



Capital Improvement Plan

FY2020-FY2024

The Following is the Capital Improvement Plan (CIP) for the Town of Tewksbury which covers the next five (5) Fiscal Years, 2020-2024. The plan outlines the project requests from each Department and the year in which the project is proposed for funding. The funding sources are either Raise and Appropriate (R & A), transfer from the Stabilization fund, transfer from the Free Cash (FC), transfer from the Enterprise Fund Retained Earnings, Chapter 90, Grants, Gifts or borrowing.

Part I: Glossary of Financial Terms

Part II: Five (5) year CIP

The first page is a summary of the requests by Department, potential funding sources, and the amount requested each of the next five (5) Fiscal Years.

Second page is a summary of the projects that will be funded by either Raise and Appropriate (R & A), transfer from the Stabilization fund, transfer from the Free Cash (FC), transfer from the Enterprise Retained Earning.

Third page is a summary of the projects that will be funded by Chapter 90 funds.

Fourth page is a summary of the General Fund projects that will be funded by borrowing. The summary outlines the annual debt service costs.

Fifth page is a summary of the Enterprise Fund projects, specifically Water Enterprise Fund Projects that will be funded by borrowing. The summary outlines the annual debt service costs.

Part III: Project Narratives

List of all of specific request Project and Narratives submitted by the Departments with proposed funding for each year.

Glossary of Financial Terms

Part I

Glossary of Financial Terms

Appropriation – An authorization granted by a town meeting, city council or other legislative body to expend money and incur obligations for specific public purposes. An appropriation is usually limited in amount and as to the time period within which it may be expended.

Bond – A means to raise money through the issuance of debt. A bond issuer/borrower promises in writing to repay a specified sum of money, alternately referred to as face value, par value or bond principal, to the buyer of the bond on a specified future date (maturity date), together with periodic interest at a specified rate. The term of a bond is always greater than one year.

Bond Authorization – The action of town meeting or a city council authorizing the executive branch to raise money through the sale of bonds in a specific amount and for a specific purpose. Once authorized, issuance is by the treasurer upon the signature of the mayor, or selectmen.

Bond Issue – The actual sale of the entire, or a portion of, the bond amount authorized by a town meeting or city council.

Bond Rating (Municipal) – A credit rating assigned to a municipality to help investors assess the future ability, legal obligation, and willingness of the municipality (bond issuer) to make timely debt service payments. Stated otherwise, a rating helps prospective investors determine the level of risk associated with a given fixed-income investment. Rating agencies, such as Moody's and Standard and Poor's, use rating systems, which designate a letter or a combination of letters and numerals where AAA is the highest rating and C1 is a very low rating.

Bonds Authorized and Unissued – Balance of a bond authorization not yet sold. Upon completion or abandonment of a project, any remaining balance of authorized and unissued bonds may not be used for other purposes, but must be rescinded by town meeting or the city council to be removed from community's books.

Capital Improvements Program – A blueprint for planning a community's capital expenditures that comprises an annual capital budget and a five-year capital program. It coordinates community planning, fiscal capacity and physical development. While all of the community's needs should be identified in the program, there is a set of criteria that prioritizes the expenditures.

Capital Outlay – The exchange of one asset (cash) for another (capital asset), with no ultimate effect on net assets. Also known as "pay as you go," it is the appropriation and use of available cash to fund a capital improvement, as opposed to incurring debt to cover the cost.

Chapter 90 Highway Funds – State funds derived from periodic transportation bond authorizations and apportioned to communities for highway projects based on a formula under the provisions of MGL Ch. 90 §34. The Chapter 90 formula comprises three variables: local road mileage (58.33 percent) as certified by the Massachusetts Highway Department (MHD), local employment level (20.83 percent) derived the Department of Employment and Training (DET), and population estimates (20.83 percent) from the US Census Bureau. Local highway projects are approved in advance. Later, on the submission of certified expenditure reports to MHD, communities receive cost reimbursements to the limit of the grant.

Community Preservation Fund – A special revenue fund established pursuant to MGL Ch. 44B to receive all monies collected to support a community preservation program, including but not limited to, tax surcharge receipts, proceeds from borrowings, funds received from the Commonwealth, and proceeds from the sale of certain real estate.

Debt Authorization – Formal approval by a two thirds vote of town meeting or city council to incur debt, in accordance with procedures stated in MGL Ch. 44 §§1, 2, 3, 4a, 6-15.

Debt Exclusion – An action taken by a community through a referendum vote to raise the funds necessary to pay debt service costs for a particular project from the property tax levy, but outside the limits under Proposition 2½. By approving a debt exclusion, a community calculates its annual levy limit under Proposition 2½, then adds the excluded debt service cost. The amount is added to the levy limit for the life of the debt only and may increase the levy above the levy ceiling.

Debt Service – The repayment cost, usually stated in annual terms and based on an amortization schedule, of the principal and interest on any particular bond issue.

Enterprise Fund – An enterprise fund, authorized by MGL Ch. 44 §53F½, is a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. It allows a community to demonstrate to the public the portion of total costs of a service that is recovered through user charges and the portion that is subsidized by the tax levy, if any. With an enterprise fund, all costs of service delivery--direct, indirect, and capital costs—are identified. This allows the community to recover total service costs through user fees if it chooses. Enterprise accounting also enables communities to reserve the "surplus" or net assets unrestricted generated by the operation of the enterprise rather than closing it out to the general fund at year-end. Services that may be treated as enterprises include, but are not limited to, water, sewer, hospital, and airport services.

Free Cash (Also Budgetary Fund Balance) – Remaining, unrestricted funds from operations of the previous fiscal year including unexpended free cash from the previous year, actual receipts in excess of revenue estimates shown on the tax recapitulation sheet, and unspent amounts in budget line-items. Unpaid property taxes and certain deficits reduce the amount that can be certified as free cash. The calculation of free cash is based on the balance sheet as of June 30, which is submitted by the community's auditor, accountant, or comptroller. Important: free cash is not available for appropriation until certified by the Director of Accounts.

Levy – The amount a community raises through the property tax. The levy can be any amount up to the levy limit, which is re-established every year in accordance with Proposition 2½ provisions.

Local Appropriating Authority – In a town, the town meeting has the power to appropriate funds, including the authorization of debt. In a city, the city council has the power upon the recommendation of the mayor.

Long-Term Debt – Community borrowing, or outstanding balance at any given time, involving loans with a maturity date of 12 months or more.

Net Assets Unrestricted (formerly Retained Earnings) – An equity account reflecting the accumulated earnings of an enterprise fund that may be used to fund capital improvements, to reimburse the general fund for prior year subsidies, to reduce user charges and to provide for enterprise revenue deficits (operating loss).

Overlay (Overlay Reserve or Allowance for Abatements and Exemptions) – An account established annually to fund anticipated property tax abatements, exemptions and uncollected taxes in that year. The overlay reserve need not be funded by the normal appropriation process, but rather is raised on the tax rate recapitulation sheet.

Overlay Surplus – Any balance in the overlay account of a given year in excess of the amount remaining to be collected or abated can be transferred into this account. Within ten days of a written request by the chief executive officer of a city or town, the assessors must provide a certification of the excess amount of overlay available to transfer, if any. Overlay surplus may be appropriated for any lawful purpose. At the end of each fiscal year, unused overlay surplus is "closed" to surplus revenue; in other words, it becomes a part of free cash.

Short-Term Debt – Outstanding balance, at any given time, on amounts borrowed with a maturity date of 12 months or less.

Stabilization Fund – A fund designed to accumulate amounts for capital and other future spending purposes, although it may be appropriated for any lawful purpose (MGL Ch. 40 §5B). Communities may establish one or more stabilization funds for different purposes and may appropriate into them in any year an amount not to exceed ten percent of the prior year's tax levy. The total of all stabilization fund balances shall not exceed ten percent of the community's equalized value, and any interest shall be added to and become a part of the funds. A two-thirds vote of town meeting or city council is required to establish, amend the purpose of, or appropriate money into or from the stabilization fund.

Capital Improvement Plan
Five (5) Year Plan FY2020-FY2024
Part II

**TOWN OF TEWKSBURY
CAPITAL PLANNING PROGRAM
FISCAL YEARS 2020-2024
SUMMARY**

DEPARTMENT	PROJECT/PROGRAM	FUNDING SOURCE	FY2020	FY2021	FY2022	FY2023	FY2024	Total
Facilities and Grounds								
	Police Station	R&A/Stab. Fund/CPA Funds/Free Cash	88,500	25,000	75,000	-	-	188,500
	Library	R&A/Stab. Fund/CPA Funds/Free Cash	150,000	150,000	25,000	400,000	-	725,000
	Town Hall and Town Hall Annex	R&A/Stab. Fund/CPA Funds/Free Cash	-	-	25,000	25,000	-	50,000
	Senior Center	R&A/Stab. Fund/CPA Funds/Free Cash	25,000	70,000	50,000	-	-	145,000
	Facilities and Grounds Vehicles and Equipment	R&A/Stab. Fund/CPA Funds/Free Cash	85,915	-	-	-	-	85,915
	Recreation Fields and Facilities Improvements	R&A/Stab. Fund/CPA Funds/Free Cash	-	150,000	150,000	150,000	150,000	600,000
Total Facilities and Grounds			349,415	395,000	325,000	575,000	150,000	1,794,415
Fire Department								
	New Ambulance and Equipment	R&A/Stab. Fund/Free Cash	165,000	-	240,000	-	240,000	645,000
	New Rescue Truck	R&A/Stab. Fund/Free Cash	95,000	-	-	-	-	95,000
	North Fire Station Renovation	R&A/Stab. Fund/Free Cash	-	-	1,250,000	-	-	1,250,000
	South Fire Station Renovations	R&A/Stab. Fund/Free Cash	-	50,000	-	-	-	50,000
	Refurbish 2010 Seagrave Fire Engine	R&A/Stab. Fund/Free Cash	-	-	-	75,000	-	75,000
Total Fire Department			260,000	50,000	1,490,000	75,000	240,000	2,115,000
Public Works Department								
Storm water and Drainage								
	Stormwater and Drainage Repair and Maintenance	R&A/Stab. Fund/FC/Borrowing/CH90	925,000	450,000	435,000	400,000	150,000	2,360,000
	Stormwater Compliance	R&A/Stab. Fund/FC/Borrowing/CH90	100,000	200,000	100,000	100,000	100,000	600,000
	Stormwater and Drainage Improvement Projects	R&A/Stab. Fund/FC/Borrowing/CH90	-	-	-	-	-	-
	Stormwater and Drainage Project Development	R&A/Stab. Fund/FC/Borrowing/CH90	115,000	55,000	35,000	35,000	35,000	275,000
Total Stormwater and Drainage			1,140,000	705,000	570,000	535,000	285,000	3,235,000
Public Works Department								
Transportation								
	Pavement Management Preventative Maintenance	R&A/Stab. Fund/FC/Borrowing/CH90	30,000	350,000	350,000	350,000	350,000	1,430,000
	Pavement Management Reconstruction/Resurfacing	R&A/Stab. Fund/FC/Borrowing/CH90	400,000	445,000	445,000	445,000	445,000	2,180,000
	Sidewalks	R&A/Stab. Fund/FC/Borrowing/CH90	250,000	650,000	650,000	250,000	250,000	2,050,000
	Improvement Projects	R&A/Stab. Fund/FC/Borrowing/CH90	235,000	200,000	200,000	80,000	65,000	780,000
	Project Development	R&A/Stab. Fund/FC/Borrowing/CH90	300,000	115,000	100,000	100,000	50,000	665,000
Total Transportation			1,215,000	1,760,000	1,745,000	1,225,000	1,160,000	7,105,000
DPW Facilities/Misc.								
	DPW Facility Renovations and Upgrades	R&A/Stab. Fund/FC/Borrowing	-	7,042,000	-	-	-	7,042,000
Total DPW Facilities/Misc.			-	7,042,000	-	-	-	7,042,000
Public Works Department								
Fleet and Equipment								
	Vehicles and Equipment	R&A/Stab. Fund/Free Cash	520,000	535,000	510,000	405,000	515,000	2,485,000
Total Fleet and Equipment			520,000	535,000	510,000	405,000	515,000	2,485,000
Grand Total DPW			2,875,000	10,042,000	2,825,000	2,165,000	1,960,000	19,867,000
Grand Total General Fund			3,484,415	10,487,000	4,640,000	2,815,000	2,350,000	23,776,415

DEPARTMENT	PROJECT/PROGRAM	FUNDING SOURCE	FY2020	FY2021	FY2022	FY2023	FY2024	Total
Sewer Enterprise Fund								
Public Works (Sewer)	Inflow and Infiltration I/I control	Borrowing/R&A/Retained Earnings	350,000	350,000	350,000	350,000	350,000	1,750,000
Public Works (Sewer)	Sewer Pump Station Improvements	Borrowing/R&A/Retained Earnings	125,000	50,000	150,000	75,000	250,000	650,000
Public Works (Sewer)	Collections System Upgrades	Borrowing/R&A/Retained Earnings	-	-	-	-	-	-
Public Works (Sewer)	Fleet and Equipment Replacement Program	R&A/Ent. Fund	20,000	50,000	105,000	97,500	110,000	382,500
Total Sewer Enterprise Fund			495,000	450,000	605,000	522,500	710,000	2,782,500
Water Enterprise Fund								
Public Works (Water)	Hydrant Replacement Program	R&A Ent. Fund/Retained Earnings	125,000	125,000	125,000	125,000	125,000	625,000
Public Works (Water)	Water Distribution System Improvements	Borrowing/R&A/Retained Earnings	4,100,000	2,100,000	2,100,000	2,100,000	2,100,000	12,500,000
Public Works (Water)	Water Tank Maint. And Upgrades	Borrowing/R&A/Retained Earnings	90,000	1,000,000	-	-	-	1,090,000
Public Works (Water)	Fleet and Equipment Replacement Program	R&A Ent. Fund/Retained Earnings	20,000	50,000	145,000	97,500	110,000	422,500
Total Water Enterprise Fund			4,335,000	3,275,000	2,370,000	2,322,500	2,335,000	14,637,500
Grand Total All Capital Projects Per Year			8,314,415	14,212,000	7,615,000	5,660,000	5,395,000	
Grand Total All Projects All Years								41,196,415

**TOWN OF TEWKSBURY
CAPITAL PLANNING PROGRAM
FISCAL YEARS 2020-2024**

GENERAL FUND PROJECTS THAT WILL BE FUNDED BY RAISE AND APPROPRIATE, TRANSFER FROM STABILIZATION FUND, CPA FUNDS OR FREE CASH

DEPARTMENT	PROJECT/PROGRAM	FY2020	FY2021	FY2022	FY2023	FY2024	Total
Facilities and Grounds	Police Station	88,500	25,000	75,000	-	-	188,500
	Library	150,000	150,000	25,000	400,000	-	725,000
	Town Hall and Town Hall Annex	-	-	25,000	25,000	-	50,000
	Senior Center	25,000	70,000	50,000	-	-	145,000
	Facilities and Grounds Vehicles and Equipment	85,915	-	-	-	-	85,915
	Recreation Fields and Facilities Improvements	-	150,000	150,000	150,000	150,000	600,000
Total Facilities and Grounds		349,415	395,000	325,000	575,000	150,000	1,794,415
Fire Department	New Ambulance and Equipment	165,000	-	240,000	-	240,000	645,000
	New Rescue Truck	95,000	-	-	-	-	95,000
	North Fire Station Renovations	-	50,000	1,250,000	-	-	1,250,000
	South Fire Station Renovations	-	-	-	-	-	-
	Refurbish 2010 Seagrave Fire Engine	-	-	-	75,000	75,000	150,000
	Total Fire Department		260,000	-	240,000	-	240,000
Public Works Department	Stormwater and Drainage Repair and Maintenance	-	-	200,000	-	-	200,000
	Stormwater Compliance	100,000	200,000	100,000	100,000	100,000	600,000
	Stormwater and Drainage Improvement Projects	-	-	-	-	-	-
	Stormwater and Drainage Project Development	20,000	55,000	35,000	35,000	35,000	180,000
	Total Stormwater and Drainage	120,000	255,000	335,000	135,000	135,000	980,000
	Public Works Department	Pavement Management Preventative Maintenance	-	-	-	-	-
Pavement Management Reconstruction/Resurfacing		-	-	-	-	-	-
Sidewalks		250,000	250,000	250,000	250,000	250,000	1,250,000
Improvement Projects		35,000	-	-	-	-	35,000
Project Development		-	-	-	-	-	-
Total Transportation		285,000	250,000	250,000	250,000	250,000	1,285,000
DPW Facilities/Misc.	DPW Facility Renovations and Upgrades	-	7,042,000	-	-	-	7,042,000
	Public Works (General Fund)	-	7,042,000	-	-	-	7,042,000
Total DPW Facilities/Misc.							
Public Works Department	Vehicles and Equipment	520,000	535,000	510,000	405,000	515,000	2,485,000
	Public Works (General Fund)	520,000	535,000	510,000	405,000	515,000	2,485,000
	Total Fleet and Equipment	925,000	8,082,000	1,095,000	790,000	900,000	11,792,000
	Total DPW						
Grand Total General Fund		1,534,415	8,477,000	1,660,000	1,365,000	1,290,000	14,326,415

TOWN OF TEWKSBURY
 CAPITAL PLANNING PROGRAM
 FISCAL YEARS 2020 -2024
 PROJECTS FUNDED BY CHAPTER 90, OTHER MA HIGHWAY PROGRAMS AND VARIOUS STATE AND PRIVATE GRANTS

DEPARTMENT	PROJECT/PROGRAM	FY2020	FY2021	FY2022	FY2023	FY2024	Total
Public Works Department							
Stormwater and Drainage							
Public Works (General Fund)	Stormwater and Drainage Repair and Maintenance	925,000	450,000	235,000	400,000	150,000	2,160,000
Public Works (General Fund)	Stormwater Compliance	-	-	-	-	-	-
Public Works (General Fund)	Stormwater and Drainage Improvement Projects	-	-	-	-	-	-
Public Works (General Fund)	Stormwater and Drainage Project Development	95,000	-	-	-	-	95,000
Total Stormwater and Drainage		1,020,000	450,000	235,000	400,000	150,000	2,255,000
Public Works Department							
Transportation							
Public Works (General Fund)	Pavement Management Preventative Maintenance	30,000	350,000	350,000	350,000	350,000	1,430,000
Public Works (General Fund)	Pavement Management Reconstruction/Resurfacing	400,000	445,000	445,000	445,000	445,000	2,180,000
Public Works (General Fund)	Sidewalks	-	400,000	400,000	-	-	800,000
Public Works (General Fund)	Improvement Projects	200,000	200,000	200,000	80,000	65,000	745,000
Public Works (General Fund)	Project Development	300,000	115,000	100,000	100,000	50,000	665,000
Total Transportation		930,000	1,510,000	1,495,000	975,000	910,000	5,820,000
Total DPW		1,950,000	1,960,000	1,730,000	1,375,000	1,060,000	8,075,000

TOWN OF TEWKSBURY
CAPITAL PLANNING PROGRAM
FISCAL YEAR 2020-2024

ENTERPRISE FUND PROJECTS THAT WILL BE FUNDED BY RAISE AND APPROPRIATE, RETAINED EARNINGS OR ENTERPRISE STABILIZATION FUND

DEPARTMENT	PROJECT/PROGRAM	FY2020	FY2021	FY2022	FY2023	FY2024	Total
Public Works Department							
Public Works (Sewer)	Inflow and Infiltration I/I control	350,000	350,000	350,000	350,000	350,000	1,750,000
Public Works (Sewer)	Sewer Pump Station Improvements	125,000	50,000	150,000	75,000	250,000	650,000
Public Works (Sewer)	Collections System Upgrades	-	-	-	-	-	-
Public Works (Sewer)	Fleet and Equipment Replacement Program	20,000	50,000	105,000	97,500	110,000	382,500
Total Sewer Enterprise Fund		495,000	450,000	605,000	522,500	710,000	2,782,500
Public Works (Water)	Hydrant Replacement Program	125,000	125,000	125,000	125,000	125,000	625,000
Public Works (Water)	Water Distribution System Improvements	2,100,000	100,000	100,000	100,000	100,000	2,500,000
Public Works (Water)	Water Tank Maint. And Upgrades	90,000	1,000,000	-	-	-	1,090,000
Public Works (Water)	Fleet and Equipment Replacement Program	20,000	50,000	145,000	97,500	110,000	422,500
Total Water Enterprise Fund		2,335,000	1,275,000	370,000	322,500	335,000	4,637,500
Grand Total Per Year		2,830,000	1,725,000	975,000	845,000	1,045,000	7,420,000
Grand Total All Projects All Years							

GENERAL FUND DEBT
GENERAL FUND CAPITAL PROJECTS TO BE APPROPRIATED THROUGH BORROWING FY20 - FY24

	Amount	Debt Term	Interest Rate	FY2020	FY2021	FY2022	FY2023	FY2024
FISCAL YEAR 2020 CAPITAL PROJECTS								
TOTAL FY20 Debt	-							
FISCAL YEAR 2021 CAPITAL PROJECTS								
TOTAL FY21 Debt	-							
FISCAL YEAR 2022 CAPITAL PROJECTS								
TOTAL FY22 Debt	-							
FISCAL YEAR 2023 CAPITAL PROJECTS								
TOTAL FY23 Debt	-							
FISCAL YEAR 2024 CAPITAL PROJECTS								
TOTAL FY24 Debt	-							
Total New Exempt Debt								
Total New Non Exempt Debt								
CPA Existing Debt								
Total Existing Exempt Debt				6,142,142	5,854,204	5,743,084	5,663,719	5,637,669
Total Existing Non Exempt Debt				355,935	317,131	308,731	288,281	278,031
CPA Debt				361,100	349,600	340,400	328,900	317,400
Grand Total All New Debt		FY2019	6.866,266	6,859,176	6,520,935	6,392,215	6,280,900	6,233,100
Increase Over Previous Fiscal Year Debt Service				(7,090)	(338,241)	(128,721)	(111,315)	(47,800)

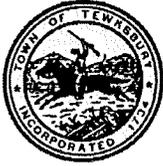
WATER DEBT									
CAPITAL PROJECT WATER ENTERPRISE FUNDS TO BE APPROPRIATED THROUGH BORROWING FY20-FY24									
FISCAL YEARS 2020-2024									
	Amount	Debt Term	Interest Rate	FY2020	FY2021	FY2022	FY2023		
FISCAL YEAR 2020 CAPITAL PROJECTS									
Water Distribution Upgrades	2,000,000	10	4.25%	285,000	276,500	268,000	259,500		
TOTAL FY19 Debt	2,000,000			285,000	276,500	268,000	259,500		
FISCAL YEAR 2021 CAPITAL PROJECTS									
Water Distribution Upgrades	2,000,000	10	4.25%	285,000	276,500	268,000	259,500		
TOTAL FY20 Debt	2,000,000			285,000	276,500	268,000	259,500		
FISCAL YEAR 2022 CAPITAL PROJECTS									
Water Distribution Upgrades	2,000,000	10	4.25%	285,000	276,500	268,000	259,500		
TOTAL FY21 Debt	2,000,000			285,000	276,500	268,000	259,500		
FISCAL YEAR 2023 CAPITAL PROJECTS									
Water Distribution Upgrades	2,000,000	10	4.25%	285,000	276,500	268,000	259,500		
TOTAL FY22 Debt	2,000,000			285,000	276,500	268,000	259,500		
FISCAL YEAR 2024 CAPITAL PROJECTS									
Water Distribution Upgrades	2,000,000	10	4.25%	285,000	276,500	268,000	259,500		
TOTAL FY23 Debt	2,000,000			285,000	276,500	268,000	259,500		
TOTAL ALL NEW DEBT	10,000,000			285,000	561,500	829,500	1,089,000		
TOTAL EXISTING DEBT WATER				2,291,946	2,428,146	2,536,807	2,638,725		
GRAND TOTAL EXISTING AND NEW DEBT SERVICE				2,576,946	2,989,646	3,366,307	3,727,725		
INCREASE OVER PREVIOUS FISCAL YEAR'S DEBT SERVICE				290,330	412,700	376,661	361,418		

**TOWN OF TEWKSBURY
CAPITAL PLANNING PROGRAM
FISCAL YEARS 2020 -2024
SUMMARY**

Capital Plan Summary	FY2020	FY2021	FY2022	FY2023	FY2024	Total
General Fund	3,484,415	10,487,000	4,640,000	2,815,000	2,350,000	23,776,415
Sewer Enterprise Fund	495,000	450,000	605,000	522,500	710,000	2,782,500
Water Enterprise Fund	4,335,000	3,275,000	2,370,000	2,322,500	2,335,000	14,637,500
Total Capital Plan Funded	8,314,415	14,212,000	7,615,000	5,660,000	5,395,000	41,196,415
Annual Capital Improvement Plan Cost						
R&A or Transfer from Stabilization Fund or Free Cash	1,534,415	8,477,000	1,660,000	1,365,000	1,290,000	14,326,415
Chapter 90, Other MA Highway Programs and Grants	1,950,000	1,960,000	1,730,000	1,375,000	1,060,000	8,075,000
General Fund Debt Service	-	-	-	-	-	-
R&A or Transfer from Sewer Enterprise Fund	495,000	450,000	605,000	522,500	710,000	2,782,500
R&A or Transfer from Water Enterprise Fund	2,335,000	1,275,000	370,000	322,500	335,000	4,637,500
Water Enterprise Funds Debt Service	285,000	561,500	829,500	1,089,000	1,340,000	4,105,000
Total Fiscal Year Cost	6,599,415	12,723,500	5,194,500	4,674,000	4,735,000	33,926,415

Capital Improvement Plan
Project Narratives
Part III

Facilities and Grounds



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Facility Upgrades and Improvements -Library

Date: 2-8-19

Submitted By: Vincent Bomal, Facilities and Grounds Manager

Department: Facilities and Grounds

First Year Submission: FY2019

Description of Project: The Library was built in 1998 and over the next few years will need some interior renovations and upgrades. Fiscal Year 2020 installation of new carpet throughout the first floor including entries and offices. The current carpet is 20 years old; Fiscal Year 2021 new carpet throughout the entire second floor. The current carpet is 20 years old; Fiscal Year 2022 installation of new entry in the Children’s area to provide access to the rear of the building for Children’s Events; Fiscal Year 2023 new roof which will be 25 years old and in need of replacement.

Justification/Benefit:

Addressing needed improvements and upgrades in the near future will be more cost effective in the long run and insure the longer life expectancy for the building.

Impact if not completed:

Delaying improvements will be more costly and the longer the buildings go without proper maintenance there will be a better chance of larger more costly problems occurring.

Timeframe: 6 months

Replace Freq: 20 Years

Stakeholders: Library employees and residents who utilize the building.

Operating Budget Impact: Less funding will be needed in the Department’s operating budget for ongoing maintenance. There would be risk of costly emergency repairs if the roof replacement is delayed

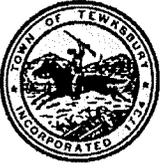
Funding Source: Tax Levy, Free Cash or Stabilization Fund

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$150,000	\$150,000	\$25,000	\$400,000	\$0.00	\$725,000
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$150,000	\$150,000	\$25,000	\$400,000	\$0	\$725,000

Basis of Cost Projection:

Budget number only, no estimates



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Facility Upgrades and Improvements -Police Station

Date: 2-8-19

Submitted By: Vincent Bomal, Facilities and Grounds Manager

Department: Facilities and Grounds

First Year Submission: FY2019

Description of Project: The Police Station was built in 1996 and over the next few years will need some interior renovations and equipment replacement. In FY20 replace the Department's HVAC system controller software with a Johnson Controls supervisory controller. This is essentially the brain of the HVAC system. In Fiscal Year 2021 renovation to the Dispatch area and install new entrance ramp. The current entry ramp needs to be replaced since it is starting to crack and breakdown; Fiscal Year 2022 install new chiller. The current chiller will be 25 years old and has met its life expectancy. The current chiller is inefficient and is beginning to have problems and is costly to repair.

Justification/Benefit:

Addressing needed improvements and upgrades in the near future will be more cost effective in the long run and insure the longer life expectancy for the building. The improvements will create a safer and more efficient building.

Impact if not completed:

Delaying improvements will be more costly and the longer the buildings go without proper maintenance there will be a better chance of larger more costly problems occurring. If the ramp is not addressed it will become a safety hazard. By not replacing the chiller the cost of repair will increase and its use will continue to create inefficiencies.

Timeframe: 6 months

Replace Freq: 20-25 Years

Stakeholders: Police Station employees and residents who utilize the building.

Operating Budget Impact: Less funding will be needed in the Department's operating budget for ongoing maintenance.

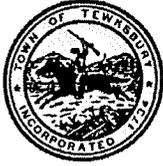
Funding Source: Tax Levy, Free Cash or Stabilization Fund

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$25,000.00	\$75,000.00	\$0.00	\$0.00	\$100,000.00
Equipment	\$88,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$88,500.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$88,500.00	\$25,000.00	\$75,000.00	\$0.00	\$0.00	\$188,500.00

Basis of Cost Projection:

Budget number only, no estimates



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Facility Upgrades and Improvements -Senior Center

Date: 2-8-19

Submitted By: Vincent Bomal, Facilities and Grounds Manager

Department: Facilities and Grounds

First Year Submission: FY2019

Description of Project: The original portion of the Senior Center was built in 1919 and the larger new addition was built in 2009. Over the next few years will need some interior renovations and upgrades. In Fiscal Year 2020 installation of new carpet in office and main areas; Fiscal Year 2021 renovation of restrooms to include plumbing upgrades, new fixtures, partitions, painting and tile floor; Fiscal Year 2022 renovation and upgrade of kitchen area to include plumbing upgrades, new equipment, painting and tile floor.

Justification/Benefit:

Addressing needed improvements and upgrades in the near future will be more cost effective in the long run and insure the longer life expectancy for the building.

Impact if not completed:

Delaying improvements will be more costly and the longer the buildings go without proper maintenance there will be a better chance of larger more costly problems occurring.

Timeframe: 6 months

Replace Freq: 20 Years

Stakeholders: Senior Center employees and residents who utilize the building.

Operating Budget Impact: Less funding will be needed in the Department's operating budget for ongoing maintenance.

Funding Source: Tax Levy, Free Cash or Stabilization Fund

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$25,000.00	\$70,000.00	\$50,000.00	\$0.00	\$0.00	\$145,000
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$25,000.00	\$70,000.00	\$50,000.00	\$0.00	\$0.00	\$145,000

Basis of Cost Projection:

Budget number only, no estimates



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Facility Upgrades and Improvements -Recreation Facilities and Vehicles and Equipment

Date: 2-8-19

Submitted By: Vincent Bomal, Facilities and Grounds Manager

Department: Facilities and Grounds

First Year Submission: FY2019

Description of Project: The Livingston Street Recreation Complex and Frasca Fields are heavily used by youth sports and for Town events. Over the next few years improvements will be needed to insure the facilities are maintained properly and safe. Fiscal Year 2020 purchase two new pieces of equipment; a Jacobsen Truckster Trash Hopper for trash disposal and Ventrac Winter machine with Attachments to snow blow during the Winter and groom fields during the Spring/Summer/Fall; Fiscal Year 2021 pave/improve access and parking lots for recreation facilities; Fiscal Year 2022 remodel and expand Facilities and Grounds garage/building to include new bay, restrooms, breakroom and office; Fiscal Year 2023 pave and/or improve parking lots access and parking lots for recreation facilities and Fiscal Year 2024 pave and/or improve parking lots access and parking lots for recreation facilities.

Justification/Benefit:

Addressing needed improvements and upgrades in the near future will be more cost effective in the long run and insure the longer life expectancy for the facilities and insure they are safe. The current lighting is outdated and inefficient. The current drainage is not sufficient and causes the area to flood.

Impact if not completed:

Delaying improvements will be more costly and the longer the fields and facilities go without proper maintenance there will be a better chance of larger more costly problems occurring.

Timeframe: 6 months

Replace Freq: 20 Years

Stakeholders: Facilities and Grounds employees and residents who utilize the Recreation fields and facilities.

Operating Budget Impact: Less funding will be needed in the Department’s operating budgets for ongoing maintenance.

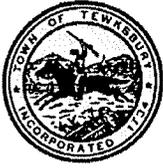
Funding Source: Tax Levy, CPA Funds, Free Cash or Stabilization Fund

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$150,000.00	\$150,000.00	\$150,000.00	\$150,000.00	\$600,000
Equipment	\$85,915.00	\$0.00	\$0.00	\$0.00	\$0.00	\$85,915.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$85,915.00	\$150,000.00	\$150,000.00	\$150,000.00	\$150,000.00	\$685,915

Basis of Cost Projection:

Budget number only, no estimates



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Facility Upgrades and Improvements - Town Hall Annex

Date: 2-8-19

Submitted By: Vincent Bomal, Facilities and Grounds Manager

Department: Facilities and Grounds

First Year Submission: FY2019

Description of Project: The Town Hall Annex was built in 1967 and over the next few years and will need some interior upgrades. In Fiscal Year 2022 for the renovation and upgrade to the Kitchen area to include new cabinets, sink, painting and ceiling and tile floor and in Fiscal Year 2023 upgrades to the Restrooms to include upgrade to plumbing, new fixtures, partitions, painting and new tile floor.

Justification/Benefit:

Addressing needed improvements and upgrades in the near future will be more cost effective in the long run and insure the longer life expectancy for the building.

Impact if not completed:

Delaying improvements will be more costly and the longer the buildings go without proper maintenance there will be a better chance of larger more costly problems occurring.

Timeframe: 6 months

Replace Freq: 20 Years

Stakeholders: Town Hall Annex employees and residents who utilize the building.

Operating Budget Impact: Less funding will be needed in the Department's operating budgets for ongoing maintenance.

Funding Source: Tax Levy, Free Cash or Stabilization Fund

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$25,000.00	\$25,000.00	\$0.00	\$50,000
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$0.00	\$0.00	\$25,000.00	\$25,000.00	\$0.00	\$50,000

Basis of Cost Projection:

Budget number only, no estimates

Fire Department



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Ambulance and Equipment

Date: January 4, 2019

Project ID Number: _____

Revision Date: _____

Submitted By: Michael Hazel, Fire Chief

Department: Fire

First Year Submission: 2017

Priority: Medium

Description of Project: Replace 2013 Ford E-450 Horton Ambulance with an ambulance that will continue to meet the needs of the Department and community. The last E-450 Ford Horton ambulance having a new chassis installed is being done now. The replacement ambulance in the FY2020 request will be a rechassis of our 2013 Ford E450 Ambulance or replacement of the ambulance with a new ambulance that will meet the needs and space requirements of the Department. Currently we are restricted by the physical dimensions of the current fire station bays. With the recent approval of a new Center Fire Station, in the future we will be able to plan for and design an ambulance that will better meet the operational needs of the Department and the community.

Justification/Benefit: The ambulance is the most frequently used emergency resources in the Department. They are driven by a variety of people under extreme conditions on a daily basis. Ambulances are prone to mechanical failure and require extensive maintenance as they age. Recent ambulances have reached approximately 75,000 to 80,000 miles in their first 2 years of use as the Town’s primary response ambulance. The new ambulance design will extend the front line service life of the vehicle by one year. New ambulance regulations will be met through appropriate planning and design specification.

Impact if not completed: Costly repairs and the potential of break downs during critical emergency responses as these vehicles age. Most service work is covered under factory warranty at no cost the Department when the primary and secondary ambulances are in service. The backup ambulance, the oldest in the fleet, is only placed in service during mass casualty incidents or when one of the primary ambulances require maintenance or repair.

Timeframe: FY 2020 FY 2022

Replace. Freq:
3 Years

Stakeholders: Town Residents / Firefighters / Ambulance Patients

Operating Budget Impact: Reduced maintenance and increased vehicle reliability in a vehicle critical to the Department.

Funding Source:

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$165,000.00	\$0.00	\$240,000.00	\$0.00	\$240,000.00	\$645,000.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$165,000.00	\$0.00	\$240,000.00	\$0.00	\$240,000.00	\$645,000.00

Basis of Cost Projection: Current State, Plymouth County, and Metropolitan Area Planning Council bid process.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: Rescue Truck

Date: January 4, 2019

Project ID Number:

Revision Date:

Submitted By: Michael Hazel, Fire Chief

Department: Fire

First Year Submission: 2017

Priority: Medium

Description of Project: Replace the 2000 International 4900 Rescue Truck with a smaller, more versatile vehicle to better serve the needs of the Department and the community. The new rescue truck will be reduced in size and will be designed to safely store and transport rescue equipment the Department currently utilizes.

Justification/Benefit: The current vehicle has an outdated hydraulic rescue tool system that is not capable of being cost effectively upgraded. The vehicle was built to carry a portable breathing air cascade system. This system has been removed from service due to regulation changes in the mobile filling of high pressure cylinders and the availability of a regional mobile filling station resource provided by the Tyngsboro Fire Department. The light tower on the rescue truck is not functional due to mechanical issues and the lack of availability of replacement parts. The new rescue truck design will provide compartment and storage space for current and future hazardous material and rescue related equipment.

Impact if not completed: The Fire Department will continue to operate our current rescue truck. We will continue to maintain and stock the truck with the tools and equipment it is capable of carrying. Current sub-frame corrosion will continue to be monitored and will be addressed as needed for continued safe operation.

Timeframe: FY 2020

Replace. Freq: 20 Years

Stakeholders: Town Residents / Firefighters / Hotels / State Hospital Complex / Condominiums & Apartment Complexes

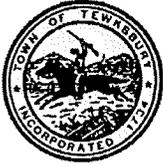
Operating Budget Impact: Reduced maintenance costs, improved flexibility in Departmental function between stations.

Funding Source:

Capital Funding Request

Table with 7 columns: Fiscal Year, 2020, 2021, 2022, 2023, 2024, Totals. Rows include Site Acquisition, Design/Engineer, Construction, Equipment, Contingency, and Totals.

Basis of Cost Projection: Estimate based on current State, Plymouth County, and Metropolitan Area Planning Council bid process.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: South Fire Station Kitchen Renovation

Date: January 4, 2019

Project ID Number: _____

Revision Date: _____

Submitted By: Michael Hazel, Fire Chief

Department: Fire

First Year Submission: 2017

Priority: Medium

Description of Project: A renovation of the kitchen cabinets and appliances is needed the South Fire Station. The physical area and structure of the building will not change.

Justification/Benefit: The South Fire Station was put into service in 2001 and is currently 16 years old. It meets the current needs of the Fire Department from a size and location point of view and is overall good condition. At the time of construction, several cost saving measures were taken to stay within the allotted budget for the project. One of those cost saving measures was the kitchen cabinetry, fixtures, and appliances. The plumbing fixtures have been replaced as needed; however, the cabinet doors and base structures are showing severe wear with the 24hour use of the building. The appliances were contractor grade purchases and are currently functional. Although the building's fire alarm panel may need modification or upgrade within the next few years, this project will not require upgrades of the fire protection provided it stays within the scope of the proposed work.

Impact if not completed: The firefighters will continue to use the cabinets and appliances that are in place. The Department will continue to make repairs as needed to maximize life of these original building components.

Timeframe: FY 2020

Replace. Freq:
25 Years

Stakeholders: Town Residents / Firefighters / Hotels / State Hospital Complex / Condominiums & Apartment Complexes

Operating Budget Impact: Reduced maintenance costs, improved functionality.

Funding Source:

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
Construction	\$0.00	\$40,000.00	\$0.00	\$0.00	\$0.00	\$40,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$0.00	\$50,000.00	\$0.00	\$0.00	\$0.00	\$50,000.00

Basis of Cost Projection: Town's Facility Director evaluated need along with firefighters versed in construction projects.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects/Equipment

Project Name: North Fire Station Renovation

Date: January 4, 2019

Project ID Number: _____

Revision Date: _____

Submitted By: Michael Hazel, Fire Chief

Department: Fire

First Year Submission: 2017

Priority: Medium

Description of Project: A renovation of the first floor of the North Fire Station and the addition of a second floor above the living quarters. The apparatus bays and footprint of the building will not change. The second floor addition will provide for safer and more functional use of the station by the firefighters assigned there.

Justification/Benefit: The North Fire Station was put into service in 1976 and is currently 41 years old. It meets the current needs of the Fire Department from a size and location point of view; however, it does not meet the current building and fire codes nor does it comply with NFPA standards for firefighter health and safety. A renovation and addition will provide the Department with a facility that meets all current building, life safety, and occupational health codes. The facility lacks adequate storage which reduces the functionality and use of the apparatus bays. A facility that provides adequate training, living, community accessibility, and equipment and storage space supports our firefighting personnel and assists the Department in the delivery of excellent services to our community. A renovation of the station utilizes existing Town owned property and will provide for ADA compliance, a public restroom, male and female firefighter showers and accommodations. It will be designed to meet current NFPA Standards for firefighter health and safety and will provide modern life safety features.

Impact if not completed: The Fire Department will continue to operate in a building that does not meet safety and building codes. The Town will have to invest in a new roof and heating system in the next several years. The firefighters will continue to operate in the limited space the station provides.

Timeframe: FY 2022

Replace. Freq:
50 Years

Stakeholders: Town Residents / Firefighters / Hotels / State Hospital Complex / Condominiums & Apartment Complexes

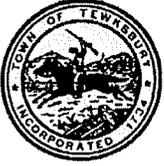
Operating Budget Impact: Reduced maintenance costs, improved flexibility in Departmental function between stations.

Funding Source:

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$150,000.00	\$0.00	\$0.00	\$150,000.00
Construction	\$0.00	\$0.00	\$1,100,000.00	\$0.00	\$0.00	\$1,100,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$0.00	\$0.00	\$1,250,000.00	\$0.00	\$0.00	\$1,250,000.00

Basis of Cost Projection: Estimate only. No feasibility study funded or conducted to date.



Town of Tewksbury FY2019 - FY2023 Capital Improvements Projects/Equipment

Project Name: 2010 Seagrave Fire Engine Refurbishment

Date: January 4, 2019

Project ID Number: _____

Revision Date: _____

Submitted By: Michael Hazel, Fire Chief

Department: Fire

First Year Submission: 2017

Priority: Medium

Description of Project: The 2010 Seagrave Marauder II Fire Engine is at its half-life of front line service to the community. The truck is in very good condition and will remain in front-line service for another seven years. The truck is showing signs of corrosion and is stocked to near its National Fire Protection Association (NFPA 1911) live load weight calculation. Competitive bid specifications for its refurbishment will be drafted to comply with the current edition of NFPA 1901, Standard for Automotive Fire Apparatus. Inspections will be required to verify working components of the body and cab, electrical systems, fire pump, frame and chassis before any components are removed to ensure the refurbishment option is cost effective vs. replacement of the apparatus.

Justification/Benefit: The apparatus has a stainless steel body and is of heavy duty construction. The apparatus manufacturer continues to be leader in the fire service industry and parts remain readily available. The community will receive the full anticipated useful life out of this apparatus; fifteen years of front line use and five years of reserve/backup use. The engine will be rejuvenated for continued safe use by our firefighters.

Impact if not completed: The Fire Department will continue to maintain and operate the Seagrave engine. Repair costs will likely escalate if core equipment is not verified service worthy and repaired or replaced as needed. The vehicle may not reach its full service life. We will continue to maintain and stock the truck with the tools and equipment it is capable of carrying. Current corrosion and live load weight load will continue to be monitored and will be addressed as needed for continued safe operation.

Timeframe: FY 2023

Replace. Freq:
20 Years

Stakeholders: Town Residents / Firefighters / Hotels / State Hospital Complex / Condominiums & Apartment Complexes.

Operating Budget Impact: Reduced maintenance costs, improved reliability of emergency response vehicle.

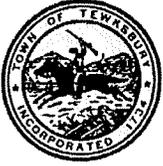
Funding Source: Available Town Funds

Capital Funding Request

Fiscal Year	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$0.00	\$0.00	\$0.00	\$75,000.00	\$0.00	\$75,000.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$0.00	\$0.00	\$0.00	\$75,000.00	\$0.00	\$75,000.00

Basis of Cost Projection: Estimate based on current industry costs for refurbishment and the condition of this piece of apparatus.

DPW General Fund



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Drain/Stormwater System Management

Date: 02/25/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

This program is an annual request to improve the Town’s drainage system by repairing failed drainage structures and culverts, and the installation of new drainage facilities where existing drainage problems endanger public safety and/or private property. Staff plan, coordinate and perform drainage improvements in conjunction with the Transportation Improvement Program to minimize disruptions and inconveniences and to reduce overall program expenditures. Additional drain repairs for incidental/minor upkeep have been included in the Town’s operational budget.

The capital construction projects identified for this program in Fiscal Year (FY20) include: design and install a replacement culvert on Bayberry Lane and install a replacement culvert at the lower Pinnacle Street crossing; in addition plans and specifications will be developed for the replacement of a culvert on Pringle St and drain installation on Vernon St.

Justification/Benefit:

Improving failed drainage infrastructure throughout Town eliminates a potential public health and safety hazard while efficiently and effectively managing the stormwater runoff for these areas in Town. In addition, the cost to maintain and repair infrastructure elements is substantially less compared to a complete rebuilding of a failed structure. These improvements help to maintain compliance with EPA’s MS4 NPDES Phase 2 Stormwater permit to the maximum extent possible with the budget available.

Impact if not completed:

Potential fines and penalties from the EPA for failing to comply with the MS4 NPDES Phase 2 Stormwater permit, loss in function of the drain systems with increase difficulty to minimize and/or eliminate flooding and damage to public and private property, danger to public travel, increased mosquito breeding causing nuisance as well as health hazards, increased exposure for infiltration into sewer collection systems, deterioration of the roadway surface accelerated by the effect of poorly drained roadways and, in some cases, culverts that are in poor condition have a high rate for failure which would cause the roadway to collapse and result in full road closure, delayed travel times and unsafe conditions for all vehicle travel.

Timeframe:

Projects are included on the attached spreadsheet inclusive of Fiscal Year’s 2020-2024.

Replacement Freq.: 25 Years

Stakeholders:

The Town, as a MS4 official for the NPDES Phase 2 Stormwater permit, and residents that live near the water bodies prone to stormwater flooding; taxpayers, the motoring public, and Highway/Forestry Division

Operating Budget Impact:

Engineering Division and Highway/Forestry Division personnel time will be required to support the projects to be completed. Repairs will eliminate the cost for expensive emergency repairs, formation of potholes, scouring of the roadway edge, all of which result in the loss of production efficiency and increased supply costs.

Cost Analysis:

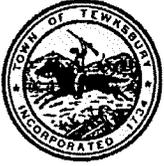
Funding Source: ● Levy ○ CPA ○ Revolving ● State Aid ○ Water ○ Sewer ○ Recreation ● Private ○ Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$115,000.00	\$55,000.00	\$35,000.00	\$35,000.00	\$35,000.00	\$275,000.00
Construction	\$925,000.00	\$450,000.00	\$435,000.00	\$400,000.00	\$150,000.00	\$2,360,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$1,040,000.00	\$505,000.00	\$470,000.00	\$435,000.00	\$185,000.00	\$2,635,000.00

Basis of Cost Projection:

Cost project based on current bid pricing; Does not include cost for MS4 Stormwater permit projects



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Detention Basin Remediation & MS4 Compliance

Date: 02/26/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

The Town is required to comply with the NPDES Small Municipal Separate Storm Sewer System (MS4) Permit requirements established by the United States EPA. Requirements under the MS4 Permit include stormwater outfall investigation and sampling, public outreach and involvement, and maintaining proper function of the stormwater management system. The MS4 permit and its requirements became effective July 1, 2018. The Town's stormwater management system includes catch basins, manholes, piping, and detention basins.

The town established a town-wide Storm Water Management Plan in 2018 outlining tasks necessary to meet the six minimum control measures included in the MS4 Permit. Tasks under this project include detention basin rehabilitation. Additional information can be found on the DPW Engineering division web page.

Justification/Benefit:

The Town is under agreement with EPA to satisfy the requirements for the NPDES Small MS4 Permit. As part of the requirements, the Town needs to ensure that the stormwater management system is functioning properly and comply with the six minimum control measures outlined in the permit. By establishing a program plan the Town will utilize its resources in the most efficient way to meet the objectives and stay in compliance with the permit.

In addition to meeting the requirements of the EPA permit, rehabilitation of the detention basins and maintenance of the system will help the Town's stormwater management system function more efficiently and improve water-body quality town-wide.

Impact if not completed:

The NPDES Small MS4 Permit is nationwide program. In Massachusetts the permit is administered by the EPA. Each municipality that is classified as having an MS4 is required to comply. It is important to abide by this permit not only for the protection of Town water bodies and to maintain records of the Town's stormwater assets, such as drainage structures and piping, but also to avoid penalties and fines from the EPA. If the Town was found to be in non-compliance with their MS4 Permit, the penalties faced by the EPA may exceed the budget request amount.

Timeframe:

The detention basin rehabilitation will performed within FY20.

Replacement Freq.:

Stakeholders:

The Town as a MS4 official for the NPDES Small MS4 Permit, developers, residents, commercial businesses, and industrial facilities

Operating Budget Impact:

Engineering Division personnel time will be required to prepare and implement the public outreach programs, outfall investigations and sampling, and define the scope of work to establish a SWMP and support the project's consultant in preparing the SWMP.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
						Total
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$20,000.00	\$0.00	\$0.00	\$0.00	\$20,000.00
Construction	\$100,000.00	\$180,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$580,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$100,000.00	\$200,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$600,000.00

Basis of Cost Projection:

Estimated cost of project based on an estimate prepared by the Engineering Division.

Drain-Stormwater
5-Year Project Cost Estimates

Drainage/Stormwater

Budget Cost Elements	FY20	FY21	FY22	FY23	FY24	TOTAL
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Eng.	\$115,000.00	\$155,000.00	\$35,000.00	\$35,000.00	\$35,000.00	\$375,000.00
Construction	\$1,025,000.00	\$550,000.00	\$535,000.00	\$500,000.00	\$250,000.00	\$2,860,000.00
Contingency						
TOTAL	\$1,140,000.00	\$705,000.00	\$570,000.00	\$535,000.00	\$285,000.00	\$3,235,000.00

Fiscal Year

Project Category	Location	Schedule		Cost	Fund
FY20 Cal 2019-2020					
Drains					
Culvert Replacement	Bayberry Lane			\$500,000.00	Small Bridge Program
Culvert Replacement	Lower Pinnacle St			\$425,000.00	Sutton Brk MitFund
				\$925,000.00	
Stormwater Compliance					
Detention Basin Rehabilitation	MS4 Permit requirement	on-going		\$100,000.00	General Fund
				\$100,000.00	
Project Development					
Vernon at Water St Drain Design	Vernon St			\$20,000.00	General Fund
Pringle Street Culvert Design	Pringle St			\$20,000.00	Sutton Brk MitFund
Culvert Replacement	Bayberry Lane			\$75,000.00	Sutton Brk MitFund
				\$115,000.00	
			Total Cost FY20	\$1,140,000.00	
FY21 Cal 2020-2021					
Drains					
CB/Manhole adjustment and repair	Backlog Inventory	Annual	Adjust, Repair, Replace	\$20,000.00	Chapter90
Vernon at Water St Drain Installation	Vernon St			\$150,000.00	Chapter90
Pringle St Culvert Replacement	Pringle St			\$280,000.00	Sutton Brk MitFund
				\$450,000.00	
Stormwater Compliance					
Detention Basin Rehabilitation	MS4 Permit requirement	on-going		\$100,000.00	General Fund
Requirements of MS4 Permit	Installation of BMP at Municipal Property			\$100,000.00	General Fund
				\$200,000.00	
Project Development					
Cayuga St Drain design	Cayuga St			\$20,000.00	General Fund
Engineer Culvert Repair	Andover St at Hood Rd Culvert repair			\$35,000.00	General Fund
				\$55,000.00	
			Total Cost FY21	\$705,000.00	
FY22 Cal 2021- 2022					
Drains					
Headwall and Culvert Repair	Andover St @ Hood Rd			\$200,000.00	Chapter90
CB Install	Old Boston Rd connection to Main St			\$35,000.00	MADOT
Pipe and structure repair	Cayuga St			\$200,000.00	General Fund
				\$435,000.00	
Stormwater Compliance					
Detention Basin Rehabilitation	MS4 Permit requirement	on-going		\$100,000.00	General Fund
				\$100,000.00	
Project Development					
Drain Improvement Design	Woburn St and Felker ST neighborhood			\$35,000.00	General Fund
				\$35,000.00	
			Total Cost FY22	\$570,000.00	
FY23 Cal 2022 - 2023					
Drains					
Install/Rebuild drain system	Woburn St x Felker St neighborhood			\$400,000.00	Chapter90
				\$400,000.00	
Stormwater Compliance					
Detention Basin Rehabilitation	MS4 Permit requirement	on-going		\$100,000.00	General Fund
				\$100,000.00	
Project Development					
Tewmack Terr Drain Design	Wolcott St to Arkansas		Engineering Services	\$35,000.00	General Fund
Drain Improvement Design	Location based on Stormwater Assessment				
				\$35,000.00	
			Total Cost FY23	\$535,000.00	
FY24 Cal 2023-2024					
Drains					
Tewmack Terr Drain Installation	Wolcott St to Arkansas			\$150,000.00	Chapter90
				\$150,000.00	
Stormwater Compliance					
Detention Basin Rehabilitation	MS4 Permit requirement	on-going		\$100,000.00	General Fund
				\$100,000.00	
Project Development					
Drain Improvement Design	Location based on Stormwater Assessment and Resident concerns			\$35,000.00	General Fund
				\$35,000.00	
			Total Cost FY24	\$285,000.00	



Town of Tewksbury FY2010 - FY2024 Capital Improvements Projects

Project Name: Transportation: Pavement Management Date: 02/26/2019

Project ID Number: _____ Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

This request proposes the funding of an annual Transportation/Street Improvement Program including: preventative maintenance, resurfacing and reconstruction, and sidewalks. As part of this program the Town has established a Complete Streets Policy, which has been evaluated and approved by the MA Department of Transportation. Acceptance of the policy by MADOT enables the Town to be eligible for additional State aid under its Complete Streets program. The Town has established a prioritization plan outlining the roadway improvements projects that will provide safe and accessible options for all modes of travel including walking, biking, transit, and vehicles. Complete Streets project funding has been included in this request, as funding allows.

In FY20 the Town proposes the following roadway treatments: crack-seal of approximately 2.5 miles of roadway and resurfacing of various roads based on priorities from the recently completed pavement management inventory. Resurfacing projects will include expenses for permitting, catch basin/manhole repair, drain flushing and repair, installation of new drains and shoulder/driveway berm installation. Funding for sidewalk installations is also included in this request. Locations and specifications have been established as part of a sidewalk plan, funded in FY18. In FY20 Franklin Street, Greenwood Street, Westland Drive, Oak Road, and South Street (from McLaren Road to Brown Street) will be reconstructed using Chapter 90 funds.

Justification/Benefit:

The lack of additional Town funding for a regular street improvement program over many years has resulted in the deterioration of Tewksbury's roads. In the calendar years 2004-2010, the sewer installation project injected approximately \$10,560,000 to improve many of the Town roads. However, there remained numerous miles of roads in disrepair and those in need of preventative maintenance. At this time roads treated during the sewer project are showing signs of distress. The large number of roads currently in need of preventative maintenance will begin to degrade into poor condition if regular investment and preventative maintenance practices are withheld. Roads more recently treated should be maintained through crack-sealing techniques to gain the greatest return on investment while avoiding higher costs for repair. Continued funding through State programs and Town accounts will increase the quality and safety of Tewksbury's roads as well as provide accommodations for various modes of transportation. Preventative measures will prolong road life-cycles while elevating the quality of roads without having to rehabilitate at higher unit costs.

Impact if not completed:

The life cycle of roads will be reduced, road surface quality will diminish, operating and resurfacing costs increase, safety is diminished, while damage to private property escalates.

Timeframe:

Projects are included on the attached spreadsheet FY20-FY24.

Replacement Freq.: 5-25 Years

Stakeholders:

Taxpayers, the motoring public, residents near the area that utilize these roads the most, and Highway/Forestry Division

Operating Budget Impact:

Engineering Division, Highway/Forestry Division and Water & Sewer Division personnel time will be required to support the projects to be completed.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$680,000.00	\$1,445,000.00	\$1,445,000.00	\$1,045,000.00	\$1,045,000.00	\$5,660,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$680,000.00	\$1,445,000.00	\$1,445,000.00	\$1,045,000.00	\$1,045,000.00	\$5,660,000.00

Basis of Cost Projection: Cost project based on current bid pricing.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Transportation: Traffic Improvements

Date: 02/26/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director of Public Works Department: Public Works Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewbury-ma.gov

Description of Project:

Projects under this category are one-time projects intended to improve aspects of design and/or function of roadway infrastructure or enhancements that will improve traffic safety and preservation of public and private property. The projects scheduled for FY20 include non-participating funding associated with the MassDOT TIP project for intersection improvements at South Street, Salem Road, and Main Street. In addition, there is a General Fund request for replacement of school zone signage at the Heath Brook and Dewing Elementary Schools.

Justification/Benefit:

The South Street, Salem Road and Main Street intersection project will improve traffic safety through three major intersections in town and add pedestrian and bicycle facilities. The funding for construction is being provided by the State through the Transportation Improvement Program (TIP). Through the TIP process, the town must pay for any non-participating construction costs. Improvements to signage and pavement markings in school zones will increase the safety of students and other pedestrians.

Impact if not completed:

MassDOT will not fund the construction if an agreement is not in place in which the Town agrees to pay for non-participating costs. Due to the age of the school zone equipment, replacement parts may be difficult or impossible to find for repairs. The current pavement markings do not meet the MUTCD standards for school zones. Improved technology allows for better operation through enhanced programmability.

Timeframe:

Replacement Freq.: 25 - 50 Years

Construction of the South Street, Salem Road and Main Street intersection improvements are scheduled for 2020. The school zone sign upgrades will be performed during the FY20 construction season.

Stakeholders:

The immediate stakeholders include the staff at DPW responsible for sign replacement and installation, drivers, pedestrians, cyclists, elementary school students, and parents.

Operating Budget Impact:

Installation of a traffic signal at South Street and Salem Road intersection will increase energy costs, which may be offset by installation of solar powered school zone flashing beacons. Decreased maintenance costs associated with replacement of antiquated equipment.

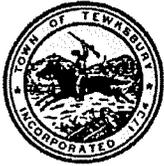
Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$235,000.00	\$200,000.00	\$200,000.00	\$80,000.00	\$65,000.00	\$780,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$235,000.00	\$200,000.00	\$200,000.00	\$80,000.00	\$65,000.00	\$780,000.00

Basis of Cost Projection: Engineer's estimate



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Transportation: Project Development and Design

Date: 02/26/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewbury-ma.gov

Description of Project:

This project will consist of developing design plans and specifications for reconstruction and improvement related to roadway facilities scheduled for FY2021. In most instances project construction will be scheduled for the following fiscal year. In addition, funding will be used to develop plans for sidewalk installation and a Complete Streets project. Plans for Complete Streets projects must be developed by the Town; construction funding is awarded through MADOT's grant program.

Justification/Benefit:

The Town must provide engineering design specifications for certain construction projects to ensure engineering and construction standards are met. In addition, various metrics are applied to ensure a plan will work as designed given site criteria. The intersection of Shawsheen Street and Foster Road presents a number of challenges due to its horizontal and vertical layout, which is further complicated by the inclusion of Patten Road and corner store egress in the design. The intersection is a heavily travelled section of road in close proximity to the Heath Brook School. The goal of the design will be to improve safety at this intersection. The project will look modify the layout and reconstruct the roadway providing accommodations for pedestrian and cyclists.

The Town has developed a prioritization list of fifteen (15) projects that meet the funding criteria of the Complete Streets program. The Town intends to apply for construction funding in FY21 through the Complete Streets grant process for sidewalk installation on Colonial Drive and upper North St at International Place. Upon notice of award the Town will commit the Chapter 90 funds for the design efforts. In addition sidewalk design along Shawsheen Street from Main St to Vale St will be completed.

Impact if not completed:

The Shawsheen and Foster intersection will continue to experience unsafe, undefined turning movements and blind sight-lines. Pedestrian safety will continue to be compromised due to the expansiveness of the intersection and lack of traffic controls and calming techniques. Whereas, the school is in proximity to the intersection, such improvements will provide greater safety for walkers, cyclists, and egress from the local convenience corner store.

Not promoting safe accessible multi-modal transportation options, including walking, biking, transit and vehicular, for all ages and abilities.

Timeframe:

Generally, project development will be completed in the year preceding project construction.

Replacement Freq.: 25 Years

Stakeholders:

All traveling public and adjacent residents along the corridors

Operating Budget Impact:

Realignment and signalization of the intersections will require electric power.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$300,000.00	\$115,000.00	\$100,000.00	\$100,000.00	\$50,000.00	\$665,000.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$300,000.00	\$115,000.00	\$100,000.00	\$100,000.00	\$50,000.00	\$665,000.00

Basis of Cost Projection: Engineering proposals

Transportation
5-Year Project Cost Estimates

Transportation

Budget Cost Elements	FY20	FY21	FY22	FY23	FY24	TOTAL
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Eng.	\$300,000.00	\$115,000.00	\$100,000.00	\$100,000.00	\$50,000.00	\$665,000.00
Construction	\$915,000.00	\$1,645,000.00	\$1,645,000.00	\$1,125,000.00	\$1,110,000.00	\$6,440,000.00
Contingency						
TOTAL	\$1,215,000.00	\$1,760,000.00	\$1,745,000.00	\$1,225,000.00	\$1,160,000.00	\$7,105,000.00

Fiscal Year	Project Category	Location	Schedule	Treatment	Cost	Fund
FY20		Cal 2019-2020				
	Road Preventative Maintenance					
	Cracksealing	Various locations based on PCI Report	Annual	Cracksealing	\$30,000.00	Chapter90
	Nova Chip vs Microseal			Micro Surface	\$0.00	Chapter90
					\$30,000.00	
	Reconstruction/Resurfacing					
	Grind and Overlay	Various locations based on PCI Report: attachment "Streets to be Paved"			\$150,000.00	Chapter90
	Full-Depth Reconstruction	Various locations based on PCI Report: attachment "Streets to be Paved"		Reclaim and Pave	\$250,000.00	Chapter90
					\$400,000.00	
	Sidewalks/Complete Streets					
	Locations based on Prioritization Plan	Construction: Shawsheen St Phase 1			\$250,000.00	General Fund
					\$250,000.00	
	Improvement Projects					
	South/Salem/Main intersect improvem't	MADOT non participating			\$200,000.00	Chapter90
	Traffic Sign Install and upgrade	Heath Brook and Dewing Schools	Solar School Zone Flashing Signs (4)		\$35,000.00	General Fund
					\$235,000.00	
	Project Development					
	Intersection Design (TIP)	Shawsheen X Foster			\$150,000.00	Chapter90
	Complete Streets Project Design	Colonial and Upper North St (at International) Sidewalk design			\$50,000.00	Chapter90
	Sidewalk Design	Shawsheen St: Main St to Vale St			\$100,000.00	Chapter90
					\$300,000.00	
					Total Cost FY20	\$1,215,000.00
FY21		Cal 2020-2021				
	Road Preventative Maintenance					
	Cracksealing	Various locations based on PCI Report	Annual	Cracksealing	\$50,000.00	Chapter90
	Nova Chip vs. Microseal	Heath Brk School neighborhoods off Shawsheen: Phase 1		Mirco Surface	\$300,000.00	Chapter90
					\$350,000.00	
	Reconstruction/Resurfacing					
	Grind and Overlay	Various locations based on PCI Report: attachment "Streets to be Paved"			\$175,000.00	Chapter90
	Full-Depth Reconstruction	Various locations based on PCI Report: attachment "Streets to be Paved"			\$270,000.00	Chapter90
					\$445,000.00	
	Sidewalks/Complete Streets					
	Complete Streets Construction	Colonial and Upper North St Sidewalk Installation	Dependant on MADOT grant award		\$400,000.00	Complete Streets Grant
	Sidewalk Construction	Construction: Shawsheen St Phase 2			\$250,000.00	General Fund
					\$650,000.00	
	Improvement Projects					
	Andover/River Rd Intersection Improvmt	MADOT non-participating (designed by others)	Dependant on MADOT grant award		\$200,000.00	Chapter90
					\$200,000.00	
	Project Development					
	Complete Streets Project Design	Fiske St Sidewalk			\$50,000.00	Chapter 90
	Sidewalk Design	Whipple Rd: Pleasant St to Chandler St			\$65,000.00	Chapter 90
					\$115,000.00	
					Total Cost FY21	\$1,760,000.00
FY22		Cal 2021-2022				
	Road Preventative Maintenance					
	Cracksealing	Various locations based on PCI Report	Annual	Cracksealing	\$50,000.00	Chapter90
	Nova Chip vs. Microseal	Heath Brk School neighborhoods off Shawsheen: Phase 2		Mirco Surface	\$300,000.00	Chapter90
					\$350,000.00	
	Reconstruction/Resurfacing					
	Grind and Overlay	Various locations based on PCI Report: attachment "Streets to be Paved"			\$175,000.00	Chapter90
	Full-Depth Reconstruction	Various locations based on PCI Report: attachment "Streets to be Paved"			\$270,000.00	Chapter90
					\$445,000.00	
	Sidewalks/Complete Streets					
	Complete Streets Construction	Fiske St Sidewalk	Dependant on MADOT grant award		\$400,000.00	Complete Streets Grant
	Sidewalk Construction	Whipple Rd Phase 1			\$250,000.00	General Fund
					\$650,000.00	
	Improvement Projects					
	Intersection Improvements	Shawsheen X Foster: Non-participating	Dependant on MADOT grant award		\$200,000.00	Chapter 90
					\$200,000.00	
	Project Development					
	Complete Streets Project Design	Based on (5) year prioritization plan			\$50,000.00	Chapter90
	Sidewalk St Design	Livingston St: East to Pond View Ln			\$50,000.00	Chapter90
					\$100,000.00	
					Total Cost FY22	\$1,745,000.00

<u>Fiscal Year</u>	<u>Project Category</u>	<u>Location</u>	<u>Schedule</u>	<u>Treatment</u>	<u>Cost</u>	<u>Fund</u>	
FY23	Cal 2022-2023						
Road Preventative Maintenance							
Cracksealing		Various locations based on PCI Report Annual		Cracksealing	\$50,000.00	Chapter90	Chapter 90
Nova Chip		Various locations based on PCI Report: attachment "Streets to be Paved"		Mirco Surface	\$300,000.00	Chapter90	Complete Streets Gen Fund
					\$350,000.00		
Reconstruction/Resurfacing							
Grind and Overlay		Various locations based on PCI Report: attachment "Streets to be Paved"			\$175,000.00	Chapter90	
Full-Depth Reconstruction		Various locations based on PCI Report: attachment "Streets to be Paved"			\$270,000.00	Chapter90	
					\$445,000.00		
Sidewalks/Complete Streets							
Sidewalk Construction		Whipple Rd Phase 2			\$250,000.00	General Fund	
					\$250,000.00		
Improvement Projects							
Signal Improvements		North St at Andover St			\$80,000.00	Chapter90	
					\$80,000.00		
Project Development							
Complete Streets Project Design		Based on (5) year prioritization plan			\$50,000.00	Chapter90	
Sidewalk St Design		Whipple Rd and lower Chandler			\$50,000.00	Chapter90	
					\$100,000.00		
				Total Cost FY23	\$1,225,000.00		
FY24							
	Cal 2023-2024						
Road Preventative Maintenance							
Cracksealing		Various locations based on PCI Report Annual		Cracksealing	\$50,000.00	Chapter90	Chapter 90
Nova Chip		Various locations based on PCI Report: attachment "Streets to be Paved"		Mirco Surface	\$300,000.00	Chapter90	Complete Streets Gen Fund
					\$350,000.00		
Reconstruction/Resurfacing							
Grind and Overlay		Various locations based on PCI Report: attachment "Streets to be Paved"			\$175,000.00	Chapter90	
Full-Depth Reconstruction		Various locations based on PCI Report: attachment "Streets to be Paved"			\$270,000.00	Chapter90	
					\$445,000.00		
Sidewalks/Complete Streets							
Sidewalk Construction		Livingston St: East to Pond View Ln			\$250,000.00	General Fund	
					\$250,000.00		
Improvement Projects							
Signal Improvements		Andover St at Ames Pond			\$65,000.00	Chapter90	
					\$65,000.00		
Project Development							
Sidewalk St Design		To Be Determined			\$50,000.00	Chapter90	
					\$50,000.00		
				Total Cost FY24	\$1,160,000.00		

ROADWAY RESURFACING/ RECONSTRUCTION CAPITAL PLAN

(UPDATED FEBRUARY 22, 2019)

2019

Mill/Overlay

Kimberly Drive
Kingston Street
Peterson Way
Chandler Street
Mount Joy Drive Ext.

Reconstruction

Sharon Street
Veranda Avenue

2020

Mill/Overlay

South Street
Franklin Street
Glenwood Road

Reconstruction

Westland Drive
Oak Road

2021

Mill/Overlay

Lumber Lane

Reconstruction

Deering Drive
Florence Avenue

Chip/Microseal

S. Elizabeth Street
S. Oliver Street & Oliver Street
S. Rhoda Street & Rhoda Street
S. Amos Street & Amos Street
Charme Road & Strang Street
Edith Drive & Ida Street
Knollwood Road & Herbert Street

2022

Mill/Overlay

Royal Crest Circle
Oxford Road
Hinckley Road
Pillsbury Avenue

Reconstruction

Chip/Microseal

Darleen Circle, Regan Road,
Lloyd Road, Cynthia Road,
Claire Street, Marie Street,
Chester Street, Chester Circle,
Chestnut Road, Maple Road,
Driftwood Drive, Sycamore Drive,
Walnut Road, Cherry Road
Pupkis Street, Coolidge Street

ROADWAY RESURFACING/ RECONSTRUCTION CAPITAL PLAN

(UPDATED FEBRUARY 22, 2019)

2023

Mill/Overlay

Ronald Drive
Brentwood Road
Dudley Road
Cayuga Road
Vernon Street
Mystic Avenue

Reconstruction

Chip/Microseal

Kenneth Lane
Mark Road
Helvetia Street
Pleasant Street

2024

Mill/Overlay

Trull Brook Lane
Joanne Drive

Reconstruction

Old Main Street
Benson Road

Chip/Microseal

Farwood Road
Windsor Drive
Charles Drive
Tilton Circle
Heidenrich Drive

Sidewalk Construction – Five-Year Capital Plan

2019

Foster Road

East Street & Chandler Street – Complete Streets Project

2020

Shawsheen Street – Phase I

South Street, Salem Road and Main Street – Part of TIP project

2021

Shawsheen Street – Phase II

Andover Street and River Road Intersection – Part of TIP project

*Colonial Drive and North Street – Complete Streets Project**

2022

Whipple Road – Phase I

2023

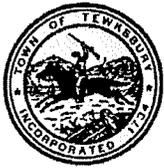
Whipple Road – Phase II

*Fiske Street – Complete Streets Project**

2024

Livingston Street – East Street to Pondview Lane

**Locations in Italics are subject to MassDOT Complete Streets Grant Funding*



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: _____ Department of Public Works Building Renovation _____ Date: 2/25/2019

Project ID Number: _____ Revision Date: _____

Submitted By: Brian Gilbert, Supt DPW Department: Public Works Dept Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

This project addresses the structural concerns of the DPW facility and its on-going operational needs. The project consists of two major components: construction of a separate fleet garage building, providing additional truck and equipment storage into the vacated garage; and repair and improvements to the current building envelope with minor modifications to improve efficiency in operations. The Project has undergone a facility assessment and the development of a project program. This request includes cost for design and engineering documents for construction; and construction of the modifications and improvements. It does not include a truck and vehicle wash bay.

Justification/Benefit:

Through an annual inspection process, conducted by the Town’s insurance provider a number of deficiencies have been identified and resolved. In some instances the resolutions have been temporary in nature, such as repairs to the roof and concrete block walls. In addition, a preliminary inspection of the building was conducted by a representative of CBI Consulting Architects and Engineers (CBI, 2013). Their inspection report outlined numerous building repairs and improvements necessary to preserve the building’s function and remaining useful life. The Fleet Division operation and facility was assessed by Weston and Sampson (W&S, 2015) and determined to be unsafe, constrained and undersized. In 2017 Kang Associates (KA) conducted a Facility Study addressing all of the space needs of the building and DPW operation. The study demonstrated that the two existing vehicle garages do not accommodate storage of the DPW fleet and highlighted inefficiencies in workflow. Most recently an assessment of a modified building program was evaluated to include the highest priorities of the KA Facility Study (Building envelope and space needs) This latest assessment was completed by CBI (2018).

The DPW facility is (50) years old. An addition was constructed (35) years ago to address the growing needs of the Department for space and storage. However, the facility does not meet the current space needs and functioning of the Department today, resulting in concerns for employee safety and health, care and damage to vehicles and equipment, work efficiencies, storage of tools and supplies and security of the facility.

Impact if not completed:

The building doesn’t serve the space, safety and efficiency needs of the DPW’s operations, while the physical structure will continue to be susceptible to deterioration, water infiltration and the funding of sunken costs. Safety of the staff will continue to be an issue as space is limited and environmental systems need updating. Higher building costs due to the lack of current building system technologies will continue wasteful spending on energy and repairs. Inefficient work processes and procedures will continue, which limit the work schedules of an under-sized staff resource.

Timeframe:

Replace. Freq: 30 Years

Funding for the facility’s assessment has been conducted by Kang Architects and CBI Consulting; the assessments provide a program and budget for design and construction services including contingencies. Engineering and Design for the modification repair and new construction is scheduled for FY21 and could begin as early as fall 2020. Construction could begin summer 2021.

Stakeholders:

Town staff working in the building and visitors doing business; Police, Fire and Park Department

Operating Budget Impact:

Potential cost savings in possible energy reduction; reduced incidence of equipment damage and repair; operational building repair, costs associated with employee injury.

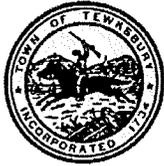
Cost Analysis:

Funding Source: ● Levy ○ CPA ○ Revolving ○ State Aid ● Water ● Sewer ○ Recreation ○ Private ○ Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$750,000.00	\$0.00	\$0.00	\$0.00	\$750,000.00
Construction	\$0.00	\$5,500,000.00	\$0.00	\$0.00	\$0.00	\$5,500,000.00
Equipment	\$0.00	\$220,000.00	\$0.00	\$0.00	\$0.00	\$220,000.00
Contingency	\$0.00	\$572,000.00	\$0.00	\$0.00	\$0.00	\$572,000.00
Totals	\$0.00	\$7,042,000.00	\$0.00	\$0.00	\$0.00	\$7,042,000.00

Basis of Cost Projection: Consultant’s Feasibility Cost Estimate(s)



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Equipment Replacement Program

Date: 2/25/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director of Public Works Department: Public Works Dept Priority: _____

First Year Submission: Phone #: _____ Email: _____

Description of Project:

The Department of Public Works has an inventory of (97) pieces of DPW/Utility equipment, not inclusive of all smaller motorized equipment and attachments. The current replacement value of all rolling stock and specialized equipment is approximately \$4,700,000. Each piece of equipment is inventoried with replacement intervals vary from 5-25 years which are based on recommendations by the American Public Works Association member organizations.

The selection process of vehicles to be replaced begins with the proposed replacement date. Then each vehicle is assessed as to its Remaining Useful Life, mechanical condition and work requirements. Lastly, each piece of equipment is prioritized for replacement and/or modification.

In FY20 the DPW requests General Fund replacements of the following: replacement of Truck #58 with two smaller F-550 dump trucks w/plow package, wing-plow and 3-yard sanders; Modify Truck #51 with permanent sander and wing plow; replace Loader #68 with same; purchase new a tow-behind stump grinder; also split between the water and sewer enterprises purchase a transit cargo van for the meter repair/customer service representative.

Justification/Benefit:

The DPW's systematic replacement program defines what equipment is expected to be replaced during the next five years, with the intent of preventing any unexpected emergency purchases, lockout-tagout conditions due to safety concerns or loss of service. Annual updates are conducted by the Road Machinery Division and reviewed by the Department's Director.

Impact if not completed:

The lack of an on-going replacement program and schedule will result in a jumbled inventory and the haphazard replacement of machinery. This could lead to a fleet ineffective in meeting the needs of the work program; budgetary problems if a piece of machinery had to be replaced in an emergency; and personnel safety issues if the machinery was operated beyond its reasonable life. Repair costs will rise due to the extent and scope of repairs for older equipment. Staff time to repair other Stakeholder Department's vehicles will see delays and increased costs for out-sourcing. Tasks/programs may go unaddressed if equipment fails to operate such as Street-sweeping, drain repair, sidewalk plowing etc.

Timeframe:

This is an on-going capital request

Replace. Freq:

5-25 Years

Stakeholders:

DPW operations staff and mechanics; Police, Fire, Park and Recreation Departments; Residents, businesses and Town government agencies dependent on DPW for snow removal, while some of the same Departments rely on DPW mechanics for repairs.

Operating Budget Impact:

Replacement of older vehicles will reduce repair costs within the operating budget. In addition, costs due to downtime, i.e. during snow plowing events will result in a reduction in overall storm event cost. Departments that depend on DPW mechanics to repair their vehicles will see delays in equipment being serviced and increased costs due to the postponement of those repairs. Outsourcing repair of all vehicles will increase costs across departments.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$575,000.00	\$635,000.00	\$760,000.00	\$800,000.00	\$735,000.00	\$3,305,000.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$575,000.00	\$635,000.00	\$760,000.00	\$800,000.00	\$735,000.00	\$3,305,000.00

Basis of Cost Projection: Vendor Estimates

Fleet/Equipment
5-year Project Cost Estimates

Budget Cost Elements	2020	2021	2022	2023	2024	TOTAL
Site Acquisition						
Design/Eng.						
Construction						
Equipment	\$560,000.00	\$635,000.00	\$760,000.00	\$600,000.00	\$735,000.00	\$3,290,000.00

Fiscal Year	Veh #	Year	Description Of Purchase	Department	Cost GenFund	Cost Enterprise	Comments
FY2020							
	58	1994	(2) F-550 dump w/plow package and wings	Highway	\$200,000.00		Replaces 5-Ton Dump with two F-550 dumps
			(2) 3-yard slide-in sanders for F-550's	Snow	\$30,000.00		Replaces 1996 6-yard sander
	51	2007	Modify Body and Plow package	Snow	\$50,000.00		Install 12 CY sander and wingplow
	68	2000	Loader	Highway/snow	\$180,000.00		Replace inkind
		New	Tow-behind stump grinder	Forestry	\$60,000.00		
			Sub-total DPW		\$520,000.00		
		New	Ford Transit Cargo Van	Water/Sewer		\$40,000.00	Replace use of surplusd Police cruisers
			Sub-total Water/Sewer			\$40,000.00	
			Total FY20		\$560,000.00		
FY2021							
	56	1997	10-Wheel Dump w/Plow package and wing	Highway	\$225,000.00		Replaces 1997 6-wheel Perm Sander w/dump
		1998	12-Yard sander (slide-in)	Snow	\$25,000.00		Replace Torwell w/Slide-in sander for #56
	901	1996	Brush Bandit Chipper	Forestry	\$65,000.00		Replace w/Same
	95	2005	Aerial Lift Bucket Forestry Package	Forestry	\$178,000.00		Replace with Same
	60	2006	Replace Dump Body	Highway	\$12,000.00		Replace w/Same
		New	Salt brine maker/blending machine	Snow	\$30,000.00		
			Sub-total DPW		\$535,000.00		
	88	2000	F-550 Dump w/snow Package	Water/Sewer		\$100,000.00	Replace inkind
			Sub-total Water/Sewer			\$100,000.00	
			Total FY21		\$635,000.00		
FY2022							
	55	1999	5-Ton Dump w/snow package	Highway	\$230,000.00		Replace Perm Sander w/Dump
		2000	6-Yard sander (slide-in)	Snow	\$25,000.00		Replace Torwell w/Slide-in sander for #55
		New	F-550 Dump w/snow Pkg and wing-plow	Highway	\$100,000.00		
			3-yrad sander	Snow	\$15,000.00		
		New	Rubber tire Excavator	Highway	\$140,000.00		with mower attachment
			Sub-total DPW		\$510,000.00		
	50	2000	5-ton Dump w/snow package	Water/Sewer		\$210,000.00	
		New	Rubber tire Excavator	Water		\$40,000.00	with grading bucket
			Sub-total Water/Sewer			\$250,000.00	
			Total FY22		\$760,000.00		
FY2023							
	53	2005	5-Ton Dump w/snow package	Highway	\$200,000.00		Replace w/Dump body and slide-in sander
		New	6-Yard sander (slide-in)	Snow	\$25,000.00		Slide-in Sander Truck #53
	22	2008	3/4 Ton Diesel PU	Highway	\$90,000.00		Replace with Same
	6	2006	F-350 Pickup w/snow package	Highway	\$90,000.00		
			Sub-total DPW		\$405,000.00		
	84	2011	Backhoe	Water/Sewer		\$145,000.00	
	82	2011	Ford Ranger 2-wheel drive	Water/Sewer		\$50,000.00	Replace inkind
			Sub-total Water/Sewer			\$195,000.00	
			Total FY23		\$600,000.00		
FY2024							
	65	2013	Pelican Sweeper	Highway	\$125,000.00		Replace inkind
	61	2006	F-550 Rack w/lift gate/snow pkg	Highway/Snow	\$90,000.00		Replace inkind
	25	2006	F-550 Utility w/snow pkg, pneumatic and boom	Highway/snow	\$150,000.00		Replace inkind
	26	2006	F-550 Utility w/snow pkg, pneumatic and boom	Highway/snow	\$150,000.00		Sign Truck
			Sub-total DPW		\$515,000.00		
	89	2010	10-Wheel Dump w/Plow package	Water/Sewer		\$220,000.00	
			Sub-total Water/Sewer			\$220,000.00	
			Total FY24		\$735,000.00		

DPW Sewer Enterprise



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Sewer Inflow and Infiltration Date: 02/25/2019
 Project ID Number: _____ Revision Date: _____
 Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____
 First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewbury-ma.gov

Description of Project:

This project is an on-going annual request for the rehabilitation of sewer manholes, pipe segments, and service connections that have been found to be sources of Inflow and Infiltration (I/I). Investigative tasks and projects are required by the DEP, who has recently mandated the submittal of a five-year I/I reduction plan for all cities and towns permitted for discharge from a treatment facility. The Town submitted a 5-year plan (2018) which has been reviewed and approved by DEP. Initial investigations were conducted as early as 2012 and repairs made as late as 2017. Continued investigation of (14) primary sub-basins is required to specifically identify locations of structural failures, and target repairs.

Operating funds will be used for on-going investigations in preparation of subsequent capital funding requests for infrastructure repairs. These repairs are scheduled for the FY2020-2024 period; it is anticipated that older system pipe will have been identified for replacement/repair and more extensive repairs to manholes will be undertaken.

Justification/Benefit:

Infiltration and Inflow (I/I) is extraneous water entering the wastewater collection system. Infiltration refers to groundwater that enters the collection system through physical defects such as cracks in the pipes and manholes, or deteriorated joints. Inflow refers to extraneous flow entering the system through point sources, such as roof drains and sump pumps. The extraneous flow produced from I/I sources restricts the potential for new growth by reducing the available capacity in the system, and increases the cost of wastewater treatment operations. More importantly, the reduction in pipe capacity has the potential to cause Sanitary Sewer Overflows (SSOs) during periods of the year with high groundwater recharge and rain events. By removing I/I sources, the system's total capacity is increased, helping to minimize the potential for SSOs, and allowing for additional development. Flows originating from the East Street, Burnham Road, and Andover Street sub-basins have been estimated to operate with peak infiltration at 15%, 68%, 31% respectively, during the high groundwater season.

Impact if not completed:

Tewksbury's sewer enterprise operates under regulations promulgated by the Massachusetts Department of Environmental Protection (MassDEP). Each year, Tewksbury is required to investigate its system and make repairs. The investigation for I/I sources also allow staff to review the structural condition of the infrastructure to prioritize repairs. Although this is a requirement of the Town's discharge permit, it is a beneficial program designed to ensure a long range return on the investment made in the new sewer network. By finding and eliminating extraneous flow, the increased capacity of the new system is maintained over a greater number of years. Also, peak flows may surcharge sewer collection pipe capacity and contribute to residential sewer system backups, causing damage and cost to the Town.

Timeframe:

The pipe repair and replacement will be contracted out for FY2020.

Replacement Freq.: 5-25 Years

Stakeholders:

All sewer customers, DPW Water & Sewer Division, MassDEP, Lowell Regional Wastewater Utility (LRWWU)

Operating Budget Impact:

Engineering Division and Water & Sewer Division personnel time will be required to support the projects to be completed.

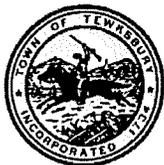
Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00	\$1,750,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00	\$350,000.00	\$1,750,000.00

Basis of Cost Projection: Engineer's Estimate



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Sewer Pump Station Improvements

Date: 02/25/2019

Project ID Number: _____ Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

This request is comprised of various projects to ensure the on-going operation of sewer pump stations. Types of projects in the category include upgrade to control panels and sensors, replacement of pumps and installation of new equipment to improve the performance of individual stations. The FY20 project includes the installation of an in-line mechanical grinder to breakdown solid materials in the waste stream before entering the pump station wet-well at Heather Row PS. The installation was designed as part of the FY19 budget. The grinder installation project aims to reduce pump station malfunction due to material clogging the pumps and the necessity for emergency response operations to free clogged pumps.

Justification/Benefit:

The town-wide sewer collection system utilizes forty six (46) sewer pump stations. Of these, the larger stations in the system have been equipped with grinders. However a number of smaller stations have continued problems with pump obstructions. The Heather Row PS experiences a high number of pump malfunction alarms which disable the pumps. The installation of the grinder will reduce emergency response, extend the life of the station pump(s) and reduce the risk of sewer overflows.

Impact if not completed:

Alarms at this station will continue to require the need for emergency response, many of which occurs after regular hours. Pump failures will reduce the expected life cycle of the pumps, which then would need to be replaced. Pump Station back-ups could occur if emergency response lags or during periods of high flow pumps are disabled.

Replacement Freq.: 25 Years

Timeframe:

Installation shall be completed during the FY20 budget year

Stakeholders:

All sewer customers connected to the Heather Row Pump Station, DPW Water & Sewer Division, MA Department of Environmental Protection.

Operating Budget Impact:

Water & Sewer Division overtime should be reduced, cost for electrical power to operate the grinder.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$50,000.00	\$0.00	\$75,000.00	\$0.00	\$125,000.00
Construction	\$125,000.00	\$0.00	\$150,000.00	\$0.00	\$250,000.00	\$525,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$125,000.00	\$50,000.00	\$150,000.00	\$75,000.00	\$250,000.00	\$650,000.00

Basis of Cost Projection:

Engineer's estimate.

Sewer
5-Year Project Cost Estimates

Sewer

Budget Cost Elements	2020	2021	2022	2023	2024	TOTAL
Site Acquisition						
Design/Eng.	\$0.00	\$50,000.00	\$0.00	\$75,000.00	\$0.00	\$125,000.00
Construction	\$475,000.00	\$350,000.00	\$500,000.00	\$350,000.00	\$600,000.00	\$2,275,000.00
Equipment						\$0.00
Contingency						\$0.00
TOTAL	\$475,000.00	\$400,000.00	\$500,000.00	\$425,000.00	\$600,000.00	\$2,400,000.00

SEWER Fiscal Year	Program	Work Description	Location	Funding Source	Cost
FY2020	Cal yr. 2019-2020				
	Infiltration and Inflow (I/I) Control				
	Pipe Repair and Replace	Clean and Camera; Repair/line pipe based on Camera result		Pulte Gift Account	\$300,000.00
		Chemical Grout Manholes Maplewood, Woodcrest and Deering Drive sub-catchment			
	Manhole Repair	Adjust sewer manholes based on inventory of locations winter 2019		Pulte Gift Account	\$50,000.00
	Pump Station Improv'm'ts				
	Install In-line Grinder at Heath Row Pump Station			Fall STM 2019	\$125,000.00
				Total Cost FY20	\$475,000.00
FY2021	Cal yr. 2020-2021				
	Infiltration and Inflow (I/I) Control				
	Pipe Repair and Replace	Clean and Camera; Repair/line pipe based on Camera result		Pulte Gift Account	\$300,000.00
		Chemical Grout Manholes Fiske, Sawyer Ln and Ames Pond sub-catchments sub-catchment			
	Manhole Repair	Adjust sewer manholes based on inventory of locations winter 2020		Pulte Gift Account	\$50,000.00
	Pump Station Improv'm'ts				
	Design In-line grinders for Devonshire and Riverdale Pump Stations				\$50,000.00
				Total Cost FY21	\$400,000.00
FY2022	Cal yr. 2021-2022				
	Infiltration and Inflow (I/I) Control				
	Pipe Repair and Replace	Dig and Replace/Slip Lining Based on FY20-21 Camera/Investigation			\$300,000.00
	Manhole Repair/ adjustment	Adjust sewer manholes based on inventory of locations winter 2021			\$50,000.00
	Pump Station Improv'm'ts				
	Install in-line grinders at Devonshire and Riverdale Pump Stations				\$150,000.00
				Total Cost FY22	\$500,000.00
FY2023	Cal yr. 2022-2023				
	Infiltration and Inflow (I/I) Control				
	Pipe Repair and Replace	Dig and Replace/Slip Lining Based on FY21-22 Camera/Investigation			\$300,000.00
	Manhole Repair/ adjustment	Adjust sewer manholes based on inventory of locations winter 2022			\$50,000.00
	Pump Station Improv'm'ts				
	Facility Assessment of equipment and controls to ensure proformance				\$75,000.00
				Total Cost FY23	\$425,000.00
FY2024	Cal yr. 2023-2024				
	Infiltration and Inflow (I/I) Control				
	Pipe Repair and Replace	Dig and Replace/Slip Lining Based on FY22-23 Camera/Investigation			\$300,000.00
	Manhole Repair/ adjustment	Adjust sewer manholes based on inventory of locations winter 2023			\$50,000.00
	Pump Station Improv'm'ts				
	Implement improvements to Pumps Stations based on FY23 Facility Assessment Design and Construction				\$250,000.00
				Total Cost FY24	\$600,000.00

DPW Water Enterprise



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Hydrant Replacement Program Date: 02/25/2019

Project ID Number: _____ Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440 Email: bgilbert@tewksbury-ma.gov

Description of Project:

This annual program is intended to replace aging, malfunctioning, and/or out-of-service fire hydrants and to implement the standardization of hydrants throughout Town. The project began in 2006 and was reinstated in 2010 to address a large number of out-of-service hydrants. Since 2010 over 350 hydrants have been replaced.

In 2006, it had been estimated that 600 of the approximate 1,600 hydrants needed replacement. Funding has been approved at various Town Meetings at differing amounts beginning in FY2006. This year's request and continuing appropriations include water main extensions and installation of hydrants at the end of dead-end water mains to facilitate the full flushing/cleaning of the water main, to improve water quality at these locations.

Justification/Benefit:

A number of hydrants within the system have out-lived their useful life cycle and show signs of fatigue or, in some instances, may be difficult to operate. Upgrading existing hydrants that are inoperable and/or do not meet the Town-wide hydrant standard is important to fire protection efforts and ISO ratings. In addition, there are 11 different types of hydrants within the system, reducing operation consistency: some open left, some open right; parts are not interchangeable, requiring procurement of a variety of parts and distributors for repairs, which tie up a large amount of the operating budget in inventory.

A number of older developments have distribution mains without the inclusion of a hydrant at the end of the water main to ensure the complete flushing of the water main. These sections of pipe need a hydrant installed so they can be periodically flushed to improve water quality.

Impact if not completed:

Malfunctioning or out-of-service hydrants delay firefighting operations. Leaking hydrants waste water, increasing the system's Unaccounted for Water (UAW); the inability to flush water mains via a hydrant leads to diminished water quality in some neighborhoods; stocking of parts for multiple hydrant types ties up capital and decreases operational efficiencies.

Timeframe:

Approximately 25 hydrants will be replaced or newly installed in FY2020.

Replacement Freq.: 25 Years

Stakeholders:

Fire Department personnel, Tewksbury residents/businesses, and Department of Public Works Water Division staff

Operating Budget Impact:

Engineering Division and Water Division personnel time will be required to support the project.

Cost Analysis:

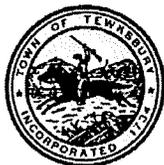
Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$125,000.00	\$125,000.00	\$125,000.00	\$125,000.00	\$125,000.00	\$625,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$125,000.00	\$125,000.00	\$125,000.00	\$125,000.00	\$125,000.00	\$625,000.00

Basis of Cost Projection:

Cost Projection based on similar contract bid by the Town of Tewksbury in FY17.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Water Distribution System Improvements

Date: 02/26/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director DPW Department: Department of Public Works Priority: _____

First Year Submission: Phone #: 978-640-4440

Email: bgilbert@tewksbury-ma.gov

Description of Project:

The Department Public Works has developed a Water Distribution System Master Plan to guide an on-going effort to remove and replace old pipe varying in size and made from cast-iron and asbestos cement. Proposed replacements will seek to maximize fire flow capacity, reduce residency time in the pipe, while looping system reaches for redundancy, reducing the frequency of main breaks and improving water quality.

This request seeks to fund the upgrade of the Town’s water distribution system prior to the commencement of a roadway improvement project on Main Street. The roadway improvement project is to be constructed by the Massachusetts Department of Transportation (MassDOT). All underground utility improvements must be completed prior to the State’s road construction. The locations for water upgrades include North Street to Victor Drive. This is the second phase of water main work in anticipation of the MassDOT project. Planned roadway improvements for Main Street are scheduled to begin in 2021. Additionally, the request will fund water main replacement in west Tewksbury on Woburn Street, Park Street, Elm Street, Highland Avenue, Greenwood Avenue, and North Billerica Road and in South Tewksbury on Bay State Road and the adjacent side streets.

Justification/Benefit:

The installation and replacement of existing water mains throughout the project work limits will enhance fire protection capabilities and improve water flows/pressures in these areas. In addition, replacement will remove a portion of the Town’s deteriorating AC pipe. Most importantly the replacement of deteriorating pipe will minimize the risk of water-breaks and necessity to for street openings within the improved project areas.

Impact if not completed:

Existing water pipe material is prone to breaking, requiring the roadway to be excavated and patched. Unexpected service outages will result from continued water main breaks.

Timeframe:

Replacement Freq.: 50 Years

Construction will begin in FY20. Design and construction funding anticipates replacement of a total of 2.6 miles of new pipe and 1.1 miles of renewed services.

Stakeholders:

Water customers (Town residents, commercial establishments, institutions, etc.), Tewksbury Fire Dept., Department of Public Works Water Division

Operating Budget Impact:

Replacement of asbestos cement (AC) and cast iron (CI) pipe with newer ductile iron (DI) pipe will result in fewer water main breaks for that section, and will reduce the associated costs with repairs and wasted water.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineering	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$500,000.00
Construction	\$4,000,000.00	\$2,000,000.00	\$2,000,000.00	\$2,000,000.00	\$2,000,000.00	\$12,000,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Basis of Cost Projection:

Construction costs for the Main Street, Woburn Street and Bay State Road improvements are based on Engineer’s cost estimates.



Town of Tewksbury FY2020 - FY2024 Capital Improvements Projects

Project Name: Astle Street Water Tank Project Improvements

Date: 02/25/2019

Project ID Number: _____

Revision Date: _____

Submitted By: Brian Gilbert, Director DPW

Department: Public Works Dept. Priority: _____

First Year Submission: Phone #: 978-640-4440

Email: bgilbert@tewksbury-ma.gov

Description of Project:

This project is requesting funds to develop plans and specifications based on an assessment that modifications need to be made to the Astle St water tank funded within the FY16 Capital Budget. The assessment established a program for engineering and designing a structural improvement to remove the Cell Carrier antennas from the cat-walk on the tank's superstructure. The assessment included an inventory of existing cellular equipment and requirements to remove any and all abandoned equipment; provide conceptual design to organize and move municipal and carrier equipment, including cabling, off the catwalk and onto the top of the water tank; and to provide a structural analysis for the selected modification. As part of the design phase, any structural deficiencies and necessary modifications to the cat-walk will be incorporated to meet or exceed OSHA regulations regarding fall protection. The specifications shall also incorporate relocating all municipal radio equipment into the radio shack provided by Sprint. This project will fund the engineering and design plans for bidding the work.

Justification/Benefit:

The tank is a one million gallon steel tank built in 1970 and then refurbished in 2000 due to deferred maintenance and support structures for cell carriers being welded to the outside structure. Since 2000 numerous installations and reinstallations of cell carrier components have been placed on the tank, where no standard specifications and organization of the equipment were provided. The result is a myriad of cables and antennas gone unchecked and installed in locations not designed for the purpose of cell tower equipment.

In previous Capital Plans, the Astle Street Tank was scheduled for inspection, structural repair and an application of exterior coating. However, observations have been made that the catwalk sections flex and may need reinforcement to prevent walkway failure; while the weight of numerous antenna equipment and cable exceed structural specifications of the structure. The organization of equipment is necessary for the long-term maintenance and use of the tank.

Impact if not completed:

The tank and catwalk may experience structural failures due to deterioration and/or cellular network equipment overloading. Continued interruption of town network/cellular service due to contractor disturbance of Town micro-wave equipment; and access/maintenance of Town communication system will remain problematic.

Timeframe:

Replacement Freq.: 25 Years

This work will be scheduled during FY20 requesting engineering and design services to establish plans and specifications for bidding the work

Stakeholders:

All water customers, DPW Water & Sewer Division and Water Treatment Plant, MassDEP/EPA, Cell Carriers and aerial workers.

Operating Budget Impact:

The project impact has more bearing on capital and asset protection than operating budget impact. However, maintenance of the municipal radio and microwave system(s) will be more accessible.

Cost Analysis:

Funding Source: Levy CPA Revolving State Aid Water Sewer Recreation Private Other

Capital Funding Request

	2020	2021	2022	2023	2024	Totals
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Engineer	\$90,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$90,000.00
Construction	\$0.00	\$1,000,000.00	\$0.00	\$0.00	\$0.00	\$1,000,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Contingency	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$90,000.00	\$1,000,000.00	\$0.00	\$0.00	\$0.00	\$1,090,000.00

Basis of Cost Projection:

Cost will be based on Engineering estimate as outlined in the assessment.

Water
5-Year Capital Cost

Budget Cost Elements	2020	2021	2022	2023	2024	TOTAL
Site Acquisition	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Design/Eng.	\$190,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$590,000.00
Construction	\$4,125,000.00	\$3,125,000.00	\$2,125,000.00	\$2,125,000.00	\$2,125,000.00	\$13,625,000.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL	\$4,315,000.00	\$3,225,000.00	\$2,225,000.00	\$2,225,000.00	\$2,225,000.00	\$14,215,000.00

Fiscal Year	Program	Project Name	Work Description	Comments/Location	Cost
FY2020			Cal 2019-2020		
		Water Distribution Improvements			
		Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey	Fall STM 2019	\$125,000.00
		Water Distribution Upgrades	Engineer/Design Distribution Main upgrades FY2022: Baystate Rd neighborhood	2" and 6" AC Water Main	\$100,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades Main St Phase 2	Main St: North St to Victor Drive Main St: Old Boston Rd to Marshall South St: Main to Brown Andover St: Waterford to River Woburn Street neighborhood various locations	\$1,300,000.00 \$700,000.00 Prev Approp \$2,000,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades Woburn St neighborhood		\$2,000,000.00
		Water Plant Improvement			
		Astle Street Tank Renovations	Project Design, Plans and specifications should include moving Telecommunications to new shelter	Fall STM 2019	\$90,000.00
				Total Cost FY20	\$4,315,000.00
FY2021			Cal2020-2021		
		Water Distribution Improvements			
		Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$125,000.00
		Water Distribution Upgrades	Engineer/Design Distribution Main upgrades FY2023: Whipple Rd (Lowell to Winsor), Astle, Miles Rd (Phase 1)	6" inch AC Water Main	\$100,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades based on FY2020 design Baystate St Neighborhood		\$2,000,000.00
		Water Plant Improvement			
		Astle Street Tank Renovations	Construction: Catwalk repair/Carrier reorganization and painting Fall Town Meeting (Doesn't include Bonding for Carrier costs)		\$1,000,000.00
				Total Cost FY21	\$3,225,000.00
FY2022			Cal2021-2022		
		Water Distribution Improvements			
		Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$125,000.00
		Water Distribution Upgrades	Engineer/Design Distribution Main upgrades FY2024: Whipple Rd: Winsor to Pleasant St (Phase 2)	2" and 6" inch Water Main	\$100,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades based on Fy2021 Design Whipple, Astle, Miles (Phase 1)	2" and 6" inch Water Main	\$2,000,000.00
		Water Plant Improvement			
					\$0.00
				Total Cost FY22	\$2,225,000.00
FY2023			Cal22-2023		
		Water Distribution Improvements			
		Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$125,000.00
		Water Distribution Upgrades	Engineer/Design Distribution Main upgrades FY2025: Cardigan/William G	2" and 6" inch Water Main	\$100,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades based on Fy2022 Design Whipple Rd: Winsor to Pleasant St (Phase 2)		\$2,000,000.00
		Water Plant Improvement			
					\$0.00
				Total Cost FY23	\$2,225,000.00
FY2024			Cal23-2024		
		Water Distribution Improvements			
		Hydrant Replacement/Install	Replace older and terminal hydrants at various locations based on survey		\$125,000.00
		Water Distribution Upgrades	Engineer/Design Distribution Main upgrades FY2025: Lower Shawsheen Street neighborhood at Foster Rd	2" and 6" inch Water Main	\$100,000.00
		Water Distribution Upgrades	Construct Distribution Main upgrades based on Fy2023 Design Cardigan/William G		\$2,000,000.00
		Water Plant Improvement			
					\$0.00
				Total Cost FY24	\$2,225,000.00