

TO: City of Pflugerville
FROM: Murali Erat, P.E.
SUBJECT: Surcharge Rate Study – Technical Memorandum
DATE: 4/20/2021
PROJECT: Industrial Pretreatment Program Development

1.0 INTRODUCTION

1.1 BACKGROUND

The City of Pflugerville (City) owns and operates the Central Wastewater Treatment Plant (Central WWTP), which is currently permitted for an annual average daily flow (AADF) of 5.3 million gallons per day (MGD) in the Interim I Phase of its permit. Upon completion of the ongoing Phase 1 expansion project, the Central WWTP's permitted AADF will increase to 7.25 MGD (Interim II Phase). The Central WWTP has one permitted outfall which discharges to Gilleland Creek then to the Colorado River through the Texas Pollutant Discharge Elimination System (TPDES) permit.

In addition to domestic flows, the Central WWTP receives discharges from industrial users. The City is currently experiencing rapid growth and expects new industrial users in the future. Industrial users may discharge high strength wastewater to the City's WWTP. The development of a surcharge program is key to ensure that the City is able to recover added costs for treating high strength wastewater from its existing and future industrial customers. With a surcharge program, the City has the ability to assess fees for high strength discharges. The City's current Code of Ordinances does not include industrial waste surcharge rates. Therefore, the City does not currently enforce the collection of surcharge rates from its industrial users.

1.2 PURPOSE

Surcharge rates are used to recover costs incurred by the City in treating wastewater discharged by industrial users that exceeds the strength of normal domestic wastewater. The City's current wastewater charges are based solely upon the volume discharged. This approach does not account for the higher

treatment cost of high strength wastewater. To distribute the actual cost of treatment accurately and equitably to industrial users, the City is evaluating the development of a surcharge fee program. This Technical Memorandum (TM) will describe the proposed surcharge program for the City and include:

- Surcharge rate methodology (**Section 2.0**)
- Recommended surcharge pollutants (**Section 3.0**)
- Recommended baseline concentrations (**Section 4.0**)
- Maximum allowable discharge concentration for surcharge pollutants (**Section 1.0**)
- Determination of the cost of treatment (**Section 5.0**)

2.0 SURCHARGE RATE METHODOLOGY

Surcharge fees are generally calculated using the following formula:

$$\text{Surcharge} = [(C_1 - C_1^{dom}) \cdot COT_1 + (C_2 - C_2^{dom}) \cdot COT_2 + \dots + (C_n - C_n^{dom}) \cdot COT_n] \cdot V \cdot 8.34$$

Equation 1

Where:

Surcharge is the dollar amount billed to the customer (\$),

C_1 , C_2 and C_n are the measured concentrations of the 1st, 2nd, and nth water quality constituents (mg/L),

C_1^{dom} , C_2^{dom} and C_n^{dom} are the domestic baseline concentrations of the 1st, 2nd, and nth water quality constituents (mg/L),

COT_1 , COT_2 and COT_n are the cost of treatment values for the 1st, 2nd, and nth water quality constituents (\$/lb), and

V is the volume of wastewater discharged by the industry (millions of gallons).

Typical water quality constituents included in surcharge calculations are biochemical oxygen demand (BOD), total suspended solids (TSS), total Kjeldahl nitrogen (TKN), and total phosphorus (TP). Despite the widespread use of the generalized formula in **Equation 1**, surcharge rates vary considerably from entity to entity due to three fundamental differences:

1. The number of constituents (C) used to assess the surcharge can vary from two (e.g. BOD and TSS) to four or more (e.g. BOD, COD, TSS, TKN and TP),
2. The values used for typical domestic baseline concentrations for each constituent (C^{dom}) will vary from entity to entity, and
3. The method used to calculate the cost of treatment (COT) will vary from entity to entity.

The following sections discuss the recommended approach for determining the constituents, baseline concentrations, and cost of treatment appropriate for the City's surcharge program.

3.0 WATER QUALITY CONSTITUENTS

The Central WWTP's permit regulates the discharge of BOD, COD, TSS, TKN, and TP. It is recommended that these constituents should be included within the surcharge. In addition to the permitted constituents, the lumped parameter of fats, oils, and grease (FOG) was also evaluated.

3.1 CHEMICAL OXYGEN DEMAND (COD)

Chemical Oxygen Demand (COD) is often used to complement the BOD measurement for instances in which BOD will not provide a reliable measurement of the waste's oxygen demand. These instances occur whenever the wastewater consists of compounds that are non-biodegradable but exert oxygen demand at the plant or are inhibitory to the bacterial seed used for the BOD test, effectively resulting in a low BOD5 result. The typical ratio of COD to BOD in municipal wastewater is 1.8:1. When the ratio exceeds 1.8:1, it is an indication that the wastewater consists of non-biodegradable compounds or compounds that are inhibitory to the bacterial seed used for the BOD test. These compounds will exert an oxygen demand at the plant. In these instances, the COD test may better represent the oxygen demand exerted by organic compounds at the WWTP. Hence, COD is proposed as a surcharge pollutant and surrogate to BOD only when the COD to BOD ratio exceeds 1.8.

3.2 TOTAL KJELDAHL NITROGEN

Since the Central WWTP is currently permitted for ammonia-nitrogen in its discharge, the plant is designed to nitrify (convert ammonia into nitrate/nitrite). As nitrification exerts a substantial energy demand, TKN is an appropriate parameter to add to the surcharge program. The TKN measurement is preferred over ammonia-nitrogen measurement since TKN accounts for both ammonia-nitrogen and organic nitrogen compounds. At the treatment plant, bacteria will eventually break down most organic nitrogen compounds into ammonia-nitrogen, which subsequently requires nitrification to meet treatment goals. Hence, TKN was used to estimate the true loading of ammonia-nitrogen to the Central WWTP.

3.3 FATS, OIL AND GREASE

While there are very few wastewater collection systems with a surcharge fee for FOG, most utilities manage FOG with a firm numerical limit that is enforced through their Enforcement Response Plan (ERP).

There are several reasons not to manage FOG with a surcharge program:

- A surcharge for FOG implies that FOG is a normal constituent of domestic wastewater, and that a higher concentration simply represents additional treatment cost for the system. In reality, collection systems and treatment plants can tolerate FOG concentrations up to 100-200 mg/L, but higher concentrations cause significant maintenance problems in the collection system and decrease the efficiency of the treatment plant.
- Collection of an accurate FOG sample is challenging. It requires a grab sample, preferably from a flowing stream to avoid contamination from grease in the sediment or oil floating on the surface. The imposition of a FOG surcharge will substantially increase the sampling effort required to develop reliable numbers for calculation of the surcharge. This may lead to ongoing disputes about the sampling methods and accuracy.
- If an industry is allowed to discharge excessive amounts of FOG and merely pay an additional fee, there is little incentive for the industry to make the capital investment necessary to remove the FOG before discharge. A firm limit will promote removal upstream of the industry's discharge.

The City's Code of Ordinances currently prohibits the discharge of FOG concentration greater than 100 mg/L to the collection system. A FOG management program is currently under development in the scope of this project. Implementation of this program will reduce potential for sewer overflows and provide operational benefit to the Central WWTP.

3.4 RECOMMENDED SURCHARGE POLLUTANTS

It is recommended to include BOD, COD, TSS, TKN and TP within the City's surcharge rate calculation. These four parameters are appropriate because they are the components controlled in the Central WWTP discharge permit. Additionally, it is recommended for the City to limit FOG discharges to 100 mg/L, develop a standalone FOG management program, and not to incorporate FOG into the surcharge fee.

4.0 BASELINE DOMESTIC CONCENTRATIONS

Surcharge calculations often incorporate a baseline domestic wastewater concentration above which the waste is considered to exceed normal domestic wastewater. Surcharge fees are assessed only on discharges that exceed the baseline domestic concentrations.

4.1 RECOMMENDED BASELINE CONCENTRATIONS

It is recommended to use a baseline concentration of 250 mg/L for both BOD and TSS for the proposed surcharge program. A baseline concentration of 450 mg/L is recommended for COD which is calculated using the baseline concentration of 250 mg/L for BOD and typical COD to BOD ratio of 1.8. This baseline concentration corresponds to the national median for BOD and TSS. For TKN, it is recommended to use 50 mg/L as the baseline concentration which is based on the average domestic concentration from the Technically Based Local Limit (TBLL) sampling. For TP, a limit of 8 mg/L is recommended based on the average design concentration for the Phase I Expansion. These baseline concentrations provide a conservative baseline concentration for each pollutant. **Table 1** summarizes the proposed baseline concentrations.

Table 1: Proposed Baseline Concentrations for Surcharge Program

Parameter	Proposed Baseline Conc.
BOD, mg/L	250
COD, mg/L	450
TSS, mg/L	250
TKN, mg-N/L	50
TP, mg/L	8

5.0 COST OF TREATMENT

Cost of treatment values used by utilities for surcharge calculations exhibit the single-most variable component of the general surcharge formula. The cost of treatment of a pollutant is a combination of the operation and maintenance cost (O&M) and the capital recovery cost. The O&M cost includes regular expenses at the WWTP, such as power, labor, chemicals, and sludge disposal. The capital recovery cost is the cost of replacing treatment units at the plant over time due to age and wear and tear.

The cost of treatment (\$/lb) is used to calculate the surcharge fees. Hence, the surcharge rate for the pollutants should represent the actual cost of treatment the City incurs in removing the surcharge pollutants at the Central WWTP.

5.1 METHODOLOGY FOR ALLOCATING COSTS

This section discusses the methodology used to estimate the actual cost of treatment for the surcharge pollutants. O&M costs and capital recovery costs are allocated for each water quality constituent (BOD, TSS, TKN, and TP) using allocation factors developed through engineering judgment. This approach derives the total cost of treatment (\$/lb) for each water quality parameter of interest as illustrated in **Figure 1** and outlined in the following steps:

Step 1: Allocate O&M Costs

- **Step 1A:** Each line item from the O&M budget is allocated into basic components such as power and personnel. The intent of these components is to reduce the number of line items within the budget to as few parameters as possible.
- **Step 1B:** The consolidated O&M budget is subsequently allocated to the unit processes of the treatment plant (e.g. headworks, secondary treatment). **Figure 1** provides an example for “power.” After power is allocated, the remaining items are also allocated.
- **Step 1C:** Costs are then allocated from each treatment process to the water quality parameters (BOD, TSS, TKN, and TP). An additional parameter of flow was also used to allocate the treatment costs since not all treatment processes remove pollutants. Some of the treatment costs are to maintain hydraulic capacity, especially for units like lift stations and chlorine contact basins.

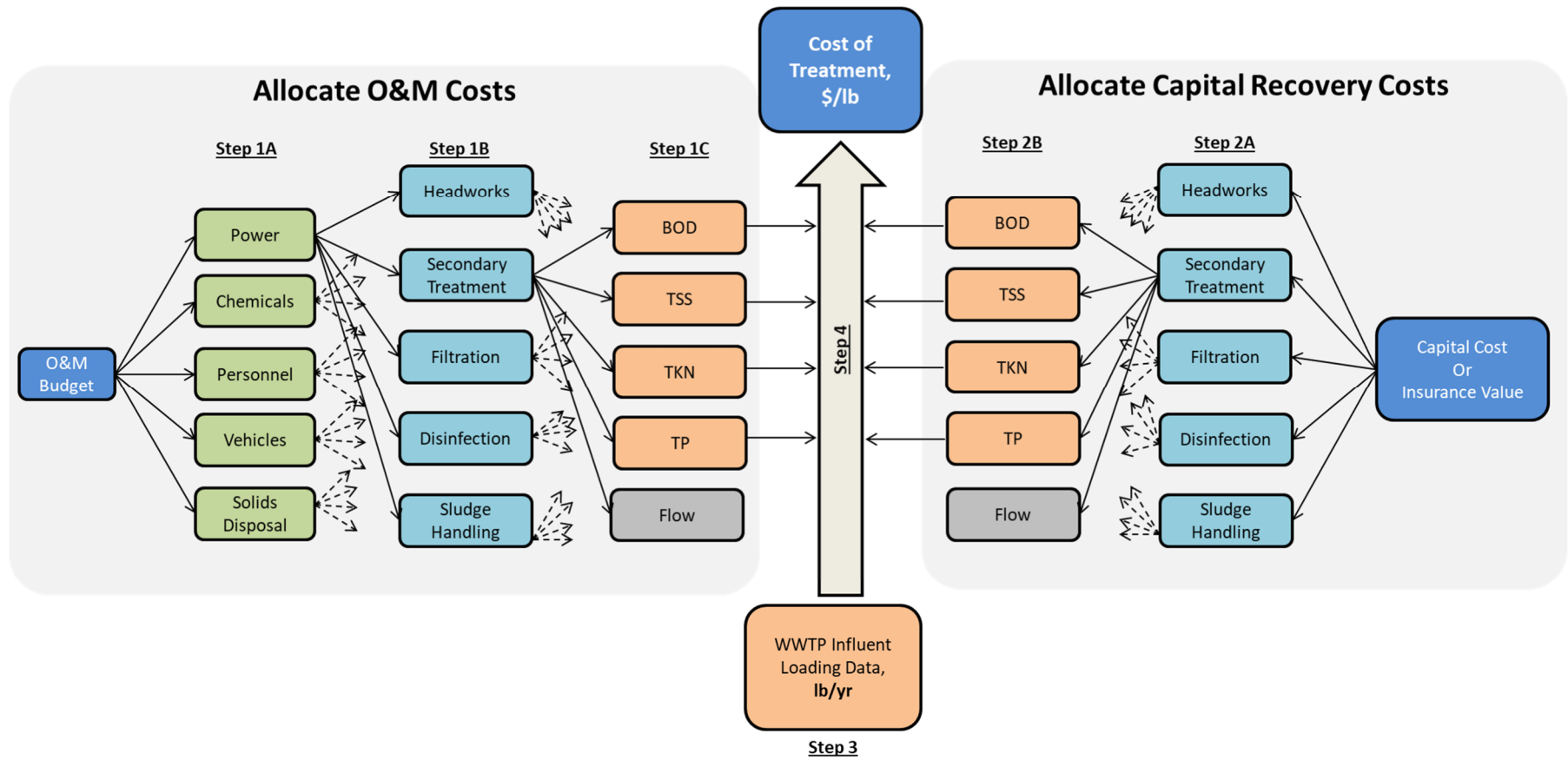


Figure 1: Detailed Cost Allocation Method

Step 2: Allocate Capital Recovery Costs

- **Step 2A:** Asset values were determined by estimating the cost of replacement of the mechanical, electrical, and structural components of the treatment units at the Central WWTP. Assets that were not related to any of the specified unit processes such as administration building and non-potable water system, were lumped into a “general” category, the lump sum of which was re-distributed to the unit processes.
- **Step 2B:** Costs are then allocated from each unit process to the water quality parameters and flow. An annualized capital recovery cost was estimated by distributing the asset values over a 50-year period.

Step 3: Calculate Plant Loading Rates

- The annual average daily loading to the Central WWTP in terms of pounds per year was determined for BOD, TSS, TKN, and TP.

Step 4: Determine “Cost of Treatment” Metric

- The annual cost associated with each water quality parameter were added together (O&M costs + capital recovery costs) to determine the annual cost for treatment. The annual cost was then divided by the average annual daily influent loading rate to determine the cost of treatment per pound of constituent treated.

5.2 ACTUAL COST OF TREATMENT

The O&M component of the cost of treatment was derived from the Central WWTP budget spreadsheets provided by the City (**Appendix A**). The average budgeted amount from FY2018-FY2021 was used for each line item. The allocable annual O&M cost was \$2.11 million. **Table 2** and **Figure 2** show the distribution of O&M cost between the various components.

Table 2: O&M Cost Distribution

Category	Expense	Percent of Total
Power	\$396,452	18.8%
Chemicals	\$520,335	24.6%
Solids Disposal	\$338,777	16.0%
Personnel	\$816,096	38.6%
Vehicle	\$41,911	2.0%
Total	\$2,113,571	
Unit Cost per MG¹	\$965	

¹Based on 6.0 MGD current annual average daily flow

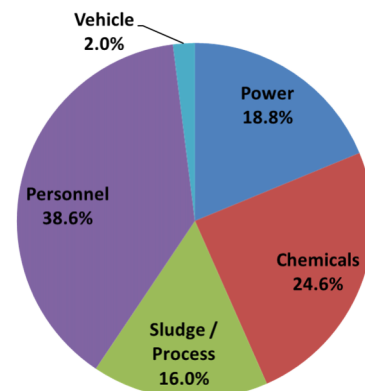


Figure 2: O&M Cost Distribution

Capital recovery costs were determined using estimated cost of replacement of the assets at the Central WWTP. The annual capital recovery costs were estimated to be \$1.52 million. **Table 3** and **Figure 3** show the distribution of annual capital recovery costs between treatment components.

Table 3: Capital Recovery Cost Distribution

Category	Expense	Percent of Total
Headworks	\$276,832	18%
Secondary Treatment	\$812,754	54%
Filtration	\$135,945	9%
Disinfection	\$85,436	6%
Solids Handling	\$206,372	14%
Total	\$1,517,339	
Unit Cost per MG¹	\$693	

¹Based on 6.0 MGD current annual average daily flow

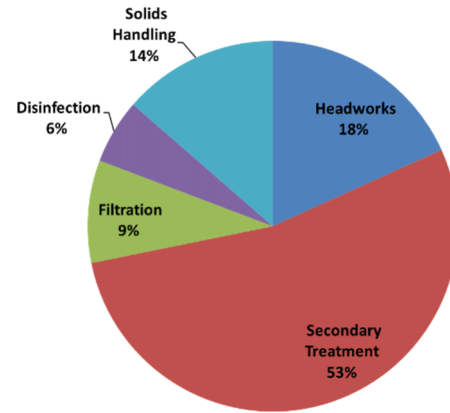


Figure 3: Capital Recovery Cost Breakdown

The summary of allocated O&M and capital recovery costs to water quality constituents is provided in **Table 4**. The influent wastewater loadings to the Central WWTP are summarized in **Table 5**. The resultant cost of treatment values are detailed in **Table 6**.

Table 4: Allocation Factors and Costs

Parameter	O&M Cost	Capital Recovery Cost	O&M + Capital Recovery Cost	% of Total Treatment Cost
Flow	\$ 570,077	\$ 364,305	\$ 934,382	26%
BOD	\$ 560,763	\$ 478,609	\$ 1,039,372	29%
TSS	\$ 503,896	\$ 253,817	\$ 757,713	21%
TKN	\$ 320,423	\$ 311,898	\$ 632,321	17%
TP	\$ 158,413	\$ 108,710	\$ 267,123	7%
Total	\$ 2,113,571	\$ 1,517,339	\$ 3,630,910	

Table 5: Treatment Plant Annual Loading¹

Parameter	Central WWTP
BOD, lbs/yr	3,835,566
TSS, lbs/yr	3,926,889
TKN, lbs/yr	968,024
TP, lbs/yr	136,985

¹Annual loadings used for surcharge rate calculations are based on annual average daily influent design concentrations of 210 mg/L BOD, 215 mg/L TSS, 53 mg/L TKN, and 7.5 mg/L TP and the current annual average daily flow of 6.0 MGD.

Table 6: Cost of Treatment for Proposed Surcharge Program

Parameter	Cost of Treatment (Proposed Surcharge Rates)
	O&M + Capital Recovery Costs, \$/lb
BOD	0.27
COD ¹	0.15
TSS	0.19
TP	1.95
TKN	0.65

¹COD is proposed as a surrogate to BOD when the COD to BOD ratio exceeds 1.8:1, i.e., when the concentration of COD in the wastewater exceeds the baseline COD concentration of 450 mg/L. The cost of treatment or the proposed surcharge rate for COD was calculated by applying the 1.8:1 ratio to the cost of treatment for BOD.

Surcharge rates compiled from several Texas municipalities and a national survey (NACWA, 2015) were compared to the proposed surcharge rates for the City (**Figure 4, Figure 5, and Figure 6**). As shown, the proposed surcharge rates are within range of typical values from other municipalities.

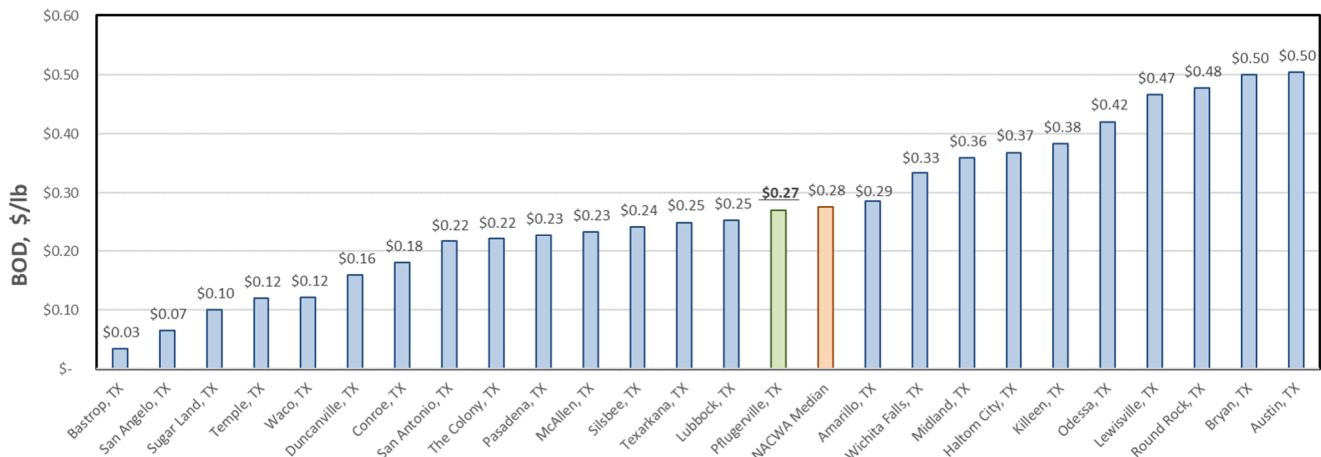


Figure 4: BOD Surcharge Rate Comparison

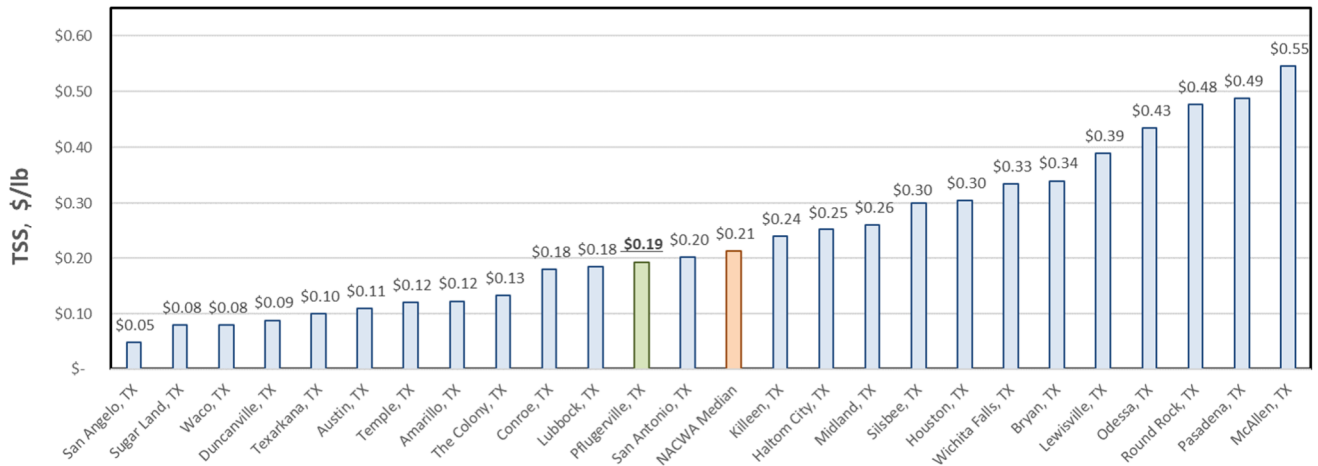


Figure 5: TSS Surcharge Rate Comparison

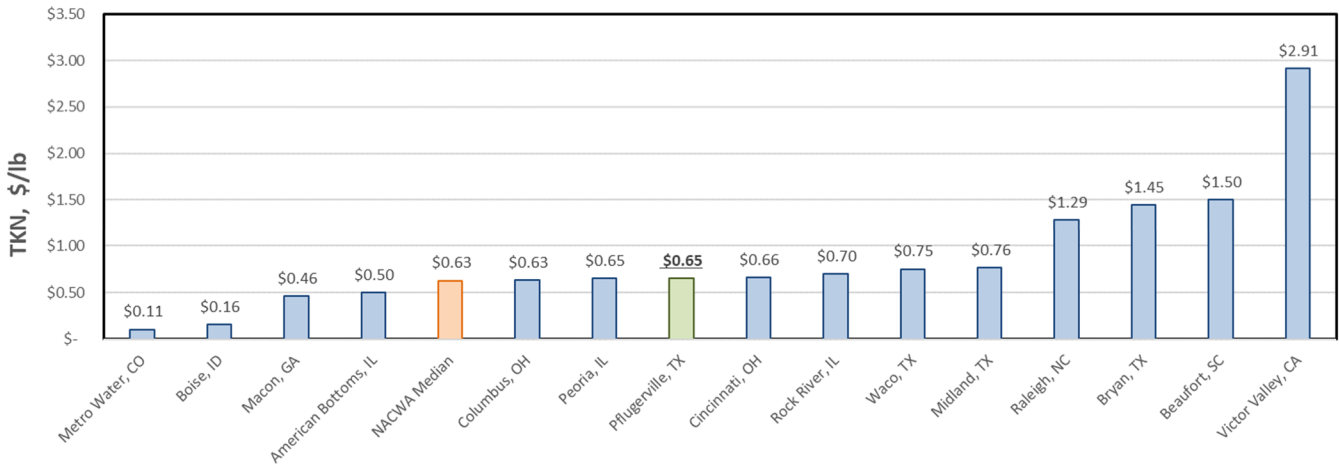


Figure 6: TKN Surcharge Rate Comparison

Currently, there are not many municipalities in Texas that assess a surcharge fee for Total Phosphorus (TP). Since City of Pflugerville’s Central WWTP has a stringent discharge limit of 0.5 mg/L for Total Phosphorus, it is recommended that the City assess a surcharge fee for TP from any potential high strength dischargers of TP which will consume additional capacity at the plant. The surcharge rate calculated for Pflugerville for TP is \$1.95/lb of TP which is close to the NACWA Median value to \$1.913/lb.

City of Austin and City of Round Rock also assess surcharge fees based on COD and use COD as a surrogate to BOD when the concentration exceeds the baseline concentration of 450 mg/L.

6.0 IMPLEMENTATION OF PROPOSED SURCHARGE RATE STRUCTURE

This section will discuss the implementation of the proposed surcharge rates. **Table 7** summarizes the recommended surcharge rates and corresponding baseline concentration of the proposed surcharge pollutants.

Table 7: Surcharge Rate Structure

Parameter	Baseline Conc. (mg/L)	Surcharge Rate (\$/lb)
BOD (If COD < 450 mg/L)	250	0.27
COD (If COD > 450 mg/L)	450	0.15
TSS	250	0.27
TKN	50	0.65
TP	8	1.95

Wastewater discharges to the POTW from Industrial Users that meet the following criteria for high-strength wastewater will be assessed surcharge fees:

- (a) 5-day Biochemical Oxygen Demand (BOD) concentrations greater than 250 mg/L.
- (b) Chemical Oxygen Demand (COD) concentrations greater than 450 mg/L.
- (c) Total Suspended Solids (TSS) concentrations greater than 250 mg/L.
- (d) Total Kjeldahl Nitrogen (TKN) concentrations greater than 50 mg/L.
- (e) Total Phosphorus (TP) concentrations greater than 8 mg/L.

The surcharge will be assessed according to the following formula each month using the most current pollutant concentration data and the current months' wastewater flow at the end of pipe:

If COD concentration greater than 450 mg/L, surcharge will be calculated using the formula below:

$$S = V * 8.34 * (A*[COD-450] + C*[TSS-250] + D*[TKN-50] + E*[TP-8])$$

If COD concentration is less than 450 mg/L, surcharge will be calculated using the formula below:

$$S = V * 8.34 * (B*[BOD-250] + B*[TSS-250] + C*[TKN-50] + D*[TP-8])$$

- S – Total monthly surcharge fee in dollars (\$)
- V – Monthly wastewater flow in million gallons (MG)
- A – Unit cost of treatment per pound of COD (\$0.15/lb COD)
- B – Unit cost of treatment per pound of BOD (\$0.27/lb BOD)
- C – Unit cost of treatment per pound of TSS (\$0.19/lb TSS)
- D – Unit cost of treatment per pound of TKN (\$0.65/lb TKN)
- E – Unit cost of treatment per pound of TP (\$1.95/lb TP)
- COD – Average concentration of COD in discharge (mg/L)
- BOD – Average concentration of 5-day BOD in discharge (mg/L)
- TSS – Average concentration of TSS in discharge (mg/L)
- TKN – Average concentration of TKN in discharge (mg/L)
- TP – Average concentration of TP in discharge (mg/L)

7.0 CONCLUSION

Surcharge fees distribute the actual cost of treatment accurately and equitably between users. The recommended surcharge rates represent the actual cost incurred by the City in treating wastewater from industries. The new surcharge rates will be included in the new sewer use ordinance being developed for the proposed pretreatment program.

8.0 REFERENCES

National Association of Clean Water Agencies (2015). *2014 NACWA Financial Survey: A National Survey of Clean Water Agency Financing and Trends*.

APPENDIX A

CITY OF PFLUGERVILLE - O&M DATA

**City of Pflugerville
O&M Data (FY2018-FY2021)**

	FY2018	FY2019	FY2020	FY2021	4-Yr Avg
Salaries	\$ 420,845	\$ 403,503	\$ 297,893	\$ 349,776	\$ 368,004
Overtime	\$ 21,859	\$ 23,712	\$ 29,686	\$ 20,000	\$ 23,814
Overtime - Pfestivals	\$ 2,123	\$ 1,794	\$ 74	\$ 500	\$ 1,123
Employee Incentives	\$ 4,638	\$ 5,123	\$ 3,600	\$ 3,600	\$ 4,240
Employee Retirement	\$ 61,513	\$ 59,222	\$ 45,089	\$ 49,353	\$ 53,794
Social Security/Medicare	\$ 33,609	\$ 32,613	\$ 24,700	\$ 27,221	\$ 29,536
Workers Compensation	\$ 10,646	\$ 6,397	\$ 2,637	\$ 3,641	\$ 5,830
Employee Insurance	\$ 80,109	\$ 77,611	\$ 51,425	\$ 65,584	\$ 68,682
Unemployment Tax	\$ 1,958	\$ 354	\$ 1,162	\$ 2,160	\$ 1,409
Merit increases				\$ 10,532	\$ 10,532
Lab Fees	\$ 89,886	\$ 87,353	\$ 91,765	\$ 100,000	\$ 92,251
Other Professional Fees				\$ 400,000	
Gasoline	\$ 37,734	\$ 35,726	\$ 16,823	\$ 10,000	\$ 25,071
Vehicle Repair			\$ 35	\$ 6,900	\$ 3,468
Veh Rep 2000 Volvo Dumptru	\$ 263	\$ 269	\$ 1,734		\$ 755
VEH REP 2013 FORD F150	\$ 198	\$ 136	\$ 615		\$ 316
VEH REP 2013 FORD F150	\$ 45	\$ 792	\$ 344		\$ 394
Equipment Repair	\$ 20,439	\$ 30,308	\$ 9,682	\$ 5,000	\$ 16,357
Electricity	\$ 271,661	\$ 279,620	\$ 300,957	\$ 283,000	\$ 283,809
Communications	\$ 1,892	\$ 5,103	\$ 2,852	\$ 1,700	\$ 2,887
Water	\$ 244	\$ 243	\$ 243	\$ 300	\$ 257
Uniforms	\$ 6,829	\$ 10,125	\$ 18,758	\$ 10,700	\$ 11,603
Training and Education	\$ 3,933	\$ 7,886	\$ 6,996	\$ 3,500	\$ 5,579
Insurance	\$ 24,680	\$ 27,062	\$ 27,049	\$ 28,700	\$ 26,873
Custodial Supplies			\$ 3,470	\$ 1,400	\$ 2,435
Chemicals	\$ 345,841	\$ 388,093	\$ 456,041	\$ 300,000	\$ 372,494
Small Tools/Equipment	\$ 7,571	\$ 5,274	\$ 8,370	\$ 11,500	\$ 8,179
Membership/Dues			\$ 75		\$ 75
Rentals/Leases	\$ 39,511	\$ 27,695	\$ 3,777	\$ 5,000	\$ 18,996
Other Operating	\$ 17,979	\$ 24,490	\$ 2,138	\$ 500	\$ 11,277
State Permits	\$ 27,606	\$ 28,056	\$ 41,166	\$ 30,000	\$ 31,707
Maintenance Contracts	\$ 35,144	\$ 34,148	\$ 36,181	\$ 46,000	\$ 37,868
Maintenance/Repairs	\$ 275,389	\$ 207,918	\$ 492,059	\$ 213,600	\$ 297,241
Sludge Disposal	\$ 191,970	\$ 210,165	\$ 377,948	\$ 190,000	\$ 242,521
Water softener rebate prog	\$ 11,000	\$ 1,600			\$ 6,300
Equipment		\$ 47,896			\$ 47,896
Debt Service Interest	\$ 900,213	\$ 1,087,755	\$ 1,060,043	\$ 1,462,088	
Debt Service Principal	\$ 984,096	\$ 741,577	\$ 773,202	\$ 773,202	
Debt Service Fees	\$ 360	\$ 876	\$ 674	\$ 500	
Bond issuance cost	\$ 194,796				
TOTAL:	\$ 4,126,581	\$ 3,900,493	\$ 4,189,260	\$ 4,415,957	\$ 2,113,571

BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2018

10 -Utility Fund

2018

Wastewater Treatment

DEPARTMENTAL EXPENDITURES	FY 2019	YEAR-TO-DATE	% OF	% OF	% PRIOR YR.
	APPROVED	ACTUAL	BUDGET	BUDGET	Y-T-D
	BUDGET	EXPENDED	EXPENDED	REMAINING	EXPENDED

Operating Expenses

4-170-000	Salaries	450,803.00	420,844.96	93.35	6.65	100.07
4-170-005	Overtime	20,000.00	21,859.39	109.30	9.30-	102.70
4-170-006	Overtime - Pfestivals	0.00	2,123.10	0.00	0.00	0.00
4-170-010	Employee Incentives	3,600.00	4,638.41	128.84	28.84-	0.00
4-170-015	Employee Retirement	64,851.00	61,512.69	94.85	5.15	103.38
4-170-020	Social Security/Medicare	36,292.00	33,608.79	92.61	7.39	100.86
4-170-030	Workers Compensation	11,710.00	10,646.01	90.91	9.09	92.29
4-170-040	Employee Insurance	99,234.00	80,108.82	80.73	19.27	94.30
4-170-050	Unemployment Tax	3,240.00	1,958.47	60.45	39.55	20.25
4-170-155	Lab Fees	100,000.00	89,886.13	89.89	10.11	156.92
4-170-195	Other Professional Fees	0.00	0.00	0.00	0.00	0.00
4-170-200	Gasoline	25,000.00	37,734.28	150.94	50.94-	118.44
4-170-210	Vehicle Repair	16,000.00	0.00	0.00	100.00	0.00
4-170-210-301	Veh Rep 2000 Volvo Dumptru	0.00	262.66	0.00	0.00	0.00
4-170-210-470	VEH REP 2013 FORD F150	0.00	197.86	0.00	0.00	0.00
4-170-210-471	VEH REP 2013 FORD F150	0.00	45.19	0.00	0.00	0.00
4-170-220	Equipment Repair	20,000.00	20,439.26	102.20	2.20-	375.64
4-170-300	Electricity	320,000.00	271,660.93	84.89	15.11	105.92
4-170-310	Communications	7,100.00	1,892.14	26.65	73.35	312.75
4-170-320	Water	350.00	243.58	69.59	30.41	71.62
4-170-405	Uniforms	6,950.00	6,828.80	98.26	1.74	91.89
4-170-410	Training and Education	3,500.00	3,933.07	112.37	12.37-	47.14
4-170-420	Insurance	25,000.00	24,679.77	98.72	1.28	104.30
4-170-432	Custodial Supplies	0.00	0.00	0.00	0.00	0.00
4-170-433	Chemicals	280,000.00	345,840.81	123.51	23.51-	116.78
4-170-440	Small Tools/Equipment	13,500.00	7,571.47	56.08	43.92	60.43
4-170-460	Membership/Dues	0.00	0.00	0.00	0.00	0.00
4-170-465	Rentals/Leases	20,000.00	39,511.47	197.56	97.56-	40.00
4-170-480	Other Operating	28,000.00	17,978.68	64.21	35.79	35.59
4-170-485	State Permits	30,000.00	27,606.14	92.02	7.98	76.25
4-170-510	Maintenance Contracts	41,000.00	35,143.75	85.72	14.28	99.04
4-170-520	Maintenance/Repairs	180,000.00	275,388.72	152.99	52.99-	65.96
4-170-620	Sludge Disposal	165,000.00	191,970.00	116.35	16.35-	171.50
4-170-627	Water softener rebate prog	18,000.00	11,000.00	61.11	38.89	102.22
TOTAL Operating Expenses		1,989,130.00	2,034,508.65	102.92	2.92-	104.60

Capital Expense

4-170-700	Equipment	0.00	0.00	0.00	0.00	100.00
4-170-720	Improvements o/t Buildings	0.00	0.00	0.00	0.00	0.00

BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2018

10 -Utility Fund

2018

Wastewater Treatment

DEPARTMENTAL EXPENDITURES

	FY 2019	YEAR-TO-DATE	% OF	% OF	% PRIOR YR.
	APPROVED	ACTUAL	BUDGET	BUDGET	Y-T-D
	BUDGET	EXPENDED	EXPENDED	REMAINING	EXPENDED

TOTAL Capital Expense	0.00	0.00	0.00	0.00	100.00

<u>Debt Service Expense</u>					
4-170-800 Debt Service Interest	1,009,940.00	900,212.74	89.14	10.86	100.00
4-170-810 Debt Service Principal	799,087.00	984,096.30	123.15	23.15-	100.00
4-170-815 Debt Service Fees	0.00	359.88	0.00	0.00	16.99
4-170-820 Bond issuance cost	0.00	194,796.47	0.00	0.00	0.00
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TOTAL Debt Service Expense	1,809,027.00	2,079,465.39	114.95	14.95-	99.93
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** DEPARTMENT TOTAL EXPENDITURES **	3,798,157.00	4,113,974.04	108.65	8.65-	102.70
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BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2019

10 -Utility Fund

2019

Wastewater Treatment

DEPARTMENTAL EXPENDITURES	FY 2020 APPROVED BUDGET	YEAR-TO-DATE ACTUAL EXPENDED	% OF BUDGET EXPENDED	% OF BUDGET REMAINING	% PRIOR YR. Y-T-D EXPENDED
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Operating Expenses

4-170-000	Salaries	472,872.00	403,502.67	85.33	14.67	91.41
4-170-005	Overtime	20,000.00	23,711.62	118.56	18.56-	109.30
4-170-006	Overtime - Pfestivals	0.00	1,793.99	0.00	0.00	0.00
4-170-010	Employee Incentives	5,400.00	5,123.02	94.87	5.13	128.84
4-170-015	Employee Retirement	67,366.00	59,222.06	87.91	12.09	92.98
4-170-020	Social Security/Medicare	38,118.00	32,612.79	85.56	14.44	90.78
4-170-030	Workers Compensation	7,340.00	6,396.77	87.15	12.85	90.91
4-170-040	Employee Insurance	107,627.00	77,611.14	72.11	27.89	80.73
4-170-050	Unemployment Tax	3,510.00	354.01	10.09	89.91	60.45
4-170-085	Merit increases	0.00	0.00	0.00	0.00	0.00
4-170-155	Lab Fees	100,000.00	87,353.00	87.35	12.65	89.89
4-170-195	Other Professional Fees	0.00	0.00	0.00	0.00	0.00
4-170-200	Gasoline	30,000.00	35,726.28	119.09	19.09-	150.94
4-170-210	Vehicle Repair	16,000.00	0.00	0.00	100.00	0.00
4-170-210-301	Veh Rep 2000 Volvo Dumptru	0.00	268.77	0.00	0.00	0.00
4-170-210-470	VEH REP 2013 FORD F150	0.00	135.54	0.00	0.00	0.00
4-170-210-471	VEH REP 2013 FORD F150	0.00	791.63	0.00	0.00	0.00
4-170-220	Equipment Repair	20,000.00	30,307.68	151.54	51.54-	102.20
4-170-300	Electricity	304,500.00	279,619.56	91.83	8.17	84.89
4-170-310	Communications	1,900.00	5,103.26	268.59	168.59-	26.65
4-170-320	Water	400.00	243.10	60.78	39.23	69.59
4-170-405	Uniforms	8,200.00	10,125.33	123.48	23.48-	98.26
4-170-410	Training and Education	3,500.00	7,885.59	225.30	125.30-	112.37
4-170-420	Insurance	26,600.00	27,061.88	101.74	1.74-	98.72
4-170-432	Custodial Supplies	0.00	0.00	0.00	0.00	0.00
4-170-433	Chemicals	295,000.00	388,092.59	131.56	31.56-	120.53
4-170-440	Small Tools/Equipment	11,500.00	5,273.85	45.86	54.14	89.42
4-170-445	Telework Stipend	0.00	0.00	0.00	0.00	0.00
4-170-460	Membership/Dues	0.00	0.00	0.00	0.00	0.00
4-170-465	Rentals/Leases	20,000.00	27,695.05	138.48	38.48-	197.56
4-170-480	Other Operating	28,000.00	24,490.10	87.46	12.54	74.64
4-170-485	State Permits	30,000.00	28,056.14	93.52	6.48	92.02
4-170-510	Maintenance Contracts	44,000.00	34,148.00	77.61	22.39	84.50
4-170-520	Maintenance/Repairs	180,000.00	207,918.31	115.51	15.51-	146.78
4-170-620	Sludge Disposal	175,000.00	210,165.00	120.09	20.09-	116.35
4-170-627	Water softener rebate prog	15,000.00	1,600.00	10.67	89.33	61.11

TOTAL Operating Expenses		2,031,833.00	2,026,506.93	99.54	0.46	101.69
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Capital Expense

4-170-700	Equipment	50,000.00	47,895.90	95.79	4.21	0.00
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BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2019

10 -Utility Fund

2019

Wastewater Treatment

DEPARTMENTAL EXPENDITURES

	FY 2020	YEAR-TO-DATE	% OF	% OF	% PRIOR YR.
	APPROVED	ACTUAL	BUDGET	BUDGET	Y-T-D
	BUDGET	EXPENDED	EXPENDED	REMAINING	EXPENDED
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4-170-720 Improvements o/t Buildings	0.00	0.00	0.00	0.00	0.00
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TOTAL Capital Expense	50,000.00	47,895.90	95.79	4.21	0.00
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<u>Debt Service Expense</u>					
4-170-800 Debt Service Interest	1,087,755.00	1,087,754.79	100.00	0.00	89.14
4-170-810 Debt Service Principal	741,577.00	741,577.04	100.00	0.00	123.15
4-170-815 Debt Service Fees	500.00	876.37	175.27	75.27-	0.00
4-170-820 Bond issuance cost	0.00	0.00	0.00	0.00	0.00
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TOTAL Debt Service Expense	1,829,832.00	1,830,208.20	100.02	0.02-	114.95
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** DEPARTMENT TOTAL EXPENDITURES **	3,911,665.00	3,904,611.03	99.71	0.29	107.99
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BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2020

2021 2020

10 -Utility Fund

Wastewater Treatment

DEPARTMENTAL EXPENDITURES

	FY 2021	YEAR-TO-DATE	% OF	% OF	% PRIOR YR.
	APPROVED	ACTUAL	BUDGET	BUDGET	Y-T-D
	BUDGET	EXPENDED	EXPENDED	REMAINING	EXPENDED

Operating Expenses

4-170-000	Salaries	349,776.00	297,892.51	85.17	14.83	85.33
4-170-005	Overtime	20,000.00	29,685.87	148.43	48.43-	118.56
4-170-006	Overtime - Pfestivals	500.00	73.54	14.71	85.29	0.00
4-170-010	Employee Incentives	3,600.00	3,599.96	100.00	0.00	94.87
4-170-015	Employee Retirement	49,353.00	45,089.42	91.36	8.64	87.91
4-170-020	Social Security/Medicare	27,221.00	24,699.80	90.74	9.26	85.56
4-170-030	Workers Compensation	3,641.00	2,636.59	72.41	27.59	87.15
4-170-040	Employee Insurance	65,584.00	51,425.45	78.41	21.59	72.11
4-170-050	Unemployment Tax	2,160.00	1,161.92	53.79	46.21	10.09
4-170-085	Merit increases	10,532.00	0.00	0.00	100.00	0.00
4-170-155	Lab Fees	100,000.00	91,764.83	91.76	8.24	87.35
4-170-195	Other Professional Fees	400,000.00	0.00	0.00	100.00	0.00
4-170-200	Gasoline	10,000.00	16,822.92	168.23	68.23-	119.09
4-170-210	Vehicle Repair	6,900.00	35.01	0.51	99.49	0.00
4-170-210-301	Veh Rep 2000 Volvo Dumptru	0.00	1,733.71	0.00	0.00	0.00
4-170-210-470	VEH REP 2013 FORD F150	0.00	615.07	0.00	0.00	0.00
4-170-210-471	VEH REP 2013 FORD F150	0.00	343.69	0.00	0.00	0.00
4-170-220	Equipment Repair	5,000.00	9,682.14	193.64	93.64-	151.54
4-170-300	Electricity	283,000.00	300,956.59	106.35	6.35-	91.83
4-170-310	Communications	1,700.00	2,851.82	167.75	67.75-	268.59
4-170-320	Water	300.00	242.65	80.88	19.12	60.78
4-170-405	Uniforms	10,700.00	18,757.83	175.31	75.31-	123.48
4-170-410	Training and Education	3,500.00	6,995.50	199.87	99.87-	225.30
4-170-420	Insurance	28,700.00	27,049.03	94.25	5.75	101.74
4-170-432	Custodial Supplies	1,400.00	3,470.31	247.88	147.88-	0.00
4-170-433	Chemicals	300,000.00	456,040.85	152.01	52.01-	98.01
4-170-440	Small Tools/Equipment	11,500.00	8,369.84	72.78	27.22	45.86
4-170-445	Telework Stipend	0.00	0.00	0.00	0.00	0.00
4-170-460	Membership/Dues	0.00	75.00	0.00	0.00	0.00
4-170-465	Rentals/Leases	5,000.00	3,776.80	75.54	24.46	138.48
4-170-480	Other Operating	500.00	2,137.97	427.59	327.59-	88.04
4-170-485	State Permits	30,000.00	41,165.64	137.22	37.22-	93.52
4-170-510	Maintenance Contracts	46,000.00	36,181.03	78.65	21.35	78.75
4-170-520	Maintenance/Repairs	213,600.00	492,058.74	230.36	130.36-	121.72
4-170-620	Sludge Disposal	190,000.00	377,948.25	198.92	98.92-	100.00
4-170-627	Water softener rebate prog	0.00	0.00	0.00	0.00	10.67

TOTAL Operating Expenses		2,180,167.00	2,285,460.87	108.03	8.03-	93.21
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Capital Expense

4-170-700	Equipment	0.00	0.00	0.00	0.00	95.79
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BUDGET REPORT

AS OF: SEPTEMBER 30TH, 2020

2021 2020

10 -Utility Fund

Wastewater Treatment

DEPARTMENTAL EXPENDITURES

	FY 2021	YEAR-TO-DATE	% OF	% OF	% PRIOR YR.
	APPROVED	ACTUAL	BUDGET	BUDGET	Y-T-D
	BUDGET	EXPENDED	EXPENDED	REMAINING	EXPENDED
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4-170-720 Improvements o/t Buildings	0.00	0.00	0.00	0.00	0.00
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TOTAL Capital Expense	0.00	0.00	0.00	0.00	95.79
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<u>Debt Service Expense</u>					
4-170-800 Debt Service Interest	1,462,088.00	1,060,043.10	72.50	27.50	100.00
4-170-810 Debt Service Principal	773,202.00	773,201.88	100.00	0.00	100.00
4-170-815 Debt Service Fees	500.00	674.27	134.85	34.85-	175.27
4-170-820 Bond issuance cost	0.00	0.00	0.00	0.00	0.00
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TOTAL Debt Service Expense	2,235,790.00	1,833,919.25	82.03	17.97	100.02
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** DEPARTMENT TOTAL EXPENDITURES **	4,415,957.00	4,119,380.12	94.87	5.13	96.32
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