

INCORPORATED VILLAGE OF BAYVILLE

WATER DEPARTMENT

2018 WATER RATE STUDY

In preparing for the 2019-2020 fiscal budget, the Incorporated Village of Bayville realized that the existing water rates being charged were insufficient to cover operating expenses. In October 2018 the Board of Trustees authorized H2M engineers to prepare a Water Rate Study to see what adjustments to the water rate schedule would be needed to improve the finances of the Water Fund. It is important to note that prior to 2017 the Village had not raised rates since 2004. As a result, the Water Fund had been running with an overall deficit balance and deferring needed repairs to the drinking water infrastructure. This practice is not sustainable and would negatively impact residents if allowed to continue.

As part of the Village's restructuring of Water Department personnel, the positions of Supervisor of Water Plant Operations and Water Plant Operator were established. Under this new organizational structure, the Water Department undertook many *new* maintenance programs.

The most crucial of these new maintenance programs is the hydrant maintenance program. This is a multi-step program being implemented over several years. In 2018 a total of six fire hydrants were replaced; four of these hydrants were found to be inoperable. The Bayville Fire Company has been participating in this program and is pleased with the progress thus far in identifying and repairing non-functioning hydrants.

Looking forward to 2019 and beyond, the Water Department has identified several capital projects and additional maintenance programs that have been prioritized for future budgets in order to continually improve operational reliability and maintain excellent water quality. Currently, there is a capital improvement plan in place to appropriate \$90,000 annually in the Water Fund to address aging water supply, treatment, and distribution infrastructures.

The Water Department is funded almost entirely (~85%) by billings for water consumption and roughly 6.5% by water taxes. In comparison, other water providers on Long Island typically fund themselves through revenue generated from an equal share of metered water sales and water taxes. In order to increase revenue to offset the costs of routine maintenance and future projects, a rate restructuring is more effective and fairer than raising water taxes. H2M's analysis determined that the Village should consolidate its current rate structure from ten tiers down to four tiers to meet revenue goals for the upcoming 2019-2020 budget, minimize the potential for a deficit, and begin to improve revenue stability. The existing ten-tier rate schedule is confusing to the public and is not used by the majority of Long Island water suppliers. The rate structure consolidation will make bills and revenue more predictable as fewer consumers will fluctuate in and out of tiers from one billing period to the next.

Additionally, this consolidation will simplify the Village water rates, which will make it easier for users to calculate their own bills, understand the value of water, and be encouraged to conserve water.

The following is an explanation on how the rates will be changing:

Current rates in effect as of July 16, 2017 (Resolution 2017-70):

0 to 5,000 gallons	\$27.50 minimum charge
5,001 to 10,000 gallons	\$1.19 per thousand gallons
10,001 to 35,000 gallons	\$1.82 per thousand gallons
35,001 to 67,500 gallons	\$2.52 per thousand gallons
67,501 to 102,000 gallons	\$3.03 per thousand gallons
102,001 to 137,000 gallons	\$3.63 per thousand gallons
137,001 to 175,000 gallons	\$3.68 per thousand gallons
175,001 to 215,000 gallons	\$3.73 per thousand gallons
215,001 to 500,000 gallons	\$4.25 per thousand gallons
Greater than 500,001 gallons	\$4.54 per thousand gallons

The significant difference of the new rate schedule (below) from the existing rate schedule (above) is the rate consolidation from ten tiers down to four tiers and the removal of the 5,000-gallon allowance for the minimum bill.

New Rate Schedule Effective January 1, 2019

First bill generated with new rates April 15, 2019

New Rate Schedule			
Rate Tier	Consumption	Rate	
-	minimum charge	\$27.50	minimum charge
1	0 to 5,000 gallons	\$1.19	per thousand gallons
2	5,001 to 67,500 gallons	\$2.52	per thousand gallons
3	67,501 to 137,000 gallons	\$3.63	per thousand gallons
4	137,000 + gallons	\$4.54	per thousand gallons

More specifically, the differences between the existing rate structure and the new rate structure are as follows:

- A. The quarterly minimum charge is to remain \$27.50. In addition, there will no longer be an allowance for any water quantity. The existing rate tier 1 (0 to 5,000 gallons) will be billed at a unit price of \$1.19, which is the same as existing rate tier 2.

B. Consolidate existing rate tier 2 (5,001 to 10,000 gallons), existing rate tier 3 (10,001 to 35,000 gallons) and existing rate tier 4 (35,001 to 67,500 gallons) into a new rate tier 2 (5,001 to 67,500 gallons). The unit price for this first tier will be \$2.52, which is the same as existing rate tier 4.

C. Consolidate existing rate tier 5 (67,501 to 102,000 gallons) and existing rate tier 6 (102,001 to 137,000 gallons) into a new rate tier 3 (67,501 to 137,000 gallons). The unit price for this first tier will be \$3.63, which is the same as existing rate tier 6.

D. Consolidate existing rate tier 7 (137,001 to 175,000 gallons), existing rate tier 8 (175,001 to 215,000 gallons), existing rate tier 9 (215,001 to 500,000 gallons) and existing rate tier 10 (greater than 500,001 gallons) into a new rate tier 4 (greater than 137,001 gallons). The unit price for this first tier will be \$4.54, which is the same as existing rate tier 10.

This rate consolidation will increase the average water bill for a consumer with three bills at tier 2 rates and one bill (for consumption during summer months) at tier 3 rates. Meaning the average water bill will increase from \$492 per year to \$581 per year resulting in an increase of \$22.25 per quarter. Furthermore, these new rates are comparable to and, in some cases, less than, other water districts or departments in Nassau County.

The Village of Bayville is committed to providing high-quality drinking water at reasonable rates.

A copy of H2M's full report can be found in the pages below or at Village Hall.

ENGINEERING REPORT

2018 WATER RATE STUDY

Inc. Village of Bayville
Town of Oyster Bay
Nassau County, New York

H2M Project No. BAYV 1812

DECEMBER 2018

Prepared for:

Inc. Village of Bayville
34 School Street
Bayville, New York 11709

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INCORPORATED VILLAGE OF BAYVILLE

2018 WATER RATE STUDY

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INCORPORATED VILLAGE OF BAYVILLE

2018 WATER RATE STUDY

DECEMBER 2018

1.0 – INTRODUCTION

In preparing for the 2019 Budget, the Incorporated Village of Bayville realized that the existing water rates being charged by the Village for water used was insufficient to cover its actual expenses of delivering the water. The Village Board of Trustees then authorized H2M architects + engineers (H2M) to prepare a Water Rate Study that would recommend an appropriate water rate schedule. This study evaluates the annual operating expenses of the Village Water Department to determine the actual cost of supplying and delivering water to the residents of the Village. These costs were evaluated to compare and review fixed and variable expenses in relation to water production. In addition, an evaluation of actual customer water usage and water rate revenue generated by the current rate structure was conducted. From this evaluation, we were able to establish a clear understanding of where the revenue and expenses of the Village Water Department are currently, and we were able to determine whether or not the Department is generating sufficient revenue to cover all expenses plus a surplus to adequately maintain the Water Fund reserve account under the existing rate structure.

The Village Water Department obtains a majority of its revenue from metered water sales (85% in 2017). The balance of revenues (15% in 2017) come from a combination of water taxes, rental of property, interest and penalties and water service fees. In comparison to other Long Island water providers whose majority of revenue is typically generated from a more equal share of metered water sales and water taxes, the Village receives a larger than typical portion of revenue from metered water sales. Since the revenue generated from water taxes is a relatively stable source of income, the equal revenue distribution among these categories reduces total revenue volatility year over year. Thus, the Village's increased reliance on revenue from metered water sales makes it more susceptible to revenue volatility year over year.

The revenue generated from metered water sales is largely variable as it is based on consumer usage, which is predominantly dictated by irrigation demands and can vary greatly due to the spring and summer weather. The weather dependence of this revenue stream makes the Village more susceptible to revenue shortfalls in wet, low usage years. From 2010 to 2016, the Village was operating with a negative Water Fund Balance, forcing the Village to appropriate funds from the General Fund to meet annual expenses. The Village finished the 2017 budget year with a surplus in the Water Fund for the first time in nearly a decade. The Village Water Department must continue to restore its reserves to a reasonable level such that it can withstand year to year fluctuations, caused by its mostly variable revenues, and continue with its maintenance and capital project program.

In reviewing the proposed budget for 2019, it was determined that the expected revenues would not be sufficient to cover the anticipated expenses. Based on the 2019 projections, should the current water rates remain in effect, the expenses would exceed anticipated revenue by \$125,000 in the Village. While the Village Water Department continues to control spending to maintain a balanced budget, it cannot control many of its fixed expenses, salaries, benefits and contracts, nor can it delay the inevitable repair and replacement required due to aging of its water supply, treatment and distribution infrastructure. In addition, the cost of labor, insurance, retirement benefits, electrical costs and chemicals are expected to continue to increase in 2019 and beyond. In order to generate sufficient annual revenues to at least match the projected expenses of the Village Water Department, the Village will need to consider revising its water rate schedule. This report will examine the historic expenses and revenue and present a proposed water rate schedule to meet the financial demands of the Incorporated Village of Bayville Water Department.

2.0 – EXISTING WATER RATE SCHEDULE

The current water rate schedule, effective in 2017, includes a ten-tiered increasing rate block structure, plus a quarterly minimum bill of \$27.50. The minimum charge includes up to 5000 gallons per quarter. When properly designed, increasing block rates provide flexibility to customize the amount of revenue generated from each consumer class while sending a conservation-oriented price signal to each class. The current water rate schedule is presented on Table 1. It is important to note that prior to 2017, the Village had not raised rates since 2004. The Village Water Department had been able to absorb the rise in expenses and continue operating by running a negative balance in the Water Fund and deferring on needed repairs, which is unsustainable.

Revenues from the Village Water Department are derived from a combination of revenue sources. Actual revenues for the years 2014 to 2017 and budgeted revenues for the years 2018 and 2019 are presented in Table 2. The Village Water Department obtains a majority of its revenue from metered water sales. In 2017, the Village Water Department collected \$659,267.15 in revenue from water sales which accounted for 85% of total revenue. The revenue from metered water sales has been shown to fluctuate with irrigation demands in the spring and summer weather in this region of the country where lawns and landscaping are prevalent. A majority of the water sold occurs in the summer months when irrigation and recreational uses of water are at its highest. In wet years, consumers irrigate less and spend less time outside using water for recreational purposes. In years with this type of weather, revenue from water sales is likely to be down and below projected amounts. In these years, reserve funds must be available to assist in meeting financial obligations to cover any cash flow shortfalls.

The Village Water Department generated \$55,880.92 in revenues from water taxes in 2017 which accounted for 7% of total revenue. In comparison to other Long Island water providers, the Village Water Department generates a much lower than normal amount of revenue from water taxes. Typically, water taxes would provide an equal 50/50 share of revenue in combination with water sales. The increased reliance on variable revenue from meter water sales as opposed to stable income from water taxes makes the Village more susceptible revenue volatility year over year.

The balance of revenue sources include the following categories rental of property, interest and penalties and water service fees. These sources have accounted for approximately 8% of the Village Water Department's total revenue over the past 4 years. The rental of property category captures the lease revenue that the Village receives from cellular companies to utilize the elevated storage tank for their antennas. This revenue is considered fixed over the life of the lease. Conversely, the interest and penalties and water service fee categories are considered variable revenue sources. The Village cannot predict what penalties will be assessed, how much revenue they will make interest on and what developers will request new water services.

As shown on Table 2, the total revenue in 2017 was \$775,945.98. Expenditures in 2017 were estimated at \$734,362.82. Therefore, in 2017, the Village Water Department had a surplus of approximately \$41,583.16, which contributed to the first surplus in the Water Fund since 2010. It should be noted that for 2018 to date, the Village Water Department has absorbed approximately \$21,000.00 in unplanned expenditures. In a wet year, like 2018 was, the Village Water Department is working hard to offset these costs as they are also anticipating a reduction in revenue of approximately \$24,000.00 for the year based on revenue to date.

Actual expenses for the years 2014 to 2017 and budgeted expenses for the years 2018 and 2019 are presented in Table 2. The top five expenses for the Village Water Department are long-term debt service for past and future capital projects, personnel, electric power, employee benefits and administration. These five expenses account for 26%, 22%, 14%, 13% and 13% of the total expenses, respectively. These items are largely out of the Village Water Department's control. Electric power and employee benefits are market driven and are on an ever upward trend. Qualified personnel are required to run operations, so the Village can continue to supply and distribute water to consumers. Given the shortage of water plant operators and supervisors, the Village must offer competitive salaries to keep qualified personnel. Even though labor and personnel make up a significant portion of the Water Department's budget, in comparison to other Long Island water suppliers, the Village Water Department personnel salaries are at the lower end for their position titles. Lastly, the debt service taken on by the Village is supporting the Village Water Department's planned capital improvements that are necessary to upgrade

and maintain the water supply, treatment, storage and distribution system facilities. Payments on the principal and interest on these bonds will increase as more funds are borrowed to construct the planned projects.

Since 2014, the Village Water Department has refocused and recommitted to performing capital improvement projects to repair and replace aging infrastructure and implementing a routine maintenance program to improve reliability and maintain excellent water quality. Over the past few years, the Village has completed the restoration of the third water supply well, the water meter replacement program and the installation of the chemical dosing alarm systems. Looking forward to 2019 and beyond, the Village Water Department has identified several capital and maintenance items that it has prioritized for inclusion into future budgets to continue to improve the operational reliability and maintain excellent water quality into the future. The Department is also planning to implement a capital spending plan through its Water Fund of \$90,000.00 annually to reinvest in its aging water supply, treatment and distribution infrastructure.

For 2019, the total anticipated expenses for the Village Water Department are estimated to be \$1,061,784.00. Of these expenses \$111,800.00 are anticipated to be variable and \$949,984.00 are expected to be fixed expenses. The increase in expenses from the 2018 budget is mainly driven by the following: an increase in personnel salaries due to the addition of a water plant operator, the implementation of a fire hydrant maintenance program, and the implementation of a routine water supply and treatment maintenance program. These three items add an additional \$113,732.00 in expenses, which is approximately 91% of the total increase in expenses from 2018 to 2019 (\$125,385.00).

3.0 – PROPOSED WATER RATE SCHEDULE

In planning for the 2019 budget, H2M imported the Village's available quarterly consumer usage data into Microsoft Excel and performed a comprehensive analysis of the current water rate schedule and the impact of various rate schedule modifications required to meet the Water Department's proposed expenses. The modifications evaluated include the following: maintaining the existing rate schedule, implementing rate increases by tier, implementing across the board increases, implementing a seasonal rate and performing a rate consolidation to simplify the Village's water rates. Ultimately, our analysis determined that the Village should proceed with the consolidation of the rate structure from ten tiers down to four tiers to meet revenue goals for the upcoming 2019 budget, minimize the potential for a deficit and begin to improve revenue stability. The existing ten-tier rate schedule is confusing to the public and is not typical of a majority of Long Island water suppliers. The rate consolidation will make bills and revenue more predictable as less consumers will fluctuate in and out of tiers year over year. Additionally, the consolidation will simplify the Village water rates, which will make it easier for users to calculate their own

bills, understand the value of water and receive the water conservation signal that the increasing block rate is meant to provide. Assuming all expenses were to remain close to 2019 projections, the rate consolidation would generate approximately \$219,000.00 in additional revenue from the budget water sales in 2018 as shown in Table 2.

As previously mentioned, metered water sales are highly dependent on the weather conditions as it relates to varying irrigation water use. The total quantity of water sold can vary greatly from a dry, hot year to a wet, cool year. Therefore, projecting water sales revenues is difficult. A historical summary of water consumption from 2012 through 2018 is presented on Table 3. Over the past six years, the water use has varied from a low of 195 million gallons in 2013 (22% below average) to a high of 325 million gallons in 2015 (30 % above average). This year over year variation can have a significant impact on the budget process where annual revenues are 90% variable and annual expenses are 90% fixed. As previously stated, the proposed rate consolidation will broaden consumption tiers to create a more predictable bill for the consumer and provide a stabilizing impact on the revenue for the Village Water Department.

For the economic analysis for the proposed rate structure for 2019, we utilized the consumer use pattern for 2017. The Village Water Department only has a year and a half of consumer use patterns post meter replacement and read quarterly, so 2017 was the only full year of data available. Based on our experience we typically like to utilize at least three to five years of data when performing a water rate evaluation of this magnitude, but the information is just not available in this case. However, as it turns out 2017 is an adequate year to base projections on because it is very close to the average consumption over the last 6 years. At 268.6 million gallons it is only 20 million gallons (7.5%) higher than the average consumption presented in Table 3. It is reasonable to assume that the consumption for all years prior to 2016 is higher than listed due to old water meters under reading. This would ultimately raise the consumption average closer to the 2017 value. In addition, since the actual consumer use patterns for a wet and dry year were unavailable, we simulated these types of years off the 2017 consumer use pattern by decreasing and increasing the summer and spring usage by +/- 30%.

Please note that since we are basing the rate consolidation on a limited data set, we strongly advise the Village to perform a detailed review of the impact of this rate consolidation annually for at least the next 2 years to confirm it is functioning as intended.

In order to increase revenues to an amount close to the budgeted expenses of the Village Water Department, we recommend the following changes to the Village water rate schedule, as shown below and on Table 1. The significant difference of the proposed rate schedule from the existing rate schedule is

the rate consolidation from ten tiers down to four tiers and the removal of the 5,000-gallon allowance from the minimum bill.

Proposed Rate Schedule				
Rate Tier	Consumption	Rate		Typical Quarterly Bill
-	minimum charge	\$ 27.50	minimum charge	\$ 27.50
1	0 to 5,000 gallons	\$ 1.19	per thousand gallons	\$ 33.45
2	5,001 to 67,500 gallons	\$ 2.52	per thousand gallons	\$ 46.05
				\$ 109.05
				\$ 190.95
3	67,501 to 137,000 gallons	\$ 3.63	per thousand gallons	\$ 316.19
				\$ 443.24
4	greater than 137,001 gallons	\$ 4.54	per thousand gallons	\$ 615.76
			per thousand gallons	\$ 797.36
			per thousand gallons	\$ 2,091.26
			per thousand gallons	\$ 4,361.26

More specifically, the differences between the existing rate structure and the proposed rate structure are as follows:

- A. The quarterly minimum charge is to remain \$27.50. In addition, there will no longer be an allowance for any water quantity. The existing rate tier 1 (0 to 5,000 gallons) will be billed at a unit price of \$1.19, which is the same as existing rate tier 2.
- B. Consolidate existing rate tier 2 (5,001 to 10,000 gallons), existing rate tier 3 (10,001 to 35,000 gallons) and existing rate tier 4 (35,001 to 67,500 gallons) into a new rate tier 2 (5,001 to 67,500 gallons). The unit price for this first tier will be \$2.52, which is the same as existing rate tier 4.
- C. Consolidate existing rate tier 5 (67,501 to 102,000 gallons) and existing rate tier 6 (102,001 to 137,000 gallons) into a new rate tier 3 (67,501 to 137,000 gallons). The unit price for this first tier will be \$3.63, which is the same as existing rate tier 6.
- D. Consolidate existing rate tier 7 (137,001 to 175,000 gallons), existing rate tier 8 (175,001 to 215,000 gallons), existing rate tier 9 (215,001 to 500,000 gallons) and existing rate tier 10 (greater than 500,001 gallons) into a new rate tier 4 (greater than 137,001 gallons). The unit price for this first tier will be \$4.54, which is the same as existing rate tier 10.
- E. The proposed rate structure is projected to produce \$805,000 in a wet year (30% reduced consumption from 2017) and \$1.17 million in a dry year (30% increase consumption from 2017).
- F. The water rate revenue in an extremely wet year (\$805,000) combined with the revenue from, interest, fees, taxes and rental of real property (\$173,500) would exceed the Water Department's base expenses (\$949,984) which means that it could meet most its financial obligations in the worst of years.

The proposed water rate schedule, shown in Table 1, will increase annual revenues by approximately \$219,000.00 based on a normal water consumption year such as 2017. This should allow the Village

Water Department to fund capital reserves for future capital projects with approximately \$90,000.00 per year. It should be noted that based on the 2018 consumer usage pattern to date, the proposed rate schedule would have brought in an additional \$120,000 in revenue.

This proposed rate consolidation will increase the average water bill for a consumer with three rate tier 2 bills and one rate tier 3 summer irrigation bill from \$492 per year to \$581 per year, or a \$89 per year increase. It should also be noted that the proposed rates are inline if not below the rates charged by the other villages in Nassau County demonstrating that the Village of Bayville is still responsibly producing high quality water at reasonable rates.

4.0 – SUMMARY RECOMMENDATIONS

As detailed in the report, the existing water rate schedule is insufficient to generate enough revenue to expenses. As part of the 2019 budget, the Village Water Department has identified and prioritized the implementation of a hydrant maintenance program and a routine water supply and maintenance program to continue to improve the operational reliability and maintain excellent water quality into the future. The Department is also planning to implement a capital spending plan through its Water Fund of \$90,000.00 annually to reinvest in its aging water supply, treatment and distribution infrastructure. Combined with the expected labor increase due to the recent addition of a third employee and the anticipated rise in employee benefit costs, the increases in expenditures for 2019 budget is estimated to be \$219,000.

In order to match the proposed expenditures and target capital spending of the Village Water Department for 2019, we recommend that the water rate schedule be consolidated as presented in the attached Table 1. The rate consolidation will generate a total of \$982,000.00 from water rates which is approximately \$219,000.00 in additional revenue based on the 2017 consumer use pattern.

The average customers quarterly water bill will increase from \$91.08 to \$115.34 or 21% increase. The annual water bill will increase from \$364 to \$461, also a 21% increase.

Should the Village Mayor and Board of Trustees agree with our recommendations, the rate increase should be effective January 1, 2019.



Respectfully submitted,
H2M architects + engineers

A handwritten signature in black ink, appearing to read 'D. Kelleher', written over the company name.

Dennis M. Kelleher, P.E.
Executive Vice President

DMK:tjm

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TABLES

Village of Bayville Water Department
2018 Water Rate Study

Table 1
Summary of Existing and Proposed Water Rate Schedules

Existing Rate Schedule					Proposed Rate Schedule				
Rate Tier	Consumption	Rate		Typical Quarterly Bill	Rate Tier	Consumption	Rate		Typical Quarterly Bill
1	0 to 5000 gallons	\$ 27.50	minimum charge	\$ 27.50	-	minimum charge	\$ 27.50	minimum charge	\$ 27.50
					1	0 to 5,000 gallons	\$ 1.19	per thousand gallons	\$ 33.45
2	5,001 to 10,000 gallons	\$ 1.19	per thousand gallons	\$ 33.45					\$ 46.05
3	10,001 to 35,000 gallons	\$ 1.82	per thousand gallons	\$ 78.95	2	5,001 to 67,500 gallons	\$ 2.52	per thousand gallons	\$ 109.05
4	35,001 to 67,500 gallons	\$ 2.52	per thousand gallons	\$ 160.85					\$ 190.95
5	67,501 to 102,000 gallons	\$ 3.03	per thousand gallons	\$ 265.39	3	67,501 to 137,000 gallons	\$ 3.63	per thousand gallons	\$ 316.19
6	102,001 to 137,000 gallons	\$ 3.63	per thousand gallons	\$ 392.44					\$ 443.24
7	137,001 to 175,000 gallons	\$ 3.68	per thousand gallons	\$ 532.28					\$ 615.76
8	175,001 to 215,000 gallons	\$ 3.73	per thousand gallons	\$ 681.48	4	greater than 137,001 gallons	\$ 4.54	per thousand gallons	\$ 797.36
9	215,001 to 500,000 gallons	\$ 4.25	per thousand gallons	\$ 1,892.73				per thousand gallons	\$ 2,091.26
10	greater than 500,001 gallons	\$ 4.54	per thousand gallons	\$ 4,162.73				per thousand gallons	\$ 4,361.26

**Village of Bayville Water Department
2018 Water Rate Study**

**Table 2
Summary of Water Department Expenses and Revenue for 2014 - 2019**

A. Expenses	2014	2015	2016	2017	2018 Budget	2019 Budget
Unallocated Insurance	\$ 28,971.20	\$ 29,885.66	\$ 30,843.79	\$ 31,888.12	\$ 36,675.00	\$ 36,675.00
Payment of MTA Payroll Tax	\$ 716.44	\$ 415.39	\$ 432.30	\$ 487.32	\$ 500.00	\$ 500.00
Other General Government (refund prior yrs)	\$ -	\$ 4,741.66	\$ -	\$ -	\$ -	\$ -
Administration	\$ 66,661.36	\$ 158,499.34	\$ 122,418.00	\$ 89,704.15	\$ 76,595.00	\$ 78,595.00
Supply - Chemicals	\$ 1,688.26	\$ 14,573.09	\$ 12,492.00	\$ 10,763.98	\$ 14,000.00	\$ 16,500.00
Supply - Light & Power - Demand	\$ 33,727.24	\$ 33,064.44	\$ 36,320.78	\$ 29,696.22	\$ 37,200.00	\$ 37,200.00
Supply - Light & Power - Consumption	\$ 75,070.31	\$ 73,595.04	\$ 80,843.04	\$ 66,098.04	\$ 82,800.00	\$ 82,800.00
Supply - Repairs, Lab, Fuel, Permitting, Etc.	\$ 25,934.99	\$ 57,786.47	\$ 50,200.11	\$ 27,920.76	\$ 30,500.00	\$ 30,500.00
Distribution - Personnel Services ⁵	\$ 206,417.85	\$ 103,325.08	\$ 119,114.63	\$ 136,174.48	\$ 176,768.40	\$ 237,500.00
Distribution - Personnel Services Services - O/T	\$ 10,864.10	\$ 5,438.16	\$ 6,269.19	\$ 7,167.08	\$ 9,303.60	\$ 12,500.00
Distribution - Repairs, Meters, Hydrants, Supplies, Etc.	\$ 101,223.04	\$ 78,205.91	\$ 85,155.28	\$ 46,426.73	\$ 70,750.00	\$ 123,750.00
Employee Benefit - State Retirement	\$ 33,816.90	\$ 28,341.02	\$ 13,676.39	\$ 15,278.96	\$ 28,298.00	\$ 29,100.00
Employee Benefit - Social Security	\$ 17,108.51	\$ 8,354.52	\$ 9,591.77	\$ 10,965.52	\$ 14,500.00	\$ 14,900.00
Employee Benefit - Workers Compensation	\$ 13,496.00	\$ 12,175.00	\$ 15,247.65	\$ 9,150.00	\$ 13,725.00	\$ 14,100.00
Employee Benefit - Hospital	\$ 42,390.77	\$ 37,084.68	\$ 35,038.44	\$ 35,271.23	\$ 74,500.00	\$ 76,700.00
Debt Service - Bond Principal	\$ 82,031.00	\$ 103,618.06	\$ 99,300.65	\$ 186,459.35	\$ 186,460.00	\$ 186,640.00
Debt Service - Bond Interest	\$ 39,495.24	\$ 12,549.30	\$ 16,751.58	\$ 27,303.08	\$ 19,824.00	\$ 19,824.00
Debt Service - Ban Principal	\$ -	\$ -	\$ 100,000.00	\$ -	\$ 60,000.00	\$ 60,000.00
Debt Service - Ban Interest	\$ -	\$ -	\$ -	\$ -	\$ 4,000.00	\$ 4,000.00
Interfund Transfer	\$ 2,072.23	\$ 6,999.99	\$ 4,599.00	\$ -	\$ -	\$ -
Transfer to Capital Project Fund	\$ -	\$ -	\$ 95,891.92	\$ -	\$ -	\$ -
Encumbrances	\$ -	\$ -	\$ -	\$ 3,607.80	\$ -	\$ -
Base Expenses	\$ 694,062.77	\$ 675,046.52	\$ 834,582.29	\$ 650,333.72	\$ 830,295.40	\$ 949,984.00
Variable Expenses	\$ 87,622.67	\$ 93,606.29	\$ 99,604.23	\$ 84,029.10	\$ 106,103.60	\$ 111,800.00
Total Expenses	\$ 781,685.44	\$ 768,652.81	\$ 934,186.52	\$ 734,362.82	\$ 936,399.00	\$ 1,061,784.00

B. Revenue	2014	2015	2016	2017	2018 Budget	2019 Budget
Water Taxes	\$ 61,941.31	\$ 60,125.68	\$ 57,964.18	\$ 55,880.92	\$ 55,000.00	\$ 55,000.00
Metered Water Sales ^{1,2}	\$ 535,909.14	\$ 747,167.01	\$ 856,955.11	\$ 659,267.15	\$ 762,899.00	\$ 982,000.00
Interest and Penalties	\$ 13,562.13	\$ 19,197.50	\$ 44,935.98	\$ 35,947.91	\$ 30,000.00	\$ 30,000.00
Water Service Fees	\$ 22,293.00	\$ 4,954.00	\$ 10,424.00	\$ 20,650.00	\$ 7,500.00	\$ 7,500.00
Rental of Property ³	\$ -	\$ -	\$ -	\$ -	\$ 81,000.00	\$ 81,000.00
Sales of Equipment	\$ -	\$ 6,458.00	\$ -	\$ -	\$ -	\$ -
Insurance Recovery	\$ -	\$ -	\$ -	\$ 4,200.00	\$ -	\$ -
Total Fixed Revenue	\$ 61,941.31	\$ 60,125.68	\$ 57,964.18	\$ 55,880.92	\$ 136,000.00	\$ 136,000.00
Total Variable Revenue	\$ 571,764.27	\$ 777,776.51	\$ 912,315.09	\$ 720,065.06	\$ 800,399.00	\$ 1,019,500.00
Total Revenue	\$ 633,705.58	\$ 837,902.19	\$ 970,279.27	\$ 775,945.98	\$ 936,399.00	\$ 1,155,500.00

C. NET SURPLUS (Deficit)	2014	2015	2016	2017	2018 Budget	2019 Budget
Net Surplus (Deficit) ⁴	\$ (147,979.86)	\$ 69,249.38	\$ 36,092.75	\$ 41,583.16	\$ -	\$ 93,716.00

Legend:

Variable Expense/Revenue

¹ 2018 Metered Water Sales is based on projections from existing water rates performed by the Village.

² 2019 Metered Water Sales is based on projection from proposed water rates performed as part of this report.

³ Cellular lease revenue for use of water storage tank

⁴ Net budget surplus will be utilized to fund capital reserves and/or offset a deficit in the water fund from a prior year.

⁵ 2014 was the last year until 2019 that there were three employees in the Water Department. For the years 2015 - 2018 there were only 2 employees in the Water Department.

**Village of Bayville Water Department
2018 Water Rate Study**

**Table 3
Summary of Water Consumption 2012 -2018 (gallons)**

Meter Reads	2012	2013	2014	2015	2016	2017	2018
February	979,480	1,039,620	1,492,770	9,968	88,144	111,999	20,197
March	127,130	286,470	42,400	948,473	34,563	2,410	54,695
April	63,620	1,046,190	201,000	13,827	41,860	33,765,305	32,444,728
May	171,700	138,730	117,440	60,307	47,883	650,680	41,985
June	179,720	36,050	288,410	70,103	245,334	128,679	138,373
July	93,839,790	74,879,880	80,185,274	145,785,703	126,447,846	81,725,685	80,797,666
August	389,670	1,409,920	529,220	274,764	110,860	139,523	41,585
September	88,890	134,420	412,970	216,429	190,953	272,053	183,915
October	48,570	288,500	413,760	198,578	532,940	106,976,618	96,075,523
November	162,880	5,950	25,000	628,074	338,060	92,102	
December	318,670	565,010	425,389	273,881	314,240	189,281	
January (following year)	120,496,900	115,380,245	117,321,468	176,822,573	163,675,436	44,576,509	
Total for Calendar Year	216,867,020	195,210,985	201,455,101	325,302,680	292,068,119	268,630,844	209,798,667
Average Total	249,922,458						

7 - Year Summary: Max. Year 325.3 MG (2015)
 Min. Year 192.5 MG (2013)
 Avg. Year 249.9 MG (2012 - 2017)
 Diff. Hi/Lo 130 MG (30% swing from average year)