

# **Enterprise Funds**

## **Section 8**



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### Solid Waste Enterprise Fund Statement

On January 1, 2003 the Town began a fee-based solid waste program commonly referred to as “Pay-As-You-Throw” (PAYT). The PAYT program is overseen by the Town Engineer and requires residents to use Town of Northborough designated trash bags in order to have their trash and recycling collected at curbside by the Town’s contractor. The PAYT program is operated as an enterprise fund intended to generate fee revenue to cover a portion of the solid waste and recycling collection and disposal costs previously provided within the tax base.

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 the option to recover total service costs through user fees. Enterprise accounting also enables communities to reserve as unrestricted the "surplus" or net assets 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, solid waste, water and sewer services.

### Significant FY2022 Budget Changes or Initiatives

Recycling markets throughout the United States are going through a difficult and complicated transition. For many years China had been the primary market for our country’s recyclable materials. They offered the unique benefit of available shipping containers here in the United States that needed to go back to China, which had been loaded with recyclable materials. In early 2018 China revised their specifications for acceptance of recyclable materials to an unachievably low contamination standard, which eliminated the option of exporting these commodities to China. This has resulted in the need for a fast and drastic change to the market for recyclable materials here in the United States.

The impact to central Massachusetts is similar to that of the rest of our nation. In years past, the value of recyclable materials would offset the cost of collecting and sorting them, which is no longer the case. As an example, certain materials which are heavy and costly to process for recycling, such as glass, have no market value, while others have very limited value due to an overabundance of availability. It can be summarized simply that there is far too much supply with very little demand. Market instability is projected to continue until new material recovery facilities can be brought on-line here in the United States and in emerging countries around the world. The cost of this transition unfortunately is being borne by communities such as ours. MassDEP regulations prohibit recyclable materials from entering the solid waste stream; therefore, collection and processing is mandated.

In 2019, the Engineering Department issued an Invitation for Bids (IFB) for solid waste collection and recyclable materials collection and disposal. As part of this IFB, alternate prices were also sought for a collection contract which included the requirement for the contractor to deliver the recyclable materials to a recycling facility of the Town’s choice. Under this option, the Town would be responsible for all costs associated with the processing and marketing



## Section 8-2                      Solid Waste Enterprise Fund

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materials as part of a separate contract between the Town and a recycling facility. This option was an attempt to control the future recycling costs being passed on to the Town. After significant review of the recycling market and the bids received, the Town decided not to exercise that option, but rather to enter into a new three (3) year contract with two (2) one-year extensions at the Town's option with our previous contractor, Republic Services. This new contract includes significant increases in the collection of both solid waste and recycling materials along with the disposal and marketing of the recyclable materials, as the previous contract had increased by only 4% over the previous 8 years. This new contract also includes an annual Recycling Net Processing Cost Adjustment, which will allow the Town to maintain costs associated with current recycling market trends and to minimize future significant increases. The options in years four and five also afford the Town the ability to go back out to bid for another collection contract should new opportunities for savings become available.

Overall, the Solid Waste and Recycling budget is increasing \$45,594, or 5.22%. The FY2022 fee revenues are projected to be \$488,000 and the FY2022 expenses are estimated at \$919,144 leaving a projected general fund subsidy of \$337,160 in addition to a transfer from the Solid Waste Fund Free Cash of \$93,984. In FY2022, the appropriation will again contain a \$10,000 Contingency Reserve account within the Solid Waste Fund to ensure adequate funding for the potential of an unforeseen event in the coming year.

As a result of the fees projected to be collected and the FY2022 expenses of \$919,144 a General Fund subsidy of \$337,160 is recommended in order to balance the Enterprise Fund. The following is a detailed explanation regarding projected revenues, overhead costs, disposal costs, projected tonnage for disposal and collection costs.

### **PAYT Revenues and Overhead Costs:**

The Town continues to offer two sizes of bags and the bag fee was last revised in January of 2007 and remains set at \$3.00/large bag and \$1.50/small bag. Additional fees were also created to help reduce the shortfall between revenues and expenditures. A fee of \$10 per box was instituted for the disposal of hazardous waste at the annual Household Hazardous Waste Day event in September of 2005. In addition, a sticker fee of \$10 per item for the disposal of large/bulky items set out at the curb was instituted in March of 2006.

As can be seen in the Trash and Recycling Comparison Chart on page 8-5, trash and recycling disposal tonnage has been fairly constant for the last several years. Consistent trash tonnage and consistent bag prices have resulted in a stable revenue stream of approximately \$488,000 each of the last few years.

During FY2022, the Town received \$7,800 as part of the Department of Environmental Protection's Recycling Dividends Fund program which provides payments to municipalities that have implemented specific programs and policies proven to maximize reuse, recycling and waste reduction. This money will be used to offset the cost of purchasing recycling bins and to offset the cost of producing and mailing the recycling calendar to each household in June. Due to the possibility of future state budget cuts, the Solid Waste budget also includes \$5,000 to cover these costs in FY2022.



In an effort to minimize additional staff workload the Town now works W.B. Mason to warehouse and distribute trash bags and bulk item labels to the authorized retailers at a cost of \$.02 per bag or label. The total projected FY2022 overhead costs for the Pay-As-You-Throw program (purchase of bags, stickers, labels and their distribution) is estimated at \$60,000.

The Solid Waste budget also includes the cost of removing and disposing of the yard waste material (brush, leaves and grass) residents dispose of at the Highway Garage. The State Department of Environmental Protection banned yard waste, which includes grass and leaves, from the list of acceptable items that can be disposed of in landfills and incinerators/resource recovery facilities in 1991. The total cost for disposal of all yard waste is estimated to be \$90,000 for FY2022.

### **Disposal Costs and Projected Tip Fee:**

In accordance with the Waste Disposal Agreement with Wheelabrator Millbury, Inc. as revised in 2014, the tip fee is to be adjusted each year on July 1<sup>st</sup> based upon the amount of change in the Consumer Price Index (CPI) for urban wage earners and clerical workers-Northeast Urban beginning on July 1, 2017. As outlined in the agreement, the current tip fee is \$69.82/ton and based upon the most recent information from the Bureau of Labor and Statistics and the formula in the agreement, the tip fee for FY2022 has been estimated at \$72.00/ton, which will apply to the amount of trash disposed of between 7/1/21 and 6/30/22.

Under the terms of the new contract for solid waste/recyclable materials collection and disposal, the Town is also responsible for an annual Recycling Net Processing Cost Adjustment. In accordance with the terms of the contract and due to the improved quality of the recycling material being processed at the facility, the Recycling Net Processing Cost Adjustment has been set as a credit of \$8.15 per ton for the actual amount of recycling materials collected in calendar year 2020 (1100 tons), resulting in a disposal cost credit of \$8,965 for FY22.

### **Projected Solid Waste Tonnage for FY2022:**

Actual tonnage for the last 12 months (calendar year 2020) was 2,097 tons, which reflects a 9.0% increase from the previous 12 months. Based on the number of new building permits for single family homes (8) during the last 12 months, the growth rate was 0.1%. The projected tonnage for FY2022 is approximately 2288 tons (2,097 X 1.09 X 1.001). Therefore, using 2,300 tons of solid waste to be disposed of, results in a FY2022 budget of \$165,600 based upon the projected tipping fee of \$72.00/ton.

### **Collection Costs:**

On July 1, 2019 the Town entered into a new three-year agreement with Republic Services, Inc. for solid waste/recyclable materials collection and disposal, which will continue service to the Town through FY2022 at which time the Town may either continue under this agreement for an additional year, or issue another Invitation for Bids. Under this contract, collection costs will increase by 3% in FY2022. The total FY2022 collection costs are \$585,159, which consists of \$272,970 for Trash Collection and \$312,189 for Recycling Collection and Disposal.

# Section 8-4

# Solid Waste Enterprise Fund



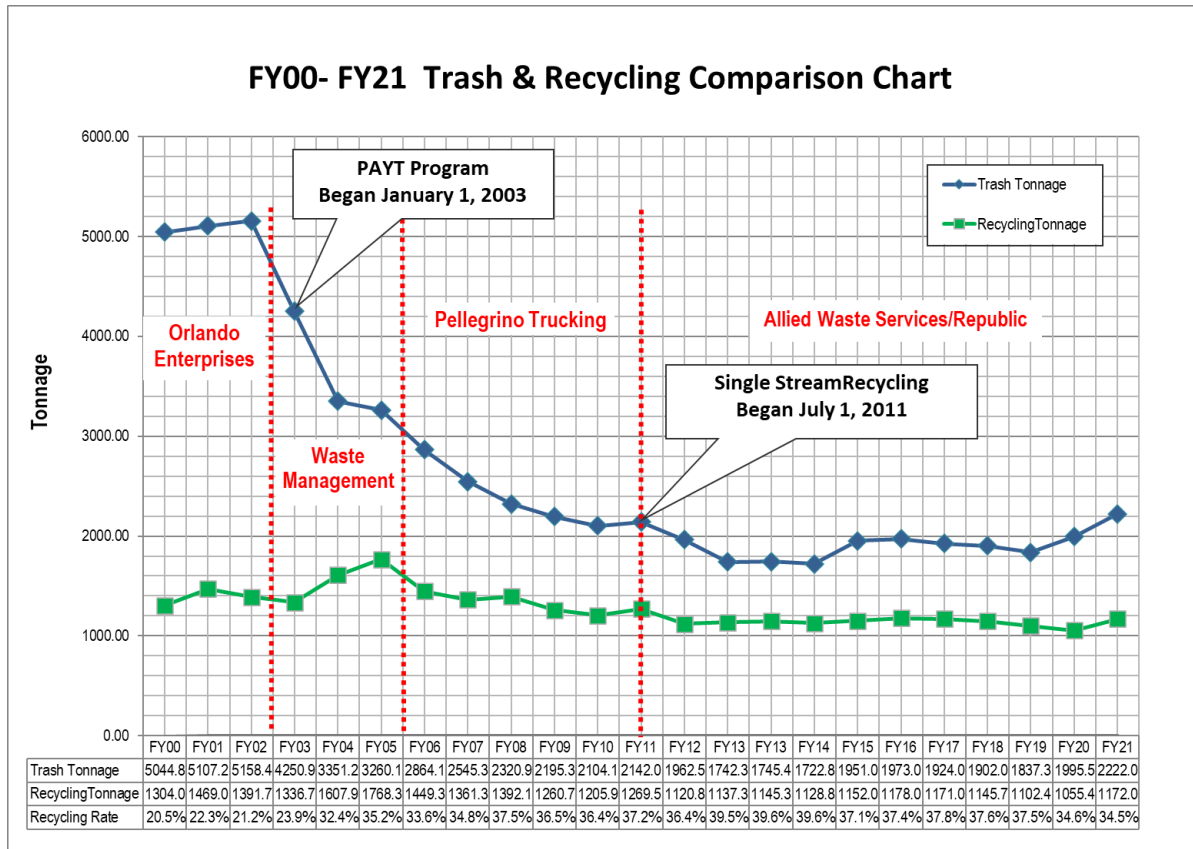
		FY2018	FY2019	FY2020	FY2021	FY2021	FY2022
		ACTUAL	ACTUAL	ACTUAL	BUDGETED	6 MONTHS	PROPOSED
<b>SOLID WASTE ENTERPRISE FUND</b>							
<b>Expenses</b>	<b>Services</b>						
52810	Unclassified	127,467	100,993	133,434	137,350	125,332	167,350
52910	Collection	481,955	494,190	551,568	568,115	284,057	585,159
57810	Disposal	129,675	136,795	139,973	158,085	68,392	156,635
59810	Extra Ordinary & Unforeseen Exp.	0	0	0	10,000	0	10,000
	<b>SUBTOTAL</b>	<b>739,097</b>	<b>731,978</b>	<b>824,976</b>	<b>873,550</b>	<b>477,782</b>	<b>919,144</b>
<b>TOTAL:</b>	<b>SOLID WASTE</b>	<b>739,097</b>	<b>731,978</b>	<b>824,976</b>	<b>873,550</b>	<b>477,782</b>	<b>919,144</b>

## Additional Solid Waste Budget Detail

<b>Unclassified:</b>	
Newsletter, training, bins and misc. supplies:	\$5,000
Disposal of illegal dumping:	\$2,000
Household Hazardous Waste Day:	\$10,000
Pay-As-You-Throw costs:	\$60,000
Disposal of Yard Waste	\$90,000
SWANA Membership	\$225
SWANA Meetings	\$125
Sub-total	\$167,350
<b>Solid Waste &amp; Recycling Collection:</b>	
Trash Collection:	\$272,970
Recycling Collection:	\$312,189
Sub-total	\$585,159
<b>Solid Waste &amp; Recycling Disposal Adjustment:</b>	
7/1/21 - 6/30/22: 2,300 tons x \$72.00/ton	\$165,600
7/1/21 - 6/30/22: 1,100 tons x (\$8.15) /ton	(\$8,965)
Sub-total	\$156,635
<b>Contingency Reserve</b>	
Sub-total	\$10,000
<b>Grand Total</b>	<b>\$919,144</b>



Waste & Recycling Trends from FY2000 to FY2021



Since its inception on January 1, 2003 the PAYT program has provided significant incentive to participants to reduce waste and increase recycling. Trash went from a high of 5,158 tons in FY2002 steadily downward to 1,722 tons in FY2014 and has only recently started to increase. In addition, recycling rates have risen from 21% in FY2002 to approximately 39% in FY2014 and are holding steady. The difference between the 5,158 tons of trash in FY2002 and the 2,300 tons of trash projected to be disposed in FY2022 is 2,858. In FY2022 that difference, multiplied by the projected disposal rate of \$72.00/ton, represents approximately \$205,776 in cost avoidance.



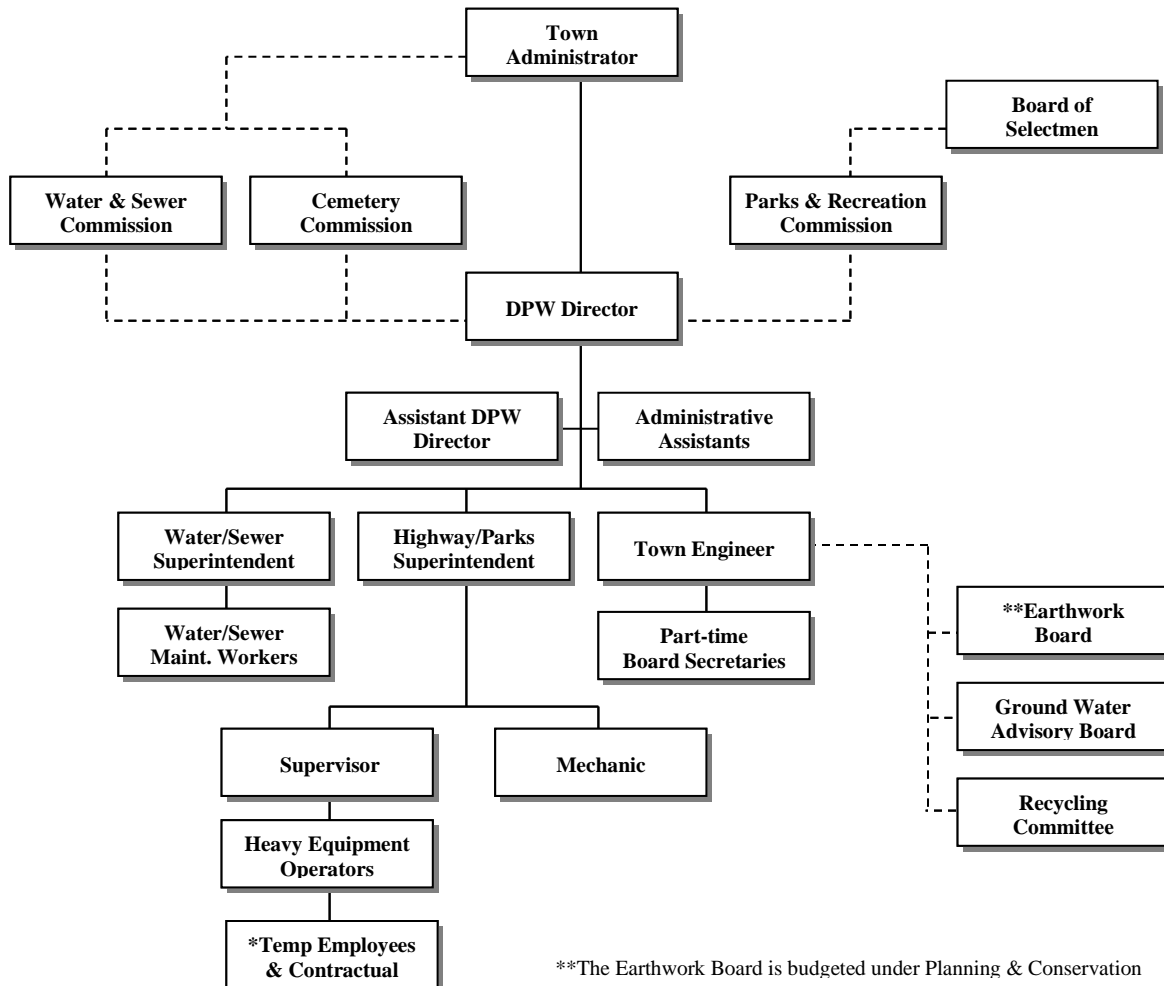
**Water & Sewer Enterprise Funds**

The Water and Sewer Divisions operate and maintain the Town’s public water and sewer systems and related facilities. The Water and Sewer Divisions are operated as enterprise funds. Briefly, an enterprise fund as authorized under 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. For purposes of providing a departmental overview, personnel summary and goals/objectives, the Water & Sewer Divisions are included within Department of Public Works (DPW) Section 4 of the budget. The actual line item budgets associated with the Water and Sewer enterprise funds are contained here in Section 8 of this budget document.

**Water & Sewer Commission**

In addition to the DPW staff, the Water & Sewer Commission provides advisory oversight to the enterprise funds. The Water & Sewer Commission consists of three members appointed by the Town Administrator for three-year terms. The Commission is responsible for the development of policies, fees, rules and regulations pertaining to the care, superintendence, development and management of the Town's water supply and facilities and the Town's sewerage system. The DPW Director serves as the staff liaison to the Water & Sewer Commission.

**DPW Organizational Chart**



\*\*The Earthwork Board is budgeted under Planning & Conservation





### Background on the Northborough Water System

Northborough's Water System was first authorized by the State Legislature in 1882. A small portion of Town was originally served from the Northborough Reservoir located in Shrewsbury and Boylston before it was taken out of service in 1955. The connection to what is now called the Massachusetts Water Resources Authority (MWRA)<sup>1</sup> was initiated in 1954. The Town's four wells came online later. The Brigham Street well was brought online in 1956; the Lyman Street well was brought online in 1964; the Crawford Street well was brought online in 1969; and the Howard Street well was brought online in 1994.

In the past, the Town operated its own wells and supplemented production from the wells with water purchased from the MWRA. The MWRA water was originally provided directly from the Wachusett Aqueduct. When the Wachusett Aqueduct was shut down for repair in 2000, the water provided by the MWRA to the Town came through a connection in Bartlett Street. This is connected to the new MWRA Carroll Water Treatment facility in Marlborough.

From 2000 to 2009, all the Town's water was being purchased from the MWRA because the well water was chemically incompatible with the water being provided by the MWRA. The Town well water has a pH of 6.5, and the new MWRA water source has a pH of 9. The higher pH in the MWRA water causes the Town's well water to drop the naturally occurring iron and manganese out of solution and turn the water red.

To address requirements of the Safe Drinking Water Act and to make the Town's water compatible, treatment alternatives were evaluated. The Town's consultant designed a new chemical addition facility at the Lyman Street well which the Town subsequently built. The Lyman Street well was reactivated in 2009 and produced approximately 225,000 gallons per day of the necessary 1 million gallons per day of average daily water usage in Northborough. Unfortunately, in June 2011, routine testing of the Lyman Street well indicated the presence of bacteria and the well was taken offline.

The Town then contracted with an engineering consultant to evaluate the Town's long-term water supply and distribution needs. The evaluation used historical population data and regional studies to project future water system demands for a 20-year period. Raw and finished water quality data will be reviewed to determine required improvements for treatment facilities to comply with current and future drinking water standards. The local well supplies were then contrasted with MWRA interconnections and a cost-benefit analysis performed to see if the Town should:

- Utilize the Town's existing wells (and possibly additional subsurface supplies through exploration) with added treatment facilities to meet the water consumption demands,
- Utilize the Town's existing wells along with MWRA interconnection for summer peak demands, or
- Utilize MWRA interconnection for all water supply needs.

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<sup>1</sup> The MWRA is a public authority established under Chapter 372 of the Acts of 1984. The MWRA is an independent authority that provides wholesale water and sewer services to its customer communities and funds its operations primarily through user assessments and charges.

## Section 8-8 Water & Sewer Enterprise Funds

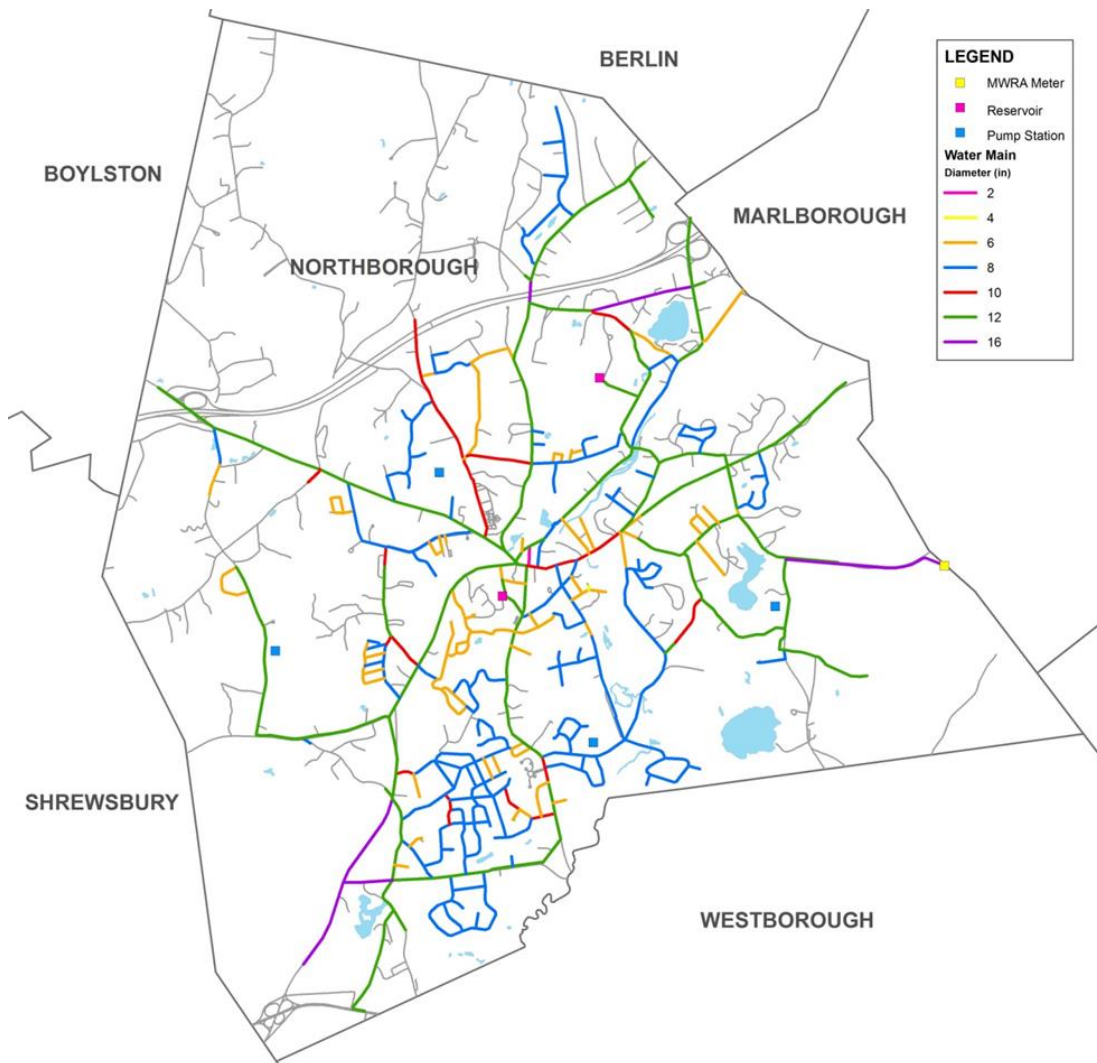


In order to fully determine which of the three options outlined above would be the best option for the Town, a water system master plan was prepared. The master plan focused on the entire potable water system and its ability to provide the Town with the most cost-effective method of delivering safe, clean potable water to the residents. The study included reviewing sustainable sources of water supply as well as evaluating the current distribution model, calibrating the model and calculating storage and system operating pressures.

The evaluation determined that while our distribution system is basically sound, the town-owned wells cannot supply the current water demand of an average of 0.87 million gallons per day (MGD) and a maximum or peak demand of 1.73 MGD. The Town is capable of pumping 1.02 MGD but it is limited by the Department of Environmental Protection to withdrawal of only 0.74 MGD from the aquifer. At present, the Town receives 100% of its water from the MWRA and the four wells remain off-line in an emergency only capacity.

Approximately 80% of the Town receives water from the public water supply system. The map below shows the water system service area.

**Northborough Water System Map**





## Significant FY2022 Budget Changes or Initiatives

The FY2022 Water Enterprise Fund is budgeted at \$2,961,675 which is an increase of \$360,705 or 13.9%. This increase is due to one major factor which is the projected MWRA annual assessment increase of \$345,583 (24.3%) that accounts for nearly 96% of the total budget increase. Also included are contractual labor increases and mandated semiannual systemwide leak detection. The reason for the substantial increase to the MWRA assessment is a shift in water use among the MWRA communities. The City of Boston and other large metropolitan members used less water during the pandemic. The result was a shift in Northborough's share of the total MWRA budget, disproportionately driving up our FY2022 assessment.

In the second quarter of FY2014, a base charge was added to each water account to recover a portion of fixed costs paid from the enterprise funds such as debt, meter reading, billing and collection, regardless of the amount of water usage. Based upon formal rate studies, the water utility user rates are expected to increase approximately 4%-5% per year due to a combination of inflationary pressures (2-3% annually), annual water use fluctuations which trend downward between 0.5% and 1.0% due to mandated conservation measures, and the need to make regular infrastructure investments. The FY2022 rates will be adjusted based upon a detailed rate study but are projected to increase between 5% and 6%. The remainder of this year's expected one-time budget increase will be paid for by allocating \$316,548 from available fund balance toward the operating budget. It is expected that the Town's percentage of MWRA water use will return to pre-pandemic levels when the economy fully opens.

The FY2022 proposed Capital Budget also includes the purchase of a replacement utility tractor to be paid for out of enterprise fund balance in the amount of \$32,000. The remaining funds after the operational budget allocation and capital equipment purchase will be \$284,599 or 10% of the operating budget, within the recommended industry standard fund balance of 10-25%.

	FY2018 ACTUAL	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 BUDGETED	FY2021 SIX MONTHS	FY2022 PROPOSED
<b>WATER ENTERPRISE FUND</b>						
<b>Personnel Services</b>						
<sup>2</sup> 51010 Full-time Wages	161,646	164,014	173,925	164,850	77,625	172,481
<sup>3</sup> 51100 Full-time Salary	34,306	35,689	37,130	38,252	17,971	39,797
<sup>4</sup> 51120 Full-time Permanent wages	35,081	35,780	36,772	37,359	17,612	38,106
<sup>5</sup> 51130 W&S Commissioner Stipends	1,080	1,080	1,080	1,080	0	1,080
<sup>6</sup> 51135 GIS Salary	13,912	14,329	14,760	15,400	15,400	15,708
51300 Overtime	37,865	44,117	41,915	44,803	25,600	46,877
51410 Longevity Pay	1,230	1,320	1,410	1,620	1,620	1,725
51970 Stipends	1,080	900	950	950	0	950
51920 Uniforms	1,800	1,800	2,280	2,280	1,140	2,280
<b>SUBTOTAL</b>	<b>288,000</b>	<b>299,029</b>	<b>310,223</b>	<b>306,594</b>	<b>156,968</b>	<b>319,004</b>

<sup>2</sup> Line 51010 represents 60% of the Water/Sewer Supervisor salary and Water/Sewer Maintenance Workers' wages. The other 40% of these personnel expenses are included in the Sewer Enterprise Fund budget.

<sup>3</sup> Line 51100 represents 30% (12 hrs/ week) of the DPW Director's salary. 20% is reflected in the Sewer Enterprise Fund Budget and the balance (50%) is included in the DPW budget Section 4 of this document.

<sup>4</sup> Line 51120 represents 24 hours per week of an Administrative Assistant

<sup>5</sup> Line 51130 represents the three Water & Sewer Commissioners who receive \$600 each per year, split 40% (\$720) Sewer Fund Budget and 60% (\$1,080) Water Fund Budget

<sup>6</sup> Line 51135 represents 15% (6 hours per week) of the GIS Director's time supporting the Water Enterprise fund.

# Section 8-10

# Water & Sewer Enterprise Funds



	FY2018 ACTUAL	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 BUDGETED	FY2021 SIX MONTHS	FY2022 PROPOSED
<b>WATER ENTERPRISE FUND</b>						
<b>Expenses</b>						
51710 Workers' Compensation	12,495	13,174	13,438	12,180	12,180	12,180
51730 F.I.C.A.	4,587	3,785	4,806	5,037	5,037	5,037
51740 Life Insurance	88	88	88	88	88	88
51750 Health Insurance	55,488	53,307	49,481	48,751	48,751	49,124
52110 Utilities	16,240	15,722	16,101	16,500	5,149	17,300
52610 Building Maintenance	6,958	18,054	3,564	13,300	1,993	13,300
52620 Equipment Maintenance	4,190	9,317	6,160	18,000	4,507	18,000
52800 Contractual Services	138,556	71,117	162,498	170,494	29,719	170,974
52850 Audit	1,911	1,949	2,008	2,899	0	2,961
53020 Legal Services	833	0	833	5,000	168	5,000
53110 Printing	8,549	7,838	5,856	9,072	2,726	9,072
53170 Water Analysis	7,359	2,074	563	5,500	0	5,500
53190 Training	5,232	7,061	6,997	8,325	4,206	8,825
54290 Office Supplies	1,389	800	653	1,500	254	1,500
54350 Howard Street Well	0	0	0	0	0	0
54370 Private Work	0	0	0	0	0	0
54380 Brigham Street Well	0	0	0	0	0	0
54390 MWRA Assessment	1,240,294	1,271,058	1,312,356	1,422,346	711,173	1,767,929
54400 Lyman Street Well	0	0	0	0	0	0
54410 Crawford Street Well	0	0	0	0	0	0
54420 Materials & Supplies	41,617	103,158	95,040	132,900	36,972	132,900
54820 Gasoline	10,545	10,545	10,545	10,545	10,545	10,545
55990 Chemicals	0	0		0	0	0
56220 Worcester Regional Retirement	42,527	47,225	33,340	37,993	37,993	34,940
57110 Travel/Mileage	520	403	404	600	93	600
57410 Liability/Building Insurance	16,798	17,639	17,639.00	18,131	18,130	18,131
58530 Capital Outlay	0	0	0	0	0	0
59810 Extraordinary and Unforeseen	0	0	0	75,000	0	75,000
<b>SUBTOTAL</b>	<b>1,616,175</b>	<b>1,654,314</b>	<b>1,742,370</b>	<b>2,014,161</b>	<b>929,683</b>	<b>2,358,906</b>



# Water & Sewer Enterprise Funds

# Section 8-11

FY2018      FY2019      FY2020      FY2021      FY2021      FY2022  
ACTUAL      ACTUAL      ACTUAL      BUDGETED      SIX MONTHS      PROPOSED

## WATER ENTERPRISE FUND

### Expenses (Debt Service)

59100 Principal / Long Term Debt	280,755	281,605	272,855	234,858	0	218,814
59150 Interest / Long Term Debt	59,659	52,924	46,117	39,182	19,591	33,576
59270 Interest / Temporary Loans	0	0	0	0	0	24,100
59280 Issuance Costs	0	0	0	6,175	0	7,275
<b>SUBTOTAL</b>	<b>340,415</b>	<b>334,529</b>	<b>318,973</b>	<b>280,215</b>	<b>19,591</b>	<b>283,765</b>

<b>TOTAL: WATER ENTERPRISE FUND</b>	<b>2,244,589</b>	<b>2,287,872</b>	<b>2,371,565</b>	<b>2,600,970</b>	<b>1,106,242</b>	<b>2,961,675</b>
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## Section 8-12 Water & Sewer Enterprise Funds



### Background on the Northborough Sewer System

The Town operates a collection system of sewer pipes that bring sewerage to the City of Marlborough's Westerly Wastewater Treatment Plant where it is treated and discharged into the Assabet River. When the sewer system was started in the mid 1960's it was designed to service only the central portion of Town. While sewer pipe installation did not start until the 1970's, in 1964 land was purchased for a Northborough sewage treatment plant on Boundary Street.

In the late 1960's when the Town of Northborough attempted to obtain approvals for a sewerage treatment plant from the Massachusetts Department of Public Health, the regulators told the Town that since Marlborough was building a plant across the roadway on Boundary Street, that they would not allow two plants across the street and side-by-side with each other on the river. As a result, the Town of Northborough was required to become a partner in the Marlborough Westerly Wastewater Treatment Plant by entering into an Intermunicipal Agreement with the City of Marlborough for sewerage treatment.

In 1970, the Town of Northborough entered into the first of two twenty-year agreements with Marlborough for 800,000 gallons per day. The Marlborough Westerly Plant has a design capacity of 2.89 million gallons per day (MGD). Therefore, Marlborough's portion is 2.09 MGD and Northborough's is 0.80 MGD. While our sewer pipe installation has continued into the present in accordance with a Master Plan initially generated in the early 1980's, the Town's sewer capacity at the Westerly Plant has not changed since the original 1970 agreement. It has remained at 0.80 MGD.

### Sewer service area and future capacity needs

In the late 1970's the Town hired the engineering firm of Camp Dresser & McKee (CDM) to begin developing the sewer system and mapping out the sewer service area for the Town. It was estimated that the sewerage to be contributed by the users in the original sewer service area would use the full 0.80 MGD of sewer capacity. Therefore, as long as the Town's capacity at the treatment plant remains at 0.80 MGD, it cannot provide sewer to any other parts of Town currently outside of the sewer service area.

During 2000, CDM updated the sewer service area and determined that there was only 50,000 gallons per day of sewer capacity for development of the southeast and southwest industrial areas. The Avalon Bay/Northborough Crossing development is now complete and discharges approximately 80,000 gallons per day. Not only does this use up the 50,000 gallons per day allocated for industrial development, but it also uses 30,000 gallons per day more of capacity previously targeted for existing residential areas in Town. Therefore, it is critical for the Town to pursue additional capacity at the Marlborough Westerly Wastewater Treatment Plant. Should the Town not be successful in getting additional capacity, the amount of capacity previously designated for users within the sewer service area will need to be reduced by 30,000 gallons per day to stay within our 0.80 MGD.

### Assabet Consortium Study

In 2000, Town Meeting authorized \$500,000 to study the Town's current sewer needs through the Assabet River Consortium Study. The Assabet Consortium Study is a collaboration of the six towns whose sewerage treatment plants discharge to the Assabet River; these include Northborough, Marlborough, Westborough, Shrewsbury, Hudson and Maynard. As part of the discharge permit for each sewerage treatment plant (there are four) each Town must produce a study that evaluates the effect of the treatment plant's discharge on the Assabet River. The



engineering firm of Fay, Spofford & Thorndike (FST), was hired to do the study for the Town of Northborough. FST inventoried the Board of Health records for septic system failures, excessive pumping, Building Department records for building construction, soils maps, zoning and other applicable files and information to calculate the sewer capacity necessary to service the entire Town of Northborough. They determined that the Town, including existing users, would need 1.25 MGD. This means that there is not enough capacity in the existing sewage treatment plant for the Town to provide sewer to every area that needs it. Marlborough's consultant determined that Marlborough also needed additional capacity. Between Northborough & Marlborough the total sewage treatment capacity needed is 4.15 MGD. With the plant capacity permitted for 2.89 MGD, the deficit is 1.26 MGD.

Through the Assabet Consortium Study process, the Department of Environmental Protection (DEP) and the Federal Environmental Protection Agency (EPA) originally informed the Town that no additional flows would be permitted into the Assabet River. Therefore, the additional 4.15 MGD of capacity necessary for Northborough and Marlborough must be handled by infiltrating it into the ground through subsurface discharge. Even though the effluent water is treated to just about drinkable standards, the DEP and EPA goal is to replenish the ground water rather than let it flow away down the river.

### Haitsma Property Acquisition

At the August 10, 2004 Special Town Meeting the Town opted to purchase, through the Chapter 61A tax relief statute, the Haitsma farm at 455 Main Street. The primary purpose of this land was to serve future sewer utility expansion, thus allowing proper build-out and economic development of the Town. According to the Town's consultants, an additional 1.5 MGD of sewer capacity could be achieved through subsurface disposal on the Haitsma property, if needed. However, the cost would be significantly higher than discharging to the river. Consultants for Marlborough and Northborough proposed putting all the additional flows into the river because of the negative environmental impact of clearing all the land necessary to put the additional flows into the ground as well as the additional energy costs of the subsurface disposal. Further evaluation by the Town's consultant in 2018 determined that subsurface disposal of effluent at the Haitsma property would likely result in the discharge entering the Assabet River due to the local hydrogeologic conditions, calling into question the viability of subsurface disposal at that location.

### Status of the Marlborough Westerly plant expansion

On November 16, 2009, after spending more than 8 years working with both the State DEP and Federal EPA, the National Pollutant Discharge Elimination System (NPDES) Permit modification for the Marlborough Westerly Treatment Plant was finally granted. This is the permit that allows the Westerly Treatment Plant additional flow into the Assabet River, instead of more expensive alternatives such as subsurface disposal on the Haitsma property. The NPDES permit modification also included significant and expensive upgrades to water treatment, particularly with regard to phosphorus discharge limits.

Unfortunately, after granting the increase in flow, the EPA abruptly and unexpectedly decided to rescind the NPDES permit on February 23, 2010. However, since the granting of the permit, Marlborough has completed the \$30 million expansion and upgrades to the plant and although the plant is seeing great results on the quality of the effluent, it is coming at a significant increase in operational costs. Under the proposed Intermunicipal Agreement, the Town of Northborough will owe 30% of the cost of construction. It remains to be seen how the issue of additional capacity will be resolved, but the EPA has indicated that it intends to take up the matter as part of

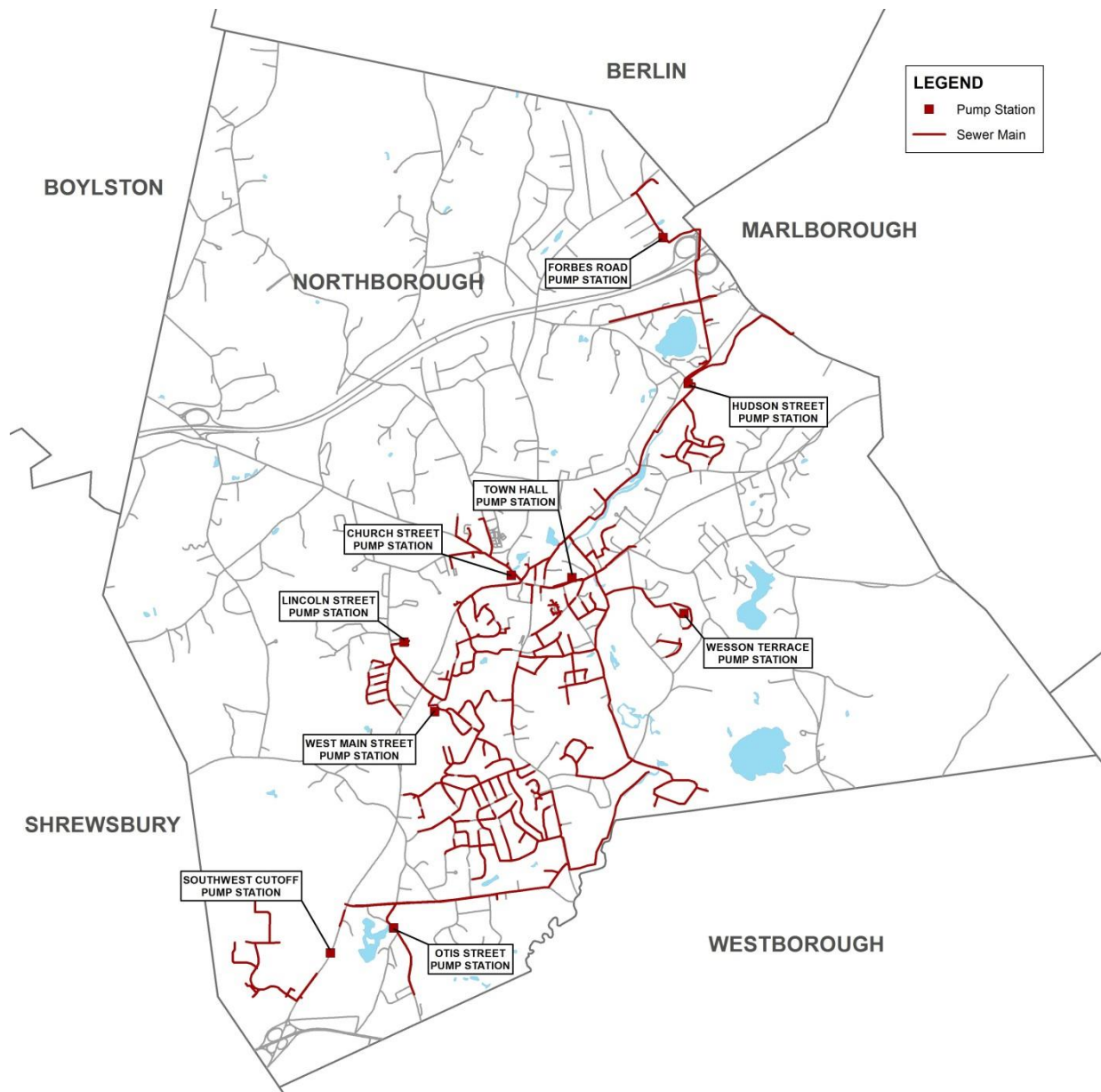
# Section 8-14 Water & Sewer Enterprise Funds



the renewal process for the existing NPDES permit for the Marlborough Westerly Plant. Unfortunately, given the EPA's delays and the expiration of the Intermunicipal Agreement, ongoing uncertainty regarding capacity allocation, ownership rights and fee structures has resulted in litigation between Northborough and the City of Marlborough. The case is scheduled to be heard in Worcester Superior Court in 2021.

Approximately 30% of the Town has access to the sewer wastewater system. The map below shows the sewer system service area.

### Northborough Sewer System Map







## Significant FY2022 Budget Changes or Initiatives

The FY2022 Sewer Enterprise Fund is budgeted at \$2,373,460, which is an overall increase of \$77,165 or 3.36%. The budget reflects an estimated 5% increase in the Marlborough use charge of \$38,726 and an increase in debt service of \$27,978. These two items account for over 86% of the overall budget increase. Several smaller initiatives account for the remainder of the increase including an escalation to the cost of state-mandated inflow and infiltration investigation.

The critical issue facing the DPW Sewer Enterprise Fund continues to be negotiations for a new Intermunicipal Agreement with the City of Marlborough. The matter is currently in litigation, the outcome of which will establish our contribution to the operational expenses of the Westerly Wastewater Treatment Plant as well as Northborough's share of the \$30 million plant improvement project. Sewer rates were increased significantly in the second quarters of FY2014, FY2016, FY2017, and FY2018 in anticipation of a large plant improvement payment to Marlborough. The sewer use charges for FY2019 and FY2021 increased by 5% but were maintained with no increase for FY2020. While final rate adjustments will be based upon an updated rate study, no increase is projected at this time for FY2022.

A primary focus for the DPW Sewer Division Enterprise Fund is the successful implementation of the Capital Improvement Plan. The plan is the result of a multi-disciplinary approach to infrastructure management. It includes elimination of inflow and infiltration, improvements to pump stations and communications, and systematic equipment replacement. The FY2022 proposed Capital Budget includes the purchase of a replacement utility tractor to be paid for out of enterprise fund balance in the amount of \$48,000. The remaining funds after this purchase will be adequate to support the expected settlement with the City of Marlborough.

	FY2018 ACTUAL	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 BUDGETED	FY2021 SIX MONTHS	FY2022 PROPOSED
<b>SEWER ENTERPRISE FUND</b>						
<b>Personnel Services</b>						
51010 Full-time Wages	107,764	109,343	115,950	109,898	51,750	114,987
51100 Full-time Salary	22,870	23,793	24,754	25,501	11,981	26,532
51120 Full-time Permanent wages	23,388	23,853	24,515	24,906	11,741	25,404
<sup>7</sup> 51130 W&S Commissioner Stipends	720	720	720	720	0	720
<sup>8</sup> 51135 GIS Salary	9,275	9,553	9,840	10,266	10,266	10,472
51300 Overtime	25,243	29,412	27,943	29,869	17,067	31,252
51410 Longevity Pay	820	880	940	1,000	1,080	1,070
51970 Stipends	720	1,000	1,000	1,000	0	1,000
51920 Uniforms	1,200	1,200	1,520	1,520	760	1,520
<b>SUBTOTAL</b>	<b>192,000</b>	<b>199,753</b>	<b>207,182</b>	<b>204,680</b>	<b>104,645</b>	<b>212,957</b>

<sup>7</sup> Line 51130 represents the three Water & Sewer Commissioners receive \$600 each per year, split 40% ( \$720) Sewer Fund Budget and 60% (\$1,080) Water Fund Budget

<sup>8</sup> Line 51135 represents 10% (4 hours per week) of the GIS Director's time supporting the Sewer Enterprise fund.

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# Water & Sewer Enterprise Funds



	FY2018 ACTUAL	FY2019 ACTUAL	FY2020 ACTUAL	FY2021 BUDGETED	FY2021 SIX MONTHS	FY2022 PROPOSED
<b>SEWER ENTERPRISE FUND</b>						
<b>Expenses</b>						
51710 Workers' Compensation Ins.	7,810	8,234	8,399	8,120	8,120	8,120
51730 F.I.C.A.	3,068	2,523	3,210	3,364	3,364	3,364
51740 Life Insurance	59	59	59	59	59	59
51750 Health Insurance	36,992	35,538	32,988	32,501	32,501	32,749
52110 Utilities	56,810	52,910	51,165	57,518	16,359	57,518
52310 Marlborough Use Charge	400,000	400,000	400,000	774,507	200,000	813,232
52600 Building Maintenance	20,098	78,409	50,879	96,000	1,748	96,000
52620 Equipment Maintenance	22,391	10,685	6,795	35,000	16,205	35,000
52800 Contractual Services	37,208	78,205	156,605	160,632	24,588	162,064
52850 Audit	1,274	1,300	1,338	2,211	0	2,252
53020 Legal Services	47,644	18,351	37,362	50,000	9,917	50,000
53110 Printing	5,670	5,226	3,904	5,872	1,817	5,872
53170 Testing	1,055	1,935	8,151	4,900	822	4,900
53190 Training, Dues and Licenses	2,954	1,132	1,782	3,240	206	3,240
54290 Office Supplies	1,050	270	450	1,500	352	1,500
54420 Materials & Supplies	34,056	29,960	14,380	42,000	21,345	44,500
54820 Gasoline	7,030	7,030	7,030	7,030	7,030	7,030
55990 Chemicals	0	0	0	0	0	0
56220 Worcester Regional Retirement	28,354	31,486	22,227	25,329	25,329	23,293
57110 Mileage	320	269	269	400	62	400
57410 Liability/Building Insurance	11,199	11,759	11,759	12,088	12,087	12,088
58730 Capital Outlay	0	0	0	0	0	0
59810 Extraordinary and Unforeseen	0	0	0	75,000	0	75,000
<b>SUBTOTAL</b>	<b>725,041</b>	<b>775,279</b>	<b>818,752</b>	<b>1,397,271</b>	<b>381,912</b>	<b>1,438,181</b>



# Water & Sewer Enterprise Funds

# Section 8-17

FY2018      FY2019      FY2020      FY2021      FY2021      FY2022  
ACTUAL      ACTUAL      ACTUAL      BUDGETED      SIX MONTHS      PROPOSED

## SEWER ENTERPRISE FUND

### Expenses (Debt Service)

59100 Principal / Long Term Debt	413,999	473,516	514,370	530,784	160,562	590,791
59150 Interest /Long Term Debt	115,972	163,415	144,672	123,090	63,643	103,406
59270 Interest / Temporary Loans	35,302	24,681	19,377	34,640	0	20,250
59280 Issuance Costs	28,077	0	0	5,830	0	7,875
<b>SUBTOTAL</b>	<b>593,349</b>	<b>661,612</b>	<b>678,419</b>	<b>694,344</b>	<b>224,205</b>	<b>722,322</b>

## TOTAL: SEWER ENTERPRISE FUND

<b>1,574,390</b>	<b>1,666,645</b>	<b>1,704,353</b>	<b>2,296,295</b>	<b>750,761.18</b>	<b>2,373,460</b>
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