

TOWN OF SILVERTON

UTILITY RATE STUDY

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Durango, Colorado



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SUMMARY OF FINDINGS

The Town of Silverton recognizes the importance of maintaining up to date and fiscally sound utilities. In order to accomplish this, the utility rates must cover the long-term costs of operations and maintenance and capital improvements. The purpose of this report is to summarize the methodology and data used to update the water, wastewater and trash utility rates for the Town of Silverton.

WATER AND WASTEWATER RATES SUMMARY

Base Rate Threshold – The existing base rate usage threshold of 15,488 is too high and does not accurately reflect usage patterns. Lowering the bi-monthly base rate threshold from 15,488 gallons to 10,000 gallons will better reflect usage patterns of full-time residents.

Operations and Maintenance Base Rate Component – On average, between 2013 and 2015, the town spent \$65.27 per account on providing water services per billing cycle and \$69.73 providing wastewater services.

Capital Improvement Base Rate Component – Over the next twenty years, the town plans to spend a total of \$4.9 million upgrading its water and wastewater infrastructure. Based on the CIP and anticipated project phasing, the town will need to charge each account an average of \$60.42 per billing cycle for water improvements and \$11.84 per billing cycle for wastewater improvements. However, this analysis assumes that the town will be able to fund 50% of the CIP through grants, or other intergovernmental funds which will decrease the capital base rate component to \$30.21 for water and \$5.92 for wastewater per billing cycle.

Overage Charges – If an account uses more than 10,000 gallons in a single billing cycle, the account is charged an overage rate for every 1,000 gallons over the threshold. The rate is \$9.15 per 1,000 gallons for water and \$7.34 for wastewater.

Figure 1 – Combined Operations & Maintenance, Capital and Overage Water and Wastewater Rate Structure

| | Water | Wastewater |
|------------------------------------|----------------|----------------|
| Operations and Maintenance | \$65.27 | \$69.73 |
| Capital (Assuming 50% Grant Match) | \$30.21 | \$5.92 |
| Total Base Rate | \$95.49 | \$75.65 |
| Overage/1000 Gallons | \$9.15 | \$7.34 |

TRASH RATE SUMMARY

Between 2013 and 2015 the Town's Trash Fund experienced an average annual deficit of \$21,000. These deficits are likely a result of excessive dumping from locals, lack of



monitoring at the transfer station, and trash resulting from non-residents. RPI recommends that trash rates remain at the existing rate of \$43.30 per bi-monthly billing schedule. Existing deficits are not extreme and will likely disappear with additional revenues from construction, county residents, and stricter monitoring. The town should evaluate trash rates in the next three to five years to ensure that the policies are enabling the trash fund to operate with slight revenue surpluses.



WATER AND WASTEWATER RATES

USAGE PATTERNS AND BACKGROUND

Historic billing and usage data provide the best starting point for a utility rate study. Between 2013 and 2015 the Town of Silverton provided water and wastewater services to between 94 and 96 commercial accounts, seven senior accounts, and 461 to 468 residential accounts. In total, the town provided services to between 562 and 572 accounts.

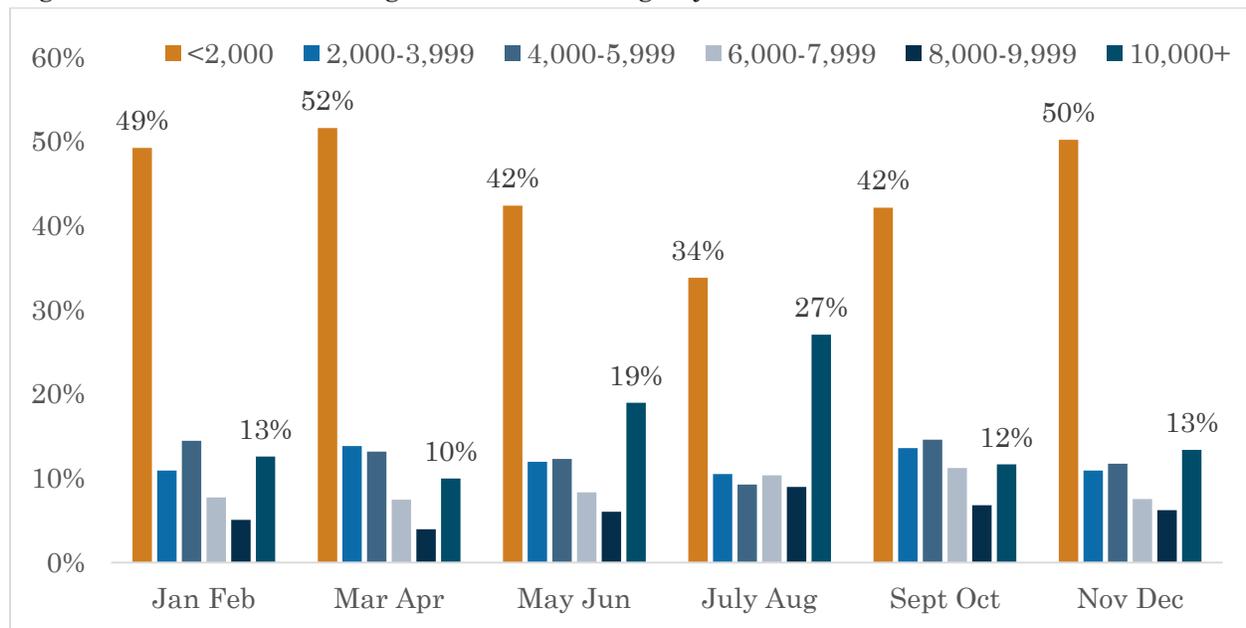
Figure 2 – 2013-2015 Number of Accounts

| | Total | Commercial | Senior | Residential |
|------|-------|------------|--------|-------------|
| 2013 | 572 | 96 | 7 | 468 |
| 2014 | 562 | 94 | 7 | 461 |
| 2015 | 562 | 94 | 7 | 461 |

Source: 2013-2015 Town of Silverton Billing Data

Bi-monthly residential usage provides the foundation for the bi-monthly gallon threshold because residential accounts make up 80% of total accounts. Currently, each account can use up to 15,488 gallons during the two month billing period before overage charges occur. According 2013-2015 billing and usage data from the town, more than half of all residential accounts use less than 4,000 gallons every two months. The relatively low usage pattern is a result of the high percentage of seasonal and part-time residents.

Figure 3 – 2013-2015 Average Residential Usage by Gallons

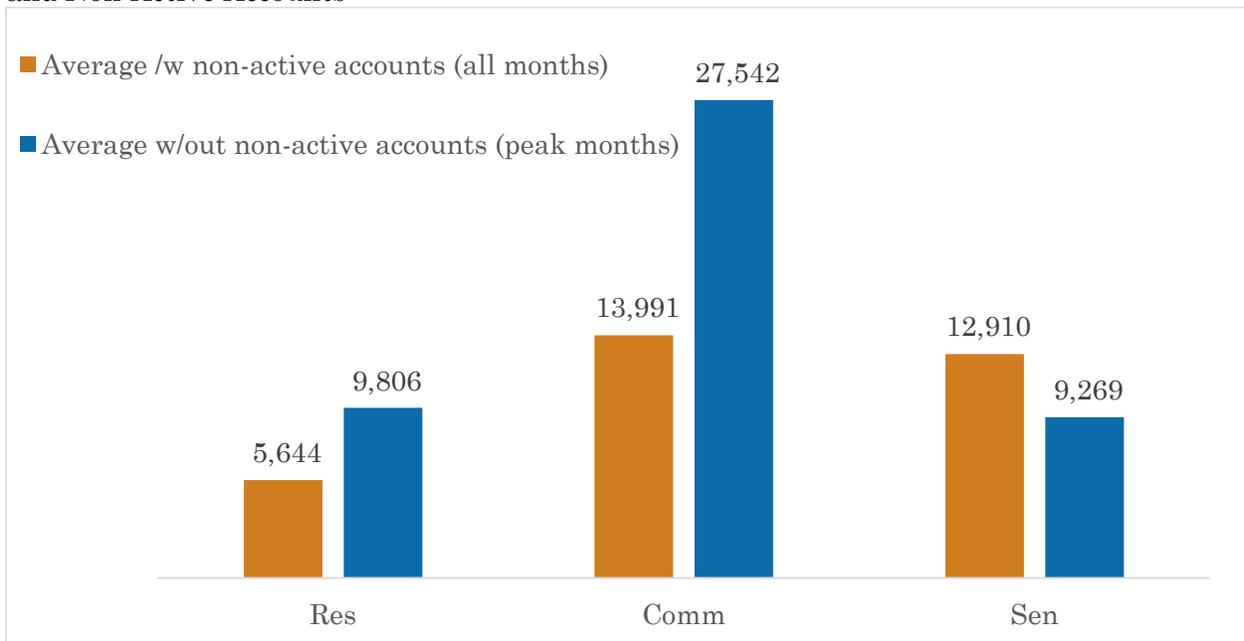


Source: 2013-2015 Town of Silverton Billing Data



The base rate should reflect usage patterns of the full-time population. Full-time residents will pay higher rates if the base rate threshold is based on system wide averages. On average, a residential account uses 5,644 gallons every two months, however, when corrected for peak months and non-active (low usage) accounts, the average residential account uses 9,806 gallons every two months. This seasonally corrected average reflects usage patterns of Silverton’s full time population. This bi-monthly average is relatively low when compared to national and state household usage (between 7,000 and 10,000 gallons per month). The relatively low usage rates reflect Silverton’s unique environment and are likely a result of environmental and demographic variables including small households, lack of lawns and a temperate summer climate. The bi-monthly base rate threshold should be lowered to 10,000 gallons to accurately reflect the usage patterns of full-time residents.

Figure 4 – Average Usage by Account Type for Peak and Non- Peak Months and by Active and Non-Active Accounts



Source: 2013-2015 Town of Silverton Billing Data



WATER AND WASTEWATER OPERATIONS AND MAINTENANCE BASE RATE COMPONENT

Dividing annual water and wastewater expenditures by the number of accounts yields the operations and maintenance rate component. Using a three-year average corrects for variations related to higher or lower spending levels that occur due to environmental, and economic variations. On average between 2013 and 2015 the town spent \$65.27 per account providing water services and \$69.73 providing wastewater services.

Figure 5 – Water and Wastewater Expenditures per Account

| | 2013 | 2014 | 2015 | Average |
|---|-----------|-----------|-----------|-----------|
| Total Number of Accounts | 572 | 562 | 562 | |
| Water | | | | |
| Expenditures | \$231,385 | \$170,573 | \$262,023 | \$221,327 |
| Baseline Cost/Account per Billing Cycle | \$67.48 | \$50.62 | \$77.73 | \$65.27 |
| Wastewater | | | | |
| Expenditures | \$242,757 | \$207,860 | \$258,624 | \$236,413 |
| Baseline Cost/Account per Billing Cycle | \$70.80 | \$61.68 | \$76.72 | \$69.73 |

Source: 2013-2015 Town of Silverton Billing Data and Financial Audits

CAPITAL IMPROVEMENT PLAN AND CAPITAL BASE RATE COMPONENT

Over the next twenty years the town plans to spend a total of \$4.9 million upgrading its water and wastewater infrastructure. Figure 6 provides summarized water and wastewater improvement costs for the CIP. This study was conducted as part of a larger capital planning effort by the town and SGM Inc. More detailed information on the capital costs are available in the SGM Comprehensive Capital Study.

Figure 6 – Water and Wastewater Capital Improvement Plan by Priority Category

| Priority | Water | Wastewater | Total |
|--------------------|-------------|------------|-------------|
| 1 – 1 to 5 Years | \$733,000 | \$125,000 | \$858,000 |
| 2 – 6 to 10 Years | \$1,173,700 | \$98,000 | \$1,671,700 |
| 3 – 11 to 15 Years | \$840,000 | \$140,000 | \$580,000 |
| 4 – 16 to 20 Years | \$1,349,960 | \$440,000 | \$1,789,960 |
| | \$4,096,660 | \$803,000 | \$4,899,660 |

Source: SGM Inc.

Based on the CIP and anticipated project phasing, the town will need to charge each account an average of \$60.42 per billing cycle for water improvements and \$11.84 per billing cycle for wastewater improvements in order to pay for the total \$4.9 million worth of



projects in the CIP. These averages assume that the town does not receive any grant funding, or intergovernmental revenues for capital projects over the next 20 years.

Based on input from staff and engineers, this analysis assumes that the town will be able to fund 50% of the CIP through grants, or other intergovernmental funds. This assumption decreases the capital bi-monthly base rate component to \$30.21 for water and \$5.92 for wastewater.

If the town is not able to fund 50% of future capital projects through grants or intergovernmental revenues, the town will need to extend the CIP planning horizon or increase the rates.

Figure 7 – Water and Wastewater Capital Base Rate Component Calculation

| Priority | 1 | 2 | 3 | 4 | |
|--|-----------|-------------|-----------|-------------|------------------------|
| Water CIP Total | \$733,000 | \$1,173,700 | \$840,000 | \$1,349,960 | \$4,096,660 (Total) |
| Spending Per Year Needed | \$146,600 | \$234,740 | \$188,000 | \$269,992 | |
| Annual Contribution/Account Needed | \$259 | \$415 | \$297 | \$478 | \$363 (Average) |
| Billing Cycle Contribution/Account Needed | \$43 | \$70 | \$50 | \$80 | \$60.42 (Average) |
| Priority | 1 | 2 | 3 | 4 | |
| Wastewater CIP Total | \$125,000 | \$98,000 | \$140,000 | \$440,000 | \$803,000 (Total) |
| Spending Per Year Needed | \$25,000 | \$19,600 | \$28,000 | \$88,000 | |
| Annual Contribution/Account Needed | \$44 | \$35 | \$50 | \$156 | \$71 (Average) |
| Billing Cycle Contribution/ Account Needed | \$7 | \$6 | \$8 | \$26 | \$11.84 (Average) |

OVERAGE RATE COST COMPONENT

If an account uses more than 10,000 gallons in a single bi-monthly billing cycle, the account is charged an overage rate for every 1,000 gallons over the 10,000 gallon threshold. The overage rate is calculated by dividing the annual operations and maintenance expenditures by the number of treated gallons processed at the water and wastewater plants. The rate is \$9.15 per 1,000 gallons for water and \$7.34 for wastewater.



Figure 8 – Water and Wastewater Overage Component Calculation

| Water | 2013 | 2014 | 2015 | Average |
|----------------------------------|---------------|---------------|----------------|---------------|
| Expenditures (Less Depreciation) | \$231,385 | \$170,573 | \$262,023 | |
| Treated Gallons | 25,394,960 | 22,454,955 | 24,381,683 | |
| Per 1,000 Gallon Cost | \$9.11 | \$7.60 | \$10.75 | \$9.15 |
| Wastewater | 2013 | 2014 | 2015 | Average |
| Expenditures (Less Depreciation) | \$242,757 | \$207,860 | \$258,624 | |
| Treated Gallons | 32,797,500 | 39,756,500 | 27,508,600 | |
| Per 1,000 Gallon Cost | \$7.40 | \$5.23 | \$9.40 | \$7.34 |

COMBINED RATE STRUCTURE

The combined water base rate totals \$95.49, an increase of \$11.84 per billing cycle over existing rates. The combined wastewater rate totals \$75.65, an increase of \$6.90 over existing rates.

Figure 9 – Combined Operations, Capital and Overage Water and Wastewater Rate Structure

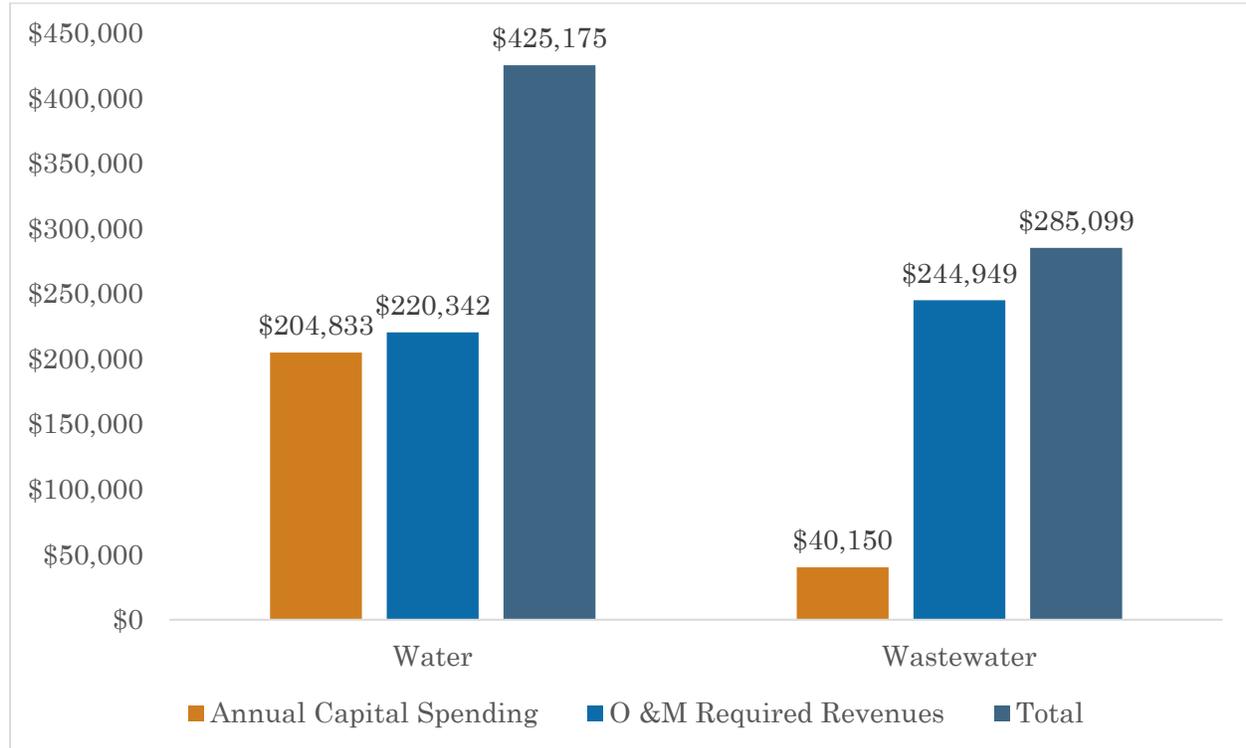
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ESTIMATED FUTURE COSTS AND CASHFLOWS

The rate should pay for future anticipated costs associated with operations and maintenance, as well as projects in the CIP. Average annual anticipated operations and maintenance costs are based on historic average costs of treating water and wastewater, and average historic system wide usage patterns from town billing data. Anticipated annual capital costs are based on average required capital spending from the CIP.



Figure 10 – Anticipated Future Annual Water and Wastewater Spending



Increased rates, the lower base rate threshold, and anticipated grant revenues should generate \$517,000 in total water revenues and \$350,000 in wastewater revenues per year – assuming the number of accounts in Silverton remains relatively constant. The changes to the rate structure should generate modest surpluses for each fund even with significant increases in spending associated with capital improvements.

Figure 11 – Anticipated and Required Annual Water and Wastewater Cashflows

| Anticipated Revenues | Water | Wastewater |
|----------------------------|------------------|------------------|
| O&M Base Rate Revenues | \$221,279 | \$236,390 |
| Capital Base Rate Revenues | \$102,417 | \$20,075 |
| Overage Revenues | \$91,716 | \$73,600 |
| Grant Revenues | \$102,417 | \$20,075 |
| Total | \$517,829 | \$350,141 |
| | | |
| Required Revenues | Water | Wastewater |
| O&M | \$220,342 | \$244,949 |
| Capital | \$204,833 | \$40,150 |
| Total | \$425,175 | \$285,099 |
| | | |
| Surplus/Deficit | \$92,654 | \$65,042 |



ADDITIONAL WATER AND WASTEWATER ISSUES AND RECOMMENDATIONS

Winter Threshold – Due to the cold temperatures and the risk of frozen pipes, some residents may need to “drip” their systems in the winter. In order to allow residents to drip their systems without paying overage rates, the town should increase the base rate threshold by 3,000 to 5,000 gallons in the winter months.

Multi-Family Metering – Currently, some multi-family properties are billed as single family households, these accounts are not paying for the full costs associated with providing water and wastewater services.

Revisiting Rates and Future Studies – Capital planning and rates studies should be conducted every three to five years to ensure that the projects on the CIP are being completed and the rates are adequate to pay for operations and maintenance, and future capital needs.

TRASH RATES

Between 2013 and 2015 the Town’s Trash Fund experienced an average annual deficit of \$21,000. These deficits are likely a result of excessive dumping from locals, lack of monitoring at the transfer station, and trash resulting from non-residents. At the time of this study, the Town of Silverton recently implemented stricter monitoring policies at the transfer station, billing county residents, and requiring construction dumpsters, in order to pay for trash services.

RPI recommends that trash rates remain at the existing rate of \$43.30 per bi-monthly billing schedule. Existing deficits are not extreme and will likely disappear with additional revenues from construction, county residents, and stricter monitoring. The town should evaluate trash rates in the next three to five years to ensure that the policies are enabling the trash fund to operate with slight revenue surpluses.

