

COLUMBUS UTILITIES SEWER RATE STUDY



Columbus' Sewer Utility Background

- Village furnishes sanitary sewer to over 2,300 users, along with services to Village of Fall River, Elba Sanitary District 1, and Waste Haulers
- Responsible for:
 - Capital Costs
 - Operation and Maintenance Costs
 - Activities involving the sanitary sewer collection system and lift station and wastewater treatment plant

Purpose of the Study

- To review and confirm or recommend changes to the Village's sewer rates
- Summary of the Study
 - Revenue from rates increased \$900,000 or 56 percent
 - Sewer rates last increased in 2018
 - Drivers
 - Operation & maintenance expense increases
 - Numerous capital projects planned in the upcoming years

Study Purpose

- Develop a rate structure that ensures adequate revenues to meet operating, maintenance and capital expenditures for 2025
- Develop rate projections for the next 5-years to ensure rates developed now will lead to smaller, inflationary increases in the future
- Develop rate structure with fair allocation of costs for all user groups

Key Findings

■ Revenue on Projected Rates

- Study proposes fixed and volume rates based on revenue and cash-flow needs
- Sewer cost-of-service was re-designed to provide a more simplistic model that can be easily updated and maintains historical rate practices

■ Revenue vs Debt Service

- Current sewer revenue insufficient to meet debt service obligations
- Additional capital improvement projects are being taken on
- Combined residential and commercial revenue in 2024 is lower than 2023, underscoring the need for a review of the revenue structure

■ Alternative Solutions

- Six alternatives evaluated
- Designed to impact all customers uniformly

Key Findings (Cont.)

■ Impact on Customers

■ Proposed Rate Increase

- Fixed meter charges increase 56 percent
- Fall River volume charges increased 195 percent
- Elba volume charges increase by 143.8 percent
- Columbus volume charges increased by 0.2 percent

Alternative 2

■ Selected Alternative

- Provides a volume-based rate structure for Fall River, Elba that is closer to volume charges being made by Columbus Rate Payers
- Columbus residents in this alternative will receive an increase in fixed meter charges, but volume rates stayed the same.
- This rate structure appears the most just and reasonable.

Revenue Requirement

Table 1

Revenue Requirement

Income		Cash	
Revenue		Cash Balance as of Jan 1, 2024	\$ 1,891,525
2024 Budgeted Revenue	\$ 1,628,106	Operating Income (Loss)	(487,011)
<hr/>		Depreciation	406,843
Subtotal	1,628,106	Interest Income	93,000
Operations & Maintenance Expenses		Debt Service	(628,129)
Operation	1,708,274	<hr/>	
Depreciation	406,843	Cash Flow	(615,297)
<hr/>		Cash Balance as of Jan 1, 2025	\$ 1,276,228
Subtotal	2,115,117	Projected Income (Loss)	\$ 2,174,000
Operating Income (Loss)	(487,011)	Projected Cash Flow	\$ (615,297)
Other Revenue (Expenses)		Projected Cash Balance as of Jan 1, 2025	\$ 1,276,228
Interest Income	93,000	Cash Flow as % of Annual O&M	-29%
Other Revenues	3,196,940	Cash Balance as % of Annual O&M	60%
Debt Principal	(430,727)		
Debt Interest	(197,402)		
ISSUANCE/PREMIUM/PAYING AGENT	(800)		
<hr/>			
Subtotal	2,661,011		
Income (Loss)	\$ 2,174,000		

Fixed and Variable Costs

Table 2

Fixed and Variable Costs

Adjustment (Fixed Portion Moved to Variable) =			0%
Fixed	Unadjusted	Adjustment	Adjusted
Debt Service	628,129	-	628,129
Subtotal Fixed	628,129	-	628,129
Variable	999,977	-	999,977
Total Cost	\$ 1,628,106		\$ 1,628,106

Fixed Meter Charges

Table 3

Fixed Charges

Monthly Fixed Charges

Meter Size	Proposed	Current	Percent Change
5/8" \$	26.68 \$	17.10	56.0%
3/4" \$	26.68 \$	17.10	56.0%
1" \$	35.88 \$	23.00	56.0%
1 1/2" \$	51.48 \$	33.00	56.0%
2" \$	68.64 \$	44.00	56.0%
3" \$	110.76 \$	71.00	56.0%
4" \$	171.60 \$	110.00	56.0%

Revenue from Proposed Meter Charges

Meter Size	Meter Count	Monthly	Annual
5/8"	10 \$	267 \$	3,201
3/4"	2,162 \$	57,674 \$	692,082
1"	59 \$	2,117 \$	25,403
1 1/2"	25 \$	1,287 \$	15,444
2"	18 \$	1,236 \$	14,826
3"	6 \$	665 \$	7,975
4"	4 \$	686 \$	8,237
Total	2,284 \$	63,931 \$	767,168

Fall River Volume Charges

Table 4.1

Fall River Volume Charges		
Fall River Budgeted Volume Revenue 2024	\$	140,000.00
Fall River Budgeted Volume Revenue 2025	\$	196,000.00
Estimated Volume (cubic feet)		8960771.11
Rate per 100 Cubic Feet		
Proposed	\$	5.90
Current	\$	1.49
Change	\$	4.41
Change		296.0%
Projected Revenue with Proposed Rates		\$528,685.50

Elba Volume Charges

Table 4.2

Elba Volume Charges		
Fall River Budgeted Volume Revenue 2024	\$	13,330.00
Fall River Budgeted Volume Revenue 2025	\$	18,662.00
Estimated Volume (cubic feet)		661680.85
Rate per 100 Cubic Feet		
Proposed	\$	5.90
Current	\$	1.70
Change	\$	4.20
Change		247.1%
Projected Revenue with Proposed Rates		\$39,039.17

Waste Haulers Volume Charges

Table 4.3

Waste Haulers Volume Charges

Holding Tank Waste	2025
Assumption on Total Volume (Gallons)	3005192
Assumption on Number of Trucks	667
Testing Charges	
Fixed Charge Per Truck (Gate Fee)	\$25.00
COD Test Per Truck	\$30.00
Ortho P Test Per Truck	\$15.00
TKN (Unfiltered) Test Per Truck	\$30.00
TSS Test Per Truck If Abnormal	\$15.00
Rate (\$/1000 Gal)	\$25.00
Proposed Revenue from Holding Tank	\$141,829.80
Septage Waste	
2025	
Assumption on Total Volume (Gallons)	600000
Assumption on Number of Trucks	133
Testing Charges	
Fixed Charge Per Truck (Gate Fee)	\$25.00
COD Test Per Truck	\$30.00
Ortho P Test Per Truck	\$15.00
TKN (Unfiltered) Test Per Truck	\$30.00
TSS Test Per Truck If Abnormal	\$15.00
High Strength Rate (\$/1000 Gal)	\$50.00
Industrial Strength Rate (\$/1000 Gal)	\$100.00
Assumption on Total Extra Charges For Industrial (Ortho P, TKN, and TSS Multipliers)	\$900.00
Assumption on Percentage of Septage High Strength	50.00%
Assumption on Percentage of Septage Industrial	50.00%
Proposed Revenue from Holding Tank	\$59,299.75
Total Revenue from Waste Haulers	\$201,129.55

Columbus Volume Charge

Remaining Vairable Cost	
Total 2025 Rev Requirement	\$2,539,845
Deductions	
Fixed Revenue From Meter Charges	\$767,168
Fall River Volume Charge	\$528,685
Elba Volume Charge	\$39,039
Waste Haulers Total Volume Charge	\$201,130
Sewer Fees From Budget	\$66,000
Sewer Connection Fees From Budget	\$5,000
Total Remaining	\$932,822

Table 4.4

Columbus Volume Charges

Remaining Variable Cost	\$	932,822
Estimated Volume (cubic feet)*		14,700,303
Rate per 100 Cubic Feet		
Proposed	\$	6.35
Current	\$	6.34
Change	\$	0.01
Change		0.2%

Customer Bill Analysis

Table 5

Customer Bill Analysis

<u>Customer Type</u>	<u>Meter Size</u>	<u>Demand (Per 100 Cubic Feet)</u>	<u>Bill with Current Rates</u>	<u>Bill with Proposed Rates</u>	<u>Increase</u>	
Residential Rates						
No Consumption	3/4"	-	\$ 17.10	\$ 26.68	\$ 9.58	56%
Small Residential	3/4"	2	\$ 29.81	\$ 39.41	\$ 9.60	32%
Average Residential	3/4"	4	\$ 42.53	\$ 52.14	\$ 9.62	23%
Large Residential	3/4"	7	\$ 59.48	\$ 69.12	\$ 9.64	16%
Large Residential	3/4"	11	\$ 84.90	\$ 94.59	\$ 9.68	11%
Large Residential	3/4"	13	\$ 101.85	\$ 111.56	\$ 9.71	10%
Commercial Rates						
No Consumption	1"	-	\$ 23.00	\$ 35.88	\$ 12.88	56%
Small Residential	1"	2	\$ 35.71	\$ 48.61	\$ 12.90	36%
Average Residential	1"	4	\$ 48.43	\$ 61.35	\$ 12.92	27%
Large Residential	1"	7	\$ 65.38	\$ 78.32	\$ 12.95	20%
Large Residential	1"	11	\$ 90.80	\$ 103.79	\$ 12.99	14%
Large Residential	1"	13	\$ 107.75	\$ 120.77	\$ 13.01	12%

Five-Year Forecast

Table 6 -- Increases Every Second Year

	5 Year Forecast				
	2024	2025	2026	2027	2028
Required Revenue Increase*	0%	56%	12%	23%	8%
Revenue	\$ 1,628,106	\$ 2,539,845	\$ 2,844,626	\$ 3,498,890	\$ 3,778,801
Operation	-	-	-	-	-
Depreciation	1,708,274	1,827,853	1,955,803	2,092,709	2,239,198
Other O&M	406,843	419,048	431,620	444,568	457,905
Subtotal Expenses	2,115,117	2,246,901	2,387,422	2,537,277	2,697,104
Operating Income (Loss)	(487,011)	292,943	457,204	961,613	1,081,697
Cash Adjustments					
Depreciation	406,843	419,048	431,620	444,568	457,905
Interest Income	93,000	77,891	78,065	78,190	78,126
Debt Service	(628,129)	(782,611)	(961,688)	(1,487,024)	(1,599,757)
Transfer to Equipment Reserve	-	-	-	-	-
Cash Flow	\$ (615,297)	\$ 7,272	\$ 5,201	\$ (2,653)	\$ 17,972
End-of-year Cash Balance	\$ 1,276,228	\$ 1,283,500	\$ 1,288,701	\$ 1,286,048	\$ 1,304,020
Cash Reserve as % O&M	60%	57%	54%	51%	48%

* Required Revenue Increase from Fall River, Elba, Waste Haulers, Columbus Volume Charges and Colun

Debt Service	2024	2025	2026	2027	2028
Existing	\$ (628,129)	(622,644)	(626,778)	(546,528)	(511,500)
Forecast	\$ -	\$ (159,967)	\$ (334,910)	\$ (940,496)	\$ (1,088,257)
Total	\$ (628,129)	\$ (782,611)	\$ (961,688)	\$ (1,487,024)	\$ (1,599,757)

Capital Improvement Plan	2,174,000	2,377,536	8,230,116	2,008,116	4,468,116
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Five-Year Forecast

Meter Size	Beaver Dam		Marshall		Waterloo		Portage		Proposed Columbus		Average *	
5/8"	\$	28.35	\$	12.48	\$	15.00	\$	14.44	\$	26.68	\$	17.57
3/4"	\$	38.35	\$	12.48	\$	15.00	-		\$	26.68	\$	21.94
1"	\$	43.05	\$	21.84	\$	35.05	\$	33.75	\$	35.88	\$	33.42
1 1/2"	\$	96.60	\$	37.60	\$	68.46	\$	62.50	\$	51.48	\$	66.29
2"	\$	165.90	\$	56.30	\$	108.57	\$	81.25	\$	68.64	\$	103.01
3"	\$	263.55	\$	100.90	\$	202.13	\$	145.00	\$	110.76	\$	177.90
4"	\$	508.20	-		\$	335.79	\$	237.50	\$	171.60	\$	360.50

* Average is taken of Beaver Dam, Marshall, Waterloo, and Portage.

Volume Charge (\$ per 100 cubic feet)	Beaver Dam		Marshall		Waterloo		Portage		Proposed Columbus Alternative 1	Proposed Columbus Alternative 2		
	\$	2.71	\$	10.49	\$	12.75	\$	5.63	\$	8.75	\$	6.34

Questions?



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