

DPW Water Enterprise



Town of Tewksbury FY2025-FY2029 Capital Improvements Projects/Equipment

Basis of Cost Projection:

Construction costs for the water distribution improvements are based on Engineer's cost estimates and construction project costs from previous year.

Submitted By: Kevin Hardiman, Director of Public Works **Date:** 2/2/2024



Town of Tewksbury FY2025-FY2029 Capital Improvements Projects/Equipment

Project Name: Water Meter Replacement Program

Department: Public Works First Year Submission _____ Priority: _____

Description of Project: Replacement of non-functioning water meter endpoints and meters. Virtually all meter replacements are due to dead batteries, which last approximately 10 years. The majority of replacements will likely be performed by contractors with small number done with in-house staff.

Justification/Benefit: Mandated accurate water metering per DEP and EPA. This program ensures customer water meters are functional so consumption can be accurately calculated and billed. Estimated reads are inaccurate, time consuming, inconvenient for the customer, and problematic from a consumption and revenue calculating standpoint.

Impact if not Completed: Inaccurate water bills and water consumption data, customer concerns, violations from DEP.

Timeframe: On-going capital request Replacement Frequency: ~10 years

Operating Budget Impact: Reduces staff appointments for non-functional meters, reduces staff time on abatements, and ensures accurate billing and rate collections.

Funding Source: Water Enterprise

Capital Funding Request						
Fiscal Year	2025	2026	2027	2028	2029	Totals
Site Acquisition	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineer	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$1,500,000	\$1,500,000	\$1,500,000	\$0	\$0	\$4,500,000
Contingency	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$1,500,000	\$1,500,000	\$1,500,000	\$0	\$0	\$4,500,000

Basis of Cost Projection: Estimates from supply vendor quotes and contractors

Submitted By: Kevin Hardiman Date: 2/6/2024



Town of Tewksbury FY2025-FY2029 Capital Improvements Projects/Equipment

Project Name: Replace Raw Water and Finished Water Pumps & VFDs

Department: Public Works **First Year Submission** _____ **Priority:** _____

Description of Project: Replace Water Treatment Plant Raw and Finished Water Pumps including VFDs (Set 2 of 4)

Justification/Benefit: Raw and finish water pumps are reaching end of life expectancy. Ensures operational integrity and drastically reduces maintenance costs and concerns.

Impact if not Completed: Risk of failure to critical equipment of the Water Treatment Plant operation.

Timeframe: 1 year

Replacement Frequency: ~25 years

Operating Budget Impact: Reduces maintenance costs on existing pumps and likely energy savings with more efficient equipment.

Funding Source: Water Enterprise

Capital Funding Request						
Fiscal Year	2025	2026	2027	2028	2029	Totals
Site Acquisition	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineer	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$400,000	\$500,000	\$200,000	\$150,000	\$250,000	\$1,500,000
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$400,000	\$500,000	\$200,000	\$150,000	\$250,000	\$1,500,000

Basis of Cost Projection: Estimates from consultant

Submitted By: Kevin Hardiman **Date:** 2/6/2024



Town of Tewksbury FY2025-FY2029 Capital Improvements Projects/Equipment

Project Name: Hydrant Replacement Program

Department: Public Works **First Year Submission** _____ **Priority:** _____

Description of Project: Replacement of outdated, damaged, or non-functional fire hydrants system wide. Often a hybrid of contractor replacement and stock purchase for in-house crew installation.

Justification/Benefit: Mandated work for public safety and water quality. Ensuring hydrants are functional is critical for both Fire Department operations and Water Division maintenance.

Impact if not Completed: Fire protection hazards, water quality concerns due to regular maintenance flushing as well as water main break repair flushing. Costly repairs to existing hydrants.

Timeframe: On-going capital request

Replacement Frequency: 50 years

Operating Budget Impact: Replacement of older and outdated hydrants standardizes parts and drastically reduces repairs required.

Funding Source: Water Enterprise

Capital Funding Request						
Fiscal Year	2025	2026	2027	2028	2029	Totals
Site Acquisition	\$0	\$0	\$0	\$0	\$0	\$0
Design/Engineer	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Contingency	\$0	\$0	\$0	\$0	\$0	\$0
Totals	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000

Basis of Cost Projection: Estimates from construction contract bidding and supply vendor quotes.

Submitted By: Kevin Hardiman **Date:** 2/6/2024

**Water
5-Year Capital Cost**

Budget Cost Elements	FY25	FY26	FY27	FY28	FY29	TOTAL
Site Acquisition	\$0	\$0	\$0	\$0	\$0	\$0
Design/Eng.	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$7,450,000	\$7,550,000	\$7,250,000	\$5,700,000	\$5,800,000	\$33,750,000
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$7,450,000	\$7,550,000	\$7,250,000	\$5,700,000	\$5,800,000	\$33,750,000

Fiscal Year	Project Name	Work Description	Comments/Location	Cost
FY25 Cal 2024-2025				
Water Distribution Improvements				
	Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$150,000 Enterprise
	Water Distribution Upgrades	Design - South Tewksbury Phase III Design - Hill Street Construction - Fringle Street Construction - South Tewksbury Phase III Construction - Hill Street		\$5,400,000 Enterprise
	Water Meter Replacement	Three-year water meter replacement program		\$1,500,000 Enterprise
Water Plant Improvement				
	Water Treatment Plant Upgrades	Replace Raw and Finished Water Pumps including VFDs - Set 2 of 4		\$400,000 Enterprise
			Total Cost FY25	\$7,450,000
FY26 Cal 2025-2026				
Water Distribution Improvements				
	Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$150,000 Enterprise
	Water Distribution Upgrades	Design - William G Drive neighborhood Design - Cardigan Road neighborhood Construction - William G Drive neighborhood Construction - Cardigan Road neighborhood Construction - Shawsheen St., Beech St., Foster Rd., Patten Rd. Construction - Main Street Tie-Over		\$5,400,000 Enterprise
	Water Meter Replacement	Three-year water meter replacement program		\$1,500,000 Enterprise
Water Plant Improvement				
	Water Treatment Plant Upgrades	Replace Rapid Mixers and Flocculators in Sedimentation Basin Nos. 3 and 4		\$500,000 Enterprise
			Total Cost FY26	\$7,550,000
FY27 Cal 2026-2027				
Water Distribution Improvements				
	Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$150,000 Enterprise
	Water Distribution Upgrades	Design - South Tewksbury Phase IV Design - Shawsheen St., Beech St., Foster Rd., Patten Rd. Design - Longmeadow, Newton, Marshall, Nelson Construction - South Tewksbury Phase IV Construction - Shawsheen St., Beech St., Foster Rd., Patten Rd. Construction - Longmeadow, Newton, Marshall, Nelson		\$5,400,000 Enterprise
	Water Meter Replacement	Three-year water meter replacement program		\$1,500,000 Enterprise
Water Plant Improvement				
	Water Treatment Plant Upgrades	PAC System Improvements		\$200,000
			Total Cost FY27	\$7,250,000
FY28 Cal 2027-2028				
Water Distribution Improvements				
	Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$150,000 Enterprise
	Water Distribution Upgrades	Design - Pleasant, Summer, Dewey, Helvetia, Munro Construction - Pleasant, Summer, Dewey, Helvetia, Munro		\$5,400,000 Enterprise
Water Plant Improvement				
	Water Treatment Plant Upgrades	Clearwell Improvements		\$150,000
			Total Cost FY28	\$5,700,000
FY29 Cal 2028-2029				
Water Distribution Improvements				
	Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$150,000 Enterprise
	Water Distribution Upgrades	Design - Based on Water Main Replacement Plan Construction - Based on Water Main Replacement Plan		\$5,400,000 Enterprise
Water Plant Improvement				
	Water Treatment Plant Upgrades	Improvements based on Capital Plan and Need		\$250,000
			Total Cost FY29	\$5,800,000

Water System and Treatment Projects Spring of 2024-Spring of 2025

Project Type	Location	Description	Length (ft)	Budget	Notes
Water Main Replacement	Pringle Street neighborhood	Replace AC water main	6,900	2,350,000	Finalizing design for replacement in FY25
Water Main Replacement	South Tewksbury Phase III	Replace AC water main	7,750	2,650,000	GCG Proposal Pending for FY25 Design and CY25 Construction
Water Main Replacement	Hill Street	Replace AC water main	2,000	685,000	Design Proposals Pending from GCG. Have existing proposal from CES. Planned for construction in FY25. May need to bump back to a later FY depending on available funds.
Filtration Upgrades	Water Treatment Plant	Replace Raw Water Pumps and VFDs 2 of 4	N/A	400,000	
Distribution Repair	Colonial Drive	Replace two Variable Frequency Drives	N/A	200,000	Project is ongoing using Existing Funds
Water Main Replacement	Beech Street neighborhood	Replace AC/CI water mains	5,600	1,900,000	Construction FY24 funded by existing Water Funds (8231-589879 and 8232-589879)
Water Main Replacement	Fiske Street neighborhood	Replace AC water main	4,860	1,650,000	Construction FY24 funded by existing Water Funds (8231-589879 and 8232-589879)
Filtration Upgrades	Water Treatment Plant	Residuals Handling Disposal System Upgrade	N/A	TBD	Awaiting design proposals
Storage Tank Improvements	Astle Street Elevated Tank	Tank rehabilitation; painting and repairs	N/A	2,200,000	Project is ongoing using Existing Funds

Pipe Material (Length in Feet)							
Size (in.)	AC	CI	DI	PLASTIC	STEEL	WI	UNKOWN
2	1,283	0	248	702	0	13,020	1,642
4	0	0	502	0	0	0	0
6	170,961	89,148	37,134	0	0	0	8,971
8	85,932	33,264	247,584	7,218	0	0	9,140
10	1,019	6,563	4,018	0	0	0	0
12	180	15,370	49,838	0	840	0	275
16	0	2,503	32,947	0	0	0	174
18	0	1,104	0	0	0	0	0
20	0	0	18,068	0	0	0	0
24	0	0	4,140	0	0	0	0
Total (ft.)	259,375	147,952	394,479	7,920	840	13,020	20,202
Total (mi.)	49.1	28.0	74.7	1.5	0.2	2.5	3.8

AC- Asbestos Cement, CI - Cast Iron, DI - Ductile Iron, WI Wrought Iron