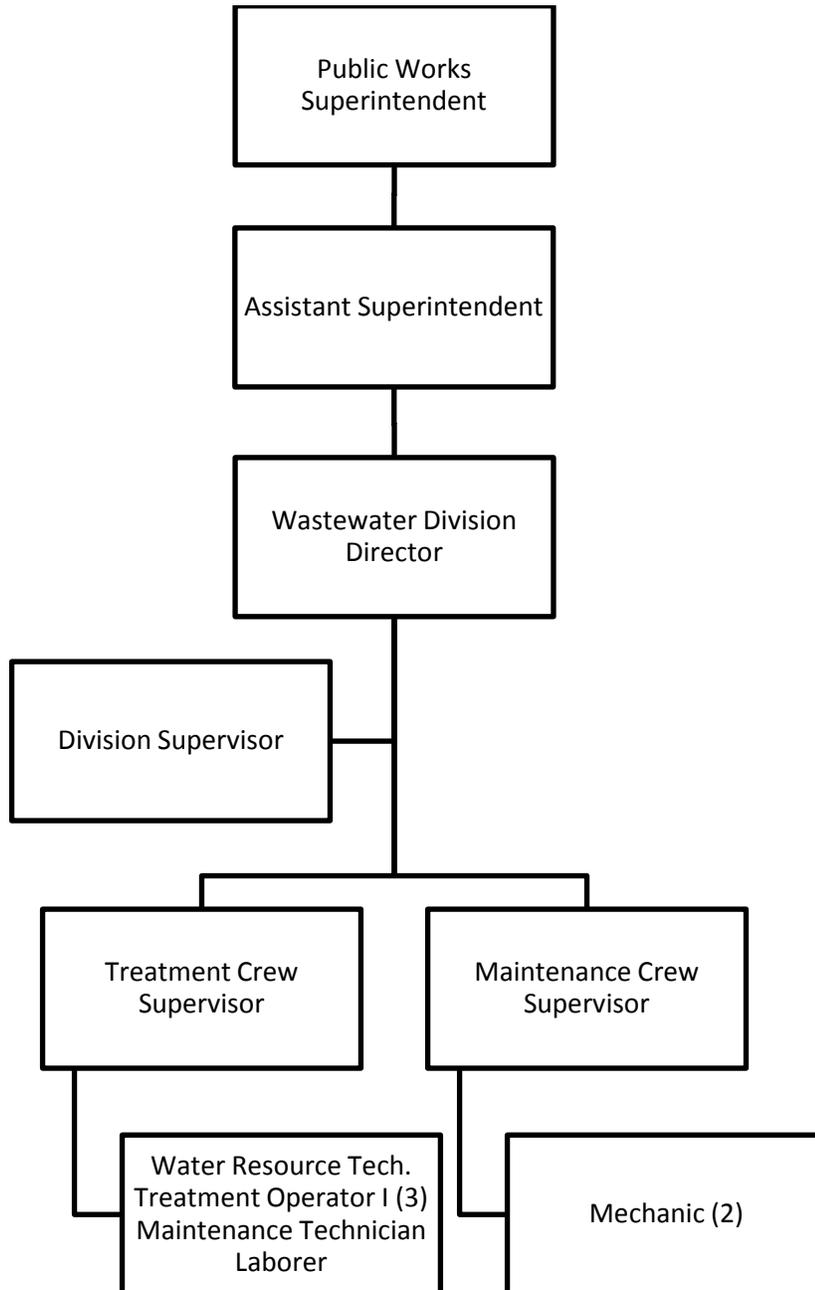


**SEWER
FUND**

SEWER FUND

MISSION STATEMENT: To provide an environmentally safe system for collection, treatment, and disposal of sewage and to do so through a user fee based revenue system.



SEWER FUND SUMMARY

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Operating Revenues	\$ 4,011,759	4,045,916	4,233,462	4,130,158	4,249,250	119,092	2.9%
Interest and Late Fees	\$ 32,556	26,493	30,022	20,000	20,000	0	0.0%
Grants	\$ 0	0	0	0	0	0	0.0%
SUBTOTAL REVENUES	\$ 4,044,315	4,072,410	4,263,484	4,150,158	4,269,250	119,092	2.9%
Borrowing							
Authorizations	\$ 0	0	0	0	0	0	0.0%
Available Funds	\$ 0	0	0	0	0	0	0.0%
Surplus Funds	\$ 114,353	0	0	0	33,017	33,017	0.0%
TOTAL RESOURCES	\$ 4,158,668	4,072,410	4,263,484	4,150,158	4,302,267	152,109	3.7%
Operating Budget	\$ 3,003,786	3,045,722	3,016,612	3,197,450	3,184,461	(12,989)	-0.4%
Debt Service	\$ 430,926	404,304	386,158	378,610	376,062	(2,548)	-0.7%
Capital Program	\$ 255,000	240,000	250,000	240,000	405,000	165,000	68.8%
Interfund Transactions	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 3,689,712	3,690,026	3,652,770	3,816,060	3,965,523	149,463	3.9%
Indirect Costs Appropriated in General Fund	333,949	348,920	354,140	334,098	336,744	2,646	0.8%
TOTAL EXPENDITURES	\$ 4,023,661	4,038,946	4,006,910	4,150,158	4,302,267	152,109	3.7%

SEWER FUND

RESOURCES

GOAL STATEMENT: To provide an adequate amount and proper balance of revenue sources to ensure that the Sewer Fund is completely self-supporting.

LONG RANGE OBJECTIVES:

- To maintain projection models to facilitate rate setting.
- To plan rate increases to meet long term Fund objectives.

FY 18 OBJECTIVES:

- To continue to adequately fund operating and capital needs.
- To develop a more defined policy regarding an appropriate reserve level for Sewer Fund Surplus.

SERVICE LEVELS:

	<u>FY 12</u> <u>Actual</u>	<u>FY 13</u> <u>Actual</u>	<u>FY 14</u> <u>Actual</u>	<u>FY 15</u> <u>Actual</u>	<u>FY 16</u> <u>Actual</u>
Funding Composition (%)					
Operating Revenues	93	91	96	99	99
Interest	1	1	1	1	1
Grants	0	0	0	0	0
Surplus Funds	6	5	3	0	0
Borrowing	0	0	0	0	0

SEWER FUND

RESOURCES

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Sewer Rates	\$ 3,726,263	3,904,100	4,010,977	3,987,158	4,106,250	119,092	3.0%
Sewer Liens	\$ 90,318	54,812	69,242	50,000	50,000	0	0.0%
Sewer Entrances	\$ 112,825	50,254	122,050	60,000	60,000	0	0.0%
Septic Disposal	\$ 32,160	31,815	24,195	33,000	33,000	0	0.0%
Sewer Miscellaneous	\$ 50,193	4,936	6,998	0	0	0	0.0%
Sewer Interest and Late Fees	\$ 32,556	26,493	30,022	20,000	20,000	0	0.0%
	\$ 4,044,315	4,072,410	4,263,484	4,150,158	4,269,250	119,092	2.9%

SIGNIFICANT BUDGET CHANGES:

The overall sewer budget of \$4,302,267 increases by 3.7%, and sewer rates will remain level. The current sewer rate is \$3.75 per 100 CF. There will be NO increase in rates for FY 18. \$33,017 will be appropriated from Sewer Fund Surplus to support capital in this budget. The July 1, 2016 Sewer Fund Free Cash balance was \$2,261,404 (53% of operating revenues – this percentage will decrease in coming years). The Town's water/sewer rates remain below state and regional averages.

SEWER FUND**4441: SEWER MAINTENANCE**

GOAL STATEMENT: To maintain sanitary sewers throughout the Town and provide a 24 hour a day response capability for emergency situations.

RECENT ACCOMPLISHMENTS & CURRENT CHALLENGES:

- Completed installation of the Harkness Road pump station.
- Working with the Tree & Grounds and Highway Divisions, performed an emergency replacement of 210 feet of failed 21 inch sewer trunk line along a wooded easement while maintaining constant sewer flows from South Amherst. This project took 7 days to complete including 4 days of 24 hour bypass pumping.
- Completed the installation of the Amherst Woods Sewer phase I expansion.
- Repaired or replaced backflow preventers at Stanley, West, and Main Streets pumping stations and the main plant's emergency generator.
- Replaced Stanley Street pumping station pump #2 check valve.
- Replaced the mechanical seals on pump #1 at the Fort River School pumping station.
- Repaired the drive motors for South East #3 pumping station including rewinding armatures and replacing breakers, after an electrical power surge, which was caused by a squirrel in the power company's high voltage lines.
- Replaced one variable frequency drive at the Station Road pump station.
- Replaced the capacitors for pump #1 at the Potwine Road pump station.

LONG RANGE OBJECTIVES:

- To meet the new state mandated inflow/infiltration study requirements.
- To accelerate the repair and replacement of defective and undersized sewer lines throughout the collection system.
- To continue to improve sewer system mapping using the Town's geographic information system (GIS). To add photo references of manholes to the GIS.
- To continue the review and update of the Town's sewer bylaws and bring them into agreement with new technology and regulations.
- To replace the sewer pumps at Southeast #4 pump station with updated models.
- To replace the Mill Valley pump station generator.
- To continue reducing the amount of leakage (infiltration) into the sewer collection system.
- To continue to modify the annual sewer flushing schedule.
- To develop equipment operating guidelines that will optimize the cleaning efficiency of the sewer flushing truck.
- To incorporate manhole inspections and assessments into the flushing schedule.
- To verify locations of cross-country sewer line manholes.

FY 18 OBJECTIVES:

- To finalize construction of the Amherst Woods/Station Road Sewer phase II project.
- To upgrade the air relief valves in the West Street pump station force main. This force main carries all the wastewater from South Amherst to the wastewater treatment facility. Failure of these valves could cause the force main to go down.
- To add sewer maintenance records to the sewer plans on the Town GIS.

SERVICE LEVELS:

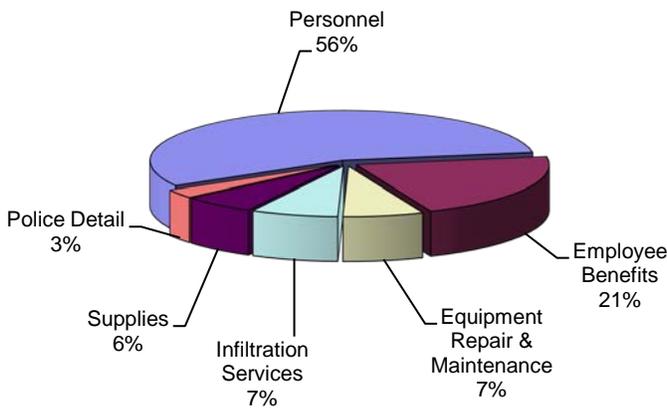
	FY 12	FY 13	FY 14	FY 15	FY 16
	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>
Sanitary sewer complaints	47	46	42	41	38
Sewer main stoppages	8	4	7	5	11
Sewer main flushing (miles)	25	18	30	35	14
Sewer mains treated for roots (in linear feet)	5,597	5,421	5,540	5,500	4,922
Sewer maintained (miles)	121	121	122	122	122
T.V.'d sections of problem sewers (in linear feet)	15,125	12,896	11,042	5,000	150
Feet of sewer rehabilitated	12	1,691	0	0	0
Feet of sewer replaced	0	1,805	7,217	0	0
Feet of sewer extended	0	5,500	0	12,000	0

SEWER FUND

4441: SEWER MAINTENANCE

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Personnel Services	\$ 108,680	109,680	65,605	99,149	92,058	(7,091)	-7.2%
Operating Expenses	\$ 91,246	98,538	74,032	78,583	79,048	465	0.6%
Capital Outlay	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 199,925	208,218	139,637	177,732	171,106	(6,626)	-3.7%
SOURCES OF FUNDS							
Sewer Revenues	\$ 199,925	208,218	139,637	177,732	171,106	(6,626)	-3.7%
POSITIONS							
Full Time	2.00	2.00	2.00	2.00	2.00	0.00	
Part Time with Benefits	0.00	0.00	0.00	0.00	0.00	0.00	
Full Time Equivalents	2.00	2.00	2.00	2.00	2.00	0.00	

MAJOR COMPONENTS:



Personnel Services include funds for one maintenance worker and two laborer/truck drivers shared with the Highway budget in the General Fund.

\$38,248 is budgeted for health, retirement, life insurance, and other employee benefits.

Equipment Repair and Maintenance includes funds for renting equipment to pump sewers.

Infiltration Services provide funds for root control and video inspections.

Departmental Supplies provide miscellaneous sewer materials such as pipes, elbows, caps, etc.

Police Detail provides for traffic control.

SIGNIFICANT BUDGET CHANGES:

Personnel Services are in accordance with the current collective bargaining agreement and reflect recent staff turnover. Operating expenses increase slightly due to increases in retirement benefits.

SEWER FUND

4440: WASTEWATER TREATMENT PLANT

GOAL STATEMENT: To treat all wastewater discharges to the Connecticut River within standards set by the U.S. Environmental Protection Agency and Massachusetts Department of Environmental Protection.

RECENT ACCOMPLISHMENTS & CURRENT CHALLENGES:

- Replaced the drive motors on the dimunator, the auger monster, and final clarifier #1.
- Upgraded the Wastewater Treatment Plant (WWTP) heating boiler.
- Met all permit requirements concerning nitrogen restrictions in the waste water treatment facility permit.
- Had influent pump #1 pump shaft re-sleeved and replaced pump bearings.
- Rebuilt the auger monster grinder.
- Upgraded the plants pump station #2 programmable logic controller.
- Completed preventive maintenance to all the pressure relief valves in primary clarifiers #1 and #3 and final clarifiers #1 and #2.
- Waterproofed the elevator shaft.
- Completed an asbestos abatement in the boiler room.
- Installed mechanical seals on 4 pumps and rebuilt a large capacity water pump for the Water Division.
- Working with the Tree & Grounds and Highway Divisions, replaced 210 feet of failed 21 inch sewer trunk line along a wooded easement while maintaining constant sewer flows from South Amherst. This project took 7 days to complete including 4 days of 24 hour bypass pumping.
- Provided 84 hours of continuous emergency coverage at the main plant during electrical outage caused by severe wind storm.
- Made repairs to aeration mixers.
- Excavated and replaced two 4" underground valves that provide the UMass pilot plant with wastewater for pilot studies.
- Maintained 100% compliance with Environmental Protection Agency (EPA) and Department of Environmental Protection (DEP) required testing: laboratory quality control, effluent nitrogen levels, whole effluent toxicity, total suspended solids, and biological oxygen demand.
- Provided numerous tours of the facility, and hosted regional training seminars.
- Worked with various departments at UMass on energy audits and wastewater analysis.

Challenges:

- Maintaining a cost effective disposal method for biosolids.
- Maximizing nitrogen removal with the current WWTP equipment setup to avoid costly system upgrades.
- Examining possible options for reuse water technology.
- Maintaining equipment that is now 45 years old and locating replacement parts.

SEWER FUND

4440: WASTEWATER TREATMENT PLANT

LONG RANGE OBJECTIVES:

- To continue to provide lab analysis services to UMass to test the reuse water it produces on campus for boiler water.
- To replace the 24 inch diameter in line plant water basket strainers.
- To replace or install a backup gravity belt thickener.
- To install flow measuring device on the effluent discharge line.
- To swap the West Street pump station over to a flow matching system.
- To continue the development of capital improvement projects at the main treatment plant and 20 pumping stations.
Specifically:
 1. Final clarifier drive upgrades.
 2. WWTP generator upgrades.
 3. Mechanical aerator upgrades.
 4. Air conditioning unit upgrades.

FY 18 OBJECTIVES:

- To continue the investigation of water reuse options at the WWTP to replace processes that use potable water.
- To continue investigating alternate control strategies to provide stability to the plant's biological process.
- To complete the facilities renewal process for its EPA/DEP operating permit.
- To support UMass Civil Engineering Department with the recently awarded Clean Energy Technology Center Grant.

SERVICE LEVELS:

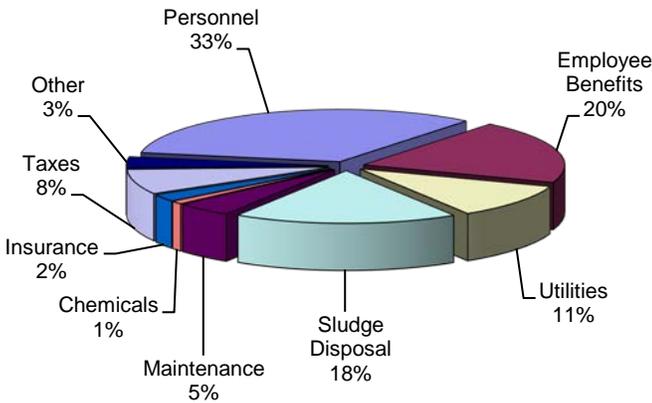
	FY 12 Actual	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Actual
Flow totals (billion gals)	1.66	1.49	1.41	1.37	1.24
Chlorine (lbs)	9,775	10,570	8,935	9,857	2,695
Polymer (lbs)	3,448	3,068	3,223	3,762	3,513
Mass WPC Reports & Federal Reports	12	12	12	12	12
% of tests achieving EPA standards:					
Main Plant	99.9%	99.9%	99.9%	99.9%	100%
Pumping stations operated	20	20	20	20	20
Grit & screenings deposited at sanitary landfill (cu.yd)	52	55	56	40	76
Septic waste delivered to plant (loads)	308	263	254	209	172
Gallons of liquid sludge disposed	4,086,000	4,974,300	4,216,300	4,120,884	3,793,492
Tons of dry sludge produced	1,106	1,034	1,035	1,038	1,023

SEWER FUND

4440: WASTEWATER TREATMENT PLANT

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Personnel Services	\$ 875,348	937,889	939,987	996,310	984,723	(11,587)	-1.2%
Operating Expenses	\$ 1,921,796	1,898,427	1,933,782	2,009,408	2,014,632	5,224	0.3%
Capital Outlay	\$ 6,716	1,188	3,205	14,000	14,000	0	0.0%
TOTAL APPROPRIATION	\$ 2,803,861	2,837,504	2,876,974	3,019,718	3,013,355	(6,363)	-0.2%
SOURCES OF FUNDS							
Sewer Revenues	\$ 2,803,861	2,837,504	2,876,974	3,019,718	3,013,355	(6,363)	-0.2%
Surplus Funds	\$ 0	0	0	0	0	0	0.0%
POSITIONS							
Full Time	16.33	16.33	16.48	16.31	16.14	(0.17)	
Part Time with Benefits	0.00	0.00	0.00	0.00	0.00	0.00	
Full Time Equivalents	16.33	16.33	16.48	16.31	16.14	(0.17)	

MAJOR COMPONENTS:



Personnel Services include salaries for the Assistant Superintendent (shared with the Water Fund and the General Fund), a division director, a division supervisor, a supervisor/mechanic, a senior crew supervisor, a Water Resources technician, three treatment operators, two mechanics, a laborer and a maintenance worker. The Town Engineer, the Assistant Town Engineer, a division supervisor, a secretary, an administrative analyst, an applications manager, and an engineer technician are shared with the General Fund and the Water Fund. A utility technician, an environmental scientist, a secretary, and an electrician are shared with the Water Fund. Also included is \$36,000 for overtime.

Employee Benefits include \$595,665 for health, retirement, life insurance, OPEB and other employee benefits.

Utilities include \$280,000 for electricity, \$35,000 for fuel, and \$5,200 for water.

Maintenance includes funds for repair of facilities, vehicles, and equipment.

Insurance includes building, vehicle, and liability coverage.

SIGNIFICANT BUDGET CHANGES:

Personnel Services changes include changing the allocation of both the GIS Administrator, now Applications Manager, and the Electrical Division Director, now Electrical Division Supervisor to be split evenly with the Water and General Fund. Previously the split was 50/50 with the Water Fund. This change reflects the distribution of cost more accurately to the work being done.

Operating expenses increase by 0.3% due to changes in benefits due to turnover, increases in retirement costs and insurance.

SEWER FUND**GENERAL FUND SERVICES**

GOAL STATEMENT: To compensate the General Fund for services provided by various departments.

LONG RANGE OBJECTIVES:**FY 18 OBJECTIVES:**

- To ensure that all costs related to sewer services are identified and appropriately charged through evaluation and modification of the indirect cost model used to assess charges for General Fund administrative support.
- To charge the General Fund for services provided.

SERVICE LEVELS:

	<u>FY 12</u> <u>Actual</u>	<u>FY 13</u> <u>Actual</u>	<u>FY 14</u> <u>Actual</u>	<u>FY 15</u> <u>Actual</u>	<u>FY 16</u> <u>Actual</u>
Number of departments reimbursed	6	6	6	6	6
Percentage of total Fund expenses paid to the General Fund	9	8	8	9	9

SEWER FUND**GENERAL FUND SERVICES**

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
General Fund Services	\$ 333,949	348,920	354,140	334,098	336,744	2,646	0.8%
Transfers to Other Funds	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 333,949	348,920	354,140	334,098	336,744	2,646	0.8%
SOURCES OF FUNDS							
Sewer Revenues	\$ 333,949	348,920	354,140	334,098	336,744	2,646	0.8%

MAJOR COMPONENTS:

General Fund Services: The General Fund provides services which are used by the Sewer Fund. Transfers are made from the Sewer Fund to the General Fund to compensate for the cost of these services. Additionally, the General Fund uses resources of the Sewer Fund and pays for that use. These payments are netted against amounts owed to the General Fund. Charges for FY 18 are as follows:

Select Board/Town Manager	7% of budget	\$ 34,673
Finance Department	9% of budget	126,626
Human Resources/ Human Rights	7% of budget	18,550
Information Technology	6% of budget	46,390
Public Works Administration	31% of budget	98,900
Equipment Maintenance	10% of budget	36,605
Rental of Garage at Wastewater Treatment Facility		(15,000)
Rental of Equipment for Catch Basin Cleaning		<u>(10,000)</u>
TOTAL		<u>\$ 336,744</u>

SIGNIFICANT BUDGET CHANGES:

None.

SEWER FUND**DEBT SERVICE**

GOAL STATEMENT: To provide funds for principal and interest payments for temporary and long-term debt.

LONG RANGE OBJECTIVES:**FY 18 OBJECTIVES:**

- To make payments on debt incurred for the Pine Street Project.
- To make payments on debt incurred for the 2012 Harkness Road and Amherst Woods sewer extension projects.

SERVICE LEVELS:

	<u>FY 12</u> <u>Actual</u>	<u>FY 13</u> <u>Actual</u>	<u>FY 14</u> <u>Actual</u>	<u>FY 15</u> <u>Actual</u>	<u>FY 16</u> <u>Actual</u>
Number of issues outstanding	2	3	3	3	3
Number of new issues	1	1	1	0	0

SEWER FUND

DEBT SERVICE

		FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Principal	\$	322,400	282,090	267,200	267,200	267,200	0	0.0%
Interest	\$	108,526	122,214	118,958	111,410	108,862	(2,548)	-2.3%
TOTAL APPROPRIATION	\$	430,926	404,304	386,158	378,610	376,062	(2,548)	-0.7%
SOURCES OF FUNDS								
Sewer Revenues	\$	430,926	404,304	386,158	378,610	376,062	(2,548)	-0.7%

MAJOR COMPONENTS:	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
Sewer Extension	\$210,400	\$77,080	\$287,480
Pine Street Extension	46,800	25,482	72,282
Sewer Extension, Harkness Design	10,000	1,300	11,300
Amherst Woods Sewer Extension		5,000	5,000
	<u>\$267,200</u>	<u>\$108,862</u>	<u>\$376,062</u>

SIGNIFICANT BUDGET CHANGES:

Debt service increases following the borrowing authorization for the extension of service to Amherst Woods, authorized by Town Meeting vote in May 2016. The total budget decreases as interest costs are lower on the older debt.

SEWER FUND**CAPITAL PROGRAM SUMMARY**

GOAL STATEMENT: To provide for the maintenance and improvement of the Town's sewer system.

LONG RANGE OBJECTIVES:

- To implement a long range Sewer Extension Master Plan consistent with economic development goals of the Town.

FY 18 OBJECTIVES:

- To complete the following:
 - Collection System Improvements
 - To upgrade pumps and generators at several of the waste water pump stations
 - Complete sewer upgrade to Fisher Street and Harris Streets
 - Complete Shumway Street improvements.
 - DPW Facility Improvements.
 - Treatment System Improvements
 - Rebuild second grinder pump
 - Install new effluent pump meter.

SERVICE LEVELS:

	FY 12 <u>Actual</u>	FY 13 <u>Actual</u>	FY 14 <u>Actual</u>	FY 15 <u>Actual</u>	FY 16 <u>Actual</u>
Number of Projects:					
Departmental Equipment	1	2	0	2	1
Existing Facilities	3	3	3	3	3
New Facilities	0	0	0	0	0

SEWER FUND

CAPITAL PROGRAM SUMMARY

	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Budget	FY 18 Manager	Change FY 17 - 18	Percent Change
Departmental Equip.	\$ 0	35,000	45,000	35,000	0	(35,000)	-100.0%
Existing Facilities	\$ 255,000	205,000	205,000	205,000	405,000	200,000	97.6%
New Facilities	\$ 0	0	0			0	0.0%
TOTAL APPROPRIATION	\$ 255,000	240,000	250,000	240,000	405,000	165,000	68.8%
SOURCES OF FUNDS							
Sewer Revenues	\$ 140,647	240,000	250,000	240,000	371,983	131,983	55.0%
Other Available Funds	\$ 0	0	0	0	0	0	0.0%
Surplus Funds	\$ 114,353	0	0	0	33,017	33,017	0.0%

MAJOR COMPONENTS:	Facilities	\$300,000	WWTP improvements
		\$100,000	Collection System Improvements
		\$5,000	DPW Facility Improvements