Athens Village Water System Rate Study

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Compiled for the Village of Athens

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EXECUTIVE SUMMARY

The Village of Athens owns and operates a drinking water system serving about 1,500 individuals. Customers are billed quarterly with a combination of a base rate and a flow rate for gallons used over 15,000/quarter. Major improvements to the water treatment plant are in the approval stages and will result in new long-term debt for the Village beginning in FY27. The water rates have not been adjusted since at least 2014 and the revenue from water rates has consistently not met the operating and existing long term debt expenses for the water system. The Village would like to maintain the water system in a manner that is both fair to customers and financially sustainable for the Village. An increase in revenue is required to meet new financial targets. A review of actual expenditures and customer water use is analyzed within the report and five scenarios for additional revenue generation are presented for consideration. Recommendations include that the Village increase the base and flow rates and also reduce the volume of gallons included in quarterly billing. New fees for relevying unpaid bill amounts are recommended. A new flat rate fee is recommended to pay for the upcoming water project. It is also recommended that the Village review and reassign billing units based on standard values.

1. Background/Purpose of Study

The Village of Athens is located along the Hudson River in Greene County, New York. The Village owns and operates a drinking water system serving 610 connections in the Village and 42 connections outside of the Village. The customers are primarily residential and include commercial businesses, restaurants, a hotel, an elementary school, a group home, and an assisted living facility.

The Village is preparing for necessary improvements to the water system and has secured outside funding to support the project. Remaining project costs will be financed and paid by water system customers as long-term debt. Revenue from water billing charges has not provided adequate funds consistently over the last three years and transfers from the general fund have been used to cover some or all of the deficit. The Village is interested in implementing a rate structure that can promote financial sustainability for the water system and fairness among users of the water system.

The purpose of this report is to present a water rate analysis and propose rate scenarios for consideration by the Village. This report outlines the financial targets for the water district in FY2026 and FY2027, how different rate structures can be applied to meet those targets, the proposed impact on customers, and recommendations.

2. Technical description of water treatment plant

The Village of Athens owns and operates a surface water treatment facility that was constructed in 2006 to replace a slow sand filter plant that had been in use since 1972. Improvements were made in 2015 to the backwash lagoon and drying beds.

The Village's water source is Hollister Lake, a natural 76-acre waterbody. Raw water from Hollister Lake is pumped to the treatment facility, where it is filtered through two rapid sand filter units. The filtered water flows into a backwash holding tank, which is connected to a clear well that stores the treated water. The water then undergoes further treatment, including UV disinfection, carbon media filtration, and the addition of chlorine, orthophosphate, and fluoride before being stored in a finished water tank. The facility produces backwash wastewater from the filtration process, which is sent to a settling lagoon where solids settle and are later pumped to drying beds for dewatering.

3. Financial Summary

Overview

Water system revenue is generated through two types of regular fees: base rate per billing unit and flow rate per 1000 gallons used above 15,000. The rates are different for inside and outside Village customers, as shown in Table 1. Additional fees for service on/off and past due payments are applied.

	Inside Village	Outside Village
Quarterly Base Rate/Unit	$ 97.00	$ 161.50
Included Gallons/Unit	15,000	15,000
Flow Rate ($/1,000 gal. over 15,000)	$3.00	$3.30

Table 1. Current water rates

Water rates have not been updated since 2014 and revenue from water sales has consistently been around $332,000 in recent years.

End of Year Revenues & Expenses

A comparison of budgeted vs. actual expenditures and revenues was made for the three most recent completed fiscal years and is summarized in Table 1.

	5/31/2022	5/31/2023	5/31/2024
Total Revenue	$ 372,578	$ 377,137	$ 410,352
Total Operating Expenses	$ 221,199	$ 278,675	$ 301,922
Total Debt Service	$ 120,369	$ 117,126	$ 115,580
Net Income	**$ 31,010**	**$ (18,664)**	**$ (7,150)**

Table 2. Actual revenue and expenditures FY22-FY24

It is noted that annual budgeted transfers of $35,000 were made each year from the Village general fund to contribute towards long-term debt service payments when facing revenue deficits and are included in the Total Revenue line of Table 2.

Financial Forecast

The required level of expenditures for the proper operation and maintenance of the water system will vary somewhat from year to year, but many expenditures are fixed regardless of system use or performance. Approximately 68% of expenses are fixed. Interviews with Village officials, water operator, and project engineer have informed revenue and expenditure projections through 2027, shown in Table 3.

	5/31/2025	5/31/2026	5/31/2027
Total Projected Revenue (Current Rates)	$ 387,873	$ 353,243	$ 353,622
Total Projected Operating Expenses	$ 303,381	$ 311,764	$ 320,401
Total Projected Long-Term Debt	$ 115,580	$ 119,580	$ 150,448
Total Projected Reserve Contributions	$ -	$ 5,000	$ 10,000
Projected Net Income (Loss)	**$ (31,088)**	**$ (83,101)**	**$ (127,227)**

Table 3. Projected revenue and expenses under current water rates and usage

A loss of $31,088 is projected for the current fiscal year, however this number is projected to increase substantially in the next two fiscal years under the current rate structure. A projected inflation rate of 3% was applied to operating expenses. Budgeted transfers of $35,000 from the general fund are eliminated beginning in fiscal year 2026. An estimated $4,000 interest payment for a municipal Bond Anticipation Note (BAN) is projected for FY26 to cover engineering design costs, and that new annual debt payments of approximately $34,838 will begin in FY27. It is recommended that the water system make regular transfers to a reserve fund to be prepared for upcoming capital or unplanned equipment expenditures, such as water meter replacements.

While a more substantial rate increase is needed in the short-term to adjust to meet existing operation and maintenance expenses, upcoming debt payments, and to stop the regular transfers from the general fund, it is noted that regular rate adjustments should continue at regular intervals to adjust for inflation and future capital projects.

Capital Project Needs

The upcoming capital improvements to the water treatment plant will replace and update several critical systems, including rapid sand filtration units, carbon filters, control panels, control valves, chemical feed equipment, and one of the lagoon drying beds. Total project cost is estimated to be $1.33 million and a $798,803 Water Infrastructure Improvement Act (WIIA) grant has been awarded to the project. The remaining project costs are to be financed through the Drinking Water State Revolving Fund (DWSRF).

In addition to the upcoming improvements to the water treatment plant, there may be additional capital improvements needed within the distribution system in the coming decade. Water loss due to leaks has been significantly reduced due to repairs but this remains an area of concern for the Village. Water meters throughout the Village are reaching the end of their useful life and original sections of cast iron water main will eventually require replacement. Approximately 100 known lead service lines and 100 unknown service lines will require identification and/or replacement soon.

Financial Targets

Even if the Village implements a nominal rate increase before FY25 is completed, the system is still projected to face a deficit this fiscal year ending 5/31/25. It is assumed that water rates will be adjusted to begin June 1, 2025. The projected total financial target and additional revenue target for FY26 and

FY27 are the basis for the rate options presented here. The projected net losses in Table 3 are used to set target amounts for additional revenue needed: $85,000 in FY26 and $130,000 in FY27.

4. Billing and Customer Summary

The Village water system currently has 652 customer accounts totaling 793 billing units, with most customers served inside the Village, as shown in Table 4. Customers are billed quarterly, with the base rate applied per unit, plus the flow rate applied per 1,000 gallons used over 15,000 gallons. For accounts with multiple units, there are 15,000 gallons/quarter included per unit.

Most accounts are single family residential users and are assigned one billing unit. Multi-unit residences are assigned one billing unit per housing unit. Some commercial and retail establishments are assigned multiple units, but the basis of the billing units has not been reviewed in at least 10 years, and the Village would like to re-assign billing units as needed as part of this rate analysis.

	Accounts	Total Units
Inside Village	610	727
Outside Village	42	65
Total	**652**	**793**

Table 4. Current distribution of water system accounts and billing units

Water Use Summary

Customer water consumption and billing data from June 2022 to September 2024 is used as the basis for the calculations in this report. Water meters are read and billed quarterly. Total water sold is about 26 million gallons annually, or 6.5 million gallons billed per quarter. Customer consumption averages 10,432 gallons per quarter, with a median value of 8,256 gallons per quarter. Customer consumption by use is summarized in Figure 1.

80% of accounts use less than the 15,000 gallons/quarter threshold above which flow rates per 1,000 gallons used are applied. 60% of accounts use less than 10,000 gallons/quarter.

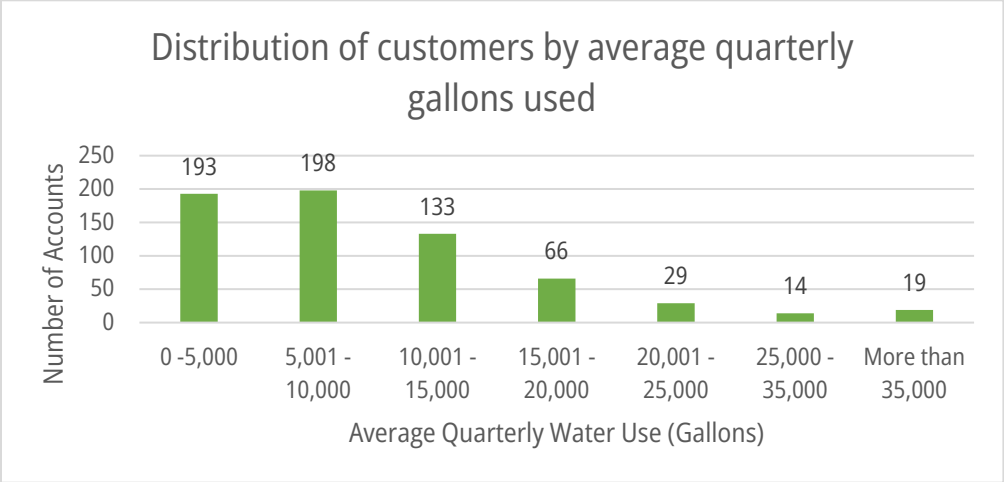

Figure 1. Distribution of customer accounts by average quarterly consumption

5. Rate options

Multiple methods are available to the Village to generate the additional revenue required for sustainable operation of the water system. In addition to the existing base rate and flow rate, the Village has the authority to increase and implement additional fees for shut on/off of service, new connections, late penalties, or a relevy fees for unpaid balances that are transferred to the property tax bill at the end of a fiscal year. Each scenario included here offers the potential for meeting revenue targets and each offers different benefits and risks. **The additional revenue target is $85,000 for FY26 and $130,000 for FY27.**

Reassign Units

The current billing structure relies on the use of billing units to apply base rates and included gallons for customers. The assignment of billing units has not been standardized or updated since 2014. Changes in population and building usage have resulted in inconsistent application of billing units. As part of this analysis, billing units were evaluated as an equivalent of one single family household. For commercial customers, water system design criteria from NYSDOH were used to evaluate approximate flow. Based on the information available about the use of current multi-unit buildings, **some changes are proposed to the assignments of billing units, such that the total billing units increases to 807 (740 inside, 67 outside).**

New Relevy Fee

When a water customer has an unpaid balance at the end of the fiscal year, they are notified that the balance will be transferred to the annual property tax bill. The County transmits the unpaid balances to the Village and pursues payment from the property owner. In addition to presenting an administrative burden for Village staff, the payment from the County is not realized in the same fiscal year as the balances are billed and presents cash flow problems for the Village. It is estimated that 20% of accounts allow balances to be transferred to the property tax bill. **A relevy fee of $120 or 20% of the unpaid balance, whichever is higher, is recommended.** An additional $15,000 in projected revenue from relevy fees for FY26 and $12,000 for FY27 is included in these options.

New Debt Service

Annual debt service payments of $34,838 are anticipated for the upcoming capital project beginning in FY27. Because this is a fixed cost for the water system, the Village would like to spread this cost burden evenly among customers. Assuming 800 billing units, estimated **debt payments of $11 per unit per quarter, or $44 per unit annually are recommended beginning in FY27** and are used in these projections.

1. Reduce the included gallons/quarter

One method for generating additional revenue is to reduce the volume of gallons included in the quarterly billing period and the existing flow rate $/1,000 gallons would be applied beyond this amount. If this were the only mechanism for generating additional revenue, the included volume would need to

be reduced to 800 gallons/quarter in FY26. Under current consumption, this reduction would generate an additional $85,696. For FY27, the additional revenue target of $130,000 could not be met with this method alone– even with 0 gallons included, the flow rate alone would only generate a projected $119,623. Table 5 summarizes this option.

This method alone is not recommended. Not only is it not viable with existing flow rates beyond FY26, customer water consumption directly correlates to additional revenue generated, placing the Village in a more vulnerable position when it comes to reliable cash flow and overall revenue.

	Current Rates	FY 26 Rates - Reduce Included Gallons only	FY 27 Rates – Reduce included gallons only (target cannot be met)
Inside Base Rate/Unit	$ 97.00	$ 97.00	$ 97.00
Outside Base Rate/Unit	$ 161.50	$ 161.50	$ 161.50
New Debt Fee/Unit	$0	$0	$11.00
Included Gallons	15,000	800	0
Inside flow rate	$ 3.00	$ 3.00	$ 3.00
Outside flow rate	$ 3.30	$ 3.30	$ 3.30

Table 5. Rates with reduction in included gallons only

2. Increase base rate only

The second method for additional revenue is to divide the deficit evenly among all billing units and raise the base rate only. The projected number of new billing units is 807. When spread evenly among all billing units, a $20/unit increase in the base rate for all customers would be required for the FY26 revenue target. A $24/unit increase in the base rate for all customers would be required for the FY27 revenue target. Table 6 summarizes this rate option.

This method alone is not recommended. By increasing the base rate only, there is no incentive for customers to reduce water consumption. Further, it gives customers the least amount of control over the final bill outcomes and creates a scenario where the lowest volume users are paying much more than their proportional use for the water system costs.

	Current Rates	FY26 - Increase Base only	FY27 -Increase Base only
Inside Base Rate/Unit	$ 97.00	$ 117.00	$ 121.00
Outside Base Rate/Unit	$ 161.50	$ 181.50	$ 185.50
New Debt Fee/Unit	$0	$0	$11.00
Included Gallons/Unit	15,000	15,000	15,000
Inside Flow Rate	$ 3.00	$ 3.00	$ 3.00
Outside Flow Rate	$ 3.30	$ 3.30	$ 3.30

Table 6. Rates with increase in base rate only

3. Increase flow rate only

This method for additional revenue relies on the flow rate per 1,000 gallons over 15,000/unit/quarter to make up the revenue deficit. If this were the sole method for revenue generation, a more than eightfold increase in the flow rate would be required in FY26 and nearly 10 times the current flow rate in FY27, summarized in Table 7.

This method alone is not recommended. A potential benefit is that it would more fairly spread system costs across users based on consumption. However, similar to the first option, the additional revenue would be relying completely on customers continuing to use high volumes of water, which would not be likely with such significant increases in the flow rate. The Village wants to be able to reliably predict system revenue and would become difficult under this rate structure.

	Current Rates	FY26 - Increase Flow only	FY27 -Increase Flow only
Inside Base Rate/Unit	$ 97.00	$ 117.00	$ 121.00
Outside Base Rate/Unit	$ 161.50	$ 181.50	$ 185.50
New Debt Fee/Unit	$0	$0	$11.00
Included Gallons/Unit	15,000	15,000	15,000
Inside Flow Rate	$ 3.00	$ 24.50	$ 29.00
Outside Flow Rate	$ 3.30	$ 27.00	$ 32.00

Table 7. Rates with increase in flow rate only

4. Increase base and flow rates

Significant increases in one fee type can be mitigated by spreading rate increases across multiple fee types. By increasing the base rate and flow rate by a more moderate amount that was proposed in 2 and 3, all customers will still see an increase in their bills through the base rate. Customers that use more than the gallons included will notice another increase in their bills and may be able to control this amount through water conservation measures.

This method is not recommended because it does not reward the 80% of accounts that use less than the included 15,000 gallons/unit/quarter. The increase in flow rate shifts some additional cost onto higher volume users, but the increase in base rate impacts all users.

	Current Rates	FY26 - Increase Base and Flow	FY27 - Increase Base and Flow
Inside Base Rate/Unit	$ 97.00	$ 109.00	$ 111.00
Outside Base Rate/Unit	$ 161.50	$ 171.50	$ 183.00
New Debt Fee/Unit	$ -	$ -	$11.00
Included Gallons/Unit	15,000	15,000	15,000
Inside Flow Rate	$ 3.00	$ 11.00	$ 12.50
Outside Flow Rate	$ 3.30	$ 12.50	$ 15.50

Table 8. Rates with increases to base and flow only

5. Combination Method

Increases to the base and flow rates alone do not incentivize most customers to conserve water. The best strategy to encourage water conservation, while also rewarding low-volume users with the smallest bill increases, is to reduce the volume of gallons included while also increasing the base and flow rates. Combining these three strategies creates a more balanced approach where both the Village has adequate reliable revenue, and customers can have an impact on their final bills. This is the recommended structure for the new water rates and is outlined in Table 9. The projected outcomes for revenue by fee type are shown in Table 10.

A $9/unit increase to the inside base rate and $10/unit to the outside base rate is proposed for FY26 and to stay flat in FY27. The New Debt service fee is expected to be applied in FY27 and will be applied evenly across billing units, effectively repeating the $9-10 base fee increase from FY26.

The volume of included gallons is recommended to drop from 15,000/unit to 9,000/unit/quarter. Current usage data shows that just over half of accounts use 9,000 gallons or less. It is recommended to further reduce this included amount to 7,500 in FY27. Customer consumption should be evaluated for consistency before setting the new amount.

The proposed flow rate doubles the existing flow rate. The flow rate is recommended to stay at this level in FY26 and FY27. This combination of methods allows low-volume users to be least impacted by the rate changes and allows high-volume users to pay closer to their proportion of system costs.

Quarterly Rate Type	*Current Rates*	*Recommended FY26 Rates*	*Recommended FY27 Rates*
Inside Base Rate/Unit	$ 97.00	$106.00	$ 106.00
Outside Base Rate/Unit	$ 161.50	$171.50	$ 171.50
New Debt Fee/Unit	$ -	$ -	$ 11.00
Included Gallons/Unit	15,000	9,000	7,500
Inside Flow Rate	$ 3.00	$ 6.00	$ 6.00
Outside Flow Rate	$ 3.30	$ 6.60	$ 6.60

Table 9. Recommended water rates for FY26 and FY27

Revenue Source	*Revenue under current rates*	*Projected FY26 Revenue - New Rates*	*Projected FY27 Revenue - New Rates*
Inside Base	$ 282,076	$ 313,760	$ 313,760
Outside Base	$ 41,990	$ 45,962	$ 45,962
Flow Rate	$ 10,260	$ 44,728	$ 57,100
Relevy Fee	$ -	$ 15,000	$ 12,000
New Debt Service Fee	$ -	$ -	$ 35,000
Other Revenue (penalties/fees)	$ 18,500	$18,900	$ 18,900
Transfer from general	$ 35,000	$ -	$ -
Total Projected Revenue	**$ 387,826**	**$ 438,350**	**$ 482,722**
Financial Target	**$ -**	**$ 436,344**	**$ 480,819**

Table 10. Projected revenue by fee type with recommended FY26 and FY27 water rates

6. Recommendations

In consideration of the scenarios presented above, the 5th Combination option is recommended for the basis of the FY26 and FY27 water rates. This option recognizes that customers will be absorbing the impact of the increases in the base rate and new debt service fee over a two year period, while still allowing the revenue needed to be generated based on customer use habits. Customers with very low use will see only the base fee difference in their bill, and higher volume users will see a more measured increase, promoting fairness when spreading the cost among the user base. A projected 75% of revenue will come from base fees, which is slightly higher than the rate of fixed

expenses (68%) for the water system, placing the Village in a strong position to weather a small decrease in customer water use without major impacts to revenue.

In addition to the proposed rate adjustments, the following recommendations are offered to further Village goals of financial sustainability and customer fairness.

1. A relevy fee of $120 or 20% of unpaid balance, whichever is more, should be implemented.
2. Ensure that existing shut on/off fees and penalties are being applied when appropriate.
3. Some adjustments to billing units have been made as part of this rate study. A complete review of billing units for appropriateness will help update the list of billing units.
4. Complete an asset management plan for the water system to inform the capital, equipment, and long-term budgetary needs for the water system.
5. An annual or biannual review of customer use and water rate structure should be done by the Village Board or its designees to adjust rates as needed to continue reaching financial targets.

7. Acknowledgements

A special thank you to the Village officials and staff that contributed time and resources toward this rate study, especially: Amy Serrago, Mayor; Mary Jo Wynne, Village Clerk; Joe Myers, Water Operator.

The 2022 Preliminary Engineering Report for the Village of Athens Water Treatment Plant Improvements prepared by Lamont Engineering was used as reference material and the source of Appendix A.

The RCAP Formulate Great Rates Guide and Toolkit were used as guidance for the analysis in this report.

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