

Bruce Township

Sewer Rate Report

May 4, 2022



Michigan Rural
Water Association



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MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

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MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

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INTRODUCTION

Wastewater collection and treatment is an essential public service provided to Community residents to protect their health and enhance their quality of life by protecting the environment in which they live. Over many years the Community has invested in the essential infrastructure and services necessary to collect, transport, and ensure treatment of the sanitary wastewater from homes and businesses located within the Community.

The construction and maintenance of this infrastructure is one of the most costly investments residents of the Community 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 Sewer System is reasonable but could use a few minor changes to recover the cost of operating the system in a more equitable manner.

Currently the Township charges a cost per REU of the building or if the customer is commercial per 100 cubic feet per water used, if the customer is on the water system.

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

Larger sewer 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 sewer system. For instance having several large buildings that house factories or schools will require larger water mains and a larger water tower 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 400 cubic feet per month.

Ultimately our goal is to collect the money needed to maintain the sewer 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 / sewer system it appears to have excess revenue. The "Cash Flow Statement" page indicates this last year's income exceeded last year's actual expenses showing a profit of \$78,486.

The overall revenue which takes into account fees from new customers and miscellaneous income shows a excess revenue of the last year of \$78,486. Although extra revenue from tap fees and other miscellaneous income should be considered a bonus as this income changes every year.

Looking again at the excess revenue of \$78,486. What the excess revenue of \$78,486 doesn't include is any reserve funding for major equipment maintenance and replacement. Things like painting a repairing a lift station, or replacing a pump. Using the equipment replacement / asset management program established by the EGLE indicated that the Township should be putting money aside on an annual basis to pay for major equipment maintenance and replacement for items that occur on an irregular basis. Additionally, the system should have between 2 and 12 months of unrestricted funds for unexpected expenses. The township should have \$77,000 to \$460,000 for this purpose.

Basically the Township is generating enough revenue to cover every day basic expenses and in some years there is a deficit, and not enough to pay for the irregularly occurring major maintenance items and replacement of existing equipment necessary to providing safe sewage treatment for the community. Additionally, the Township does not currently charge any of the wages of the administrative staff towards the sewer fund. This should be changed sometime in the future.

The Township needs to know exactly how much money will be needed over the next 20 years for these major maintenance expenses / equipment replacement and insure they have money in the bank for these expenditures. Keeping in mind that to much money is almost as bad as not having enough

Putting money aside or "making a profit" 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 we should be putting aside \$5,000 each year in order to have the \$25,000 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

Bruce Township - Com

CONCLUSION OF ANALYSIS

COST PER	CURRENT RATES	CALCULATED RATES	DIFFERENCE
100 CUFT	\$4.36	\$5.12	\$0.76
CURRENT "BASE RATE" CHARGE PER MONTH			
METER SIZE - INCHES	CURRENT RATES	CALCULATED RATES	DIFFERENCE
3/4	\$40.00	\$72.49	\$32.49
1	\$40.00	\$72.49	\$32.49
1 1/2	\$40.00	\$72.49	\$32.49
2	\$40.00	\$72.49	\$32.49
3	\$40.00	\$72.49	\$32.49
4	\$40.00	\$72.49	\$32.49
6	\$40.00	\$72.49	\$32.49

The above rates are based on an input budget of \$459,512

The above rates are based on invoicing the following gallons of water / sewer 1,094,265

The above rates are based on the following number of customers 595

The above rates are based on the following number of Residential Equivalent Units (REU's) 5,388

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 budget 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 :	2083 Estimated
BUDGET USED FOR YEAR OF	2022
<u>Current Rate Structure</u>	
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	
<i>This rate evaluation was completed using the following information</i>	
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 - Com
2nd Entity	Bruce Township - Res

Bruce Township CURRENT RATE CHARGES Customers Are Invoiced MONTHLY PER						
RATE CLASS 1						
Bruce Township - Com						
TYPE OF WATER UNITS	100 CUFT	Notes: 100 CUFT IS FOR COMMERCIAL				
COST PER WATER UNIT	\$4.358					
INVOICES PER YEAR	12					
METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME		
3/4	\$40.00		12	\$0		
1	\$40.00	2	12	\$960		
1 1/2	\$40.00	1	12	\$480		
2	\$40.00	4	12	\$1,920		
3	\$40.00	1	12	\$480		
4	\$40.00	3	12	\$1,440		
6	\$40.00		12	\$0		
TOTALS				11	\$5,280	

Current Rate Charges CUSTOMIZE THIS FOR EACH COMMUNITY

Currently customers are charged based on two factors

Consumption Charge, Which is based on gallons of water that goes through the customer's water meter. Sewage usage is based on water usage. Customers are currently invoiced per unit of water / sewer at the listed price.

A "Base Rate" charge based of \$ XX for a 3/4" 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 - Res						
TYPE OF WATER UNITS	100 CUFT	Ratio Entity # 2 vs. 1	Notes			
COST PER WATER UNIT	\$0.000	0.00				
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	\$30.00	0.75	584	12	\$0	
1	\$30.00			12	\$210,240	
1 1/2	\$30.00			12	\$0	
2	\$30.00			12	\$0	
3	\$30.00			12	\$0	
4	\$30.00			12	\$0	
6	\$30.00			12	\$0	
			584		\$210,240	

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

2022	RATE CLASS 1	RATE CLASS 2					
	Bruce Township - Com	Bruce Township - Res					
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	2	584	586	1.00	1.00	440	5,280
1 1/2	1	0	1	1.00	1.00	1	12
2	4	0	4	1.00	1.00	4	48
3	1	0	1	1.00	1.00	1	12
4	3	0	3	1.00	1.00	3	36
6	0	0	0	1.00	1.00		
TOTAL	11	584	595			449	
TOTAL <u>EQUIVALENT</u> ANNUAL REU'S							5,388
PERCENT REDUCTION							0.00%
REU REDUCTION PER BILLING CYCLE							0.0
ANNUAL <u>EQUIVALENT</u> REU'S USED FOR RATE EVALUATION							5,388

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 XXX THE CURRENT

Bruce Township - Com										2022										UNITS OF WATER OR SEWAGE INVOICED TO CUSTOMERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
USAGE REPORTED IN					CUBIC FEET					PERCENT					2020					PERCENT					2021					PERCENT					AVERAGE					MAX. YEAR					MIN. YEAR					PERCENT					ANTICIPATED					THE PROGRAM USES THE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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The Volumes listed above are only those gallons that are a revenue source.

The cubic feet listed above do not include any water NOT invoiced for winter "Let Runs"

The cubic feet listed above were generated by the Township. The Township takes full responsibility for the accuracy of these numbers.

This table shows the cubic feet of sewage invoiced to customers. The Township is showing a slight decrease in usage over the last few years. For this evaluation we used the average of the last several years. 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 sewage invoiced, (which is based, in part, 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 sewer 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 - Com			Bruce Township - Res		
METER SIZE - INCHES	CURRENT RATES	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME	ANNUAL INCOME	INCOME	% TOTAL INCOME
3/4	\$40.00	0	12	0	\$0	\$0	0%
1	\$40.00	2	12	960	\$210,240	\$211,200	86%
1 1/2	\$40.00	1	12	480	\$0	\$480	0%
2	\$40.00	4	12	1,920	\$0	\$1,920	1%
3	\$40.00	1	12	480	\$0	\$480	0%
4	\$40.00	3	12	1,440	\$0	\$1,440	1%
BASE RATE INCOME				\$5,280	\$210,240	\$215,520	87%
CURRENT VOLUME SALES INCOME							
Bruce Township - Com			Bruce Township - Res				
GALLONS / CUFT SOLD	717,851		0				
COST PER UNIT	\$4.36		\$0.00				
WATER SALES INCOME			\$31,284		\$0		
TOTAL METER SALES INCOME			\$215,520				
TOTAL VOLUME SALES INCOME			\$31,284				
TOTAL INCOME CUSTOMER SALES			\$246,804				
NON SALES REVENUE ANTICIPATED			\$12,901				
TOTAL INCOME ALL SOURCES			\$259,705				
NEW INPUTTED RATE BUDGET			\$459,512				
SCHEDULED PROFIT / LOSS			(\$199,807)				
PERCENT OF INCOME							
BASE RATE					VOLUME SALES		
87%					13%		

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

Bruce Township - Com			
NON-SALES INCOME			
NON-SALES INCOME	2020	2021	2022
SPECIAL ASSESSMENTS			\$ 12,901
TOTAL INCOME (NON SALES)	\$ -	\$ -	\$ 12,901
Portion of (Non Sales) Revenue <u>Guaranteed</u> :			\$ 12,901
Percent Applied Towards Fixed Rate RTS Charge - PERCENT applied per REU			100%
ANNUAL DOLLARS APPLIED TOWARDS <u>FIXED BUDGET</u> - BASE RATE - RTS			\$ 12,901
ANNUAL DOLLARS APPLIED TOWARDS <u>VARIABLE BUDGET</u> - PER UNIT			\$ -

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

LABOR & BENEFITS		ACTUALS EXPENSES FROM PREVIOUS YEARS (COMPARISON PURPOSES ONLY)
Bruce Township - Com		
2022		
2022	RATE BUDGET	YEAR OF
LABOR & BENEFITS	ANNUAL BUDGETED	2021
590-261-707.000 Staff Part Time	\$0	\$488
590-862-710.900 SSN	\$0	\$30
590-863-710.950 Medicare	\$0	\$7
LABOR & BENEFITS	\$0	\$525
LABOR & BENEFITS - ADMINISTRATION- BILLING ETC		
	\$0	\$0
LABOR & BENEFITS - ADMINISTRATION- BILLING ETC	\$0	\$0
LABOR & BENEFITS	\$0	\$525
SUB-TOTAL EXPENSES	\$0	\$525
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 - Com	RATE BUDGET	YEAR OF
SYSTEM EXPENSES	ANNUAL BUDGETED	2021
General Services		
590-191-818.000 Contracted Services	\$7,500	\$7,008
590-261-727.000 Supplies	\$0	\$702
590-261-818.100 Computer Support	\$1,200	\$1,260
590-261-956.000 Misc	\$0	\$483
590-266-818.000 Contract Services Attorney	\$863	\$700
Sewage Disposal		
590-527-818.000 Contracted Services	\$184,896	\$254,450
590-527-956.000 Misc	\$678	\$0
Station Maintenance		
590-529-851.000 Telephone	\$1,390	\$1,953
590-529-920.000 Utilities	\$1,733	\$1,968
590-529-921.000 Gas	\$664	\$637
590-529-933.000 Maintenance	\$1,205	\$2,390
590-529-956.000 Misc	\$56	\$0
590-529-935.000 Grounds Maintenance	\$0	\$1,348
590-529-965.000 Equipment	\$20,734	\$0
General Insurance		
590-851-710.000 Premium	\$3,243	\$2,645
SYSTEM EXPENSES	\$224,162	\$275,544

MICHIGAN RURAL WATER ASSOCIATION RATE
EVALUATION PROGRAM

SUBTOTAL OPERATIONAL EXPENSES	\$224,162	\$275,544
CONTINGENCY	\$0	
SUBTOTAL	\$224,162	
COST OF INFLATION INCREASE	0.00%	
OPERATION & MAINTENANCE EXPENSES	\$224,162	

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 - Com		Notes on loans	
2022			
BOND INSTALLMENT ANNUAL PAYMENT SCHEDULE			
NAME OF LOAN		WWTP	Sewer Fund
PAID BY RATES OR OTHER ?		Rates	Rates and SA
IF OTHER - SOURCE			SA
IF OTHER - \$ CONTRIBUTION FROM OTHER			\$12,901
DATE OF ISSUE		2012	2015
DATE OF MATURITY		2034	2036
IS THERE A RESERVE REQUIREMENT		No	No
WHAT IS THE REQUIRED ANNUAL RESERVE \$			
CURRENT BALANCE IN THE REQUIRED RESERVE			
DATE OF - PRINCIPAL & INTEREST PAYMENT		September 1st	September 1st
\$ AMOUNT OF THIS INTEREST PAYMENT		\$210,000	\$15,000
\$ AMOUNT OF PRINCIPAL THIS PAYMENT		\$80,000	\$3,312
DATE OF - INTEREST PAYMENT		March 1st	March 1st
\$ AMOUNT OF THIS INTEREST PAYMENT		\$80,000	\$3,312
CURRENT CASH BALANCE IN THIS ACCOUNT			
ORIGINAL LOAN AMOUNT		\$3,185,000	\$340,000
LIST THE COMBINED ANNUAL PRINCIPAL & INTEREST PAYMENTS HERE			
		ANNUAL PAYMENTS NEEDED FROM RATE CHARGES	ANNUAL PAYMENTS NEEDED FROM RATE CHARGES
		WWTP	Sewer Fund
2022		\$213,725	\$21,625
2023		\$234,850	\$21,250
2024		\$225,325	\$20,875
2025		\$220,650	\$20,500
2026		\$211,044	\$20,125
2027		\$231,163	\$19,750
2028		\$220,775	\$19,375
2029		\$210,300	\$24,000
2030		\$199,975	\$23,500
2031		\$194,725	\$23,000
2032		\$209,175	\$22,500
2033		\$198,400	\$22,000
2034		\$187,775	\$21,500
2035			\$21,000
2036			\$20,500
2037			
2038			
2039			
2040			
2041			
PAID OFF IN YEAR OF		2034	2036

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

Bruce Township - Com	
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	
WWTP	\$213,725
Sewer Fund	\$21,625
TOTAL ANNUAL PAYMENTS \$ 235,350.00	
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>\$235,350</u>
WHAT YEAR IS LOAN PAID OFF	
IS DEBT LISTED SEPARATELY ON WATER BILL	
IF USDA RD LOAN ANNUAL RESERVE FUNDING	\$0

List any additional notes on the loans here.

Bruce Township - Com
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	\$435,855	\$696,240	\$434,674
BOND PAYMENTS - PRINICAL	\$210,000	\$205,000	\$210,000
BOND PAYMENTS - INTEREST	\$88,092	\$85,278	\$78,887
MINUS DEPRECIATION	\$158,538	\$158,539	\$158,540
NORMAL ANNUAL OPERATING EXPENSES	\$575,409	\$827,979	\$565,021
INCOME ACTUAL EARNED			
REVENUE	\$593,117	\$689,224	\$643,507
INCOME TOTAL CUSTOMER BILLINGS	\$593,117	\$689,224	\$643,507
GALLONS OF WATER SOLD	1,198,654	1,366,291	717,851
NORMAL ANNUAL INCOME	\$593,117	\$689,224	\$643,507
OVERALL INCOME	\$593,117	\$689,224	\$643,507
PROFIT / LOSS CUSTOMER BILLINGS	\$17,708	-\$138,755	\$78,486
PROFIT / LOSS NORMAL REVENUE	\$17,708	-\$138,755	\$78,486
OVERALL PROFIT / LOSS	\$17,708	-\$138,755	\$78,486

2022 CALCULATED RESULTS OF WATER RATE ANALYSIS									
Bruce Township - Com									
LABOR & BENEFITS		ANNUAL BUDGET	PERCENT FIXED EXPENSES	BASE RATE FIXED EXPENSES	COST PER 3/4 METER	CONSUMPTION VARIABLE EXPENSES	VOLUME COST PER UNIT		
OPERATION & MAINTENANCE EXPENSES		\$0	50%	\$0	\$0.00	\$0	\$0.00		
SUBTOTAL OPERATIONAL EXPENSES		\$224,162	75%	\$168,121	\$31.20	\$56,040	\$5.12		
SUBTOTAL OPERATIONAL EXPENSES		\$224,162		\$168,121	\$31.20	\$56,040	\$5.12		
WWTP		\$213,725	100%	\$213,725	\$39.67	\$0	\$0.00		
Sewer Fund		\$21,625	100%	\$21,625	\$4.01	\$0	\$0.00		
SUBTOTAL LOANS		\$235,350		\$235,350	\$43.68	\$0	\$0.00		
TOTAL REGULAR EXPENSES		\$459,512		\$403,471	\$74.88	\$56,040	\$5.12		
		NON OPERATING INCOME REDUCTION PER REU / UNIT			\$2.39		\$0.00		
		RATE CHARGE FOR O&M AND LOANS							
						\$72.49	\$5.12		
						\$40.00	\$4.36		
						\$32.49	\$0.76		
						81%	18%		
ADOPTED BUDGET		\$459,512		\$403,471	\$74.88	\$56,040	\$5.12		
CURRENT REVENUE		\$259,705	88%			12%			
NON OPERATING INCOME REDUCTION CONTRIBUTION					\$12,901	\$0			
REVENUE COLLECTED THROUGH RATES					\$390,570	\$56,040			
NON OPERATING INCOME REDUCTION PER REU / UNIT					2.39		0.00		
CALCULATED RATE PER 3/4 METER		PER	MONTH		\$72.49	100 CUFT	\$5.12		
ANNUAL EQUIVALENT REUS 5,388			CURRENT RATES	\$40.00			\$4.36		
ANTICIPATED GALLONS INVOICED 1,094,265			INCREASE OF	\$32.49			\$0.76		
INVOICES PER YEAR 12			PERCENT INCREASE	81.2%			17.5%		
TOTAL NUMBER OF CUSTOMERS / METERS 595			Bruce Township - Res		\$54.37		\$0.00		
ANTICIPATED EQUIVALENT GALLONS / UNITS 10,943									
GALLONS USED 4,000									
AMOUNT OF BILL \$277.34									
PERCENT INCREASE 29%									
DOES THE COST PER "UNIT" / WATER INCLUDE INCLINING OR DECLINING RATES		NO	ADDITIONAL REVENUE GENERATED		\$175,050		\$8,352		
GALLONS INCLUDED WITH THIS CALCULATED BASE RATE ?		NO	COMBINED ADDITIONAL REVENUE GENERATED		\$183,403		\$8,352		
IS BASE RATE PER REU. - OR PER METER SIZE?		METER SIZE	\$1.00 INCREASE GENERATES		\$5,388		\$10,943		
							\$72.49		

Bruce Township - Com							Bruce Township - Res	
PER 100 CUFT	\$5.12		\$4.36		\$0.76		\$0.00	
	NEW		CURRENT		DIFFERENCE PER MONTH		NEW	
METER SIZE	BASE RATE PER MONTH	METER RATIO FACTOR BEING USED	BASE RATE PER MONTH	CURRENT / OLD METER RATIO	PERCENT INCREASE		BASE RATE PER MONTH	
3/4	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
1	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
1 1/2	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
2	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
3	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
4	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	
6	\$72.49	1.00	\$40.00	1.00	81.2%	\$32.49	\$54.37	

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.

2022

Bruce Township

	Bruce Township - Com	Bruce Township - Com	DIFFERENCE PER MONTH	DIFFERENCE PER MONTH		Bruce Township - Res		
PER 100 CUFT	\$5.12	\$4.36	\$0.76			\$0.00	\$0.00	
	NEW	CURRENT				NEW	CURRENT	DIFFERENCE
METER SIZE	BASE RATE PER MONTH	BASE RATE PER MONTH						
3/4	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
1	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
1 1/4	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
1 1/2	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
2	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
3	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37
4	\$72.49	\$40.00	\$32.49	\$10.83		\$54.37	\$30.00	\$24.37

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 - Com	Bruce Township - Res	REVENUE
	New Cost per Unit of Water Sold		NEW RATES
\$ PER 100 CUFT	\$5.12	\$0.00	
UNITS Sold	10,943	0	10,943
Income	\$56,040	\$0	\$56,040
PERCENT OF USAGE	100%	0%	
PERCENT REVENUE	100%	0%	
NON SALES INCOME APPLIED TO VARIABLE BUDGET			\$0
TOTAL ANTICIPATED REVENUE PER UNIT SALES			\$56,040
METER SIZE	NEW BASE RATE PER MONTH		
1	\$72.49	\$54.37	
NO. CUSTOMERS	2	584	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	24	7,008	
INCOME	\$1,739.73	\$381,001.68	\$382,741
1 1/2	\$72.49	\$54.37	
NO. CUSTOMERS	1	0	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	12	0	
INCOME	\$869.87	\$0.00	\$870
2	\$72.49	\$54.37	
NO. CUSTOMERS	4	0	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	48	0	
INCOME	\$3,479.47	\$0.00	\$3,479
3	\$72.49	\$54.37	
NO. CUSTOMERS	1	0	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	12	0	
INCOME	\$869.87	\$0.00	\$870
4	\$72.49	\$54.37	
NO. CUSTOMERS	3	0	
INVOICES PER YEAR	12	12	
ANNUAL INVOICES	36	0	
INCOME	\$2,609.60	\$0.00	\$2,610
Fixed Income			\$390,570
ANTICIPATED LOSS OF FIXED INCOME FROM REU REDUCTION			\$0
INCOME GENERATED BASE RATE			\$390,570
NON SALES INCOME APPLIED TO FIXED BUDGET			\$12,901
TOTAL ANTICIPATED REVENUE BASE RATE / RTS + NONE SALES INCOME			\$403,471
TOTAL COMBINED CUSTOMER INCOME = BASE RATE + VOLUME INCOME			\$459,512
TOTAL COMBINED CUSTOMER INCOME			\$459,512
Budget Goal			\$459,512
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 Sewer Rates 2022

FIVE YEAR INCREASE									
Bruce Township									
Bruce Township - Com									
LOANS, RESERVE FUNDING & OTHER EXPENSES				LOANS, RESERVE FUNDING & OTHER EXPENSES			\$0.00		
LABOR & OPERATIONS COST PER 3/4" METER				LABOR & OPERATIONS COST PER UNIT			\$5.12		
MINUS NON-OPERATING EXTRA INCOME							\$0.00		
TOTAL RATE				TOTAL RATE PER UNIT			\$5.12		
Suggested annual increase in percent				Suggested annual increase in percent			2.5%		
BASE RATE COST				100 CUFT			PROJECTED INCOME CONSUMPTION		
YEAR	RATE	% INCREASE	\$ INCREASE	% INCREASE	\$ INCREASE	LABOR & OPER. RATE	TOTAL RATE	NON OPERATING INCOME	TOTAL COMBINED INCOME
2023	\$31.20	2.5%	\$0.780	2.5%	\$0.1280	\$5.249	\$5.25	\$0	\$465,116
2024	\$31.98	2.5%	\$0.800	2.5%	\$0.1312	\$5.381	\$5.381	\$0	\$470,860
2025	\$32.78	2.5%	\$0.820	2.5%	\$0.1345	\$5.515	\$5.515	\$0	\$476,748
2026	\$33.60	2.5%	\$0.840	2.5%	\$0.1379	\$5.653	\$5.653	\$0	\$482,782
2027	\$34.44	2.5%	\$0.861	2.5%	\$0.1413	\$5.794	\$5.794	\$0	\$488,968
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. Customers are more likely to pay for rate increases if their rates are generally stable. Most systems know that the worst thing they can do is maintain a stable rate for many years, then increase it by 10 percent or more. A single, large increase can lead to "rate shock" and opposition to the increase. It is far better to increase rates by 2 percent per year for 5 years than 10 percent once every 5 years.