

Schoharie Village Sewer System Rate Study Findings

By Jesse LaVigne, Community Specialist for RCAP Solutions

This is a summary findings document derived from the Schoharie Village Sewer System Rate Study report document. This findings document contains many of the highlights from the rate study report but is not a substitute for the report itself. Rather, it is a useful guide through RCAP's presentation of the rate study to the board of the Village of Schoharie.

Project History

In July, RCAP met with the Village to discuss the status of the Lead Service Line Inventory for the water system. As part of our meeting, we became aware of budgetary shortfalls in the sewer system and volunteered to provide a rate study at no charge to help the sewer system regain its financial footing. Work on the rate study began in October, as the Lead Service Line Inventory project was nearing its end. RCAP has spent the ensuing months collecting and analyzing budgetary, billing, and usage data. We have visited the Village several times for in person meetings, as well as hours of phone calls and email correspondence. We would like to take this moment to commend the office of the Village Clerk for their patience and persistence throughout the process. Though the report itself is now being submitted to the Village, the work that began in October does not conclude with this meeting. RCAP is still able to provide answers to questions from the board and the public in response to this report.

Current Financial Outlook

Since this is a report about rates and budgets, we'll start there. Complete budget data was reviewed for 2021, 2022, 2023, and 2024. Over the last four years, the Village sewer system averaged a deficit, totaling just under \$170,000.

	Actual 2021	Actual 2022	Actual 2023	Actual 2024
Total Revenue	\$218,552	\$232,845	\$292,735	\$368,023
Total Operating Expenses	\$319,526	\$327,418	\$298,258	\$336,376
NET Income (LOSS)	(\$100,974)	(\$94,573)	(\$5,523)	\$31,647

Table 1. Sewer system net income 2021-2024.

While the trend in Table 1 looks encouraging with revenue eventually catching up with expenses, the full picture is more challenging. To keep the sewer system operating, the Village has been forced to infuse cash from the general fund three times over the last four

years through interfund transfers, totaling approximately \$170,000. Table 2 illustrates income and expenses more clearly.

	Actual 2021	Actual 2022	Actual 2023	Actual 2024
Total Revenue	\$218,552	\$232,845	\$292,735	\$368,023
Total Interfund Transfers	\$319	\$0	\$51,072	\$119,000
Revised Revenue	\$218,233	\$232,845	\$241,663	\$249,023
Total Operating Expenses	\$319,526	\$327,418	\$298,258	\$336,376
NET Income (LOSS)	(\$101,293)	(\$94,573)	(\$56,595)	(\$87,353)

Table 2. Sewer system net income minus interfund transfers, 2021-2024.

The sewer system averaged a loss of \$85,000 per year over the last four budget years. At last check, the contents of the Sewer Fund had dwindled to \$18,942, and the Sewer Repair Fund was at \$448. So, this rate study needed to generate at least \$85,000 more each year. However, further considerations became apparent over the course of the study.

Capital Improvements

The Village has three capital improvements that must be addressed.

1. The treatment train at the sewer plant was recently upgraded with an automatic chlorination/dechlorination system from Lamont Engineers and ESC Environmental. That system is not working properly and burns out the sampling pumps needed for the system to make its chlorine adjustments. The Village should pursue the matter with Lamont and ESC until it is working.
2. The drying beds at the sewer plant are uncovered. As a result, all rainwater that falls on them immediately becomes sewage, which must then be treated at the plant. The drying beds are approximately 6,800 square feet, meaning that they generate 4,239 gallons of sewage per inch of rainfall. The Village receives approximately 41 inches of rainfall per year, meaning that the drying beds generate about 173,799 gallons of sewage from rain per year. That technically makes the drying beds the sixth largest customer in the sewer system. This problem is exacerbated by the fact that the vast majority of that rainfall comes between the months of May and October, the months during which the sewer system must perform chlorine treatment of all effluent. This is the most expensive part of the year for the sewer system.

3. The collection system mains and laterals range in age from 56 to 69 years old. The expected lifespan of a sewer main is between 50 and 100 years. That means that the sewer system has 44 years to replace all 7 miles of its collection system.

The need for this work is highlighted by current INI numbers. INI stands for infiltration and inflow. It is an indicator of how much water is finding its way into the sewer system through cracks and other gaps in the collection system. Based on the amount of metered water documented over the last four years and the amount of sewage processed at the sewer plant, the difference between those two numbers serves as a useful estimate of INI. That number is calculated to be between 37% and 42% of current sewage treated.

INI is an especially important figure to keep track of. Not only does it indicate that groundwater and surface water are finding their way into the sewers, but it also indicates that the contents of the sewers are finding their way into the ground water. Since the goal of a sanitary sewer is to protect public health, this concern is especially urgent. Reducing INI will also reduce the amount of sewage that needs to be treated, thereby reducing the cost to run the sewer plant.

A total of 7 miles of collection system replaced over 44 years means that the Village needs to start replacing 840 feet of sewer every year. The cost of those replacements will vary widely, and it is recommended that the Village consult with an engineering firm to plan out the process.

When all of these projects are considered, it is plausible that the Village needs to budget for an additional \$100,000 per year. However, some funding from state programs may help offset some of these costs, particularly the costs related to the collection system. Still, when evaluating rates, some of these costs will certainly fall to the Village. An estimated number of \$165,000 more revenue per year has been selected as the target for this rate study. This will position the sewer system to be able to afford its current expenses and begin saving for its needed capital projects.

RCAP wants to emphasize that the recent shortfalls in revenue are understandable. For a very long time, the collection system was less than 50 years old and required less maintenance. INI was lower, reducing the amount of sewage that needed to be treated. Regulations were not nearly so severe, so operations costs were lower. And after the flooding in 2011, the population of the Village began to shrink, further reducing the strain on the sewer plant and lowering the cost to run it.

The good news is that after all these years, the Village seems to be recovering from the flood. The most obvious sign of this during the rate study was the increase in system usage across recent years.

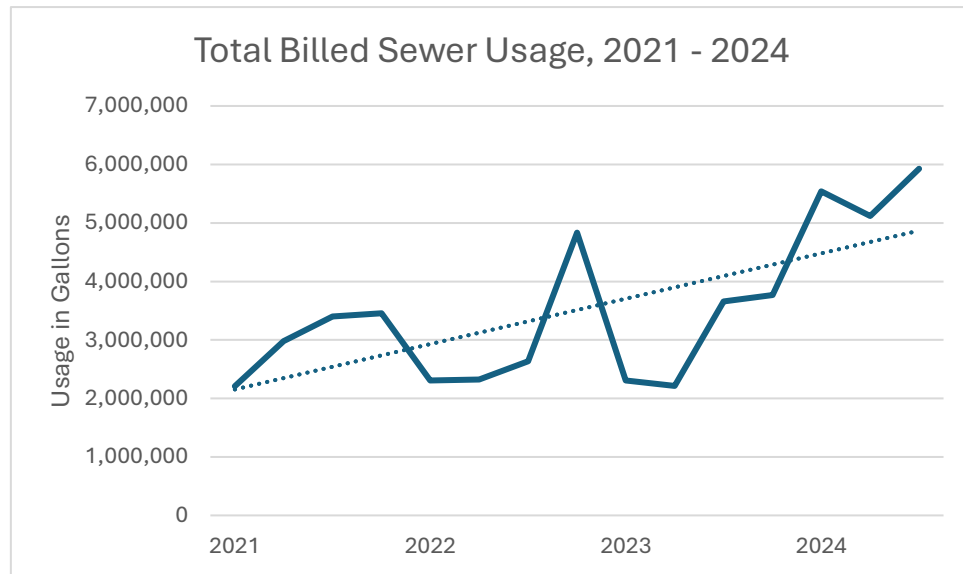


Figure 1. Total billed usage, 2021 – 2024.

Current Rates and Possible Options

The Schoharie Village Sewer System has 340 billed customer accounts. Accounts are billed a quarterly base fee, depending on the size of their water meter. Each account is also allowed a certain number of free included gallons of usage per quarter, dependent on the size of their water meter. All accounts are billed \$5.70 per 1,000 gallons of usage after their included gallons.

Service line size	2025 sewer base fee	Included gallons	2025 sewer flow rate per 1,000 gallons	Number of accounts
¾"	\$88.89	5,000	\$5.70	321
1"	\$177.79	10,000	\$5.70	9
1 ½"	\$355.57	20,000	\$5.70	2
2"	\$711.14	40,000	\$5.70	1
3"	\$1,333.40	75,000	\$5.70	6
4"	\$1,422.29	80,000	\$5.70	1
6"	\$3,555.72	200,000	\$5.70	0

Table 3. Current quarterly billing structure.

RCAP evaluated five billing structure options for the new rate structure:

Option 1: All Base Fee Increase			
Line Size	Sewer Base Fee	Included Gallons	Sewer Flow Rate over Included Gallons
0.75	\$156.45	5,000	\$5.70
1.00	\$312.90	10,000	\$5.70
1.50	\$625.81	20,000	\$5.70
2.00	\$1,251.61	40,000	\$5.70
3.00	\$2,346.78	75,000	\$5.70
4.00	\$2,503.23	80,000	\$5.70
6.00	\$6,258.07	200,000	\$5.70
Projected revenue increase: \$165,653			

Table 4. Option 1: Base fee increase.

Option 2: All Flow Rate Increase			
Line Size	Sewer Base Fee	Included Gallons	Sewer Flow Rate over Included Gallons
0.75	\$88.89	5,000	\$17.84
1.00	\$177.79	10,000	\$17.84
1.50	\$355.57	20,000	\$17.84
2.00	\$711.14	40,000	\$17.84
3.00	\$1,333.40	75,000	\$17.84
4.00	\$1,422.29	80,000	\$17.84
6.00	\$3,555.72	200,000	\$17.84
Projected revenue increase: \$165,618			

Table 5. Option 2: Flow rate increase.

Option 3: Implement Balanced Changes			
Line Size	Sewer Base Fee	Included Gallons	Sewer Flow Rate over Included Gallons
0.75	\$131.56	2,500	\$8.44
1.00	\$263.12	5,000	\$8.44
1.50	\$526.25	10,000	\$8.44
2.00	\$1,052.49	20,000	\$8.44
3.00	\$1,973.42	37,500	\$8.44
4.00	\$2,104.99	40,000	\$8.44
6.00	5,262.47	100,000	\$8.44
Projected revenue increase: \$166,791			

Table 6. Option 3: Balanced changes.

Option 4: Graduated Rates			
Line Size	Sewer Base Fee	Included Gallons	Sewer Flow Rate over Included Gallons
0.75	\$125.34	2,500	\$8.04
1.00	\$250.68	5,000	\$8.04
1.50	\$501.36	10,000	\$8.04
2.00	\$1,002.71	20,000	\$8.04
3.00	\$1,880.09	37,500	\$8.04
4.00	\$2,005.43	40,000	\$8.04
6.00	\$5,013.57	100,000	\$8.04
Projected revenue increase: \$167,763			

Table 7. Option 4: Graduated Rates.

Graduated Cutoffs	Graduated Multipliers
5,000	1.00
10,000	1.05
20,000	1.10
40,000	1.15
80,000	1.20

Table 8. Graduated rate blocks and rate multipliers.

Option 5: Seasonal Rates			
Line Size	Current Sewer Base Fee	Current Included Gallons	Current Sewer Flow Rate over Included Gallons
0.75	\$128.89	2,500	\$8.27
1.00	\$257.79	5,000	\$8.27
1.50	\$515.58	10,000	\$8.27
2.00	\$1,031.16	20,000	\$8.27
3.00	\$1,933.42	37,500	\$8.27
4.00	\$2,062.32	40,000	\$8.27
6.00	\$5,155.79	100,000	\$8.27
Projected revenue increase: \$167,610			

Table 9. Option 5: Seasonal rates.

Season	Seasonal Multiplier
Spring	1.00
Summer	1.05
Fall	1.15
Winter	1.10

Table 10: Seasonal rate multipliers.

Detailed explanations of the rate options are included in the rate study report. Notably, implementing seasonal or graduated rates will create an incentive for customers to manage their usage more efficiently, helping to reduce some of the burden on the sewer system.

An affordability assessment for the water and sewer systems was arranged with Water Financing Assistance, a closely related peer organization to RCAP Solutions. This assessment indicated that the best way to keep rates affordable for the financially disadvantaged members of the community is to reduce included gallons if it will help reduce base fees and flow rates. That suggestion was embraced in Options 3, 4, and 5 in an effort to make sure that any rates recommended to the Village are as practical as possible for all members of the community.

RCAP also made a point of examining the highest use customers in the system to evaluate whether their usage merited special incentives towards conservation in the form of graduated rates. See Table 11 for usage information on these accounts.

Highest Usage Customers by Type	Most Recent Annual Usage (in gallons)
Laundry	1,291,480
School	683,720
Apartments	394,870
School	459,160
Court House	159,980
Car Wash	174,750

Table 11: The 6 accounts with the highest usage in the sewer system.

When compared to the rest of the system, the 6 largest accounts account for approximately 13% of the revenue. However, they make up 16% of the usage. This indicates that the rest of the community is very slightly subsidizing these accounts. It is possible to use graduated rates to help align billing with usage, but the difference could be considered within an acceptable margin at 3%.

Recommendations

While there are many recommendations in RCAP's report, three are urgent enough to address immediately.

1. Implement seasonal rates. The sewer plant works hardest during the summer and fall seasons, and seasonal rates will help users to keep that in mind. Currently those are the highest usage quarters for the system, so it behooves the Village to encourage users to decrease their usage during those times.

2. Increase revenue by \$165,000 by increasing rates. While it is possible to implement the needed rate increase all at once, it would also be hard on the community, particularly those at a financial disadvantage. Therefore, RCAP recommends increasing revenue by \$85,000 this year, and then by an additional \$80,000 over the next year or two years.

	Current		Immediate		2026	
Meter Size	Base Fee	Flow Rate per 1,000 Gallons	Base Fee	Flow Rate per 1,000 Gallons	Base Fee	Flow Rate per 1,000 Gallons
0.75	\$88.89	\$5.70	\$106.67	\$6.84	\$128.89	\$8.27
1.00	\$177.79	\$5.70	\$213.34	\$6.84	\$257.79	\$8.27
1.50	\$355.57	\$5.70	\$426.69	\$6.84	\$515.58	\$8.27
2.00	\$711.14	\$5.70	\$853.37	\$6.84	\$1,031.16	\$8.27
3.00	\$1,333.40	\$5.70	\$1,600.07	\$6.84	\$1,933.42	\$8.27
4.00	\$1,422.29	\$5.70	\$1,706.75	\$6.84	\$2,062.32	\$8.27
6.00	\$3,555.72	\$5.70	\$4,266.86	\$6.84	\$5,155.79	\$8.27
Expected increase in revenue	\$0		\$87,724		\$167,610	

Table 12. Suggesting pacing for a rate increase over two years.

	Immediate		2026		2027	
Meter Size	Base Fee	Flow Rate per 1,000 Gallons	Base Fee	Flow Rate per 1,000 Gallons	Base Fee	Flow Rate per 1,000 Gallons
0.75	\$106.67	\$6.84	\$117.34	\$7.52	\$129.07	\$8.28
1.00	\$213.34	\$6.84	\$234.68	\$7.52	\$258.15	\$8.28
1.50	\$426.69	\$6.84	\$469.36	\$7.52	\$516.29	\$8.28
2.00	\$853.37	\$6.84	\$938.71	\$7.52	\$1,032.58	\$8.28
3.00	\$1,600.07	\$6.84	\$1,760.08	\$7.52	\$1,936.09	\$8.28
4.00	\$1,706.75	\$6.84	\$1,877.42	\$7.52	\$2,065.16	\$8.28
6.00	\$4,266.86	\$6.84	\$4,693.55	\$7.52	\$5,162.91	\$8.28
Expected increase in revenue	\$87,724		\$126,069		\$168,249	

Table 13. Suggested pacing for a rate increase over three years.

3. Begin the process of replacing the oldest sewer mains in the collection system by next year. The need has already been detailed extensively, but it is worth noting that the economic development plans for the Village become less and less feasible as the sewer system begins to crumble.

Finally, it is not strictly a budgetary or rate recommendation, but RCAP is aware that the Village is having difficulties finding a licensed operator to replace the current Superintendent of Public Works as he retires. The water and wastewater industries are dealing with a similar problem across the country. While water and sewer jobs were considered attractive and lucrative during the 1970's and 80's, pay for these jobs has not kept up with inflation. At the same time, regulatory requirements have made work in both industries much more stressful, and that is exacerbated by the growing maintenance needs of aging pipes, pumps, and treatment equipment, and the fact that it is almost always an on-call position. It is recommended that the Village evaluate its pay for these positions against the state average and recognize that now is a very good time to increase pay and benefits, particularly for any workers you already employ who are willing to get licensed.