

Bruce Township

Water Rate Report

May 4, 2022



Michigan Rural
Water Association



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MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

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INTRODUCTION

Quality drinking water is an essential public service provided to residents. Without a water system the community would cease to exist. Over many years your community has invested in the essential infrastructure and services necessary to provide its residents with safe and reliability drinking water.

The construction and maintenance of this infrastructure is one of the most costly investments the residents in your community will make. Community officials strive to ensure that the resident's investment in these facilities is based on sound judgment, cost effectiveness, and sustainable financing for the present and future. The purpose of analyzing utility rates is to ensure;

- a) Compliance with federal and state regulations governing utility rates, and
- b) That adequate revenue is collected through service charges to support the cost of providing the service and
- c) That the rates are equitable to all users of the service.

That is, each user's share of the cost is proportionate to their use of the system.

REVENUE REQUIREMENT = TOTAL SYSTEM COST

Ensuring that the revenue covers the total system cost means the service is "sustainable". That is, the system will serve the present needs and will continue to meet future needs.

Total system cost is comprised of the following cost components:

Operation & Maintenance (O&M) expenses. These are the daily costs of labor, materials, supplies, utilities, etc. necessary to operate and maintain the facilities.

Replacement expenses. These are costs to replace operating equipment with a useful life of 20 years or less. The sum of O&M expense and replacement expense is referred to as OM&R.

Capital improvements. These are costs to replace structural components with useful life greater than 20 years and or to expand and improve the current facilities.

Administrative expenses. These are the costs of general management, financial management, meter reading, and billing & collections.

Debt service expenses. These are the annual costs of loans or bond repayment used to finance construction and generally includes facilities and structures with a useful life of 20 years or more.

Current Rate Structure

BRUCE TOWNSHIP

The current rate structure for the Bruce Township's Water System is reasonable but could use some changes to recover the cost of operating the system in a more equitable manner.

Currently the Township charges a cost per 100 cubic feet of water used. The rate per 100 cubic feet is different for residential and commercial customers. Everyone pays starting from the first cubic foot used.

The debt is collected through the base rate with all customers paying the same rate on a monthly or quarterly basis.

Currently the Township charges a base rate or Benefit Fee charge which is invoiced every quarter (which includes the debt). The base rate is charged to everyone regardless of how much water they use. The base rate is dependant on the size of the meter serving the customer. Currently, the Township uses it's own REU multiplier and not an industry standard. Consideration should be given to adopting an industry standard at some point.

Larger water users take up capacity of the system. The system has a limited capacity therefore if one large customer takes up the capacity of 10 residential homes they should pay a base rate equivalent to the 10 residential homes. Larger volume users also drive the size of certain components of the water system. For instance having several large buildings that house factories or schools will require larger water mains to provide firefighting ability for these larger buildings. It is thus fair that they pay a larger portion of the debt and some fixed expenses compared to a homeowner who uses 3 cubic feet per month.

Ultimately our goal is to collect the money needed to maintain the water system in the most equitable manner possible. Insuring that everyone pays their fair share of the cost.

Overall Conclusion

BRUCE TOWNSHIP

At first glance looking at the overall financial stability of the water system it appears to be making a significant loss in revenue. The "Cash Flow Statement" page indicates this last year's expenses exceeded last year's actual income showing a significant loss of **(\$319,597)**.

Although revenue from tap fees and other miscellaneous income should be considered a bonus as this income changes every year.

Looking again at the loss of **(\$319,597)**. What the profit of **(\$319,597)** doesn't include is any reserve funding for major equipment maintenance. Things like water main breaks or repairing fire hydrants. Using the American Water Works Association's reserve funding indicates that the Township should aside on an annual basis to pay for major equipment maintenance and replacement for items that occur on an irregular basis. Additionally, the Township should have between 2 and 12 months of operating expenses in reserve for emergency purposes. This amount should be between \$58,000 and \$350,000 in unrestricted reserves.

The Township is not generating enough revenue to cover every day basic expenses or enough to pay for the irregularly occurring major maintenance items and replacement of existing equipment necessary to provide safe drinking water for the community. Additionally, the Township does not currently charge any of the wages of the administrative staff towards the water fund. This should be changed sometime in the future.

The Township needs to be able to project how much money will be needed to operate the system. Putting money aside or should not be guess work, but rather an exact calculation. For instance if the past maintenance history of a pump indicated that we have to replace it in five years and the pump cost \$25,000 dollars we should be putting aside \$5,000 dollars each year in order to have the \$25,000 dollars needed in five years to replace the pump. This money would come out of the water or sewer saving accounts. Here is the KEY, the rates need to be high enough to generate enough revenue to replace the \$25,000 spent on this pump. Otherwise the Township will eventually deplete its water reserve accounts. Therefore, the Township should strongly consider creating a budget for the system.

Bruce Township - Res

CONCLUSION OF ANALYSIS

COST PER	CURRENT RATES	CALCULATED RATES	DIFFERENCE
100 CUFT	\$3.75	\$11.00	\$7.26
CURRENT "BASE RATE" CHARGE PER MONTH			
METER SIZE - INCHES	CURRENT RATES	CALCULATED RATES	DIFFERENCE
1	\$20.00	\$59.05	\$39.05
1 1/2	\$40.00	\$118.09	\$78.09
2	\$60.00	\$177.14	\$117.14
3	\$160.00	\$472.36	\$312.36
4	\$300.00	\$885.68	\$585.68
6	\$700.00	\$2,066.60	\$1,366.60

The above rates are based on an input budget of \$401,586

The above rates are based on invoicing the following gallons of water / sewer 1,270,969

The above rates are based on the following number of customers 71

The above rates are based on the following number of Residential Equivalent Units (REU's) 1,548

If all numbers listed above stay true the new calculated rates will generate the input budget "exactly". Not a penny more or a penny less.

This Rate Analysis uses "Full Cost Pricing" to determine the user fees.

The above table shows the Current Rate, the new Calculated Rate, and the difference between the current and new rate changes.

Full Cost Pricing Is:

Maintaining your system's financial stability by ensuring a sufficient revenue stream.

Collect and reserve the funds needed to cover the costs of future asset rehabilitation and compliance with future regulations, among other things.

Plan ahead for reasonable, gradual rate increases when necessary.

Deliver a fair priced, high-quality drinking water to your customers now and in the future.

NOTE:

The above CALCULATED RATES will generate only enough to meet the current budge input into the rate analysis program. In order to charge a lesser amount, the budget must first be reduced.

BACKGROUND INFORMATION STARTING SHEET**Please be sure to review the results of this rate evaluation with an attorney**

Name of Community : Bruce Township

Population Served : 235 Estimated

BUDGET USED FOR YEAR OF 2022

Current Rate Structure

Are bills based on 1,000 gallons units or 100 cubic feet units? 100

Number of Residential Customer Invoices per Year 12

What are the dates of the Fiscal Year April 1st

Year of Last Rate Increase

This rate evaluation was completed using the following information

Reliability Study / General Plan No

Capital Improvement Plan Yes

Water Tower Inspection Report N/A

Well Inspection Report N/A

System Evaluations (MDEQ etc) No

Audits Yes

List the names of the different Entities Served - Originating Entity Bruce Township - Res

2nd Entity Bruce Township - Com

Bruce Township CURRENT RATE CHARGES <small>Customers Are Invoiced MONTHLY PER</small>						
RATE CLASS 1						
Bruce Township - Res						
TYPE OF WATER UNITS	100 CUFT	Notes				
COST PER WATER UNIT	\$3.745					
INVOICES PER YEAR	12					
METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME		
3/4	\$20.00		12	\$0		
1	\$20.00	60	12	\$14,400		
1 1/2	\$40.00		12	\$0		
2	\$60.00		12	\$0		
3	\$160.00		12	\$0		
4	\$300.00		12	\$0		
6	\$700.00		12	\$0		
TOTALS		60		\$14,400		

Current Rate Charges

Currently customers are charged based on two factors

Consumption Charge, Which is based on cubic feet of water that goes through the customer's water meter. Customers are currently invoiced per unit of water at the listed price.

A "Base Rate" charge based of \$20.00 for a 1" meter, this fee increases based on the size of the customers water meter, which is listed in inches. Some customers are invoiced monthly, others quarterly. The number of meters listed above does NOT include irrigation meters which are not invoiced a "Base Rate" charge.

RATE CLASS 2						
Bruce Township - Com						
TYPE OF WATER UNITS	100 CUFT	Ratio Entity # 2 vs. 1	Notes			
COST PER WATER UNIT	\$4.955	1.32				
INVOICES PER YEAR	12					
METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	Ratio Entity # 2 vs. 1	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME	
3/4	\$20.00	1.00		12	\$0	
1	\$20.00		2	12	\$480	
1 1/2	\$40.00		1	12	\$480	
2	\$60.00		4	12	\$2,880	
3	\$160.00		1	12	\$1,920	
4	\$300.00		3	12	\$10,800	
6	\$700.00			12	\$0	
			11		\$16,560	

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

2022	RATE CLASS 1	RATE CLASS 2					
	Bruce Township - Res	Bruce Township - Com					
METER SIZE - INCHES	NUMBER OF METERS	NUMBER OF METERS	CUSTOMERS ACTUAL	SELECTED METER EQUIVALENT	CALCULATED METER EQUIVALENT	EQUIVALENT REU'S PER BILLING CYCLE	ANNUAL EQUIVALENT REU'S (UNITS)
3/4	0	0	0	1.00	1.00		
1	60	2	62	1.00	1.00	62	744
1 1/2	0	1	1	2.00	2.00	2	24
2	0	4	4	3.00	3.00	12	144
3	0	1	1	8.00	8.00	8	96
4	0	3	3	15.00	15.00	45	540
6	0	0	0	35.00	35.00		
TOTAL	60	11	71			129	
TOTAL <u>EQUIVALENT</u> ANNUAL REU'S							1,548
PERCENT REDUCTION							0.00%
REU REDUCTION PER BILLING CYCLE							0.0
ANNUAL <u>EQUIVALENT</u> REU'S USED FOR RATE EVALUATION							1,548

The table above list the number of water meters being invoiced for each size water meter for each entity being served.

BASED ON THE REQUEST OF THE WATER SYSTEM - THE REU RATIO USED FOR THIS EVALUATION IS THE CURRENT RATIO BEING USED BY THE WATER SYSTEM.

NOTES:

UNITS OF WATER OR SEWAGE INVOICED TO CUSTOMERS									
Bruce Township - Res	2022	CUBIC FEET		PERCENT OF TOTAL	2020	PERCENT OF TOTAL	2021	PERCENT OF TOTAL	AVERAGE PERCENT
		2019	2020						
USAGE REPORTED IN	2019	2020	2021	PERCENT OF TOTAL	2020	PERCENT OF TOTAL	2021	PERCENT OF TOTAL	AVERAGE PERCENT
Bruce Township - Res	0	12,794	176,704	0.9%	12,794	0.9%	176,704	19.8%	6.9%
Bruce Township - Com	1,198,654	1,366,291	717,851	99.1%	1,366,291	99.1%	717,851	80.2%	93.1%
TOTALS	1,198,654	1,379,085	894,555		1,379,085		894,555		
GALLONS USED FOR EVALUATION									
1,270,969									

The Volumes listed above are only those gallons that are a revenue source.
The gallons listed above do not include any water NOT invoiced for winter "Let Runs"

CUSTOMIZE THESE SECTIONS FOR EACH COMMUNITY

This table shows the cubic feet of water invoiced to customers. The Township is showing an increase in usage over the last few years. For purposes of this evaluation we used the last usage for residential and the average for commercial. We also anticipated a reduction in usage of 0% to follow the trend.
Rate evaluations must be based on a worst case scenario. Taking into account factors that could influence the amount of water sold or sewage invoiced, (which is based on water usage) These factors include;
A wet rainy summer will result in less outdoor activities and lawn sprinkling
Technology alone will account for a reduction in use per person, things like water efficient appliances, washing machines etc. and water efficient shower heads, toilets etc. will naturally reduce the water use per customer.
Loss of a major water user because of things like a fire or a business that chooses to relocate into another community, or just closes its doors can have an impact on cubic feet of water sold.

TOTAL COMBINED <u>CURRENT</u> INCOME					Bruce Township				
FISCAL YEAR 2021					WATER UNITS = 100 INVOICES PER YEAR = 12				
CURRENT METER / BASE RATE INCOME									
					Bruce Township - Res		Bruce Township - Com		
METER SIZE - INCHES	CURRENT RATES	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME	ANNUAL INCOME	INCOME	% INCOME	% TOTAL INCOME	
3/4	\$20.00	0	12	0	\$0	\$0	0%	0%	
1	\$20.00	60	12	14,400	\$480	\$14,880	48%	20%	
1 1/2	\$40.00	0	12	0	\$480	\$480	2%	1%	
2	\$60.00	0	12	0	\$2,880	\$2,880	9%	4%	
3	\$160.00	0	12	0	\$1,920	\$1,920	6%	3%	
4	\$300.00	0	12	0	\$10,800	\$10,800	35%	15%	
6	\$700.00	0	12	0	\$0	\$0	0%	0%	
BASE RATE INCOME					\$14,400	\$30,960		42%	
CURRENT VOLUME SALES INCOME									
Bruce Township - Res					Bruce Township - Com				
GALLONS / CUFT SOLD		176,704			717,851		TOTALS		
COST PER UNIT		\$3.75			\$4.96		894,555		% INCOME
WATER SALES INCOME		\$6,618			\$35,570		\$42,187		58%
TOTAL METER SALES INCOME					\$30,960				
TOTAL VOLUME SALES INCOME					\$42,187				
TOTAL INCOME CUSTOMER SALES					\$73,147				
NON SALES REVENUE ANTICIPATED					\$131,438				
TOTAL INCOME ALL SOURCES					\$204,585				
NEW INPUTTED RATE BUDGET					\$401,586				
SCHEDULED PROFIT / LOSS					(\$197,000)				
							PERCENT OF INCOME		
							BASE RATE		VOLUME SALES
							42%		58%

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

Bruce Township - Res			
NON-SALES INCOME			
NON-SALES INCOME	2020	2021	2022
591-000-045.000 Special Assessments			\$ 109,404
591-000-046.000 Special Assessments Cur			\$ 22,034
Hydrant Maintenance			
TOTAL INCOME (NON SALES)	\$ -	\$ -	\$ 131,438
Portion of (Non Sales) Revenue <u>Guaranteed</u> :			\$ 131,438
Percent Applied Towards Fixed Rate RTS Charge - PERCENT applied per REU			100%
ANNUAL DOLLARS APPLIED TOWARDS <u>FIXED BUDGET</u> - BASE RATE - RTS			\$ 131,438
ANNUAL DOLLARS APPLIED TOWARDS <u>VARIABLE BUDGET</u> - PER UNIT			\$ -

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

LABOR & BENEFITS	PROPOSED BUDGET FOR NEXT FISCAL YEAR	ACTUALS EXPENSES FROM PREVIOUS YEARS (COMPARISON PURPOSES ONLY)
Bruce Township - Res	2022	
2022	RATE BUDGET	YEAR OF
LABOR & BENEFITS	ANNUAL BUDGETED	2021
	\$0	\$0
LABOR & BENEFITS	\$0	\$0
LABOR & BENEFITS - ADMINISTRATION- BILLING ETC		
	\$0	\$0
LABOR & BENEFITS - ADMINISTRATION- BILLING ETC	\$0	\$0
LABOR & BENEFITS	\$0	\$0
SUB-TOTAL EXPENSES	\$0	\$0
Additional Cost of Inflation Increase	0.00%	
LABOR & BENEFITS	\$0	
ARE EMPLOYEES MAKING A LIVABLE WAGE AND RECEIVING INCREASES ANNUALLY?		

MICHIGAN RURAL WATER ASSOCIATION RATE
EVALUATION PROGRAM

OPERATION & MAINTENANCE EXPENSES	PROPOSED BUDGET FOR NEXT FISCAL YEAR	ACTUALS EXPENSES FROM PREVIOUS YEARS (COMPARISON PURPOSES ONLY)
	2022	
2022		
Bruce Township - Res	RATE BUDGET	YEAR OF
SYSTEM EXPENSES	ANNUAL BUDGETED	2021
591-000-818.000 Contracted Services	\$4,981	\$6,050
591-529-920.000 Utilities - Electric	\$913	\$1,260
591-536-818-300 Meter Fee	\$12,169	\$12,932
591-536-922.000 Water	\$331,393	\$418,500
591-906-994.500 Fees	\$750	
SYSTEM EXPENSES	\$350,206	\$438,742

MICHIGAN RURAL WATER ASSOCIATION RATE
EVALUATION PROGRAM

SUBTOTAL OPERATIONAL EXPENSES	\$350,206	\$438,742
CONTINGENCY	\$0	
SUBTOTAL	\$350,206	
COST OF INFLATION INCREASE	0.00%	
OPERATION & MAINTENANCE EXPENSES	\$350,206	

Operating Expenses are those operation and maintenance (O&M) expenses that occur while providing water /sewer service. These expenses typically increase annually due to inflation, and increased maintenance costs as systems age.

The expenses listed above do not include Depreciation

These expenses do not include any interest paid on debt or one time CIP expenditures.

Bruce Township - Res		Notes on loans
2022		
BOND INSTALLMENT ANNUAL PAYMENT SCHEDULE		
NAME OF LOAN PAID BY RATES OR OTHER ? IF OTHER - SOURCE IF OTHER - \$ CONTRIBUTION FROM OTHER		2010 SA Bonds
DATE OF ISSUE DATE OF MATURITY IS THERE A RESERVE REQUIREMENT WHAT IS THE REQUIRED ANNUAL RESERVE \$ CURRENT BALANCE IN THE REQUIRED RESERVE		2010 No
DATE OF - PRINCIPAL & INTEREST PAYMENT \$ AMOUNT OF THIS INTEREST PAYMENT \$ AMOUNT OF PRINCIPAL THIS PAYMENT DATE OF - INTEREST PAYMENT \$ AMOUNT OF THIS INTEREST PAYMENT CURRENT CASH BALANCE IN THIS ACCOUNT ORIGINAL LOAN AMOUNT		September 1st \$35,000 \$8,190 March 1st \$8,190
LIST THE COMBINED ANNUAL PRINCIPAL & INTEREST PAYMENTS HERE		ANNUAL PAYMENTS NEEDED FROM RATE CHARGES 2010 SA Bonds \$0
2022	\$51,380	
2023	\$51,380	
2024	\$51,380	
2025	\$51,380	
2026	\$51,380	
2027	\$51,380	
2028	\$51,380	
2029	\$51,380	
2030	\$51,380	
2031		
2032		
2033		
2034		
2035		
2036		
2037		
2038		
2039		
2040		
2041		
PAID OFF IN YEAR OF		2030
		0

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

Bruce Township - Res	
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	
2010 SA Bonds	\$51,380
TOTAL ANNUAL PAYMENTS \$ 51,380.00	
No Tax revenue or special assessment revenue is applied to these payments	
PROPOSED NEW DEBT - TOTAL FUNDED	
INTEREST RATE	
LENGTH OF LOAN (YEARS)	
ANNUAL PAYMENT	0
TOTAL DEBT - NEW & CURRENT	<u>\$51,380</u>
WHAT YEAR IS LOAN PAID OFF	
IS DEBT LISTED SEPARATELY ON WATER BILL	NO
IF USDA RD LOAN ANNUAL RESERVE FUNDING	\$0

List any additional notes on the loans here.

Bruce Township - Res
CASH FLOW STATEMENT - ACTUAL

The cash flow statement does not include any
 Depreciation - But does included principal and interest
 on all loan payments

	YEAR ENDING	YEAR ENDING	YEAR ENDING
EXPENSES ACTUAL	2019	2020	2021
EXPENSES ACTUAL	\$269,122	\$382,153	\$438,741
BOND PAYMENT - PRINCIPAL	\$35,000	\$35,000	\$35,000
BOND PAYMENT - INTEREST	\$21,000	\$20,100	\$18,200
MINUS DEPRECIATION	\$16,192	\$16,191	\$16,192
NORMAL ANNUAL OPERATING EXPENSES	\$308,930	\$421,062	\$475,749
INCOME ACTUAL EARNED			
REVENUE	\$105,624	\$118,734	\$144,618
INCOME TOTAL CUSTOMER BILLINGS	\$105,624	\$118,734	\$144,618
OTHER INCOME			
INTEREST	\$14,451	\$12,953	\$11,534
SUB TOTAL OTHER INCOME	\$14,451	\$12,953	\$11,534
NORMAL ANNUAL INCOME	\$120,075	\$131,687	\$156,152
OVERALL INCOME	\$120,075	\$131,687	\$156,152

PROFIT / LOSS CUSTOMER BILLINGS	-\$203,306	-\$302,328	-\$331,131
PROFIT / LOSS NORMAL REVENUE	-\$188,855	-\$289,375	-\$319,597
OVERALL PROFIT / LOSS	-\$188,855	-\$289,375	-\$319,597

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

Please be sure to review the results of this evaluation with your community's attorney						
CALCULATED RESULTS OF WATER RATE ANALYSIS						
Bruce Township - Res						
	ANNUAL BUDGET	PERCENT FIXED EXPENSES	BASE RATE FIXED EXPENSES	COST PER 3/4 METER	CONSUMPTION VARIABLE EXPENSES	VOLUME COST PER UNIT
LABOR & BENEFITS	\$0	50%	\$0	\$0.00	\$0	\$0.00
OPERATION & MAINTENANCE EXPENSES	\$350,206	48.96%	\$171,461	\$110.76	\$178,745	\$11.00
SUBTOTAL OPERATIONAL EXPENSES	\$350,206		\$171,461	\$110.76	\$178,745	\$11.00
2010 SA Bonds	\$51,380	100%	\$51,380	\$33.19	\$0	\$0.00
SUBTOTAL LOANS	\$51,380		\$51,380	\$33.19	\$0	\$0.00
TOTAL REGULAR EXPENSES	\$401,586		\$222,841	\$143.95	\$178,745	\$11.00
		NON OPERATING INCOME REDUCTION PER REU / UNIT		\$84.91		\$0.00
		RATE CHARGE FOR O&M AND LOANS		\$59.05		\$11.00
		CURRENT RATE		\$20.00		\$3.75
		INCREASE		\$39.05		\$7.26
		PERCENT INCREASE		195%		194%
ADOPTED BUDGET	\$401,586		\$222,841	\$143.95	\$178,745	\$11.00
CURRENT REVENUE			55%		45%	
NON OPERATING INCOME REDUCTION CONTRIBUTION			\$131,438		\$0	
REVENUE COLLECTED THROUGH RATES			\$91,403		\$178,745	
NON OPERATING INCOME REDUCTION PER REU / UNIT				\$84.91		0.00
CALCULATED RATE PER 3/4 METER		PER	MONTH	100 CUFT		
ANNUAL EQUIVALENT REU'S 1,548			CURRENT RATES	\$20.00		\$3.75
ANTICIPATED GALLONS INVOICED 1,270,969			INCREASE OF	\$39.05		\$7.26
INVOICES PER YEAR 12			PERCENT INCREASE	195.2%		193.8%
TOTAL NUMBER OF CUSTOMERS / METERS 71			Bruce Township - Com	\$59.05		\$14.56
ANTICIPATED EQUIVALENT GALLONS / UNITS 16,245						
GALLONS USED 4,000						
AMOUNT OF BILL \$92.05						
PERCENT INCREASE 195%						
DOES THE COST PER "UNIT" INCLUDE INCLINING OR DECLINING RATES		NO				
GALLONS INCLUDED WITH THIS CALCULATED BASE RATE %		NO				
IS BASE RATE PER REU - OR PER METER SIZE?		METER SIZE				

2022

Bruce Township

Bruce Township - Res										Bruce Township - Com	
PER 100 CUFT		\$11.00		\$3.745					\$7.26		\$14.56

These are the rates calculated for each meter size for each entity served. Also for the cost per unit of water sold for each entity.

TYPICAL BILL USING NEW RATES Bruce Township - Res							
METER SIZE - INCHES	CUBIC FT USED	VOLUME CHARGE	BASE RATE CHARGE	NEW BILL	OLD BILL	CHANGE IN BILL	PERCENT INCREASE
1	2	\$22.01	\$59.05	\$81.05	\$27.50	\$53.55	195%
1	3	\$33.01	\$59.05	\$92.05	\$31.25	\$60.80	195%
1	4	\$44.01	\$59.05	\$103.06	\$35.00	\$68.06	194%
1	7	\$77.02	\$59.05	\$136.07	\$46.25	\$89.82	194%
1	10	\$110.03	\$59.05	\$169.07	\$57.50	\$111.57	194%
1	45	\$495.13	\$59.05	\$554.18	\$188.75	\$365.43	194%
1 1/2	30	\$330.09	\$59.05	\$389.14	\$152.50	\$236.64	155%
1 1/2	50	\$550.15	\$118.09	\$668.24	\$227.50	\$440.74	194%
2	150	\$1,650.44	\$177.14	\$1,827.57	\$622.50	\$1,205.07	194%
3	100	\$1,100.29	\$472.36	\$1,572.66	\$535.00	\$1,037.66	194%
4	150	\$1,650.44	\$885.68	\$2,536.12	\$862.50	\$1,673.62	194%

2022

Bruce Township

	Bruce Township - Res	Bruce Township - Res	DIFFERENCE PER MONTH	DIFFERENCE PER MONTH		Bruce Township - Com		
PER 100 CUFT	\$11.00	\$3.75	\$7.26			\$14.56	\$4.96	
	NEW	CURRENT				NEW	CURRENT	DIFFERENCE
METER SIZE	BASE RATE PER MONTH	BASE RATE PER MONTH						
1	\$59.05	\$20.00	\$39.05	\$13.02		\$59.05	\$20.00	\$39.05
1 1/2	\$118.09	\$40.00	\$78.09	\$26.03		\$118.09	\$40.00	\$78.09
2	\$177.14	\$60.00	\$117.14	\$39.05		\$177.14	\$60.00	\$117.14
3	\$472.36	\$160.00	\$312.36	\$104.12		\$472.36	\$160.00	\$312.36
4	\$885.68	\$300.00	\$585.68	\$195.23		\$885.68	\$300.00	\$585.68
6	\$2,066.60	\$300.00	\$1,766.60			\$2,066.60	\$700.00	\$1,366.60

These are the rates calculated for each meter size for each entity served. Also for the cost per unit of water sold for each entity.

CONFIRMATION OF INCOME - BASED ON CALCULATED RATES

Bruce Township			
	Bruce Township - Res	Bruce Township - Com	REVENUE
	New Cost per Unit of Water Sold		NEW RATES
\$ PER 100 CUFT.	\$11.00	\$14.56	
UNITS Sold	1,767	10,943	12,710
Income	\$19,443	\$159,302	\$178,745
PERCENT OF USAGE	14%	86%	
PERCENT REVENUE	11%	89%	
NON SALES INCOME APPLIED TO VARIABLE BUDGET			\$0
TOTAL ANTICIPATED REVENUE PER UNIT SALES			\$178,745
METER SIZE	NEW BASE RATE PER MONTH		
1	\$59.05	\$59.05	
NO. CUSTOMERS	60	2	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	720	24	
INCOME	\$42,512.85	\$1,417.09	\$43,930
1 1/2	\$118.09	\$118.09	
NO. CUSTOMERS	0	1	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	0	12	
INCOME	\$0.00	\$1,417.09	\$1,417
2	\$177.14	\$177.14	
NO. CUSTOMERS	0	4	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	0	48	
INCOME	\$0.00	\$8,502.57	\$8,503
3	\$472.36	\$472.36	
NO. CUSTOMERS	0	1	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	0	12	
INCOME	\$0.00	\$5,668.38	\$5,668
4	\$885.68	\$885.68	
NO. CUSTOMERS	0	3	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	0	36	
INCOME	\$0.00	\$31,884.64	\$31,885
Fixed Income			\$91,403
INCOME GENERATED BASE RATE			\$91,403
NON SALES INCOME APPLIED TO FIXED BUDGET			\$131,438
TOTAL ANTICIPATED REVENUE BASE RATE / RTS + NONE SALES INCOME			\$222,841
TOTAL COMBINED CUSTOMER INCOME = BASE RATE + VOLUME INCOME			\$401,586
TOTAL COMBINED CUSTOMER INCOME			\$401,586
Budget Goal			\$401,586
Difference			\$0

Short Lived Assets - Equipment Replacement – Repair Replacement and Improvement

A replacement schedule should be developed that indicates those assets that will be replaced within the next 15 years (short lived assets) that will be **funded from system revenues**. The schedule will typically contain assets with a value of greater than \$1,000 dollars, or routinely recurring maintenance items. A couple of examples of these types of assets are: water tower paintings and chlorine pumps, well pumps and controls, raw sewage pumps, sanitary sewage pumps stations etc. Larger more long term items like water distribution piping, wells, water towers, standby generators. etc or items with a longer life expectancy of greater than 15 years, are typically included in a Capital Improvements program. See notes below in Capital Improvements

This schedule can also be expanded to include programmed maintenance or repair, making it a Repair & Replacement Schedule. The types of maintenance activities that can be included here are major, repairs, or items that occur on a non-yearly schedule or irregular schedule, such as a storage tank inspection done every five years and a tank overhaul (repaint, structural testing, cleaning) or leak detection every 3 years or a digester cleaning every ten years, or a well cleaning done every 5 years. If it occurs every year then it should be in the standard O & M budget. This Schedule does not replace the normal annual operation and maintenance budget. It merely reflects those elements that are major budget items that do NOT occur on an annual basis and thus are not in the typically O&M annual budget. These are generally items that constitute a major budget expenditure.

The schedule should include all of the recurring and non-recurring items for a 15 year period. The short lived asset Repair and Replacement Schedule should be updated annually..

It is absolutely critical that the items in the Repair and Replacement Schedule be entered into the rate setting process. These items must be funded out of system revenues, so they must be accounted for in the annual budget and in the rates. The Schedule will probably not be uniform from year to year in terms of amount of expenditure. To address this issue, the program will set an annual annuity payment to cover the Repair and Replacement Schedule expenses over the long term. Some years, the annual funding amount will be greater than that year's expenses, so money would go into the Repair and Replacement Reserve. Other years, the amount collected will be less than the expenses incurred, and the additional funding needed would come from the reserve account. The annual annuity set would have to be sufficient to cover all of the expenses over the 15 year period. This program becomes a living document and the annual funding amount should be adjusted as new equipment is purchased and the program is updated.

[illegible]Bruce Twp Water Rates 2022

FIVE YEAR INCREASE									
Bruce Township									
Bruce Township - Res									
LOANS, RESERVE FUNDING & OTHER EXPENSES				\$33.19					
LABOR & OPERATIONS COST PER 3/4" METER				\$110.76					
MINUS NON-OPERATING EXTRA INCOME				\$84.91					
TOTAL RATE				\$59.05					
Suggested annual increase in percent									
BASE RATE COST				2.5%					
LABOR & OPER.		LABOR & OPER.		LABOR & OPER.		LABOR & OPER.		LABOR & OPER.	
YEAR	RATE	% INCREASE	\$ INCREASE	RATE	TOTAL RATE	NON-OPERATING INCOME	PROJECTED INCOME	FIXED COST	100 CUFT
2023	\$110.76	2.5%	\$2,769	\$113,532	\$61,811	\$131,438	\$227,127	\$227,127	% INCREASE
2024	\$113.53	2.5%	\$2,838	\$116,370	\$64,653	\$131,438	\$231,521	\$231,521	2.5%
2025	\$116.37	2.5%	\$2,909	\$119,279	\$67,562	\$131,438	\$236,024	\$236,024	2.5%
2026	\$119.28	2.5%	\$2,982	\$122,261	\$70,544	\$131,438	\$240,640	\$240,640	2.5%
2027	\$122.26	2.5%	\$3,057	\$125,318	\$73,601	\$131,438	\$245,372	\$245,372	2.5%
INCREASE CALCULATION USES ONLY LABOR & OPERATIONS COST									
INCREASE RATES ANNUALLY									
LOANS / BONDS / ARE NOT INCLUDED IN ANNUAL INCREASE. RESERVE FUNDING ALREADY HAS COST OF LIVING BUILT INTO REPLACEMENT SPREADSHEETS.									
LOANS, RESERVE FUNDING & OTHER EXPENSES				\$0.00					
LABOR & OPERATIONS COST PER UNIT				\$11.00					
MINUS NON-OPERATING EXTRA INCOME				\$0.00					
TOTAL RATE PER UNIT				\$11.00					
Suggested annual increase in percent									
100 CUFT				2.5%					
		% INCREASE	\$ INCREASE	LABOR & OPER. RATE	TOTAL RATE	NON-OPERATING INCOME	PROJECTED INCOME CONSUMPTION	COMBINED INCOME	TOTAL
		2.5%	\$0.2751	\$11.278	\$11.28	\$0	\$183,214	\$410,341	\$410,341
		2.5%	\$0.2819	\$11.560	\$11.560	\$0	\$187,794	\$419,315	\$419,315
		2.5%	\$0.2890	\$11.849	\$11.849	\$0	\$192,489	\$428,513	\$428,513
		2.5%	\$0.2962	\$12.145	\$12.145	\$0	\$197,301	\$437,941	\$437,941
		2.5%	\$0.3036	\$12.449	\$12.449	\$0	\$202,233	\$447,605	\$447,605