/Walnut Hill and Steel Tank Improvements Construction.

- Project spending changed primarily for updated schedules for Beacon Street Line REI and Construction updated cost for Steel Tank/Improvements Construction, Water Tank Masonry/Structural Condition Assessment/Evaluation, Steel Tanks Improvements Construction Phase 2, Phase 2, Roofs Gillis/Bratt/Newt Construction and REI, and new projects listed above.

CEB Impacts

- None identified at this time.

Business and Operations Support

S. 881 Equipment Purchase

Project Purpose

To provide critical equipment for improved maintenance and operations at MWRA facilities.

Project History and Background

This project includes the purchase of large vehicles, purchase and installation of security equipment at various MWRA facilities, and purchase of an Inductively Coupled Plasma-Mass Spectrometer (ICP-MS) for MWRA's Central Laboratory. The security equipment and installation component of the project includes the design and installation of security systems at MWRA facilities. MWRA is ranking facilities and locations with respect to the critical nature of service delivery, with an emphasis on the waterworks system. This ranking will frame the extent and scheduling of the security improvements for each specific site. The project also includes contaminant monitoring system/buoy quality monitoring. Water Quality Assurance deploys three water quality buoys on the Wachusett Reservoir & one buoy on the Quabbin Reservoir on a seasonal basis typically through May-November. Each buoy profiles water quality in the reservoir using sonde/sensor equipment at a prescribed frequency throughout the day, gathering and relaying water quality data to MWRA. This equipment allows MWRA to monitor reservoir algal trends, changes throughout the water column due to weather events, understand reservoir stratification and turnover, and track the Quabbin interflow. The buoys also aids with water quality monitoring and response in the event of a potential or actual chemical contamination event near or within the reservoir.

Scope

Sub-phase	Scope	Status
Security Equipment & Installation	Design and installation of security systems at various MWRA facilities and sites.	Active
ICP-MS Lab Testing Equipment	Purchase of Inductively Coupled Plasma – Mass Spectrometer to replace a 14-year-old instrument and expand the laboratory's high sensitivity metals testing capacity. Equipment was purchased in 2008.	Completed
FY14-18 Major Laboratory Instrumentation	Purchase major laboratory instrumentation, such as high resolution GC-MS or LC-MS to provide for lab testing of newly regulated contaminants.	Completed
Major Laboratory Instrumentation (7632)	Purchase major laboratory instrumentation, such as high resolution GC-MS or LC-MS to provide for lab testing of newly regulated contaminants.	Active
Vehicles:		
High Lift Fork Loader (Lull)	Purchase High Lift Fork Loader (Lull) to move equipment and materials at Deer Island.	Completed
Prior Vehicle Purchases	Vehicle purchases including TV Inspection Truck, Two Back Hoes, Vactor Truck, Water Service Truck, Bucket Machine, Excavator, Grove Crane, Land Fill Loader, Power Sweeper/Catch Basin Cleaner, Front-End Loader, Two Dump Trucks, Crane, and International Tractor/Trailer.	Completed
Ramp Truck	Purchase of Ramp Truck to support Fleet Services.	Completed
Street Sweeper	Purchase of Street Sweeper to support MWRA facilities and community assistance.	Completed

Sub-phase	Scope	Status
Contaminant Monitoring Equipment	Contaminant monitoring system panel replacement and expansion completed. Buoy replacements moved out to FY30 and later. Rte. 12 Shed Sampling System upgrades to address intake clogging, and allow remote auto filling of sampling tanks in the event of reservoir contamination, project NTP is 3/21/25	Active
FY11-13 Vehicle Purchases	Vehicle purchases planned for FY11-13.	Completed
FY14-18 Vehicle Purchases	Vehicle purchases planned for FY14-18.	Completed
FY19-23 Vehicle Purchases	Vehicle purchases planned for FY19-23.	Completed
FY24-28 Vehicle Purchases (7695)	Vehicle purchases planned for FY24-28.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$43,099	$27,343	$ 15,756	$3,297	$4,441	$15,604	$400	$130

Project Status 5/25	69.0%	Status as % is approximation based on project budget and expenditures. Purchase and installation of security equipment is in process and will continue into FY28.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$43,107	$43,099	($8)	Jun-28	Jun-28	None	$15,621	$15,604	($17)

Explanation of Changes

- Project cost and spending changed primarily due to updated cost estimates for Security Equipment & Installation and Vehicle Purchases.

CEB Impacts

- No impacts identified at this time.

S.925 Technical Assistance

Project Purpose

To ensure ready access on an as needed basis, to professional and technical services not available or not cost-effectively provided by in-house staff.

Project History and Background

Efficient implementation of MWRA's Capital Improvement Program and other projects often requires specialized skills and technical assistance that are not available from in-house staff. This project ensures ready access to a variety of services through a series of task order contracts with pre-set limits. Task orders are used when immediate expertise on projects is required. When a task order is complete, the expense is transferred to the appropriate capital project or Current Expense Budget cost center.

Scope

Sub-phase	Scope
Technical Assistance	MWRA technical assistance contracts include hazardous materials assessment and land appraisals.

Status: MWRA uses technical assistance contracts in support of various CIP and CEB projects.

Expenditure Forecast (in $000s)

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$1,055	$0	$1,055	$0	$552	$1,055	$0	$0

Changes in Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$1,055	$1,055	$0	Jun-27	Jun-28	12 mos.	$1,055	$1,055	$0

Explanation of Changes

- Project schedule changed for continuation of technical assistance program for another year.

CEB Impacts

- When Technical Assistance contracts are used to support a project in the operating budget, the costs are charged to the Current Expense Budget (CEB).

S. 933 Capital Maintenance Planning/Development

Project Purpose

To optimize the efficiency and effectiveness of MWRA maintenance practices by developing and implementing a strategic maintenance plan for MWRA assets.

Project History and Background

MWRA is responsible for rehabilitating, repairing, and maintaining the regional water and sewerage system infrastructure. Since its assumption of the ownership and operations of the water and sewer systems in 1985, MWRA has undertaken an ambitious program of capital improvements to the systems, with estimated expenditures of more than $8 billion for fiscal years 1986 through 2018.

Given the significant value and critical nature of these assets, system maintenance is of paramount importance. This project helps MWRA optimize maintenance practices by evaluating alternative approaches to equipment, infrastructure and facility maintenance, recommending a maintenance strategy, implementing a pilot program to test the recommended strategy, and developing a plan to implement the recommended strategy throughout MWRA.

The purpose of technical assistance contracts is to make available, on a continuing basis, the services of qualified, professional engineering firms to assist MWRA staff on engineering study and/or design initiatives. The contracts involve the engineering disciplines of architecture, civil, structural, geotechnical, surveying, environmental and sanitary, mechanical and process, fire protection, electrical, control systems, chemical, corrosion and odor control, permitting and security. These agency-wide technical assistance contracts supplement in-house staff on high-priority or unanticipated projects, or provide expertise on short-term assignments requiring specialized disciplines that are not cost effective for MWRA to maintain on an in-house basis and will ensure that adequate resources are available to quickly and comprehensively respond to MWRA's needs, particularly when emergency or unanticipated situations arise.

Scope

Sub-phase	Scope	Status
Inventory & Evaluation Phases 1 & 2	Development of a comprehensive, strategic maintenance plan for MWRA. (Completed by July 2005).	Completed
As-Needed CS/REI 1 & 2	As-Needed Construction Services/Resident Engineering Inspection Services. Services/Contracts can be used in circumstances when additional Resident Engineers or senior level Resident Engineers with special expertise are required as well as CS/REI services for in-house or as-needed technical assistance design contracts.	Completed
As-Needed Design	Contracts for professional design and/or technical assistance services for either wastewater or waterworks system improvement projects to supplement existing engineering resources for specialized and/or complex engineering issues.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$41,498	$23,974	$17,525	$3,119	$5,343	$17,858	$1,562	$0

Project Status 5/25	62.6%	Status as % is approximation based on project budget and expenditures. All tasks in *Inventory & Evaluation Phases 1 & 2* are complete. Agency-wide As-Needed Contract 7 was substantially completed in July 2012. As-Needed Contract 8 was completed in February 2012. As-Needed Contracts 9 and 10 were completed in January and February 2014, respectively. Contract 11 was completed in August 2015. Contracts 12 and 13 were completed in July 2016 and August 2016, respectively. As-Needed Contracts 14 and 15 commenced in June 2016 and were completed in December 2018. Contracts 16 and 17 commenced in June 2018 with Contract 16 completed in December 2020 and Contract 17 completed in December 2021. Contracts 18 and 19 were awarded in October 2020 with Notice-to-Proceeds issued in late 2020 and will be completed in December and November of 2023. Contracts 20 and 21 commenced in January 2023 and December 2022 and will expire in January 2026 and December of 2025.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$39,362	$41,498	$2,136	Jan-29	Jan-29	None	$15,721	$17,858	$2,137

Explanation of Changes

- Project costs changed due to updated costs for As-Needed Design Contracts 18, 19, 20 and 21.
- Project spending changed due to costs listed above.

CEB Impacts

- None identified at this time.

S. 934 MWRA Facilities Management and Planning

Project Purpose

To improve MWRA operations by consolidating projects and providing a central point of review and decision making for space planning decisions.

Project History and Background

This project consolidated existing MWRA projects (DI Maintenance Facilities and DI CSB Demolition) to provide a central point of review and decision making for space planning decisions across the organization.

The project will cover work to rehabilitate or demolish the old Administration Building on Deer Island as the building has deteriorated and certain structures need to be upgraded to current standards if it is to remain occupied. The project also included funds for demolition of the CSB (Construction Support Building) which was built as a temporary structure and has also deteriorated. The CSB Demolition contract was completed in September 2009.

Scope

Sub-phase	Scope	Status
Design & Engineering Services	Design and engineering services to support space plan.	Future
Facilities Construction	Construction of modifications to MWRA facilities in accordance with space plan.	Future
Office Space Modifications	Office space modifications needed as a result of staff moving from CNY to DI and Chelsea facilities.	Completed

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$22,927	$20,135	$2,792	$91	$0	$2,410	$1,827	$0

Project Status 5/25	89.0%	Status as % is approximation based on project budget and expenditures. CSB Demolition contract was substantially complete in September 2009. Records Center Shelving and Moving to the interim warehouse/records center was completed in the spring of 2009. Remaining work is to demolish old Administration Building on Deer Island. Some rehabilitation work will need to be done as well. Also, office space modifications for DI and Chelsea completed in July 2023.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$22,213	$22,927	$714	Aug-27	Aug-27	None	$3,523	$2,410	($1,113)

Explanation of Changes

- Project cost and spending changed due to the final cost and updated cash flow of Office Space Modifications contract and Deer Island Admin Building Demo REI and Construction.

CEB Impacts

- None identified at this time.

S. 935 Alternative Energy Initiatives

Project Purpose

A comprehensive "green energy" initiative that is expected to bring solar, wind and hydroelectric power either alone or in combination to a number of MWRA facilities

Project History and Background

This project was originally included under Deer Island in previous budget cycles. Building upon its track record in sustainable resource use – most notably dramatic system-wide reductions in water demand, 100% beneficial reuse of biosolids, self-generation of approximately 25% of Deer's Island power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently, respond appropriately to climate change, and reduce the environmental impacts of its daily operations. Key initiatives completed to-date include: A comprehensive "green energy" initiative that brought solar, wind and hydroelectric power to a number of MWRA facilities.

Scope

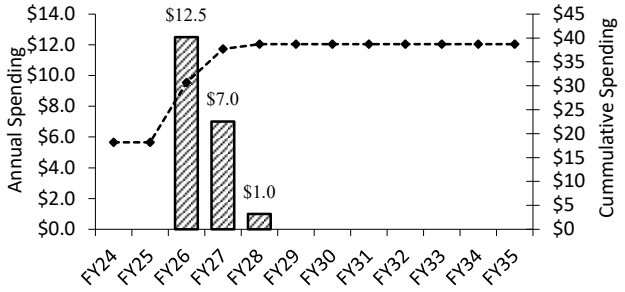
Sub-phase	Scope	Status
DI Solar Residuals Odor Control (ROC)	Design and construction of 100 kw photovoltaic array. Projected annual output estimated at 105,000 kwh.	Completed
DI Wind	Design and construction of 2 600kw solar wind turbine systems. Projected annual output estimated at 2,300,000 kwh. Project added to include repair/rehabilitation contract.	Completed
DI Solar Maintenance/Warehouse	Design and construction of 180kw photovoltaic array. Projected annual output estimated at over 200,000 kwh. Project funding includes $735K million from the American Recovery and Reinvestment Act ("ARRA").	Completed
DI Solar Canopy Project (7270)	Design and construction for future renewable solar energy project for 2 megawatt canopy and roof on Deer Island.	Future
DI Solar Power Purchase Agreement (PPA)	Design and construction of 456 kw photovoltaic array through a third party 20 yr Power Purchase Agreement. Projected annual output estimated at 520,000 kwh. Project partially subsidized by $1.1M from ARRA program. No capital costs to MWRA; pay for electricity generated.	Completed
Loring Road Hydro	Construction of a 200 kW hydropower turbine/generator at Loring Road. Projected annual output estimated at 1,200,000 kwh. Project funding includes $1.5 million from the ARRA program.	Completed
Energy Advisory Consultant Services	Consultant for comprehensive energy advisory services on throughout the Authority.	Completed
Technical Assistance	Various technical assistance contracts to aid solar, wind, and hydro initiatives.	Completed
Carroll WTP Solar Construction	Installation of photovoltaic cells with generating capacity of 496 kw at Carroll WTP plant. Projected annual output estimated at over 616,000 kwh. Project funding includes $2.2 million from the ARRA program.	Completed

Charlestown Wind	Design and construction of 1.5 MW wind turbine system. Projected annual output estimated at 3,000,000 kwh. Project funding includes $4.8 million from the ARRA program.	Completed
Norumbega Solar Project (8178)	**Design and construction for future renewable solar energy project for 4 megawatt ground mount at Norumbega Covered Storage. 2 megawatt canopy and roof on Deer Island.**	**Future**
Chelsea Administration Building Heat Pumps (8147)	**Design and installation of heat pumps at the Chelsea Administration Building.**	**Active**
DITP Wind Turbine 1 Replacement (8148)	**Design and Construction of a replacement turbine at DITP. The turbine suffered a catastrophic failure in May 2023.**	**Active**
Heat Pumps WLGH/N.Nep/Newton PS (8149)	**Design and installation of heat pumps at the Wachusett Lower Gatehouse New Neponset Pump Station and Newton Street Pumping Station.**	**Active**

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$38,684	$18,184	$20,500	$0	$12,500	$20,500	$0	$0

Alternative Energy Initiatives



Project Status 5/25	47.0%	Status as % is approximation based on project budget and expenditures. Carroll Water Treatment Solar and Loring Road Hydro Construction were completed in May 2011. Carroll Water Treatment Plant Solar Construction and Charlestown Wind Project were completed in 2011. DITP Solar PPA was completed in 2011. Hatchery Pipeline & Hydro was substantially complete in September 2017.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	FY26	Chge.	FY25	FY26	Chge.	FY25	FY26	Chge.
$28,184	$38,684	$10,500	Mar-26	Oct-27	19 mos.	$10,000	$20,500	$10,500

Explanation of Changes

- Project cost and spending changed due to new contracts for Chelsea Administration Building Heat Pumps, DITP Wind Turbine 1 Replacement and Heat Pumps WLGH/N.Nep/Newton Pump Stations.

- Project schedule changed to updated schedule for the DI Solar Canopy project

CEB Impacts

- None identified at this time.

Information Technology (IT)

The MIS Department provides MWRA with secure information processing services necessary to carry out the Authority's mission. Applications in use range from financial to operational, and enhance MWRA's ability to access data and improve internal controls, reporting, and management performance. In addition to computing and telephone systems, the department also provides library and records management services. The MIS department supports all MWRA users, across more than fourteen sites including those at the Chelsea Facility, Deer Island Wastewater Treatment Plant, Southborough Facility, and Carroll Water Treatment Plant.

In order to provide these services, MIS has structured its capital improvement projects as follows:

Application Improvement Program – This program, along with associated projects, continue MWRA's efforts to update and enhance a wide range of applications to improve efficiencies of business processes and effectiveness of the staff while ensuring the availability and integrity of the MWRA's data resources.

Information Security Program – This program focuses on the strength, resiliency, and sustainability of MWRA's cyber security practices for its data and computing-related assets. The program also monitors for and protects against penetrations, intrusions, and malicious actions from both internal and external threats. The projects associated with this program continue to assess, implement, and improve MWRA's information security protections, including recommendations to improve each IT system's security profile.

Information Technology Management Program -This program improves the organization of MIS and the oversight processes for selecting and implementing IT solutions throughout the MWRA. This program updates the IT Steering Committee to ensure that the business and technology priorities of the MWRA are aligned and are being met.

Information Technology Improvement Program-This program assesses and implements consolidated and optimized versions of core IT infrastructure elements to improve and optimize data management practices, including: storage, backup, archive and purge processes, and technologies. These improvements cover the 566 desktops, 568 laptops, 112 physical servers, more than 400 virtual machines, 70 tablets, 321 smartphones, 22 Wide Area Network circuits and associated ancillary equipment, as well as 11.20 petabytes (PB) of data managed and protected by MIS.

S. 940 Applications Improvements Program

Project Purpose

To develop, improve, and procure information technology (IT) applications to improve efficiencies of business processes associated with managing the operations, and support divisions.

Project History and Background

This program will continue the work started in previous years to update and enhance a wide range of applications to improve efficiencies of business process and effectiveness of the staff performing the processes while ensuring the availability, integrity and confidentiality of the MWRA's data resources. The program will continue to enhance the integration and availability of data to provide a more holistic view of the overall operational status with seamless access to the detailed data.

Scope – The table describes the CIP phases and associated projects.

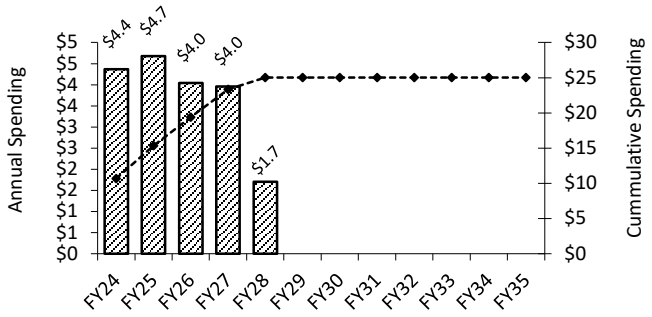
Sub-phase	Scope	Status
GIS Applications & Integration	Expand role of GIS technology for scientific, environmental and engineering applications. This project will assess the current state of the GIS Program and make recommendations for improvements. Completed in FY22.	Complete
Lawson Upgrade	Migrate to a SaaS environment and implement these additional application modules: Global Human Resources which will provide the latest enhancements to the Employee Safety, Position Budgeting, Benefits, Employee Relations, Absence and Occupational Health Modules and Work Force Management which will provide a new time entry and tracking system.	Active
Pre-Treatment Information Management System (PIMS) Replace or Build	PIMS is used by the MWRA to monitor the pretreatment program pursuant to MWRA's NPDES permit and EPA regulations. Planned are the PIMS database upgrade to Oracle 19 and mitigation of web page security header vulnerabilities. Additional plans upgrading Middle Tier & Web Servers from MS Windows 2012 to MS Windows 2019, as well as, upgrading the PIMS Client from 32 bit to 64-bit Client.	Active
SAP BO Upgrade/ Migration	Upgrade SAP Business Objects Suite to v4.3, including Crystal Reports to v2020. The upgraded Business Objects platform will support existing custom reports and provide data visualization to end-users of various data systems. Nearly 1000 existing Crystal reports will be migrated to the new platform. The upgraded platform will also host existing Oracle Discoverer Reports. There is an estimated 500 Oracle Discoverer reports to be migrated. This work involves creating new Universes and Web Intelligence Reports.	Complete
Enterprise Content Management	Implement an Authority-wide Content Management Program to address dependence upon paper records, support records management and improve access to information, streamline workflows and replace several department-level solutions.	Active
WQRS Aquarius	Implement functionality improvements to the Water Quality Reporting System.	Complete

Sub-phase	Scope	Status
Maximo Interface Enhancements	The MWRA utilizes a custom interface to synchronize the Maximo Enterprise Asset Management (EAM) and Infor/Lawson Enterprise Resource Planning (ERP) systems. Enhancements are being done in an effort to build on the existing interface by streamlining process flows, enhancing functionality, and adding data validation for optimal performance and transaction integrity. Eliminating user errors ensures better data and reduces staff time involved troubleshooting problems	Active
Laboratory Information Management System (LIMS) Upgrade	Upgrade current Laboratory Information Management system to version 7. Phase II will leverage lessons learned from Phase I and implement ELN for the Wastewater Labs.	Complete
HOML	Harbor outfall monitoring loading application provides a web portal for outside contractors to load Boston Harbor sampling data used to submit NPDES reports to EPA by ENQUAL group. Future plans for HOML include OKTA Integration (Single Sign-On) and negotiating with vendor support company to provide support services.	Complete
PI (OSI)	Upgrade and consolidation of the separate DI and FOD PI systems into one.	Future
Maximo (Upgrade)	Upgrade current IBM Maximo and ICD to version 7.6.1	Future
PI Vision Process Book Replacement	The OSI Processbook application is approaching end of life and needs to be replaced. This initiative to identify a suitable replacement and migrate all existing Processbook views to the new solution	Active
Hyperion v.2	The Hyperion Pillar application, currently used for budgeting, is outdated and no longer supported by Oracle and needs to be replaced with a commercially viable product.	Active
Intranet	The current intranet site is outdated and running on an old hardware and software platform. This initiative will redesign the website making it more user friendly and easier to maintain.	Future
LIMS Upgrade v.2	The Laboratory Information Management System (LIMS) used by the Laboratory Services group is in need of an upgrade.	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$25,047	$10,665	$14,382	$4,676	$4,045	$18,752	$0	$0

Application Improvements Program



Project Status 5/25	54.7%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$24,027	$25,047	$1,020	Sep-27	Sep-27	None	$17,732	$18,752	$1,020

Explanation of Changes

- Project cost and spending changed due to PI Vision Process Book Replacement award greater than budget, updated cost estimate for Hyperion v.2, and increase to budget and term to extend maintenance and support for Enterprise Content Management.

CEB Impacts

- None identified at this time.

S. 942 Information Security Program

Project Purpose

To ensure the availability, integrity and confidentiality of the MWRA's data resources through the selection and implementation of Information technology solutions associated with cyber security.

Project History and Background

This program focuses on the resiliency and sustainability of the MWRA's data security practices. The projects associated with this program established policies, procedures and an information security awareness program for all of the MWRA. This program included the design of both an information security program and electronic security plans in order to provide a more formal, comprehensive IT security framework that is compliant with Federal Standards.

Scope – The table describes the CIP phases and associated projects.

Sub-phase	Scope	Status
MSSP	The current Managed Security Service Provider (MSSP) contract ends on 1/4/23.	Complete
MSSP/SIEM	New contract for Managed Security Service Provider (MSSP) and Security infrastructure technology refresh.	Active
ITSM Access Management	Implementation of additional technologies to manage and monitor user access to IT assets and services.	Future
Information Security Plan Implementation	Coordinate a system-by-system development of Information Security Plan to apply security controls and standards to each system within MWRA's application portfolio.	Future
IT Security Program (ISP) Development	Formal and informal activities to inform staff (including contractors and business partners) of the information security risks associated with their activities and their responsibilities in complying with MWRA policies and procedures designed to reduce these risks.	Ongoing
Data Center Firewalls	This initiative will implement additional firewalls within the datacenters to provide security controls, monitoring capabilities and segmentation of network traffic between systems.	Future

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$4,493	$ 3,101	$1,392	$332	$1,060	$1,381	$0	$0

Project Status 5/25	69.0%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$4,493	$4,493	$0	May-25	Jun-26	13 mos.	$1,381	$1,381	$0

Explanation of Changes

- Scheduled Completion date changed due to updated schedule for Information Security Assessments contract.

CEB Impacts

- None identified at this time.

S. 946 IT Infrastructure Program

Project Purpose

To assess and implement consolidated and optimized versions of equipment and databases, and improve and optimize data management practices.

Project History and Background

The MWRA currently owns and operates 942 desktops, 522 laptops, 79 physical servers, more than 400 virtual machines, 168 tablets, 405 smartphones, 19 Wide Area Network circuits and associated ancillary equipment, as well as almost 4.6 petabytes (PB) of data. This program assesses and implements consolidated and optimized versions of core IT infrastructure elements to improve and optimize data management practices, including: storage, backup, archive and purge processes, and technologies.

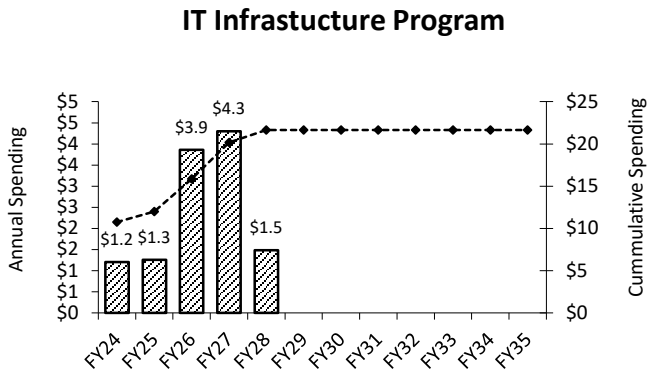
Scope – The table describes the CIP phases and associated projects.

Sub-phase	Scope	Status
IT Infrastructure Upgrades	Server upgrades will be performed in FY18-FY 20 These upgrades will use specifications developed for server hardware and software including the ability to implement greater virtualization as well as take advantage of opportunities to standardize operating systems, and hardware, for greater ease of support.	Complete
Cabling	Replacement of older Ethernet and fiber cabling to support PBX replacement.	Active
SAN Storage	Implement recommended IT infrastructure changes that include enhancements to capacity and performance of networking and communications, storage, backups, server consolidation, disaster recovery, and integration approach and tools.	Active
Oracle Database Appliance	Upgrade Oracle Database appliances that will be end-of-life.	Complete
Servers Upgrades	Server upgrades will be performed based on the end-of-life dates for existing hardware.	Complete
Near Field Communications	Implementation of wireless asset management technology.	Future
Enterprise Data Management	Develop an Authority-wide data architecture that maximizes benefit from data capture and ongoing maintenance. Implement Authority-wide data modeling and management, to standardize data access across multiple systems for a consistent view of the Authority across all business units.	Future
Application Delivery Controllers	Upgrade the Netscaler hardware on which the XEN Mobile/XEN App/Work Space applications reside.	Complete

Sub-Phase	Scope	Status
Telephone System Upgrade	Replace the end-of-life PBX telephone system. The Authority's current hardware cannot be replaced except with refurbished equipment as it is no longer being manufactured. A new system will offer up-to-date technology with features that are not available in the 20 year old system	Active
Core Switches	Upgrade of existing end-of-life hardware.	Complete
Edge Switches	Upgrade of existing end-of-life hardware.	Active
Disaster Recovery	Design and implementation of disaster recovery solution.	Future
Instrumentation & Controls IT	Design and implementation of technologies to monitor and manage IT infrastructure and applications.	Future
Future Workplace	Infrastructure changes and enhancements to support the future workplace initiative to provide a single streamlined user experience regardless of location. Support for remote work, shared work and collaboration spaces.	Complete
Oracle Database Appliance v.2	Hardware refresh of Oracle Database appliances that will be end-of-life.	Complete
Servers v.2	Hardware refresh of Server based on the end-of-life dates for existing hardware.	Active
Fiber Channel Switch Upgrades	Hardware replacement of Switches used with storage appliances.	Future
Distributed Antenna System Upgrades	Upgrade and repair Distributed Antenna Systems at multiple facilities to provide better phone coverage.	Active
Microsoft Office Upgrades	Migration of Exchange to Office365	Active

Expenditure Forecast (in $000s) and Project Status

Total Budget	Payments thru FY24	Remaining Balance	FY25	FY26	FY24-28	FY29-33	Beyond FY33
$21,649	$10,747	$10,902	$1,255	$3,863	$12,105	$0	$0



Project Status 5/25	51.6%	Status as % is approximation based on project budget and expenditures.

Changes to Project Scope, Budget, and Schedule

Project Cost			Scheduled Completion Date			FY24-28 Spending		
FY25	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**	**FY25**	**FY26**	**Chge.**
$18,662	$21,649	$2,987	Jun-25	Jun-28	36 mos.	$9,118	$12,105	$711

Explanation of Changes

- Project cost changed due to budget increase to Microsoft Office Upgrades contract to reflect 3 year contract agreement, updated cost estimates for Fiber Channel Switch Upgrades and Servers v.2, and final cost adjustment for Edge Switches, Oracle Database Appliance v.2, and Future Workplace.

- Scheduled Completion Date changed primarily due to updated schedule for Microsoft Office Upgrades.

- Project spending change primarily due to budget increase, updated cost estimates and final cost adjustments noted above as well as updated schedules.

CEB Impacts

- None identified at this time.

APPENDIX 2

Expenditure Forecast Report with Planned NTP and SC dates

Understanding the Expenditure Forecast

Capital expenditure forecasts, also referred to as projected cashflows, are presented in this section of the FY25 CIP document. Expenditure forecasts are accrual based, i.e., they are estimated based on when services are expected to be rendered. Projects appear in this report in the same order they appear on-line, i.e. organized by capital program area.

The following presents a description of each column in the expenditure forecast tables:

Project and Subphase Names

The first column of the expenditure forecast identifies the organizational hierarchy of the CIP: division area (i.e., Wastewater), followed by the program category (i.e., Interception and Pumping), then individual sub-phases (i.e. Design/CS/RI,) followed by the project name and dollar totals comprising all the sub-phases within that project (i.e. Braintree-Weymouth Relief Facilities). Sub-phases represent both awarded and unawarded contracts.

Contract Number

Following each project name is a string of nine numbers. These numbers are assigned by the Rates and Budget Department and are the number reference for the sub-phase in MWRA's capital budgeting database.

The first string is a five-digit number representing the MWRA Lawson Activity Management System sub-phase number. Project budgets and expenditures are tracked by this account number.

Following the five-digit sub-phase number is a four-digit number representing the contract reference number in MWRA's contract management system. This reference number is used to access contract information such as the award amount, change order activity, and processed invoices.

Notice to Proceed (NTP) and Substantial Completion (SC)

Project schedules are tracked by two key milestones; Notice to Proceed and Substantial Completion. These milestones indicate the expected start and end dates for contract activity.

Contract Value

The Contract Value represents the budgeted amount for the capital program, divisions, program categories, projects, and sub-phases. For unawarded contracts, the contract amount is based on a cost estimate. For awarded contracts, this amount includes the award amount plus any change orders, amendments, and purchase orders accounted for prior to completing the budget.

Payments through FY23

Payments through FY23 include actual and accrued expenditures since the inception of the contract through the end of FY23.

Remaining Balance

Remaining Balance is calculated by subtracting Payments through FY23 from the Contract Amount. This amount is then spread in the columns to the right, for FY24, FY25, FY24-28 and Beyond FY28.

APPENDIX 2
FY26 FIVE-YEAR CIP BY MAJOR CATEGORY
FY26 by Quarters

CAPITAL IMPROVEMENT PROGRAM												
EXPENDITURE FORECAST FY2024-2028												
($000)												
	Total Contract Amount	Project Payments Thr. FY24	Balance as of 6/30/24	FY25	QI FY26	QII FY26	QIII FY26	QIV FY26	FY26	FY27	FY28	5-Year Total FY24-28
Wastewater System Improvements	5,927,052	2,552,438	3,374,614	153,365	37,642	38,581	42,178	56,687	175,089	307,953	454,495	1,184,902
Waterworks System Improvements	5,694,679	2,530,818	3,163,860	124,987	27,108	32,052	30,776	83,973	173,909	149,591	163,286	716,729
Business & Operations Support	234,307	150,004	84,304	12,771	5,260	5,035	7,252	14,257	31,804	23,219	12,589	89,665
Total MWRA	11,856,038	5,233,260	6,622,778	291,124	70,010	75,668	80,206	154,917	380,802	480,764	630,370	1,991,296
Contingency	539,418		539,418						19,503	27,937	40,549	87,989
Total MWRA w/ Contingency	12,395,456	5,233,260	7,162,196	291,124	70,010	75,668	80,206	154,917	400,305	508,701	670,919	2,079,285

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Total MWRA				**11,856,038**	**5,233,260**	**6,622,778**	**291,124**	**380,802**	**480,764**	**630,370**	**1,991,296**	**998,129**	**1,061,921**	**927,149**	**722,534**	**504,831**	**4,214,563**	**625,156**
Wastewater				**5,927,052**	**2,552,438**	**3,374,614**	**153,365**	**175,089**	**307,953**	**454,495**	**1,184,902**	**709,198**	**692,292**	**486,243**	**288,961**	**116,669**	**2,293,363**	**(9,652)**
Interception & Pumping				**1,639,824**	**784,269**	**855,555**	**15,926**	**32,960**	**49,491**	**92,341**	**211,128**	**150,138**	**137,059**	**143,246**	**147,105**	**54,466**	**632,014**	**32,823**
102 Quincy Pump Facilities				**25,907**	**25,907**	**-**												
104 Braintree-Weymouth (B/W) Relief Facilities				**250,017**	**240,969**	**9,049**	**5,401**	**156**			**14,116**		**316**	**2,515**	**622**	**39**	**3,492**	
Geotechnical - Marine	10001_5333	Nov-91	Apr-92	443	443	-	-	-			-		-	-	-	-	-	
Geotechnical - Land	10044_5332	Nov-91	Mar-92	8	8	-	-	-			-		-	-	-	-	-	
Facilities Planning - Phase 1	10045_5311	Oct-81	Dec-90	331	331	-	-	-			-		-	-	-	-	-	
Environmental Impact Report (EIR) - Phase 1	10046_5312	Nov-84	Oct-90	514	514	-	-	-			-		-	-	-	-	-	
Design 1/ Construction Services /Resident Inspection (CS/RI)	10047_5313	Nov-94	Jun-06	18,882	18,882	-	-	-			-		-	-	-	-	-	
Land Acquisition	10048_5314	Mar-97	Jun-10	12,842	12,842	-	-	-			-		-	-	-	-	-	
Tunnel Construction/Rescue	10049_5315	Jun-99	Jul-03	83,191	83,191	-	-	-			-		-	-	-	-	-	
Intermediate Pump Station (IPS) - Construction	10050_5316	Dec-00	Apr-05	47,445	47,445	-	-	-			-		-	-	-	-	-	
North Weymouth Relief Interceptor	10051_5303	Mar-01	Jun-02	4,705	4,705	-	-	-			-		-	-	-	-	-	
HDD Siphon - Construction	10052_5373	Jul-03	May-07	16,357	16,357	-	-	-			-		-	-	-	-	-	
B/W Replacement Pump Station	10054_5375	Jan-05	Apr-08	17,728	17,728	-	-	-			-		-	-	-	-	-	
Design - Rehabilitation	10055_5308	Sep-88	Dec-89	24	24	-	-	-			-		-	-	-	-	-	
Construction - Rehabilitation	10056_5309	Jan-92	Dec-96	255	255	-	-	-			-		-	-	-	-	-	
Final EIR/Facility Plan	10057_5324	Apr-91	Aug-93	1,111	1,111	-	-	-			-		-	-	-	-	-	
Design 2/CS/RI	10058_5331	Apr-95	Dec-11	14,999	14,999	-	-	-			-		-	-	-	-	-	
Rehabilitation (Rehab) of Section 624 - Construction	10060_5310	Jul-10	Dec-10	2,506	2,506	-	-	-			-		-	-	-	-	-	
Technical Assistance	10061_5951	Nov-84	Apr-07	144	144	-	-	-			-		-	-	-	-	-	
Sedimentation Testing	10251_6016	Sep-94	Apr-96	96	96	-	-	-			-		-	-	-	-	-	
Legal	10263_6072	Jul-95	Apr-08	849	849	-	-	-			-		-	-	-	-	-	
Public Relations	10264_6073	Jul-95	Apr-07	-	-	-	-	-			-		-	-	-	-	-	
Hazardous Waste	10265_6074	Jul-95	Apr-07	8	8	-	-	-			-		-	-	-	-	-	
Marine Pipeline - Design	10278_6119	Feb-97	Aug-97	1,100	1,100	-	-	-			-		-	-	-	-	-	
Mill Cove Siphon - Construction	10302_6368	Aug-97	Jun-98	2,749	2,749	-	-	-			-		-	-	-	-	-	
Community Technical Assistance	10354_6631	Jul-99	Apr-07	1,111	1,111	-	-	-			-		-	-	-	-	-	
Geotechnical Consultant	10375_6766	Sep-00	Mar-03	56	56	-	-	-			-		-	-	-	-	-	
IPS/RPS Communication System	10378_6792	Dec-02	Apr-08	225	225	-	-	-			-		-	-	-	-	-	
Rehab of Section 624 - Design	10452_7193			-	-	-	-	-			-		-	-	-	-	-	
Wetlands Replication	10470_7290			26	26	-	-	-			-		-	-	-	-	-	
Mill Cove Siphon Sluice Gates - Design	10479_7326	Apr-29	Apr-32	987	-	987	-	-			-		316	316	316	39	987	
Mill Cove Sluice Gates - Construction	10480_7327	Aug-30	Apr-31	2,505	-	2,505	-	-			-		-	2,199	306	-	2,505	
B/W Improvements - Construction	10493_7366	Sep-22	Apr-25	14,856	10,846	4,010	4,010	-			11,723		-	-	-	-	-	
IPS Transformer Replacement	18670_7995	Mar-23	Jul-25	293	-	293	293	-			293		-	-	-	-	-	
B/W Improvements - Design/CS	19567_7435	Dec-18	Apr-26	2,696	1,915	781	625	156			1,198		-	-	-	-	-	
B/W Improvements - Resident Engineering Inspection (REI)	19568_7683	Nov-22	Jun-25	976	503	473	473	-			901		-	-	-	-	-	
105 New Neponset Valley Relief Sewer		**completed project**		**30,300**	**30,300**	**-**												

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106 Wellesley Extension Replacement Sewer		**completed project**		**64,359**	**64,359**	-												
107 Framingham Extension Relief Sewer		**completed project**		**47,856**	**47,856**	-												
127 Cummingsville Replacement Sewer		**completed project**		**8,999**	**8,999**	-												
130 Siphon Structure Rehabilitation				**24,286**	**3,382**	**20,904**	**234**	**3,353**	**5,732**	**1,607**	**11,205**	**4,355**	**4,538**	**1,001**	**84**	**-**	**9,978**	
Planning	10253_6017	Jan-96	Nov-98	938	938	-	-	-	-	-	-	-	-	-	-	-	-	
Land Acquisition	10280_6165	Jan-22	Feb-24	93	93	-	-	-	-	-	90	-	-	-	-	-	-	
Phase 1 Design/ Construction Administration (CA)	10293_6224	Apr-20	Oct-27	3,000	2,352	649	234	234	96	84	838	-	-	-	-	-	-	
Construction	10294_6225	Aug-25	May-27	7,200	-	7,200	-	2,618	3,927	655	7,200	-	-	-	-	-	-	
Legal	10295_6226	Sep-05	Dec-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Planning/Preliminary Design	10296_6227			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phase 2 Land Acquisition	10600_7684	Jan-28	Jan-29	200	-	200	-	-	-	50	50	150	-	-	-	-	150	
Phase 2 Design/ CA	10601_7685	Jul-26	Jul-31	2,855	-	2,855	-	-	709	818	1,527	455	455	334	84	-	1,328	
Phase 2 Construction	10602_7686	Jul-28	Jul-30	7,000	-	7,000	-	-	-	-	-	3,000	3,333	667	-	-	7,000	
Siphon Structure Rehab - Phase 1 REI	10603_7996	Oct-25	Jul-27	1,500	-	1,500	-	500	1,000	-	1,500	-	-	-	-	-	-	
Siphon Structure Rehab - Phase 2 REI	10604_7997	Jul-28	Jul-30	1,500	-	1,500	-	-	-	-	-	750	750	-	-	-	1,500	
131 Upper Neponset Valley Sewer System		**completed project**		**54,174**	**54,174**	**-**												
132 Corrosion & Odor Control				**104,572**	**73,683**	**30,888**	**929**	**-**	**-**	**-**	**5,170**	**665**	**886**	**5,394**	**11,856**	**7,206**	**26,008**	**3,952**
Planning/Study	10279_6137	Jan-97	Dec-98	587	587	-	-	-	-	-	-	-	-	-	-	-	-	-
Land Acquisition	10323_6549	Aug-02	Jun-05	28	28	-	-	-	-	-	-	-	-	-	-	-	-	-
Public Participation	10324_6550			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal	10325_6551	Dec-00	Jul-08	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Arthur St. Pump Station & Framingham Extension Relief Sewer (FERS) Force Main	10326_6552			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Design/CS/RI	10327_6553	Aug-02	Jun-05	1,788	1,788	-	-	-	-	-	-	-	-	-	-	-	-	-
Interim Corrosion Control	10373_6743	Jul-00	Dec-01	621	621	-	-	-	-	-	-	-	-	-	-	-	-	-
Framingham Extension Sewer (FES) Tunnel Rehab - Construction	10405_6918			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FES/FERS Biofilters - Design	10406_6919	Jul-32	May-35	1,411	-	1,411	-	-	-	-	-	-	-	-	-	358	358	1,053
FES Tunnel Rehab - Design/CS/RI	10453_7196	Jul-18	Jun-21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FES/FERS Biofilters - Construction	10456_7215	Dec-33	Dec-34	2,309	-	2,309	-	-	-	-	-	-	-	-	-	-	-	2,309
System-wide Odor Control - Study	10491_7364	Jan-31	Jan-32	1,000	-	1,000	-	-	-	-	-	-	-	250	750	-	1,000	-
Nut Island (NI) Mechanical & Electrical Upgrades - Design/CA	10492_7365	Jul-28	Nov-33	4,800	-	4,800	-	-	-	-	-	665	886	886	886	886	4,209	591
NI System-wide Odor Control - Evaluation	10495_7494	Sep-15	Feb-17	487	487	-	-	-	-	-	-	-	-	-	-	-	-	-
NI Mechanical & Electrical Upgrades - Construction	10496_7495	Nov-30	Nov-32	20,000	-	20,000	-	-	-	-	-	-	-	4,167	10,000	5,833	20,000	-
NI Odor Control & HVAC Improvements - Design /CA/REI	10497_7517	Mar-17	Jun-25	9,164	8,763	401	401	-	-	-	1,245	-	-	-	-	-	-	-
NI Odor Control & HVAC Improvements - Construction Phase 2	10498_7548	Feb-20	Sep-23	61,935	61,407	528	528	-	-	-	3,925	-	-	-	-	-	-	-
NI Mechanical & Electrical Upgrades -REI	10580_7635	Nov-30	Nov-32	440	-	440	-	-	-	-	-	-	-	92	220	128	440	-
136 West Roxbury Tunnel				**11,970**	**10,314**	**1,656**	**1,350**	**306**	**-**	**-**	**1,656**							
Inspection	10299_6230	Jul-98	Sep-99	344	344	-	1,350	306	-	-	1,656							
Tunnel Easements & Permits	10329_6566	Mar-10	Dec-15	54	54	-	-	-	-	-	-							
Legal	10330_6567	Apr-00	Mar-10	2	2	-	-	-	-	-	-							
Land Acquisition	10331_6568	Apr-00	Mar-10	440	440	-	-	-	-	-	-							

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Construction	10332_6569	Jun-01	Jun-02	6,674	6,674	-	-	-	-	-	-							
Design/CS/RI	10333_6570	Apr-00	Jun-03	1,417	1,417	-	-	-	-	-	-							
Technical Assistance	10366_6709	Nov-99	Mar-10	8	8	-	-	-	-	-	-							
Planning & EIR	10377_6789			-	-	-	-	-	-	-	-							
Tunnel - Design	10400_6897	Feb-09	Jun-11	1,375	1,375	-	-	-	-	-	-							
Tunnel Inspection	10401_6898	Jul-24	Jul-25	1,656	-	1,656	-	-	-	-	-							
137 Wastewater Central Monitoring				**30,982**	**19,926**	**11,056**	**-**	**232**	**839**	**1,328**	**2,399**	**2,402**	**6,199**	**56**	**-**	**-**	**8,657**	
Planning	10301_6232	Jan-98	Jul-99	563	563	-	-	-	-	-	-	-	-	-	-	-	-	
Design and Integration Services	10319_6532	Jun-02	Jul-10	6,344	6,344	-	-	-	-	-	-	-	-	-	-	-	-	
Construction 1 (CP1)	10320_6533	Mar-06	Jan-08	7,662	7,662	-	-	-	-	-	-	-	-	-	-	-	-	
Construction 2 (CP2)	10321_6534	Feb-08	Jul-09	5,139	5,139	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	10322_6535	Sep-02	Jul-10	7	7	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services 3 (Transport)	10355_6655			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Wastewater SCADA/PLC Upgrades	10356_6656			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Construction 3 (CP3)	10357_6657			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services 1 - Data Integration	10358_6658			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services - Hydraulic Model	10359_6659			-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Equipment Prepurchase	10398_6861	Apr-05	Dec-09	65	65	-	-	-	-	-	-	-	-	-	-	-	-	
Microwave Redundancy System Improvement - Design/ESDC/REI	10490_7363	Apr-27	Jun-30	700	-	700	-	-	112	168	280	196	168	56	-	-	420	
Design & Programming Services	10551_7578	Apr-18	Oct-29	3,470	41	3,429	-	-	250	250	500	250	2,679	-	-	-	2,929	
Construction	10552_7579	Mar-27	Mar-29	1,420	-	1,420	-	-	59	710	769	651	-	-	-	-	651	
Equipment/Hardware	10553_7580	Jun-18	Oct-29	2,110	102	2,008	-	-	150	200	350	200	1,458	-	-	-	1,658	
Microwave Redundancy System Improvement - Study	10554_8156	Nov-25	Nov-26	500	-	500	-	232	268	-	500	-	-	-	-	-	-	
Microwave Redundancy System Improvement - Construction	10555_8157	Apr-28	Jun-30	3,000	-	3,000	-	-	-	-	-	1,105	1,895	-	-	-	3,000	
139 South System Relief Project				**4,939**	**3,439**	**1,500**						**-**	**188**	**750**	**563**	**-**	**1,500**	
Archdale - CS/RI	10309_6419	Nov-98	Aug-99	5	5	-						-	-	-	-	-	-	
Archdale - Construction	10310_6420	May-99	Aug-99	211	211	-						-	-	-	-	-	-	
Sections 70 & 71 High Level Sewer (HLS) - Evaluation	10318_6519	Sep-98	Oct-99	215	215	-						-	-	-	-	-	-	
Outfall 023 - Design	10345_6595	Jun-99	Sep-99	1	1	-						-	-	-	-	-	-	
Outfall 023 - Cleaning	10346_6596	Apr-00	Nov-00	1,098	1,098	-						-	-	-	-	-	-	
Land Acquisition/Easements	10347_6605	Apr-99	Apr-05	5	5	-						-	-	-	-	-	-	
Sections 70 & 71 HLS - Construction	10349_6611	Jun-99	Oct-99	417	417	-						-	-	-	-	-	-	
Milton Financial Assistance	10350_6616	Oct-99	Jun-00	1,488	1,488	-						-	-	-	-	-	-	
Legal & Permits	10362_6680	Jul-99	Jun-07	-	-	-						-	-	-	-	-	-	
Outfall 023 - Structural Improvements	10386_6801	Jan-30	Dec-31	1,500	-	1,500						-	188	750	563	-	1,500	
141 Wastewater Process Optimization				**8,310**	**2,200**	**6,111**						**2,243**	**2,060**	**1,807**	**-**	**-**	**6,111**	
Planning	10367_6733	Aug-01	Aug-04	930	930	-						-	-	-	-	-	-	
North System Hydraulic Study	10412_6930	Nov-11	Jun-15	561	561	-						-	-	-	-	-	-	
Somerville Sewer - Design	10413_6931			-	-	-						-	-	-	-	-	-	
Somerville Sewer - Construction	10414_6932			-	-	-						-	-	-	-	-	-	
Siphon - Planning	10415_6933			-	-	-						-	-	-	-	-	-	
Manhole Structure Flood Protection - Design	10416_6934			-	-	-						-	-	-	-	-	-	
Manhole Structure Flood Protection - Construction	10417_6935			-	-	-						-	-	-	-	-	-	

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Hydraulic Modeling Engineering - Design and Construction	19401_7412	Mar-19	Jun-31	6,819	709	6,111						2,243	2,060	1,807	-	-	6,111	
142 Wastewater Meter System - Equipment Replacement				**21,057**	**11,930**	**9,126**	**-**	**-**	**540**	**540**	**1,061**	**540**	**540**	**540**			**1,620**	**6,426**
Planning / Study / Design	10371_6739	Jul-17	Mar-23	3,172	3,172	-	-	-	-	-	(21)	-	-	-			-	-
Equipment Purchase & Installation	10379_6793	Nov-03	Jun-08	5,138	5,138	-	-	-	-	-	-	-	-	-			-	-
Community Unmetered Flows Evaluation	10410_6928	Jul-26	Jun-31	2,700	-	2,700	-	-	540	540	1,080	540	540	540			1,620	-
Wastewater Metering Asset Protection/Equipment Purchase	10451_7191	Dec-20	Dec-42	10,047	3,621	6,426	-	-	-	-	2	-	-	-			-	6,426
143 Regional I/I Management & Planning Total		**completed project**		**169**	**169**	**-**												
145 Facility Asset Protection				**946,229**	**186,662**	**759,567**	**8,012**	**28,912**	**42,380**	**88,866**	**175,522**	**139,672**	**121,983**	**131,095**	**133,981**	**47,221**	**573,952**	**17,445**
Prison Point HVAC Upgrades - Construction	10380_6795	Dec-10	Dec-13	2,764	2,764	-	-	-	-	-	-	-	-	-	-	-	-	-
Remote Headworks Heating System Upgrade	10381_6796	May-05	May-06	1,175	1,175	-	-	-	-	-	-	-	-	-	-	-	-	-
Alewife Brook Pump Station Rehab - Construction	10382_6797	Jan-16	Apr-19	13,485	13,485	-	-	-	-	-	-	-	-	-	-	-	-	-
Rehab of Section 93A Lexington	10383_6798	Jul-03	Apr-04	1,566	1,566	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Creek Upgrades - REI	10387_6802	Nov-16	Feb-21	3,061	3,061	-	-	-	-	-	-	-	-	-	-	-	-	-
Technical Assistance	10392_6829	Jul-02	Mar-22	356	330	26	26	-	-	-	40	-	-	-	-	-	-	-
Sections 80 & 83	10394_6842	Apr-07	Sep-07	365	365	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 160	10395_6843	Jun-07	Dec-08	1,581	1,581	-	-	-	-	-	-	-	-	-	-	-	-	-
Survey	10396_6857	Nov-04	May-05	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-
Permits	10397_6858	May-03	May-25	25	20	5	4	1	-	-	5	-	-	-	-	-	-	-
Remote Headworks Concept Plan	10399_6886	May-08	Sep-09	670	670	-	-	-	-	-	-	-	-	-	-	-	-	-
North Collection Sewer System Rehab CP1 - Construction	10418_6936	Aug-27	Aug-29	15,000	-	15,000	-	-	-	5,000	5,000	8,000	2,000	-	-	-	10,000	-
Alewife Brook Pump Station Rehab - Design/CA	10419_6937	Apr-10	Oct-11	223	223	-	-	-	-	-	-	-	-	-	-	-	-	-
Prison Point HVAC Upgrades - Design	10420_6938	Jan-08	Mar-13	441	441	-	-	-	-	-	-	-	-	-	-	-	-	-
93 A Force Main Replacement	10423_6987	May-06	Jan-07	462	462	-	-	-	-	-	-	-	-	-	-	-	-	-
Mill Brook Valley Sewer Section 79 & 92	10424_7004	Jun-04	Mar-05	542	542	-	-	-	-	-	-	-	-	-	-	-	-	-
Hingham Pump Station Isolation Gate - Construction	10427_7033	Sep-11	May-12	125	125	-	-	-	-	-	-	-	-	-	-	-	-	-
Alewife Brook PS Final Design/CA/REI	10428_7034	Mar-12	Feb-20	2,175	2,175	-	-	-	-	-	-	-	-	-	-	-	-	-
Caruso Pump Station Improvements - Design/CA/REI	10431_7037	Aug-12	Jun-17	861	861	-	-	-	-	-	-	-	-	-	-	-	-	-
Land/Easements	10440_7073	Jul-03	Sep-29	757	157	600	51	137	137	137	465	137	-	-	-	-	137	-
Nut Island Headworks Fire Alarm/Wire Conduit	10444_7144	Jun-09	Dec-09	285	285	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Creek Upgrades - Construction	10445_7161	Nov-16	Apr-21	84,465	84,465	-	-	-	-	-	1,962	-	-	-	-	-	-	-
Hayes Pump Station Rehab Design	10446_7162	Nov-20	Sept-28	2,331	1,217	1,113	201	353	270	170	1,144	120	-	-	-	-	120	-
Interceptor Renewal No. 1 Reading Extension & Metropolitan Sewer - Design/CA/REI	10447_7163	Aug-15	Jun-19	934	934	-	-	-	-	-	-	-	-	-	-	-	-	-
Interceptor Renewal No. 1 Reading Extension & Metropolitan Sewer - Construction	10448_7164	Aug-17	Dec-18	1,935	1,935	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Creek Upgrades - Design/CA	10455_7206	Jul-10	Apr-22	10,488	10,488	-	-	-	-	-	(406)	-	-	-	-	-	-	-
Interceptor Renewal 7 Malden & Melrose - Study/Design/CA	10457_7216	Aug-20	Sep-29	2,559	1,684	875	151	233	233	233	1,068	25	-	-	-	-	25	-
Interceptor Renewal 7 Malden & Melrose - Construction	10458_7217	Mar-26	Nov-28	9,400	-	9,400	-	250	4,500	4,500	9,250	150	-	-	-	-	150	-
Remote Headworks Shaft Study	10463_7237	Sep-18	Jun-20	1,023	1,023	-	-	-	-	-	-	-	-	-	-	-	-	-
Interceptor Renewal No. 3 Dorchester Interceptor Sewer - Construction	10467_7279	Jul-20	Sep-21	4,277	4,277	-	-	-	-	-	-	-	-	-	-	-	-	-
Cottage Farm Fuel System Upgrade	10469_7281	Jun-12	Apr-13	497	497	-	-	-	-	-	-	-	-	-	-	-	-	-
Nut Island Headworks Electrical & Grit/Screenings Conveyance System - Design	10477_7312	Mar-11	May-16	1,230	1,230	-	-	-	-	-	-	-	-	-	-	-	-	-
Nut Island Headworks Electrical & Grit/Screenings Conveyance System - Construct.	10478_7313	Jul-13	May-15	5,192	5,192	-	-	-	-	-	-	-	-	-	-	-	-	-
Interceptor Renewal No. 5 New Neponset Valley Sewer Sections 607-610 Construct.	10481_7328	Jul-29	Jul-32	13,200	-	13,200	-	-	-	-	-	-	3,300	4,400	4,400	1,100	13,200	-
Interceptor Renewal No. 6 Chelsea Sections 12/14/15/62 - Construction	10482_7329	Aug-31	Aug-33	11,000	-	11,000	-	-	-	-	-	-	-	-	3,667	5,500	9,167	1,833

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Prison Point/Cottage Farm Facilities Diesel Engine Upgrades/Pump and Gearbox Rebuilds /ESDC	10483_7330	Feb-14	Dec-16	315	315	-	-	-	-	-	-	-	-	-	-	-	-	-
Somerville/Marginal Influent Gates and Stop-Log Replacement	10484_7344	Jul-11	Nov-11	367	367	-	-	-	-	-	-	-	-	-	-	-	-	-
Prison Point and Prison Point CSO Rehab Repackaged - Design/CA/RI	10486_7359	Aug-16	Mar-24	2,254	2,254	-	-	-	-	-	-	-	-	-	-	-	-	-
DeLauri Pump Station Screens & Security Upgrades	10488_7361	Feb-18	Feb-19	1,343	1,343	-	-	-	-	-	-	-	-	-	-	-	-	-
Caruso Pump Station Impovements - Construction	10489_7362	Mar-16	Jun-17	4,417	4,417	-	-	-	-	-	-	-	-	-	-	-	-	-
Hayes Pump Station Rehab - Construction	10500_7375	Nov-24	Nov-27	25,610	51	25,559	1,941	12,400	11,218	-	25,610	-	-	-	-	-	-	-
Cottage Farm PCB Abatement Construction 1	10501_7389	Feb-26	Feb-28	10,600	-	10,600	-	3,500	6,000	1,100	10,600	-	-	-	-	-	-	-
Cottage Farm PCB Abatement - Design/CA	10502_7392	Oct-24	Feb-29	3,757	-	3,757	750	1,000	1,000	775	3,525	232	-	-	-	-	232	-
Section 156 Rehab - Design/Build	10503_7393	Jul-11	Jul-12	2,563	2,563	-	-	-	-	-	-	-	-	-	-	-	-	-
North Collection Sewer System Rehab CP1 - REI	10505_7421	Aug-27	Nov-29	1,500	-	1,500	-	-	-	500	500	800	200	-	-	-	1,000	-
North Collection Sewer System Rehab CP-2 - Construction	10506_7422	Jun-28	Jun-30	16,000	-	16,000	-	-	-	-	-	8,000	8,000	-	-	-	16,000	-
Sections 4, 5, 6, 186 - Study	10507_7423	Feb-17	May-18	906	906	-	-	-	-	-	-	-	-	-	-	-	-	-
Ward Street and Columbus Park Headworks Upgrades - Design/CA	10510_7429	Jan-21	Sep-32	32,902	5,444	27,458	3,623	4,680	5,039	3,145	17,323	2,681	3,124	3,147	1,517	502	10,971	-
Ward Street Headworks - Construction	10511_7430	May-27	May-32	145,326	-	145,326	-	-	1,464	19,560	21,024	32,310	32,310	32,310	27,373	-	124,302	-
Chelsea Screenhouse Upgrades	10512_7431	Aug-15	Sep-16	4,953	4,953	-	-	-	-	-	-	-	-	-	-	-	-	-
Prison Point/Cottage Farm Facilities Diesel Engine Upgrades/Pump and Gearbox Rebuilds - Construction	10515_7452	Oct-13	Nov-15	6,439	6,439	-	-	-	-	-	-	-	-	-	-	-	-	-
Prison Point Piping Rehab	10518_7459	Oct-16	Sep-17	462	462	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Screenhouse Upgrades - ESDC/REI	10521_7490	Sep-15	Sep-17	863	863	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Headworks/Caruso Pump Station Utilities	10523_7510	Jul-16	Jun-20	26	26	-	-	-	-	-	-	-	-	-	-	-	-	-
Cambridge Branch 23, 24, 26, 27 - Study	10524_7511	Oct-16	Jan-18	512	512	-	-	-	-	-	-	-	-	-	-	-	-	-
Interceptor Renewal No. 3 Dorchester Interceptor Sewer - Design CA/RI	10525_7512	Apr-17	May-22	1,046	1,046	-	-	-	-	-	-	-	-	-	-	-	-	-
North Collection Sewer System Rehab - Design/ESDC/REI	10526_7513	Aug-25	Jun-31	6,200	-	6,200	-	1,000	1,240	1,240	3,480	1,240	1,240	240	-	-	2,720	-
Interceptor Renewal No. 6 Chelsea Sections 12/14/15/62 - Design CA/REI	10527_7514	Aug-29	Aug-34	2,200	-	2,200	-	-	-	-	-	-	293	440	440	440	1,613	587
Interceptor Renewal No. 5 New Neponset Valley Sewer Sections 607-610 - Design/CA	10528_7515	Sep-27	Sep-32	3,000	-	3,000	-	-	-	350	350	600	600	600	600	250	2,650	-
Quincy/Hingham Pump Station Fuel Storage Upgrades - Construction	10529_7534	Jul-17	Mar-18	529	529	-	-	-	-	-	-	-	-	-	-	-	-	-
Chelsea Creek Headworks Shaft - Design/CA	10530_7549	Dec-28	Dec-32	800	-	800	-	-	-	-	-	67	200	200	200	133	800	-
Remote Headworks Shaft Access Improvements -Construction	10531_7550	Jul-22	Aug-23	2,433	2,433	-	-	-	-	-	365	-	-	-	-	-	-	-
Wiggins Terminal Pump Station Design and Construction	10533_7552	Jul-30	Jul-31	1,767	-	1,767	-	-	-	-	-	-	-	1,325	442	-	1,767	-
Fuel Oil Tank Replacement Construction Phase 1	10535_7554	Apr-20	Dec-21	1,517	1,517	-	-	-	-	-	(3)	-	-	-	-	-	-	-
Fuel Oil Tank Replacement Construction Phase 2	10536_7555	Aug-22	Jan-24	2,087	2,087	-	-	-	-	-	1,099	-	-	-	-	-	-	-
Columbus Park Headworks Construction	10537_7587	Nov-27	Nov-32	145,326	-	145,326	-	-	-	14,780	14,780	29,560	29,560	29,560	29,560	12,307	130,546	-
Ward Street and Columbus Park Headworks Upgrades - REI	10538_7636	May-27	Nov-32	7,161	-	7,161	-	-	107	1,283	1,390	1,283	1,283	1,283	1,283	641	5,771	-
Phase 3 - Caruso, Delauri & Framingham Fuel Tank Replacements	10539_7637	Dec-25	Jun-27	2,517	-	2,517	-	1,416	1,101	-	2,517	-	-	-	-	-	-	-
Hayes Pump Station Rehab - REI	10540_7668	Jan-25	Jan-28	1,759	-	1,759	147	586	586	440	1,759	-	-	-	-	-	-	-
Somerville-Marginal CSO Facility Rehab - Construction	10545_7688	Sep-26	Sep-28	12,500	-	12,500	-	-	3,646	6,250	9,896	2,604	-	-	-	-	2,604	-
Somerville-Marginal CSO Facility Rehab - Design/CA	10546_7689	Sep-25	Sep-30	3,000	-	3,000	-	350	600	600	1,550	600	600	250	-	-	1,450	-
Interceptor Renewal 7 Malden & Melrose - REI	10547_7751	Apr26	Jun-28	1,300	-	1,300	-	-	600	600	1,200	100	-	-	-	-	100	-
Chelsea Creek Headworks Radio Equipment	10550_7785	Sep-22	Jul-23	270	270	-	-	-	-	-	48	-	-	-	-	-	-	-
DeLauri Pump Station Rehab - Design	10820_7824	Jul-26	Jul-31	1,500	-	1,500	-	-	225	300	525	300	300	300	75	-	975	-
DeLauri Pump Station Rehab - REI	10821_7825	Jul-28	Jul-30	1,000	-	1,000	-	-	-	-	-	375	500	125	-	-	1,000	-
DeLauri Pump Station Rehab - Construction	10822_7826	Jul-28	Jul-30	12,500	-	12,500	-	-	-	-	-	4,688	6,250	1,563	-	-	12,500	-
Hingham Pump Station Rehab - Design/ESDC	10823_7827	Jan-26	Jan-31	2,900	-	2,900	-	145	580	580	1,305	580	580	435	-	-	1,595	-
Hingham Pump Station Rehab - REI	10824_7796	Jan-28	Mar-30	600	-	600	-	-	-	69	69	277	254	-	-	-	531	-

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Hingham Pump Station Rehab - Construction	10825_7797	Jan-28	Jan-30	7,500	-	7,500	-	-	-	938	938	3,750	2,813	-	-	-	6,563	-
Houghs Neck Pump Station Rehab - Design	10826_7798	Jul-28	Jul-33	600	-	600	-	-	90	-	90	90	120	120	120	60	510	-
Houghs Neck Pump Station Rehab - REI	10827_7799	Jul-30	Jul-32	400	-	400	-	-	-	-	-	-	-	150	200	50	400	-
Houghs Neck Pump Station Rehab - Construction	10828_7828	Jul-30	Jul-32	5,000	-	5,000	-	-	-	-	-	-	-	1,875	2,500	625	5,000	-
Somerville-Marginal CSO Facility Rehab - REI	10829_7829	Sep-26	Sep-28	1,000	-	1,000	-	-	292	500	792	208	-	-	-	-	208	-
Cottage Farm Rehab and Chemical Building Improvements - Design/CA/REI	10831_7970	Jan-27	Jan-32	3,700	-	3,700	-	-	185	740	925	740	740	740	555	-	2,775	-
Cottage Farm Rehab and Chemical Building Improvements - Construction	10832_7971	Jul-27	Jul-30	20,000	-	20,000	-	-	-	5,000	5,000	6,667	6,667	1,667	-	-	15,000	-
Phase 4 - Neponset Pump Station and Cottage Farm CSO Facility Fuel Storage Tank Replacements	10833_7986	Dec-26	Jun-28	1,500	-	1,500	-	-	333	1,000	1,333	167	-	-	-	-	167	-
Phase 5 - Fuel Tank Replacements at Alewife Brook Pump Station, Newton St. Pump Staion & Spring St. Pump Station	10834_7987	Jan-29	Jun-30	1,500	-	1,500	-	-	-	-	-	250	1,000	250	-	-	1,500	-
North Collection Sewer System Rehab CP-2 - REI	10836_7989	Jun-28	Sep-30	1,500	-	1,500	-	-	-	-	-	500	800	200	-	-	1,500	-
Prison Point Construction 2 Discharge Piping Rehab	10838_8013	Sep-23	May-24	3,015	3,015	-	-	-	-	-	3,015	-	-	-	-	-	-	-
Cambridge Branch Sewer Section 25 New Siphon - Design/ESDC/REI	10839_8014	Jul-28	Jun-33	3,000	-	3,000	-	-	-	-	-	450	600	600	600	750	3,000	-
Cambridge Branch Sewer Section 25 New Siphon - Construction	10840_8015	Jul-30	Jun-32	30,000	-	30,000	-	-	-	-	-	-	-	11,250	15,000	3,750	30,000	-
Prison Point and Prison Point CSO Rehab Repackaged - Construction	10841_8020	Jul-27	Jul-29	38,679	-	38,679	-	-	-	14,505	14,505	19,340	4,835	-	-	-	24,174	-
New Neponset Pump Station Rehab - Construction	10842_8037	Jul-28	Jul-30	20,000	-	20,000	-	-	-	-	-	7,500	10,000	2,500	-	-	20,000	-
New Neponset Pump Station Rehab - Design/ESDC	10843_8038	Jul-26	Jul-31	3,000	-	3,000	-	-	450	600	1,050	600	600	600	150	-	1,950	-
New Neponset Pump Station Rehab - REI	10844_8039	Jul-28	Jul-30	1,000	-	1,000	-	-	-	-	-	375	500	125	-	-	1,000	-
Framingham Pump Station Rehab - Design/ESDC	10845_8040	Jul-30	Jul-35	3,000	-	3,000	-	-	-	-	-	-	-	450	600	600	1,650	1,350
Framingham Pump Station Rehab - REI	10846_8041	Jul-32	Jul-34	1,000	-	1,000	-	-	-	-	-	-	-	-	-	375	375	625
Framingham Pump Station Rehab - Construction	10847_8042	Jul-32	Jul-34	20,000	-	20,000	-	-	-	-	-	-	-	-	-	7,500	7,500	12,500
Quincy Pump Station Rehab - Design/ESDC	10848_8043	Jul-28	Jul-33	3,000	-	3,000	-	-	-	-	-	450	600	600	600	600	2,850	150
Quincy Pump Station Rehab - REI	10849_8044	Jul-30	Jul-32	1,000	-	1,000	-	-	-	-	-	-	-	375	500	125	1,000	-
Quincy Pump Station Rehab - Construction	10850_8045	Jul-30	Jul-32	20,000	-	20,000	-	-	-	-	-	-	-	7,500	10,000	2,500	20,000	-
Squantum Pump Station Rehab - Design/ESDC	10851_8046	Jul-28	Jul-33	3,000	-	3,000	-	-	-	-	-	450	600	600	600	600	2,850	150
Squantum Pump Station Rehab - REI	10852_8047	Jul-30	Jul-32	1,000	-	1,000	-	-	-	-	-	-	-	375	500	125	1,000	-
Squantum Pump Station Rehab - Construction	10853_8048	Jul-30	Jul-32	20,000	-	20,000	-	-	-	-	-	-	-	7,500	10,000	2,500	20,000	-
Intermediate Pump Station - Design/ESDC	10854_8049	Jul-28	Jul-33	5,000	-	5,000	-	-	-	-	-	750	1,000	1,000	1,000	1,000	4,750	250
Intermediate Pump Station - REI	10855_8050	Jul-30	Jul-32	1,500	-	1,500	-	-	-	-	-	-	-	563	750	188	1,500	-
Intermediate Pump Station - Construction	10856_8051	Jul-30	Jul-32	40,000	-	40,000	-	-	-	-	-	-	-	15,000	20,000	5,000	40,000	-
High Level Sewer Culverts - Construction	10857_8087	Oct-27	Apr-29	5,000	-	5,000	-	-	-	3,157	3,157	1,843	-	-	-	-	1,843	-
Columbus Park Headworks Air Handling Equipment	10858_8100	Feb-24	Feb-25	1,118	-	1,118	1,118	-	-	-	1,118	-	-	-	-	-	-	-
Prison Point CSO Rehab Repackaged - Design/CA/RI	10859_8106	Jan-26	Jul-30	2,324	-	2,324	-	130	516	516	1,162	516	516	130	-	-	1,162	-
Cottage Farm/Prison Point Chemical Storage Tank Rehab	10862_8141	Aug-25	Dec-25	1,000	-	1,000	-	1,000	-	-	1,000	-	-	-	-	-	-	-
Cottage Farm/Prison Point Chemical Storage Tank Rehab REI	10863_8142	Aug-25	Dec-25	75	-	75	-	75	-	-	75	-	-	-	-	-	-	-
Ward St Air Hand Replace	10864_8151	Feb-26	Feb-27	2,000	-	2,000	-	333	1,667	-	2,000	-	-	-	-	-	-	-
High Level Sewer Culverts - Design/ESDC/REI	10865_8155	Dec-25	Apr-29	1,000	-	1,000	-	100	300	300	700	300	-	-	-	-	300	-
Heat Pumps at Various Wastewater Facilities (Braintree Weymouth, Hough's Neck, Quincy)	10866_8175	Aug-25	May-26	898	-	898	-	898	-	-	898	-	-	-	-	-	-	-
Heat Pump at Squantum Pump Station	10867_8176	Jan-26	May-26	325	-	325	-	325	-	-	325	-	-	-	-	-	-	-
Section 191 & 192 Rehab (Charles River Valley Sewer)	54012_7643	Jan-20	Jul-20	1,608	1,608	-	-	-	-	-	-	-	-	-	-	-	-	-
146 D.I. Cross Harbor Tunnel				**5,000**	**-**	**5,000**												**5,000**
DI Cross Harbor Tunnels Inspection	10454_7199	Jul-35	Jun-40	5,000	-	5,000												5,000
147 Randolph Trunk Sewer Relief				**698**	**-**	**698**						**262**	**349**	**87**	**-**	**-**	**698**	

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Study	10461_7220	Jul-28	Jun-30	698	-	698						262	349	87	-	-	698	
Treatment				**2,590,059**	**405,878**	**2,184,180**	**65,004**	**82,660**	**201,203**	**292,723**	**682,981**	**488,151**	**477,267**	**334,867**	**130,924**	**52,316**	**1,483,526**	**59,065**
182 Deer Island (DI) Primary and Secondary Treatment		**completed project**		**(958)**	**(958)**	**-**												
200 DI Plant Optimization		**completed project**		**33,279**	**33,279**	**-**												
206 Deer Island Treatment Plant (DITP) Asset Protection				**2,496,603**	**351,760**	**2,144,843**	**62,304**	**76,860**	**196,089**	**289,723**	**665,142**	**479,901**	**469,267**	**330,267**	**129,051**	**52,316**	**1,460,803**	**59,065**
DITP Roof Replacements	18045_6196	Jun-10	Jun-11	2,300	2,300	-	-	-	-	-	-	-	-	-	-	-	-	-
Digestor & Storage Tank Rehabilitation - Construction	19161_6240	Jun-26	Jun-30	400,000	-	400,000	-	-	50,000	90,000	140,000	120,000	120,000	20,000	-	-	260,000	-
DISC Application	19162_6241			125	125	-	-	-	-	-	-	-	-	-	-	-	-	-
Pump Packing Replacement	19176_6422	Sep-03	Jun-08	732	732	-	-	-	-	-	-	-	-	-	-	-	-	-
Demineralizer Construction	19177_6423	Jul-00	Dec-00	51	51	-	-	-	-	-	-	-	-	-	-	-	-	-
Odor Control Rehab - Construction	19188_6538	Jun-28	Dec-31	250,000	-	250,000	-	-	-	-	-	70,000	80,000	80,000	20,000	-	250,000	-
Odor Control Rehab - REI	19191_6592	Jun-28	Dec-31	16,000	-	16,000	-	-	-	-	-	6,000	6,000	3,500	500	-	16,000	-
Equipment Condition Monitoring	19193_6594	May-04	Jan-05	1,777	1,777	-	-	-	-	-	-	-	-	-	-	-	-	-
North Main Pump Station (NMPS) Winthrop Terminal Facility (WTF) Valve & Piping - ESDC/REI	19194_6598	Dec-14	Oct-18	1,487	1,487	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Joint Repair - Design	19204_6668	Apr-99	Oct-04	149	149	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Joint Repair - Construction 1	19205_6669	Aug-02	Nov-03	305	305	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Joint Repair - Construction 2	19217_6704	Aug-12	Feb-14	1,894	1,894	-	-	-	-	-	-	-	-	-	-	-	-	-
As-needed Design Phase 6-1	19220_6721	May-09	Oct-12	1,911	1,911	-	-	-	-	-	-	-	-	-	-	-	-	-
As-needed Design Phase 6-2	19221_6722	May-09	Aug-12	1,744	1,744	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern Seawall Design/ESDC/REI	19222_6723	Oct-20	Jun-28	2,600	778	1,823	231	514	416	545	1,796	116	-	-	-	-	116	-
Eastern Seawall Construction - 1	19223_6724	Apr-26	Dec-29	45,000	-	45,000	-	-	10,500	13,500	24,000	12,000	9,000	-	-	-	21,000	-
Barge Berth Rehab - Design/ESDC/REI	19224_6725	Apr-26	Aug-31	4,581	-	4,581	-	-	787	787	1,574	787	787	787	646	-	3,007	-
Barge Berth Rehab - Construction	19225_6726	Oct-27	Aug-29	16,000	-	16,000	-	-	-	4,402	4,402	7,667	3,931	-	-	-	11,598	-
Rip-rap Material DITP	19226_6727	Mar-17	Jun-17	227	227	-	-	-	-	-	-	-	-	-	-	-	-	-
Combined Heat & Power (CHP) - Design/ESDC/REI	19229_6730	Aug-24	Nov-31	18,377	-	18,377	2,281	2,776	2,094	1,240	8,391	1,240	2,240	3,348	3,158	-	9,986	-
Roof Replacement - Phase I	19230_S464	Mar-09	Mar-10	2,750	2,750	-	-	-	-	-	-	-	-	-	-	-	-	-
Drive Chain Replacement	19231_6742	Oct-01	Jul-03	264	264	-	-	-	-	-	-	-	-	-	-	-	-	-
Busduct Replacement (2+22)	19236_6763	Jan-01	Oct-01	196	196	-	-	-	-	-	-	-	-	-	-	-	-	-
Reline Hypochlorite Tanks 1 & 3	19237_6764	May-07	Nov-07	1,691	1,691	-	-	-	-	-	-	-	-	-	-	-	-	-
Combustion Turbine Generator (CTG) Modifications	19238_6765	Mar-01	May-02	482	482	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Equipment Upgrades - Construction 2	19239_6767	Apr-05	Feb-07	1,913	1,913	-	-	-	-	-	-	-	-	-	-	-	-	-
Document Format Conversion	19241_6791	May-07	Jun-19	68	68	-	-	-	-	-	-	-	-	-	-	-	-	-
Outfall Modifications - Inspection	19243_6811	Dec-01	Jul-02	174	174	-	-	-	-	-	-	-	-	-	-	-	-	-
Secondary Clarifier Access	19244_6812	Sep-01	Jul-02	275	275	-	-	-	-	-	-	-	-	-	-	-	-	-
Transformer Replacement	19245_6813			1,703	1,703	-	-	-	-	-	-	-	-	-	-	-	-	-
Digested Sludge Pump Replacement - Phase 2	19246_6821	Jan-16	Jul-17	2,672	2,672	-	-	-	-	-	-	-	-	-	-	-	-	-
Co-Digestion Design/Build	19247_6822	Aug-31	Feb-33	5,000	-	5,000	-	-	-	-	-	-	-	-	3,000	2,000	5,000	-
Reline Hypochlorite Tanks 2 & 4	19250_6849	Apr-08	Oct-08	2,242	2,242	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Pipe Replacement - Design	19252_6851	Dec-28	Mar-33	2,000	-	2,000	-	-	-	-	-	500	550	350	350	250	2,000	-
Chemical Pipe Replacement - Construction	19253_6852	Nov-25	Nov-27	9,000	-	9,000	-	2,500	6,500	-	9,000	-	-	-	-	-	-	-
Electrical Equipment Upgrades - Construction 3	19256_6855	Feb-08	Aug-11	15,174	15,174	-	-	-	-	-	-	-	-	-	-	-	-	-

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Winthrop Terminal Facility (WTF) variable frequency drives (VFD) Replacement - Construction	19258_6875	Jun-16	Apr-21	11,912	11,912	-	-	-	-	-	(52)	-	-	-	-	-	-	-
Heat Loop Pipe Replacement - Construction 1	19259_6876	Mar-05	Dec-05	615	615	-	-	-	-	-	-	-	-	-	-	-	-	-
Secondary Reactor VFDs	19260_6877	May-05	Aug-16	3,232	3,232	-	-	-	-	-	-	-	-	-	-	-	-	-
Grit Air Handler Replacements	19264_6881	Jul-08	Jun-10	2,029	2,029	-	-	-	-	-	-	-	-	-	-	-	-	-
Continuous Emissions Monitoring Systems (CEMS) Equipment Replacement	19265_6882	Nov-05	Mar-06	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Loop Pipe Replacement - Construction 2	19266_6883	Dec-06	Feb-08	1,488	1,488	-	-	-	-	-	-	-	-	-	-	-	-	-
Process Information Control System (PICS) Replacement - Construction	19267_6884	Jul-11	Sep-15	1,230	1,230	-	-	-	-	-	-	-	-	-	-	-	-	-
Primary & Secondary Clarifier Rehab - Construction	19268_6899	Feb-09	Feb-12	58,613	58,613	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Equipment Upgrades - Construction 4	19270_6901	May-13	May-16	7,831	7,831	-	-	-	-	-	-	-	-	-	-	-	-	-
North Main Pump Station (NMPS) VFD Replacement - Design/ESDC	19271_6902	Dec-07	Apr-12	1,278	1,278	-	-	-	-	-	-	-	-	-	-	-	-	-
NMPS VFD Replacement - Construction	19272_6903	Dec-11	Mar-16	24,432	24,432	-	-	-	-	-	-	-	-	-	-	-	-	-
Fire Alarm System Replacement - Design	19273_6904	Dec-15	Aug-26	1,081	1,116	(35)	(35)	-	-	-	(40)	-	-	-	-	-	-	-
CHP Alternatives Study	19274_6963	Apr-19	Jan-22	1,099	1,099	-	-	-	-	-	-	-	-	-	-	-	-	-
Combined Heat & Power - Construction	19275_6964	Oct-26	Oct-31	210,000	-	210,000	-	-	20,000	35,000	55,000	50,000	45,000	45,000	15,000	-	155,000	-
Primary & Secondary Clarifier Rehab - Design	19276_6965	Mar-09	Sep-13	1,678	1,678	-	-	-	-	-	-	-	-	-	-	-	-	-
Gravity Thickener Improvements - Construction	19277_6966	Apr-10	Jun-12	929	929	-	-	-	-	-	-	-	-	-	-	-	-	-
Steam Turbine Generator (STG) System Modifications - Design	19278_6967	Jun-09	Apr-11	(44)	(44)	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Equipment Upgrades 3 - REI	19279_6968	Feb-08	Nov-11	1,112	1,112	-	-	-	-	-	-	-	-	-	-	-	-	-
NMPS Motor Control Center - Construction	19283_6972	Jan-12	Apr-13	914	914	-	-	-	-	-	-	-	-	-	-	-	-	-
STG System Modifications - Construction	19284_6973	May-10	Apr-11	2,120	2,120	-	-	-	-	-	-	-	-	-	-	-	-	-
Digester Chiller Replacement	19287_7005	Sep-05	May-06	635	635	-	-	-	-	-	-	-	-	-	-	-	-	-
Dystor Tank Membrane Replacement	19288_7006	Sep-04	Oct-05	640	640	-	-	-	-	-	-	-	-	-	-	-	-	-
Fire Alarm System Replacement - Construction	19289_7051	Mar-27	Mar-31	49,000	-	49,000	-	-	-	10,000	10,000	13,000	13,000	13,000	-	-	39,000	-
Digester & Storage Tank Rehab - Design/ESDC	19290_7052	Nov-23	Aug-31	9,985	906	9,079	1,709	1,017	1,017	1,248	5,898	1,248	1,248	1,248	343	-	4,087	-
Digester & Storage Tank Rehab - REI	19291_7053	Jul-26	Mar-31	6,092	-	6,092	-	-	1,500	2,000	3,500	2,000	500	92	-	-	2,592	-
Thickened Primary Sludge Pump Replacement - Construction	19292_7054	Oct-13	Jun-14	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-
Digester Modules 1 & 2 Pipe Replacement	19293_7055	Aug-11	Aug-14	7,096	7,096	-	-	-	-	-	-	-	-	-	-	-	-	-
Cathodic Protection - Construction	19294_7056	Sep-27	Mar-31	9,000	-	9,000	-	-	-	2,000	2,000	3,000	2,000	2,000	-	-	7,000	-
Centrifuge Backdrive Replacement	19295_7057	Feb-13	Mar-15	3,965	3,965	-	-	-	-	-	-	-	-	-	-	-	-	-
Switchgear Relay Replacement - Construction	19297_7059	Dec-28	Dec-31	8,000	-	8,000	-	-	-	-	-	2,000	2,000	2,000	2,000	-	8,000	-
Power Consultant Recommnedations - Design	19298_7060	Jan-06	Jul-09	2,097	2,097	-	-	-	-	-	-	-	-	-	-	-	-	-
Power System Improvements - Construction	19299_7061	Jan-09	May-17	10,112	10,112	-	-	-	-	-	-	-	-	-	-	-	-	-
NMPS VFD Replacement - REI	19300_7062	Dec-12	Jun-16	740	740	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat Loop Pipe Replacement - Construction 3	19301_7063	Jun-09	Jun-11	11,410	11,410	-	-	-	-	-	-	-	-	-	-	-	-	-
Odor Control Rehab - Design/ESDC	19303_7088	Oct-25	Dec-32	14,000	-	14,000	-	1,500	2,000	2,000	5,500	2,000	2,000	2,000	1,500	1,000	8,500	-
Sodium Hypochlorite Tank Liner Removal	19304_7089	May-06	Sep-06	196	196	-	-	-	-	-	-	-	-	-	-	-	-	-
As-needed Design Phase 5-1	19305_7090	Aug-07	Aug-09	955	955	-	-	-	-	-	-	-	-	-	-	-	-	-
As-needed Design Phase 5-2	19306_7091	Jul-07	Jul-09	1,056	1,056	-	-	-	-	-	-	-	-	-	-	-	-	-
HVAC Equipment Replacement - REI	19307_7094	Jun-26	Apr-32	10,000	-	10,000	-	-	1,000	2,000	3,000	2,000	2,000	2,000	1,000	-	7,000	-
HVAC Equipment Replacement - Design/ESDC	19309_7111	Mar-14	Nov-19	1,434	1,434	-	-	-	-	-	-	-	-	-	-	-	-	-
HVAC Equipment Replacement - Design/ESDC	19310_7110	Apr-25	Oct-32	8,274	-	8,274	-	700	1,000	1,300	3,000	2,000	1,000	1,000	1,000	274	5,274	-
DI As-Needed Technical Design	19311_7121	Jul-26	May-33	14,850	-	14,850	-	-	3,000	3,000	6,000	3,000	3,000	2,000	850	-	8,850	-
Radio Repeater System Upgrade 1	19312_7122	Oct-18	Nov-20	212	212	-	-	-	-	-	-	-	-	-	-	-	-	-
Digester Sludge Pump Replacement - Construction	19313_7123	Oct-09	Dec-14	1,871	1,871	-	-	-	-	-	-	-	-	-	-	-	-	-

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Electrical Equipment Upgrades 5 - Construction	19314_7124	Dec-28	Dec-31	23,162	-	23,162	-	-	-	-	-	3,000	8,000	8,000	4,162	-	23,162	-
Miscellaneous VFD Replacements FY19-FY23	19315_7125	Oct-20	Jun-25	381	352	29	29	-	-	-	381	-	-	-	-	-	-	-
South System Pump Station (SSPS) VFD Replacement - Design/ESDC/REI	19316_7126	Jun-21	Jun-30	8,284	745	7,539	997	1,623	1,300	1,200	5,121	1,200	1,219	-	-	-	2,419	-
SSPS VFD Replacementv - Construction	19317_7127	Jul-27	Oct-30	197,000	-	197,000	-	-	-	30,000	30,000	60,000	60,000	47,000	-	-	167,000	-
NMPS VFD Replacement - Design/ESDC/REI	19318_7128	Jun-29	Dec-36	9,300	-	9,300	-	-	-	-	-	-	1,500	1,500	1,500	1,500	6,000	3,300
NMPS VFD Replacement - Construction	19319_7129	Dec-31	Dec-35	43,400	-	43,400	-	-	-	-	-	-	-	-	3,400	10,000	13,400	30,000
Electrical Equipment 5 - Design/ESDC/REI	19320_7130	Dec-28	Dec-34	6,700	-	6,700	-	-	-	-	-	550	1,100	1,100	1,100	1,100	4,950	1,750
Miscellaneous VFD Replacements FY18	19321_7131	Oct-17	Jun-18	498	498	-	-	-	-	-	-	-	-	-	-	-	-	-
DI Switchgear Replacement - Design/ESDC/REI	19322_7132	Jul-28	Jul-33	9,000	-	9,000	-	-	-	-	-	1,050	2,250	3,250	2,250	200	9,000	-
DI Switchgear Replacement - Construction	19323_7133	Jul-30	Jul-32	40,000	-	40,000	-	-	-	-	-	-	-	15,000	15,500	9,500	40,000	-
Radio Repeater System Upgrade 2	19324_7134	Sep-22	Apr-24	2,500	2,500	-	-	-	-	-	1,091	-	-	-	-	-	-	-
DI Dystor Membrane Replacements	19325_7135	Oct-25	Oct-27	9,500	-	9,500	-	3,500	5,500	500	9,500	-	-	-	-	-	-	-
DI CTG Rebuilds	19326_7136	Jul-29	Jul-30	12,000	-	12,000	-	-	-	-	-	-	10,000	2,000	-	-	12,000	-
DI Centrifuge Replacements - Design/ESCD/REI	19327_7137	Dec-25	Jan-32	14,000	-	14,000	-	500	2,000	2,000	4,500	4,000	4,000	1,500	-	-	9,500	-
DI Centrifuge Replacements - ConstructION	19328_7138	Dec-27	Dec-31	50,000	-	50,000	-	-	-	5,000	5,000	10,000	10,000	15,000	10,000	-	45,000	-
Cryogenics Plant Equipment Replacement – DesIgn/ESDC/REI	19329_7139	Mar-27	Jul-26	14,000	-	14,000	-	-	-	2,000	2,000	2,000	3,000	3,000	3,000	1,000	12,000	-
Cryogenics Plant Equipment Replacement – Construction	19330_7140	Apr-28	Dec-32	70,000	-	70,000	-	-	-	1,000	1,000	15,000	25,000	25,000	3,000	1,000	69,000	-
Sodium Hypochlorite and Bisulfite Tanks Replacement - Construction	19332_7142	Jul-29	Jul-33	40,000	-	40,000	-	-	-	-	-	-	12,000	12,000	12,000	4,000	40,000	-
Gas Protection Systm Replacement Phase 1	19333_7167	Sep-19	Oct-21	1,445	1,445	-	-	-	-	-	-	-	-	-	-	-	-	-
Personnel Dock Rehab	19334_7168	Feb-17	Oct-17	1,368	1,368	-	-	-	-	-	-	-	-	-	-	-	-	-
East/West Odor Control Air Handler Replacement	19336_7170	Jun-28	Jul-30	4,800	-	4,800	-	-	-	-	-	1,750	2,750	300	-	-	4,800	-
PICS FiberLoop Replacement	19338_7172	Jul-29	Jun-33	18,700	-	18,700	-	-	-	-	-	-	4,675	4,675	4,675	4,675	18,700	-
NMPS & WTF Butterfly Valve Replacements	19339_7275	Jun-14	Sep-17	17,514	17,514	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Tank and Digester Pipe Replacements	19345_7373	Aug-19	Dec-21	8,770	8,770	-	-	-	-	-	-	-	-	-	-	-	-	-
Clarifier W3H Flushing System	19346_7374	Jul-12	Jul-13	1,262	1,262	-	-	-	-	-	-	-	-	-	-	-	-	-
Clarifier Rehab Phase 2 - Design/ESDC	19347_7394	Jan-15	Dec-28	3,787	1,770	2,017	283	450	450	450	1,876	385	-	-	-	-	385	-
Clarifier Rehab Phase 2 - Construction	19348_7395	Mar-23	Dec-28	294,795	49,850	244,945	49,278	50,000	50,000	45,400	232,052	50,267	-	-	-	-	50,267	-
Scum Skimmer Replacement	19349_7396	Oct-13	Oct-16	20,394	20,394	-	-	-	-	-	-	-	-	-	-	-	-	-
Clarifier Rehab Phase 2 - REI	19351_7397	May-25	Dec-29	7,300	-	7,300	-	-	1,525	1,550	3,075	2,025	2,200	-	-	-	4,225	-
Cryogenics Chillers Replacement	19352_7398	Oct-14	Oct-16	3,218	3,218	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 7-1	19353_7399	Oct-12	Oct-15	1,547	1,547	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 7-2	19354_7400	Oct-12	Apr-16	1,061	1,061	-	-	-	-	-	-	-	-	-	-	-	-	-
Thermal Power Plant (TPP) Boiler Controls Replacement	19355_7401	Nov-14	Nov-16	1,620	1,620	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Equipment Upgrades 6 - Construction	19557_7414	Dec-31	Dec-35	30,000	-	30,000	-	-	-	-	-	-	-	-	7,000	7,000	14,000	16,000
Fuel Pipe Abandonment	19558_7415	Aug-12	Jan-13	230	230	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Equipment Upgrades 4 - REI	19559_7416	May-14	Oct-16	858	858	-	-	-	-	-	-	-	-	-	-	-	-	-
MCC Switchgr Repl Des/ESDC/REI	19560_7419	Jan-17	Feb-26	808	808	-	-	-	-	-	-	-	-	-	-	-	-	-
Motor Control Center (MCC) & Switchgear Replacement - Construction	19561_7420	Mar-26	Mar-30	39,000	-	39,000	-	-	10,000	10,000	20,000	10,000	9,000	-	-	-	19,000	-
Roof Replacement Phase 3	19562_7424	Sep-13	Jul-14	610	610	-	-	-	-	-	-	-	-	-	-	-	-	-
Fire Alarm System Replacement - Design/ESDC/REI	19563_7426	Jan-26	Mar-31	12,000	-	12,000	-	-	2,500	2,500	5,000	4,000	3,000	-	-	-	7,000	-
Gravity Thickener Center Column Replacement	19564_7427	Jan-13	Jan-14	825	825	-	-	-	-	-	-	-	-	-	-	-	-	-
Gravity Thickener Rehab	19565_7428	May-18	Sep-21	20,178	20,178	-	-	-	-	-	(6)	-	-	-	-	-	-	-
As-Needed Design 7-3	19566_7434	Oct-12	Apr-16	950	950	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 8-1	19600_7501	Jul-16	Jul-19	748	748	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 8-2	19601_7502	Jul-16	Jul-19	794	794	-	-	-	-	-	-	-	-	-	-	-	-	-

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As-Needed Design 8-3	19602_7503	Jul-16	Mar-21	918	918	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroturbine Replacements - Design/ESDC/REI	19603_7570	Jul-27	Jul-35	4,800	-	4,800	-	-	-	700	700	700	700	500	500	500	2,900	1,200
Hydroturbine Replacements - Construction	19604_7571	Jul-29	Jul-34	15,200	-	15,200	-	-	-	-	-	-	4,000	4,000	3,500	3,500	15,000	200
As-Needed Design 9-1	19605_7644	Jul-19	Jun-23	824	824	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 9-2	19606_7645	Sep-19	Jun-23	799	799	-	-	-	-	-	(35)	-	-	-	-	-	-	-
DITP Roofing Replacement	19609_7734	Dec-23	Jun-25	8,920	162	8,757	6,260	2,497	-	-	8,920	-	-	-	-	-	-	-
HVAC Control System Replacement	19610_7745	Jul-26	Oct-32	25,000	-	25,000	-	-	4,000	4,000	8,000	4,800	4,000	4,000	3,500	700	17,000	-
HVAC Fume Hoods Replacement	19611_7746	Nov-26	Oct-32	22,000	-	22,000	-	-	6,000	6,000	12,000	5,500	2,500	1,000	1,000	-	10,000	-
HVAC Mechanical Equpment Replacement	19612_7747	Nov-26	Oct-32	25,000	-	25,000	-	-	8,000	4,000	12,000	4,000	3,000	2,000	2,000	2,000	13,000	-
Sodium Hypochlorite and Bisulfite Tanks Replacement - Design/ESDC	19613_7749	Jul-28	Jul-34	6,700	-	6,700	-	-	-	-	-	1,117	1,117	1,117	1,117	1,117	5,585	1,115
Electrical Equipment Upgrades 6 - Design/ESDC	19614_7750	Dec-31	Dec-37	7,000	-	7,000	-	-	-	-	-	-	-	-	500	1,000	1,500	5,500
Replacement of Odor Control Dampers	19615_7913	Jan-22	Jan-23	540	540	-	-	-	-	-	-	-	-	-	-	-	-	-
As-Needed Design 10-1	19616_8018	Nov-23	Apr-26	2,700	29	2,672	592	2,080	-	-	2,700	-	-	-	-	-	-	-
As-Needed Design 10-2	19617_7981	Nov-23	Apr-26	2,700	1	2,699	355	2,344	-	-	2,700	-	-	-	-	-	-	-
As-Needed Design 10-3	19618_7982	Nov-23	Apr-26	2,700	18	2,682	324	2,358	-	-	2,700	-	-	-	-	-	-	-
Cryogenics Facility Valve Replacement	19621_8150	Jul-25	Dec-27	11,900	-	11,900	-	2,500	5,000	4,400	11,900	-	-	-	-	-	-	-
Co-Digestion Temporary Facilities	26073_7148	Sep-13	Jun-15	434	434	-	-	-	-	-	-	-	-	-	-	-	-	-
210 Clinton Wastewater Treatment Plant (CWWTP)				**58,923**	**19,586**	**39,337**	**2,700**	**5,800**	**5,114**	**3,000**	**17,839**	**8,250**	**8,000**	**4,600**	**1,873**	**-**	**22,723**	
Clinton Soda Ash Replacement	19302_7075	Nov-07	Aug-08	267	267	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Permanent Standby Generator	19308_7095	Feb-07	Nov-07	230	230	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Concrete Repair - Design	19340_7276	Feb-13	Dec-13	63	63	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Digester Cleaning & Rehab	19341_7277	May-10	Apr-17	3,443	3,443	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Aeration Effciency Improvement	19342_7278	Apr-12	Feb-13	1,865	1,865	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Facilities Rehab - Design/ESDC/REI	19343_7371	Dec-26	Jan-31	6,500	-	6,500	-	-	400	800	1,200	2,000	2,000	1,300	-	-	5,300	
Valves and Pipe Replacement	19344_7372	Sep-20	Dec-21	489	489	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus Reduction - Design/ESDC	19350_7377	Nov-13	Mar-19	1,436	1,436	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus Reduction - Construction	19400_7411	Mar-16	Mar-18	7,512	7,512	-	-	-	-	-	-	-	-	-	-	-	-	
Clinton Roofing Rehab	19405_7450	Sep-18	Sep-19	790	790	-	-	-	-	-	(17)	-	-	-	-	-	-	
Clinton Facilities Rehab - Construction	19406_7451	Dec-28	Dec-31	15,473	-	15,473	-	-	-	-	-	5,500	5,500	3,000	1,473	-	15,473	
NGRID Gas Line	19407_7528	Apr-16	Jun-17	396	396	-	-	-	-	-	-	-	-	-	-	-	-	
Screw Pump Replacement Phase 2 - Construction	19408_7591	Sep-25	Dec-27	7,700	-	7,700	-	1,500	4,500	1,700	7,700	-	-	-	-	-	-	
Digester Cover Replacement	19409_7648	Mar-25	Aug-27	7,014	-	7,014	2,500	4,300	214	-	7,014	-	-	-	-	-	-	
Equipment Storage Facility	19410_7693	Jun-30	Jun-32	700	-	700	-	-	-	-	-	-	-	300	400	-	700	
Screw Pump Replacement	19411_7704	Nov-21	Jul-23	3,296	3,096	200	200	-	-	-	1,442	-	-	-	-	-	-	
Clinton SCADA Upgrades	19413_7736	Jul-27	Jul-29	750	-	750	-	-	-	500	500	250	-	-	-	-	250	
Landfill Cell No. 1 Closure	19414_7754	Oct-28	Oct-29	1,000	-	1,000	-	-	-	-	-	500	500	-	-	-	1,000	
211 Laboratory Services Total		**completed project**		**2,212**	**2,212**	**-**												
Residuals				**194,126**	**80,696**	**113,429**	**32**	**3,800**	**7,750**	**14,942**	**26,524**	**15,160**	**11,560**	**9,832**	**12,938**	**12,938**	**62,429**	**24,476**
261 Residuals Total		**completed project**		**63,811**	**63,811**	**-**												
271 Residuals Asset Protection				**130,315**	**16,886**	**113,429**	**32**	**3,800**	**7,750**	**14,942**	**26,524**	**15,160**	**11,560**	**9,832**	**12,938**	**12,938**	**62,429**	**24,476**
Various Equipment Replacement	26069_7143	Dec-25	Dec-28	20,000	-	20,000	32	3,000	6,250	6,250	15,532	4,468	-	-	-	-	4,468	-

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Condition Assessment/Reliability Study	26072_7147	May-09	Jan-14	832	832	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals Phase 2 - Design	26074_7149	Feb-27	Jul-35	15,000	-	15,000	-	-	-	2,692	2,692	3,192	3,622	2,894	1,000	1,000	11,708	600
Residuals Phase 2 - Construction	26075_7150	Apr-29	Apr-35	56,629	-	56,629	-	-	-	-	-	-	1,938	6,938	11,938	11,938	32,753	23,876
Sludge Tank & Silo Coating	26076_7151	Sep-17	Sep-18	764	764	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals Electrical/Mechanical/Dryer Drum Replacements	26078_7153	Jun-19	Dec-20	10,691	10,691	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals Pellet Conveyance Piping Relocation	26079_7173	Aug-19	Dec-20	4,599	4,599	-	-	-	-	-	-	-	-	-	-	-	-	-
Various Equipment Replacement - Design	26081_7175	Dec-25	Mar-29	3,800	-	3,800	-	800	1,500	1,000	3,300	500	-	-	-	-	500	-
Various Equipment Replacement - Construction	26082_7176	Mar-27	Mar-29	18,000	-	18,000	-	-	-	5,000	5,000	7,000	6,000	-	-	-	13,000	-
CSO				**941,428**	**925,206**	**16,222**	**5,005**	**4,539**	**905**	**1,453**	**22,144**	**1,083**	**1,024**	**983**	**983**	**248**	**4,321**	
CSO MWRA Managed				**440,655**	**435,419**	**5,236**	**1,500**	**3,536**	**200**		**5,791**							
339 North Dorchester Bay		**completed project**		**221,510**	**221,510**	**-**												
347 East Boston Branch Sewer Relief		**completed project**		**85,637**	**85,637**	**-**												
348 BOS019 Storage Conduit		**completed project**		**14,288**	**14,288**	**-**												
349 Chelsea Trunk Sewer		**completed project**		**31,664**	**31,664**	**-**					**555**							
350 Union Park Detention Treatment Facility		**completed project**		**49,583**	**49,583**	**-**												
353 Upgrade Existing CSO Facilities		**completed project**		**22,385**	**22,385**	**-**												
354 Hydraulic Relief Projects				**7,531**	**2,295**	**5,236**	**1,500**	**3,536**	**200**	**-**	**5,236**							
Construction	32669_6252	Jul-99	Aug-00	1,737	1,737	-	-	-	-	-	-							
Design/CS/RI	32692_6250	Aug-97	Aug-01	558	558	-	-	-	-	-	-							
Somerville Marginal New Pipe Connection	32765_7985	Oct-24	Jul-26	4,436	-	4,436	1,500	2,936	-	-	4,436							
Somerville Marginal New Pipe Connection - REI	32766_8070	Apr-25	Jul-26	800	-	800	-	600	200	-	800							
355 MWR003 Gate & Siphon		**completed project**		**4,424**	**4,424**	**-**												
357 Charles River CSO Controls Total		**completed project**		**3,633**	**3,633**	**-**												
CSO Community Managed				**435,658**	**433,530**	**2,128**	**2,128**				**11,128**							
340 Dorchester Bay Sewer Separation (Fox Point)		**completed project**		**55,029**	**55,029**	**-**												
341 Dorchester Bay Sewer Separation (Commercial Point)		**completed project**		**61,443**	**61,443**	**-**												
342 Neponset River Sewer Separation		**completed project**		**2,492**	**2,492**	**-**												
343 Constitution Beach Sewer Separation		**completed project**		**3,731**	**3,731**	**-**												
344 Stony Brook Sewer Separation		**completed project**		**44,319**	**44,319**	**-**												
346 Cambridge Sewer Separation		**completed project**		**104,552**	**104,552**	**-**												

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351 BWSC Floatables Controls		**completed project**		**946**	**946**	**-**												
352 Cambridge Floatables Controls		**completed project**		**1,127**	**1,127**	**-**												
356 Fort Point Channel Sewer Separation				**23,389**	**21,257**	**2,131**	**2,131**	**-**	**-**	**-**	**11,131**							
Design	32724_6991	May-04	Jun-11	1,655	1,655	-	-	-	-	-	-							
Construction	32725_6992	Mar-05	Dec-10	9,852	9,852	-	-	-	-	-	-							
Fort Point Channel and Mystic	32780_8054	Nov-22	Nov-25	11,881	9,750	2,131	2,131	-	-	-	11,131							
358 Morrissey Boulevard Drain		**completed project**		**32,181**	**32,181**	**-**												
359 Reserved Channel Sewer Separation		**completed project**		**70,524**	**70,524**	**-**												
360 Brookline Sewer Separation		**completed project**		**24,715**	**24,715**	**-**												
361 Bulfinch Triangle Sewer Separation		**completed project**		**9,032**	**9,032**	**-**												
362 East Boston CSO Control Total		**completed project**		**2,182**	**2,182**	**-**												
CSO Planning & Support				**65,115**	**56,257**	**8,858**	**1,377**	**1,003**	**705**	**1,453**	**5,225**	**1,083**	**1,024**	**983**	**983**	**248**	**4,321**	
Technical Assistance	32400_5790	Feb-94	Dec-95	228	228	-	-	-	-	-	-	-	-	-	-	-	-	
Planning/EIR	32401_5791	Mar-88	Sep-90	10,769	10,769	-	-	-	-	-	-	-	-	-	-	-	-	
Master Planning	32403_5716	Mar-92	Sep-04	21,763	21,763	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance - Geotech	32407_5970	Jun-90	Jun-92	61	61	-	-	-	-	-	-	-	-	-	-	-	-	
Modeling	32409_5795	May-92	Mar-95	300	300	-	-	-	-	-	-	-	-	-	-	-	-	
System Optimization Plans (SOP) Program	32411_5767	Jan-94	May-01	773	773	-	-	-	-	-	-	-	-	-	-	-	-	
Watershed Planning	32645_6036	Dec-94	Apr-01	877	877	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Review	32648_6150	Jul-96	Aug-25	585	529	56	26	30	-	-	56	-	-	-	-	-	-	
Land Acquisition/Easement	32658_6169	Jul-96	Aug-25	12,915	12,858	58	23	35	-	-	64	-	-	-	-	-	-	
System Assessment	32691_6372	May-97	Aug-25	255	69	186	124	62	-	-	186	-	-	-	-	-	-	
Somerville Marginal In-System Storage	32748_7539	Aug-18	Oct-21	1,400	1,400	-	-	-	-	-	-	-	-	-	-	-	-	
CSO Performance Assessment	32749_7572	Nov-17	Aug-29	10,190	6,631	3,559	1,204	877	705	633	4,099	100	41	-	-	-	141	
CSO Updated Control Plan Design	32757_8057	Jun-27	Jun-32	5,000	-	5,000	-	-	-	820	820	983	983	983	983	248	4,180	
Other Wastewater				**561,616**	**356,389**	**205,227**	**67,399**	**51,130**	**48,605**	**53,037**	**242,125**	**54,665**	**65,382**	**(2,686)**	**(2,989)**	**(3,299)**	**111,073**	**(126,016)**
128 Infiltration/Inflow (I/I) Local Financial Assistance				**561,335**	**356,108**	**205,227**	**67,399**	**51,130**	**48,605**	**53,037**	**242,125**	**54,665**	**65,382**	**(2,686)**	**(2,989)**	**(3,299)**	**111,073**	**(126,016)**
Community I/I Grants	10232_5300			5,800	5,800	-	-	-	-	-	-	-	-	-	-	-	-	-
Community I/I Loans	10233_5393			17,278	17,278	-	-	-	-	-	-	-	-	-	-	-	-	-
Community I/I Loan Repayments	10234_5394			(17,278)	(17,278)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase II - Grants	10273_6084	May-93	May-06	10,129	10,129	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase II - Loans	10274_6085	May-93	May-06	30,386	30,386	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase II - Repayments	10282_6170	May-94	May-11	(30,386)	(30,386)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase III - Grants	10315_6505			16,650	16,650	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase III - Loans	10316_6506			20,350	20,350	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase III - Repayments	10317_6507			(20,350)	(20,350)	-	-	-	-	-	-	-	-	-	-	-	-	-
Public Participation	10348_6609	Feb-99	Jun-02	6	6	-	-	-	-	-	-	-	-	-	-	-	-	-

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Phase IV - Grants	10368_6736	Nov-99	May-10	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase IV - Loans	10369_6737	Nov-99	May-10	22,000	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase IV - Repayments	10370_6738	Nov-00	May-15	(22,000)	(22,000)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase V - Grants	10407_6925	Aug-04	May-12	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase V - Loans	10408_6926	Aug-04	May-12	22,000	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase V - Repayments	10409_6927	Aug-05	May-17	(22,000)	(22,000)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase VI - Grants	10441_7107	Nov-06	Jun-21	18,000	18,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase VI - Loans	10442_7108	Nov-06	Jun-21	22,000	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase VI - Repayments	10443_7109	Nov-07	Jun-26	(22,000)	(22,000)	-	-	-	-	-	(116)	-	-	-	-	-	-	-
Phase VII - Grants	10471_7293	Aug-09	Jun-21	18,000	17,989	11	11	-	-	-	11	-	-	-	-	-	-	-
Phase VII - Loans	10472_7294	Aug-09	Jun-21	22,000	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase VII - Repayments	10473_7295	Aug-10	Jun-26	(22,000)	(21,692)	(308)	(188)	(121)	-	-	(488)	-	-	-	-	-	-	-
Phase VIII - Grants	10474_7296	Aug-12	Jun-21	18,000	17,337	663	663	-	-	-	663	-	-	-	-	-	-	-
Phase VIII - Loans	10475_7297	Aug-12	Jun-21	22,000	21,190	810	810	-	-	-	810	-	-	-	-	-	-	-
Phase VIII - Repayments	10476_7298	Aug-13	Jun-26	(22,000)	(20,578)	(1,422)	(299)	(237)	(260)	(230)	(1,441)	(160)	(236)	-	-	-	(396)	-
Phase IX Grants	10560_7464	Jul-14	Jun-25	60,000	54,682	5,318	5,318	-	-	-	5,989	-	-	-	-	-	-	-
Phase IX Loans	10561_7465	Jul-14	Jun-25	20,000	18,227	1,773	1,773	-	-	-	1,996	-	-	-	-	-	-	-
Phase IX Repayment	10562_7466	Jul-15	Jun-35	(20,000)	(11,776)	(8,224)	(1,187)	(1,279)	(1,235)	(1,010)	(6,287)	(930)	(873)	(443)	(417)	(297)	(2,960)	(553)
Phase X Grants	10563_7467	Jul-14	Aug-25	60,000	46,458	13,542	13,542	-	-	-	17,281	-	-	-	-	-	-	-
Phase X Loans	10564_7468	Jul-14	Aug-25	20,000	15,486	4,514	4,514	-	-	-	5,760	-	-	-	-	-	-	-
Phase X Repayment	10565_7469	Jul-15	Aug-35	(20,000)	(6,374)	(13,626)	(1,244)	(3,050)	(1,800)	(1,730)	(9,297)	(1,490)	(1,250)	(952)	(862)	(472)	(5,027)	(775)
Phase XI Grants	10566_7620	Jul-18	Aug-24	75,000	41,425	33,575	7,500	9,000	8,630	8,445	38,285	-	-	-	-	-	-	-
Phase XI Loans	10567_7621	Jul-18	Aug-24	25,000	13,808	11,192	2,500	3,000	2,870	2,822	12,762	-	-	-	-	-	-	-
Phase XI Repayment	10568_7622	Jul-19	Aug-34	(25,000)	(4,777)	(20,223)	(957)	(1,410)	(1,930)	(2,220)	(7,791)	(2,500)	(1,880)	(1,560)	(1,460)	(1,370)	(8,770)	(4,936)
Phase XII Grants	10569_7623	Jul-18	Aug-24	75,000	29,741	45,259	9,000	9,000	9,000	9,000	39,777	9,259	-	-	-	-	9,259	-
Phase XII Loans	10570_7624	Jul-18	Aug-24	25,000	9,914	15,086	3,000	3,000	3,000	3,000	13,259	3,086	-	-	-	-	3,086	-
Phase XII Repayment	10571_7625	Jul-19	Aug-34	(25,000)	(2,636)	(22,364)	(702)	(983)	(1,590)	(1,890)	(6,027)	(2,190)	(2,500)	(2,200)	(1,830)	(1,730)	(10,450)	(6,749)
Phase XIII - I/I Loans Only	10572_7640	Jul-18	Aug-30	100,000	12,455	87,545	5,000	5,000	5,000	12,000	27,970	20,000	40,545	-	-	-	60,545	-
Phase XIII- I/I Loans Only Repayment	10573_7641	Jul-19	Aug-40	(100,000)	(2,418)	(97,583)	(1,271)	(1,557)	(2,250)	(2,750)	(9,001)	(3,950)	(5,950)	(10,000)	(9,540)	(9,240)	(38,680)	(51,076)
Phase XIV - Grants	10574_8023	Oct-22	Jun-30	75,000	14,448	60,552	7,500	7,500	7,500	7,500	38,296	13,120	17,432	-	-	-	30,552	-
Phase XIV - Loans	10575_8024	Oct-22	Jun-30	25,000	4,816	20,184	2,500	2,500	2,500	2,500	12,765	4,380	5,804	-	-	-	10,184	-
Phase XIV - Repayments	10576_8025	Nov-23	May-40	(25,000)	(205)	(24,795)	(385)	(733)	(1,020)	(1,270)	(3,612)	(1,520)	(1,960)	(2,500)	(2,500)	(2,500)	(10,980)	(10,408)
Phase XV - Loans Only	10582_8108	Aug-24	May-34	100,000	-	100,000	10,000	10,000	10,000	10,000	40,000	10,000	10,000	10,000	10,000	10,000	50,000	10,000
Phase XV-Loans Only Repayments	10583_8109	Aug-25	May-35	(100,000)	-	(100,000)	-	(1,000)	(2,000)	(3,000)	(6,000)	(4,000)	(5,000)	(6,000)	(7,000)	(8,000)	(30,000)	(64,000)
Phase XVI - Grants	10584_8110	Aug-25	May-35	93,750	-	93,750	-	9,380	9,370	9,380	28,130	9,370	9,380	9,370	9,380	9,370	46,870	18,750
Phase XVI - Loans	10585_8111	Aug-25	May-35	31,250	-	31,250	-	3,120	3,130	3,120	9,370	3,130	3,120	3,130	3,120	3,130	15,630	6,250
Phase XVI - Repayments	10586_8112	Aug-26	May-36	(31,250)	-	(31,250)	-	-	(310)	(630)	(940)	(940)	(1,250)	(1,530)	(1,880)	(2,190)	(7,790)	(22,520)
138 Sewerage System Mapping Upgrades Total		**completed project**		**281**	**281**	**-**												
Waterworks				**5,694,679**	**2,530,818**	**3,163,860**	**124,987**	**173,909**	**149,591**	**163,286**	**716,729**	**286,174**	**368,596**	**440,906**	**433,572**	**388,162**	**1,917,409**	**634,678**
Drinking Water Quality Improvements				**736,349**	**663,369**	**72,980**	**2,701**	**4,878**	**3,338**	**5,847**	**19,359**	**24,736**	**12,055**	**9,175**	**250**	**10,000**	**56,216**	
542 Carroll Water Treatment Plant (CWTP)				**447,780**	**430,440**	**17,340**	**1,145**	**4,194**	**2,500**	**250**	**8,727**	**3,900**	**4,440**	**910**	**-**	**-**	**9,250**	

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Study 1	53293_5023	Jan-88	Feb-89	444	444	-	-	-	-	-	-	-	-	-	-	-	-	
Study 2	53294_5024	Jul-90	Mar-94	2,368	2,368	-	-	-	-	-	-	-	-	-	-	-	-	
EIR / Conceptual Design	53296_5042	Nov-93	Jul-95	5,808	5,808	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	53300_5997	Jan-88	Jun-00	101	101	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett WTP - Design/CS/RI	53301_5017	Oct-96	Sep-06	46,606	46,606	-	-	-	-	-	-	-	-	-	-	-	-	
Permit Fees	53304_5157	Jul-93	Nov-19	98	98	-	-	-	-	-	-	-	-	-	-	-	-	
Cryptosporidium Inactivation Study	53367_6118	Feb-97	May-00	150	150	-	-	-	-	-	-	-	-	-	-	-	-	
Management Support - Design	53371_6134	Apr-97	Apr-00	1,730	1,730	-	-	-	-	-	-	-	-	-	-	-	-	
AWWARF Study	53375_6182	Dec-96	Sep-03	650	650	-	-	-	-	-	-	-	-	-	-	-	-	
Emergency Distribution Reservoir Water Management Study	53376_6206	Nov-98	Sep-02	1,454	1,454	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett and Cosgrove Intakes - CP1	53377_6207	Jun-00	Jun-03	15,489	15,489	-	-	-	-	-	-	-	-	-	-	-	-	
Construction Management / RI	53378_6208	Aug-98	Sep-06	31,438	31,438	-	-	-	-	-	-	-	-	-	-	-	-	
Cosgrove Disinfection - Phase II	53390_6365	Apr-98	May-99	2,169	2,169	-	-	-	-	-	-	-	-	-	-	-	-	
Cosgrove Disinfection - Phase I	53391_6397	Jul-97	Oct-97	150	150	-	-	-	-	-	-	-	-	-	-	-	-	
Distribution Water Consultant	53392_6401	Jul-97	Jun-98	3	3	-	-	-	-	-	-	-	-	-	-	-	-	
Immediate Disinfection - MECo	53393_6406	Jul-97	Jul-97	10	10	-	-	-	-	-	-	-	-	-	-	-	-	
Cosgrove Disinfection Facility Underwater Improvements	53406_6479	Jan-98	Jun-98	217	217	-	-	-	-	-	-	-	-	-	-	-	-	
Community Chlorine Analyzers	53410_6485	Apr-98	Jun-98	49	49	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Aqueduct Interim Rehab - CP2	53412_5522	Dec-00	Oct-02	23,400	23,400	-	-	-	-	-	-	-	-	-	-	-	-	
Sitework & Storage Tanks - CP3	53413_6488	Mar-99	Nov-02	67,368	67,368	-	-	-	-	-	-	-	-	-	-	-	-	
Treatment Facilities - CP4	53414_6489	Dec-00	Jul-05	145,761	145,761	-	-	-	-	-	-	-	-	-	-	-	-	
Late Sitework - CP6	53416_6491	Jul-04	Jan-06	4,088	4,088	-	-	-	-	-	-	-	-	-	-	-	-	
Owner Controlled Insurance Program (OCIP)	53418_6494	Mar-99	Dec-07	5,107	5,107	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services	53419_6495	Sep-98	Oct-05	2,752	2,752	-	-	-	-	-	-	-	-	-	-	-	-	
Marlboro MOA	53420_6497	Sep-98	Jun-05	5,859	5,859	-	-	-	-	-	-	-	-	-	-	-	-	
CWTP- MECo	53421_6520	Sep-98	Mar-05	128	128	-	-	-	-	-	-	-	-	-	-	-	-	
Site Security Services	53425_6613	May-99	Mar-05	1,264	1,264	-	-	-	-	-	-	-	-	-	-	-	-	
Existing Facilities Modifications - CP7	53426_6650	Aug-15	Jun-22	8,324	8,324	-	-	-	-	-	18	-	-	-	-	-	-	
CSX Crossing	53427_6670	Aug-01	Dec-01	65	65	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Algae - Design CS/RI	53428_6671	Jul-28	Oct-30	450	-	450	-	-	-	-	-	400	40	10	-	-	450	
Public Health Research	53432_6691	Jul-00	Jun-07	1,703	1,703	-	-	-	-	-	-	-	-	-	-	-	-	
Security Equipment	53435_6756	Jun-00	Jun-00	571	571	-	-	-	-	-	-	-	-	-	-	-	-	
Cosgrove Screens, CP8 - Construction	53437_6773	Aug-03	Aug-04	3,238	3,238	-	-	-	-	-	-	-	-	-	-	-	-	
AWWARF - Evaluation Ozone & UV	53443_6815	Jul-01	Jan-04	302	302	-	-	-	-	-	-	-	-	-	-	-	-	
Fitout / Construction	53445_6827	Oct-03	Nov-21	663	663	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Algae - Construction	53448_6889	Jul-29	Oct-30	1,800	-	1,800	-	-	-	-	-	-	900	900	-	-	1,800	
CWTP Ultraviolet Disinfection - Design/ESDC/REI	53450_6923	Jul-08	Apr-15	4,351	4,351	-	-	-	-	-	-	-	-	-	-	-	-	
CWTP Ultraviolet Disinfection - Construction	53451_6924	Apr-11	Feb-14	31,057	31,057	-	-	-	-	-	-	-	-	-	-	-	-	
As-needed Technical Assistance No.1	53452_6939	Jan-06	Jun-08	491	491	-	-	-	-	-	-	-	-	-	-	-	-	
Existing Facilities Modifications, CP7 - Design	53453_6951	Jul-05	Apr-15	965	965	-	-	-	-	-	-	-	-	-	-	-	-	
As-needed Technical Assistance	53455_6989	Jan-06	Jun-08	702	702	-	-	-	-	-	-	-	-	-	-	-	-	
Ancillary Modifications - Construction 1	53456_7084	Jul-06	Jun-08	160	160	-	-	-	-	-	-	-	-	-	-	-	-	
Ancillary Modifications - Construction 2	53457_7085	Jan-09	Sep-22	7,240	7,240	-	-	-	-	-	96	-	-	-	-	-	-	
Ancillary Modifications - Design 3	53458_7192	Mar-08	Sep-10	299	299	-	-	-	-	-	-	-	-	-	-	-	-	
Ancillary Modifications - Design 4	53459_7208	Mar-08	Sep-10	527	527	-	-	-	-	-	-	-	-	-	-	-	-	

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Technical Assistance 5	53464_7315	Sep-10	Mar-13	255	255	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance 6	53465_7316	Sep-10	Mar-13	408	408	-	-	-	-	-	-	-	-	-	-	-	-	
CWTP Storage Tank Roof Drainage System	53470_7376	Jan-29	Jun-30	7,000	-	7,000	-	-	-	-	-	3,500	3,500	-	-	-	7,000	
Technical Assistance 7	75530_7406	Jun-13	Nov-15	594	594	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance 8	75531_7407	Jan-16	Jun-18	419	419	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance 9	75601_7543	Jul-18	Dec-20	461	461	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance 10	75602_7544	Jul-18	Dec-20	791	791	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance 11	75603_7713	Dec-20	Dec-23	1,205	871	335	335	-	-	-	569	-	-	-	-	-	-	
Technical Assistance 12	75604_7714	Dec-20	Dec-23	1,075	1,072	3	3	-	-	-	43	-	-	-	-	-	-	
Technical Assistance 13	75605_7973	Mar-23	Mar-26	2,000	182	1,818	436	1,383	-	-	2,000	-	-	-	-	-	-	
Technical Assistance 14	75606_7974	Mar-23	Mar-26	2,000	66	1,934	372	1,562	-	-	2,000	-	-	-	-	-	-	
Technical Assistance 15	75608_8130	Sept-25	Sept-27	2,000	-	2,000	-	625	1,250	125	2,000	-	-	-	-	-	-	
Technical Assistance 16	75609_8131	Sept-25	Sept-27	2,000	-	2,000	-	625	1,250	125	2,000	-	-	-	-	-	-	
543 Quabbin Water Treatment Plant Total		**completed project**		**19,973**	**19,973**	**-**												
544 Norumbega Covered Storage Facility Total		**completed project**		**106,674**	**106,674**	**-**												
545 Blue Hills Covered Storage Total		**completed project**		**40,083**	**40,083**	**-**												
550 Spot Pond Storage Facility Total		**completed project**		**60,126**	**60,126**	**-**												
555 Carroll Water Treatment Plant (CWTP) Asset Protection				**61,713**	**6,072**	**55,640**	**1,556**	**683**	**838**	**5,597**	**10,632**	**20,836**	**7,615**	**8,265**	**250**	**10,000**	**46,966**	
CWTP Control Room Fire Suppression System	54000_7592	Jul-30	Oct-31	500	-	500	-	-	-	-	-	-	-	250	250	-	500	
CWTP Asset Protection Study	54001_7593	Apr-30	Apr-31	465	-	465	-	-	-	-	-	-	-	465	-	-	465	
Liquid Oxygen (LOX) Yard Redundancy	54002_7594	Jan-27	Jul-28	2,000	-	2,000	-	-	-	200	200	1,100	700	-	-	-	1,800	
CWTP Water Pump VFD Replacement	54003_7595	Oct-29	Oct-30	186	-	186	93	93	-	-	186	-	-	-	-	-	-	
Ozone Generator Re-Build	54004_7596	Jan-29	Jan-30	930	-	930	-	-	-	-	-	465	465	-	-	-	930	
CWTP System Upgrades	54005_7597	Jul-29	Jul-30	2,200	-	2,200	-	-	-	-	-	-	200	2,000	-	-	2,200	
CWTP Chemical Feed System Improvements	54006_7598	Mar-22	Mar-24	2,696	2,519	177	177	-	-	-	1,013	-	-	-	-	-	-	
HVAC Equipment Replacement	54007_7605	Sep-19	Jan-26	1,113	423	690	159	343	188	-	690	-	-	-	-	-	-	
Plant Water Pump Replacement	54008_7606	Jul-27	Jul-30	2,000	-	2,000	-	-	-	486	486	1,514	-	-	-	-	1,514	
Ozone Generator Replacement	54009_7607	Oct-27	Oct-30	20,000	-	20,000	-	-	-	3,243	3,243	16,757	-	-	-	-	16,757	
Ultra Violet (UV) Reactor Replacement	54010_7608	Oct-32	Oct-34	10,000	-	10,000	-	-	-	-	-	-	-	-	-	10,000	10,000	
CWTP Emergency Generator No. 1 Replacement	54011_7642	Feb-19	May-20	441	441	-	-	-	-	-	-	-	-	-	-	-	-	
Corrosion Control Pipe Loop Study	54013_7737	Feb-23	Feb-26	937	290	647	400	247	-	-	852	-	-	-	-	-	-	
CWTP Parapet Wall Repairs	54014_7755	Feb-24	Nov-24	1,420	686	734	734	-	-	-	1,420	-	-	-	-	-	-	
CWTP UV Rooms Dehumidification	54015_7790	Mar-27	Mar-28	1,618	-	1,618	-	-	400	1,218	1,618	-	-	-	-	-	-	
Marlboro Pump Station Construction	54016_7791	Nov-21	Oct-22	1,357	1,357	-	-	-	-	-	-	-	-	-	-	-	-	
Chemical Feed System Improvements - REI	54017_7972	Dec-22	Jul-24	348	355	(7)	(7)	-	-	-	223	-	-	-	-	-	-	
CWTP Influent Control Improvements -Design/ESDC	54023_8031	Oct-26	Apr-31	2,000	-	2,000	-	-	250	450	700	450	450	400	-	-	1,300	
CWTP Influent Control Improvements - Construction	54024_8032	Apr-29	Apr-31	10,000	-	10,000	-	-	-	-	-	500	5,000	4,500	-	-	10,000	
CWTP Influent Control Improvements - REI	54025_8033	Apr-29	Apr-31	1,500	-	1,500	-	-	-	-	-	50	800	650	-	-	1,500	
Permits	54026_8120	Jul-24	Jan-34	1	-	1	-	1	-	-	1	-	-	-	-	-	-	
Transmission				**3,397,730**	**970,035**	**2,427,695**	**53,869**	**68,104**	**69,179**	**96,548**	**326,973**	**185,834**	**269,695**	**316,528**	**354,480**	**324,122**	**1,450,659**	**689,336**

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597 Winsor Station Pipeline				**72,570**	**7,475**	**65,095**	**99**	**-**	**-**	**-**	**99**	**503**	**17,852**	**16,313**	**13,915**	**10,103**	**58,686**	**6,310**
Preliminary Permit, Study & Licensing	60032_6276	Nov-97	Jun-99	39	39	-	-	-	-	-	-	-	-	-	-	-	-	-
Quabbin Aqueduct TV Inspection	60033_6277	Nov-29	Apr-30	5,269	-	5,269	-	-	-	-	-	-	5,269	-	-	-	5,269	-
Hatchery Pipeline - Design/ESDC/RI	60077_7017	Aug-13	Mar-19	909	909	-	-	-	-	-	-	-	-	-	-	-	-	-
Quabbin Aqueduct & Winsor Power Station (WPS) - Design/CA/RI	60087_7114	Feb-10	Aug-15	838	838	-	-	-	-	-	-	-	-	-	-	-	-	-
Quabbin Aqueduct & WPS - Construction	60088_7115	Jan-31	Jan-35	29,409	-	29,409	-	-	-	-	-	-	-	3,078	12,311	9,233	24,622	4,787
Shaft 12 Isolation Gate - Construction	60095_7197	Jul-29	Jul-31	24,963	-	24,963	-	-	-	-	-	-	12,115	12,115	734	-	24,963	-
Shaft 2 Construction	60096_7198	Jun-21	Jun-22	1,636	1,537	99	99	-	-	-	99	-	-	-	-	-	-	-
Winsor Station Chapman Valve Repair	60101_7212	Feb-09	Nov-09	416	416	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchase of Sleeve Valves	60105_7234	Jul-08	May-09	368	368	-	-	-	-	-	-	-	-	-	-	-	-	-
Hatchery Pipeline - Construction	60106_7235	Mar-16	Sep-17	2,568	2,568	-	-	-	-	-	-	-	-	-	-	-	-	-
Quabbin Aqueduct & WPS - Final Design/CA/RI	60140_7460	Jan-30	Jan-36	4,350	-	4,350	-	-	-	-	-	-	218	870	870	870	2,828	1,523
Shaft 12 Isolation Gate - Design CA/RI	60141_7509	Mar-17	Dec-18	799	799	-	-	-	-	-	-	-	-	-	-	-	-	-
Shaft 12 Isolation Gate - Design/CA/RI	60180_8034	Jul-28	Jul-32	1,000	-	1,000	-	-	-	-	-	500	250	250	-	-	1,000	-
Permits	60185_8118	Jul-28	Jul-36	5	-	5	-	-	-	-	-	3	1	1	-	-	5	-
601 Sluice Gate Rehabilitation		**completed project**		**9,158**	**9,158**	**-**												
604 MetroWest Tunnel				**709,754**	**697,182**	**12,572**	**-**	**491**	**455**	**2,520**	**3,467**	**2,655**	**3,850**	**2,600**	**-**	**-**	**9,105**	
Study	59794_5043	Jun-84	Oct-89	415	415	-	-	-	-	-	-	-	-	-	-	-	-	
Design/EIR - Tunnel/ESDC	59795_5044	Apr-92	Mar-07	37,939	37,939	-	-	-	-	-	-	-	-	-	-	-	-	
Sudbury Pipe Bridge - Construction	59796_5048	Nov-91	Jun-92	296	296	-	-	-	-	-	-	-	-	-	-	-	-	
West Tunnel Segment - CP1	59798_6054	Apr-97	Apr-03	147,774	147,774	-	-	-	-	-	-	-	-	-	-	-	-	
Construction Managementt/Resident Inspection	59799_5284	May-95	Apr-04	39,428	39,428	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	59804_5976	Jun-84	Jun-98	131	131	-	-	-	-	-	-	-	-	-	-	-	-	
Land Acquisition	59805_5139	Oct-95	Jul-13	6,259	6,259	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Study	59806_5141	Apr-95	Mar-05	1,864	1,864	-	-	-	-	-	-	-	-	-	-	-	-	
DEP Permit Fees	60012_6037	Oct-94	Sep-14	58	56	2	-	1	-	-	2	-	-	-	-	-	-	
Middle Tunnel Segment - CP2	60013_6055	Jun-96	Apr-03	245,809	245,809	-	-	-	-	-	-	-	-	-	-	-	-	
MHD Salt Sheds - CP5	60014_6056	Sep-96	Jun-97	1,314	1,314	-	-	-	-	-	-	-	-	-	-	-	-	
Shaft 5A - CP3	60015_6059	Aug-97	Aug-98	5,816	5,816	-	-	-	-	-	-	-	-	-	-	-	-	
Local Supply Contingency - Design/CA/RI	60017_6063	May-96	Oct-99	859	859	-	-	-	-	-	-	-	-	-	-	-	-	
Community Technical Assistance	60018_6067	Jun-95	Apr-99	297	297	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services	60020_6117	Nov-95	Dec-03	731	731	-	-	-	-	-	-	-	-	-	-	-	-	
OCIP	60021_6122	Jun-96	May-06	26,022	26,022	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Leak Repair	60022_6128	Aug-96	May-97	307	307	-	-	-	-	-	-	-	-	-	-	-	-	
Framingham MOU	60023_6129	May-96	Dec-03	2,444	2,444	-	-	-	-	-	-	-	-	-	-	-	-	
Local Supply Contingency - Construction	60024_6130	Jun-97	Dec-03	4,298	4,298	-	-	-	-	-	-	-	-	-	-	-	-	
Local Supply Contingency - Legal/Easement	60025_6131	Apr-97	Jun-02	9	9	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Repair Bands	60026_6140	Aug-96	Dec-96	28	28	-	-	-	-	-	-	-	-	-	-	-	-	
Loring Road Storage Tanks - CP-8	60029_6203	Sep-97	Nov-00	41,368	41,368	-	-	-	-	-	-	-	-	-	-	-	-	
Testing & Disinfection - CP7	60030_6204	Jan-03	Oct-03	3,612	3,612	-	-	-	-	-	-	-	-	-	-	-	-	
Upper Hultman Rehab - CP6B	60031_6205	Apr-12	Jun-13	5,849	5,849	-	-	-	-	-	-	-	-	-	-	-	-	
Southboro MOA	60038_6366	May-97	Jun-03	255	255	-	-	-	-	-	-	-	-	-	-	-	-	
Weston MOA	60039_6367	Apr-96	Oct-04	1,006	1,006	-	-	-	-	-	-	-	-	-	-	-	-	

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East Tunnel Segment - CP3A	60040_6374	Nov-98	Sep-02	56,263	56,263	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Investigation and Repair	60042_6430	Jun-99	Nov-00	1,604	1,604	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Repair Bands 98-99	60043_6492	Apr-99	Jun-99	116	116	-	-	-	-	-	-	-	-	-	-	-	-	
Wayland MOA	60053_6762	Jun-00	Dec-02	35	35	-	-	-	-	-	-	-	-	-	-	-	-	
Equipment Prepurchase	60054_6777	Jun-05	Mar-06	198	198	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Rehab - CP9	60058_6856	Nov-05	Dec-06	3,257	3,257	-	-	-	-	-	-	-	-	-	-	-	-	
Interim Disinfection	60059_6872	Jan-03	Oct-05	1,245	1,245	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Interconnect - Final Design/CA/RI	60066_6911	Sep-05	Sep-14	5,732	5,732	-	-	-	-	-	-	-	-	-	-	-	-	
Lower Hultman Rehab - CP6A	60073_6975	Sep-09	May-13	52,289	52,289	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Interconnection - RI Services	60083_7082	Jan-10	Jan-15	1,870	1,870	-	-	-	-	-	-	-	-	-	-	-	-	
CP6 Easements	60085_7105	Jan-08	Apr-14	33	33	-	-	-	-	-	-	-	-	-	-	-	-	
CP6A Demolition	60086_7106	Sep-08	Jan-09	57	57	-	-	-	-	-	-	-	-	-	-	-	-	
Valve Chamber and Storage Tank Access Improvements - Design	60109_7283	Jul-25	Mar-30	600	-	600	-	320	155	120	595	5	-	-	-	-	5	
Valve Chamber and Storage Tank Access Improvements - Construction	60160_7476	Mar-27	Mar-29	2,400	-	2,400	-	-	-	1,200	1,200	1,200	-	-	-	-	1,200	
Shaft 5A/5 Surface Piping Cathodic Protection	60161_7477	Nov-16	Jun-17	142	142	-	-	-	-	-	-	-	-	-	-	-	-	
Hultman Leak Shaft 5A	60162_7507	Mar-16	May-16	153	153	-	-	-	-	-	-	-	-	-	-	-	-	
Shaft L Interconnect - Design/ESDC	60163_8080	Oct-25	Apr-30	1,320	-	1,320	-	170	300	300	770	300	250	-	-	-	550	
Shaft L Interconnect - Construction	60164_8081	Apr-28	Apr-30	5,700	-	5,700	-	-	-	-	-	200	3,200	2,300	-	-	5,700	
Shaft L Interconnect - REI	60165_8082	Apr-28	Apr-30	750	-	750	-	-	-	-	-	50	400	300	-	-	750	
Valve Chamber and Storage Tank Access Improvements - REI	60166_8083	Mar-27	Jun-29	1,800	-	1,800	-	-	-	900	900	900	-	-	-	-	900	
615 Chicopee Valley Aqueduct Redundancy		**completed project**		**8,666**	**8,666**	**-**												
616 Quabbin Transmission System				**46,991**	**27,174**	**19,817**	**5,200**	**5,877**	**3,300**	**3,825**	**30,803**	**1,450**	**165**	**-**	**-**	**-**	**1,615**	
Facilities Inspection	60055_6828	Oct-05	Oct-07	1,005	1,005	-	-	-	-	-	-	-	-	-	-	-	-	
Oakdale High Line Replacement - Construction	60068_6940	Jan-29	Sep-29	465	-	465	-	-	-	-	-	300	165	-	-	-	465	
Equipment Pre-purchase	60075_7007	Feb-05	Jun-08	569	562	7	7	-	-	-	16	-	-	-	-	-	-	
Oakdale Phase 1A Electrical - Design	60103_7229	Oct-09	Jul-14	776	776	-	-	-	-	-	-	-	-	-	-	-	-	
Oakdale Phase 1A Electrical - Construction	60104_7230	Apr-12	Jul-13	2,260	2,260	-	-	-	-	-	-	-	-	-	-	-	-	
Ware River Intake Valve Replacement - Design	60108_7282	Jul-26	Jul-28	300	-	300	-	-	150	125	275	25	-	-	-	-	25	
Rehabilitate Wachusett Bastion - Design	60113_7333	Feb-20	May-23	612	612	-	-	-	-	-	19	-	-	-	-	-	-	
Rehabilitate Oakdale Turbine	60135_7378	May-27	Oct-28	2,000	-	2,000	-	-	-	1,500	1,500	500	-	-	-	-	500	
Wachusett Lower Gatehouse Interim Pipe Repair	60136_7379	Oct-19	Jun-20	410	410	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Lower Gatehouse Pipe and Boiler Replacement - Construction	60137_7380	Feb-23	Aug-25	21,086	11,319	9,767	4,965	4,802	-	-	21,086	-	-	-	-	-	-	
Ware River Intake Valve Replacement - Construction	60138_7487	Jul-27	Jul-28	900	-	900	-	-	-	800	800	100	-	-	-	-	100	
CVA Motorized Screens Replacement - Construction	60139_7488	Jan-17	Aug-17	1,210	1,210	-	-	-	-	-	-	-	-	-	-	-	-	
Oakdale Turbine Rehab - Design	60201_7545	May-26	Oct-29	200	-	200	-	75	50	50	175	25	-	-	-	-	25	
Wachusett Bastion Rehab - Construction	60225_7697	Feb-22	Feb-23	4,193	4,193	-	-	-	-	-	160	-	-	-	-	-	-	
Wachusett Bastion Rehab - REI	60227_7716	Apr-22	Jul-23	338	338	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Lower Gatehouse Pipe and Boiler Replacement - REI	60228_7717	Feb-23	Feb-26	1,002	576	426	227	199	-	-	942	-	-	-	-	-	-	
Wachusett Dam Bridge Crane Removal	60230_7780	Mar-21	Sep-21	291	291	-	-	-	-	-	-	-	-	-	-	-	-	
Wachusett Lower Gatehouse Windows and Doors	60231_7788	Oct-21	Oct-23	741	741	-	-	-	-	-	578	-	-	-	-	-	-	
Wachusett Lower Gatehouse Roof & Repointing	60232_7789	Feb-27	Nov-27	350	-	350	-	-	50	300	350	-	-	-	-	-	-	
Permits/Easements	60233_8060	Jan-23	Sep-26	2	-	2	1	1	-	-	2	-	-	-	-	-	-	
Lonergan Intake Building Walkway and Wall Improvements	60245_8138	Feb-26	Jun-27	2,000	-	2,000	-	-	1,500	500	2,000	-	-	-	-	-	-	

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Ware River Shaft 8 Retaining Wall	60246_8159	Sep-25	Sep-26	1,000	-	1,000	-	700	300	-	1,000	-	-	-	-	-	-	
Lonergan Intake Building Walkway and Wall Improvements - REI	60247_8160	Feb-26	Feb-29	2,000	-	2,000	-	-	1,000	500	1,500	500	-	-	-	-	500	
Ware River Shaft 8 Retaining Wall - REI	60250_8163	Sep-25	Sep-27	400	-	400	-	100	250	50	400	-	-	-	-	-	-	
Oakdale Valves - Phase 1 Construction	75491_6690	Oct-05	Jun-06	1,811	1,811	-	-	-	-	-	-	-	-	-	-	-	-	
Oakdale Valves - Phase 1 Study & Design	75496_6831	Apr-04	Jun-07	1,070	1,070	-	-	-	-	-	-	-	-	-	-	-	-	
617 Sudbury/Weston Aqueduct Repairs				**18,275**	**4,870**	**13,405**	**-**	**306**	**1,530**	**1,024**	**2,860**	**2,829**	**3,024**	**4,156**	**537**	**-**	**10,545**	
Sudbury Aqueduct Inspection	60056_6838	Aug-05	Oct-06	370	370	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	60057_6839	Sep-09	Dec-11	25	25	-	-	-	-	-	-	-	-	-	-	-	-	
Sudbury Short-Term Repairs	60076_7016	Jul-29	Jun-30	733	-	733	-	-	-	-	-	-	467	266	-	-	733	
Sudbury Short-Term Repairs - Phase 2	60110_7317	Jul-30	Jun-31	2,098	-	2,098	-	-	-	-	-	-	-	1,574	525	-	2,098	
Weston Aqueduct Sluice Gates - Construction	60130_7369	Nov-20	Sep-21	2,244	2,244	-	-	-	-	-	-	-	-	-	-	-	-	
Rosemary Brook Building Repairs	60150_7472	Mar-16	May-18	1,749	1,749	-	-	-	-	-	-	-	-	-	-	-	-	
Evaluation of Farm Pond Buildings-Waban Arches	60151_7473	Jul-16	Jul-18	218	218	-	-	-	-	-	-	-	-	-	-	-	-	
Waban Arches Rehab - Design/CA/RI	60153_7616	Oct-26	Oct-31	300	-	300	-	-	32	64	96	64	64	64	12	-	204	
Waban Arches Rehab - Construciton	60154_7617	Oct-28	Oct-30	1,200	-	1,200	-	-	-	-	-	288	576	336	-	-	1,200	
Farm Pond Inlet Chamber & Gatehouse - Construction	60156_7619	Oct-26	Oct-28	2,000	-	2,000	-	-	480	960	1,440	560	-	-	-	-	560	
Weston Aqueduct Gatehouse Rehab - Design	60157_7700	Jan-26	Jan-27	1,324	-	1,324	-	306	1,018	-	1,324	-	-	-	-	-	-	
Weston Aqueduct Gatehouse Rehab - Constructn	60400_8134	Jan-29	Jan-31	5,000	-	5,000	-	-	-	-	-	1,667	1,667	1,667	-	-	5,000	
Weston Aqueduct Gatehouse Rehab - REI	60401_8135	Jan-29	Jan-31	750	-	750	-	-	-	-	-	250	250	250	-	-	750	
Hazardous Materials Sudbury Aqueduct	75486_6617	Apr-99	May-05	265	265	-	-	-	-	-	-	-	-	-	-	-	-	
620 Wachusett Reservoir Spillway Improvements		**completed project**		**9,287**	**9,287**	**-**												
621 Watershed Land				**34,000**	**29,075**	**4,925**	**745**	**1,000**	**1,000**	**1,925**	**4,866**	**255**	**-**	**-**	**-**	**-**	**255**	
Land Acquisition	60081_7069	Apr-06	Jun-28	34,000	29,075	4,925	745	1,000	1,000	1,925	4,866	255	-	-	-	-	255	
622 Cosgrove Tunnel Redundancy		**completed project**		**58,619**	**58,619**	**-**												
623 Dam Projects				**12,857**	**4,293**	**8,565**	**4,538**	**2,827**	**400**	**800**	**9,126**							
Dam Safety Modifications & Repairs - Construction	60094_7194	Aug-11	Sep-12	2,055	2,055	-	-	-	-	-	-							
Dam Safety Modifications & Repairs - Design/ESDC	60100_7211	Sep-09	Jun-14	1,061	1,061	-	-	-	-	-	-							
Brigham Pond Dam Repairs	60111_7331			-	-	-	-	-	-	-	-							
Dam Permits	60118_7346	Jul-18	Dec-21	2	2	-	-	-	-	-	-							
Quinapoxet Dam Removal - Design/ESDC	60119_7347	Nov-19	Apr-26	620	413	207	103	104	-	-	300							
Quinapoxet Dam Removal - Construction	60120_7348	Dec-23	Dec-25	2,904	185	2,719	2,217	501	-	-	2,904							
Dam Safety Modifications & Repairs - Construction	60121_7349			-	-	-	-	-	-	-	-							
Goodnough Dike Drainage Improvements	60131_7370			-	-	-	-	-	-	-	-							
Sudbury/Foss Dam Improvements/Wachusett North Dike Overtopping Protection - Design CA/RI	60190_7614	Mar-19	Dec-24	583	301	282	282	-	-	-	289							
Sudbury/Foss Dam Improvements/Wachusett North Dike Overtopping Protection - Design CA/RI	60191_7615	Feb-24	Jun-26	4,334	276	4,058	1,935	2,122	-	-	4,334							
Quinapoxet Dam Removal - REI	60192_7690	Jun-24	Dec-25	100	-	100	-	100	-	-	100							
Foss Reservoir 3 Sluice Gates Repoint - Construction	60193_8058	Jul-26	Jul-28	1,200	-	1,200	-	-	400	800	1,200							
625 Metropolitan Water Tunnel Program				**2,127,642**	**36,850**	**2,090,792**	**22,226**	**46,396**	**44,107**	**68,621**	**190,391**	**157,704**	**235,619**	**284,739**	**333,859**	**301,359**	**1,313,280**	**596,162**
Water Transmission Redundancy Plan	60035_6273	Oct-08	Sep-11	1,397	1,397	-	-	-	-	-	-	-	-	-	-	-	-	-
Preliminary Design & MEPA Review	60092_7159	Jul-20	Jan-24	13,775	13,754	21	21	-	-	-	1,310	-	-	-	-	-	-	-

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Tunnel Construction North - CP1	60107_7291	Jan-29	Jan-40	559,652	-	559,652	-	-	-	-	-	39,400	78,700	98,400	118,000	88,500	423,000	136,652
Sudbury Aqueduct - MEPA Review	60122_7352	Oct-12	Jun-17	2,073	2,073	-	-	-	-	-	-	-	-	-	-	-	-	-
Construction Management	60126_7356	Jan-26	Jan-40	151,136	-	151,136	-	1,970	2,950	4,920	9,840	9,840	14,750	19,670	24,590	24,590	93,440	47,856
Tunnel Construction South - CP2	60127_7357	Jan-28	Jan-40	1,039,354	-	1,039,354	-	-	-	24,600	24,600	78,700	118,000	147,500	172,100	172,100	688,400	326,354
Administration, Legal & Public Outreach	60170_7516	Jan-24	Jan-40	150,332	2,001	148,332	8,018	12,000	6,500	10,000	36,591	14,500	19,530	14,530	14,530	11,530	74,621	37,192
Top of Shafts Rehab - Design/CA/RI	60172_7521	Apr-38	Apr-43	1,630	-	1,630	-	-	-	-	-	-	-	-	-	-	-	1,630
Top of Shafts Rehab - Construction	60173_7522	Apr-40	Apr-42	6,816	-	6,816	-	-	-	-	-	-	-	-	-	-	-	6,816
Final Design/ESDC	60174_7556	Nov-24	Jan-40	135,361	-	135,361	8,807	26,495	25,974	20,725	82,001	11,664	4,169	4,169	4,169	4,169	28,340	25,020
Geotechnical Support Services	60175_7557	Jan-23	Dec-25	12,790	7,598	5,192	3,852	1,339	-	-	11,517	-	-	-	-	-	-	-
Shaft 7 Buildings - Design CA/RI	60176_7558	Apr-38	Apr-43	1,833	-	1,833	-	-	-	-	-	-	-	-	-	-	-	1,833
Shaft 7 Buildings - Construction	60177_7559	Apr-40	Apr-42	10,070	-	10,070	-	-	-	-	-	-	-	-	-	-	-	10,070
Program Support Services	60178_7655	Apr-19	Mar-28	24,748	10,028	14,720	1,527	2,356	5,214	4,506	14,957	1,117	-	-	-	-	1,117	-
Tunnel Construction - CP3	60182_8086	Jan-26	Jan-29	10,413	-	10,413	-	2,000	3,000	3,400	8,400	2,013	-	-	-	-	2,013	-
Owners Representative Services	60195_8153	Jan-26	May-40	6,263	-	6,263	-	235	470	470	1,174	470	470	470	470	470	2,349	2,740
628 Metropolitan Redundancy Interim Improvements				**258,269**	**74,221**	**184,048**	**20,437**	**7,657**	**14,488**	**15,579**	**74,966**	**13,489**	**1,136**	**5,869**	**5,869**	**12,660**	**39,022**	**86,864**
CP1 Shafts 6, 8, 9A	60202_7561	Oct-20	Apr-22	2,210	2,210	-	-	-	-	-	-	-	-	-	-	-	-	-
WASM/SPSM West Pressure Reducing Valves (PRV) - Construction	60204_7563	Jun-21	Mar-25	11,631	11,311	320	320	-	-	-	1,400	-	-	-	-	-	-	-
Easements/Permits	60206_7573	Apr-19	Jun-27	300	34	266	42	63	116	46	266	-	-	-	-	-	-	-
Chestnut Hill Emergency Pump Station (CHEPS) Improvements - Design/CA	60207_7574	Apr-19	May-23	677	677	-	-	-	-	-	30	-	-	-	-	-	-	-
WASM/SPSM PRV - Design/CA	60208_7575	Jul-18	Dec-24	2,849	2,124	726	726	-	-	-	949	-	-	-	-	-	-	-
Shaft 5 Building Improvements - Design/CA	60209_7599	May-21	May-26	1,159	587	572	112	460	-	-	650	-	-	-	-	-	-	-
Shaft 5 Building Improvements - Construction	60210_7600	Apr-26	Apr-28	3,500	-	3,500	-	-	750	1,250	2,000	1,500	-	-	-	-	1,500	-
CP3 Shafts 7, 7B, 7C, 7D	60213_7670	Apr-26	Oct-28	8,560	-	8,560	-	-	2,853	2,853	5,707	2,853	-	-	-	-	2,853	-
CP2 Shafts 5	60214_7671	Apr-24	Oct-26	5,387	-	5,387	3,136	2,037	214	-	5,387	-	-	-	-	-	-	-
Waltham Water Pipeline - REI	60215_7672	Oct-22	Sep-26	2,883	1,229	1,654	887	767	-	-	2,560	-	-	-	-	-	-	-
Shaft 5 Building Improvements - REI	60216_7673	Apr-26	Apr-28	750	-	750	-	-	400	350	750	-	-	-	-	-	-	-
WASM/SPSM REI	60217_7674	Jun-21	Jan-24	621	621	-	-	-	-	-	63	-	-	-	-	-	-	-
CP2 Tops of Shafts REI	60220_7702	Aug-24	Aug-26	882	-	882	327	555	-	-	882	-	-	-	-	-	-	-
CP3 Tops of Shafts REI	60221_7703	Aug-26	Aug-28	721	-	721	-	-	361	361	721	-	-	-	-	-	-	-
WASM3 REI CP3 & CP4	60222_8026	Jul-32	Jul-38	8,000	-	8,000	-	-	-	-	-	-	-	-	-	857	857	7,143
WASM3 Design/ESDC CP3 & CP4	60223_8027	Jul-28	Jul-39	12,000	-	12,000	-	-	-	-	-	702	936	936	936	936	4,445	7,555
Shaft 9 Building Improvements - Construction	60236_8074	Jul-30	Jul-32	13,600	-	13,600	-	-	-	-	-	-	-	4,533	4,533	4,533	13,600	-
Shaft 9 Building Improvements - Design/ESDC	60237_8075	Jul-28	Jul-33	1,200	-	1,200	-	-	-	-	-	200	200	200	200	200	1,000	200
Shaft 9 Building Improvements - REI	60238_8076	Jul-30	Jul-32	600	-	600	-	-	-	-	-	-	-	200	200	200	600	-
WASM 3 - MEPA/Design/CA/RI	68166_6539	Jul-13	Jun-27	15,513	7,509	8,004	1,807	2,150	1,561	2,486	8,105	-	-	-	-	-	-	-
WASM 3 Rehab CP-2	68170_6543	Apr-26	Jun-29	24,700	-	24,700	-	-	8,233	8,233	16,467	8,233	-	-	-	-	8,233	-
WASM 3 Rehab CP-1	68171_6544	Oct-20	Aug-24	19,509	19,509	-	-	-	-	-	452	-	-	-	-	-	-	-
WASM3 CP-3 Belmont W11	68172_6545	Jul-33	Jul-34	17,800	-	17,800	-	-	-	-	-	-	-	-	-	5,933	5,933	11,867
Waltham Water Pipeline - Construction	68333_7457	Jul-22	Sep-25	32,100	17,394	14,706	13,082	1,624	-	-	28,576	-	-	-	-	-	-	-
WASM3 CP4 Weston/Waltham	68339_8133	Jul-34	Jul-38	60,100	-	60,100	-	-	-	-	-	-	-	-	-	-	-	60,100
Commonwealth Avenue Pump Station Improvements - Design/CA/RI	75580_7523	Jan-17	Apr-22	3,030	3,030	-	-	-	-	-	-	-	-	-	-	-	-	-
Commonwealth Avenue Pump Station Improvements - Construction	75581_7524	Feb-19	Mar-21	7,989	7,989	-	-	-	-	-	-	-	-	-	-	-	-	-
630 Watershed Division Capital Improvements				**31,640**	**3,164**	**28,476**	**623**	**3,549**	**3,900**	**2,254**	**10,394**	**6,950**	**8,050**	**2,850**	**300**	**-**	**18,150**	

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Quabbin Administration Building Rehab - Design/CA\RI	60300_7564	Oct-26	Apr-32	2,800	-	2,800	-	200	500	450	1,150	450	450	450	300	-	1,650	
Quabbin Administration Building Rehab - Construction	60301_7565	Apr-29	Apr-31	12,000	-	12,000	-	-	-	-	-	6,000	4,500	1,500	-	-	12,000	
Quabbin Administration Building Rehab Conceptual Design Report	60302_7569	Jul-25	Jul-26	350	-	350	-	250	100	-	350	-	-	-	-	-	-	
Quabbin Maintenance Garage/Wash Bay/Storage Building - Construction	60303_7577	Dec-25	Jun-27	6,300	-	6,300	-	2,800	2,800	700	6,300	-	-	-	-	-	-	
Quabbin Maintenance Garage/Wash Bay/Storage Building - Design/CA/RI	60304_7677	May-21	Jun-25	1,643	733	911	612	299	-	-	946	-	-	-	-	-	-	
River Road Improvements – Wachusett	60305_7701	Feb-21	Nov-21	1,929	1,924	5	5	-	-	-	26	-	-	-	-	-	-	
Quabbin Water Supply - Construction	60307_7753	May-22	Feb-23	508	508	-	-	-	-	-	11	-	-	-	-	-	-	
New Salem Building - Construction	60308_7911	Jul-29	Jul-31	4,000	-	4,000	-	-	-	-	-	-	3,100	900	-	-	4,000	
Permits	60309_8022	Sep-22	Jul-30	10	-	10	6	-	-	4	10	-	-	-	-	-	-	
New Salem Building - Design	60310_8073	Jan-27	Jul-31	2,100	-	2,100	-	-	500	1,100	1,600	500	-	-	-	-	500	
Distribution And Pumping				**1,298,139**	**623,534**	**674,606**	**28,727**	**51,291**	**43,281**	**34,892**	**189,500**	**54,763**	**58,180**	**108,447**	**71,797**	**53,558**	**346,745**	**169,671**
618 Peabody Pipeline Project		**completed project**		**1,448**	**1,448**	**-**												
677 Valve Replacement		**completed project**		**12,016**	**12,016**	**-**												
678 Boston Low Service - Pipe & Valve Rehabilitation		**completed project**		**23,691**	**23,691**	**-**												
683 Heath Hill Road Pipe Replacement		**completed project**		**19,358**	**19,358**	**-**												
689 James L. Gillis Pump Station Rehabilitation		**completed project**		**33,419**	**33,419**	**-**												
692 Northern High Service (NHS) - Section 27 Improvements				**2,136**	**124**	**2,013**						**10**	**1,167**	**797**	**39**	**-**	**2,013**	
Section 27 - Construction	67769_6333	Mar-30	Nov-31	1,723	27	1,697						-	1,035	662	-	-	1,697	
Easements	68192_6589	Apr-16	Jun-22	-	-	-						-	-	-	-	-	-	
Technical Assistance	68211_6712	Oct-99	Jun-22	60	60	-						-	-	-	-	-	-	
Surveying	68229_6809	Jun-01	Mar-17	37	37	-						-	-	-	-	-	-	
Section 27 - Design/CA	68390_7721	Mar-29	Nov-31	188	-	188						10	116	40	22	-	188	
Section 27 - REI	68391_7722	Mar-30	Nov-31	128	-	128						-	17	95	17	-	128	
693 NHS - Revere & Malden Pipeline Improvements				**173,145**	**37,101**	**136,045**	**2,167**	**15,147**	**16,871**	**10,850**	**46,566**	**7,500**	**5,350**	**7,660**	**500**	**-**	**21,010**	**70,000**
Revere & Malden - Design/CS/RI	67780_5185	May-88	Sep-94	1,786	1,786	-	-	-	-	-	-	-	-	-	-	-	-	-
Revere Beach - Construction	67781_5186	Aug-92	Oct-94	6,314	6,314	-	-	-	-	-	-	-	-	-	-	-	-	-
Malden Section 53 - Construction	67782_5176	Apr-92	Sep-94	10,026	10,026	-	-	-	-	-	-	-	-	-	-	-	-	-
Revere Section 53 - Construction	67784_5177	Sep-08	Aug-09	2,938	2,938	-	-	-	-	-	-	-	-	-	-	-	-	-
Control Valves - Construction	67785_5191	Jun-88	Aug-89	949	949	-	-	-	-	-	-	-	-	-	-	-	-	-
DI Pipeline Cleaning & Lining - Construction	67786_5179	Jun-90	Sep-90	158	158	-	-	-	-	-	-	-	-	-	-	-	-	-
Winthrop Cleaning & Lining - Construction	67787_5178	Jun-90	Aug-90	575	575	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-1 Section 68 Construction	67790_6335	Oct-25	Apr-27	18,000	-	18,000	-	6,000	12,000	-	18,000	-	-	-	-	-	-	-
Technical Assistance	67791_5986	Jul-06	Mar-18	246	246	-	-	-	-	-	-	-	-	-	-	-	-	-
Linden Square - Construction	67792_5238	Apr-91	Nov-91	1,849	1,849	-	-	-	-	-	-	-	-	-	-	-	-	-
Linden Square - Construction Administration	67793_5239	Apr-91	Nov-91	125	125	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Restoration - Design/CA/RI	67996_6033	Nov-94	Dec-95	77	77	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Restoration - Construction	67997_6034	Jul-95	Jun-96	1,714	1,714	-	-	-	-	-	-	-	-	-	-	-	-	-
Malden Section 53 - Landscaping	68020_6113	Apr-96	Jun-96	20	20	-	-	-	-	-	-	-	-	-	-	-	-	-
Sidewalk Restoration	68033_6183	Sep-96	Oct-96	54	54	-	-	-	-	-	-	-	-	-	-	-	-	-

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Section 14 Pipe Relocation (Malden)	68257_6957	Jul-17	May-18	1,554	1,554	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-3 Section 116 Construction	68258_6958	Jul-34	Jul-36	70,000	-	70,000	-	-	-	-	-	-	-	-	-	-	-	70,000
Section 56 Easements	68265_6978	Nov-19	May-26	1,500	-	1,500	1,258	242	-	-	1,500	-	-	-	-	-	-	-
Permits	68280_7049	Apr-05	Mar-22	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 56 Replacement/Saugus River - Design/ CA	75545_7454	Nov-19	May-26	4,321	3,117	1,204	526	677	-	-	1,873	-	-	-	-	-	-	-
Sections 53 and 99 Improvements - Design/CA	75548_7485	Feb-20	Jul-29	4,985	3,589	1,396	382	363	350	150	2,107	100	50	-	-	-	150	-
Section 56 Replacement/Saugus River - Construction	75549_7486	Apr-25	Jul-26	9,485	-	9,485	-	6,364	3,121	-	9,485	-	-	-	-	-	-	-
Section 56 Replacement/Saugus River - Feasibility Study	75565_7500	Dec-15	Jun-17	225	225	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 56 Pipe Demolition Construction	75570_7536	Oct-18	May-19	1,781	1,781	-	-	-	-	-	-	-	-	-	-	-	-	-
Sections 13 & 48 Rehab - Design/CA/RI	75571_7602	Jul-27	Jul-32	2,310	-	2,310	-	-	-	500	500	800	800	160	50	-	1,810	-
Sections 13 & 48 Rehab - Construction	75572_7603	Jul-29	Jul-31	12,450	-	12,450	-	-	-	-	-	-	4,500	7,500	450	-	12,450	-
Section 56 Replacement/Saugus River - REI	75573_7681	Jul-25	Jul-26	1,100	-	1,100	-	900	200	-	1,100	-	-	-	-	-	-	-
Sections 14, 53 & 99 - REI	75574_7682	Dec-25	Dec-28	3,600	-	3,600	-	600	1,200	1,200	3,000	600	-	-	-	-	600	-
CP-2 Section 14 Construction	75577_7699	Apr-27	Oct-28	15,000	-	15,000	-	-	-	9,000	9,000	6,000	-	-	-	-	6,000	-
702 New Connecting Mains - Shaft 7 to WASM 3				**109,470**	**55,323**	**54,147**	**12,855**	**17,673**	**4,735**	**1,367**	**58,910**	**758**	**758**	**10,855**	**4,691**	**357**	**17,417**	**100**
Routing Study	67846_5163	Aug-94	Nov-96	397	397	-	-	-	-	-	-	-	-	-	-	-	-	-
Watertown MOU	68035_6199	Jun-94	Sep-97	167	167	-	-	-	-	-	-	-	-	-	-	-	-	-
CP1- Design/CA/RI	68110_6383	Sep-98	Jul-11	3,533	3,533	-	-	-	-	-	-	-	-	-	-	-	-	-
DP2/4 Meter 120 - Design/CA/RI	68111_6384	Aug-02	Oct-08	1,278	1,278	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3 (Sections 23, 24, 47) - Final Design/CA/RI	68112_6385	Jul-16	Aug-25	3,752	3,121	631	381	250	-	-	1,128	-	-	-	-	-	-	-
CP1 A & B - Easements	68114_6387			17	17	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3 - Easements	68115_6388	Jan-18	Jul-32	50	-	50	3	8	8	8	25	8	8	5	3	3	25	-
CP5 - Easements	68117_6390	Dec-06	Jan-11	22	22	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3-Sect 23,24,47, Rehab	68119_6392	Nov-21	May-24	25,928	23,950	1,978	1,978	-	-	-	10,863	-	-	-	-	-	-	-
CP5 - Northeast Segment	68121_6394	Aug-09	Nov-11	5,903	5,903	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-3, Clean & Line Sections 59 & 60	68174_6548	Jul-30	Jul-32	13,988	-	13,988	-	-	-	-	-	-	-	10,000	3,988	-	13,988	-
CP2 -Easements	68175_6547	May-17	Jan-26	33	5	28	7	22	-	-	29	-	-	-	-	-	-	-
Sections 25, 75, 24, 47, 59 & 60 - Design/CA	68255_6955	Jan-19	Jul-28	6,452	4,587	1,865	437	600	490	338	2,577	-	-	-	-	-	-	-
CP-2, Sections 25 & 24 - Construction	68256_6956	Mar-23	Jan-26	22,744	11,927	10,817	7,728	3,089	-	-	22,584	-	-	-	-	-	-	-
CP-1, Section 75 Extension - Construction	68350_7484	Feb-25	Aug-27	17,330	-	17,330	1,500	12,000	3,830	-	17,330	-	-	-	-	-	-	-
CP2, Sections 24 & 25 - REI	68351_7680	Jul-23	Apr-26	1,902	419	1,484	621	862	-	-	1,902	-	-	-	-	-	-	-
CP-1, Section 75 Extension - REI	68352_8067	Jan-25	Jul-27	1,821	-	1,821	200	843	407	371	1,821	-	-	-	-	-	-	-
CP-3, Clean & Line Sections 59 & 60 - REI	68353_8068	Jul-30	Jul-32	1,154	-	1,154	-	-	-	-	-	-	-	500	500	154	1,154	-
CP-3, Clean & Line Sections 59 & 60 - Design/ESDC	68355_8128	Jul-27	Jul-33	3,000	-	3,000	-	-	-	650	650	750	750	350	200	200	2,250	100
704 Rehabilitation of Other Pump Stations				**51,572**	**30,090**	**21,482**	**-**	**-**	**594**	**793**	**1,387**	**793**	**7,362**	**9,552**	**2,388**	**-**	**20,095**	
Preliminary Design	67885_5153	Aug-94	Mar-96	351	351	-	-	-	-	-	-	-	-	-	-	-	-	
Design/CS/RI	68017_6110	May-97	Nov-04	2,546	2,546	-	-	-	-	-	-	-	-	-	-	-	-	
Construction II & C	68072_6304	Jan-00	Feb-01	639	639	-	-	-	-	-	-	-	-	-	-	-	-	
Rehab of 5 Pump Stations	68102_6375	Oct-06	Jun-10	21,848	21,848	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	68178_6556	Jul-99	May-27	33	33	-	-	-	-	-	-	-	-	-	-	-	-	
Legal	68179_6557	Jul-99	Jan-10	6	6	-	-	-	-	-	-	-	-	-	-	-	-	
Proprietary Equipment Purchases	68204_6676	Jun-99	Jan-10	158	158	-	-	-	-	-	-	-	-	-	-	-	-	
Design 2 CS/RI	68266_6980	Dec-04	Jun-11	4,510	4,510	-	-	-	-	-	-	-	-	-	-	-	-	

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Pump Station Rehab - Desgn/CA	75583_7526	Jul-26	Jun-32	3,964	-	3,964	-	-	594	793	1,387	793	793	793	198	-	2,577	
Pump Station Rehab - Construction	75584_7527	Jul-29	Jun-31	16,010	-	16,010	-	-	-	-	-	-	6,003	8,005	2,002	-	16,010	
Pump Station Rehab - REI	75585_7720	Jul-29	Jun-31	1,508	-	1,508	-	-	-	-	-	-	566	754	188	-	1,508	
706 NHS-Connecting Mains from Section 91		**completed project**		**2,360**	**2,360**	**-**												
708 Northern Extra High Service (NEH) - New Pipelines				**81,311**	**16,182**	**65,129**	**3,978**	**11,206**	**16,476**	**16,021**	**46,815**	**8,738**	**5,360**	**3,350**	**-**	**-**	**17,448**	
Design/CA/RI	67970_5242	Sep-94	Jun-01	588	588	-	-	-	-	-	-	-	-	-	-	-	-	
Construction	67972_6340	Aug-99	Sep-01	3,032	3,032	-	-	-	-	-	-	-	-	-	-	-	-	
CP-1 NEH Improvements	68162_6522	Mar-22	Jun-24	10,469	8,779	1,691	1,688	-	-	3	175	-	-	-	-	-	-	
Public Participation	68176_6554	Jul-15	Nov-28	5	-	5	-	1	1	1	4	1	-	-	-	-	1	
Legal	68177_6555	Jul-15	Nov-28	1,200	-	1,200	1,182	5	5	5	1,196	4	-	-	-	-	4	
Technical Assistance	68210_6707	Nov-10	Nov-28	8	8	-	-	-	-	-	-	-	-	-	-	-	-	
PLC Equipment Purchases	68215_6749	Dec-99	Dec-00	4	4	-	-	-	-	-	-	-	-	-	-	-	-	
Permits	68281_7050	Nov-10	Nov-28	9	6	2	-	1	1	1	1	1	-	-	-	-	1	
NEH Improvements- Design ESDC	75528_7404	Feb-21	Nov-28	7,584	3,579	4,005	959	1,000	1,000	674	4,272	372	-	-	-	-	372	
NEH Improvements CP-1 - REI	75595_7724	Apr-22	Nov-27	865	185	680	148	200	200	132	692	-	-	-	-	-	-	
CP-2 NEH Improvements	75596_7725	Apr-25	Jul-28	26,846	-	26,846	-	10,000	10,000	6,846	26,846	-	-	-	-	-	-	
CP-3 NEH Improvements	75680_7910	Jun-26	Aug-30	29,200	-	29,200	-	-	5,000	8,000	13,000	8,000	5,000	3,200	-	-	16,200	
CP-3 NEH Improvements - REI	75682_8005	Jun-26	Aug-30	1,500	-	1,500	-	-	270	360	630	360	360	150	-	-	870	
712 Cathodic Protection of Distribution Mains				**6,718**	**1,160**	**5,558**	**-**	**1,359**	**2,300**	**1,899**	**5,558**							
Planning Phase I	68002_6058	Apr-95	Dec-97	108	108	-	-	-	-	-	-							
Cathodic Protection Testing and Evaluation Program	68129_6438	Aug-15	Aug-17	129	129	-	-	-	-	-	-							
Cathodic Protection Shaft E, N & W Improvements - Construction	68130_6439	Oct-25	Apr-28	5,558	-	5,558	-	1,359	2,300	1,899	5,558							
Cathodic Protection Shafts E & L - Construction	68131_6440	Jan-19	Aug-19	891	891	-	-	-	-	-	-							
Technical Assistance	68216_6751	Jan-00	May-09	33	33	-	-	-	-	-	-							
713 Spot Pond Supply Mains Rehabilitation				**66,805**	**65,675**	**1,130**	**230**	**-**	**-**	**-**	**233**	**500**	**400**	**-**	**-**	**-**	**900**	
Section 4 Webster Ave. Bridge Pipe Rehab - Design	60114_7334	Oct-13	Mar-17	642	642	-	-	-	-	-	-	-	-	-	-	-	-	
Section 4 Webster Ave. Bridge Pipe Rehab - Construction	60115_7335	May-15	Dec-16	3,792	3,792	-	-	-	-	-	-	-	-	-	-	-	-	
Walnut Street Bridge Truss - Construction	60145_7483	Feb-22	Jan-25	407	178	229	229	-	-	-	229	-	-	-	-	-	-	
Walnut Street Bridge Truss Repair	60146_7787	May-28	Oct-29	900	-	900	-	-	-	-	-	500	400	-	-	-	900	
Preliminary Design & Design/CA/RI	68038_6223	Sep-98	Oct-08	10,869	10,869	-	-	-	-	-	-	-	-	-	-	-	-	
Easements & Paving - CP1	68059_6316	May-00	Mar-02	143	143	-	-	-	-	-	-	-	-	-	-	-	-	
North (Medford/Melrose) - Construction CP1	68060_6317	May-00	Jan-02	6,597	6,597	-	-	-	-	-	-	-	-	-	-	-	-	
Easements - CP2	68106_6379	May-02	Jun-06	50	50	-	-	-	-	-	-	-	-	-	-	-	-	
Easements - CP3	68107_6380	Apr-04	Nov-07	80	80	-	-	-	-	-	-	-	-	-	-	-	-	
Middle (Medford/Somerville) - Construction CP1	68108_6381	Jun-02	Jul-06	22,177	22,177	-	-	-	-	-	-	-	-	-	-	-	-	
South (Cambridge/Boston) CA/RI Construction – CP3	68109_6382	Oct-04	Apr-08	17,590	17,590	-	-	-	-	-	-	-	-	-	-	-	-	
Early Valve Replacement Contract	68150_6475	Sep-98	Jan-00	2,387	2,387	-	-	-	-	-	-	-	-	-	-	-	-	
Easements - CP4	68151_6476	Sep-06	May-09	1	1	-	-	-	-	-	-	-	-	-	-	-	-	
Early Valve Equipment Purchase	68153_6483	May-98	Nov-01	161	161	-	-	-	-	-	-	-	-	-	-	-	-	
Easements - CP5	68225_6784	Jul-14	Jun-20	84	83	1	1	-	-	-	4	-	-	-	-	-	-	
CA/RI - CP3	68274_7003	Sep-04	Apr-09	925	925	-	-	-	-	-	-	-	-	-	-	-	-	

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714 Southern Extra High Sections 41 & 42 Total		**completed project**		**3,657**	**3,657**	**-**												
719 Chestnut Hill Connecting Mains				**59,475**	**18,287**	**41,188**						**-**	**855**	**855**	**10,748**	**10,748**	**23,205**	**17,983**
Pump Station Potable Connection - Design/CA/RI	68026_6141	Mar-00	Dec-04	1,360	1,360	-						-	-	-	-	-	-	-
Preliminary Engineering	68051_6301	Jan-05	Apr-06	457	457	-						-	-	-	-	-	-	-
Easements	68053_6303	Apr-03	Dec-07	81	81	-						-	-	-	-	-	-	-
Emergency Pump Relocation - Construction	68155_6501	Feb-99	Mar-01	6,502	6,502	-						-	-	-	-	-	-	-
Emergency Pump Relocation - Design/CA/RI	68157_6503	May-98	May-01	1,121	1,121	-						-	-	-	-	-	-	-
Boston Paving	68180_6558	Jul-99	Dec-07	133	133	-						-	-	-	-	-	-	-
Legal	68182_6560	Jul-99	Jun-08	1	1	-						-	-	-	-	-	-	-
BECo Emergency Pump Construction	68199_6623	Sep-99	Jun-00	431	431	-						-	-	-	-	-	-	-
Pump Station Potable Connection - Construction	68203_6651	Apr-02	Dec-03	7,132	7,132	-						-	-	-	-	-	-	-
Equipment Pre-purchase	68230_6814	Apr-01	Oct-01	154	154	-						-	-	-	-	-	-	-
Demolition of Garages	68231_6820	Feb-02	May-02	72	72	-						-	-	-	-	-	-	-
Utilities	68244_6869	Jun-02	Aug-02	44	44	-						-	-	-	-	-	-	-
Chestnut Hill Final Connections - Construction	68267_6982	Jul-31	Dec-33	30,948	-	30,948						-	-	-	9,071	9,071	18,142	12,806
Chestnut Hill Final Connections - Design/ESDC	68268_6995	Jul-29	Dec-34	6,917	-	6,917						-	855	855	855	855	3,420	3,497
Chestnut Hill Gatehouse No.1 Repairs - Construction	75521_7382	Nov-17	Apr-18	800	800	-						-	-	-	-	-	-	-
Chestnut Hill Final Connections - REI	75591_7705	Jul-31	Dec-33	3,324	-	3,324						-	-	-	822	822	1,643	1,680
720 Warren Cottage Line Rehabilitation		**completed project**		**1,205**	**1,205**	**-**												
721 Southern Spine Distribution Mains				**127,034**	**38,715**	**88,318**	**-**	**1**	**314**	**312**	**681**	**13,971**	**14,372**	**23,362**	**17,941**	**14,147**	**83,794**	**3,898**
Sections 21, 43 & 22 - Design	68083_6290	Sep-00	May-13	7,115	7,115	-	-	-	-	-	-	-	-	-	-	-	-	-
Sections 21, 43 & 22 - Easements	68084_6291	Mar-02	May-12	107	107	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 22 South - Construction	68085_6292	Jul-03	Jun-05	4,993	4,993	-	-	-	-	-	-	-	-	-	-	-	-	-
Sections 20 & 58 - Design/ESDC	68089_6296	Jul-28	Jun-33	7,314	-	7,314	-	-	-	-	-	728	1,120	1,120	1,120	864	4,952	2,362
Sections 20 & 58 - Easements	68090_6297	Jul-28	Jun-33	35	-	35	-	-	-	-	-	3	10	10	11	-	35	-
Sections 20 & 58 - Construction	68091_6298	Jul-30	Jul-32	37,155	-	37,155	-	-	-	-	-	-	-	8,551	15,913	12,691	37,155	-
Adams Street Bridge	68122_6396	Jul-98	Dec-99	154	154	-	-	-	-	-	-	-	-	-	-	-	-	-
Southern High Public Participation	68193_6601	Oct-98	May-99	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-
Southern High Extension Study	68194_6602	Sep-98	May-99	242	242	-	-	-	-	-	-	-	-	-	-	-	-	-
Boston Paving	68228_6787			3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 22, CP1 - Construction	68235_6844	Jul-28	Jul-31	36,188	-	36,188	-	-	-	-	-	12,062	12,063	12,063	-	-	36,188	-
Section 107 Phase 1 - Construction	68236_6845	Jul-07	Jan-09	6,184	6,184	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal	68237_6846	May-04	May-27	5	2	3	-	1	2	-	3	-	-	-	-	-	-	-
Technical Assistance	68238_6847	Feb-04	Oct-05	28	28	-	-	-	-	-	-	-	-	-	-	-	-	-
Contract 1A - Construction	68247_6885	Nov-03	Jun-05	2,859	2,859	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 107 Phase 2 - Construction	68290_7099	Jan-10	Jan-12	14,847	14,847	-	-	-	-	-	-	-	-	-	-	-	-	-
Milton Pressure Regulator Valve	68291_7104	Jun-06	Nov-06	135	135	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 22 - Design/ESDC	68298_7120	Jul-26	Jul-36	3,120	-	3,120	-	-	312	312	624	312	312	312	312	312	1,560	936
Section 22 Rehab Alternative Analysis & Environmental Permitting	68299_7155	Sep-19	Sep-23	2,031	2,031	-	-	-	-	-	54	-	-	-	-	-	-	-
Section 22, CP1 - REI	68415_7723	Jul-28	Jul-31	2,600	-	2,600	-	-	-	-	-	866	867	867	-	-	2,600	-
Sections 20 & 58 - REI	68417_8009	Jul-30	Jul-32	1,303	-	1,303	-	-	-	-	-	-	-	439	585	279	1,303	-
Section 22-Neponset River Crossing - Design/ESDC	68420_8104	Feb-42	Feb-45	100	-	100	-	-	-	-	-	-	-	-	-	-	-	100
Section 22-Neponset River Crossing - Inspection	68421_8105	Feb-43	Feb-45	500	-	500	-	-	-	-	-	-	-	-	-	-	-	500

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722 Northern Intermediate High (NIH) Redundancy & Storage				**158,657**	**101,819**	**56,839**	**9,430**	**5,817**	**1,347**	**1,545**	**26,380**	**17,095**	**16,532**	**5,073**	**-**	**-**	**38,700**	
Concept Plan	53454_6954	Feb-06	Aug-10	797	797	-	-	-	-	-	-	-	-	-	-	-	-	
Easements	68093_6306	Jul-17	Jun-20	508	508	-	-	-	-	-	38	-	-	-	-	-	-	
Section 89 & 29 Redundancy - Design	68252_6906	Mar-11	Dec-20	6,311	6,311	-	-	-	-	-	-	-	-	-	-	-	-	
Purchase Mobile Pump Unit	68276_7026	Jul-09	Jan-10	291	291	-	-	-	-	-	-	-	-	-	-	-	-	
Short Term Improvements - Design/CA/RI	68277_7045	Sep-09	May-15	821	821	-	-	-	-	-	-	-	-	-	-	-	-	
Permits	68278_7047	Jan-10	Jan-28	5	1	4	1	1	1	1	4	-	-	-	-	-	-	
Technical Assistance	68279_7048	Jan-10	Jan-28	18	-	18	3	6	5	4	18	-	-	-	-	-	-	
West Street Section 110 Woburn/Reading, Phase1A - Construction	68282_7066	Jun-14	May-15	1,910	1,910	-	-	-	-	-	-	-	-	-	-	-	-	
Section 89 & 29 Redundancy Phase 2, Stoneham Section 110 - Construction	68283_7067	Sep-17	Jun-20	25,262	25,262	-	-	-	-	-	-	-	-	-	-	-	-	
NIH Storage - Construction	68284_7068	May-28	May-30	35,084	-	35,084	-	-	-	-	-	15,006	15,006	5,073	-	-	35,084	
Section 89 & 29 Replacement - Design/ESDC	68294_7116	Apr-18	Jun-26	4,392	3,787	604	318	286	-	-	907	-	-	-	-	-	-	
Section 89 & 29 Replacement - Construction	68295_7117	Aug-21	Aug-25	36,573	25,071	11,502	8,319	3,184	-	-	19,002	-	-	-	-	-	-	
Gillis Pump Station Improvements	68309_7260	Jul-13	Dec-14	2,093	2,093	-	-	-	-	-	-	-	-	-	-	-	-	
Reading/Stoneham Interconnections	68310_7261	Aug-11	Oct-12	3,467	3,467	-	-	-	-	-	-	-	-	-	-	-	-	
NIH Storage - Design/CA/RI	68316_7311	May-25	May-31	7,737	-	7,737	-	2,340	1,340	1,340	5,021	1,540	1,176	-	-	-	2,716	
Section 89 & 29 Redundancy Phase 1B - Constrution	68317_7471	Jan-16	May-18	12,375	12,375	-	-	-	-	-	-	-	-	-	-	-	-	
Section 89 & 29 Redundancy Phase 1C - Construction	68318_7478	Jan-17	Sep-18	18,280	18,280	-	-	-	-	-	-	-	-	-	-	-	-	
Reading Reimbursement	68319_7590	Jun-17	Sep-17	(62)	(62)	-	-	-	-	-	-	-	-	-	-	-	-	
Section 89 & 29 Replacement - RE/RI Services	68320_7633	Jun-21	Jun-25	1,698	908	790	790	-	-	-	1,191	-	-	-	-	-	-	
NIH Storage - RE/RI	68322_8077	Mar-28	Mar-30	1,100	-	1,100	-	-	-	200	200	550	350	-	-	-	900	
723 Northern Low Service Rehabilitation - Section 8				**68,982**	**5,557**	**63,425**	**4**	**13**	**13**	**12**	**52**	**1,919**	**1,919**	**34,480**	**22,376**	**2,691**	**63,384**	
Easements	68094_6321	Jul-15	Jul-32	80	21	59	3	8	8	8	27	8	8	6	6	5	33	
Section 8 & 57 Construction	68095_6322	Jul-30	Jul-32	37,263	-	37,263	-	-	-	-	-	-	-	23,103	13,415	745	37,263	
Rehab Sections 37 and 46 Chelsea, East Boston - Construction	68262_6962	Jul-30	Jul-32	6,500	-	6,500	-	-	-	-	-	-	-	3,000	3,250	250	6,500	
Permits	68263_6977	Jul-05	Jul-27	299	285	14	1	5	5	4	14	-	-	-	-	-	-	
Technical Assistance	68264_6979	Jul-05	Jul-17	44	44	-	-	-	-	-	-	-	-	-	-	-	-	
Section 97A - Construction	68275_7021	Oct-08	Oct-09	1,992	1,992	-	-	-	-	-	-	-	-	-	-	-	-	
Section 8 & 57 - Design/CA	68287_7092	Jul-28	Jun-33	6,912	-	6,912	-	-	-	-	-	1,590	1,590	1,244	1,244	1,244	6,912	
Rehab Sections 37 and 46 Chelsea, East Boston - Design/CA/RI	75529_7405	Jul-28	Jun-33	1,395	-	1,395	-	-	-	-	-	321	321	321	321	112	1,395	
Sections 50 & 57 Water Rehab - Design/ESDC	75610_7540	Jul-17	May-22	3,215	3,215	-	-	-	-	-	11	-	-	-	-	-	-	
Sections 50 & 57 Water Rehab - Construction	75611_7541	Jul-30	Dec-31	8,000	-	8,000	-	-	-	-	-	-	-	5,500	2,500	-	8,000	
Rehab Sections 37 and 46 Chelsea, East Boston - REI	75613_7718	Jul-30	Jul-32	1,610	-	1,610	-	-	-	-	-	-	-	805	805	-	1,610	
Section 8 & 57 - REI	75614_7719	Jul-30	Jul-32	1,670	-	1,670	-	-	-	-	-	-	-	500	835	335	1,670	
725 Hydraulic Model Update Total		**completed project**		**598**	**598**	**-**												
727 Southern Extra High (SEH) Redundancy & Storage				**176,133**	**65,077**	**111,055**	**62**	**73**	**72**	**1,310**	**1,572**	**424**	**895**	**7,053**	**9,619**	**13,860**	**31,849**	**77,690**
Concept Plan/Preliminary Design/Environmental Review	53397_6452	Feb-07	Feb-14	633	633	-	-	-	-	-	-	-	-	-	-	-	-	-
Redundancy Pipeline Phase 1 - Design/CA/RI	53398_6453	Feb-14	Aug-21	7,066	7,066	-	-	-	-	-	-	-	-	-	-	-	-	-
Redundancy Pipeline Section III Phase 1 - Construction	53399_6454	Jul-16	Sep-18	12,567	12,567	-	-	-	-	-	-	-	-	-	-	-	-	-
Redundancy/Storage Phase 2 - Final Design/CA/RI	68135_6444	Jul-29	Jun-35	7,184	-	7,184	-	-	-	-	-	-	471	1,783	1,781	1,782	5,817	1,367
University Avenue Water Main	68136_6445	Mar-08	Nov-08	6,137	6,137	-	-	-	-	-	-	-	-	-	-	-	-	-
Sections 77 & 88 Rehab -Design/ESDIC	68292_7112	Jul-28	Jul-34	2,961	-	2,961	-	-	-	-	-	424	424	424	424	1,266	2,961	-

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Sections 77 & 88 Rehab - Construction	68293_7113	Jul-30	Jul-32	13,213	-	13,213	-	-	-	-	-	-	-	3,780	3,780	3,391	10,952	2,261
Easements/Agreements	68305_7226	Jul-14	Jul-27	300	67	233	42	50	38	104	288	-	-	-	-	-	-	-
Permits/Utilities	68306_7227	Aug-08	Jul-27	300	16	284	20	23	35	206	284	-	-	-	-	-	-	-
Redundancy/Storage Phase 2 - Construction	68308_7245	Jul-35	Jun-37	55,403	-	55,403	-	-	-	-	-	-	-	-	-	-	-	55,403
Phase 3, 2nd Tank - Construction	68311_7262	Jan-33	Dec-35	19,512	-	19,512	-	-	-	-	-	-	-	-	-	6,000	6,000	13,512
Phase 3, 2nd Tank - Design	68312_7263	Jan-31	Dec-36	3,902	-	3,902	-	-	-	-	-	-	-	320	3,390	60	3,770	132
Redundancy Pipeline Section 111 Phase 2 - Construction	68555_7504	Oct-17	Feb-20	18,536	18,536	-	-	-	-	-	-	-	-	-	-	-	-	-
Redundancy Pipeline Section 111 Phase 3 - Construction	68556_7505	Aug-18	May-21	20,054	20,054	-	-	-	-	-	-	-	-	-	-	-	-	-
Sectionss 77 & 88 - REI	68557_7706	Jul-30	Dec-32	2,606	-	2,606	-	-	-	-	-	-	-	746	243	985	1,974	632
Redundancy/Storage Phase 2 - REI	68558_8010	Jul-35	Jun-37	3,519	-	3,519	-	-	-	-	-	-	-	-	-	-	-	3,519
Phase 3, Second Storage Tank - REI	68559_8011	Jan-33	Dec-35	1,239	-	1,239	-	-	-	-	-	-	-	-	-	375	375	864
Redundancy/Storage Phase 2 - Study	68560_8029	Jul-27	Jun-28	1,000	-	1,000	-	-	-	1,000	1,000	-	-	-	-	-	-	-
730 Weston Aqueduct Supply Mains (WASM)		**completed project**		**80,403**	**80,403**	**-**												
731 Lynnfield Pipeline		**completed project**		**5,626**	**5,626**	**-**												
732 Walnut St. & Fisher Hill Pipeline Rehabilitation Total		**completed project**		**2,717**	**2,717**	**-**												
735 Section 80 Rehabilitation				**30,201**	**1,925**	**28,276**	**1**	**2**	**560**	**784**	**1,347**	**3,056**	**3,211**	**5,410**	**3,497**	**11,756**	**26,929**	
Section 80 Rehab - Construction	68249_6891	Jul-28	Jul-31	23,576	-	23,576	-	-	-	-	-	2,346	2,346	4,546	3,080	11,258	23,576	
Section 80 Rehab - Design/CA	68250_6892	Jul-26	Jul-32	3,723	-	3,723	-	-	554	784	1,338	554	554	554	233	488	2,385	
Section 80 Replacement - Construction	68410_7532	Dec-16	Jun-18	1,908	1,908	-	-	-	-	-	-	-	-	-	-	-	-	
Permits	68411_7533	Oct-16	Jun-24	25	17	9	1	2	5	-	9	-	-	-	-	-	-	
Section 80 Rehab - REI	68412_7675	Jul-28	Jul-31	969	-	969	-	-	-	-	-	155	310	310	184	10	969	
Other Waterworks				**262,461**	**273,881**	**(11,420)**	**39,691**	**49,637**	**33,793**	**25,999**	**180,897**	**20,840**	**28,665**	**6,757**	**7,046**	**482**	**63,790**	**(224,329)**
753 Central Monitoring System				**46,709**	**37,619**	**9,090**	**3,249**	**1,144**	**1,941**	**919**	**11,767**	**919**	**919**	**-**	**-**	**-**	**1,837**	
Study	75300_5025	Mar-84	Sep-86	190	190	-	-	-	-	-	-	-	-	-	-	-	-	
Design	75301_5026	Oct-87	Jan-92	2,651	2,651	-	-	-	-	-	-	-	-	-	-	-	-	
Equipment Prepurchase	75302_5027	Oct-87	Dec-93	2,162	2,162	-	-	-	-	-	-	-	-	-	-	-	-	
SCADA Implementation	75303_5028	Aug-96	Mar-17	2,035	2,035	-	-	-	-	-	-	-	-	-	-	-	-	
Communications Structures	75304_5160	Nov-92	May-93	161	161	-	-	-	-	-	-	-	-	-	-	-	-	
Construction & Start-up Services	75305_5173	Jul-92	Aug-98	352	352	-	-	-	-	-	-	-	-	-	-	-	-	
Construction 1	75306_5171	Nov-97	Nov-98	209	209	-	-	-	-	-	-	-	-	-	-	-	-	
Operations Center - Construction	75308_5849	Sep-92	Jun-94	1,499	1,499	-	-	-	-	-	-	-	-	-	-	-	-	
Technical Assistance	75309_5987	Jul-92	Dec-97	386	386	-	-	-	-	-	-	-	-	-	-	-	-	
Waterworks SCADA/PLC Upgrades	75310_5218	Oct-16	Oct-31	189	189	-	-	-	-	-	-	-	-	-	-	-	-	
Microwave Equipment	75474_6125	Mar-96	Dec-01	782	782	-	-	-	-	-	-	-	-	-	-	-	-	
Microwave Communication System-Wide Backbone	75488_6653	Sep-01	Jun-02	1,694	1,694	-	-	-	-	-	-	-	-	-	-	-	-	
Monitoring & Control - Study & Design	75489_6654	Dec-99	Sep-04	1,808	1,808	-	-	-	-	-	-	-	-	-	-	-	-	
Microwave Communication for Waterworks Facilities	75494_6816	Sep-02	Jul-04	1,957	1,957	-	-	-	-	-	-	-	-	-	-	-	-	
Ludlow Communications	75495_6825	Sep-01	Oct-01	41	41	-	-	-	-	-	-	-	-	-	-	-	-	
Quabbin Power, Communication & Security - Construction	75512_7338	Feb-16	Apr-17	3,512	3,512	-	-	-	-	-	-	-	-	-	-	-	-	
Quabbin Power, Communication & Security - Design	75540_7461	Sep-14	Sep-18	799	799	-	-	-	-	-	-	-	-	-	-	-	-	

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Utility Fees and Permits	75541_7475	Jul-14	Dec-17	230	230	-	-	-	-	-	-	-	-	-	-	-	-	
CWTP SCADA Upgrades - Design Programming RE	75630_7581	Jan-19	Apr-27	8,567	4,909	3,658	1,876	759	1,023	-	4,736	-	-	-	-	-	-	
CWTP SCADA Upgrades - Construction	75631_7582	Sep-21	Apr-26	13,812	12,054	1,758	1,373	385	-	-	5,195	-	-	-	-	-	-	
Other Design and Progaming Services	75632_7583	Jul-26	Oct-29	2,880	-	2,880	-	-	720	720	1,440	720	720	-	-	-	1,440	
Other Equipment/Hardware	75634_7585	Oct-26	Oct-29	794	-	794	-	-	199	199	397	199	199	-	-	-	397	
763 Distribution Systems Facilities Mapping				**3,087**	**1,700**	**1,387**	**75**	**50**	**346**	**345**	**941**	**381**	**191**	**-**	**-**	**-**	**572**	
Planning and Design	75458_5162	Feb-95	Dec-98	936	936	-	-	-	-	-	-	-	-	-	-	-	-	
Data Purchase	75476_6152	Nov-95	Aug-96	100	100	-	-	-	-	-	-	-	-	-	-	-	-	
Records Development	75484_6525	Oct-27	Oct-29	763	-	763	-	-	-	191	191	381	191	-	-	-	572	
Update of Record Drawings	75600_7489	Jul-26	Jul-27	500	-	500	-	-	346	154	500	-	-	-	-	-	-	
Water System Hydraulic Model	75650_7613	Jul-21	Jul-25	788	664	125	75	50	-	-	250	-	-	-	-	-	-	
764 Local Water Infrastructure Rehabilitation		**completed project**		**7,488**	**7,488**	**-**												
765 Local Water System Assistance Program (LWSAP)				**38,459**	**210,672**	**(172,213)**	**34,026**	**32,785**	**18,900**	**16,900**	**128,811**	**6,750**	**11,844**	**(8,807)**	**(5,757)**	**(9,379)**	**(5,348)**	**(269,476)**
Community Loans	75485_6608	Aug-00	Jun-13	222,318	222,318	-	-	-	-	-	-	-	-	-	-	-	-	-
Community Repayment	75493_6759	Aug-01	Jun-23	(222,318)	(222,318)	-	-	-	-	-	(44)	-	-	-	-	-	-	-
Local Water System Assistance Loans	75513_7339	Aug-10	Jun-25	200,000	197,149	2,851	2,851	-	-	-	10,288	-	-	-	-	-	-	-
Local Water System Assistance Repayment	75514_7340	Aug-11	Jun-35	(200,000)	(137,706)	(62,294)	(10,709)	(11,801)	(10,200)	(8,200)	(56,499)	(6,000)	(4,100)	(3,557)	(2,857)	(2,357)	(18,871)	(2,514)
Chicopee Valley Aqueduct (CVA) Loans	75515_7350	Nov-10	Jun-20	10,000	8,691	1,309	1,309	-	-	-	1,309	-	-	-	-	-	-	-
CVA Repayments	75516_7351	Nov-11	Jun-30	(10,000)	(4,824)	(5,176)	(579)	(776)	(800)	(600)	(3,530)	(400)	(400)	(400)	(300)	(300)	(1,800)	(621)
Lead Service Line Replacement Loans	75517_7529	Aug-16	May-36	161,600	43,782	117,818	14,300	21,000	21,000	21,000	85,795	11,300	11,300	7,500	6,000	4,418	40,518	-
Lead Service Line Replacement Loan Repayments	75518_7530	Aug-17	May-46	(161,570)	(13,525)	(148,046)	(3,970)	(4,462)	(7,900)	(9,400)	(29,326)	(11,200)	(12,100)	(12,700)	(12,600)	(12,620)	(61,220)	(61,095)
LWSAP Phase 3 Distributions	75620_7567	Aug-17	May-26	278,000	142,569	135,431	34,100	30,000	20,000	15,000	135,378	15,000	21,331	-	-	-	36,331	-
LWSAP Phase 3 Repayments	75621_7568	Aug-18	May-36	(278,000)	(30,848)	(247,152)	(12,011)	(16,807)	(20,700)	(22,700)	(83,328)	(23,500)	(23,300)	(24,100)	(21,800)	(19,300)	(112,000)	(62,934)
LWSAP Phase 3 CVA Loans	75622_7588	Aug-17	May-26	14,000	5,686	8,314	1,500	1,500	1,500	1,500	11,156	1,300	1,014	-	-	-	2,314	-
LWSAP Phase 3 CVA Repayments	75623_7589	Aug-18	Aug-36	(14,000)	(303)	(13,697)	(566)	(569)	(900)	(1,000)	(3,087)	(1,100)	(1,200)	(1,400)	(1,400)	(1,400)	(6,500)	(4,163)
LWSAP Phase 4 Distributions	75625_8115	Aug-24	May-34	285,000	-	285,000	3,000	7,000	10,000	15,000	35,000	20,000	20,000	30,000	35,000	35,000	140,000	110,000
LWSAP Phase 4 Repayments	75626_8116	Aug-25	May-35	(285,000)	-	(285,000)	-	(300)	(1,000)	(2,000)	(3,300)	(3,500)	(5,500)	(7,500)	(10,500)	(14,000)	(41,000)	(240,700)
LWSAP Phase 4 CVA Distributions	75627_8123	Aug-25	May-36	15,000	-	15,000	-	1,000	1,000	1,500	3,500	1,500	1,500	1,500	1,500	1,500	7,500	4,000
LWSAP Phase 4 CVA Repayments	75628_8124	Aug-26	May-46	(15,000)	-	(15,000)	-	-	(100)	(200)	(300)	(350)	(500)	(650)	(800)	(950)	(3,250)	(11,450)
Lead Service Line Replacement Grants	75637_8126	Aug-24	Nov-32	38,430	-	38,430	4,800	7,000	7,000	7,000	25,800	3,700	3,800	2,500	2,000	630	12,630	-
766 Waterworks Facility Asset Protection				**166,718**	**16,402**	**150,316**	**2,341**	**15,658**	**12,605**	**7,836**	**39,378**	**12,790**	**15,712**	**15,563**	**12,803**	**9,861**	**66,728**	**45,147**
Steel Tank Improvements Design/CA	75497_6832	Jan-21	Oct-25	2,931	1,336	1,595	465	1,129	-	-	1,740	-	-	-	-	-	-	-
Gillis Pump Staion/Cottage Farm CSO Facility Roof Replacements	75500_6888	Jul-19	Jul-20	562	562	-	-	-	-	-	-	-	-	-	-	-	-	-
Waltham Bridge Pipe Replacement	75501_6910	Mar-04	Sep-04	238	238	-	-	-	-	-	-	-	-	-	-	-	-	-
Permits and Legal Fees	75502_6920	Mar-04	Jun-23	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-
Technical Assistance	75503_6921			15	15	-	-	-	-	-	6	-	-	-	-	-	-	-
Cosgrove Intake Roof Replacement	75505_7022	Nov-18	Sep-19	1,011	1,011	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator Docking Station - REI	75507_7024	Jul-19	May-20	164	164	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator Docking Station - Construction	75508_7025	Apr-19	Apr-20	1,037	1,037	-	-	-	-	-	-	-	-	-	-	-	-	-
Cosgrove Valve Replacement - Construction	75509_7064	Jul-30	Jul-31	2,816	-	2,816	-	-	-	-	-	-	-	1,468	1,348	-	2,816	-
Cosgrove Valve Replacement - Design	75510_7065	Jul-29	Jul-32	324	-	324	-	-	-	-	-	-	143	95	67	19	324	-
Transformer at Cosgrove Intake Building	75511_7228	Jun-11	Jul-12	299	299	-	-	-	-	-	-	-	-	-	-	-	-	-

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Fells & Loring Road Tanks Rehab - Design/CA	75524_7385	Jul-25	Jul-30	1,000	-	1,000	-	90	153	200	443	200	357	-	-	-	557	-
Southborough Headquarters Electrical System Upgrades	75535_7425	Jun-22	Mar-24	2,820	2,819	-	-	-	-	-	714	-	-	-	-	-	-	-
Beacon Street Line Repair - Construction	75537_7458	Jun-16	Apr-17	1,441	1,441	-	-	-	-	-	-	-	-	-	-	-	-	-
Beacon Street Line Repair - Design/CA/RI	75538_7474	Nov-14	Dec-17	394	394	-	-	-	-	-	-	-	-	-	-	-	-	-
Meter Vault Manhole Retrofits - Construction	75550_7479	Jul-30	Jul-32	2,760	-	2,760	-	-	-	-	-	-	-	1,014	1,745	-	2,760	-
Fells & Loring Road Tanks Rehab - Construction	75553_7482	Jul-27	Jul-29	4,000	-	4,000	-	-	-	1,920	1,920	2,080	-	-	-	-	2,080	-
Water Meter Upgrade Replacement and Meter Vault Manhole Retrofit Design/CA Ph1	75554_7542	Jul-28	Jul-33	1,000	-	1,000	-	-	-	-	-	75	225	225	225	225	975	25
Painting DI Water Tank	75555_7601	Mar-19	Nov-19	2,440	2,440	-	-	-	-	-	-	-	-	-	-	-	-	-
New Roofs at Water Pump Stations - Construction	75556_7626	Dec-21	Jan-23	691	691	-	-	-	-	-	71	-	-	-	-	-	-	-
Paint Bellevue II TH Tanks	75559_7634	Aug-18	Sep-19	3,944	3,944	-	-	-	-	-	-	-	-	-	-	-	-	-
Steel Tanks Impr REI	75560_7676	Jul-25	Aug-26	1,125	-	1,125	-	965	160	-	1,125	-	-	-	-	-	-	-
Masonry/Struct Repairs Bell 1/Arl Hghts	75575_7694	Jul-28	Jan-31	22,300	-	22,300	-	-	-	-	-	5,000	10,000	7,300	-	-	22,300	-
Water Meter/Vault Mhle PH1 REI	75652_7707	Jul-30	Jul-32	1,500	-	1,500	-	-	-	-	-	-	-	500	500	500	1,500	-
Water Meter/Vault Mhle PH2 Design	75653_7708	Jul-29	Jul-34	1,000	-	1,000	-	-	-	-	-	-	300	300	300	100	1,000	-
Water Meter/Vault Mhle CP-2 Constr	75654_7709	Jul-31	Jun-33	3,000	-	3,000	-	-	-	-	-	-	-	-	1,500	1,500	3,000	-
Water Meter/Vault Mhle Ph2 REI	75655_7710	Jul-31	Jun-33	1,500	-	1,500	-	-	-	-	-	-	-	-	750	750	1,500	-
WtrTnk Mas/Strct.Con Ass/Eval	75656_7711	Sep-27	Jun-31	1,500	-	1,500	-	-	-	200	200	500	400	400	-	-	1,300	-
Masonry/Structural Repairs REI	75657_7712	Jul-27	Jan-30	1,875	-	1,875	-	-	-	323	323	776	776	-	-	-	1,552	-
Steel Tank Improv Constr Ph2	75658_7727	Mar-26	Mar-28	11,230	-	11,230	-	1,872	5,615	3,743	11,230	-	-	-	-	-	-	-
Steel Tank Improv REI Ph2	75659_7728	Mar-26	Mar-28	750	-	750	-	125	375	250	750	-	-	-	-	-	-	-
Beacon St Line Des/ESDC/REI	75660_7729	Jul-28	Jul-33	4,922	-	4,922	-	-	-	-	-	1,784	1,544	1,544	50	-	4,922	-
Beacon St Line Constr	75661_7730	Jul-31	Jul-32	9,600	-	9,600	-	-	-	-	-	-	-	-	3,600	4,800	8,400	1,200
Cosgrove Tunnel Rehab Des/ESDC	75663_7738	Jul-28	Jul-33	10,000	-	10,000	-	-	-	-	-	1,475	1,967	1,967	1,967	1,967	9,343	657
Paint Ph1 Des/ESDC Bell2/DI/TH	75664_7739	Jul-34	Jul-39	1,165	-	1,165	-	-	-	-	-	-	-	-	-	-	-	1,165
Paint Ph1 Constr Bell2/TH	75665_7740	Jul-36	Jul-38	6,325	-	6,325	-	-	-	-	-	-	-	-	-	-	-	6,325
Paint Tanks Ph1 REI	75666_7741	Jul-36	Jul-38	2,396	-	2,396	-	-	-	-	-	-	-	-	-	-	-	2,396
Paint Ph2 Des/ESDC Bel1/PC/WH	75667_7742	Jul-37	Jul-42	5,111	-	5,111	-	-	-	-	-	-	-	-	-	-	-	5,111
Paint Ph 2 Const Bell 1/PC/WH	75668_7743	Jul-39	Jul-41	21,721	-	21,721	-	-	-	-	-	-	-	-	-	-	-	21,721
Paint Tanks Ph 2 REI	75669_7744	Jul-39	Jul-41	2,396	-	2,396	-	-	-	-	-	-	-	-	-	-	-	2,396
Water Tank Paint Ph1 DI Constr	75670_7748	Jul-36	Jul-38	4,152	-	4,152	-	-	-	-	-	-	-	-	-	-	-	4,152
Roofs Gillis/Bratt/Newt REI	75676_7900	Jun-25	Jun-26	1,700	-	1,700	-	850	850	-	1,700	-	-	-	-	-	-	-
Roofs Gillis/Bratt/Newt Constr	75677_7901	Jun-25	Jun-26	5,605	-	5,605	-	2,803	2,802	-	5,605	-	-	-	-	-	-	-
Brutsch T.P. Sodium Hypo Upgr.	75686_8021	Sep-26	Sep-27	1,000	-	1,000	-	-	700	300	1,000	-	-	-	-	-	-	-
Csgrov Tun Rehab Inspction	75687_8030	Apr-26	Oct-26	1,000	-	1,000	-	250	750	-	1,000	-	-	-	-	-	-	-
Fells/Loring RD Tanks Rehab REI	75688_8085	Jul-27	Jul-29	1,800	-	1,800	-	-	-	900	900	900	-	-	-	-	900	-
Pipe Bridge Insp./Struct. Anal.	75689_8137	Jul-25	Jul-27	900	-	900	-	450	450	-	900	-	-	-	-	-	-	-
Phase 6 Commonwealth Ave., Brattle Court, Hyde Park Fuel Tank Replacements	75690_8182	Jul-30	Dec-31	1,500	-	1,500	-	-	-	-	-	-	-	750	750	-	1,500	-
Southboro Paving	75691_8183	May-26	Jun-26	1,000	-	1,000	-	250	750	-	1,000	-	-	-	-	-	-	-
Steel Tank/Impr Constr	77552_7493	Apr-25	May-26	8,749	-	8,749	1,875	6,874	-	-	8,749	-	-	-	-	-	-	-
Business & Operations Support				**234,307**	**150,004**	**84,304**	**12,771**	**31,804**	**23,219**	**12,589**	**89,665**	**2,757**	**1,033**	**-**	**-**	**-**	**3,790**	**130**
881 Equipment Purchase				**43,099**	**27,343**	**15,756**	**3,297**	**4,441**	**4,225**	**3,263**	**15,604**	**-**	**400**	**-**	**-**	**-**	**400**	**130**
Contaminant Monitoring Equip	88108_7631	Sep-21	Feb-27	1,884	849	1,035	-	140	365	-	857	-	400	-	-	-	400	130

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Security Equipment & Installation	92374_6760	Jan-01	Jun-24	15,534	10,355	5,179	1,270	1,889	1,395	625	5,204	-	-	-	-	-	-	-
ICP-MS Lab Testing Equipment	92379_6808	Oct-08	Dec-08	117	117	-	-	-	-	-	-	-	-	-	-	-	-	-
High Lift Fork Loader (Lull)	92411_7239	Oct-10	Dec-10	121	121	-	-	-	-	-	-	-	-	-	-	-	-	-
Ford Ramp Truck	92416_7246	Apr-10	Jun-10	122	122	-	-	-	-	-	-	-	-	-	-	-	-	-
Street Sweeper	92417_7247	Jul-09	Sep-09	182	182	-	-	-	-	-	-	-	-	-	-	-	-	-
Prior Vehicle Purchases	98454_7306	Jul-00	Jun-10	2,415	2,415	-	-	-	-	-	-	-	-	-	-	-	-	-
FY11-13 Vehicle Purchases	98455_7307	Jul-09	Jun-13	2,361	2,361	-	-	-	-	-	-	-	-	-	-	-	-	-
FY14-18 Vehicle Purchases	98456_7308	Jul-13	Jun-18	6,671	6,671	-	-	-	-	-	-	-	-	-	-	-	-	-
FY19-23 Vehicle Purchases	98457_7309	Jul-18	Jun-23	3,081	3,081	-	-	-	-	-	-	-	-	-	-	-	-	-
FY14-18 Major Lab Instrumentation	98458_7310	Jun-16	Jun-18	639	639	-	-	-	-	-	-	-	-	-	-	-	-	-
Front-End Loader	98467_7325	Oct-10	Dec-10	121	121	-	-	-	-	-	-	-	-	-	-	-	-	-
Major Lab Instrumentation	98495_7632	Jul-18	Jun-28	1,000	308	692	294	163	48	188	692	-	-	-	-	-	-	-
FY24-28 Vehicle Purchases	98497_7695	Jul-23	Jun-28	8,850	-	8,850	1,733	2,250	2,417	2,450	8,850	-	-	-	-	-	-	-
925 Technical Assistance				**1,055**	**-**	**1,055**	**-**	**552**	**294**	**210**	**1,055**							
Land Appraisal	77000_LAND	925 Technical Assistance		300	-	300	-	300	-	-	300							
Hazardous Material	90000_HAZM	925 Technical Assistance		755	-	755	-	252	294	210	755							
930 MWRA Facility - Chelsea		**completed project**		**9,812**	**9,812**	**-**												
931 Business Systems Plan		**completed project**		**24,562**	**24,562**	**-**												
932 Environmental Remediation		**completed project**		**1,479**	**1,479**	**-**												
933 Capital Maintenance Planning & Development				**41,498**	**23,974**	**17,525**	**3,119**	**5,343**	**3,438**	**4,062**	**17,858**	**1,562**	**-**	**-**	**-**	**-**	**1,562**	
Inventory & Evaluation - 1 & 2	19175_6421	Apr-00	Jul-05	2,579	2,579	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 1	92387_6976	Mar-05	Sep-07	313	313	-	-	-	-	-	-	-	-	-	-	-	-	
As Needed Design Contract 2	92393_6988	Mar-05	Sep-07	318	318	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 5	92399_7070	Sep-08	Mar-11	558	558	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 3	92402_7101	Aug-07	Feb-10	579	579	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 4	92403_7102	Aug-07	Aug-09	247	247	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 6	92413_7242	Aug-08	Aug-10	704	704	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 7	92414_7243	Jan-10	Jul-12	980	980	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 8	92415_7244	Feb-10	Jun-13	1,044	1,044	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed CS/REI Contract 1	94491_7629	Sep-18	May-22	380	380	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 20	94495_7990	Jan-23	Jan-26	4,117	633	3,484	1,470	2,014	-	-	4,044	-	-	-	-	-	-	
As-Needed Design Contract 21	94496_7991	Dec-22	Dec-25	4,488	462	4,026	1,635	2,391	-	-	4,446	-	-	-	-	-	-	
As-Needed Des Contract 22	94497_8062	Dec-25	Dec-27	2,500	-	2,500	-	521	1,250	729	2,500	-	-	-	-	-	-	
As-Needed Des Contract 23	94498_8063	Dec-25	Dec-27	2,500	-	2,500	-	417	1,250	833	2,500	-	-	-	-	-	-	
As-Needed Des Contract 24	94499_8064	Jan-27	Jan-29	2,500	-	2,500	-	-	521	1,250	1,771	729	-	-	-	-	729	
As-Needed Des Contract 25	94500_8065	Dec-26	Dec-28	2,500	-	2,500	-	-	417	1,250	1,667	833	-	-	-	-	833	
As-Needed Design Contract 9	98470_7390	Jul-11	Jan-14	1,610	1,610	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 10	98471_7391	Aug-11	Feb-14	1,868	1,868	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 11	98473_7436	Feb-14	Aug-15	432	432	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 12	98474_7437	Jan-14	Jul-16	722	722	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 13	98485_7456	Feb-14	Aug-16	683	683	-	-	-	-	-	-	-	-	-	-	-	-	

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As-Needed Design Contract 14	98487_7496	Jun-16	Dec-18	921	921	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 15	98488_7497	Jun-16	Dec-18	1,207	1,207	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 16	98489_7498	Jun-18	Dec-20	1,742	1,742	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 17	98490_7604	Jun-18	Dec-21	1,796	1,796	-	-	-	-	-	-	-	-	-	-	-	-	
As-Needed Design Contract 18	98493_7691	Dec-20	Dec-23	2,323	2,309	15	15	-	-	-	551	-	-	-	-	-	-	
As-Needed Design Contract 19	98494_7692	Nov-20	Nov-23	1,889	1,889	-	-	-	-	-	379	-	-	-	-	-	-	
934 MWRA Facilities Management & Planning				**22,927**	**20,135**	**2,792**	**92**	**-**	**-**	**873**	**2,410**	**1,195**	**633**	**-**	**-**	**-**	**1,827**	
DI Admin Bldg Demo REI	92389_6983	Aug-27	Aug-29	700	-	700	-	-	-	233	233	235	233	-	-	-	467	
DI Admin Bldg Demo Const.	92390_6984	Aug-27	Aug-29	2,371	371	2,000	-	-	-	640	640	960	400	-	-	-	1,360	
Office Space Mods	92520_7980	Jul-22	Jun-23	19,857	19,765	92	92	-	-	-	1,537	-	-	-	-	-	-	
935 Alternative Energy Initiatives				**38,684**	**18,184**	**20,500**	**-**	**12,500**	**7,000**	**1,000**	**20,500**							
Deer Island Solar	19285_6974	Sep-07	May-08	904	904	-	-	-	-	-	-							
DI Wind	92428_6974C	Nov-08	Apr-10	4,063	4,063	-	-	-	-	-	-							
DI Solar Canopy Project	92430_7270	Oct-25	Oct-27	10,000	-	10,000	-	3,000	6,000	1,000	10,000							
Loring Road Hydro - Design	92432_6974E	Mar-08	Sep-09	2	2	-	-	-	-	-	-							
Technical Assistance - Solar	92439_7274	May-09	Nov-12	124	124	-	-	-	-	-	-							
Energy Advisory Consultant Services	92440_6974B	Jun-08	Jun-10	46	46	-	-	-	-	-	-							
Wind Power Feasibility Study	92441_OP67	Mar-07	Jun-10	346	346	-	-	-	-	-	-							
DI Photovoltaic System Phase 1 - Const.	92442_7292	Sep-09	Mar-10	1,119	1,119	-	-	-	-	-	-							
Technical Assistance-Energy Efficiency	92443_7274A	May-09	Nov-13	463	463	-	-	-	-	-	-							
Technical Assistance - Solar II	92444_7274B	May-09	Nov-12	348	348	-	-	-	-	-	-							
Tech Assistance - Emerging Technology	92445_7274C	May-09	Dec-13	101	101	-	-	-	-	-	-							
Technical Assistance - Wind	92446_7274D	May-09	May-13	460	460	-	-	-	-	-	-							
Charlestown Wind - Construction	98450_7302	Feb-10	Oct-11	4,891	4,891	-	-	-	-	-	-							
John J. Carroll WTP Solar-Construction	98452_7304	Jan-10	Aug-11	2,367	2,367	-	-	-	-	-	-							
Loring Road Hydro - Construction	98459_6974F	Jan-10	May-11	1,882	1,882	-	-	-	-	-	-							
DI Wind Phase II Construction	98463_7321			37	37	-	-	-	-	-	-							
Fish Hatchery Pipeline Hydro	98465_7323	Mar-16	Sep-17	1,030	1,030	-	-	-	-	-	-							
Chelsea Admin Heat Pumps	98560_8147	Jul-25	Aug-26	3,000	-	3,000	-	2,500	500	-	3,000							
DITP Wind Turbine 1 Repl.	98561_8148	Aug-25	Jun-26	4,500	-	4,500	-	4,500	-	-	4,500							
Heat Pmps WLGH/N.Nep/Newt PS	98562_8149	Aug-25	Aug-26	3,000	-	3,000	-	2,500	500	-	3,000							
940 Application Improvement Program				**25,047**	**10,665**	**14,382**	**4,676**	**4,045**	**3,960**	**1,700**	**18,752**							
GIS Applications & Integration	92420_7251	Jan-14	Nov-23	55	55	-	-	-	-	-	7							
Lawson Upgrade	92435_7286	Sep-23	Feb-26	8,849	2,964	5,885	3,319	2,566	-	-	8,849							
Maximo Upgrade	92436_7287	Jul-15	Jun-19	2,504	2,504	-	-	-	-	-	-							
PIMS Replace or Build	92437_7288	Jul-26	Sep-27	3,400	-	3,400	-	-	1,700	1,700	3,400							
SAP BO Migration	92469_7386	Jun-16	Dec-23	885	885	-	-	-	-	-	97							
Enterprise Content Mgmt	98475_7438	Apr-21	Mar-27	2,905	2,394	511	165	186	160	-	1,095							
WQRS Aquarius	98478_7441	Jan-19	Jun-22	163	163	-	-	-	-	-	-							
LIMS Upgrade	98484_7447	Mar-15	Oct-23	354	354	-	-	-	-	-	(108)							
MAXIMO Interface Enhancements	98500_7649	Jun-21	Sep-24	1,184	1,022	162	162	-	-	-	988							
MAXIMO Upgrade	98501_7650	Oct-26	Jun-27	1,650	-	1,650	-	-	1,650	-	1,650							
HOML	98504_7653	Apr-21	May-22	217	217	-	-	-	-	-	-							

MASSACHUSETTS WATER RESOURCES AUTHORITY
Capital Expenditure Program (CIP)
Expenditure Forecast
$000s

Program / Project / Contract	Contract No.	Notice to Proceed	Substantial Completion	Total Contract Amount	Payments through FY24	Remaining Balance	FY25	FY26	FY27	FY28	FY24-FY28	FY29	FY30	FY31	FY32	FY33	FY29-FY33	Beyond FY33
Archiving & Data Mgmt	98506_7656	Sep-22	Sep-23	107	107	-	-	-	-	-	-							
PI Vision Process Book Replace	98507_8088	Dec-24	May-25	315	-	315	315	-	-	-	315							
Intranet	98508_8089	Nov-25	Jul-26	500	-	500	-	500	-	-	500							
LIMS Upgrade v.2	98509_8095	Sep-25	Sep-26	750	-	750	-	375	375	-	750							
Hyperion v.2	98510_8096	Apr-25	Jul-25	950	-	950	650	300	-	-	950							
PI (OSI)	98606_7666	Jan-25	Dec-26	258	-	258	65	118	75	-	258							
942 Information Security Program (ISP)				**4,493**	**3,101**	**1,392**	**332**	**1,060**	**-**	**-**	**1,381**							
IT Security Infrastructure - Equipment	92434_7285	Sep-11	Jun-14	501	501	-	-	-	-	-	-							
MSSP	92500_7499	Jun-16	Dec-22	1,624	1,624	-	-	-	-	-	(27)							
ITSM Access Management	92501_7657	Jul-25	Dec-25	325	93	232	232	-	-	-	232							
MSSP/SIEM	92502_7658	Jun-22	Jun-23	443	443	-	-	-	-	-	15							
Active Directory	92503_7659	Jan-20	Jun-22	95	95	-	-	-	-	-	-							
Data Center Firewalls	92504_8090	Aug-25	May-26	800	-	800	-	800	-	-	800							
XenMobile/XenApp WorxSpace	98476_7439	Apr-14	Mar-20	27	27	-	-	-	-	-	-							
Information Security Assessments	98477_7440	Jun-25	Jun-26	360	-	360	100	260	-	-	360							
IT Security Program (ISP) Development	98483_7446	May-13	Jun-14	318	318	-	-	-	-	-	-							
944 Information Technology Management Program		**completed project**		**2**	**2**	**-**												
946 IT Infrastructure Program				**21,649**	**10,747**	**10,902**	**1,255**	**3,863**	**4,302**	**1,482**	**12,105**							
IT System Architecture	92404_7200	Sep-12	Oct-15	1,009	1,009	-	-	-	-	-	-							
Cabling	92405_7201	May-25	May-27	5,066	1,172	3,894	250	1,250	2,394	-	3,894							
Sans Storage	92406_7203	Jul-13	Mar-23	1,831	1,720	111	111	-	-	-	111							
Oracle Database Appliance	92407_7204	Jul-13	Oct-23	741	741	-	-	-	-	-	161							
Servers	92408_7205	Oct-13	Mar-23	955	955	-	-	-	-	-	-							
Near Field Communications	98480_7443	Jul-24	Dec-26	790	647	143	-	-	143	-	143							
Exchange Upgrades	98481_7444	Jun-16	Jun-20	118	118	-	-	-	-	-	-							
Enterprise Data Management	98482_7445	Jan-14	Jan-26	2,121	1,083	1,038	-	-	519	519	1,038							
NetScalers	98505_7654	Mar-23	Aug-23	117	117	-	-	-	-	-	-							
Telephone System Upgrade	98600_7660	Apr-21	Dec-25	910	910	-	-	-	-	-	39							
Core Switches	98601_7661	Mar-23	Aug-24	500	316	184	184	-	-	-	500							
Edge Switches	98602_7662	Mar-22	Jun-24	1,002	902	100	100	-	-	-	106							
Disaster Recovery	98603_7663	Sep-24	Dec-26	983	-	983	100	600	283	-	983							
Instrumentation & Controls IT	98604_7664	May-25	Jul-25	329	19	310	310	-	-	-	329							
Future Workplace	98608_7802	Dec-22	Jun-23	745	745	-	-	-	-	-	371							
MS Office Upgrades	98609_8091	Jun-25	Jun-28	2,918	-	2,918	29	963	963	963	2,918							
Distributed Antenna System Upg	98610_8092	Jan-26	Mar-26	300	-	300	-	300	-	-	300							
Fiber Channel Switch Upgrades	98611_8093	Jul-25	Aug-25	250	-	250	-	250	-	-	250							
Oracle Database Appliance v.2	98612_8097	Jul-24	Jan-25	462	292	170	170	-	-	-	462							
Servers v.2	98613_8098	Jun-25	Dec-25	500	-	500	-	500	-	-	500							

APPENDIX 3

New Capital Projects Added During the FY26 CIP

Appendix 3
New Capital Projects Added to the FY26 CIP

Program	Project	Subphase	Contract Number	Total Contract Amount	NTP	SC	FY26	FY27	FY28	FY24-28	Beyond FY28	Total Expenditures
Interception & Pumping	145 Facility Asset Protection	Ward Street Headworks Air Handling Replacement	8151	$ 2,000,000	Feb-26	Feb-27	$ 333,333	$ 1,666,667	$ -	$ 2,000,000	$ -	$ 2,000,000
Interception & Pumping	145 Facility Asset Protection	Heat Pump Squantum PS	8176	$ 325,000	Jan-26	May-26	$ 325,000	$ -	$ -	$ 325,000	$ -	$ 325,000
Interception & Pumping	145 Facility Asset Protection	Heat Pumps var WW facilities (BW, Hough's Neck, Quincy)	8175	$ 898,000	Aug-25	May-26	$ 898,000	$ -	$ -	$ 898,000	$ -	$ 898,000
Transmission	616 Quabbin Transmission System	Lonergan Intake Bldg Walkway and Wall Improvements	8138	$ 2,000,000	Feb-26	Jun-27	$ -	$ 1,500,000	$ 500,000	$ 2,000,000	$ -	$ 2,000,000
Transmission	616 Quabbin Transmission System	Lonergan Intake Bldg Walkway REI/ESDC	8160	$ 2,000,000	Feb-26	Feb-29	$ -	$ 1,000,000	$ 500,000	$ 1,500,000	$ 500,000	$ 2,000,000
Transmission	616 Quabbin Transmission System	WareRiver Shft 8 Retaining Wall Replacement	8159	$ 1,000,000	Sep-25	Sep-26	$ 700,000	$ 300,000	$ -	$ 1,000,000	$ -	$ 1,000,000
Transmission	616 Quabbin Transmission System	WareRiver Shft 8 Retaining Wall REI	8163	$ 400,000	Sep-25	Sep-27	$ 100,000	$ 250,000	$ 50,000	$ 400,000	$ -	$ 400,000
Other Waterworks	766 Waterworks Facility Asset Protection	Pipe Bridge Inspections/Structural Analysis	8137	$ 900,000	Jul-25	Jul-27	$ 450,000	$ 450,000	$ -	$ 900,000	$ -	$ 900,000
Other Waterworks	766 Waterworks Facility Asset Protection	Southboro Paving	8183	$ 1,000,000	May-26	Jun-26	$ 250,000	$ 750,000	$ -	$ 1,000,000	$ -	$ 1,000,000
Business & Operations Support	935 Alternative Energy Initiatives	DITP Wind Turbine 1 Replacement	8148	$ 4,500,000	Aug-25	Jun-26	$ 4,500,000	$ -	$ -	$ 4,500,000	$ -	$ 4,500,000
Business & Operations Support	935 Alternative Energy Initiatives	Chelsea Administration Building Heat Pumps	8147	$ 3,000,000	Aug-25	Aug-26	$ 2,500,000	$ 500,000	$ -	$ 3,000,000	$ -	$ 3,000,000
SUMMARY:												
Total Wastewater Projects				$ 3,223,000			$ 1,556,333	$ 1,666,667	$ -	$ 3,223,000	$ -	$ 3,223,000
Total Water Projects				$ 7,300,000			$ 1,500,000	$ 4,250,000	$ 1,050,000	$ 6,800,000	$ 500,000	$ 7,300,000
Total Business & Operations Support Projects				$ 7,500,000			$ 7,000,000	$ 500,000	$ -	$ 7,500,000	$ -	$ 7,500,000
Total Projects				$ 18,023,000			$ 10,056,333	$ 6,416,667	$ 1,050,000	$ 17,523,000	$ 500,000	$ 18,023,000

APPENDIX 4

Overview of the FY26 CIP and Changes from the FY25 Final CIP

APPENDIX 4
Overview of the FY26 Final CIP and Changes from the FY25 Final CIP

Program and Project	FY25 Final				FY26 Final				Change from Final FY25			
	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33
Total MWRA	**10,801,815**	**1,977,459**	**3,264,170**	**535,163**	**11,856,036**	**1,991,302**	**4,214,557**	**625,156**	**1,054,220**	**13,836**	**950,394**	**89,993**
Wastewater	**5,009,056**	**1,143,293**	**1,420,487**	**(13,169)**	**5,927,054**	**1,184,903**	**2,293,365**	**(9,652)**	**917,998**	**41,609**	**872,877**	**3,516**
Interception & Pumping	**1,649,003**	**282,853**	**568,264**	**34,029**	**1,639,824**	**211,129**	**632,016**	**32,823**	**(9,179)**	**(71,724)**	**63,752**	**(1,206)**
102 Quincy Pump Facilities	25,907	-	-	-	25,907	-	-	-	-	-	-	-
104 Braintree-Weymouth Relief Facilities	249,042	13,081	3,551	-	250,017	14,116	3,492	-	975	1,035	(59)	-
105 New Neponset Valley Relief Sewer	30,300	-	-	-	30,300	-	-	-	-	-	-	-
106 Wellesley Extention Replacement Sewer	64,359	-	-	-	64,359	-	-	-	-	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-	47,856	-	-	-	-	-	-	-
127 Cummingsville Replacement Sewer	8,999	-	-	-	8,999	-	-	-	-	-	-	-
130 Siphon Structure Rehabilitation	24,362	13,590	7,669	-	24,286	11,205	9,978	-	(76)	(2,385)	2,309	-
131 Upper Neponset Valley Sewer	54,174	-	-	-	54,174	-	-	-	-	-	-	-
132 Corrosion & Odor Control	104,633	5,168	26,008	4,015	104,572	5,170	26,008	3,952	(61)	2	-	(63)
136 West Roxbury Tunnel	11,514	1,200	-	-	11,970	1,656	-	-	456	456	-	-
137 Wastewater Central Monitoring	27,482	1,955	5,601	-	30,982	2,399	8,657	-	3,500	444	3,056	-
139 South System Relief Project	4,939	-	1,500	-	4,939	-	1,500	-	-	-	-	-
141 Wastewater Process Optimization	8,310	-	6,111	-	8,310	-	6,111	-	-	-	-	-
142 Wastewater Meter System-Equipment	21,057	1,736	945	6,426	21,057	1,061	1,620	6,426	-	(675)	675	-
143 Regional I/I Management Planning	169	-	-	-	169	-	-	-	-	-	-	-
145 Facility Asset Protection	960,202	246,123	516,181	18,588	946,229	175,522	573,952	17,445	(13,973)	(70,601)	57,771	(1,143)
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	-	5,000	5,000	-	-	5,000	-	-	-	-
147 Randolph Trunk Sewer Relief	698	-	698	-	698	-	698	-	-	-	-	-
Treatment	**1,686,865**	**575,836**	**693,377**	**53,164**	**2,590,059**	**682,981**	**1,483,526**	**59,064**	**903,194**	**107,145**	**790,149**	**5,900**
182 DI Primary and Secondary	(958)	-	-	-	(958)	-	-	-	-	-	-	-
200 DI Plant Optimization	33,279	-	-	-	33,279	-	-	-	-	-	-	-
206 DI Treatment Plant Asset Protection	1,613,142	558,449	689,934	53,165	2,496,603	665,142	1,460,803	59,065	883,461	106,693	770,869	5,900
210 Clinton Wastewater Treat Plant	39,190	17,387	3,443	-	58,923	17,839	22,723	-	19,733	452	19,280	-
211 Laboratory Services	2,212	-	-	-	2,212	-	-	-	-	-	-	-
Residuals	**171,326**	**20,892**	**45,261**	**24,476**	**194,126**	**26,524**	**62,429**	**24,476**	**22,800**	**5,632**	**17,168**	**-**
261 Residuals	63,811	-	-	-	63,811	-	-	-	-	-	-	-
271 Residuals Asset Protection	107,515	20,892	45,261	24,476	130,315	26,524	62,429	24,476	22,800	5,632	17,168	-

APPENDIX 4
Overview of the FY26 Final CIP and Changes from the FY25 Final CIP

Program and Project	FY25 Final				FY26 Final				Change from Final FY25			
	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33
CSO	**940,246**	**21,099**	**4,179**	**-**	**941,429**	**22,143**	**4,320**	**-**	**1,183**	**1,044**	**141**	**-**
324 CSO Support	64,068	4,318	4,180	-	65,115	5,225	4,321	-	1,047	907	141	-
339 North Dorchester Bay	221,510	-	-	-	221,510	-	-	-	-	-	-	-
340 Dorchester Bay Sewer Separation (Fox Point)	55,029	-	-	-	55,029	-	-	-	-	-	-	-
341 Dorchester Bay Sewer Separation (Commercial Point)	61,443	-	-	-	61,440	(3)	-	-	(3)	(3)	-	-
342 Neponset River Sewer Separation	2,492	-	-	-	2,492	-	-	-	-	-	-	-
343 Constitution Beach Sewer Separation	3,731	-	-	-	3,731	-	-	-	-	-	-	-
344 Stony Brook Sewer Separation	44,319	-	-	-	44,319	-	-	-	-	-	-	-
346 Cambridge Sewer Separation	104,552	-	-	-	104,552	-	-	-	-	-	-	-
347 East Boston Branch Sewer Relief	85,637	-	-	-	85,637	-	-	-	-	-	-	-
348 BOS019 Storage Conduit	14,288	-	-	-	14,288	-	-	-	-	-	-	-
349 Chelsea Trunk Sewer	31,683	573	-	-	31,664	555	-	-	(19)	(18)	-	-
350 Union Park Detention Treatment Facility	49,583	-	-	-	49,583	-	-	-	-	-	-	-
351 BWSC Floatables Controls	946	-	-	-	946	-	-	-	-	-	-	-
352 Cambridge Floatables Control	1,127	-	-	-	1,127	-	-	-	-	-	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-	22,385	-	-	-	-	-	-	-
354 Hydraulic Relief Projects	7,373	5,078	-	-	7,531	5,236	-	-	158	158	-	-
355 MWR003 Gate & Siphon	4,424	-	-	-	4,424	-	-	-	-	-	-	-
356 Fort Point Channel Sewer Separation	23,389	11,131	-	-	23,389	11,131	-	-	-	-	-	-
357 Charles River CSO Controls	3,633	-	-	-	3,633	-	-	-	-	-	-	-
358 Morrissey Boulevard Drain	32,181	-	-	-	32,181	-	-	-	-	-	-	-
359 Reserved Channel Sewer Separation	70,524	-	-	-	70,524	-	-	-	-	-	-	-
360 Brookline Sewer Separation	24,715	-	-	-	24,715	-	-	-	-	-	-	-
361 Bulfinch Triangle Sewer Separation	9,032	-	-	-	9,032	-	-	-	-	-	-	
362 East Boston CSO Control	2,182	-	-	-	2,182	-	-	-	-	-	-	-
Other Wastewater	**561,616**	**242,613**	**109,406**	**(124,838)**	**561,616**	**242,125**	**111,073**	**(126,016)**	**-**	**(488)**	**1,667**	**(1,178)**
128 I/I Local Financial Assistance	561,335	242,613	109,406	(124,838)	561,335	242,125	111,073	(126,016)	-	(488)	1,667	(1,178)
138 Sewerage System Mapping Upgrade	281	-	-	-	281	-	-	-	-	-	-	-
Total Waterworks	**5,575,803**	**760,016**	**1,841,730**	**548,205**	**5,694,675**	**716,729**	**1,917,407**	**634,678**	**118,873**	**(43,287)**	**75,680**	**86,477**
Drinking Water Quality	**736,137**	**23,047**	**52,316**	**-**	**736,349**	**19,359**	**56,216**	**-**	**212**	**(3,688)**	**3,900**	**-**
542 Carroll Water Treatment Plant	448,432	9,379	9,250	-	447,780	8,727	9,250	-	(652)	(652)	-	-
543 Quabbin Water Treatment Plant	19,973	-	-	-	19,973	-	-	-	-	-	-	-
544 Norumbega Covered Storage	106,674	-	-	-	106,674	-	-	-	-	-	-	-
545 Blue Hills Covered Storage	40,083	-	-	-	40,083	-	-	-	-	-	-	-
550 Spot Pond Storage Facility	60,126	-	-	-	60,126	-	-	-	-	-	-	-
555 CWTP Asset Protection	60,849	13,668	43,066	-	61,713	10,632	46,966	-	864	(3,036)	3,900	-

APPENDIX 4
Overview of the FY26 Final CIP and Changes from the FY25 Final CIP

Program and Project	FY25 Final				FY26 Final					Change from Final FY25			
	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33		Total Budget Amount	FY24-28	FY29-33	Beyond 33
Transmission	**3,392,177**	**314,789**	**1,463,232**	**683,401**	**3,397,730**	**326,972**	**1,450,658**	**689,336**		**5,553**	**12,185**	**(12,572)**	**5,937**
597 Winsor Station Pipeline	71,835	-	58,110	6,251	72,570	99	58,686	6,310		735	99	576	59
601 Sluice Gate Rehabilitation	9,158	-	-	-	9,158	-	-	-		-	-	-	-
604 MetroWest Tunnel	709,574	8,524	3,868	-	709,754	3,467	9,105	-		180	(5,057)	5,237	-
615 Chicopee Valley Aqueduct Redundancy	8,666	-	-	-	8,666	-	-	-		-	-	-	-
616 Quabbin Transmission System	42,487	26,799	1,115	-	46,991	30,803	1,615	-		4,504	4,004	500	-
617 Sudbury/Weston Aqueduct Repairs	18,284	2,860	10,554	-	18,275	2,860	10,545	-		(9)	-	(9)	-
620 Wachusett Reservior Spillway Improvement	9,287	-	-	-	9,287	-	-	-		-	-	-	-
621 Watershed Land	34,000	5,121	-	-	34,000	4,866	255	-		-	(255)	255	-
622 Cosgrove/Wachusett Redundancy	58,619	-	-	-	58,619	-	-	-		-	-	-	-
623 Dam Projects	12,222	8,491	-	-	12,857	9,126	-	-		635	635	-	-
625 Metro Water Tunnel Program	2,142,343	180,410	1,343,842	590,283	2,127,642	190,391	1,313,280	596,162		(14,701)	9,981	(30,562)	5,879
628 Metro Redundancy Interim Improvement	245,418	70,016	31,121	86,865	258,269	74,966	39,022	86,864	#	12,851	4,950	7,901	(1)
630 Watershed Division Capital Improvement	30,282	12,566	14,620	-	31,640	10,394	18,150	-		1,358	(2,172)	3,530	-
Distribution & Pumping	**1,207,525**	**231,082**	**290,722**	**93,500**	**1,298,137**	**189,501**	**346,744**	**169,671**		**90,611**	**(41,582)**	**56,023**	**76,171**
618 Peabody Pipeline	1,448	-	-	-	1,448	-	-	-		-	-	-	-
677 Valve Replacement	12,016	-	-	-	12,016	-	-	-		-	-	-	-
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	2,136	-	2,013	-	2,136	-	2,013	-		-	-	-	-
693 NHS - Revere & Malden Pipeline Improvement	128,739	78,227	14,942	-	173,145	46,566	21,010	70,000		44,406	(31,661)	6,068	70,000
702 New Connect Mains-Shaft 7 to WASM 3	106,475	56,452	16,980	-	109,470	58,910	17,417	100		2,995	2,458	437	100
704 Rehabilitation of Other Pump Stations	51,572	2,180	19,302	-	51,572	1,387	20,095	-		-	(793)	793	-
706 NHS-Connecting Mains from Section 91	2,360	-	-	-	2,360	-	-	-		-	-	-	-
708 Northern Extra High Service New Pipelines	67,511	38,914	11,550	-	81,311	46,815	17,448	-		13,800	7,901	5,898	-
712 Cathodic Protection Of Distrubution Mains	7,268	6,108	-	-	6,718	5,558	-	-		(550)	(550)	-	-
713 Spot Pond Supply Mains Rehabilitation	67,285	813	800	-	66,805	233	900	-		(480)	(580)	100	-
714 Southern Extra High Sections 41 & 42	3,657	-	-	-	3,657	-	-	-		-	-	-	-
719 Chestnut Hill Connecting Mains	55,509	-	23,205	14,017	59,475	-	23,205	17,983		3,966	-	-	3,966
720 Warren Cottage Line Rehabilitation	1,205	-	-	-	1,205	-	-	-		-	-	-	-
721 South Spine Distribution Mains	111,964	4,709	66,754	1,839	127,034	681	83,794	3,898		15,070	(4,028)	17,040	2,059
722 NIH Redundancy & Storage	156,075	40,712	21,785	-	158,657	26,380	38,700	-		2,582	(14,332)	16,915	-
723 Northern Low Service Rehabilitation Section 8	68,970	48	63,377	-	68,982	52	63,384	-		12	4	7	-
724 Northern High Service - Pipeline Rehabilitation	-	-	-	-	-	-	-	-		-	-	-	-
725 Hydraulic Model Update	598	-	-	-	598	-	-	-		-	-	-	-
727 Southern Extra High Redundancy & Storage	172,202	1,572	27,963	77,644	176,133	1,572	31,849	77,690		3,931	-	3,886	46
730 Weston Aqueduct Supply Mains	80,403	-	-	-	80,403	-	-	-		-	-	-	-
731 Lynnfield Pipeline	5,626	-	-	-	5,626	-	-	-		-	-	-	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717	-	-	-	2,717	-	-	-		-	-	-	-
733 NHS Pipeline Rehabilitation 13-18 & 48	-	-	-	-	-	-	-	-		-	-	-	-
734 Southern Extra High Pipelines-Sections 30, 39,40, & 44	-	-	-	-	-	-	-	-		-	-	-	-
735 Section 80 Rehabilitation	25,322	1,348	22,050	-	30,201	1,347	26,929	-		4,879	(1)	4,879	-

APPENDIX 4
Overview of the FY26 Final CIP and Changes from the FY25 Final CIP

Program and Project	FY25 Final				FY26 Final				Change from Final FY25			
	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33	Total Budget Amount	FY24-28	FY29-33	Beyond 33
Other	**239,964**	**191,098**	**35,460**	**(228,698)**	**262,461**	**180,897**	**63,789**	**(224,329)**	**22,497**	**(10,202)**	**28,329**	**4,369**
753 Central Monitoring System	45,061	10,392	1,564	-	46,709	11,767	1,837	-	1,648	1,375	273	-
763 Distribution Systems Facilities Mapping	3,087	941	572	-	3,087	941	572	-	-	-	-	-
764 Local Water Infrastructure Rehabilitation Assistance Program	7,488	-	-	-	7,488	-	-	-	-	-	-	-
765 Local Water Pipeline Improvement Loan Program	38,459	130,894	(12,979)	(263,928)	38,459	128,811	(5,348)	(269,476)	-	(2,083)	7,631	(5,548)
766 Waterworks Facility Asset Protection	145,869	48,872	46,303	35,230	166,718	39,378	66,728	45,147	20,849	(9,494)	20,425	9,917
Business & Operations Support	**216,956**	**74,150**	**1,953**	**130**	**234,307**	**89,665**	**3,789**	**130**	**17,349**	**15,514**	**1,837**	**-**
881 Equipment Purchase	43,107	15,621	390	130	43,099	15,604	400	130	(8)	(17)	10	-
925 Technical Assistance	1,055	1,055	-	-	1,055	1,055	-	-	-	-	-	-
930 MWRA Facility - Chelsea	9,812	-	-	-	9,812	-	-	-	-	-	-	-
931 Business Systems Plan	24,562	-	-	-	24,562	-	-	-	-	-	-	-
932 Environmental Remediation	1,479	-	-	-	1,479	-	-	-	-	-	-	-
933 Capital Maintenance Planning	39,362	15,721	1,562	-	41,498	17,858	1,562	-	2,136	2,137	-	-
934 MWRA Facilities Management	22,213	3,523	-	-	22,927	2,410	1,827	-	714	(1,113)	1,827	-
935 Alternative Energy Initiatives	28,184	10,000	-	-	38,684	20,500	-	-	10,500	10,500	-	-
940 Applicat Improv Program	24,027	17,732	-	-	25,047	18,752	-	-	1,020	1,020	-	-
942 Info Security Program ISP	4,493	1,381	-	-	4,493	1,381	-	-	-	-	-	-
944 Info Tech Mgmt Program	2	-	-	-	2	-	-	-	-	-	-	-
946 IT Infrastructure Program	18,662	9,118	-	-	21,649	12,105	-	-	2,987	2,987	-	-

APPENDIX 5

Master Plan/CIP Status

Appendix 5
Master Plan/CIP Status

Listing of Master Plan Projects	Original MP Rating	CIP Year	Rating when added to CIP	NTP	SC	Total Contract Amount	FY24-28	Beyond FY28	Comment
FY26 Budget Cycle									
S.145 I&P Asset Protection									
Ward Street Headworks Air Handling Replacement	**2**	**FY26**	**2**	Feb-26	Feb-27	2,000,000	2,000,000	0	
FY26 Master Plan Totals - 1 project						**2,000,000**	**2,000,000**	**0**	
FY25 Budget Cycle									
No Projects from Master Plan Added to Budget this Cycle									
FY24 Budget Cycle									
S.145 I&P Asset Protection									
New Neponset Pump Station Rehab	**3**	**FY24**	**3**	Jul-30	Jul-35	24,000,000	0	24,000,000	
Framingham Pump Station Rehab	**3**	**FY24**	**3**	Jul-30	Jul-35	24,000,000	0	24,000,000	
Quincy Pump Station Rehab	**3**	**FY24**	**3**	Jul-28	Jul-33	24,000,000	0	24,000,000	
Squantum Pump Station Rehab	**3**	**FY24**	**3**	Jul-28	Jul-33	24,000,000	0	24,000,000	
Intermediate Pump Station Rehab	**3**	**FY24**	**3**	Jul-28	Jul-33	46,500,000	0	46,500,000	
FY24 Master Plan Totals - 5 projects						**142,500,000**	**0**	**142,500,000**	
Listing of Master Plan Projects	**Original MP**	**CIP**	**Rating when**	**NTP**	**SC**	**Total Contract**	**FY19-23**	**Beyond FY23**	**Comment**
FY23 Budget Cycle									
No Projects from Master Plan Added to Budget this Cycle									
FY22 Budget Cycle									
No Projects from Master Plan Added to Budget this Cycle									
FY21 Budget Cycle									
S.206 Deer Island Asset Protection									
DITP Roofing Replacement	**3**	**FY21**	**3**	Jan-21	Jun-22	2,000,000	2,000,000	0	
S.210 Clinton Wastewater Treat Plant									
Clinton SCADA Upgrades	**3**	**FY21**	**3**	Jan-24	Jan-26	750,000	0	750,000	
Clinton Fire Alarm Replacement	**3**	**FY21**	**3**	Jan-21	Jul-22	900,000	900,000	0	
S.542 Carroll Water Treatment Plant									
Corrosion Control Pipe Loop Study	**3**	**FY21**	**3**	Mar-21	Mar-22	500,000	500,000	0	
Technical Assistance 11	**3**	**FY21**	**3**	Jan-21	Dec-22	750,000	750,000	0	
Technical Assistance 12	**3**	**FY21**	**3**	Jan-21	Dec-22	750,000	750,000	0	
FY21 Master Plan Totals - 6 projects						**$5,650,000**	**$4,900,000**	**$750,000**	
FY20 Budget Cycle									
S.145 I&P Asset Protection									
Section 191 & 192 Charles River Valley Sewer	**3**	**FY20**	**3**	May-19	Oct-19	500,000	500,000	0	
Pump Stations & CSO Facility Rehab Design/CA/REI	**3**	**FY20**	**3**	Nov-21	Nov-31	7,500,000	650,000	6,850,000	
Pump Stations & CSO Facility Rehab Construction	**3**	**FY20**	**3**	Nov-23	Nov-30	37,500,000	0	37,500,000	
S.555 Carroll Water Treatment Plant Asset Protection									
CWTP Emergency Generator #1 Replacement (Electric Portion)	**3**	**FY20**	**2**	Jan-19	Aug-19	750,000	750,000	0	
FY20 Master Plan Totals - 4 projects						**$46,250,000**	**$1,900,000**	**$44,350,000**	
FY19 Budget Cycle									
S.206 Deer Island Asset Protection									
Hydroturbine Replacements Design/ESDC/REI	**3**	**FY19**	**3**	Sep-18	Jun-24	2,000,000	1,720,253	279,747	
Hydroturbine Replacements Construction	**3**	**FY19**	**3**	Jun-20	Jun-23	10,000,000	8,611,111	1,388,889	
Bidirectional Radio Repeater System Upgrade	**2**	**FY19**	**2**	Apr-18	Oct-19	3,000,000	3,000,000		
S.128 I/I Local Financial Assistance									
Phases 11 & 12	**3**	**FY19**	**3**	Aug-18	Aug-25	90,000,000	63,700,000	26,300,000	
S. 542 Carroll Water Treatment Plant									
HVAC Equipment Replacement	**2**	**FY19**	**2**	Jul-19	May-22	2,300,000		2,300,000	
CWTP Chemical Pipe System Pipe, Pumps and Tank Replacement	**2**	**FY19**	**2**	Jul-27	Jun-29	4,000,000		4,000,000	
CWTP Water Pump Replacement	**2**	**FY19**	**2**	Jul-27	Jul-30	2,000,000		2,000,000	
Ozone Generator Replacement	**2**	**FY19**	**2**	Oct-27	Oct-30	20,000,000		20,000,000	
Ultra Violet Reactor Replacement	**2**	**FY19**	**2**	Oct-32	Oct-34	10,000,000		10,000,000	
S. 623 Dam Projects									
Sudbury/Foss Dam Impr/Wach North Dike Overtopping Protection Design CA/RI	**2**	**FY19**	**2**	Oct-24	Oct-29	210,000	302,960		
Sudbury/Foss Dam Improvements/Wachusett North Dike Overtopping Protection Construction	**2**	**FY19**	**2**	Oct-26	Oct-28	1,600,000	1,693,325		
S.617 Sudbury/Weston Aqueduct Repairs									
Farm Pond Inlet Chamber and Gate House - Rehabilitation Design CA/RI	**3**	**FY19**	**3**	Oct-24	Oct-29	400,000		400,000	
Farm Pond Inlet Chamber and Gate House - Rehabilitation Construction	**3**	**FY19**	**3**	Oct-26	Oct-28	2,000,000		2,000,000	
Waban Arches Rehabilitation Design CA/RI	**3**	**FY19**	**3**	Oct-23	Oct-28	300,000		300,000	
Waban Arches Rehabilitation Construction	**3**	**FY19**	**3**	Oct-25	Oct-27	1,200,000		1,200,000	
S.621 Watershed Land									
Watershed Land Acquisition	**3**	**FY19**	**3**	Apr-06	Jun-23	5,000,000		5,000,000	
S.693 NHS Revere & Malden Pipeline									
Sections 13 & 48 Rehabilitation Design CA/RI	**3**	**FY19**	**3**	Jul-24	Jul-29	2,150,000		2,150,000	
Sections 13 & 48 Rehabilitation Construction	**3**	**FY19**	**3**	Jul-26	Jul-28	10,750,000		10,750,000	
S.712 Cathodic Protection Distribution Mains									
Cathodic Protection Western System Design/CA/RI	**3**	**FY19**	**2**	Jul-19	Jun-23	930,000	909,000	21,000	**Condition determined to be worse than when Master Plan Priority Ratings assigned.**
Cathodic Protection Western System Construction	**3**	**FY19**	**2**	Jul-21	Jun-23	4,300,000	3,762,000	538,000	**Condition determined to be worse than when Master Plan Priority Ratings assigned.**
Cathodic Protection Metropolitan System Design/CA/RI	**3**	**FY19**	**2**	Jul-20	Jun-26	9,900,000	4,602,000	5,298,000	**Condition determined to be worse than when Master Plan Priority Ratings assigned.**
Cathodic Protection Metropolitan System Construction	**3**	**FY19**	**2**	Jul-22	Jun-26	47,100,000	8,831,000	38,269,000	**Condition determined to be worse than when Master Plan Priority Ratings assigned.**
S.763 Distribution Systems Facilities Mapping									
Water System Hydraulic Model	**4**	**FY19**	**4**	Jul-19	Jun-20	500,000	500,000		
FY19 Master Plan Totals - 17 projects						**$229,640,000**	**$97,631,649**	**$132,194,636**	
Master Plan Totals - 33 projects						**$426,040,000**	**$104,431,649**	**$179,294,636**	

Master Plan Priority Ratings - Wastewater

Priority One **Critical/Emergency** Risk moderate to high/Consequence very high

Projects which:

Resolve emergencies or critical threats to public health or worker health and safety

Prevent imminent failure of the system and significant loss of service

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Priority Two **Essential Projects** Risk variable/Consequences high

Projects which are essential to:

Critical facility assessment

Fix existing reliability or capacity problems during dry weather flow conditions

Reduce sanitary sewer overflows from the MWRA system

Address facilities in poor condition where the ability to provide uninterrupted service or adequate flow is compromised.

Upgrade or maintain emergency backup facilities in poor condition

Meet minimum hydraulic performance requirements and service needs

Implement MWRA's approved CSO control plan

Maintain wastewater effluent and residuals quality

To comply with mandated legal, regulatory or statutory requirements

---

Priority Three **Necessary Projects** Risk moderate to high/Consequence moderate to low

Projects which are necessary to:

Improve public health and worker safety

Restore the system's infrastructure where it is seriously deteriorated

Improve hydraulic performance

Significantly improve the effectiveness, efficiency, or reliability of system operations and service delivery including where appropriate, the ability to monitor the system

Maintain consumer confidence

To comply with other legal, regulatory or statutory requirements

---

Priority Four **Important Projects** Risk moderate/Consequences low

Projects which are important to:

Maintain the integrity of the system's infrastructure

Produce significant cost savings or revenue gains for MWRA

Monitor system needs and plan appropriate longer-term responses

Provide acceptable working conditions at field sites and at maintenance support facilities

Implement the regional I/I plan

Priority Five **Desirable Projects** Risk/Consequence both low

Projects which are desirable because they would:

Yield worthwhile cost savings, revenue gains, or efficiency improvements for MWRA

Protect the long term value and usefulness of system assets

Solve future problems and conditions which are expected to arise in the latter half of the planning period

Be beneficial towards the improved operation of a local system

Master Plan Priority Ratings - Water

Priority One **Critical/Emergency** Risk moderate to high/Consequence very high

Projects which:

Resolve emergencies or critical threats to public health or worker health and safety

Prevent imminent failure of the system and significant loss of service

---

Priority Two **Essential Projects** Risk variable/Consequences high

Projects which are essential to:

Critical facility assessment

Fix existing reliability problems related to "single points of failure"

Upgrade or maintain emergency back-up facilities in operational condition

Address facilities in poor condition where the ability to provide uninterrupted service, sanitary protections or adequate flow is compromised.

Meet minimum hydraulic performance requirements and service needs including adequate distribution storage in areas with a critical shortfall of storage

To comply with mandated legal, regulatory or statutory requirements

---

Priority Three **Necessary Projects** Risk moderate to high/Consequences moderate to low

Projects which are necessary to:

Improve public health and worker safety

Restore the system's infrastructure where it is seriously deteriorated

Significantly improve the effectiveness, efficiency, or reliability of system operations and service delivery including where appropriate, the ability to monitor the system

Preserve water quality during distribution

Maintain consumer confidence

To comply with other legal, regulatory or statutory requirements

---

Priority Four **Important Projects** Risk moderate/Consequence low

Projects which are important to:

Maintain the integrity of the system's infrastructure

Improve hydraulic performance or add distribution storage

Produce significant cost savings or revenue gains for MWRA

Monitor system needs and plan appropriate longer-term responses

Provide acceptable working conditions at field sites and at maintenance support facilities

Maintain efforts to manage system demands

Provide broader environmental benefits

Priority Five **Desirable Projects** Risk/Consequence both low

Projects which are desirable because they would:

Yield worthwhile cost savings, revenue gains, or efficiency improvements for MWRA

Protect the long term value and usefulness of system assets

Solve future problems and conditions which are expected to arise in the latter half of the planning period

Be beneficial towards the improved operation of a local system

APPENDIX 6

Municipality and Project Reference by Municipality

APPENDIX 6
PROJECT/MUNICIPALITY(s)

Project	Number/ Project	Community(s) Served
104	Braintree-Weymouth Relief Facilities	Braintree, Hingham, Holbrook, Randolph, Weymouth, Quincy
128	Infiltration/Inflow Local Financial Assistance Program	All Wastewater Communities
130	Siphon Structure Rehabiliation	All Wastewater Communities
131	Upper Neponset Valley Sewer System	Dedham, Boston, Brookline, Newton
132	Corrosion and Odor Control Study	All Wastewater Communities
136	West Roxbury Tunnel	Ashland, Framingham, Natick, Wellesley, Dedham, Boston, Brookline, Newton, Nedham, and
137	Wastewater Central Monitoring	All Wastewater Communities
139	South System Relief Project	Boston, Milton
141	Wastewater Process Optimization	All Wastewater Communities
142	Wastewater Metering System Equipment Replacement	All Wastewater Communities
145	Interception & Pumping Facility Asset Protection	All Wastewater Communities
146	D.I. Cross Harbor Tunnel	All Wastewater Communities
147	Randolph Trunk Sewer Relief	Braintree & Randolph
206	Deer Island Treatment Plant Asset Protection	All Wastewater Communities
210	Clinton Wastewater Treatment Plant	Clinton
211	Laboratory Services	All MWRA Communities
271	Residuals Asset Protection	All Wastewater Communities
324	CSO Support	Boston, Cambridge, Chelsea, Revere, Somerville
339	North Dorchester Bay & Reserve Channel Conduits/CSO	Boston
340	South Dorchester Bay Sewer Separation (Fox Point)	Boston
341	South Dorchester Bay Sewer Separation (Commercial Pt.)	Boston
346	Cambridge CAM002-004 Sewer Separation	Cambridge
347	East Boston Branch Sewer Relief	Boston, Chelsea, Everett
355	MWR003 Gate and Siphon	Boston, Cambridge
356	Fort Point Channel Sewer Separation	Boston
357	Charles River CSO Controls	Boston, Brookline, Cambridge
358	Morrissey Boulevard Drain	Boston
359	Reserved Channel Sewer Separation	Boston
360	Brookline Sewer Separation	Brookline
361	Bulfinch Triangle Sewer Separation	Boston
362	East Boston CSO Control	Boston, Chelsea, Everett
542	Carroll Water Treatment Plant	All Water Customers (except Chicopee, Wilbraham, South Hadley Fire District #1, Worcester, Clinton, and Leominster)
543	Quabbin Water Treatment Plant	South Hadley, Chicopee, Wilbraham
545	Blue Hills Covered Storage	Boston, Canton, Milton, Norwood, Quincy, Brookline, Dedham, Westwood, Stoughton
550	Low Service Storage Near Spot Pond	Cambridge, Charlestown, Chelsea, East Boston, Everett, Malden, Medford, Somerville
555	Carroll Water Treatment Plant Asset Protection	All Water Customers (except Chicopee, Wilbraham, South Hadley Fire District #1, Worcester, Clinton, and Leominster)
597	Winsor Dam Hydroelectric	All Water Communities
604	MetroWest Tunnel	All Water Communities (except South Hadley Fire District #1, Chicopee, Wilbraham, Worcester, Clinton, and Leominster)
616	Quabbin Transmission System	Chicopee, South Hadley, Wilbraham
617	Sudbury/Weston Aqueduct Repairs	All Water Communities (except South Hadley Fire District #1, Chicopee, Wilbraham, Worcester, Clinton, and Leominster)
618	Peabody Pipeline Project	Peabody
621	Watershed Land	All Water Communities
622	Cosgrove Tunnel Redundancy	All Water Customers (except Chicopee, Wilbraham, South Hadley Fire District #1, Worcester, Clinton, and Leominster)
623	Dam Projects	All Water Communities
625	Metro Tunnel Redundancy	All Water Customers (except Chicopee, Wilbraham, South Hadley Fire District #1, Worcester, Clinton, and Leominster)
628	Metro Redundancy Interim Improvements	All Water Customers (except Chicopee, Wilbraham, South Hadley Fire District #1, Worcester, Clinton, and Leominster)
630	Watershed Division Capital Improvements	All Water Communities
677	Valve Replacement	All Water Communities
692	Northern High Service Section 27 Improvements	Lynn, Marblehead, Nahant, Swampscott
693	Northern High Service Pipe Improvements - Revere/Malden	Boston, Lynn, Malden, Marblehead, Nahant, Peabody, Reading, Revere, Saugus, Winthrop, Wakefield, Melrose, Lynnfield, Swampscott, Stoneham, Medford
702	New Connecting Mains - Shaft 7 to WASM 3	Arlington, Bedford, Belmont, Boston, Lexington, Medford, Newton, Somerville, Waltham, Watertown, Winchester
704	Rehabilitation of Other Pump Stations	Arlington, Bedford, Belmont, Boston, Brookline, Canton, Lexington, Milton, Norwood, Waltham, Watertown, Winchester
708	Northern Extra High Service - New Pipelines	Arlington, Bedford, Lexington, Waltham
712	Cathodic Protection of Distribution Mains	All Water Communities
713	Spot Pond Supply Mains Rehabilitation	Arlington, Boston, Cambridge, Chelsea, Everett, Malden, Medford, Somerville
719	Chestnut Hill Connecting Mains	Boston, Brookline, Newton
721	Southern Spine Distribution Mains	Boston, Brookline, Canton, Milton, Norwood, Quincy, Dedham, Westwood, Stoughton

APPENDIX 6
PROJECT/MUNICIPALITY(s)

Project	Number/ Project	Community(s) Served
722	NIH Redundancy & Covered Storage	Reading, Stoneham, Wakefield, Winchester, Woburn
723	Northern Low Service Rehab. - Sections 8	Chelsea, Boston, Everett
727	SEH Redundancy & Storage	Boston, Brookline, Canton, Milton, Norwood, Dedham, Westwood, Stoughton
730	Weston Aqueduct Supply Mains	Weston, Newton, Boston, Watertown, Cambridge, Waltham, Belmont, Arlington, Somerville
731	Lynnfield Pipeline	Lynnfield, Saugus
735	Section 80 Rehabilitation	Wellesley and Needham
753	Central Monitoring System	All Water Communities
763	Distribution Systems Facilities Mapping	All Water Communities
765	Local Water Pipeline Imp. Loan Program	All Water Communities
766	Waterworks Facility Asset Protection	All Water Communities
881	Centralized Equipment Purchase	All MWRA Customers
925	Technical Assistance	All MWRA Customers
931	Business Systems Plan	All MWRA Customers
932	Environmental Remediation	All MWRA Customers
933	Capital Maintenance Planning/Development	All MWRA Customers
934	MWRA Facilities Management	All MWRA Customers
935	Alternative Energy Initiatives	All MWRA Customers
940	Application Improvement Program	All MWRA Customers
942	Information Security Program ISP	All MWRA Customers
944	Information Technology Management Program	All MWRA Customers
946	IT Infrastructure Program	All MWRA Customers

APPENDIX 6
MUNICIPALITY/PROJECT(s)

Municipality / Project Number	Project
All MWRA COMMUNITIES	
211	Laboratory Services
881	Equipment Purchase
925	Technical Assistance
931	Business Systems Plan
932	Environmental Remediation
933	Capital Maintenance Planning/Development
934	MWRA Facilities Management
935	Alternatve Energy Initiatives
940	Application Improvement Program
942	Information Security Program ISP
944	Information Technology Management Program
946	IT Infrastructure Program
ALL WASTEWATER COMMUNITIES	
128	Infiltration/Inflow Local Financial Assistance Program
130	Siphon Structure Rehabiliation
132	Corrosion & Odor Control Study
137	Wastewater Central Monitoring
141	Wastewater Process Optimization
142	Wastewater Metering System Equipment Replacement
145	Interception & Pumping Facilities Asset Protection
146	D.I. Cross Harbor Tunnel
147	Randolph Trunk Sewer Relief
206	Deer Island Treatment Plant Asset Protection
271	Residuals Asset Protection
ALL WATER COMMUNITIES	
597	Winsor Dam Hydroelectric
621	Watershed Land
623	Dam Projects
630	Watershed Division Capital Improvements
677	Valve Replacement
712	Cathodic Protection of Distribution Mains
753	Central Monitoring System
763	Distribution Systems Facilities Mapping
765	Local Water Pipeline Improvement Loan Program
766	Watertown Facility Asset Protection
ALL WATER COMMUNITIES (except South Hadley, Chicopee, Wibraham, Worcester, Clinton, and Leominster)	
542	Carroll Water Treatment Plant
544	Norumbega Covered Storage
555	Carroll Water Treatment Asset Protection
604	MetroWest Tunnel
622	Cosgrove Tunnel Redundancy
625	Metro Tunnel Redundancy
628	Metro Redundancy Interim Improvements
Arlington	
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
708	Northern Extra High Service - New Pipelines
713	Spot Pond Supply Mains Rehabilitation
730	Weston Aqueduct Supply Mains
Ashland	
136	West Roxbury Tunnel
Bedford	
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
708	Northern Extra High Service - New Pipelines
Belmont	
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
730	Weston Aqueduct Supply Mains
Boston	
131	Upper Neponset Valley Sewer System
136	West Roxbury Tunnel
139	South System Relief Project
324	CSO Support
339	North Dorchester Bay & Reserve Channel Conduits/CSO
340	South Dorchester Bay Sewer Separation (Fox Point)
341	South Dorchester Bay Sewer Separation (Commercial Pt.)
347	East Boston Branch Sewer Relief
355	MWR003 Gate and Siphon
356	Fort Point Channel Sewer Separation
357	Charles River CSO Controlls
358	Morrisey Boulevard Drain
359	Reserved Channel Sewer Separation
361	Bulfinch Triangle Sewer Separation
362	East Boston CSO Control
545	Blue Hills Covered Storage
550	Spot Pond Covered Storage
693	Northern High Service Pipe Improvements - Revere/Malden
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
713	Spot Pond Supply Mains Rehabilitation
719	Chestnut Hill Connecting Mains
721	Southern Spine Distribution Mains
723	Northern Low Service Rehab. - Sections 8 & 57
727	SEH Redundancy & Storage
730	Weston Aqueduct Supply Mains
Braintree	
104	Braintree-Weymouth Relief Facilities
147	Randolph Trunk Sewer Relief

APPENDIX 6
MUNICIPALITY/PROJECT(s)

Municipality	Project Number/Project
Brookline	
	131 Upper Neponset Valley Sewer System
	136 West Roxbury Tunnel
	357 Charles River CSO Controls
	360 Brookline Sewer Separation
	704 Rehabilitation of Other Pump Stations
	719 Chestnut Hill Connecting Mains
	721 Southern Spine Distribution Mains
	727 SEH Redundancy & Storage
Burlington	
	127 Cummingsville Replacement Sewer
Cambridge	
	324 CSO Support
	346 Cambridge CAM002-004 Sewer Separation
	355 MWR003 Gate and Siphon
	357 Charles River CSO Controls
	550 Spot Pond Covered Storage
	713 Spot Pond Supply Mains Rehabilitation
	730 Weston Aqueduct Supply Mains
Canton	
	545 Blue Hills Covered Storage
	704 Rehabilitation of Other Pump Stations
	714 Southern Extra High - Sections 41, 42, and 74
	721 Southern Spine Distribution Mains
	727 SEH Redundancy & Storage
Chelsea	
	324 CSO Support
	347 East Boston Branch Sewer Relief
	362 East Boston CSO Control
	550 Spot Pond Covered Storage
	713 Spot Pond Supply Mains Rehabilitation
	723 Northern Low Service Rehab. - Sections 8 & 57
Lynn	
	692 Northern High Service Section 27 Improvements
	693 Northern High Service Pipe Improvements - Revere/Malden
Lynnfield	
	731 Lynnfield Pipeline
	693 Northern High Service Pipe Improvements - Revere/Malden
Malden	
	550 Spot Pond Covered Storage
	693 Northern High Service Pipe Improvements - Revere/Malden
	713 Spot Pond Supply Mains Rehabilitation

Municipality	Project Number/Project
Chicopee	
	543 Quabbin Water Treatment Plant
	615 Chicopee Valley Aqueduct Redundancy
	616 Quabbin Transmission System
	753 Central Monitoring System
Clinton	
	210 Clinton Wastewater Treatment Plant
Dedham	
	131 Upper Neponset Valley Sewer System
	136 West Roxbury Tunnel
	727 SEH Redundancy & Storage
Dover	
	136 West Roxbury Tunnel
Everett	
	347 East Boston Branch Sewer Relief
	550 Spot Pond Covered Storage
	713 Spot Pond Supply Mains Rehabilitation
	723 Northern Low Service Rehab. - Sections 8 & 57
	362 East Boston CSO Control
Framingham	
	136 West Roxbury Tunnel
	617 Sudbury/Weston Aqueduct
Hingham	
	104 Braintree-Weymouth Relief Facilities
Holbrook	
	104 Braintree-Weymouth Relief Facilities
	617 Sudbury/Weston Aqueduct
Lexington	
	702 New Connecting Mains - Shaft 7 to WASM 3
	704 Rehabilitation of Other Pump Stations
Nahant	
	692 Northern High Service Section 27
	693 Northern High Service Pipe Improvements - Revere/Malden
Natick	
	136 West Roxbury Tunnel
	617 Sudbury/Weston Aqueduct Repairs
Needham	
	136 West Roxbury Tunnel
	735 Section 80 Rehabilitation

APPENDIX 6
MUNICIPALITY/PROJECT(s)

Municipality	Project Number/Project
Marblehead	
692	Northern High Service Section 27
693	Northern High Service Pipe Improvements - Revere/Malden
Medford	
547	Fells Covered Storage
550	Spot Pond Covered Storage
702	New Connecting Mains - Shaft 7 to WASM 3
713	Spot Pond Supply Mains Rehabilitation
693	Northern High Service Pipe Improvements - Revere/Malden
Melrose	
693	Northern High Service Pipe Improvements - Revere/Malden
Milton	
545	Blue Hills Covered Storage
704	Rehabilitation of Other Pump Stations
721	Southern Spine Distribution Mains
727	SEH Redundancy & Storage
Quincy	
104	Braintree-Weymouth Relief Facilities
545	Blue Hills Covered Storage
721	Southern Spine Distribution Mains
147	Randolph Trunk Sewer Relief
Reading	
722	NIH Redundancy & Covered Storage
693	Northern High Service Pipe Improvements - Revere/Malden
Revere	
349	Chelsea Trunk Sewer
693	Northern High Service Pipe Improvements - Revere/Malden
Saugus	
693	Northern High Service Pipe Improvements - Revere/Malden
731	Lynnfield Pipeline

Municipality	Project Number/Project
Newton	
136	West Roxbury Tunnel
702	New Connecting Mains - Shaft 7 to WASM 3
719	Chestnut Hill Connecting Mains
730	Weston Aqueduct Supply Mains
Norwood	
545	Blue Hills Covered Storage
704	Rehabilitation of Other Pump Stations
714	Southern Extra High - Sections 41 and 42
721	Southern Spine Distribution Mains
727	SEH Redundancy & Storage
Peabody	
618	Peabody Pipeline Project
693	Northern High Service Pipe Improvements - Revere/Malden
722	NIH Redundancy & Storage
Wilbraham	
543	Quabbin Water Treatment Plant
616	Quabbin Transmission System
753	Central Monitoring System
Wakefield	
722	NIH Redundancy & Covered Storage
693	Northern High Service Pipe Improvements - Revere/Malden
Waltham	
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
708	Northern Extra High Service - New Pipelines
730	Weston Aqueduct Supply Mains
Watertown	
702	New Connecting Mains - Shaft 7 to WASM 3
704	Rehabilitation of Other Pump Stations
Wellesley	
136	West Roxbury Tunnel
617	Sudbury/Weston Aqueduct Repairs
735	Section 80 Rehabilitation

APPENDIX 6
MUNICIPALITY/PROJECT(s)

Municipality	Project Number/Project
Somerville	
	550 Spot Pond Covered Storage
	702 New Connecting Mains - Shaft 7 to WASM 3
	713 Spot Pond Supply Mains Rehabilitation
	730 Weston Aqueduct Supply Mains
South Hadley	
	543 Quabbin Water Treatment Plant
	616 Quabbin Transmission System
	753 Central Monitoring System
Stoneham	
	722 NIH Redundancy & Covered Storage
	693 Northern High Service Pipe Improvements - Revere/Malden
Stoughton	
	714 Southern Extra High - Sections 41, 42, and 74
	721 Southern Spine Distribution Mains
	727 SEH Redundancy & Storage
Sudbury	
	617 Sudbury/Weston Aqueduct Repairs
Swampscott	
	692 Northern High Service Section 27
	693 Northern High Service Pipe Improvements - Revere/Malden
West Roxbury	
	131 Upper Neponset Valley Relief Sewer
	727 SEH Redundancy & Storage
Weston	
	617 Sudbury/Weston Aqueduct Repairs
	730 Weston Aqueduct Supply Mains
Westwood	
	721 Southern Spine Distribution Mains
	727 SEH Redundancy & Storage
	104 Braintree-Weymouth Relief Facilities
Winchester	
	702 New Connecting Mains - Shaft 7 to WASM 3
	704 Rehabilitation of Other Pump Stations
	722 NIH Redundancy & Covered Storage
Winthrop	
	693 Northern High Service Pipe Improvements - Revere/Malden
Woburn	
	722 NIH Redundancy & Storage

APPENDIX 7

MWRA Completed Projects

Appendix 7

MWRA Completed Projects
(as of June 30, 2023)

Project	Total Cost ($000)	Completion Date	Summary
Wastewater	$5,302,165		
Waterworks	$1,866,411		
Business and Operations Support	$67,176		
MWRA Total	$7,235,752		

Bolded items represent projects added since the last document.

Italicized items represent a change in value to a closed project due to a determination that past retainage values no longer represent a liability to the Authority.

Wastewater System Improvements			
Boston Harbor Project	$3,512,332	Nov-01	BHP constructed to minimize the pollution of Boston Harbor. The new Deer Island Primary and Secondary Treatment Facilities are the largest components of the Project to comply with the requirements of the federal Clean Water Act and to improve the harbor for
S.101 Wastewater Metering System Upgrade	$7,516	Dec-93	Construction of system to provide accurate flow data.
S.102 Quincy Pump Facilities	$25,907	Sep-03	Constructed 3 new pump station and rehabbed force mains to ensure continuous pumping to treatment facilities.
S.103 Hingham Pump Station	$3,027	Apr-92	Elimination of untreated sewage discharges.
S.104 Braintree-Weymouth Relief Facilities	$240,969	Jun-10	Project reduces overflows into Weymouth Fore River during wet weather events.
S.105 New Neponset Valley Relief Sewer	$30,300	Jul-96	Relief facilities to correct structural and hydraulic deficiencies in the New Neponset Valley Interceptor Sewer System.
S.106 Wellesley Extension Replacement Sewer	$64,359	Jan-96	Construction of a replacement sewer and rehabilitation of sections of existing sewer lines to alleviate capacity restraints, improve the water quality of the Charles River, protect aquifers, and reduce back-ups in Needham and Dedham.
S.107 Framingham Extension Relief Sewer	$47,856	Sep-04	Installation of a new force main and gravity sewer and construction of a new pump station.
S.108 Alewife Brook Pkwy Pump St Rehab	$1,465	May-95	Replacement of equipment, construction of building addition and wet well modifications.
S.110 East Boston Pump Facilities	$48,234	Jan-93	Constructed to eliminate sewage back-ups.
S.112 Charlestown Pump Station Replacement	$32,533	Apr-93	New 93 mgd pump station to increase pumping efficiency and eliminate overflows to the Mystic River.
S.115 Reading Pump Station Replacement and Extension Relief Sewer	$412	Sep-87	Elimination of surcharges, reduction in staff requirements, and correction of safety hazards.

S.118 Bell Isle Siphon Rehabilitation	$79	Apr-89	Reduction of salt water infiltration and increase in system capacity.
S.127 Cummingsville Replacement Sewer	$8,999	Jul-08	Replacement and rehabilitation of existing sewers to provide additional capacity for upstream communities.
S.129 North Metropolitan Trunk Sewer	$11,997	Mar-99	Rehabilitation of a 19,700 linear-foot 100-year old sewer line.
S.131 Upper Neponset Valley Sewer System	$54,175	Mar-08	Project anticipated to eliminate interceptor backups during wet weather events.
S.136 West Roxbury Tunnel	$10,314	Jun-11	Investigate and rehabilitate West Roxbury Tunnel Sewer.
S.138 Sewerage System Mapping	$281	Apr-04	Updated and new GIS maps of sewer system.
S.143 Regional I/I Management Planning	$169	Jun-03	Reduction in infiltration and inflow water entering the MWRA system.
S.178 Deer Island Pump and Power Station Upgrade	$32,952	Feb-91	Constructed to prevent sewage surcharges and overflows in the upstream sewer system by improving flows to Deer Island Tunnel System and Plant.
S.179 Deer Island Remote Headworks Improvements	$26,081	Jul-99	Facility rehabilitation restored headworks capacity.
S.180 D.I. Sedimentation Tank System Improvements	$1,684	Jul-89	Restoration of operating efficiency by replacing 80 inlet sluice gates and baffles, rehabilitation of control building and other improvements.
S.181 D.I. Intermediate Upgrade	$9,474	Jun-92	Upgrade of the old Deer Island treatment plant.
S.184 Nut Island Immediate Upgrade	$1,206	Dec-86	Upgrade or replacement of equipment, including switch gear, sludge cross collectors and replacement of electric distribution substation to accommodate increased flows to Deer Island Treatment Plant.
S.185 Clinton Wastewater Treatment Plant	$36,747	Sep-92	Upgrade existing plant to improve water quality and met standards by rehabbing and new equipment.
S.187 Deer Island Sludge Thickeners Rebuilding	$114	Sep-88	Ensuring efficient operation of Deer Island treatment plant digesters.
S.189 DI Dual Fuel Engine	$281	Jan-06	Overhaul of five diesel engines.
S.190 Deer Island Electrical Equipment Upgrade	$28	Mar-88	Restoration of system operating efficiency.
S.191 DI Chlorination Facility Rehab	$4	Mar-89	Provision of effective disinfection operation and safe working environment.
S.194 Nut Island Intermediate Upgrade	$1,507	Dec-92	Improvements to ensure effective operation of the Nut Island treatment plant.

S.196 Other Wastewater	$92	Apr-90	Removal of hazardous materials from wastewater facilities and creation of on-going safety management programs.
S.197 Deer Island Treatment Plant Outfall Repair	$1,300	Sep-97	Repair of effluent discharge Outfall 002.
S.198 Boston Harbor Performance Certification	$1,275	Dec-02	Certification required for continuous federal grant and loan programs during construction.
S.200 DI Plant Optimization	$33,279	Sep-08	Capital investment to optimize the operation of the Deer Island Treatment Plant. Remaining initiatives rolled into DI Plant Asset Protection.
S.211 Laboratory Services	$2,212	Feb-12	Upgrade and restore the Central Laboratory
S.261 Residuals	$172,056	Dec-01	Phase 1 Feb - 92 - construction of the Residuals Treatment Facility at ore River Staging Area (FRSA). Termination of the sludge discharge to Boston Harbor. Phase 2 Dec-01 - To expand the residuals processing plate at the FRSA in Quincy to provide the capacity to process the sludge quantities produced by Deer Island.
S.325 Fox Point CSO Facility	$152	Apr-89	Elimination of untreated sewage discharges.
S.326 Commercial Point CSO Facility	$7,117	Feb-91	Improvements to water quality by reducing wet weather overflows via construction of a screening and disinfection facility.
S.327 Southwest Corridor CSO	-$6	Fall 86	Elimination of combined sewer overflows.
S.330 St. Mary's Street CSO Modifications	$17	Feb-87	Identification of solution for storm water detention.
S.332 Somerville Marginal CSO Rehabilitation	$98	Feb-89	Elimination of inadequately treated sewage discharges.
S.335 Moon Island	$1		
S.338 Cottage Farm CSO Ventilation System Repairs	$133	Sep-94	Rehabilitation of HVAC duct work.
S.339 North Dorchester Bay	$221,510	May-11	Eliminate CSO discharges and provide a high level of storm water control.
S.340 South Dorchester Bay Sewer Separation (Fox Pt.)	$55,029	Nov-06	Eliminate CSO discharges to South Dorchester Bay
341 Dorch Bay Sew Separ (Commercial Point)	$61,443	Dec-16	Eliminate CSO discharges to South Dorchester Bay
S.342 Neponset River Sewer Separation	$2,492	Aug-02	Elimination of CSO discharges to the Neponset River.

S.343 Constitution Beach Sewer Separation	$3,731	Apr-02	Elimination of CSO discharges at the Constitution Beach CSO Facility.
S.344 Stony Brook Sewer Separation	$44,319	Sep-06	Minimize CSO discharges to the Stony Brook conduit and the Back Bay Fens.
346 Cambridge Sewer Separation	$104,552	Jun-17	Minimize CSO discharges to the Alewife Brook and upgrading connections to MWRA interceptors.
S.347 East Boston Branch Sewer Relief	$85,638	Jul-10	To increase hydraulic capacity and provide long-term structural integrity to MWRA's East Boston Branch Sewer.
S.348 BOS019 Storage Conduit	$14,288	Mar-07	To reduce CSO activations and annual volume to the Little Mystic Channel.
S.349 Chelsea Trunk Sewer	$31,664	Jun-02	To control CSO discharges at outfalls CHE002, CHE003, CHE004, and CHE008.
S.350 Union Park Detention Treatment Facility	$49,583	Jun-07	To reduce the frequency and impacts of CSO discharges from outfall BOS070.
S.351 BWSC Floatables Controls	$946	Mar-02	Limit the discharge of floatable materials from 5 BWSC combined sewer outfalls.
S.352 Cambridge Floatables Controls	$1,127	Dec-08	Limit the discharge of floatable materials from Cambridge CSO outfalls.
S.353 Upgrade Existing CSO Facilities	$22,385	Aug-01	Minimize CSO impacts to the Lower Charles River, Upper Inner Harbor, Mystic/Chelsea Confluence, and South Dorchester Bay by upgrading 5 CSO treatment facilities.
S.354 Hydraulic Relief Projects	$2,295	Aug-00	Elimination of hydraulic restrictions between local and MWRA Systems.
S.355 MWR003 Gates & Siphon	$4,424	Oct-15	Minimize discharges to Alewife Brook as part of the MWRA's Alewife Brook CSO control plan.
S.356 Fort Point Channel Sewer Separation	$21,257	12/1/2010 - 11/1/2025	To minimize CSO discharges to Fort Point Channel by separating combined sewer systems tributary and implementing system optimization measures. Additional work added in FY24 for Fort Point Channel and Mystic River to divert flows.
S.357 Charles River CSO Controls	$3,633	Oct-11	Implement wastewater system optimization measures, including structural and operational improvements.
S.358 Morrissey Boulevard Drain	$32,181	Jun-09	Reroute storm water from BOS087 area
359 ReservedChannel Sewer Separation	$70,524	Dec-15	To minimize SCO discharges to the Reserved Channel by separating combined sewer systems in the area of South Boston.
S.360 Brookline Sewer Separation	$24,715	Jul-13	Minimize discharges to Charles River by separating combined sewer systems in several areas.
S.361 Bulfinch Triangle Sewer Separation	$9,032	Jul-10	Minimize discharges to Charles River by separating combined sewer systems in several areas.
S.362 East Boston CSO Control	$2,182	Jun-22	This project will reduces CSO discharges from BWSC CSOs (BOS003, BOS009 and BOS014).

S.402 Comprehensive Safety Action Project	$891	Nov-90	Correction of safety hazards at MWRA facilities and establishment ongoing safety management program.
S.403 Sewerage Division Management Services	$1,930	Dec-86	Provision of engineering design and construction advice.
S.924 Harbor Environmental Studies	$1,666	Jun-92	Collection and study of harbor water quality data.
Sub-Total Wastewater System Improvements	**$5,302,165**		

Appendix 7

Waterworks System Improvements			
S.533 Local Sources of Supply	$2,112	Jul-95	Provision of assistance to communities to promote effective protection of existing local water supply sources and encourage development of additional local sources where feasible.
S.535 Reservoir Risk Assessment	$647	Jun-92	Development of maps and data to determine at risk areas.
S.537 Drinking Water Quality Improvement Wachusett	$8,330	Oct-95	To comply with Safe Drinking Water Act to strengthen quality standards for water supply from Wachusett.
S.538 Sudbury Reservoir Treatment Plant Study and EIR	$447	Sep-92	Evaluation of alternative uses of the Sudbury Reservoir.
S.539 Drinking Water Quality Improvement Quabbin	$307	Nov-98	To comply with Safe Drinking Water Act to strengthen quality standards for water supply from Quabbin.
S.541 Watershed Protection	$8,500	Dec-03	To develop watershed protection measures for the MWRA/MDC reservoir system.
S.542 Carroll Water Treatment Plant	$429,997	Jun-05	To provide high quality drinking water to MWRA communities and to ensure water meets the standards established by the federal Safe Drinking Water Act.
S.543 Quabbin Water Treatment Plant	$19,973	Oct-14	To improve the quality of drinking water to the three Chicopee Valley Aqueduct communities.
S.544 Norumbega Covered Storage	$106,674	Jun-08	Construction of a covered 115 million gallon reinforced concrete storage tank to meet the drinking water quality standards mandated by the federal Safe Drinking Water Act.
S.545 Blue Hills Covered Storage	$40,083	Apr-10	To ensure sufficient distribution storage for MWRA's Southern High Service Area.
S.547 Fells Covered Storage	$18,004	Jun-00	Covered storage for Northern High Service System.
S.548 Nash Hill Covered Storage	$14,296	Jul-99	To improve the quality of drinking water to the three Chicopee Valley Aqueduct communities.
S. 550 Spot Pond Storage Facility	$60,126	Dec-15	Storage facility required to meet state and federal drinking water guidelines and provides 1 day's water demand.
S.598 Wachusett Reservoir By-pass Tunnel	$15	Jan-89	Evaluation of the option of constructing a tunnel by-pass.
S.599 Dam Control Valve Replacement	$1,763	Jul-98	Valve replacement at Sudbury Reservoir in Southborough and Wachusett Dam.
S.600 Oakdale Power Station Generator Repair	$893	Sep-91	Repair of substation metering and transformer systems.
S.601 Sluice Gate Rehab	$9,158	Jun-05	Installation of motorized gates and 12 facilities rehabilitated.

S.602 Hultman – Weston Aqueduct Transfer for Hydropower	$593	May-89	Production of approximately 3,700,000 kW hours per year of electricity.
S.603 Transmission Maintenance Facility	$5,025	May-93	Construction of new waterworks maintenance facility in Southborough.
S.604 MetroWest Tunnel	$697,254	Jun-03	To provide transmission redundancy for the Hultman Aqueduct ensuring reliable water delivery and providing sufficient hydraulic capacity to support the new Carroll Water Treatment Plant and covered storage distribution facilities.
S.605 Echo Bridge Rehabilitation	$356	Sep-92	Repair and cleaning of bridge façade and construction of new surface topping.
S.606 Norumbega Chlorination Facility	$10	Mar-89	Provision of a new water disinfection facility.
S.607 Weston Reservoir Chlorination Facility	$2,539	Jun-93	Replacement of obsolete facility with new 4,000 sq. ft.. chlorination and ammonia feed facility.
S.615 Chicopee Valley Aqueduct. Redundancy	$8,666	Apr-08	To provide redundancy for water service for the three communities supplied by the Chicopee Valley Aqueduct (CVA) in case of a CVA failure or shutdown.
S.620 Wachusett Reservoir Spillway Improvement	$9,287	Jul-10	Provide the necessary improvements to the Wachusett Reservoir Dam.
622 Cosgrove/Wachusett Redundancy	$58,619	Feb-19	Design and construction of an emergency pump station to pump water from the Wachusett Aqueduct to the Carroll Water Treatment Plant.
S.675 Water Distribution Master Plan	$1,178	Mar-93	Development of data base and recommendations for master plan.
S.676 Water Meter Modernization	$12,482	Jun-90	Rehab of 139 revenue meters
S.677 Valve Replacement	*$12,016*	*Apr-13*	*To replace, repair or retrofit approximately 500 blow-off valves and several hundred main line valves within the pipeline distribution system.*
S.678 Boston Low Service Pipe & Valve Rehab	$23,691	Sep-03	Improve the condition and operability of the pipelines serving the Boston Low Service System.
S.679 Nonantum Road Pipe Rehabilitation	$2,153	Mar-97	Rehabilitation and/or replacement of deteriorated pipeline.
S.680 Orient Heights Booster Pump Station	$3	Sep-90	Construction of a booster pump station to increase pressure throughout the Orient Height distribution system.

S.681 Southern Service Improvements	$14,450	Oct-99	Reliability and capability improvements to pipelines and pump stations serving the Southern service area.
S.683 Heath Hill Road Pipe Replacement	$19,358	Oct-07	Repair and improve pipelines and valves in Southern High and Southern Extra High Service areas.
S.684 Commonwealth Ave Pump Station	$8,503	Dec-99	Modernize and improve station serving a major portion of Newton.
S.685 Ward Street Pump Station	$24	Aug-89	Evaluation of the feasibility of pump station rehabilitation.
S.686 Dudley Road Pump Station	$55	Jun-91	Evaluation of the feasibility of pump station rehabilitation.
S.687 Lexington St Pump Station Rehabilitation	$3,985	Jun-99	Installation of larger capacity pumping units, backup power generation, and various electrical upgrades.
S.688 Northern Intermediate High Pipelines	$973	Nov-88	Increase in pipe capacity and pressure.
S.689 James L. Gillis Pump Station Rehab	$33,138	May-02	To improve and modernize pumping facilities.
S.690 Northern Low Service Pipeline Replacement	$714	Aug-99	Repair of Section 16W with replacement and pipe slip lining methods.
S.691 Northern High Service Improvements - Lynn Pipeline	$17,271	Jun-99	Installation of a new primary supply line for the northeast section of the Northern High Service System.
S.701 Northern Extra High Service – Bedford Pipeline	$71	Jan-92	Development of a plan to supply water to Bedford.
S.706 Northern High Service - Construction Mains from Section 91	$2,360	Jun-02	To integrate the new Section 91 pipeline with the existing grid network, improving service pressures and reliability to community meters.
713 Spot Pond Supply Mains Rehabilitation	$65,675	Dec-16	To improve the condition of carrying capacity and valve operability on the two long supply mains from Chestnut Hill to Spot Pond.

S.714 Southern Extra High Sections 41 & 42	$3,657	Dec-00	To increase hydraulic capacity of the mains that carry water to the Bellevue Tanks.
S.715 Newton Service Improvements	$5,762	Nov-99	New supply to Newton's Oak Hill Tank replacing an antiquated pump station and providing some system redundancy in the area.
S.716 Water Main Relocation in Chelsea River	$10,648	Nov-00	Relocation of the Section 8 water main over the Chelsea River.
S.720 Warren Cottage Line Rehabilitation	$1,205	Dec-02	To improve the carrying capacity and internal condition of the Warren Cottage Line.
S.725 Hydraulic Model Update	$598	Jun-07	To modernize MWRA hydraulic and water quality modeling capabilities.
730 Weston Aqueduct Supply Mains	$80,403	Dec-16	To improve the condition of carrying capacity of these major supply lines and the quality of the water supplied to the low, High, Intermediate, and Extra High pressure zones.
S.731 Lynnfield Pipeline	$5,626	Dec-12	Replace undersized water main to meet Lynnfield's high water demand
S.732 Walnut St. & Fisher Hill Pipeline Rehab.	$2,716	Mar-09	Improve water quality and hydraulic capacity of the pipeline serving City of Boston.
S.754 Domestic Device Retrofit	$9,928	Dec-93	Installation of water saving devices to reduce demand.
S.755 Leak Detection Survey	$751	Aug-90	Provision of data on the magnitude and location of water leaks.
S.756 Asbestos Abatement	$562	Aug-90	Elimination of asbestos in MWRA facilities.
S.757 PCB Abatement	$432	Aug-91	Replacement of equipment with unacceptable levels of PCB concentrations.
S.758 Rehabilitation of Existing Facilities	$14,173	Nov-02	Upgrade various facilities in need of significant capital improvement.
S.759 Municipal Toilet Replacement	$127	Dec-90	Reduction in water consumption.
S.760 Chestnut Hill Pump Station REH	$559	Oct-94	Rehab of pump station.
S.764 Local Water Infrastructure Rehabilitation Assistance Program	$7,488	Jun-04	To provide financial support to MWRA waterworks communities to replace, rehabilitate, and maintain their waterworks system infrastructures.
Sub-Total Water System Improvements	**$1,866,411**		

Appendix 7

Business & Operations Support			
S.901 Charlestown Headquarters	$4,548	Jun-91	Provision of office equipment at MWRA headquarters.
S.921 Management Information Service	$21,423	Dec-92	Enhancement to information systems to support more effective management of MWRA business activities.
S.922 Fore River Preservation	$4,946	Nov-97	Modify FRSA for on-going construction and operational support.
S.929 Affirmative Action	$403	Mar-91	Evaluation of minority participation in the MWRA procurement process.
S.930 MWRA Facility - Chelsea	$9,813	Mar-08	To improve MWRA operations by consolidating facilities.
S.931 Business System Planning	$24,563	Jun-11	Develop, improve, and procure management information systems.
S.932 Environmental Remediation	$1,479	Oct-10	Implement remedial programs necessary to protect the environment and to ensure compliance with the Clean State Initiative.
944 Info Tech Mgmt Program Total	$2	Jun-21	This program focuses on the resiliency and sustainability of the MWRA's data security practices. The projects associated with this program established
Sub-Total Business & Operations Support	**$67,176**		

APPENDIX 8

Expected Useful Life of Capital Projects

APPENDIX 8

EXPECTED USEFUL LIFE OF CAPITAL PROJECTS

The estimated useful life of the MWRA's capital projects are summarized below:

Type of Capital Improvement	Estimated Useful Life (in years)
Buildings (includes all substantial above ground structures or enclosures)	40
Mechanical Equipment (includes pumps, chains, fans, HVAC, valves, etc.)	20
Electrical Equipment (motors, generators, motor control centers, lighting, conduit, etc)	20
Control Systems (computers, SCADA, PLCs, programming, etc)	10
Water Pipes	50 – 75
Water Pipe appurtenances (blow offs, air valves)	40
Sewer Pipes – gravity	50
Sewer Pipes – pressure	50
Sewer Pipe appurtenances (manholes, chambers)	50
Tunnels – Water	100
Tunnels – Wastewater	100
Tunnel appurtenances (shafts, control valves)	40
Distribution Reservoirs – above ground	40
Distribution Reservoirs – below ground	75 -100
Dams and Dam improvements	100
Motor Vehicles	10 – 15
Furniture and Fixtures	5 – 15
Leasehold Improvements	Period of lease
Study	5
Design – if constructed	20
Design – if not used	5
Inflow/Infiltration - Repair	20
Inflow/Infiltration - Replacement	50
Covered Storage	50