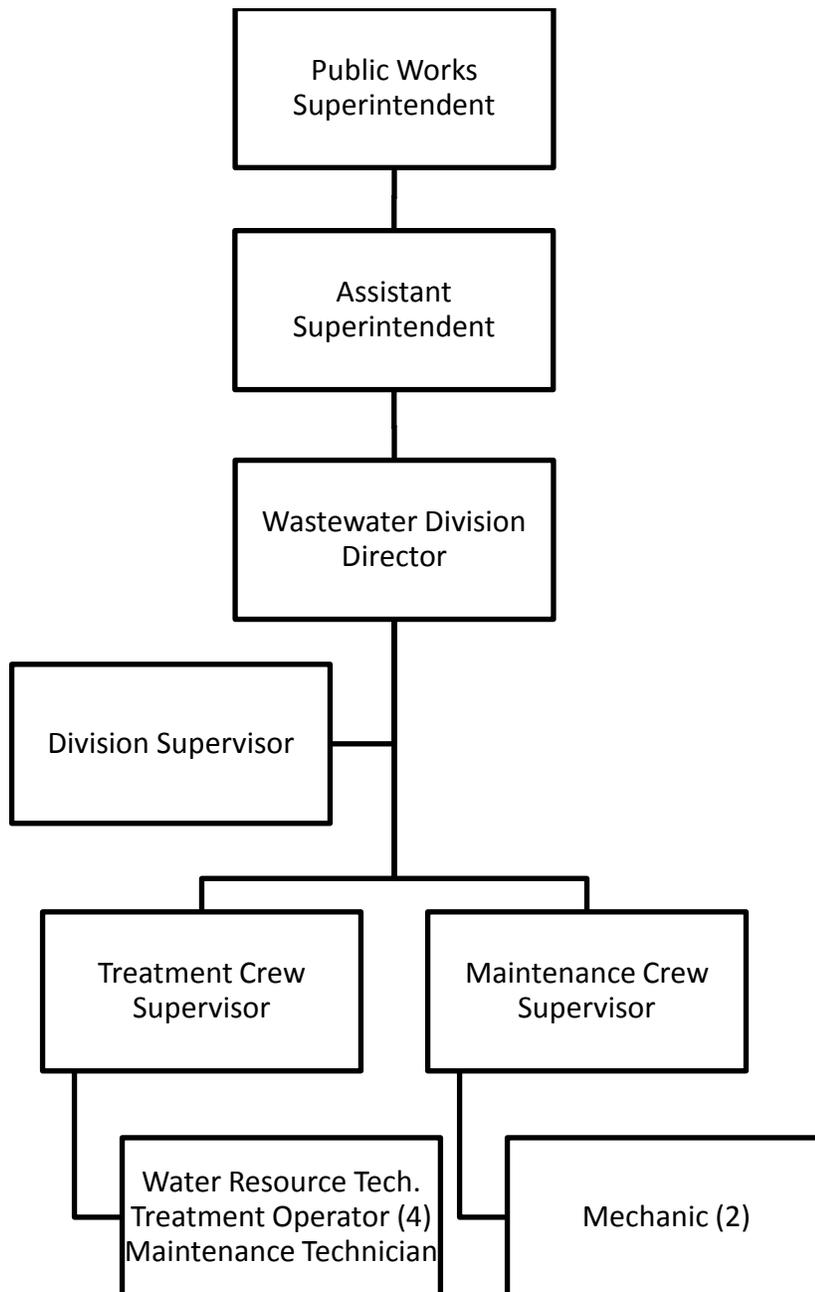


**SEWER
FUND**

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 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Operating Revenues	\$ 4,045,916	4,233,462	4,260,696	4,249,250	4,413,500	164,250	3.9%
Interest and Late Fees	\$ 26,493	30,022	45,823	20,000	20,000	0	0.0%
Grants	\$ 0	0	0	0	0	0	0.0%
SUBTOTAL REVENUES	\$ 4,072,410	4,263,484	4,306,519	4,269,250	4,433,500	164,250	3.8%
Borrowing							
Authorizations	\$ 0	0	0	0	0	0	0.0%
Available Funds	\$ 0	0	0	0	0	0	0.0%
Surplus Funds	\$ 0	0	0	33,017	92,376	59,359	179.8%
TOTAL RESOURCES	\$ 4,072,410	4,263,484	4,306,519	4,302,267	4,525,876	223,609	5.2%
Operating Budget	\$ 3,045,722	3,016,612	2,779,697	3,184,461	3,302,895	118,434	3.7%
Debt Service	\$ 404,304	386,158	378,610	376,062	619,771	243,709	64.8%
Capital Program	\$ 240,000	250,000	240,000	405,000	255,000	(150,000)	-37.0%
Interfund Transactions	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 3,690,026	3,652,770	3,398,307	3,965,523	4,177,666	212,143	5.3%
Indirect Costs Appropriated in General Fund	348,920	354,140	334,098	336,744	348,210	11,466	3.4%
TOTAL EXPENDITURES	\$ 4,038,946	4,006,910	3,732,405	4,302,267	4,525,876	223,609	5.2%

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 19 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:

	FY 13	FY 14	FY 15	FY 16	FY 17
	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>	<u>Actual</u>
Funding Composition (%)					
Operating Revenues	91	96	99	99	99
Interest	1	1	1	1	1
Grants	3	0	0	0	0
Surplus Funds	5	3	0	0	0

SEWER FUND

RESOURCES

	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Sewer Rates	\$ 3,904,100	4,010,977	4,086,881	4,106,250	4,270,500	164,250	4.0%
Sewer Liens	\$ 54,812	69,242	73,091	50,000	50,000	0	0.0%
Sewer Entrances	\$ 50,254	122,050	53,000	60,000	60,000	0	0.0%
Septic Disposal	\$ 31,815	24,195	42,345	33,000	33,000	0	0.0%
Sewer Miscellaneous	\$ 4,936	6,998	5,378	0	0	0	0.0%
Sewer Interest and Late Fees	\$ 26,493	30,022	45,823	20,000	20,000	0	0.0%
	\$ 4,072,410	4,263,484	4,306,519	4,269,250	4,433,500	164,250	3.8%

SIGNIFICANT BUDGET CHANGES:

The overall sewer budget of \$4,525,876 increases by 5.2%. The current sewer rate is \$3.75 per 100 CF. A rate increase to \$3.90 per 100 CF (4%) is recommended for FY 19. This rate increase will help maintain an adequate fund balance in future years. \$92,376 will be appropriated from Sewer Fund Surplus to support capital in this budget. The July 1, 2017 Sewer Fund Free Cash balance was \$2,491,012 (58% 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:

Accomplishments

- Completed the installation of the Amherst Woods Sewer phase 2 expansion.
- Repaired a section of 8 inch clay sewer on South Pleasant Street.
- As part of the Infiltration and Inflow program (I&I), rebuilt several manholes in South Amherst and along East Amherst Truck line. Eliminated about 80 gallons per day of inflow. Completed 70 Manhole inspections. Field verified 49 cross country manholes.
- Upgraded manhole inspections to include video footage.
- Upgraded RACO radios to facilitate real time flow data at all 21 pump stations.
- Collection system Supervisor obtained national certification for collection system pipe inspections.
- Installed the wet well and pump station for the Wildflower Pump station.

LONG RANGE OBJECTIVES:

- To meet the new state mandated inflow/infiltration study requirements.
- To continue to improve sewer system mapping using the Town's geographic information system (GIS), adding 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 and improve 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 19 OBJECTIVES:

- To begin construction of the Amherst Woods/Station Road Sewer phase 3 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.
- To replace the gate valves in the West Street pump station.
- To install variable frequency drives in the West Street Pump Station.

SERVICE LEVELS:

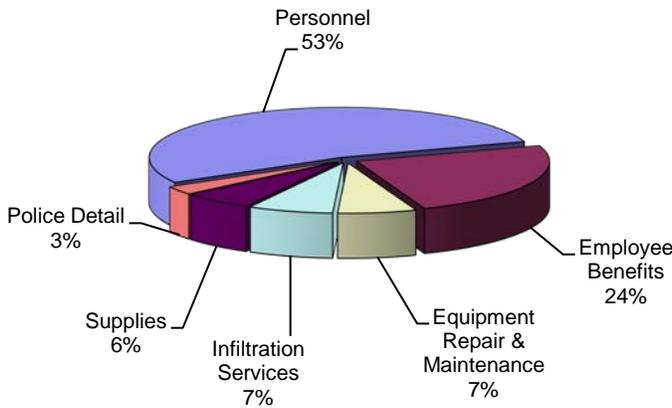
	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Actual
Sanitary sewer complaints	46	42	41	38	42
Sewer main stoppages	4	7	5	11	23
Sewer main flushing (miles)	18	30	35	14	26
Sewer mains treated for roots (in linear feet)	5,421	5,540	5,500	4,922	7,316
Sewer maintained (miles)	121	122	122	122	122
T.V.'d sections of problem sewers (in linear feet)	12,896	11,042	5,000	150	1,542
Feet of sewer rehabilitated	1,691	0	0	0	315
Feet of sewer replaced	1,805	7,217	0	0	355
Feet of sewer extended	5,500	0	12,000	0	9,000

SEWER FUND

4441: SEWER MAINTENANCE

	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Personnel Services	\$ 109,680	65,605	80,778	92,058	97,032	4,974	5.4%
Operating Expenses	\$ 98,538	74,032	78,777	79,048	85,272	6,224	7.9%
Capital Outlay	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 208,218	139,637	159,555	171,106	182,304	11,198	6.5%
SOURCES OF FUNDS							
Sewer Revenues	\$ 208,218	139,637	159,555	171,106	182,304	11,198	6.5%
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 Construction and Maintenance budget in the General Fund.

\$44,472 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 due to steps and contracts.
 Operating expenses increase slightly due to increases in health insurance and 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:**Accomplishments**

- Renewed the Waste Water Treatment Plant (WWTP) operating and discharge permit to the Connecticut River.
- Completed a Massachusetts Clean Energy Center (MassCEC) innovative water technology grant project with UMass Civil Engineering and Clean Membranes. The grant looked at Clean Membranes's filter technology to take wastewater effluent and treat it to Class A reuse water. The plant provided effluent water, technical support, logistic support and lab testing.
- Began pilot program with MassCEC and UMass Amherst to study different ways to operate the facility to reduce secondary bio-solids and nitrogen.
- Continued to act as a contracted lab for much of the mandated testing of the UMass water reuse trailer.
- Dispensed approximately 43 million gallons of our treated effluent water to UMass for tertiary treatment, which was then ultimately used for boiler and chilling water.
- Participated in a UMass Lowell waste water study of the fate of illicit drugs in sewers and surface streams.
- Replaced facility heating boiler, \$170,000; work was completed by vendor.
- Worked on updating our storm water and fuel oil storage regulations.
- Replaced the gravity belt thickener surface belt, all gaskets, drive motor, wash water booster pump, and other consumable parts.
- Completed oil changes to nine aerators, three final clarifiers, and three primary clarifier drives.
- Decommissioned the facility elevator.
- Conducted numerous tours of the facility.
- Hosted multiple training seminars in the facilities classroom.

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 pilot program with MassCEC and UMass Amherst to study different ways to operate the facility to reduce secondary bio-solids and nitrogen.
- To continue pilot program with UMass Lowell to study the fate of pharmaceuticals in sewers and surface streams.
- To install a new elevator at the WWTP.
- To upgrade a plant water pump.
- To negotiate a new bio-solids handling contract.
- To install a new emergency generator for the Mill Valley pumping station.
- To replace the South East Street #4 pump station.
- To upgrade facilities security lighting and fencing.

FY 19 OBJECTIVES:

- To continue the investigation of water reuse options at the WWTP to replace processes that use potable water.
- To replace West Street pump station force main air releases.
- To implement new operations permit for facility.
- To replace plant water strainer and inoperative valves.
- To continue investigating alternate control strategies to provide stability to the plant's biological process.
- To commission new heating boiler system.
- To continue pilot program with MassCEC and UMass Amherst to study different ways to operate the facility to reduce secondary bio-solids and nitrogen.
- To continue to support to UMass Civil Engineering Department Piloting facility.

SERVICE LEVELS:

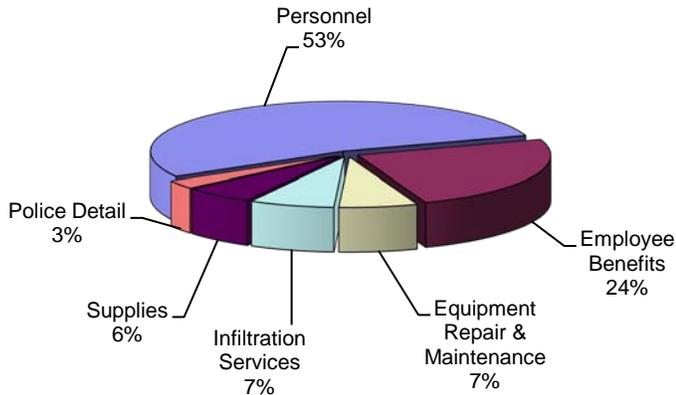
	FY 13	FY 14	FY 15	FY 16	FY 17
	Actual	Actual	Actual	Actual	Actual
Flow totals (billion gals)	1.49	1.41	1.37	1.24	1.19
Chlorine (lbs)	10,570	8,935	9,857	9,695	11,212
Polymer (lbs)	3,068	3,223	3,762	3,513	4,067
% of tests achieving EPA standards:					
Main Plant	99.9%	99.9%	99.9%	100%	99.9%
Pumping stations operated	20	20	20	20	21
Grit & screenings deposited at sanitary landfill (cu.yd)	55	56	40	76	99
Septic waste delivered to plant (loads)	263	254	209	172	336
Gallons of liquid sludge disposed	4,974,300	4,216,300	4,120,884	3,793,492	4,018,587
Tons of dry sludge produced	1,034	1,035	1,038	1,023	989

SEWER FUND

4440: WASTEWATER TREATMENT PLANT

	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Personnel Services	\$ 937,889	939,987	946,466	984,723	1,021,569	36,846	3.7%
Operating Expenses	\$ 1,898,427	1,933,782	1,673,676	2,014,632	2,085,022	70,390	3.5%
Capital Outlay	\$ 1,188	3,205	0	14,000	14,000	0	0.0%
TOTAL APPROPRIATION	\$ 2,837,504	2,876,974	2,620,142	3,013,355	3,120,591	107,236	3.6%
SOURCES OF FUNDS							
Sewer Revenues	\$ 2,837,504	2,876,974	2,620,142	3,013,355	3,120,591	107,236	3.6%
Surplus Funds	\$ 0	0	0	0	0	0	0.0%
POSITIONS							
Full Time	16.33	16.48	16.31	16.32	16.32	0.00	
Part Time with Benefits	0.00	0.00	0.00	0.00	0.00	0.00	
Full Time Equivalents	16.33	16.48	16.31	16.32	16.32	0.00	

MAJOR COMPONENTS:



Personnel Services include salaries for the Assistant Superintendent (shared with the Water Fund and the General Fund), a division director, 3 supervisors, a lab technician, three treatment operators, two mechanics, a laborer and a maintenance worker. Engineering division staff, a division supervisor, an office manager, an administrative analyst, and an applications manager, are shared with the General Fund and the Water Fund. A utility technician, an environmental scientist, a clerk, and an electrician are shared with the Water Fund. The Procurement Officer is shared with the General Fund, Water Fund, and Transportation Fund. Also included is \$36,000 for overtime.

Employee Benefits include \$596,339 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 increases are due to steps and contracts.

Operating expenses increase by 3.5 % due to changes in benefits due to turnover, increases in retirement costs and health insurance.

SEWER FUND**GENERAL FUND SERVICES**

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

LONG RANGE OBJECTIVES:**FY 19 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 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>	<u>FY 17</u> <u>Actual</u>
Number of departments reimbursed	6	6	6	6	6
Percentage of total Fund expenses paid to the General Fund	8	8	9	9	9

SEWER FUND

GENERAL FUND SERVICES

	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
General Fund Services	\$ 348,920	354,140	334,098	336,744	348,210	11,466	3.4%
Transfers to Other Funds	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 348,920	354,140	334,098	336,744	348,210	11,466	3.4%
SOURCES OF FUNDS							
Sewer Revenues	\$ 348,920	354,140	334,098	336,744	348,210	11,466	3.4%

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 19 are as follows:

Select Board/Town Manager	7% of budget	\$ 37,088
Finance Department	9% of budget	131,311
Human Resources/ Human Rights	6% of budget	17,900
Information Technology	8% of budget	45,001
Public Works Administration	31% of budget	107,725
Equipment Maintenance	10% of budget	34,184
Rental of Garage at Wastewater Treatment Facility		(15,000)
Rental of Equipment for Catch Basin Cleaning		(10,000)
TOTAL		\$ 348,210

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 19 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 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>	<u>FY 17</u> <u>Actual</u>
Number of issues outstanding	3	3	3	3	3
Number of new issues	1	1	0	0	0

SEWER FUND

DEBT SERVICE

		FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Principal	\$	282,090	267,200	267,200	267,200	463,400	196,200	73.4%
Interest	\$	122,214	118,958	111,410	108,862	156,371	47,509	43.6%
TOTAL APPROPRIATION	\$	404,304	386,158	378,610	376,062	619,771	243,709	64.8%
SOURCES OF FUNDS								
Sewer Revenues	\$	404,304	386,158	378,610	376,062	619,771	243,709	64.8%

MAJOR COMPONENTS:	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
Sewer Extension	\$206,600	\$70,825	\$277,425
Pine Street Extension	46,800	24,546	71,346
Sewer Extension, Harkness Design	10,000	1,000	11,000
Amherst Woods Sewer Extension	<u>200,000</u>	<u>60,000</u>	<u>260,000</u>
	<u>\$463,400</u>	<u>\$156,371</u>	<u>\$619,771</u>

SIGNIFICANT BUDGET CHANGES:
Debt service increases following the borrowing authorization for the extension of service to Amherst Woods, authorized by Town Meeting in 2016.

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 19 OBJECTIVES:

- To complete the following:
 - Collection System Improvements
 - To upgrade pumps and generators at several of the waste water pump stations
 - Treatment System Improvements
 - To rebuild second grinder pump
 - To install new effluent pump meter
 - New vehicle
 - New Gravity Belt Thickener to replace existing sludge backup thickening system.

SERVICE LEVELS:

	FY 13 Actual	FY 14 Actual	FY 15 Actual	FY 16 Actual	FY 17 Actual
Number of Projects:					
Departmental Equipment	2	0	2	1	1
Existing Facilities	3	3	3	3	3
New Facilities	0	0	0	0	0

SEWER FUND

CAPITAL PROGRAM SUMMARY

	FY 15 Actual	FY 16 Actual	FY 17 Actual	FY 18 Budget	FY 19 Manager	Change FY 18 - 19	Percent Change
Departmental Equip.	\$ 35,000	45,000	35,000	0	50,000	50,000	--
Existing Facilities	\$ 205,000	205,000	205,000	405,000	205,000	(200,000)	-49.4%
New Facilities	\$ 0	0	0	0	0	0	0.0%
TOTAL APPROPRIATION	\$ 240,000	250,000	240,000	405,000	255,000	(150,000)	-37.0%
SOURCES OF FUNDS							
Sewer Revenues	\$ 240,000	250,000	240,000	371,983	162,624	(209,359)	-56.3%
Other Available Funds	\$ 0	0	0	0	0	0	0.0%
Surplus Funds	\$ 0	0	0	33,017	92,376	59,359	179.8%

MAJOR COMPONENTS:	Facilities	\$100,000	WWTP improvements
		100,000	Collection System Improvements
		5,000	DPW Facilities Improvements
	Equipment	50,000	Vehicle replacement