

FUND: Water and Sewer Fund

DEPARTMENT: Water and Sewer Plant and Field Operations

Description and Responsibilities

The Public Works and Utilities Department is responsible for the operation of a Water Treatment Plant, the operation and maintenance of the water distribution system, the operation of a Wastewater Treatment Plant, and the operation and maintenance of the wastewater collection system.

Water Plant

The 1.000 MGD Water Treatment Plant (expandable to 2.000 MGD) was constructed in 1978 and receives water from the Town's 45-47 million gallon pond on Brickhouse Creek, with Chetola Lake having the capability to serve as a backup water source during times of drought. In addition, in 2008, the Town executed a water agreement with the Town of Boone for an emergency water system interconnection. The interconnection project was completed in 2011 and allows water to be transferred between Blowing Rock, Boone and Appalachian State University water systems.

The Blowing Rock Water Plant is located along U.S. Highway 321 just south of the Blue Ridge Parkway. The facility is a traditional treatment process including alum addition, flocculation, disinfection, settling and filtration. Corrosion control is also utilized prior to distribution to the residents using orthophosphate.

The Town's service area is entirely south of the Water Treatment Plant. Finished water is pumped to a high elevation, and then allowed to gravity feed into the service area. The Green Hill tank, capacity 3.000 MGD, is the means of control at the highest point of the system. A number of pressure reducing valves have been placed in the system to control maximum pressures for the residents.

Wastewater Treatment Plant

The Town of Blowing Rock operates a Wastewater Treatment Plant very near the Water Treatment Plant and utilizes a discharge to the Middle Fork of the New River. The plant is rated for capacity of 0.800 MGD, but could be expanded to a service capacity of 1.200 MGD. The original plant was constructed in 1960, expanded in 1989, and refurbished in 2013. The facility is fed by four (4) sewer system lift stations that handle the entire volume of wastewater generated by the community. The facility is of concrete construction and is set up for extended aeration treatment. The plant operators sample the water discharge everyday and also send samples out three times per week to an independent testing lab to ensure environmental compliance.

Water & Sewer Field Operations Division

The Field Operations division is responsible for all water and sewer taps, leak repair and water line installation. This department is also responsible for all water meter reading in the town on a bi-monthly basis. In addition, this department maintains the water distribution system and the wastewater collection system.

There are approximately 2,186 water meters and 1,745 sewer taps in the system. The water distribution system consists of approximately 22.02 miles of lines. The wastewater collection system consists of approximately 16.07 miles of gravity sewer lines and 3.59 miles of pressure sewer. There are four (4) wastewater lift-stations: Mayview, Chetola, Chestnut and Quail Hollow.

Staffing and Schedules

A Utility Plant Supervisor and three Utility Plant Operators are assigned to the Water Plant and Wastewater Plant Divisions. The personnel work a varied schedule to meet the service demands of the utility.

A Heavy Equipment Operator, a Light Equipment Operator and two (2) Equipment Operator II's are assigned to the Water & Sewer - Field Operations Division. The division uses other employees, as needed, for the reading of water meters. The personnel work a standard 40 hour week schedule and are on call for emergency repairs.

Measures of Activity

2012-2013 Wastewater Plant – Average Daily Flow

Month	2013 Average Daily (.800 MGD capacity)	2014 Average Daily (.800 MGD capacity)
January	.432	.322
February	.179	.250
March	.377	.239
April	.335	.283
May	.585	.278
June	.691	.264
July	.781	.315
August	.442	.305
September	.359	.306
October	.399	.322
November	.418	.197
December	.392	.274
Monthly Avg	.474	.274
Total Year	173.539 MG	100.010 MG
Daily Avg	.475	.279

2012-2013 Water Plant - Total Water Treated

Month	2013 Total Water Treated (Million Gallons)	2014 Total Water Treated (Million Gallons)
January	17.1770	19.8840
February	12.4690	12.7740
March	10.9460	13.6970
April	12.4130	13.2580
May	12.8180	13.2360
June	13.4680	14.2240
July	16.9680	17.1970
August	14.6140	12.1300
September	14.2290	11.4900
October	17.5350	12.0530
November	12.3950	9.2690
December	13.9150	13.2530
Total Year	168.9470	162.4750
Monthly Avg	14.0789	13.5387
Daily Avg	.463	.445

WATER AND SEWER FUND

DESCRIPTION: WATER AND SEWER EXPENDITURES

CODE: 30-91-7120

ACCOUNT NUMBER	DESCRIPTION	2009-2010 ACTUAL	2010-2011 ACTUAL	2011-2012 ACTUAL	2012-2013 ACTUAL	2013-2014 ACTUAL	2014-2015 ADOPTED	2015-2016 ADOPTED
Plant Operations 7120								
002	Salaries	158,909	158,765	163,587	157,925	144,681	161,827	195,948
003	Overtime	4,850	1,701	5,875	4,006	24,804	6,600	3,000
005	FICA Expense	11,491	11,675	11,610	11,360	11,908	12,885	15,220
006	Group Insurance	19,817	21,483	21,537	22,599	19,654	24,112	31,557
007	401K	3,251	3,288	3,314	3,261	3,397	5,053	7,958
008	Retirement	15,128	18,464	19,836	19,576	21,152	21,003	24,670
	Personnel Subtotal	213,445	215,376	225,759	218,726	225,597	231,479	278,351
011	Telephone	1,930	1,920	2,088	2,050	2,124	2,100	2,250
013	Utilities	139,828	135,895	145,521	156,252	159,422	170,000	140,000
014	Employee Development	47	200	420	260	254	750	1,500
016	Maintenance/Repair-Equip	37,358	57,593	35,448	29,046	37,206	40,500	45,000
031	Gasoline	3,354	3,556	3,749	3,099	1,994	2,500	4,000
033	Materials and Supplies	10,663	16,076	20,763	12,285	11,535	18,000	25,000
034	Sludge Processing	45,600	32,400	41,640	39,120	33,842	45,000	80,000
036	Uniforms	2,167	2,992	1,590	1,354	1,542	2,500	2,100
053	Permits & Dues	3,035	3,035	3,035	3,200	2,790	4,250	4,250
057	Miscellaneous	105	-	420	716	1,190	500	500
104	Lab Contract	21,373	23,073	18,179	23,007	21,978	24,000	24,000
333	Chemicals	42,835	33,993	48,642	29,118	50,963	50,000	50,000
	Operating & Maint. Subtotal	308,294	310,732	321,495	299,506	324,839	360,100	378,600
500	Capital Outlay	-	2,051	-	15,426	-	-	30,000 *
505	Transfer to Capital Projects	-	-	-	-	-	65,000	-
	Capital Subtotal	-	2,051	-	15,426	-	65,000	30,000
900	Debt Service	5,876	-	-	-	-	-	-
	SUBTOTAL - PLANT OPERATIONS	527,615	528,159	547,255	533,658	550,436	656,579	686,951
* IP 30,000 1994 Light Truck Chevrolet S-10 VIN# 0.0555 replacement (installment purchase financing)								
Field Operations 7120								
202	Salaries	125,222	105,519	108,063	100,096	104,591	119,789	121,858
203	Overtime	4,709	3,386	4,148	3,826	3,400	5,000	5,000
205	FICA Expense	9,715	8,895	8,266	7,721	7,744	9,546	9,705
206	Group Insurance	19,334	21,413	19,342	21,625	23,761	24,448	25,508
207	401K	2,577	2,342	2,175	2,094	2,117	3,744	5,074
208	Retirement	11,993	13,143	13,019	12,575	13,232	15,561	15,730
	Personnel Subtotal	173,550	154,698	155,014	147,936	154,845	178,088	182,876
211	Telephone	-	-	-	-	-	-	-
213	Utilities	-	-	-	-	-	-	-
214	Employee Development	2,500	1,350	2,309	2,200	2,184	3,400	3,400
216	Maintenance/Repair-Equip	20,144	9,322	7,285	13,865	9,927	12,000	12,000
217	Maintenance/Repair-Lift Station	-	-	-	-	-	12,000	15,000
231	Diesel/Gasoline	4,648	3,914	4,243	3,752	-	5,500	10,800
233	Materials and Supplies	54,431	55,910	43,807	62,803	55,951	73,000	75,000
236	Uniforms	2,118	2,199	1,871	1,541	1,936	3,000	2,000
257	Miscellaneous	4,147	1,419	2,379	3,884	175	3,000	4,000
	Operating & Maint. Subtotal	87,988	74,115	61,893	88,046	70,173	111,900	122,200
502	Capital Outlay	-	-	8,350	10,000	8,982	205,050	155,000
505	Transfer to Capital Projects	-	-	-	-	-	-	-
	Capital Subtotal	-	-	8,350	10,000	8,982	205,050	155,000
950	Debt Service	24,898	13,635	-	7,289	23,788	16,839	28,010
	SUBTOTAL - FIELD OPERATIONS	286,435	242,448	225,257	253,271	257,788	511,877	488,086
* Capital Outlay Vehicles								
IP	36,000	2004 Utility Truck Ford F350 VIN# 0.4273 (installment purchase financing)						
IP	45,000	2007 Sewer Jet Vac Harben Trailer/Sewer Jet VIN# 0.2029 (installment purchase financing)						
IP	14,000	1995 Air Compressor Ingersoll Rand Replacement						
	60,000	Valve Insertion Machine (allows valves to be installed in water lines under pressure - no service disruption)						
	<u>155,000</u>	Total						
	TOTAL EXPENDITURES	814,051	770,607	772,512	786,929	808,224	1,168,456	1,175,037