

# **Section V**

## **Sewer Fund**

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Mission Statement

The mission of the Sewer Division is to enhance Concord's quality of life, and through sound management, innovation, teamwork and vision, provide dependable, high quality, responsive sewer utility services, consistent with values and at reasonable costs to Concord's citizens, businesses, institutions and visitors.

Sewer Fund Budget Contents

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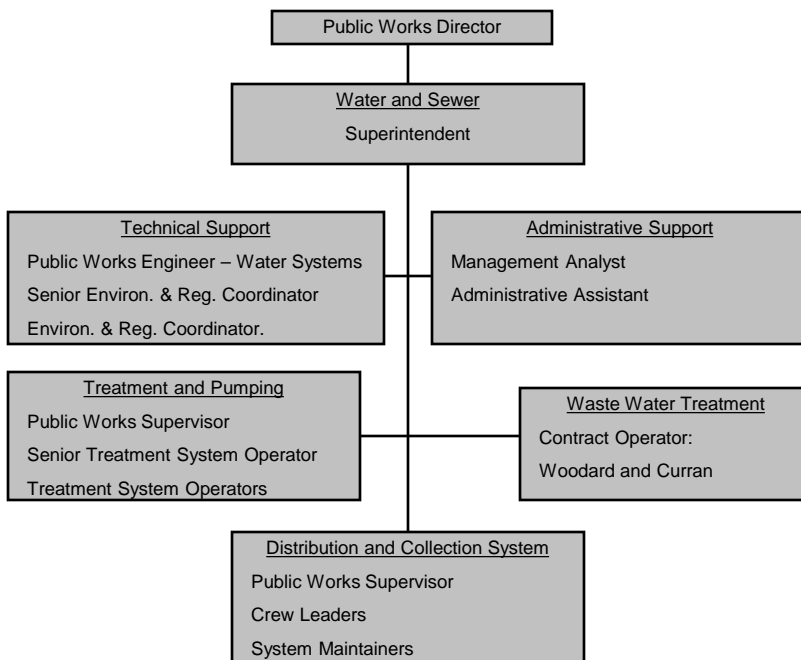
Sewer Fund Highlights

- The proposed FY20 sewer rate of \$0.1165 per cubic foot represents a 1% increase over the FY19 rate of \$0.1153 per cubic foot. For the average residential customer, the annual increase in the sewer bill will be \$7.20.
- The proposed FY20 capital improvement plan is \$3,320,150 which includes \$2,537,000 for design and complete rehabilitation of the two main sewer pumping stations at Lowell Road and Main Street in W. Concord.
- The proposed FY20 operating budget is \$3,008,705, a decrease of 11.1% from FY19. This decrease is attributable to a reduction in depreciation.
- The National Pollutant Discharge Elimination System (NPDES) permit for the Wastewater Treatment Plant is under review by the EPA following Concord's formal request for renewal. A budget allowance is provided for potential changes in wastewater effluent discharge limits.

Expenditure Summary

	FY17 Actual	FY18 Actual	FY19 Budget	FY20 Proposed
Operating Income	\$ (317,902)	\$ (189,672)	\$ (169,279)	\$ 236,495
Net Income	\$ (10,777)	\$ (24,650)	\$ 27,208	\$ 454,088
Cash Position	\$ 9,762,282	\$10,553,333	\$10,521,824	\$ 8,022,346

See page V-9 for greater detail on income and fund balance results.



Description:

In 1894, Concord received legislative authority to create a municipal sewer system. Today, the system consists of 34 miles of collection main, two pumping stations, six neighborhood lift stations, and an advanced wastewater treatment plant.

The 1976 Annual Town Meeting established a Sewer Fund to ensure that the operation, maintenance, and capital improvement of the sewer system would be a financially viable enterprise. Expenses for this system are covered entirely by user fees. As of 2018 the total value of collection system and treatment plant infrastructure assets was approximately 16.5 million dollars.

The municipal sewer system serves 1,876 residential and commercial customers representing approximately 34% of the community. Approximately 40% of the residential households in Concord are served by sewer. The wastewater treatment facility processes approximately 1.4 million gallons per year of septage pumped from residential and commercial establishments served by private septic systems within the Town of Concord.

Long-Term Financial Stability

Along with its core mission to operate and maintain the Town’s municipal sewer system in a reliable and efficient manner, the sewer enterprise must also be financially self-supporting. This means that the Sewer Division is expected to cover all costs associated with operations, capital maintenance and repairs by generating sufficient revenue through user fees and special service fees. The Sewer Division maintains a detailed 10-year financial proforma to facilitate long-range planning for all revenues and anticipated investments.

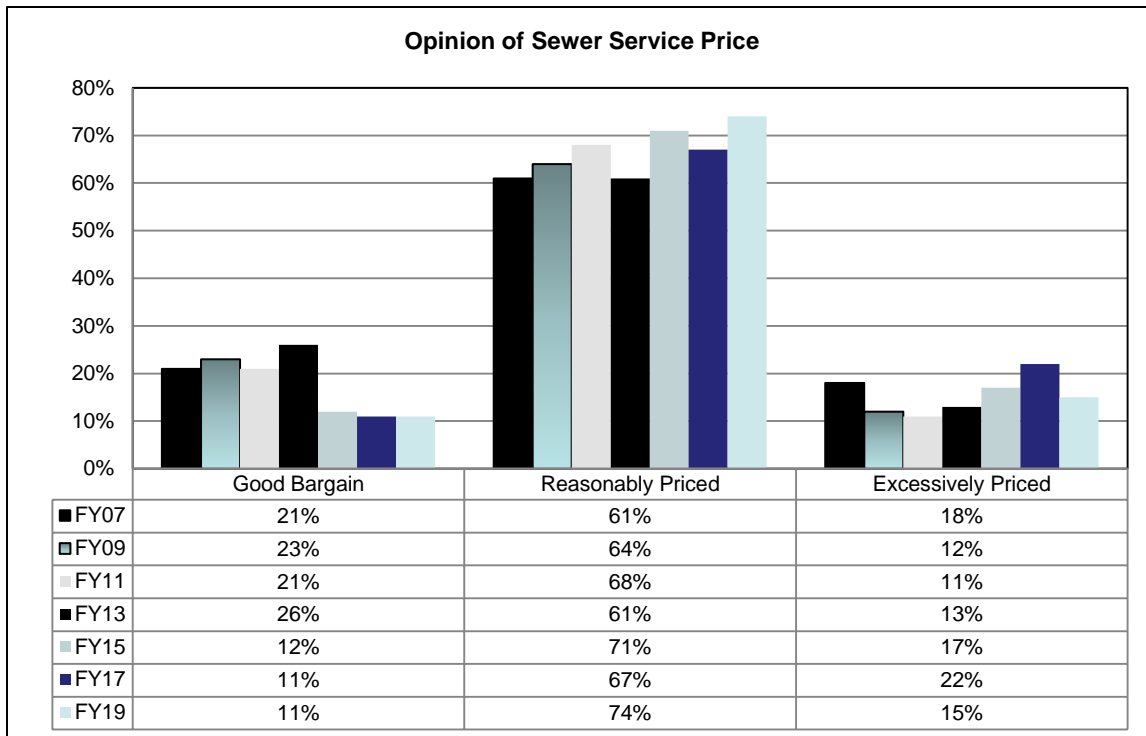
Since the sewer enterprise fund was formally established in 1976, there have been no property tax contributions to subsidize pre-existing operations or infrastructure improvements. Taxpayer support has been sought through Town Meeting for projects which have been designed to expand the sewer collection system and to support major upgrades to the Wastewater Treatment plant, as it also accepts septage from properties which are not directly connected to the sewer system.

Town Residential Survey

In the fall of 2006, 2008, 2010, and 2012, the Town conducted a telephone survey of 375 randomly selected Concord residents. In the fall of 2014 (FY15), 2016 (FY16), and 2018 (FY19) the Town used a different polling methodology, and a survey was sent out to all Concord households. In FY19, a total 1,254 responses were received. From those responses, 482 respondents said that they use the Town sewer system.

**1. What is your opinion of the price of Town Sewer Services?**

The vast majority of Concord households that are on Town sewer lines feel that the service is at least “reasonably priced,” while 11% of survey respondents even describe it as “a good bargain.”



Sewer Rates:

The total revenue projected to be raised through sewer rates in FY20 is **\$3,049,000**.

Rates are set each year by the Public Works Commission following a public hearing with the following goals:

1. To ensure that the Division has the resources to operate, maintain and improve the system;
2. To minimize rate “shock” so that sewer costs can be a relatively predictable expense; and
3. To accurately reflect sewer use (which may be different than seasonally skewed water use).

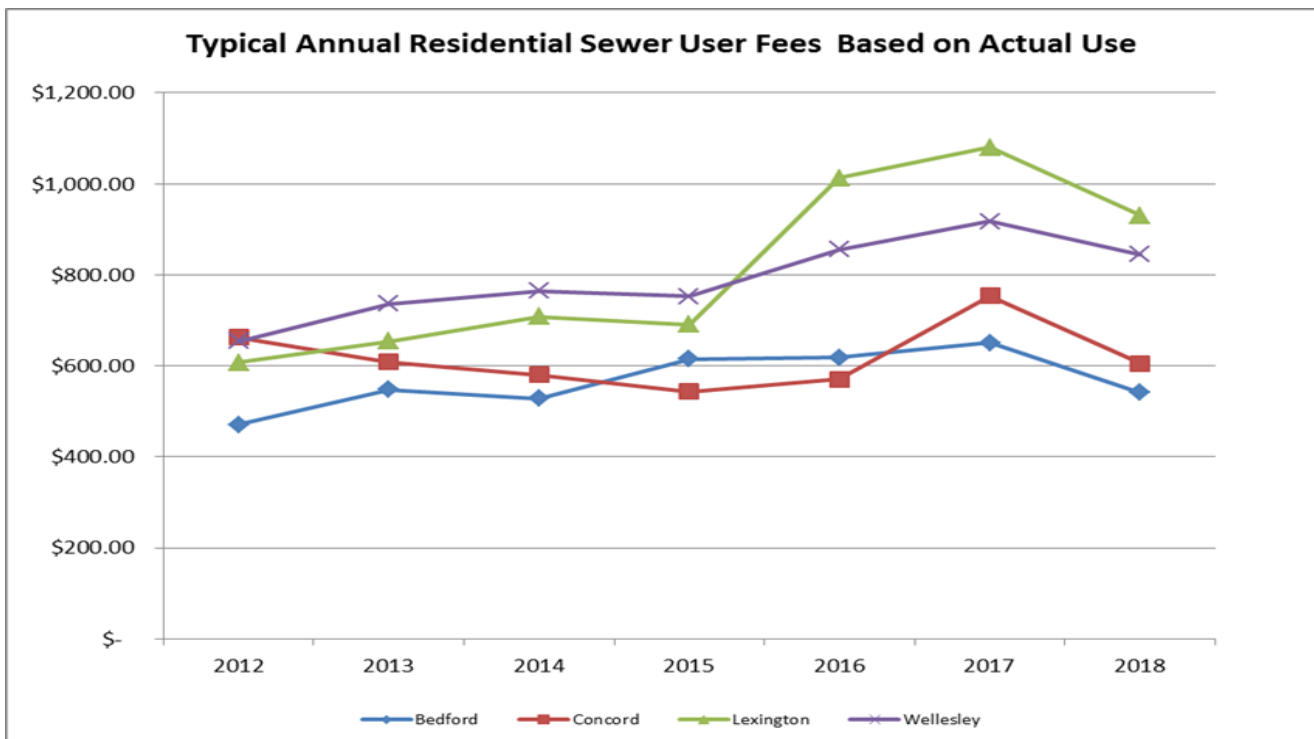
**Sewer Fund Highlights**

*The FY20 proposed sewer rate is \$0.1165 per cubic foot of water use (1 cubic foot = 7.48 gallons).*

- The proposed FY20 sewer rate of \$0.1165 per cubic foot represents a 1% increase over the FY19 rate of \$0.1153 per cubic foot. Since FY 2009 sewer rates have increased by an average annual rate of 3.5%.
- In FY20, the average residential customer is expected to pay a total of \$699 in sewer user fees over the course of the year. The typical residential sewer customer uses 500 cubic feet of water per month.
- For Residential customers who typically use significant amounts of water during the summer, sewer use during the summer is based on average water use during the previous winter.

**Benchmarking Sewer Rates**

The comparison of sewer rates between individual systems and communities can be particularly difficult, given the wide variation in management and financial structures and customer demographics. Some level of public sewerage service is provided by 57% of Massachusetts communities. Some systems, like Concord, adhere to strict enterprise principles (i.e., full cost accounting with consideration of long range investments and depreciation of fixed assets) while other systems are subsidized through a municipality's general fund. Statewide, 57% of communities have adopted a flat rate structure, 35% use an ascending rate structure and 8% assess a flat fee. More sophisticated and flexible rate designs, such as the winter/spring demand basis employed by Concord for residential customers, have been adopted by only 3% of systems across the state (from Tighe and Bond rate survey 2014). The table below demonstrates how rate adjustments (and cost of service) over time have impacted Concord and three neighboring systems based on actual water use.



*Wastewater Program*

In addition to routine operations, maintenance and improvements to ensure reliable and quality service to all municipal customers, the programs and initiatives detailed below strike the delicate balance between essential needs and broader community and regulatory interests, particularly in the area of increasingly complex and sophisticated water resource management goals.

Wastewater treatment capacity limitations continue to pose the single most immediate and formidable wastewater challenge facing the community. The following summarizes some of the more important developments and recommendations made to date.



Sewer Service Repair – Main Street

**Regulatory Update:**

**Aluminum Water Quality Criteria:** The Environmental Protection Agency (EPA) established its final aquatic life water quality criteria for aluminum, expressing both acute and chronic values as a range that will vary as a function of a site-specific water quality conditions (pH, total hardness and dissolved organic carbon). Unlike the values found in EPA's 1988 criteria recommendation, these final 2018 recommended criteria provide users the flexibility to develop site-specific criteria based on local water chemistry. Massachusetts intends to adopt its own water quality standard for aluminum and copper that will be based, in part, on new national criteria. These regulatory activities will have direct implications for Concord as they will inform future permit conditions and treatment activities associated with the centralized wastewater facility located adjacent to Great Meadows.

**NPDES – Permit Renewal:** Concord submitted a formal request to EPA to renew its National Pollutant Discharge Elimination System (NPDES) permit associated with its wastewater facility in accordance with a federally mandated five-year permit cycle. A draft permit and statement of basis or fact sheet to be prepared by EPA is pending and will be forwarded upon the opening of the public comment period..

**Collection System Operation and Maintenance Plan:** A successful inflow and infiltration (I/I) program reduces the risks and frequency of sanitary sewer overflows, reduces the operating cost required to treat what is essentially clean water, and increases the likelihood of maintaining water quality standards embodied in a strictly enforced discharge permit. This past year, there were no reportable sanitary sewer overflows identified within Concord's system. The 12-month rolling average of wastewater flow processed through Concord's wastewater treatment plant was 1.13 MGD, below the 1.2 MGD capacity permitted for this facility. The infiltration rate (of groundwater) into the collection system was calculated at 23.3%, and the inflow rate (stormwater) was estimated at approximately 0.8%. Both rates fall within acceptable industry limits and are well below "excessive" rates as defined by the MassDEP.

**Sewer Pump Station Upgrades:** The Lowell Road and Assabet Sewer pumping stations have been targeted for the replacement of all mechanical, electrical, plumbing and instrumentation and control systems associated with these two facilities. Kleinfelder is on track to complete the design and bid specifications before the end of fiscal year 2019 with a goal of entering into a construction contract for the fall of FY20. In addition to these design efforts, Kleinfelder will also develop specifications for the replacement of an intermediate pump located at the WWTP. Division crews continued to perform routine operation and maintenance of the eight operating sewer facilities. Non-routine improvements included the replacement of one of two existing submersible pumps located in the Laurel Street pump station and one of two existing submersible pumps located in the Cousins Park pump station.

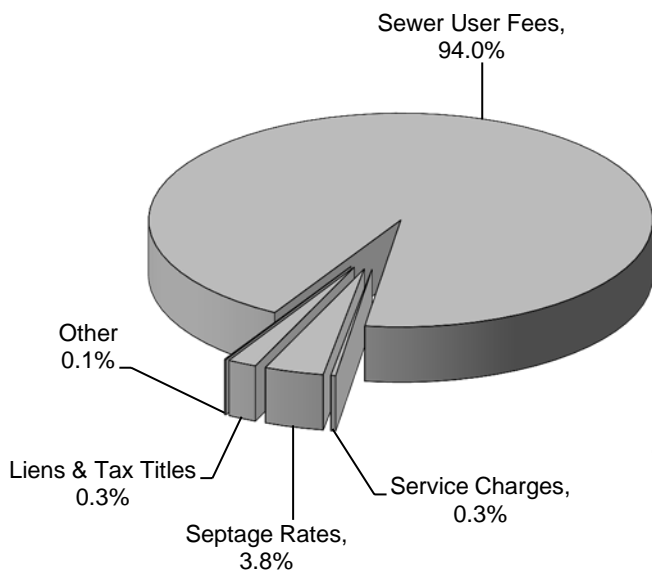
Program Implementation:

The proposed FY20 operating budget is \$3,008,705. This represents an 11.1% decrease as compared to the Sewer Fund’s revised FY19 operating budget, driven by a 32% decrease in depreciation. Depreciation expense reflects the cost of the annual use, or wear-and-tear, of the Sewer Division’s approximately \$15.6 million worth of infrastructure (recorded as of the end of FY18). The FY20 budgeted depreciation expense of \$984,154 is 6% of these capital assets. Personnel Services are budgeted at \$519,282 in FY20, a 6.5% increase from the revised FY19 total of \$487,748.

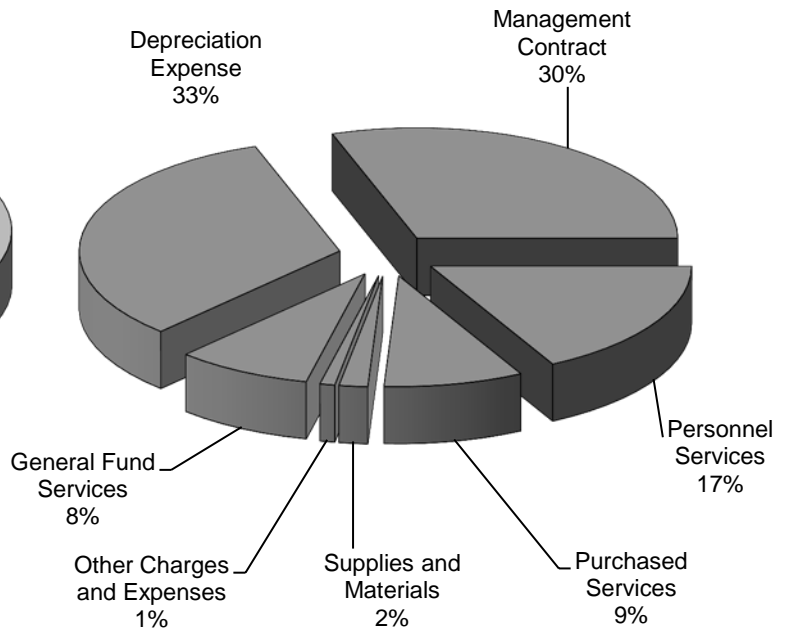
Excluding depreciation and General Fund services, the FY20 budget proposes a 4.8% increase in funding overall with a 6.2% increase for wastewater collection and a 3.7% increase in wastewater treatment. The costs associated with the operation of the Wastewater Treatment facility are directly related to meeting state and federally mandated National Pollutant Discharge Elimination System (NPDES) permit requirements and funding contract operation services presently provided by Woodard & Curran. Concord’s 5-year NPDES permit is presently under review by EPA and DEP and will be re-issued in the near future. More restrictive water quality limits resulting in increased costs for chemicals, electricity and sludge management are anticipated in this budget.

Customer Care Services - Billing and Collection Improvements: The Water & Sewer Division has been working closely with the Finance Department and Concord Municipal Light Plant to begin improving upon all aspects of our municipal utility customer service platform. These efforts have already resulted in a more streamlined and efficient use of Town staff and resources involved in responding to customer inquiries. Equally important, this effort has allowed us to collectively identify and begin to transition towards a new customer care and billing software platform that, once employed, will provide our customers with a more automated and robust billing and collection system.

**FY20 Operating Revenues**  
Totaling \$3,245,200



**FY20 Operating Expenses**  
Totaling \$3,008,705



Operating Income:

The FY20 Budget produces an operating surplus and a positive Net Income of \$454,088. The increase in net income reflects a significant decrease in depreciation expense as some capital assets have become fully depreciated.

**OPERATING REVENUES**

	FY17 Actual	FY18 Actual	FY19 Revised	FY20 Proposed
Sewer User Fees	\$ 2,527,489	\$ 2,657,713	\$ 3,019,000	\$ 3,049,000
Service Charges	19,775	27,737	10,000	10,000
Septage Rates	124,726	137,660	123,000	123,200
Liens & Tax Titles	10,038	60,503	60,000	60,000
Other Revenue	2,514	3,150	3,000	3,000
Other	34,068	-		
<b>Total Operating Revenues</b>	<b>\$ 2,718,609</b>	<b>\$ 2,886,764</b>	<b>\$ 3,215,000</b>	<b>\$ 3,245,200</b>

**OPERATING EXPENSES**

<u>Sewer Divisions</u>	FY17	FY18	FY19	FY20
<u>Collection</u>	Actual	Actual	Revised	Proposed
Personnel Services	\$ 404,766	\$ 329,333	\$ 432,624	\$ 460,863
Purchased Services	116,464	110,616	208,829	225,035
Supplies & Materials	31,917	43,876	55,640	53,382
Other Charges & Expenses	20,300	18,278	25,546	27,895
General Fund Services	110,227	113,157	122,736	126,714
<b>Subtotal</b>	<b>\$ 683,674</b>	<b>\$ 615,259</b>	<b>\$ 845,375</b>	<b>\$ 893,888</b>
<u>Treatment</u>				
Personnel Expenses	\$ 47,696	\$ 49,781	\$ 55,124	\$ 58,419
Purchased Services		23,175	35,000	35,000
Management Contract	778,055	862,065	877,974	910,531
Supplies & Materials	-	-	-	-
Other Charges & Expenses	3,467	4,449	-	-
General Fund Services	110,227	113,157	122,736	126,714
<b>Subtotal</b>	<b>\$ 939,445</b>	<b>\$ 1,052,626</b>	<b>\$ 1,090,834</b>	<b>\$ 1,130,663</b>
Depreciation Expense	1,413,392	1,408,551	1,448,070	984,154
<b>Total Operating Expense</b>	<b>\$ 3,036,511</b>	<b>\$ 3,076,436</b>	<b>\$ 3,384,279</b>	<b>\$ 3,008,705</b>

**RETIREMENT AND OPEB ASSESSMENT**

*For Informational Purpose Only*

	FY17 Actual	FY18 Actual	FY19 Revised	FY20 Proposed
Retirement Assessment	\$ 21,545	\$ 20,529	\$ 24,541	\$ 36,680
OPEB Assessment	5,433	5,543	6,000	4,600
<b>Total Assessment</b>	<b>\$ 26,978</b>	<b>\$ 26,072</b>	<b>\$ 30,541</b>	<b>\$ 41,280</b>



## AUTHORIZED POSITIONS

Collection Personnel Costs Regular Staff	FY19 Revised		FY20 Proposed	
	Positions/Hours	\$ Amount	Positions/Hours	\$ Amount
Water and Sewer Superintendent	0.25 FTEs	\$ 29,477	0.25 FTEs	\$ 29,477
Management Analyst	0.25	19,777	0.25	19,777
Senior Env. & Reg. Coordinator	0.25	23,174	0.25	23,174
Env. & Reg. Coordinator	0.25	15,461	0.25	15,461
Administrative Assistant	0.25	17,269	0.25	17,269
Public Works Supervisor	0.50	47,428	0.50	47,428
Crew Leader	0.50	38,809	0.50	38,809
Senior Treatment System Operator	0.25	20,232	0.25	20,232
Treatment System Operator	0.50	34,977	0.50	34,977
System Maintainer	1.00	69,665	1.00	69,665
Standby Pay (5111)	365 hrs	16,122	365 hrs	16,122
Charges to Snow Account	0	-	0	-
Charges to Projects	N/A	(7,782)	N/A	(7,782)
Salary and Wage Adjustments	N/A	-	N/A	13,502
Subtotal	4.00 FTEs	\$ 324,609	4.00 FTEs	\$ 338,111
<b>Employee Benefits</b>				
Group Insurance	N/A	\$ 21,709	N/A	\$ 23,728
OPEB	N/A	6,000	N/A	4,600
Retirement Contribution	N/A	24,541	N/A	36,680
Subtotal	N/A	\$ 52,250	N/A	\$ 65,008
<b>Payroll Taxes</b>				
Medicare Tax	N/A	\$ 2,940	N/A	\$ 3,337
Social Security Contribution	N/A	-	N/A	-
Subtotal	N/A	\$ 2,940	N/A	\$ 3,337
<b>Other Personnel Costs</b>				
Overtime (5130)	800 hrs.	\$ 43,115	800 hrs.	\$ 43,115
Police Overtime (5131)	100	4,000	100	4,000
IT Salary (5111)	N/A	4,848	N/A	5,567
Salary Adjustments OT (5130)	N/A	862	N/A	1,725
Subtotal	N/A	\$ 52,825	N/A	\$ 54,407
<b>Total Collections</b>	4.00 FTEs	\$ 432,624	4.00 FTEs	\$ 460,863
<b>Treatment Personnel Costs</b>				
Public Works Engineer	0.75 FTEs	\$ 65,898	0.75 FTEs	\$ 65,898
Charge to Capital Projects	N/A	(11,774)	N/A	(11,774)
Salary Adjustments	N/A		N/A	3,295
Medicare Tax	N/A	1,000	N/A	1,000
<b>Total Treatment</b>	0.75 FTEs	\$ 55,124	0.75 FTEs	\$ 58,419
<b>Total Sewer Personnel</b>	<b>4.75 FTEs</b>	<b>\$ 487,748</b>	<b>4.75 FTEs</b>	<b>\$ 519,282</b>

# Sewer Fund

# Revenues and Expenditures

## NET INCOME

	FY17 Actual	FY18 Actual	FY19 Revised	FY20 Proposed
<b>Operating Income</b>				
Operating Revenues	\$ 2,718,609	\$ 2,886,764	\$ 3,215,000	\$ 3,245,200
Less Operating Expenses	(3,036,511)	(3,076,436)	(3,384,279)	(3,008,705)
<b>Operating Income</b>	\$ (317,902)	\$ (189,672)	\$ (169,279)	\$ 236,495
<b>Non-operating Income</b>				
Add Investment Income	\$ 70,640	\$ 137,588	\$ 131,717	\$ 139,052
Add Bond Premium				
Add Sewer Improvement Revenues	372,581	149,861	181,000	181,000
Less Int. Exp. and Admin. Fees	(136,096)	(122,427)	(116,229)	(102,459)
<b>Non-operating Income</b>	\$ 307,125	\$ 165,022	\$ 196,488	\$ 217,593
<b>Net Income</b>	\$ (10,777)	\$ (24,650)	\$ 27,208	\$ 454,088
<b>Reconciliation with Financials</b>				
Add Betterment Revenues	\$ 109,644	\$ 91,867	\$ -	\$ -
WPAT Loan Int. Exp. And Fees	(28,908)	(26,116)	-	-
WPAT Transfer from General Fund	82,529	84,197	-	-
<b>Change in Net Position</b>	\$ 152,488	\$ 125,297	\$ 27,208	\$ 454,088

## AVAILABLE RESOURCES

### Resources Available from Current Operations for Replacement & Renewal of Facility:

	FY17 Actual	FY18 Actual	FY19 Revised	FY20 Proposed
<b>Capital Purposes</b>				
Add Depreciation Expense	\$ 1,413,392	\$ 1,408,551	\$ 1,448,070	\$ 984,154
Add Net Income	(10,777)	(24,650)	27,208	454,088
Add Sewer Improvement Allocation	-	21,094	125,000	250,000
Add Bond Proceeds	-	-	-	-
Less Bonds Payable	(609,516)	(607,814)	(618,831)	(617,570)
<b>Net Available for Capital</b>	\$ 793,099	\$ 797,181	\$ 981,447	\$ 1,070,672

## CASH POSITION AND FUND BALANCE FORECAST

<b>Cash at Year Opening</b>	<b>FY19</b>		<b>FY20</b>	
	Credits	Debits	Credits	Debits
<b>Cash on July 1st</b>	\$ 10,553,333		\$ 10,521,824	
Add Non-Cash Assets	561,169		561,169	
Less Liabilities and Deferred Inflows	(474,097)		(474,097)	
<b>Fund Balance on July 1st</b>	\$ 10,640,405		\$ 10,608,896	
<b>Fund Balance Details (projected)</b>	Credits	Debits	Credits	Debits
Net Income	27,208		454,088	
Bond Principal Repayment		(618,831)		(617,570)
Capital (Borrowing)			-	
Capital Outlay (Non-Borrowing)		(762,956)	-	(3,070,150)
Capital (Sewer Improvement Fund)		(125,000)		(250,000)
Add Depreciation Expense	1,448,070		984,154	
Balance Projected at June 30th	1,475,278	(1,506,787)	1,438,242	(3,937,720)
<b>Fund Balance on June 30th</b>	\$ 10,608,896		\$ 8,109,418	
<b>Cash at Year End (projected)</b>				
Fund Balance on June 30th	\$ 10,608,896		\$ 8,109,418	
Less Receivables	(561,169)		(561,169)	
Add Cash Held for Liabilities	474,097		474,097	
<b>Projected Cash at June 30th</b>	\$ 10,521,824		\$ 8,022,346	
<b>Sewer Improvement Fund Cash</b>	\$ 4,539,765		\$ 4,470,765	
<b>Unrestricted Cash</b>	\$ 5,982,059		\$ 3,551,581	

## SEWER IMPROVEMENT FUND

	FY17		FY18		FY19		FY20	
	Actual		Actual		Revised		Proposed	
<b>Cash on July 1st</b>	\$	3,982,417	\$	4,354,997	\$	4,483,765	\$	4,539,765
Revenues		372,580		149,861		181,000		181,000
Expenditures		-		(21,094)		(125,000)		(250,000)
Adjustment		-		-		-		-
<b>Cash on June 30th</b>	\$	<b>4,354,997</b>	\$	<b>4,483,765</b>	\$	<b>4,539,765</b>	\$	<b>4,470,765</b>
<b>Net Activity</b>	\$	<b>372,580</b>	\$	<b>128,768</b>	\$	<b>56,000</b>	\$	<b>(69,000)</b>

Note: The Sewer Improvement Fund is included in the cash and fund analysis found on the preceding page (the Sewer Betterment Account, shown below, is not).

## SEWER BETTERMENT CASH FLOW ANALYSIS

	FY17		FY18		FY19		FY20	
	Actual		Actual		Revised		Proposed	
<b>Activity</b>								
<b>Cash at July 1st</b>	\$	<b>591,835</b>	\$	<b>545,556</b>	\$	<b>481,989</b>	\$	<b>416,556</b>
Cash Received		109,155		91,867		90,000		85,000
Debt Service		(155,434)		(155,434)		(155,433)		(155,433)
<b>Cash at June 30th</b>	\$	<b>545,556</b>	\$	<b>481,989</b>	\$	<b>416,556</b>	\$	<b>346,123</b>
<b>Net Activity</b>	\$	<b>(46,279)</b>	\$	<b>(63,567)</b>	\$	<b>(65,433)</b>	\$	<b>(70,433)</b>
<b>Net Assets (as of June 30th)</b>								
Cash	\$	545,556	\$	478,151	\$	416,556	\$	346,123
Betterment Receivables		558,859		477,387		425,000		375,000
<b>Net Assets</b>	\$	<b>1,104,415</b>	\$	<b>955,538</b>	\$	<b>841,556</b>	\$	<b>721,123</b>
Less Outstanding Principal		(1,280,265)		(1,149,129)		(1,015,337)		(878,845)
<b>Surplus / Deficit</b>	\$	<b>(175,850)</b>	\$	<b>(193,591)</b>	\$	<b>(173,781)</b>	\$	<b>(157,722)</b>

Note: The negative number shown as Surplus / Deficit will be offset by future collections from interest earned on the account's cash holdings, as well as by interest charged to property owners with outstanding balances (both of which accounting practices do not allow to be shown as an asset).

The **Sewer Improvement Fund** was established under a policy formulated by the Public Works Commission and authorized by Article 25 at Town Meeting in 1989 whereby new connections and uses outside the scope of the 1984 Sewer Facilities Plan pay a fee which is used to create new capacity in the sewer system for the additional flows, either through expansion of the existing sewer infrastructure or reduction in infiltration and inflow.

The **Sewer Betterment Fund** segregates costs and receipts related to expansion of the sewer system. When sewer service is extended into new neighborhoods by vote of Town Meeting, a portion of the cost for the sewer mains in the street and the pumping stations in the neighborhood is assessed as a betterment to the properties on those streets that directly benefit by having sewer available; the remainder of the cost is paid by the Sewer Fund and the Town property tax. The amount of the betterment is set by the Public Works Commission after the sewer extension project is finished and all costs have been paid. Betterments must be paid by property owners when sewer service becomes available whether they immediately tie into the sewer or not. Payments may be made at once or spread over a number of years.

## DEBT SERVICE

	FY17 Actual	FY18 Actual	FY19 Revised	FY20 Proposed
Long Term Debt Repayment:				
Principal	\$ 609,516	\$ 607,814	\$ 618,831	\$ 617,570
Interest	134,224	121,390	108,499	95,573
Administrative Fee (WPAT)	9,366	8,556	7,730	6,887
<b>Totals</b>	<b>\$ 753,106</b>	<b>\$ 737,760</b>	<b>\$ 735,060</b>	<b>\$ 720,030</b>

Note: The Debt Schedule above and on the facing page does not account for Accrual periods across fiscal years, and so differs from the Town's Audited Financial Statements.

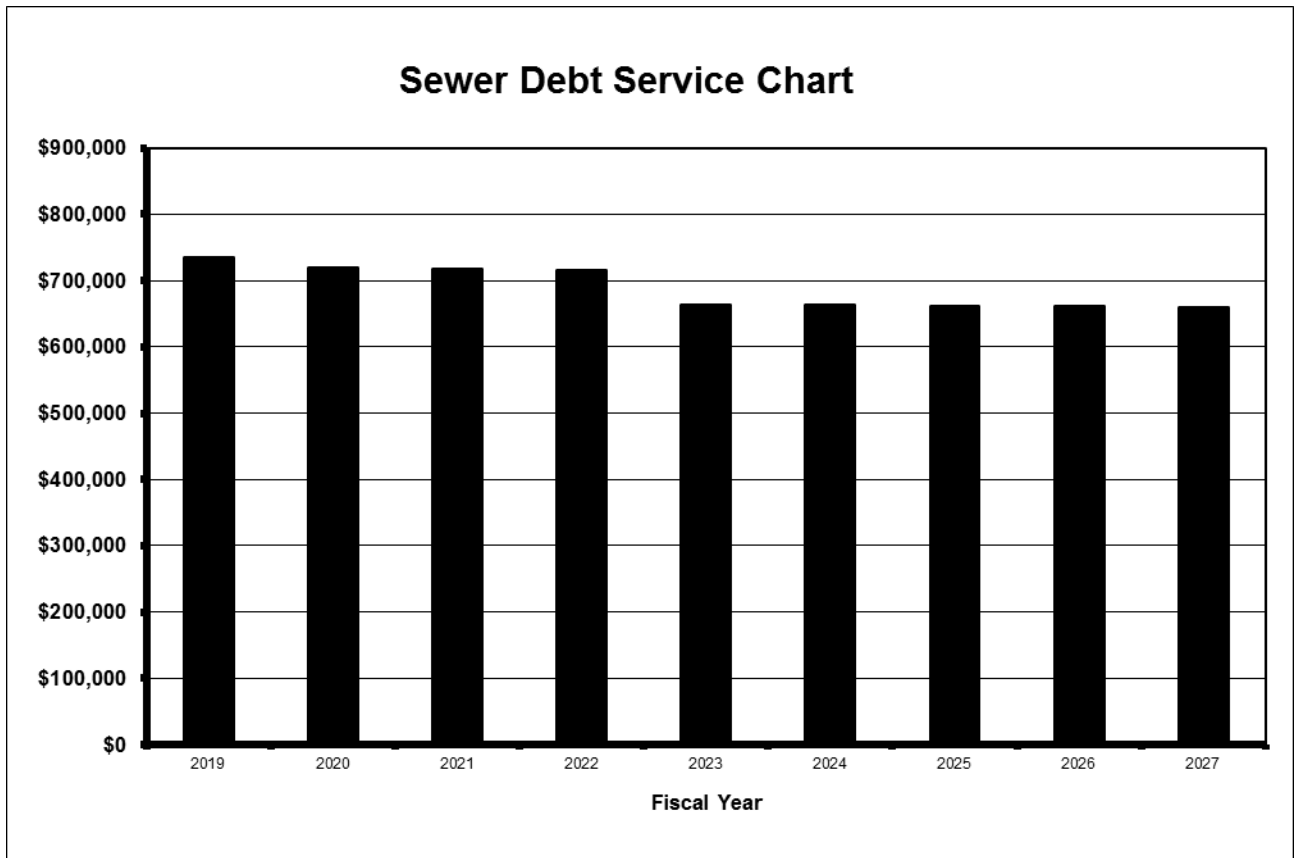
## PAYMENTS TO THE GENERAL FUND

	FY17 Actual	FY18 Budget	FY19 Revised	FY20 Proposed
<b>Management &amp; Engineering:</b>				
Public Works Administration	\$ 37,173	\$ 38,172	\$ 39,232	\$ 39,270
Public Works Engineering	22,786	23,203	27,962	28,004
Highway Maintenance	4,937	4,941	4,976	6,168
133/135 Keyes Road	12,200	12,853	16,438	16,357
<b>Subtotals</b>	<b>\$ 77,096</b>	<b>\$ 79,169</b>	<b>\$ 88,608</b>	<b>\$ 89,799</b>
<b>Financial &amp; Administrative:</b>				
Town Manager	\$ 31,111	\$ 31,798	\$ 33,771	\$ 34,800
Human Resources	6,069	6,632	7,004	7,032
Finance Administration	20,283	19,541	23,214	23,024
Treasurer-Collector	13,556	13,846	13,688	13,465
Town Accountant:				
General Services	14,598	15,449	17,127	14,176
Audit Services	6,000	6,000	6,000	6,000
Town House Facilities	3,508	3,758	3,902	4,180
<b>Subtotals</b>	<b>\$ 95,125</b>	<b>\$ 97,024</b>	<b>\$ 104,706</b>	<b>\$ 102,677</b>
<b>Natural Resource:</b>				
Planning	\$ 7,643	\$ 8,018	\$ 8,286	\$ 8,773
Natural Resources	6,631	7,095	7,094	7,278
Health	33,959	35,007	36,778	36,817
<b>Subtotals</b>	<b>\$ 48,233</b>	<b>\$ 50,120</b>	<b>\$ 52,158</b>	<b>\$ 52,868</b>
Salary Reserve	\$ -	\$ -	\$ -	\$ 8,084
<b>Totals</b>	<b>\$ 220,454</b>	<b>\$ 226,313</b>	<b>\$ 245,472</b>	<b>\$ 253,428</b>

### Sewer Debt Service Schedule

*Exclusive of betterment financing*

Fiscal Year	Principal	Interest	Admin. Fees	Total
2019	618,831	108,499	7,730	\$735,060
2020	617,570	95,572	6,887	\$720,029
2021	629,036	82,606	6,027	\$717,669
2022	640,734	69,409	5,149	\$715,292
2023	602,668	56,725	4,254	\$663,647
2024	614,843	44,550	3,341	\$662,734
2025	627,265	32,128	2,410	\$661,803
2026	639,936	19,457	1,459	\$660,852
2027	652,865	6,528	490	\$659,883
<b>Totals</b>	<b>\$5,643,748</b>	<b>\$515,474</b>	<b>\$37,747</b>	<b>\$6,196,969</b>



## FY20 Capital Plan:

**COLLECTION SYSTEM****Station Structures: \$13,000**

Annual capital outlay for improvements and replacement of structures including six neighborhood lift stations and two main pump stations.

**Station Equipment: \$2,537,000**

Annual capital outlay for improvements and replacement of equipment housed within six neighborhood lift stations and two main pump stations. Equipment is required to control, monitor, pump, store, and treat wastewater enroute to the WWTP including motors, pumps, motor control panels, and air compressors. Complete upgrades are planned for Lowell Road and Assabet Avenue pump stations including replacement of major mechanical, electrical, and instrumentation systems as well as solids handling.

**Mains (Sewer Collectors): \$22,000**

Annual capital outlay for improvements to and extension of collection system. Program is intended to insure that aging and deteriorating main is repaired or replaced in a manner that will maximize service. The Water & Sewer Division will continue to coordinate system improvements with other Town departments to insure division activities are performed in concert with other public works operations (such as Roads Program and CMLP initiatives). Planned work includes routine casting replacements and adjustments.

**Inflow/Infiltration: \$200,000**

The wastewater treatment plant currently receives about one million gallons of sewer flow per day. In accordance with our WWTP NPDES permit, annual inflow and infiltration (I/I) activities are required to reduce groundwater and storm water which enters the collection system through deteriorating pipes, leaking manholes or illicit storm water connections. Planned work includes targeted TV inspections, metering and spot repair of sewer mains, as well as full rehabilitation of manholes.

**Meter Replacement Program: \$206,000**

Sewer Fund portion of costs associated with system-wide meter maintenance and replacement efforts, to include the rapid deployment of new meter reading equipment that will be compatible with meter reading technology also being adopted by the Municipal Light Plant.

**WASTE WATER TREATMENT PLANT****Structures: \$41,000**

Annual capital outlay for improvements and replacement of WWTP structures. Planned improvements include major investments in the facility's electrical system including the installation of a soft starter for an intermediary pump, upgrade to the fire protection alarm system, and cleaning of large capacity storage structures.

**Equipment: \$177,000**

Annual cost to replace equipment presently used beyond recommended service life, including motors, pumps, motor control panels, chemical feed systems, and process instrumentation. Planned work includes major SCADA system upgrade and addition of improved security technology

**Wastewater Planning/Capacity: \$50,000**

Capacity needs assessment and wastewater NPDES permitting support services. Concord expects to seek regulatory relief from NPDES permitting capacity constraints. Since the completion several years ago of the integrated wastewater and land-use planning efforts, the Town continues to require additional treatment capacity of 320,000 gpd (short-term) to 600,000 gpd (long-term). This funding also includes a feasibility study and preliminary design of a green wastewater effluent reuse project. The proposed project will establish a tree nursery at the wastewater treatment plant's open fields in which public shade trees will be grown and maintained; the trees will be transplanted within the Town's public right of way and other locations, thereby advancing the Town's goal of improving climate resiliency.

**GENERAL PLANT****Keyes Road Facility: \$20,500**

Capital outlay for improvements to Water/Sewer administrative office and garage facilities. Budget includes allowance for misc. improvements to mechanical, electrical, plumbing as well as heating, ventilation and cooling systems.

**Vehicles/Construction Equipment: \$33,500**

Water/Sewer Fleet consists of 17 service vehicles and miscellaneous equipment such as compressor, vacuum, skid steer loader, and forklifts which are replaced in accordance with CPW criteria based on industry-accepted useful-life measures. Planned improvements include the replacement of one engineering/administration vehicle and a backhoe.

**CAPITAL SPENDING PLAN**

	FY18	FY19	FY20	FY21	FY22	FY23	FY24	Total FY20-24
<b><u>Collection System</u></b>								
<b><u>Pumping Plant</u></b>								
Station Structures		12,000	13,000	14,000	15,000	16,000	17,000	75,000
Station Equipment	137,799	275,000	2,537,000	26,000	27,000	28,000	29,000	2,647,000
<b>Subtotal</b>	<b>137,799</b>	<b>287,000</b>	<b>2,550,000</b>	<b>40,000</b>	<b>42,000</b>	<b>44,000</b>	<b>46,000</b>	<b>2,722,000</b>
<b><u>Collection Plant</u></b>								
Sewer Mains/Laterals		21,000	22,000	23,000	24,000	25,000	26,000	120,000
Inflow/Infiltration (Note 1)		100,000	200,000	206,000	213,000	220,000	227,000	1,066,000
Meter Replacements	5,549	43,000	206,000	206,000	54,000	55,000	57,000	578,000
<b>Subtotal</b>	<b>5,549</b>	<b>164,000</b>	<b>428,000</b>	<b>435,000</b>	<b>291,000</b>	<b>300,000</b>	<b>310,000</b>	<b>1,764,000</b>
<b><u>Wastewater Treatment Plant</u></b>								
Structures		290,000	41,000	206,000	206,000	30,000	31,000	514,000
Plant Equipment		57,000	177,000	25,000	26,000	27,000	28,000	283,000
Capacity/Treatment Optimization								
Depreciable Personal Services	16,189	19,556	20,150	20,760	21,390	22,040	22,710	107,050
<b>Subtotal</b>	<b>16,189</b>	<b>366,556</b>	<b>238,150</b>	<b>251,760</b>	<b>253,390</b>	<b>79,040</b>	<b>81,710</b>	<b>904,050</b>
<b><u>General Plant</u></b>								
Keys Road CPW Facility		10,000	20,500	10,000	11,000	12,000	13,000	66,500
Vehicle Replacements	2,600	35,400	33,500	20,800	17,400	33,000	65,200	169,900
Miscellaneous Equipment & Billing Software								
<b>Subtotal</b>	<b>2,600</b>	<b>45,400</b>	<b>54,000</b>	<b>30,800</b>	<b>28,400</b>	<b>45,000</b>	<b>78,200</b>	<b>236,400</b>
<b><u>Wastewater Management Project</u></b>								
Wastewater Planning (Note 1)	21,094	25,000	50,000	483,500	1,900,000	1,900,000		4,333,500
W.R. Grace land acquisition (funded through borrowing)								
<b>Subtotal</b>	<b>21,094</b>	<b>25,000</b>	<b>50,000</b>	<b>483,500</b>	<b>1,900,000</b>	<b>1,900,000</b>	<b>-</b>	<b>4,333,500</b>
<b>Total Capital Uses</b>	<b>183,232</b>	<b>887,956</b>	<b>3,320,150</b>	<b>1,241,060</b>	<b>2,514,790</b>	<b>2,368,040</b>	<b>515,910</b>	<b>9,959,950</b>
<b>Funding the Capital Plan</b>								
Total - User Fees	162,137	762,956	3,070,150	551,560	401,790	248,040	288,910	4,560,450
Total - Sewer Improvement Fees	21,094	125,000	250,000	689,500	2,113,000	2,120,000	227,000	5,399,500
Total - Borrowing								
<b>Total Capital Sources</b>	<b>183,232</b>	<b>887,956</b>	<b>3,320,150</b>	<b>1,241,060</b>	<b>2,514,790</b>	<b>2,368,040</b>	<b>515,910</b>	<b>9,959,950</b>

Note 1: Charged to Sewer Improvement Fund

# Sewer Fund

# Revenues and Expenditures

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY20-29
<b>Sewer Fund: Plan and Projection</b>													
<b>Operating Revenue</b>													
User Fees	2,657,713	3,019,000	3,049,000	3,081,000	3,113,000	3,145,000	3,178,000	3,211,000	3,243,000	3,278,000	3,311,000	3,345,000	31,954,000
Other	229,051	196,000	196,200	197,000	198,000	200,000	201,000	202,000	204,000	205,000	206,000	209,000	2,018,200
Subtotal	2,886,764	3,215,000	3,245,200	3,278,000	3,311,000	3,345,000	3,379,000	3,413,000	3,447,000	3,483,000	3,517,000	3,554,000	33,972,200
<b>Operating Expense</b>													
O & M	1,667,885	1,936,210	2,024,551	2,085,474	2,148,235	2,212,892	2,279,505	2,348,131	2,418,833	2,491,674	2,566,720	2,644,037	23,220,051
Depreciation	1,408,551	1,448,070	984,154	1,152,632	1,163,721	1,148,530	1,160,621	1,146,313	1,160,257	1,149,161	1,176,366	1,161,149	11,402,902
Subtotal	3,076,436	3,384,280	3,008,705	3,238,105	3,311,955	3,361,422	3,440,125	3,494,444	3,579,089	3,640,835	3,743,086	3,805,186	34,622,953
<b>Operating Income</b>	-189,672	-169,280	236,495	105,000	-955	-16,422	-61,125	-81,444	-132,089	-157,835	-226,086	-251,186	-585,648
ADD: Interest Income	137,588	131,717	139,052	117,226	100,728	74,903	63,696	65,883	67,814	69,182	74,620	84,229	857,333
Bond Premium	-	-	-	-	-	-	-	-	-	-	-	-	0
Sewer Improvement Fees	149,861	181,000	181,000	181,000	181,000	181,000	181,000	181,000	181,000	181,000	181,000	181,000	1,810,000
LESS: Interest Expense	122,427	116,229	102,459	88,633	74,558	60,979	47,891	34,538	20,916	7,018	0	0	436,992
Existing Debt	0	0	0	0	0	0	0	0	0	0	0	0	0
New Debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Bond Anticipation Notes (BANs)	0	0	0	0	0	0	0	0	0	0	0	0	0
Issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net Income</b>	-24,650	27,208	454,088	314,593	206,215	178,502	135,680	130,902	95,808	85,330	29,534	14,042	1,644,693
<b>Available Resources from:</b>													
Net income	-24,650	27,208	454,088	314,593	206,215	178,502	135,680	130,902	95,808	85,330	29,534	14,042	1,644,693
Depreciation expense	1,408,551	1,448,070	984,154	1,152,632	1,163,721	1,148,530	1,160,621	1,146,313	1,160,257	1,149,161	1,176,366	1,161,149	11,402,902
Subtotal	1,383,901	1,475,278	1,438,242	1,467,224	1,369,935	1,327,032	1,296,301	1,277,214	1,256,065	1,234,490	1,205,900	1,175,191	13,047,595
Bond proceeds	0	0	0	0	0	0	0	0	0	0	0	0	0
Loan proceeds	0	0	0	0	0	0	0	0	0	0	0	0	0
LESS: Principal repayments	607,814	618,831	617,570	629,036	640,734	602,668	614,843	627,265	639,936	652,865	0	0	5,024,917
Existing Debt	0	0	0	0	0	0	0	0	0	0	0	0	0
New Debt	0	0	0	0	0	0	0	0	0	0	0	0	0
BAN Repayment	776,087	856,447	820,672	838,188	729,201	724,364	681,458	649,949	616,129	581,625	1,205,900	1,175,191	8,022,678
<b>Net Available for Capital Purposes</b>													
Capital Plan:	162,137	762,956	3,070,150	551,560	401,790	248,040	288,910	330,500	302,110	323,840	335,590	347,360	6,199,850
Improvement Fee Supported	21,094	125,000	250,000	689,500	2,113,000	2,120,000	227,000	175,500	181,000	187,000	193,000	199,000	6,335,000
Borrowing Supported	-	-	-	-	-	-	-	-	-	-	-	-	0
<b>Cash Position</b>													
Beginning balance	9,762,282	10,553,333	10,521,824	8,022,346	7,619,474	5,833,865	4,190,209	4,355,757	4,499,707	4,632,725	4,703,511	5,380,821	55,248,088
ADD: Net available	776,087	856,447	820,672	838,188	729,201	724,364	681,458	649,949	616,129	581,625	1,205,900	1,175,191	8,022,678
LESS: Planned Capital	183,232	887,956	3,320,150	1,241,060	2,514,790	2,368,040	515,910	506,000	483,110	510,840	528,590	546,360	12,534,850
Changes in assets & liabilities	-198,196	-	-	-	-	-	-	-	-	-	-	-	0
Ending balance	10,553,333	10,521,824	8,022,346	7,619,474	5,833,865	4,190,209	4,355,757	4,499,707	4,632,725	4,703,511	5,380,821	6,009,652	55,248,088



**SEWER RATES**

(Per Cubic Foot)

Class of Customer	Current FY19	Effective 6/1/19	%Chg.
<b>S-19</b> (1 cubic foot = 7.48 gallons)			
1 <b>Residential Service</b> Rate billed year around but uses wintertime average consumption for non-wintertime months.	\$ 0.1153	\$ 0.1165	1%
2 <b>Non-Residential Service</b> Rate billed year around using actual readings for each billing period.	\$ 0.1153	\$ 0.1165	1%
3 <b>Chiller/Cooling System Discharge Sewer Service</b> For large non-residential sewer customers with dedicated cooling-system water supply	\$ 0.0231	\$ 0.0233	1%

Sample Impacts	Current Annual	New Annual	Annual Change	Monthly Change	% Chg.
1 <b>Average Residential Customer</b> (500 cu ft/mo wintertime use)	\$ 692	\$ 699	\$ 7.20	\$ 0.60	1%
2 <b>Typical Non-Residential Customer</b> (900 cu ft/mo)	\$ 1,245	\$ 1,258	\$ 12.96	\$ 1.08	1%

