**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 both the distribution and collection systems.

### Water Plant

The 1.000 million gallons per day (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 water system interconnection that can be used in emergency situations. 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 predominantly 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 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 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 five (5) wastewater lift-stations: Mayview, Chetola, Grandfather (in Chestnut Village), Chestnut Ridge and Quail Hollow.

## Staffing and Schedules

A Utility Plant Supervisor and four 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**

2021 Wastewater Plant – Totals

Month	2021 Average Daily (.800 MGD capacity)	2021 Total Treated Per Month (.800 MGD capacity)
January	.236	7.33
February	.254	7.12
March	.275	8.52
April	.255	7.67
May	.236	7.32
June	.238	7.16
July	.238	7.14
August	.176	5.47
September	.138	4.14
October	.155	4.83
November	.111	3.33
December	.101	3.13
Total Year	-	73.21
Daily Avg	.201	-

2021 Water Plant - Totals

	2021	2021
Month	Average Daily Water Treated (Million Gallons)	Total Treated Per Month (Million Gallons)
January	.374	11.60
February	.457	12.63
March	.386	11.98
April	.333	9.99
May	.347	10.78
June	.400	12.02
July	.538	16.15
August	.515	15.98
September	.508	14.22
October	.549	15.39
November	.426	12.49
December	.433	13.01
Total Year	-	156.29
Daily Avg	.438	-

WATER AND SEWER FUND
DESCRIPTION: WATER AND SEWER EXPENDITURES
CODE: 30-91-7120

016         Maintenand           017         Maintenand           031         Gasoline           033         Materials a           034         Sludge Pro           056         Operating S           057         Miscellanee           104         Lab Contra           333         Chemicals           Operating G         Capital Out           500         Capital Out           505         Transfer to           Capital Sut         St.           900         Debt Servie           St.         St.           St.         St.           Field Operations 7120         Transfer to           202         Salaries           203         Overtime           204         Group Insu           205         FICA Expe           206         Group Insu           207         401K           208         Retirement           211         Telephone           212         Maintenand           217         Maintenand           218         Maintenand           219         Maintenand           211         Telephone	urance  at  Subtotal  Development ace/Repair-Equip ace/Repair-Equip- Service Contracts and Supplies accessing  Dues accessing  Bues accessing  & Maint. Subtotal  attay  Capital Projects bibotal	252,158 10,963 29,071 34,001 19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0 0 45,487	244,317 13,000 19,685 35,000 12,866 42,869 367,737 6,000 21,000 21,000 6,000 22,500 24,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	276,526 20,500 22,722 38,844 14,851 53,673 427,116 6,000 127,000 24,000 24,000 20,000 5,000 3,500 3,500 3,500 35,000 35,000 35,000 35,000 35,000 35,000 35,000 35,000 35,000 37,000 38,000 38,000 38,000 38,000 38,000 38,000	303,802 15,375 24,417 38,844 15,959 57,675 456,072 18,000 2,800 30,000 20,000 30,000 30,000 3,500 3,500 5,500 30,000 3,500 5,500 30,000 35,500
Salaries	urance  It Subtotal  Development Ice/Repair-Equip Ice/Repair-Equip- Service Contracts Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/	10,963 29,071 34,001 19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	13,000 19,685 35,000 12,866 42,869 367,737 6,000 115,000 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	20,500 22,722 38,844 14,851 53,673 427,116 6,000 127,000 24,000 24,000 20,000 5,000 22,500 30,000 3,500 3,500 35,000 35,000 35,000	15,375 24,417 38,844 15,959 57,675 456,072 18,000 127,500 30,000 30,000 30,000 3,500 3,500 5,500 30,000 30,000 355800
1003	urance  It Subtotal  Development Ice/Repair-Equip Ice/Repair-Equip- Service Contracts Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/	10,963 29,071 34,001 19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	13,000 19,685 35,000 12,866 42,869 367,737 6,000 115,000 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	20,500 22,722 38,844 14,851 53,673 427,116 6,000 127,000 24,000 24,000 20,000 5,000 22,500 30,000 3,500 3,500 35,000 35,000 35,000	15,375 24,417 38,844 15,959 57,675 456,072 18,000 127,500 30,000 30,000 30,000 3,500 3,500 5,500 30,000 30,000 355800
1005	urance  It Subtotal  Development Ice/Repair-Equip Ice/Repair-Equip- Service Contracts Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/	29,071 34,001 19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0 0 45,487	19,685 35,000 12,866 42,869 367,737 6,000 115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	22,722 38,844 14,851 53,673 427,116 6,000 127,000 2,800 24,000 20,000 5,000 3,500 3,500 3,500 35,000 35,000 35,000 35,000	24,417 38,844 15,959 57,675 456,072 18,000 127,500 2,800 30,000 30,000 30,000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000 3,5000
1006	urance  It Subtotal  Development Ice/Repair-Equip Ice/Repair-Equip- Service Contracts Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/Ice/	34,001 19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	35,000 12,866 42,869 367,737 6,000 115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	38,844 14,851 53,673 427,116 6,000 127,000 2,800 24,000 20,000 5,000 22,500 30,000 3,500 5,500 25,000 35,000 309,800	38,844 15,959 57,675 456,072 18,000 127,500 2,800 30,000 30,000 30,000 3,500 3,500 5,500 30,000 3,500 5,500 30,000
1007	Development ace/Repair-Equip and Supplies and Supplies acessing  Dues acet s & Maint. Subtotal  utlay o Capital Projects bitotal	19,586 87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	12,866 42,869 367,737 6,000 115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	14,851 53,673 427,116 6,000 127,000 2,800 24,000 20,000 5,000 30,000 3,500 3,500 5,500 5,500 35,000 35,000	15,959 57,675 456,072 18,000 127,500 2,800 30,000 5,000 30,000 3,500 3,500 5,500 30,000 30,000
	Subtotal  Development ace/Repair-Equip and Supplies and Supplies accessing  Dues acct act act act act act act act act ac	87,263 433,042 6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	42,869 367,737 6,000 115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000	53,673 427,116 6,000 127,000 2,800 24,000 20,000 5,000 3,500 3,500 3,500 3,500 35,000 35,000 35,000 35,000	57,675 456,072 18,000 127,500 2,800 30,000 5,000 30,000 3,5000 3,500 3,500 5,500 30,000 355,800
Telephone	Development nce/Repair-Equip nce/Repair-Equip- Service Contracts and Supplies ocessing  Dues eous act 3  & Maint. Subtotal  utlay 0 Capital Projects bibtotal	6,318 117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0 0 45,487	367,737  6,000 115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	427,116 6,000 127,000 2,800 24,000 20,000 5,000 30,000 3,500 3,500 5,500 25,000 35,000 309,800	456,072  18,000 127,500 2,800 30,000 5,000 30,000 3,500 3,500 5,500 30,000 355,800
013         Utilities           014         Employee I           016         Maintenann           017         Maintenann           031         Gasoline           033         Materials a           034         Sludge Pro           036         Uniforms           057         Miscellane           104         Lab Contra           333         Chemicals           Operating i         Capital Out           505         Transfer to           Capital Sut         St.           900         Debt Servio           St.         St.           St.         St.           Field Operations 7120         St.           202         Salaries           203         Overtime           209         On Call/Stz           201         Group Insu           202         Salaries           203         Overtime           204         Group Insu           205         FICA Expe           206         Group Insu           207         401K           208         Retirement           211         Telephone	Development nce/Repair-Equip nce/Repair-Equip- Service Contracts and Supplies ncessing  Dues nous act s & Maint. Subtotal  utlay o Capital Projects bibtotal	117,762 2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	115,000 2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000	127,000 2,800 24,000 20,000 5,000 30,000 3,500 3,500 5,500 25,000 35,000	127,500 2,800 30,000 20,000 5,000 30,000 3,500 5,500 30,000 355,800
014         Employee e           016         Maintenant           017         Maintenant           031         Gasoline           033         Materials a           034         Sludge Permits & I           057         Miscellant           057         Miscellant           058         Dermits & I           057         Miscellant           058         Operating & I           500         Capital Out           Transfer to         Capital Sut           900         Debt Servio           SL         St    Field Operations 7120  St  Field Operations 7120  St  St  Field Operations 7120  St  St  Field Operations 7120  St  St  St  St  St  St  St  St  St  S	and Supplies and S	2,704 21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	2,500 24,000 21,000 6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	2,800 24,000 20,000 5,000 22,500 30,000 3,500 5,500 25,000 35,000	2,800 30,000 20,000 5,000 30,000 3,500 3,500 5,500 30,000 50,000
Maintenance	and Supplies and S	21,069 3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	24,000 21,000 6,000 22,500 44,145 3,500 5,500 23,000 33,000	24,000 20,000 5,000 22,500 30,000 3,500 5,500 25,000 35,000	30,000 20,000 5,000 30,000 3,500 3,500 5,500 30,000 50,000
Maintenance	and Supplies and Supplies and Supplies and Supplies accessing  Dues acc acc acc acc acc acc acc acc acc ac	3,844 4,443 21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	21,000 6,000 22,500 44,145 3,500 3,500 23,000 33,000 309,645	20,000 5,000 22,500 30,000 3,500 3,500 5,500 25,000 35,000	20,000 5,000 30,000 30,000 3,500 5,500 30,000 50,000 355,800
Gasoline	and Supplies occessing  Dues oous act 8 8 Maint. Subtotal  uttay o Capital Projects btotal	4,443 21,888 34,965 2,593 3,125 858 22,589 34,082 276,249 0	6,000 22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	5,000 22,500 30,000 3,500 3,500 5,500 25,000 35,000	5,000 30,000 30,000 3,500 5,500 50,000 50,000
Materials a	Dues Pous Pous Pous Pous Pous Pous Pous Pou	21,898 34,965 2,593 3,125 858 22,589 34,082 276,249 0	22,500 44,145 3,500 3,500 5,500 23,000 33,000 309,645	22,500 30,000 3,500 3,500 5,500 25,000 35,000	30,000 30,000 3,500 5,500 30,000 50,000 355,800
1034   Sludge Pro	Dues Pous Pous Pous Pous Pous Pous Pous Pou	34,965 2,593 3,125 858 22,589 34,082 276,249 0	44,145 3,500 3,500 5,500 23,000 33,000 309,645	30,000 3,500 3,500 5,500 25,000 35,000 309,800	30,000 3,500 3,500 5,500 30,000 50,000 355,800
1036	Dues Pous Pous Pous Pous Pous Pous Pous Pou	2,593 3,125 858 22,589 34,082 276,249 0	3,500 3,500 5,500 23,000 33,000 309,645	3,500 3,500 5,500 25,000 35,000 309,800	3,500 3,500 5,500 30,000 50,000 355,800
Description	eous act s & Maint, Subtotal  utlay o Capital Projects bitotal	3,125 858 22,589 34,082 276,249 0 0	3,500 5,500 23,000 33,000 309,645	3,500 5,500 25,000 35,000 309,800	3,500 5,500 30,000 50,000 355,800
Miscellaner	eous act s & Maint, Subtotal  utlay o Capital Projects bitotal	858 22,589 34,082 276,249 0 0	5,500 23,000 33,000 309,645	5,500 25,000 35,000 309,800	5,500 30,000 50,000 355,800
104	act  & Maint. Subtotal  itlay o Capital Projects btotal  ice	22,589 34,082 276,249 0 0 45,487	23,000 33,000 309,645 -	25,000 35,000 309,800	30,000 50,000 355,800
State	& Maint. Subtotal  utlay copital Projects btotal	34,082 276,249 0 0 45,487	33,000 309,645 - -	35,000 309,800 - -	50,000 355,800
Operating	& Maint. Subtotal  utlay Capital Projects btotal  ice	276,249 0 0 45,487	309,645	309,800	355,800
State	ıtlay o Capital Projects ıbtotal ice	0 0 45,487	-	-	-
Transfer to Capital Sut	o Capital Projects ibtotal ice	0 45,487	-	-	
Capital Sut	ibtotal	45,487			-
State			87,279	87,279	
Field Operations 7120	UBTOTAL - PLANT OPERATIONS	754.777			76,570
202 Salaries 203 Overtime 209 On Call/Sta 205 FICA Expe 206 Group Insu 207 401K 208 Retirement Personnel 211 Telephone 213 Utilities 214 Employee I 216 Maintenand 217 Maintenand 217 Maintenand 218 Safety Sup 233 Materials a 235 Safety Sup 236 Uniforms 240 Contracted 257 Miscellaned 257 Miscellaned 250 Capital Out 503 Water Line 504 Sewer Line 505 Transfer to 506 Transfer to Capital Sut			764,660	824,194	888,442
209         On Call/Sta           205         FICA Expe           206         FICA Expe           207         401K           208         Retirement           Personnel         Personnel           211         Telephone           213         Utilities           214         Employee I           215         Maintenanc           217         Maintenanc           231         Diesel/Gas           233         Materials a           234         Uniforms           240         Contracted           257         Miscellane           Operating I           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut		126,805 5,690	92,800 4,797	167,259 10,250	167,259 10,250
205         FICA Expe           206         Group Insu           207         401K           208         Retirement           Personnel         Personnel           211         Telephone           213         Utilities           214         Employee I           216         Maintenan           217         Maintenan           231         Diesel/Gas           233         Materials a           234         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut	andby Pay	10,515	6,736	10,000	10,000
207         401K           208         Retirement           Personnel         Personnel           211         Telephone           213         Utilities           214         Employee I           216         Maintenanc           217         Maintenanc           231         Diesel/Gas           233         Materials a           236         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           Operating i         Operating i           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to		11,538		13,579	13,579
208         Retirement Personnel           211         Telephone           213         Utilities           214         Employee             216         Maintenant           217         Maintenant           231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellanet           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to	urance	27,040	17,897	31,680	31,680
Personnel		7,493	-	8,875	8,875
Telephone   211		21,825	-	32,076	32,076
213         Utilities           214         Employee I           216         Maintenan           217         Maintenan           231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut	Subtotal	210,907	122,231	273,720	273,720
214         Employee           216         Maintenann           217         Maintenann           231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           Operating in         Operating in           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sul	9	-	-	-	-
216         Maintenanc           217         Maintenanc           231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           Operating i         Operating i           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sul			- 		
217         Maintenand           231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut		464	464	2,000	2,000
231         Diesel/Gas           233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           Operating a           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sul	nce/Repair-Equip nce/Repair-Lift Station	3,915 1,046	3,915	10,000	10,000
233         Materials a           235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellane           Operating i         Operating i           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sul		9,169	217 6.201	13,000 6,000	13,000 8,500
235         Safety Sup           236         Uniforms           240         Contracted           257         Miscellaner           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut		45,209	39,857	85,000	85,000
236         Uniforms           240         Contracted           257         Miscellanee           Operating of         Operating of           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut		772	772	1,800	1,800
240         Contracted Miscellane           257         Miscellane           Operating in Section 1         Operating in Section 1           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to Transfer to Capital Sult	•	2,713	2,483	2,500	2,500
Miscellaner   Operating	d Svs.	_,	_,	_,000	_,000
Operating i           502         Capital Out           503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sul		3,975	442	2,000	2,000
503         Water Line           504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut	& Maint. Subtotal	67,264	54,351	122,300	124,800
504         Sewer Line           505         Transfer to           506         Transfer to           Capital Sut		-	-	60,000	187,179
505 Transfer to 506 Transfer to Capital Sub	e Replacements/Repairs- Reserve	-	-	22,500	10,000
506 Transfer to Capital Sub	e I&I Replacements/Repairs- Reserv	-	-	22,500	10,000
Capital Sub	Capital Projects	-	-	-	-
	PRV Reserve	-		105,000	207,179
930 Debt Servi	ice	94,118	29,736	14,136	32,505
S	SUBTOTAL - FIELD OPERATIONS	372,289	206,318	515,156 * Capita	638,203 al for FY 2023:
			NEW Fr	ont End Loader	187,179
Funds remianing at the en		isferred to capital r	eserves		
and remialing at the er	nd of the year in these areas to be tran	отопоч то сарнан п	0001 V03.		