

USER RATE STUDY & EVALUATION

FOR

WASTEWATER & WATER SYSTEMS

PREPARED FOR

POSSUM VALLEY MUNICIPAL AUTHORITY

**609 CLEARVIEW ROAD
ASPERS, PA 17304**

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PREPARED BY



POSSUM VALLEY MUNICIPAL AUTHORITY

2023 USER RATE STUDY & EVALUATION

WASTEWATER & WATER SYSTEMS

STUDY INTRODUCTION

Wastewater and water systems have important responsibilities to the customers and the communities that they serve. The main priority is to ensure that the wastewater and water systems provide residents and businesses with safe environmentally friendly wastewater transportation and treatment, as well as to ensure that an adequate supply of safe drinking water is available and efficiently delivered. All of this must be completed at a rate that not only covers all of the costs of providing the services but also allows the system to prepare and plan for providing these services for many years to come. It is imperative to ensure that the wastewater treatment and water supply meets all regulatory standards, is reliable, meets the expectations of the community, and is available in sufficient quantity for all current and future users. Simply put, this is a big responsibility.

Wastewater and water systems operate much like a corporate business. Municipal Authorities are providing a product or a service, wastewater transportation and treatment as well as safe drinking water, which costs money to complete successfully and efficiently; and there is a revenue source that residents and businesses provide to ensure that services are being rendered accordingly. Essentially, residents and businesses pay for the amount of service they receive through their monthly or quarterly billing. Outside of resident and business revenue, “supplemental operating revenue” and “non-operating revenue” sources do exist; however they are often difficult to budget and are somewhat unpredictable. These revenue sources will be discussed in greater detail later in the report.

In order to protect public health and to provide safe and reliable wastewater treatment and drinking water to current and future customers, Municipal Authorities must generate sufficient revenue to pay for many things, including but certainly not limited to...

- 1) Electrical and chemical costs required to achieve the necessary levels of treatment, wastewater transportation and water distribution.
- 2) Operations and maintenance of the wastewater and water systems required to provide safe and reliable treatment and to maintain compliance with governmental regulations.
- 3) Replacement of capital assets as they wear out and break-down, as well as the acquisition of new assets to meet changes in customer demand and governmental regulations.
- 4) Financial security of the wastewater and water systems during emergencies and unexpected changes in revenue.

Establishing cost-based rates, fees, and charges is an important component in a well-managed and operated Municipal Authority. Cost-based rates help to provide sufficient funding to allow Municipal Authorities to build, operate, maintain, and reinvest in their wastewater and water systems. This provides the customers and the community with efficient and environmentally friendly wastewater treatment, as well as safe and reliable drinking water, and in many cases sufficient fire protection. Properly and adequately funded wastewater and water systems also allow for economic development and sustainability within the local and surrounding communities.

An initial step in preparing this study included a site meeting with operational staff from the Municipal Authority on Monday June 19th. This meeting was beneficial in helping to understand the current rate structure and the operational costs associated with the systems, as well as identifying the needs and desires of the Municipal Authority.

CURRENT RATE STRUCTURE & PROJECTED REVENUES

The ultimate purpose of a wastewater and water system rate study is to determine whether revenues are sufficient to meet expenses, the cost of operations and maintenance, upcoming or needed replacements and debt service, and to help make capital improvements during the implementation plan period. Many Municipal Authorities throughout Pennsylvania classify their revenue sources into three revenue categories: operating revenues, supplemental operating revenues, and non-operating revenues. Each revenue category would generally include the following revenue sources....

Operating revenues - these revenues include charges for services (monthly/quarterly user rates).

Supplemental operating revenues - these revenues include late charges, connection/tapping fees, inspection fees, and "other revenue" line items.

Non-operating revenues - these revenues include items such as investment income and grant income/proceeds.

All three revenue categories are combined to represent the Total Revenue; however supplemental operating revenue and non-operating revenue sources are often very difficult to budget and are somewhat unpredictable. For this reason, many Municipal Authorities throughout Pennsylvania choose to implement their rate structure utilizing operating revenues (monthly/quarterly user rates) as the foundation, providing reasonable assurance that operating revenues alone will be sufficient to cover system expenses.

As we begin to work through this review and evaluation, it is important to identify the current wastewater and water system operating revenues (monthly/quarterly user rates), so that we can develop a base line for the ultimate evaluation. With that in mind, the following information was acquired during the site meeting with the operational staff for the Municipal Authority, as well as subsequent emails and phone conversations. The information represents the current number of customers for each system, as well as the current wastewater and water system user rates, including annual projected revenues for each....

Wastewater System

Residential Wastewater

671 EDU's

\$55/month per EDU

Industrial Wastewater

51 EDU's (2 Industrial Discharge users)

\$19,416/year

Projected Annual Operating Revenues

Residential \$442,860 (\$55 X 12 X 671)

Industrial \$ 19,416 (\$31.725 X 12 X 51)

Total \$462,276

General wastewater system notes....

PVMA is responsible for pumping at least 100 septic tanks annually

PVMA is responsible for maintaining 80 pumping stations of various sizes

Water System

Revenue Breakdown

174 EDU's

\$135/quarter for 8,000/gallons

Projected Annual Operating Revenues

\$93,960 (\$135 X 4 X 174)

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General water revenue note....

Another tier exists, at \$13 per 1,000 gallons over the initial 8,000 gallons; however, it is estimated that this tier is relatively unpredictable, as historic water system revenues for 2021 and 2022 seem to be less than the projected revenues mentioned above without inclusion of this tier.

ACTUAL OPERATING REVENUES

With the current user rate information identified and the projected operating revenues calculated, it is important to evaluate how closely the projected operating revenues match up with the actual operating revenues. In making this comparison, the financial audit data from 2021, 2022 and 2023 was provided for review and evaluation, as this represents the most recent available data. During this time period, the actual operating revenues were as follows....

<u>Year</u>	<u>Wastewater</u>	<u>Water</u>
2021	\$429,458	\$87,586
2022	\$445,110	\$86,858
2023	\$462,830	\$110,733

As demonstrated, the actual operating revenues were below the projected operating revenues for each system during 2021 and 2022. During 2023, the wastewater operating revenues were on pace with the projected operating revenues, while the water operating revenues were 14% above the projected operating revenues.

ACTUAL TOTAL REVENUES

Now that the comparison between the projected operating revenues and the actual operating revenues have been completed, it is important to evaluate the total revenue for each system to determine how important the supplemental operating revenues, and non-operating revenues are to each system. In making this evaluation, the financial audit data from 2021, 2022 and 2023 was reviewed. During this time period, the actual total operating revenues were as follows....

<u>Year</u>	<u>Wastewater</u>	<u>Water</u>
2021	\$491,242	\$158,457
2022	\$513,179	\$97,667
2023	\$538,112	\$386,439

As clearly demonstrated, the supplemental operating revenues and non-operating revenues have been very critical to both systems. Reliance on these revenue sources annually to cover system expenses is not recommended, as these revenue sources are often very difficult to budget and are somewhat unpredictable.

As a point for consideration, connection/tapping fees have shown to be one the main supplemental operating revenue sources for the wastewater system. The practice of utilizing connection/tapping fees as revenue for system operations is allowed within Act 57 of 2003 although it must be approached very thoughtfully. Connection/tapping fees are very inconsistent and generally change from year to year, making the process of budgeting more difficult and requiring a detailed estimation of connection/tapping fees for the future 12-15 months. It was initially recommended within Act 57 of 2003 that connection/tapping fees be treated as dedicated funds for replacement of previously constructed facilities or for the funding of future capital projects, which is a valid recommendation and worth consideration. In some cases, Municipal Authorities have chosen to distribute a percentage of connection/tapping fees back to existing customers as a "year-end-dividend". Although this approach is allowed within Act 57 of 2003, it is not recommended as part of this report. This study is strongly recommending that connection/tapping fees for each system are treated as dedicated funds for replacement of previously constructed facilities or for the funding of future capital projects and placed into the capital reserve funds as much as possible.

Additionally, grant proceeds have shown to be one of the main non-operating revenue sources for the water system. Grant proceeds are a tremendous financial asset; however, they are often short-lived, dedicated to a specific project, and should not be relied upon to cover operating expenses.

With all of this in mind, after evaluating the total revenue for the past three years, the supplemental operating revenues have proven to help keep the Municipal Authority in a very strong overall financial position for the wastewater system, presumably driven by the connection/tapping fees. In regards to the water system, the non-operating revenues, driven largely by grant proceeds, have also helped keep the Municipal Authority in a positive overall financial position.

ACTUAL OPERATION & MAINTENANCE COSTS

After evaluating the projected operating revenues and comparing them with the actual operating revenues, as well as the total revenues, it is now necessary to evaluate the operational and maintenance costs associated with efficiently and compliantly running each system. In order to effectively evaluate operational and maintenance costs, it is critical to carefully review the past 3 years of financial audit reports, as well as any/all available budget information including projected expenses, maintenance costs, and any debt service costs. Additionally, it is critical to review staffing, administrative and professional service costs. Review of this information will allow for the creation of a clear picture of true operational and maintenance costs and will become the basis for evaluation of the current rate structures and development of recommendations for beneficial changes to the rate system.

As part of this study, the operational and maintenance costs (operational expenses) were reviewed for the 2021, 2022 and 2023 fiscal years. Review of the available financial data indicates that the operational costs were well itemized for 2021 and 2023 which is critical for accurately monitoring and evaluating costs on an annual basis. The costs were less itemized for 2022; however, the itemization utilized was still suitable for this evaluation. Further, the costs appear to be largely in line with other Municipal Authorities of similar size and providing similar services. For example, itemized costs for supplies & chemicals, repairs & maintenance, and lab testing & supplies all appear to be reasonable based on the size and age of the facilities being operated. It is important to note that, as with most other Municipal Authorities, these costs all increased noticeably from 2021 through 2023, and that these costs are all projected to increase during the coming 2-3 year period due to inflation and supply/manufacturing related issues. Overall, it is apparent that the Municipal Authority does its part to control the operational and maintenance costs associated with facilities of this nature, and the customers and surrounding communities should rest assured that these costs are very reasonable. Depreciation for both the wastewater and water systems appear to be one of the largest operating expenses, and unfortunately, this expense is out of the Municipal Authority's control. With that said, it is also important to express that several operational and maintenance costs should be expected to increase during the next 2-3 year period, which will potentially impact the user rates. Further, debt service for future projects will begin, which will also impact the user rates.

With the review of the operational expenses complete, it is important to identify the actual operational expenses. During 2021, 2022 and 2023, the actual operational expenses were as follows....

<u>Year</u>	<u>Wastewater</u>	<u>Water</u>
2021	\$484,516	\$137,258
2022	\$563,025	\$155,705
2023	\$610,255	\$174,131

DISCUSSION REGARDING NECESSARY SYSTEM UPGRADES

As with most Municipal Authorities throughout Pennsylvania, the wastewater and water systems for the Possum Valley Municipal Authority are in need of improvements and/or upgrades. This is also an important aspect of rate studies, as it is critical to evaluate the potential project costs and potential debt service fees in addition to the operation & maintenance costs. In many cases, these project costs and debt service fees add significantly to annual costs and often require adjustments to user rates by themselves.

The wastewater system is considering the following upgrades....

Treatment facility upgrade (\$5M - \$6M estimated cost)

Replacement of Pump Station on Centerville Road (\$140K estimated cost)

The water system is considering the following upgrades....

New well development (\$100 K estimated cost)

Then remove micro-filtration plant (potential annual cost savings)

New water reservoir (\$500 K estimated cost)

The potential system projects identified above will be vital factors in the user rate structure and the possible need to increase user rates. With that said, since the Municipal Authority is in a strong financial position for both wastewater and water systems, it is possible that portions of the potential projects could be self-funded which would assist with keeping the debt service charges in check.

REVENUE VS OPERATION & MAINTENANCE COSTS

Now that we have reviewed and evaluated the projected operating revenues, actual operating revenues, actual total revenues, and operation & maintenance costs, it is critical to identify if the actual operating revenues are sufficient to cover the operational & maintenance costs and allow for reasonable contributions to capital funds. For this comparison, the actual operating revenues from 2021, 2022 and 2023 were utilized as a comparison for the actual operation & maintenance costs from the same time period. As a reference, the total revenues for each time period are also shown such that the benefit of these revenues is clearly identified and the potential impacts when these revenues sources are removed and/or reduced is clearly demonstrated.

Wastewater System

<u>Year</u>	<u>WW Total Revenue</u>	<u>WW Operating Revenue</u>	<u>WW O&M Costs</u>
2021	\$491,242	\$429,458	\$484,516
2022	\$513,179	\$445,110	\$563,025
2023	\$538,112	\$462,830	\$610,255

Water System

<u>Year</u>	<u>WS Total Revenue</u>	<u>WS Operating Revenue</u>	<u>WS O&M Costs</u>
2021	\$158,457	\$ 87,586	\$137,258
2022	\$ 97,667	\$ 86,858	\$155,705
2023	\$386,439	\$110,733	\$174,131

As the information represents, during this time period both the wastewater and water systems operated in an annual deficit when utilizing operating revenue alone. Essentially, operation & maintenance costs exceed the actual operating revenues for both systems. Given that the operation & maintenance costs appear to be largely in line with other Municipal Authorities of similar size and providing similar services, these costs are likely to increase during the next 2-3 year period, and debt service payment will likely begin, it is strongly recommended that the user rates be increased for both systems to sufficiently cover these costs.

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RECOMMENDATIONS FOR NEW USER RATES

At this point, we have established that the current user rate structure is not sufficient to support the current operation & maintenance costs, not to mention the projected cost increases, the potential system projects and the resulting financial impacts to the operation & maintenance costs by completing these projects. With that in mind, it is prudent to implement rate increases for both systems. Further, it is strongly recommended to implement a multi-year rate increase for both systems to allow for gradual rate increases over a multi-year period which is often received much more favorably than a single large rate increase. Finally, it is strongly recommended for the water system that a tier rate structure be considered, where larger users are billed at a greater rate. This is a very common approach for numerous Municipal Authorities throughout Pennsylvania.

Wastewater System Recommendations

Evaluation of all available data indicates that the wastewater system is experiencing an average deficit of approximately 14% between the operational revenue and the operations & maintenance costs; however, this deficit grew to 24% during 2023. This represents a moderate margin to overcome requiring great consideration to funding for the identified potential upgrade projects. After careful consideration, a four-year increase structure is being recommended....

Residential

Current - \$55/month/EDU (\$165/quarter) (\$442,860/year)
Year 1 - \$77.00/month/EDU (\$231.00/quarter) (\$620,004/year)
Year 2 - \$78.25/month/EDU (\$234.75/quarter) (\$630,069/year)
Year 3 - \$79.00/month/EDU (\$237.00/quarter) (\$636,108/year)
Year 4 - \$79.50/month/EDU (\$238.50/quarter) (\$640,134/year)

Industrial

Current - \$31.73/month/EDU (\$95.19/quarter) (\$19,416/year)
Maintain this current rate structure

Projected Annual Revenues (User Rate Only)

Current - \$462,276
Year 1 - \$639,420
Year 2 - \$649,485
Year 3 - \$655,524
Year 4 - \$659,550

Water System Recommendations

Evaluation of all available data indicates that the water system is experiencing a much greater deficit of approximately 34% during 2021, 45% during 2022, and 39% during 2023, which represents a much larger margin to overcome. After careful consideration, and based on my research and evaluation, I am recommending that a significant "tiered" rate increase be implemented over a four-year period. The recommended rate increase includes increases to residential user rates (shown below), as well as implementation of additional usage/billing tiers....

Current

\$135/quarter for 8,000 gallons (\$93,960/year)
\$13/gallon for every additional 1,000 gallons

Year 1

\$210/quarter for 8,000 gallons (\$146,160/year)
\$10 for every additional 1,000 gallons up to 10,000 gallons
\$12 for every additional 1,000 gallons over 10,000 gallons

Year 2

\$225/quarter for 8,000 gallons (\$156,600/year)
\$10 for every additional 1,000 gallons up to 10,000 gallons
\$13 for every additional 1,000 gallons over 10,000 gallons

Year 3

\$240/quarter for 8,000 gallons (\$167,040/year)
\$10 for every additional 1,000 gallons up to 10,000 gallons
\$14 for every additional 1,000 gallons over 10,000 gallons

Year 4

\$255/quarter for 8,000 gallons (\$177,480/year)
\$10 for every additional 1,000 gallons up to 10,000 gallons
\$15 for every additional 1,000 gallons over 10,000 gallons