

MEMORANDUM

TO: Care McInnis
Town Administrator

FROM: Jeremy Gilliam, P.E.
WestWater Engineering



DATE: June 20, 2022

RE: Water and Sewer Rate Review - Town of Debeque

The following memorandum is intended to address the Town of Debeque's (Town) water and sewer user fees and enterprise fund operating budgets. Currently, the Town is operating both the water and sewer systems in a deficit (i.e., water and sewer rate revenues are insufficient to cover operating expenses).

Water and sewer rates are typically set to provide an adequate coverage ratio that maintains operating expenses and generates excess revenue in conformance with enterprise fund status requirements. The user fee review is based on a "cash basis" utility rate structure premised only on the budget requirements of the Town. The "cash basis" structure generally results in a minimal level of revenue on which the utility can continue to operate and provide adequate service. Operating expenses include all direct costs for the operation and maintenance of the water and sewer treatment systems (i.e., power costs, salaries, benefits, supplies, testing, etc.). In addition to routine operating expenses, typical rates generally include some revenue for capital system improvements or unexpected emergencies (i.e., filter cartridge replacement, geomembrane replacement, etc.), debt service payments, plant replacement, and system expansion/improvements. Non-rate revenues were not considered (i.e., interest on fund balance).

For the purpose of this rate review, two utility rate practices were included to ensure that calculated rate suggestions include: 1) an operating revenue coverage ratio of 110% since that is the basis for the State Revolving Loan (SRF) loan programs, which the Town is in process of applying for through the Drinking Water Revolving Loan (DWRFL) program for future water treatment plant improvements, and 2) maintaining a 90-day maintenance revenue.

Consideration was also given to in-town versus out-of-town rates since the water and sewer systems are both considered property of the citizens within the Town. Out-of-town users should expect to pay a user fee providing for operation and maintenance expenses plus local taxes, and a reasonable return of the value of all property devoted to the service of out-of-town customers. For example, most municipalities, special districts, and governing entities have generally accepted user fee structures of one and a half (1½) to two (2) times the in-town rates for out-of-town utility service.

Water Distribution and Treatment System Rates

The most recent user fee increase occurred in 2020 for all customer types (i.e., Residential, Commercial, etc.). The Town’s water system user fees for service are based on a base rate plus a tiered flow rate – which means a minimum base user fee is set whether water is used or not with the addition of a flow rate that calculates additional charges based on usage over a set volume. The Towns water system revenue is relatively unpredictable, mainly due to fluctuations in revenue vs. expenses. The Town has also recently discovered the point-of-sale machine that collects fees for bulk water sales (Water Salesman Fee) at the water treatment plant was incorrectly calibrated and has been collecting revenue for water sales at a lesser rate than published on the Town’s adopted utility billing schedule (i.e., \$7.50/1,000 gal instead of \$10.00/1,000 gal). By example, for the water year 2021, the Town sold 2,174,700 gallons of water at the bulk water filling station. Using the 2021 water data, the Town’s lost revenue from the miscalibration is approximately \$5,440 annually. The water fill station equipment was recalibrated in 2021 and is also being supplemented with a credit card machine for improved operation and ease of access for water customers. Also, among these changes, the Town is increasing the bulk water rate (Water Salesman Rate on Utility Billing Schedule) to \$13.00/1,000 gallons. The Town’s water system expenses and operating revenues for the previous four years are shown below in Table 1.

Table 1 - Water System Annual Operating Expenses and Revenue Summary

Description	2018	2019	2020	2021 *
Operating Expenses	\$204,369.00	\$226,685.00	\$223,523.00	\$200,608.00
Operating Revenues	\$200,938.00	\$198,688.00	\$217,478.00	\$230,568.00
Net Income (Loss)	(\$3,431.00)	(\$27,977.00)	(\$6,045.00)	\$29,960.00

* Anomaly- Unexpected Revenue

Table 1 shows the Town has generally operated the water system in a deficit in the previous years with 2021 being an anomaly. The average annual operating expense for the water system for the past four (4) years is \$213,796.25. The average annual operating revenue for the same period is \$211,918.00 - tap fees were not included due to variability. One annual debt service payment is included for the Town’s Department of Local Affairs (DoLA) Bluestone Looping project in the amount of \$7,824.

Current water user fees were reviewed to establish a base rate adjustment with no change to the flow rate to cover operating expenses and to provide/maintain a 110% coverage ratio for the current operating expenses to provide some additional revenue for contributed capital.

The projected water user fee calculation (see Figure 1) is a worksheet showing system revenues and expenses that include the Town’s current water system debt service payment. The worksheet is the culmination of calculations to generate a recommended user fee for the Town’s specific water system constraints. For example, using an average of the expenses and revenues for the previous four (4) years, the worksheet calculates a user fee increase of \$6.61 to generate revenues in excess of expenses and to provide the Town 90-day maintenance reserve. The

FIGURE 1
TOWN OF DEBEQUE
WATER SYSTEM
USER FEE ANALYSIS
June 2022

Calendar Year	Year 1 2022	Year 2 2023	Year 3 2024	Year 4 2025	Year 5 2026
Expenses					
Annual Debt Service Payment(s)	\$7,824	\$7,824	\$7,824	\$7,824	\$7,824
Annual System Operating Costs	\$211,918	\$218,276	\$224,824	\$231,569	\$238,516
Inflationary Factor 3.0%					
Capital Improvement/Maintenance Expense	\$0	\$0	\$0	\$0	\$0
Total Annual Expense	\$219,742	\$226,100	\$232,648	\$239,393	\$246,340
Revenue					
Fund Balance (Minimum 90-Day Reserve)	\$235,030	\$235,030	\$235,030	\$235,030	\$235,030
Fund Balance Transfer/Carryover	\$0	\$21,975	\$44,602	\$68,211	\$92,171
Expenditure of Cash Reserve	\$0	\$0	\$0	\$0	\$0
Total Fund Balance	\$235,030	\$257,005	\$279,632	\$303,241	\$327,201
Annual User Fee Revenue (Assumes Similar Use Pattern)	\$213,796	\$247,375	\$256,256	\$256,256	\$271,518
Total Annual Operating Revenue	\$213,796	\$269,350	\$300,858	\$324,467	\$363,689
Year End Balance	\$448,826	\$504,380	\$535,888	\$559,497	\$598,719
Rate Evaluation					
Difference of Projected Revenue to Expenses	(\$5,946)	\$43,250	\$68,211	\$85,075	\$117,349
Coverage Ratio 110%	97.29%	109.41%	110.15%	107.04%	110.22%
Base Rate Water Service Increase	\$6.61	\$0.32	\$0.00	\$1.68	\$0.00
Annual Revenue From Rate Increase	\$27,921	\$1,352	\$0	\$7,096	\$0
Transfer to Fund Balance to Maintain 90-Day Reserve	\$0	\$0	\$0	\$0	\$0
Percent Revune Increase Required	13.06%	0.63%	0.00%	3.32%	0.00%
Adjusted Annual Revenue With Additional Rate	\$241,717	\$248,726	\$256,256	\$263,353	\$271,518
Adjusted Coverage Ratio	110%	110%	110%	110%	110%
Adjusted Year End Fund Balance With Additional Rate	\$21,975.0	\$44,602	\$68,211	\$92,171	\$117,349

Description	# of Service Taps	Fee	% of System	New Water Service Fees (Base Rate Only)				
Residential	226	\$27.71	64.2%	\$34.32	\$34.64	\$34.64	\$36.32	\$36.32
Commercial	21	\$31.59	6.0%	\$39.13	\$39.49	\$39.49	\$41.41	\$41.41
Out of Town Residential	96	\$38.84	27.3%	\$48.10	\$48.55	\$48.55	\$50.91	\$50.91
Out of Town Commercial	8	\$43.88	2.3%	\$54.35	\$54.85	\$54.85	\$57.51	\$57.51
School	1	\$248.43	0.3%	\$307.69	\$310.56	\$310.56	\$325.62	\$325.62

Total Water Services 352

Key: Shading indicates cells that can be edited to evaluate impacts of variable conditions

* Water System Expenses and Revenues were averaged for 2022 budget due to variation in year to year costs.

increased rate is then applied on an equitable basis that follows the Town’s current water utility rate schedule. It should be noted that if bulk water sales continue as historically seen, the newly increased rate could offset the projected increase in water user fees even possibly negating the need for any rate increase at all. As previously mentioned, the annual loss of \$5,400 coincides with 2018 and 2019 net loss figures and if collected would have resulted in the system operating in a neutral revenue condition. If system costs become equal, only the 90-day maintenance reserve would be justified in a rate increase, unless the Town takes on future debt requiring a debt coverage ratio (i.e., 110%).

The Town is in the process of applying for funding through various agencies to upgrade its water treatment plant (WTP) and various components of the water system. Various improvements were identified in the Town’s Project Needs Assessment (PNA) completed in March of this year as a requirement of the SRF Loan Program for the Drinking Water Revolving Fund Loan Program administered by the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (Division). The PNA identified an increase in capacity, new equipment for improved treatment, and a small building expansion for the new equipment totaling \$2,200,000. Based on the level of financing required to fund the project, an additional rate increase will likely be needed to meet minimum the coverage ratio and maintain the 90-day maintenance reserve along with the addition of any new debt service payment(s). The Town’s funding applications with the various funding agencies (i.e., DWRF loans) are currently under review.

The Town has been working diligently with funding agencies (i.e., primarily the SRF program) regarding repayment options for future improvements to minimize the impacts on water service fees in the future. More specifically, the Town has secured grants and/or loans that could provide the Town with the possibility of some level of debt forgiveness, therefore possibly negating any additional future rate increases that would result from increasing the debt service payments. It should be noted that most loan documents through various funding sources will also include a rate covenant requiring rates to be increased as necessary to maintain this coverage ratio.

Sewer Collection and Treatment System Rates

The wastewater system user fees are also based on a set user plus a tiered flow rate (increased block rate). The Towns wastewater system revenue is relatively predictable and shows the Town’s budget regularly operates in a deficit. The Town’s wastewater system operating expenses and revenues for the previous four years are shown below in Table 2.

Table 2 - Wastewater System Annual Operating Expenses and Revenue Summary

Description	2018	2019	2020	2021
Operating Expenses	\$141,247.00	\$147,987.00	\$150,422.00	\$172,850.00
Operating Revenues	\$125,887.00	\$129,686.00	\$135,824.00	\$136,045.00
Net Income (Loss)	(\$15,370.00)	(\$18,301.00)	(\$14,598.00)	(\$36,805.00)

The average annual operating expense for the wastewater system for the past four (4) years is \$153,129. The average annual operating revenue for the same period is \$131,860.50. Similar to the water system, a 90-day maintenance reserve for the wastewater system is recommended based on the average operating expense which amounts to \$37,757.84.

The goal of the wastewater system enterprise fund is to operate with a positive cash flow; however, the wastewater system is currently operating on an average annual deficit of \$21,268.50 for the last four (4) years. Attached as Figure 2 is a worksheet showing system revenues versus expenses for the Town's wastewater system. The worksheet is used to generate a recommended rate for the Town's specific wastewater system constraints. Since the previous four years reviewed operated in a deficit, the worksheet used revenue information for 2021. Using the available data, the worksheet calculates a rate increase of \$20.77 to generate revenues in excess of expenses and provide the Town with the ability to allocate funds to 90-day maintenance reserves. The increased rate is then applied in an equitable division that follows the Town's current wastewater utility rate structure.

The Town has recently identified several issues at its wastewater treatment facility that include failing geomembrane liners (synthetic liner material lining the lagoons) in Lagoon #1 and Lagoon #2 which were installed as part of circa 1980's improvements and the need for higher efficiency aeration to reduce annual operating costs. Due to the absence of reserves for the Town's wastewater system which has resulted in an operational deficit, the Town must seek financial assistance to facilitate any repairs or improvements necessary to maintain compliance with the Town's Discharge Permit.

Summary

In summary, water and sewer user fees have a short life span since costs (inflation) are changing and should be examined annually as part of budget development to determine if any adjustment is warranted. User fees must be set at a level that covers all the costs to produce, collect, treat, and distribute water and sewer. These functions should include other parts of the operation that are not so visible – servicing debt, funding financial reserves, and other operations, maintenance, and administrative costs including associated costs for regulatory compliance.

This user fee review examined the Town's revenue versus expenses, payment to long-term debt, and checked for funding of maintenance reserve accounts. In general, both systems were found to be deficient in covering operating expenses as well as funding reserve accounts. Both systems heavily rely on annual fund transfers from the Town's general fund to cover routine operations. An important component of the operating revenue is to maintain the Town's enterprise fund status which is currently subject to review as part of the Town's annual audit.

The Town's most recent rate increase occurred in 2020 for both water and sewer user fees; however, the rate increase did not provide sufficient funds for even regular operations. Current financial conditions indicate that each utility (water and sewer) will require a moderate to substantial user fee increase to achieve financial stability.

For the water system, a moderate increase of \$6.61 is suggested to provide adequate funds for operational expenses, maintain the debt service coverage ratio, and maintain a 90-day maintenance reserve. For the wastewater system, the proposed increase of \$20.77 is substantial

FIGURE 2
TOWN OF DEBEQUE
WASTEWATER SYSTEM
USER FEE ANALYSIS
June 2022

Calendar Year	Year 1 2022	Year 2 2023	Year 3 2024	Year 4 2025	Year 5 2026
Expenses					
Annual Debt Service Payment(s)	\$0	\$0	\$0	\$0	\$0
Annual System Operating Costs	\$172,850	\$178,036	\$183,377	\$188,878	\$194,544
Inflationary Factor 3.0%					
Capital Improvement/Maintenance Expense	\$32,860	\$0	\$0	\$0	\$0
Total Annual Expense	\$205,710	\$178,036	\$183,377	\$188,878	\$194,544
Revenue					
Fund Balance (Minimum 90-Day Reserve)	\$165,457	\$132,597	\$132,597	\$132,597	\$132,597
Fund Balance Transfer/Carryover	\$0	(\$15,580)	\$2,234	\$20,574	\$39,465
Expenditure of Cash Reserve	\$32,860	\$0	\$0	\$0	\$0
Total Fund Balance	\$132,597	\$117,017	\$134,831	\$153,171	\$172,062
Annual User Fee Revenue (Assumes Similar Use Pattern)	\$136,045	\$182,699	\$201,664	\$207,769	\$207,769
Total Annual Operating Revenue	\$136,045	\$167,119	\$203,898	\$228,343	\$247,234
Year End Balance	\$268,642	\$299,716	\$336,495	\$360,940	\$379,831
Rate Evaluation					
Difference of Projected Revenue to Expenses	(\$69,665)	(\$10,917)	\$20,522	\$39,465	\$52,690
Coverage Ratio	78.71%	102.62%	109.97%	110.00%	106.80%
Base Rate Water Service Increase	\$20.77	\$5.05	\$0.02	\$0.00	\$2.39
Annual Revenue From Rate Increase	\$54,085	\$13,150	\$52	\$0	\$6,224
Transfer to Fund Balance to Maintain 90-Day Reserve	\$0	\$0	\$0	\$0	\$0
Percent Revenue Increase Required	39.76%	9.67%	0.04%	0.00%	4.57%
Adjusted Annual Revenue With Additional Rate	\$190,130	\$195,849	\$201,716	\$207,769	\$213,993
Adjusted Coverage Ratio	92%	110%	110%	110%	110%
Adjusted Year End Fund Balance With Additional Rate	(\$15,580.0)	\$2,234	\$20,574	\$39,465	\$58,913

Description	# of Service Taps	Fee	New Sewer Service Fees (Base Rate Only)				
Residential	205	\$41.22	\$61.99	\$67.04	\$67.06	\$67.06	\$69.45
Commercial	11	\$51.47	\$77.40	\$83.71	\$83.74	\$83.74	\$86.72
School	1	\$231.69	\$348.43	\$371.17	\$371.26	\$371.26	\$381.85

Total Water Services 217

Key: Shading indicates cells that can be edited to evaluate impacts of variable conditions

(approximately 51%) and is the result of rates being below the minimum rate necessary to cover even normal operating expenses for an extended period of time. The wastewater treatment plant is in immediate need of repair that will require additional funding from the Town or other funding sources (e.g., the American Rescue Plan Act) to make the necessary repairs. At a minimum, all user fees should be increased to at least cover the annual operational costs in order to maintain the enterprise fund status for both the water and sewer utility funds.