

City of Grand Ledge

Sewer Rate Report

5/2/2016



Prepared By:

Name	Title	Employeer	Email
Mike Engels	Circuit Rider	Michigan Rural Water Association	mikeengels@sbcglobal.net
Larry LaHaie	DPW Director	City of Grand Ledge	
Chuck Remenar	Treasurer	City of Grand Ledge	
Cherly Grice	Treasurer	City of Grand Ledge	

BACKGROUND INFORMATION STARTING SHEET

Name of Community :	GRAND LEDGE SEWER
Population Served :	
BUDGET USED FOR YEAR OF	2016
<u>Current Rate Structure</u>	
Are bills based on 1,000 gallons units or 100 cubic feet units?	1,000
Number of Residential Customer Invoices per Year	4
What are the dates of the Fiscal Year	JULY 1ST
Year of Last Rate Increase	
<i>This rate evaluation was completed using the following information</i>	
System Evaluations (MDEQ etc)	
List the names of the different Entities Served - Originating Entity	GRAND LEDGE SEWER QUARTERLY
2nd Entity	GRAND LEDGE SEWER MONTHLY
3rd Entity	ONEIDA TWP
4th Entity	

GRAND LEDGE SEWER CURRENT RATE CHARGES Customers Are Invoice QUARTERLY PER																
RATE CLASS 1					RATE CLASS 2						RATE CLASS 3					
GRAND LEDGE SEWER QUARTERLY					GRAND LEDGE SEWER MONTHLY						ONEIDA TWP					
TYPE OF WATER UNITS	1,000 GALLONS				TYPE OF WATER UNITS	1,000 GALLONS	Ratio Entity # 2 vs. 1				TYPE OF WATER UNITS	1,000 GALLONS	Ratio Entity # 3 vs 1	NOTES		
COST PER WATER UNIT	\$8.45				COST PER WATER UNIT	\$8.45	1.00				COST PER WATER UNIT	\$8.45	1.00			
INVOICES PER YEAR	4				INVOICES PER YEAR	12					INVOICES PER YEAR	4				
METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME	METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	Ratio Entity # 2 vs. 1	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME	METER SIZE - INCHES	CURRENT "BASE RATE" CHARGE	Ratio Entity # 3 vs 1	NUMBER OF METERS	INVOICE FREQUENCY	ANNUAL INCOME
"3/4	\$6.25	2705	4	\$67,625	"3/4	\$2.08	0.33	5	12	\$125	"3/4	\$6.25	1.00	386	4	\$9,650
1	\$6.25	28	4	\$700	1	\$2.08		7	12	\$175	1			16	4	\$0
1.25	\$6.25		4	\$0	1.25	\$2.08			12	\$0	1.25				4	\$0
1.5	\$6.25	16	4	\$400	1.5	\$2.08		11	12	\$275	1.5				4	\$0
2	\$6.25	15	4	\$375	2	\$2.08		27	12	\$675	2			2	4	\$0
3	\$6.25	1	4	\$25	3	\$2.08		7	12	\$175	3				4	\$0
4	\$6.25		4	\$0	4	\$2.08		3	12	\$75	4				4	\$0
6	\$6.25		4	\$0	6	\$2.08		1	12	\$25	6				4	\$0
TOTALS		2765		\$69,125				61		\$1,525				404		\$9,650

Current Rate Structure City of Grand Ledge

The current sewer rate structure for the City of Grand Ledge is reasonable but could use a few minor changes to recover the cost of operating the system in a more equitable manner.

Currently the City charges a cost per 1,000 gallons of water and sewer used. The rate per 1,000 gallons is the same regardless of who the customer is or how much they use. Everyone pays the same rate starting from the first gallon used.

The debt is collected partially through the base rate with all customers paying the same rate on a quarterly basis. A portion of the debt is collected through the sewer sales.

Currently the City charges a base rate or Ready to Serve charge which is invoiced every quarter (which includes part of the debt). The same base rate is charged to everyone regardless of how much sewage they use or the size of the meter serving the customer or the size of the building being served.

This format should be changed at some point in the future. It is common practice and an equitable practice to base the "ready to serve charge" or "base rate" on the size of the water meter.

Larger water / sewer users take up capacity of the system. The system has a limited capacity (gallons) 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 / 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 3,000 gallons per month.

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

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

2016

GRAND LEDGE SEWER QU.

RATE STRUCTURE

CURRENT RATE STRUCTURE

ARE ANY GALLONS INCLUDED WITH THE RESIDENTIAL "BASE RATE"?	NO
ARE COMMERCIAL & INDUSTRIAL CUSTOMERS METERED	
ARE ANY GALLONS ARE INCLUDED WITH THE COMMERCIAL & INDUSTRIAL "BASE RATE"	NO
"BASE RATES" OR "READY TO SERVE" CHARGES ARE BASED ON WHAT	PER CUSTOMER NOT ON METER SIZE OR REU
HOW ARE MULTI-UNIT DWELLINGS BILLED? BY METER SIZE? OR # OF UNITS? OR?	PER CUSTOMER
DO ANY CUSTOMERS GET A DISCOUNT? LIKE A SENIOR CITIZEN DISCOUNT? EXPLAIN	NO
Is there a Declining / Inclining Rate adjustment, based on gallons used?	NO
Do you have an annual cost of living increase built into the current rates / ordinance?	NO
DO ANY CUSTOMERS OR GROUP OF CUSTOMERS GET A SURCHARGE? IF YES EXPLAIN	NO
ARE ANY CUSTOMERS BILLED UNIQUELY, LIKE CHURCH'S, SCHOOLS, SENIORS ETC	NO
ARE GALLONS OF SEWAGE ESTIMATED, AVERAGED, OR ALTERED FOR SUMMER USAGE	NO
Are customers allowed irrigation only meters?	YES
Is there a "Ready to Serve Fee" for irrigation meters	NO
Do you serve any other entities - Such as townships etc?	ONEIDA
Are townships charged a different or Higher rate than community customers?	NO
Is there still a monthly fee if a customers water is shut off at the curb?	
What is the Turn on / Turn off fee for water customers	\$50 EACH WAY
Is there a Hydrant Rental Fee	NO
Are there any other major sources of income to help offset the rates	
Is there a charge for "Fire Service Lines"	NO

GRAND LEDGE SEWER			
GRAND LEDGE SEWER QUARTERLY			
CONCLUSION OF ANALYSIS			
COST PER	CURRENT RATES	CALCULATED RATES	DIFFERENCE
1,000 GAL.	\$8.45	\$8.45	(\$0.00)
BASE RATE / READY TO SERVE CHARGE PER QUARTER			
METER SIZE - INCHES	CURRENT RATES	CALCULATED RATES	DIFFERENCE
"3/4	\$6.25	\$23.27	\$17.02
1	\$6.25	\$58.18	\$51.93
1.5	\$6.25	\$116.36	\$110.11
2	\$6.25	\$186.18	\$179.93
3	\$6.25	\$372.35	\$366.10
4	\$6.25	\$581.80	\$575.55
6	\$6.25	\$1,163.60	\$1,157.35

The above rates are based on an input budget of	\$2,088,771
The above rates are based on invoicing the following gallons of water / sewer	202,382,545
The above rates are based on the following number of customers	3,230
The above rates are based on the following number of Residential Equivalent Units (REU's)	15,854

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.

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

CALCULATED RESULTS						2016
GRAND LEDGE SEWER QUARTERLY	ANNUAL BUDGET	PERCENT BASE RATE	BASE FIXED	COST PER 3/4" METER	CONSUMPTION PORTION	COST / UNIT OF WATER
LABOR & BENEFITS	\$542,905	12%	\$65,149	\$4.11	\$477,756	\$2.36
OPERATION & MAINTENANCE EXPENSES	\$590,166	12%	\$69,049	\$4.36	\$521,117	\$2.57
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	\$442,631	20%	\$88,526	\$5.58	\$354,105	\$1.75
ASSET REPLACEMENT AND REHABILIATION	\$101,353	20%	\$20,372	\$1.28	\$80,981	\$0.40
CAPITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$411,716	31%	\$127,632	\$8.05	\$284,084	\$1.40
			\$0	\$0.00	\$0	\$0.00
TOTALS	\$2,088,771		\$370,728	\$23.38	\$1,718,043	\$8.49
			18%		82%	
NON OPERATING INCOME REDUCTION				0.11		0.04
CALCULATED RATE - FOR 3/4" METER / REU PER QUARTER				\$ 23.27	1,000 GAL.	\$ 8.45
TOTAL ANNUAL EQUIVALENT REU'S 15,854			CURRENT RATES	\$6.25		\$8.45
ANTICIPATED WATER / SEWER SOLD 202,382,545			INCREASE OF	\$17.02		(\$0.00)
RESERVE PORTION OF BUDGET 25%			GRAND LEDGE SEWER MONTHLY	\$7.76		\$8.45
INVOICES PER YEAR 4			EVERY MILLION GALLONS GENERATES REVENUE OF			\$8,448
UNIT / WATER" DOES INCLUDE INCLINING OR DECLINING RATES	NO					
ANY GALLONS INCLUDED WITH THIS CALCULATED BASE RATE ?	NO					
IS BASE RATE PER REU, - OR PER METER SIZE?	METER SIZE		\$1.00 INCREASE GENERATES	\$15,854		\$202,383

INCOME GENERATED - BASED ON NEW RATES

GRAND LEDGE SEWER				
	GRAND LEDGE SEWER QUARTERLY	GRAND LEDGE SEWER MONTHLY	ONEIDA TWP	REVENUE NEW RATES
	New Cost per Unit of Water Sold			
PER 1,000 GAL.	\$8.45	\$8.45	\$8.45	
UNITS Sold	181,518	0	20,865	202,383
Income	\$1,533,544.03	\$0.00	\$176,273.53	\$1,709,818
METER SIZE				
	BASE RATE PER QUARTER			
"3/4	\$23.27	\$7.76	\$23.27	
<i>INCOME</i>	\$251,802.30	\$465.44	\$35,931.86	\$288,200
1	\$58.18	\$19.39	\$58.18	
<i>INCOME</i>	\$6,516.14	\$1,629.04	\$3,723.51	\$11,869
1.25	\$0.00	\$0.00	\$0.00	
<i>INCOME</i>	\$0.00	\$0.00	\$0.00	\$0
1.5	\$116.36	\$38.79	\$116.36	
<i>INCOME</i>	\$7,447.02	\$5,119.82	\$0.00	\$12,567
2	\$186.18	\$62.06	\$186.18	
<i>INCOME</i>	\$11,170.53	\$20,106.95	\$1,489.40	\$32,767
3	\$372.35	\$124.12	\$372.35	
<i>INCOME</i>	\$1,489.40	\$10,425.83	\$0.00	\$11,915
4	\$581.80	\$193.93	\$581.80	
<i>INCOME</i>	\$0.00	\$6,981.58	\$0.00	\$6,982
6	\$1,163.60	\$387.87	\$1,163.60	
<i>INCOME</i>	\$0.00	\$4,654.39	\$0.00	\$4,654
Total Fixed Income				\$368,953
TOTAL Combined Customer Income				\$2,078,771
Non Sales Income				\$10,000
Total Income				\$2,088,771
Budget				\$2,088,771
Difference				\$0.00

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

CALCULATED RESULTS						2016
GRAND LEDGE SEWER QUARTERLY	ANNUAL BUDGET	PERCENT BASE RATE	BASE FIXED	COST PER 3/4" METER	CONSUMPTION PORTION	COST / UNIT OF WATER
LABOR & BENEFITS	\$542,905	12%	\$65,149	\$4.11	\$477,756	\$2.36
OPERATION & MAINTENANCE EXPENSES	\$590,166	12%	\$69,049	\$4.36	\$521,117	\$2.57
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	\$442,631	20%	\$88,526	\$5.58	\$354,105	\$1.75
ASSET REPLACEMENT AND REHABILITATION	\$101,353	20%	\$20,271	\$1.28	\$81,083	\$0.40
CAPITAL IMPROVEMENT PROJECTS	\$200,366	0%	\$0	\$0.00	\$200,366	\$0.99
CONTINGENCY	\$85,000	0%	\$0	\$0.00	\$85,000	\$0.42
2nd CONTINGENCY	\$15,200	100%	\$15,200	\$0.96	\$0	\$0.00
EXTRA CIP	\$50,000	100%	\$50,000	\$3.15	\$0	\$0.00
		50%	\$0	\$0.00	\$0	\$0.00
TOTALS	\$2,027,621		\$308,195	\$19.44	\$1,719,426	\$8.50
			15%		85%	
NON OPERATING INCOME REDUCTION				0.11		0.04
CALCULATED RATE - FOR 3/4" METER / REU PER QUARTER				\$ 19.33	1,000 GAL.	\$ 8.46
TOTAL ANNUAL EQUIVALENT REU'S 15,854			CURRENT RATES	\$6.25		\$8.45
ANTICIPATED WATER / SEWER SOLD 202,382,545			INCREASE OF	\$13.08		\$0.01
RESERVE PORTION OF BUDGET 22%			GRAND LEDGE SEWER MONTHLY	<u>\$7.76</u>		<u>\$8.45</u>
INVOICES PER YEAR 4			EVERY MILLION GALLONS GENERATES REVENUE OF			\$8,455
PER "UNIT / WATER" DOES INCLUDE INCLINING OR DECLINING RATES	NO					
ARE ANY GALLONS INCLUDED WITH THIS CALCULATED BASE RATE ?	NO					
IS BASE RATE PER REU, - OR PER METER SIZE?	METER SIZE		\$1.00 INCREASE GENERATES	\$15,854		\$202,383

2016

GRAND LEDGE SEWER

	GRAND LEDGE SEWER QUARTERLY	GRAND LEDGE SEWER MONTHLY	ONEIDA TWP
PER 1,000 GAL.	\$8.45	\$8.45	\$8.45
METER SIZE	BASE RATE PER QUARTER	BASE RATE PER MONTH	BASE RATE PER QUARTER
"3/4	\$23.27	\$7.76	\$23.27
1	\$58.18	\$19.39	\$58.18
1.5	\$116.36	\$38.79	\$116.36
2	\$186.18	\$62.06	\$186.18
3	\$372.35	\$124.12	\$372.35
4	\$581.80	\$193.93	\$581.80
6	\$1,163.60	\$387.87	\$1,163.60

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.

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

2016	RATE CLASS 1		RATE CLASS 2		RATE CLASS 3				
	GRAND LEDGE SEWER QUARTERLY		GRAND LEDGE SEWER MONTHLY		ONEIDA TWP				
METER SIZE - INCHES	NUMBER OF METERS	INVOICE FREQUENCY	NUMBER OF METERS	INVOICE FREQUENCY	NUMBER OF METERS	INVOICE FREQUENCY	CUSTOMERS ACTUAL	CALCULATED METER EQUIVALENT	ANNUAL EQUIVALENT METERS
"3/4	2705	4	5	12	386	4	3096	1.00	12,384
1	28	4	7	12	16	4	51	2.50	510
1.5	16	4	11	12	0	4	27	5.00	540
2	15	4	27	12	2	4	44	8.00	1,408
3	1	4	7	12	0	4	8	16.00	512
4	0	4	3	12	0	4	3	25.00	300
6	0	4	1	12	0	4	1	50.00	200
TOTAL	2765		61		404		3230		
The table above list the number of water meters being invoiced for each size water meter for each entity being served.							TOTAL <u>EQUIVALENT</u> ANNUAL REU'S		15,854
							PERCENT REDUCTION		0.00%
							REU REDUCTION PER BILLING CYCLE		0.0
							ANNUAL <u>EQUIVALENT</u> REU'S USED FOR RATE EVALUATION		15,854

GRAND LEDGE SEWER QL 2016		UNITS OF WATER OR SEWAGE INVOICED TO CUSTOMERS				
USAGE REPORTED IN	GALLONS					
USAGE REPORTED IN	CALENDAR YEARS				MIN. YEAR	UNITS USED IN RATE EVALUATION
		2012/2013	2013/2014	2014/2015		
GRAND LEDGE SEWER QUARTERLY		214,320,071	186,025,168	185,222,377	185,222,377	181,517,929
ONEIDA TWP		25,502,399	21,290,424	22,610,341	21,290,424	20,864,616
TOTALS		239,822,470	207,315,592	207,832,718	206,512,801	202,382,545
		PERCENT OFF MINIMUM YEAR				2%
		GALLONS OF REDUCTION				4,130,256
		GALLONS USED FOR EVALUATION				202,382,545

THE VOLUMES LISTED ABOVE ARE ONLY THE VOLUMES INVOICED TO CUSTOMERS AND DO NOT INCLUDE ANY FREE WATER INCLUDED WITH THE MINIMUM BILL -

WATER IS SOLD AT A LOWER RATE FOR THE FIRST 10,000 GALLONS PER QUARTER - OR 3,333 GALLONS FOR THOSE WHO ARE INVOICED ON A MONTHLY BASIS.

THE TOWNSHIP IS CHARGED TWICE THE CITY RATE PER UNIT OF WATER SOLD.

THE GALLONS LISTED ABOVE DO NOT INCLUDE ANY WATER NOT INVOICED FOR WINTER "LET RUNS"

THE GALLONS LISTED ABOVE DO NOT INCLUDE ANY WATER NOT INVOICED FOR WINTER "LET RUNS"

This table shows the gallons of water / sewage invoiced to customers. The Township is showing a slight decrease in usage over the past three years. For purposes of this evaluation we anticipated a reduction in usage of 2%. 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.

GRAND LEDGE SEWER QUARTERLY		INCOME TREND BASED ON VOLUME INVOICED		
YEAR	2012	2013	2014	PROJECTED 1 YEAR OUT
GALLONS SOLD	239,822,470	207,315,592	207,832,718	202,382,545
RATE PER UNIT SOLD	\$7.28	\$7.28	\$7.28	\$8.45
	DIFFERENCE IN GALLONS		31,989,752	37,439,925
INCOME	\$1,745,908	\$1,509,258	\$1,513,022	\$1,709,818
	REVENUE DIFFERENCE		-\$232,885	-\$36,090

GRAND LEDGE SEWER QUARTERLY

NON-SALES INCOME

NON-SALES INCOME	2012/2013	2013/2014	2014/2015	2016/2017
OPERATIONAL REVENUE		\$ 560	\$ 2,234	
INSURANCE DIV			\$ 10,280	\$ 6,250
EQUIPMENT RENTAL	\$ 7,046	\$ 20,762	\$ 7,150	\$ 11,650
REIMB OPERATION SUPPLIES	\$ 2,910	\$ 2,615		\$ 2,025
SEPERATION FEE	\$ 44,830	\$ 28,000	\$ 6,000	\$ 30,000
SALE OF FIXED ASSETS			\$ 8,131	
<i>NO PENALTIES</i>				
CAPITAL INVESTMENT TAP FEES - TWP	\$ 39,389	\$ 12,098		\$ 32,370
TAP FEES	\$ 5,730	\$ 3,980		\$ 4,950
TOTAL INCOME (NON SALES)	\$ 99,905.00	\$ 68,015.00	\$ 33,795.00	\$ 87,245.00

AVERAGE NON SALES INCOME \$ 50,428.75

Portion of (Non Sales) Revenue Guaranteed : \$ 10,000

Percent Applied Towards Fixed Rate **18%**

This is income from sources other than the direct sale of water and or sewage and the quarterly billings. The penalties income will be reapplied to the water budget to help offset the water rates.

TOTAL COMBINED <u>CURRENT</u> IN FISCAL YEAR 2014/2015					GRAND LEDGE SEWER		
WATER UNITS = 1,000 INVOICES PER YEAR = 4							
CURRENT METER / BASE RATE INCOME							
GRAND LEDGE SEWER QUARTERLY			GRAND LEDGE SEWER MONTHLY	ONEIDA TWP			
METER SIZE - INCHES	CURRENT RATES	ANNUAL INCOME	ANNUAL INCOME	ANNUAL INCOME	INCOME	% INCOME	% TOTAL INCOME
"3/4	\$6.25	67,625	\$125	\$9,650	\$77,400	96%	4%
1	\$6.25	700	\$175	\$0	\$875	1%	0%
1.25	\$6.25	0	\$0	\$0	\$0	0%	0%
1.5	\$6.25	400	\$275	\$0	\$675	1%	0%
2	\$6.25	375	\$675	\$0	\$1,050	1%	0%
3	\$6.25	25	\$175	\$0	\$200	0%	0%
4	\$6.25	0	\$75	\$0	\$75	0%	0%
6	\$6.25	0	\$25	\$0	\$25	0%	0%
BASE RATE INCOME		\$69,125	\$1,525	\$9,650	\$80,300		4%
CURRENT VOLUME SALES INCOME							
GRAND LEDGE SEWER QUARTERLY		GRAND LEDGE SEWER MONTHLY		ONEIDA TWP	TOTALS		
GALLONS / CUFT SOLD	185,222,377	0		22,610,341	207,832,718		
COST PER UNIT	\$8.45	\$8.45		\$8.45		% INCOME	
WATER SALES INCOME	\$1,565,129	\$0		\$191,057	\$1,756,186	96%	
TOTAL METER SALES INCOME		\$80,300					
TOTAL VOLUME SALES INCOME		\$1,756,186					
TOTAL INCOME CUSTOMER SALES		\$1,836,486					
NON SALES REVENUE		\$33,795					
TOTAL INCOME ALL SOURCES		\$1,870,281					
NEW RATE BUDGET		\$2,088,771					
SCHEDULED PROFIT / LOSS		(\$218,489)					
					PERCENT OF INCOME		
					BASE RATE	VOLUME SALES	
					4%	96%	

This page calculates out what the actual income should be based on the number of customers and gallons of water / sewer entered earlier in the program. Ideally the income shown above should be close to the actual income reported.

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

LABOR & BENEFITS					
GRAND LEDGE SEWER QUARTERLY					
2016					
LABOR & BENEFITS - FIELD / MAINTENANCE		2016/2017'	ACTUAL	ACTUAL	
		ANNUAL BUDGETED	2014/2015'	2013/2014'	
PLANT O & M					
	SALARIES	\$ 237,072	\$ 250,221	\$ 219,319	
	OVERTIME	\$ 2,505	\$ 7,158	\$ 6,882	
	FRINGES	\$ 107,330	\$ 118,401	\$ 103,125	
LIFT STATIONS					
	SALARIES	\$ 9,174	\$ 11,136	\$ 14,793	
	OVERTIME	\$ 1,853	\$ 2,250	\$ 3,053	
	FRINGES	\$ 4,940	\$ 6,101	\$ 8,071	
SEWERS					
	SALARIES	\$ 83,372	\$ 36,561	\$ 44,940	
	OVERTIME	\$ 2,205	\$ 1,798	\$ 3,820	
	FRINGES	\$ 38,338	\$ 17,534	\$ 21,967	
SEWER GENERAL EXP					
	SALARIES	\$ 30,543	\$ 20,314	\$ 20,188	
	OVERTIME	\$ 323	\$ -	\$ -	
	FRINGES	\$ 13,828	\$ 9,370	\$ 9,313	
	POSTHEALTH CARE RETIREMENT	\$ 11,422	\$ 11,422	\$ 12,140	
SUB TOTAL MAINTENANCE & ADMINISTRATION		\$542,905	\$492,266	\$467,611	
Cost of Inflation Increase		0.00%			
TOTAL LABOR & BENEFITS		\$542,905			
ARE EMPLOYEES MAKING A LIVABLE WAGE AND RECEIVING INCREASES ANNUALLY?					

MICHIGAN RURAL WATER ASSOCIATION RATE
EVALUATION PROGRAM

OPERATION & MAINTENANCE EXPENSES			
2016			
GRAND LEDGE SEWER QUARTERLY		2016/2017'	ACTUAL
SYSTEM EXPENSES		ANNUAL BUDGETED	ACTUAL
		2014/2015'	2013/2014'
PLANT O & M	\$ 284,150	\$ 279,250	\$ 259,662
LIFT STATION	\$ 32,100	\$ 30,488	\$ 28,626
SEWERS	\$ 53,000	\$ 13,397	\$ 30,734
CONTRACTUAL - ONE TIME SEWER CLEANING = \$167,000			
SEWER GENERAL	\$ 220,916	\$ 341,078	\$ 277,324
SUBTOTAL OPERATIONAL EXPENSES		\$590,166	\$664,213
CONTINGENCY		\$0	
SUBTOTAL		\$590,166	
COST OF INFLATION INCREASE		0.00%	
TOTAL OPERATIONAL EXPENSES		\$590,166	

Notes

Subtracted out 15,000 for billing software as a one time purchase from Sewer General

GRAND LEDGE SEWER QUARTERLY			
2016			
BOND INSTALLMENT ANNUAL PAYMENT SCHEDULE			
NAME OF LOAN	2014 REFUNDED	SEWER 2009 LOAN	2005 LOAN
PAID BY RATES OR OTHER ?	RATES	RATES	RATES
IF OTHER - SOURCE			
IF OTHER - \$ CONTRIBUTION FROM OTHER			
DATE OF ISSUE	2004	2009	2005
DATE OF MATURITY	2025	2030	2016
IS THERE A RESERVE REQUIREMENT	NO		
WHAT IS THE REQUIRED RESERVE \$\$			
CURRENT BALANCE IN THE REQUIRED RESERVE			
DATE OF PRINCIPAL & INTEREST PAYMENT	APRIL 1ST	APRIL 1ST	APRIL 1ST
\$ AMOUNT OF THIS INTEREST PAYMENT	\$19,736	\$34,176	
\$ AMOUNT OF PRINCIPAL THIS PAYMENT	\$130,014	\$155,000	\$47,736
DATE OF INTEREST PAYMENT	OCT 1ST		
\$ AMOUNT OF THIS INTEREST PAYMENT	\$19,736	\$34,176	
CURRENT CASH BALANCE IN THIS ACCOUNT	\$0		
ORIGINAL LOAN AMOUNT	\$4,960,000		
	ANNUAL PAYMENTS	ANNUAL PAYMENTS	ANNUAL PAYMENTS
2016	\$219,279	\$223,352	\$47,736
2017	\$219,512	\$223,352	PAID OFF
2018	\$217,726	\$223,352	
2019	\$217,843	\$223,352	
2020	\$217,882	\$223,352	
2021	\$217,882	\$223,353	
2022	\$217,882	\$223,354	
2023	\$217,882	\$223,355	
2024	\$217,882	\$223,356	
2025	\$217,882	\$223,357	
2026	PAID OFF	\$223,357	
2027		\$223,357	
2028		\$223,357	
2029		\$223,357	
2030		PAID OFF	
PAID OFF IN YEAR OF ?	2025	2030	2016

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

GRAND LEDGE SEWER QUARTERLY	
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	
2014 REFUNDED	\$219,279
SEWER 2009 LOAN	\$223,352
TOTAL ANNUAL PAYMENTS	\$ 442,630.83
<i>MINUS INCOME TAX OR SPECIAL ASSES.</i>	
Adjusted Current Bond or Debt Minus Taxes etc.	\$ 442,630.83
No Tax revenue or special assessment revenue is applied to these payments	
TOTAL DEBT - NEW & CURRENT	<u>\$442,630.83</u>

**GRAND LEDGE SEWER
SUMMARY RESERVE FUNDING**

TYPE OF RESERVE FUND	ANNUAL FUNDING	STARTING BALANCE IN SAVINGS
ASSETS COLLECTION SYSTEM	\$27,870	\$0
ASSETS WWTP 1	\$32,881	\$0
ASSETS WWTP 2	\$40,602	\$0
TOTAL REQUIRED MAINTENANCE RESERVE	\$101,353	\$0
CAPITAL IMPROVEMENT PROJECTS	\$200,366	\$ -
TOTAL SYSTEM IMPROVEMENT RESERVE	\$200,366	\$0
TOTAL RESERVE	\$301,719	\$0

YEAR	ANNUAL RESERVE FUNDING LEVEL	ANNUAL RESERVE AMOUNTS			EQUIPMENT ONLY		CAPITAL IMPROVEMENT PROJECTS	COMBINED ANNUAL EXPENDITURES	COMBINED YEAR END BALANCE
		ASSETS COLLECTION SYSTEM	ASSETS WWTP 1	ASSETS WWTP 2	TOTAL ANNUAL EXPENDITURES	YEAR END BALANCE			
2015	\$101,353	\$27,870	\$32,881	\$40,602	\$57,037	\$44,418	\$200,366	\$257,403	\$244,984
2016	\$101,353	\$27,870	\$32,881	\$40,602	\$39,780	\$106,035	\$200,366	\$240,146	\$58,503
2017	\$101,353	\$27,870	\$32,881	\$40,602	\$4,680	\$202,814	\$200,366	\$205,046	\$355,600
2018	\$101,353	\$27,870	\$32,881	\$40,602	\$28,768	\$275,602	\$200,366	\$229,134	\$322,406
2019	\$101,353	\$27,870	\$32,881	\$40,602	\$97,027	\$280,204	\$200,366	\$297,393	\$344,670
2020	\$101,353	\$27,870	\$32,881	\$40,602	\$133,650	\$248,187	\$200,366	\$334,016	\$312,084
2021	\$101,353	\$27,870	\$32,881	\$40,602	\$23,744	\$326,044	\$200,366	\$224,110	\$403,371
2022	\$101,353	\$27,870	\$32,881	\$40,602	\$35,739	\$391,985	\$200,366	\$236,105	\$669,754
2023	\$101,353	\$27,870	\$32,881	\$40,602	\$16,929	\$476,801	\$200,366	\$217,295	\$955,214
2024	\$101,353	\$27,870	\$32,881	\$40,602	\$204,942	\$373,688	\$200,366	\$405,308	\$1,052,946
2025	\$101,353	\$27,870	\$32,881	\$40,602	\$130,717	\$344,698	\$200,366	\$331,083	\$1,225,000
2026	\$101,353	\$27,870	\$32,881	\$40,602	\$51,484	\$394,912	\$200,366	\$251,850	\$1,476,460
2027	\$101,353	\$27,870	\$32,881	\$40,602	\$31,682	\$464,978	\$200,366	\$232,048	\$1,747,974
2028	\$101,353	\$27,870	\$32,881	\$40,602	\$56,462	\$510,334	\$200,366	\$256,828	\$1,994,979
2029	\$101,353	\$27,870	\$32,881	\$40,602	\$124,723	\$487,475	\$200,366	\$325,089	\$2,173,969
2030	\$101,353	\$27,870	\$32,881	\$40,602	\$396,500	\$192,815	\$200,366	\$596,866	\$2,081,362
2031	\$101,353	\$27,870	\$32,881	\$40,602	\$14,032	\$280,330	\$200,366	\$214,397	\$2,371,131
2032	\$101,353	\$27,870	\$32,881	\$40,602	\$148,740	\$233,223	\$200,366	\$349,106	\$2,526,481
2033	\$101,353	\$27,870	\$32,881	\$40,602	\$64,007	\$270,803	\$200,366	\$264,373	\$2,766,719
2034	\$101,353	\$27,870	\$32,881	\$40,602	\$4,140	\$368,287	\$200,366	\$204,506	\$3,067,065
2035	\$101,353	\$27,870	\$32,881	\$40,602	\$609,980	(\$139,972)	\$200,366	\$810,346	\$2,761,871
2036	\$101,353	\$27,870	\$32,881	\$40,602	\$45,440	(\$84,199)	\$200,366	\$245,806	\$3,020,912
2037	\$101,353	\$27,870	\$32,881	\$40,602	\$95,112	(\$78,042)	\$200,366	\$295,478	\$3,230,540
2038	\$101,353	\$27,870	\$32,881	\$40,602	\$51,056	(\$27,823)	\$200,366	\$251,422	\$3,484,433
2039	\$101,353	\$27,870	\$32,881	\$40,602	\$106,841	(\$33,339)	\$200,366	\$307,207	\$3,682,795
2040	\$101,353	\$27,870	\$32,881	\$40,602	\$103,652	(\$35,670)	\$200,366	\$304,017	\$3,884,545
2041	\$101,353	\$27,870	\$32,881	\$40,602	\$10,184	\$55,463	\$200,366	\$210,550	\$4,179,965
2042	\$101,353	\$27,870	\$32,881	\$40,602	\$70,917	\$85,955	\$200,366	\$271,283	\$4,414,947
TOTALS	\$2,837,889	\$780,372	\$920,672	\$1,136,846	\$2,757,966				

2016

GRAND LEDGE SEWER

	GRAND LEDGE SEWER QUARTERLY	GRAND LEDGE SEWER QUARTERLY	DIFFERENCE PER QUARTER
PER 1,000 GAL.	\$8.45	\$8.45	\$0.00
	NEW	CURRENT	
METER SIZE	BASE RATE PER QUARTER	BASE RATE PER QUARTER	
"3/4	\$23.27	\$6.25	\$17.02
1	\$58.18	\$6.25	\$51.93
1.5	\$116.36	\$6.25	\$110.11
2	\$186.18	\$6.25	\$179.93
3	\$372.35	\$6.25	\$366.10
4	\$581.80	\$6.25	\$575.55
6	\$1,163.60	\$6.25	\$1,157.35

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.

2016

	GRAND LEDGE SEWER MONTHLY	GRAND LEDGE SEWER MONTHLY	DIFFERENCE PER MONTH
PER 1,000 GAL.	\$8.45	\$8.45	\$0.00
	NEW	CURRENT	
METER SIZE			
"3/4	\$7.76	\$2.08	\$5.67
1	\$19.39	\$2.08	\$17.31
1.5	\$38.79	\$2.08	\$36.70
2	\$62.06	\$2.08	\$59.98
3	\$124.12	\$2.08	\$122.03
4	\$193.93	\$2.08	\$191.85
6	\$387.87	\$2.08	\$385.78

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

2016

	ONEIDA TWP	ONEIDA TWP	DIFFERENCE PER MONTH
PER 1,000 GAL.	\$8.45	\$8.45	\$0.00
	NEW	CURRENT	
METER SIZE			
"3/4	\$23.27	\$6.25	\$17.02
1	\$58.18	\$6.25	\$51.93
1.5	\$116.36	\$6.25	\$110.11
2	\$186.18	\$6.25	\$179.93
3	\$372.35	\$6.25	\$366.10
4	\$581.80	\$6.25	\$575.55
6	\$1,163.60	\$6.25	\$1,157.35

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

TYPICAL BILL USING NEW RATES GRAND LEDGE SEWER QUARTERLY					<i>PER 1,000 GAL.</i>
METER SIZE	GALLONS USED	NEW BILL	OLD BILL	CHANGE IN BILL	PERCENT INCREASE
3/4	3,000	\$48.62	\$31.60	\$17.02	54%
3/4	7,000	\$82.41	\$65.40	\$17.01	26%
3/4	10,000	\$107.76	\$90.75	\$17.01	19%
3/4	20,000	\$192.24	\$175.25	\$16.99	10%
3/4	25,000	\$234.48	\$217.50	\$16.98	8%
1	25,000	\$269.39	\$217.50	\$51.89	24%
1.5	25,000	\$327.57	\$217.50	\$110.07	51%
2	30,000	\$439.63	\$259.75	\$179.88	69%
3	50,000	\$794.77	\$428.75	\$366.02	85%
4	60,000	\$1,088.70	\$513.25	\$575.45	112%
GALLONS INCLUDED MIN BILL		0	0		

ASSET INVENTORY, REPLACEMENT & REHABILITATION SCHEDULE					
COST OF LIVING INCREASE:					2.00%
ESTIMATED RESERVE FUNDS:					
AVG. INTEREST RATE IN SAVINGS:					0.10%
USDA RURAL DEVELOPMENT RRI ANNUAL RESERVE					
ASSET REPLACEMENT ANNUAL FUNDING				\$ 18,396	
ASSET REHAB ANNUAL FUNDING				\$ 3,900	
COMBINED ANNUAL RESERVED				\$ 22,296	
Percent Funded				125%	
Annual Funding Applied to Budget / Rates				\$ 27,870	
YEAR	PURPOSE	ANNUAL REHAB EXPENDITURES WITH C.O.L.	ANNUAL REPLACEMENT EXPENDITURES WITH C.O.L.	ANNUAL FUNDING AMOUNT	RUNNING BALANCE
2016	SEE EQUIPMENT LIST FOR ANNUAL EXPENDITURES	\$0	\$16,900	\$ 27,870	\$10,998
2017		\$0	\$0	\$27,870	\$38,880
2018		\$0	\$0	\$27,870	\$66,789
2019		\$0	\$0	\$27,870	\$94,726
2020		\$3,240	\$66,744	\$27,870	\$52,707
2021		\$33,000	\$47,080	\$27,870	\$550
2022		\$0	\$16,464	\$27,870	\$11,957
2023		\$17,100	\$8,778	\$27,870	\$13,962
2024		\$0	\$0	\$27,870	\$41,846
2025		\$0	\$42,185	\$27,870	\$27,573
2026		\$1,800	\$102,240	\$27,870	(\$48,569)
2027		\$0	\$0	\$27,870	(\$20,747)
2028		\$0	\$0	\$27,870	\$7,103
2029		\$0	\$0	\$27,870	\$34,980
2030		\$15,360	\$51,584	\$27,870	(\$4,058)
2031		\$0	\$61,750	\$27,870	(\$37,942)
2032		\$0	\$0	\$27,870	(\$10,109)
2033		\$0	\$0	\$27,870	\$17,751
2034		\$0	\$0	\$27,870	\$45,639
2035		\$0	\$4,140	\$27,870	\$69,415
2036		\$44,100	\$73,080	\$27,870	(\$19,825)
2037		\$0	\$0	\$27,870	\$8,026
2038		\$21,600	\$57,456	\$27,870	(\$43,152)
2039		\$0	\$0	\$27,870	(\$15,325)
2040		\$4,440	\$40,700	\$27,870	(\$32,610)
2041		\$0	\$18,750	\$27,870	(\$23,522)
2042		\$0	\$0	\$27,870	\$4,325
2043		\$0	\$0	\$27,870	\$32,200
STARTING BALANCE EQUIVALENT IN ENDING YEAR =					\$0

ASSET INVENTORY, REPLACEMENT & REHABILITATION SCHEDULE					
COST OF LIVING INCREASE					2.00%
ESTIMATED RESERVE FUNDS					
AVG. INTEREST RATE IN SAVINGS					0.10%
USDA RURAL DEVELOPMENT RRI ANNUAL RESERVE					
ASSET REPLACEMENT ANNUAL FUNDING					\$ 30,548
ASSET REHAB ANNUAL FUNDING					\$ 2,333
COMBINED ANNUAL RESERVED					\$ 32,881
Percent Funded					100%
Annual Funding Applied to Budget / Rates					\$ 32,881
YEAR	PURPOSE	ANNUAL REHAB EXPENDITURES WITH C.O.L.	ANNUAL REPLACEMENT EXPENDITURES WITH C.O.L.	ANNUAL FUNDING AMOUNT	RUNNING BALANCE
2016	SEE EQUIPMENT LIST FOR ANNUAL EXPENDITURES	\$0	\$7,695	\$ 32,881	\$25,219
2017		\$2,550	\$12,240	\$32,881	\$43,335
2018		\$0	\$0	\$32,881	\$76,260
2019		\$5,300	\$23,468	\$32,881	\$80,449
2020		\$2,700	\$13,500	\$32,881	\$97,210
2021		\$0	\$24,970	\$32,881	\$105,219
2022		\$5,600	\$0	\$32,881	\$132,605
2023		\$2,850	\$0	\$32,881	\$162,769
2024		\$0	\$11,867	\$32,881	\$183,946
2025		\$0	\$14,160	\$32,881	\$202,851
2026		\$12,000	\$9,277	\$32,881	\$214,658
2027		\$3,050	\$40,260	\$32,881	\$204,444
2028		\$0	\$0	\$32,881	\$237,529
2029		\$0	\$51,044	\$32,881	\$219,604
2030		\$3,200	\$42,240	\$32,881	\$207,265
2031		\$6,500	\$299,650	\$32,881	(\$65,797)
2032		\$0	\$6,112	\$32,881	(\$39,093)
2033		\$3,350	\$16,080	\$32,881	(\$25,681)
2034		\$6,800	\$47,464	\$32,881	(\$47,089)
2035		\$0	\$0	\$32,881	(\$14,255)
2036		\$0	\$31,500	\$32,881	(\$12,889)
2037		\$3,550	\$18,460	\$32,881	(\$2,030)
2038		\$7,200	\$0	\$32,881	\$23,649
2039		\$0	\$44,486	\$32,881	\$12,067
2040		\$3,700	\$19,240	\$32,881	\$22,021
2041		\$7,500	\$70,652	\$32,881	(\$23,228)
2042		\$0	\$0	\$32,881	\$9,630
2043		\$11,550	\$20,020	\$32,881	\$10,951
STARTING BALANCE EQUIVALENT IN ENDING YEAR =					\$0

GRAND LEDGE SEWER ASSET INVENTORY, REPLACEMENT & REHABILITATION SCHEDULE																			
2016																			
ASSETS WWTP 2												SERVICE / MAINTENANCE / REHAB HISTORY (ASSET ASSESSMENT)						ANNUAL RESERVE FUNDING	
EQUIPMENT LIST / MAINTENANCE ACTIVITY	ORIGINAL INSTALLATION YEAR	NORMAL INTENDED USEFUL LIFE	CURRENT AGE	NEXT REPLACEMENT YEAR	REMAINING LIFE - YEARS BEFORE REPLACEMENT	TOTAL REPLACEMENT COST	PERCENT REPLACEMENT COST FUNDED BY RATES	REPLACEMENT COST FUNDED BY RATES	PERCENT OF ASSET LEFT	PERCENT CONSUMED	MAINTENANCE / REHAB ACTIVITY PERFORMED	YEAR(S) PERFORMED	LAST MAJOR MAINTENANCE - YEAR	TYPICAL / ANTICIPATED / REHAB - COST	TYPICAL YEARS BETWEEN REHABS	YEARS TO NEXT ANTICIPATED REHAB	REHAB IN YEAR	REPLACEMENT MONEY RESERVED ANNUALLY	REHAB / REPAIR MONEY RESERVED ANNUALLY
Final Clarifier Drives													0						
(2) Final Drive Gearboxes	1975	50	41	2025	9	\$100,000	100%	\$100,000	18%	82%			0					\$2,000	
													0						
													0						
													0						
Chemical Feed Room													0						
Lime Pumps 1	2013	15	3	2028	12	\$8,500	100%	\$8,500	80%	20%			0					\$567	
Lime Pumps 2	2010	15	6	2025	9	\$8,500	100%	\$8,500	60%	40%			0					\$567	
Ferric Pumps (2)	2013	15	3	2028	12	\$8,850	100%	\$8,850	80%	20%			0					\$590	
Basulfite Pumps (2)	2013	15	3	2028	12	\$8,200	100%	\$8,200	80%	20%			0					\$547	
5,000 Gallon Ferric Tanks (2)	1975	41	41	2016	0	\$27,942	100%	\$27,942	0%	100%			0					\$682	
Air Compressor	2000	25	16	2025	9	\$1,200	100%	\$1,200	36%	64%			0					\$48	
Pulse Dispensers for Lime Pumps (2)	2014	10	2	2024	8	\$4,364	100%	\$4,364	80%	20%			0					\$436	
Lime Dust Collector	1982	35	34	2017	1	\$8,000	100%	\$8,000	3%	97%			0					\$229	
													0						
													0						
Lab Equipment													0						
Spectrophotometer	2010	10	6	2020	4	\$3,140	100%	\$3,140	40%	60%			0					\$314	
"Top Loader" Scale	2005	20	11	2025	9	\$1,300	100%	\$1,300	45%	55%			0					\$65	
"Door Scale"	2000	20	16	2020	4	\$2,400	100%	\$2,400	20%	80%			0					\$120	
Drying Oven	2000	25	16	2025	9	\$2,780	100%	\$2,780	36%	64%			0					\$111	
													0						
pH Meter	2010	10	6	2020	4	\$1,500	100%	\$1,500	40%	60%			0					\$150	
													0						
Muffle Furnace	2010	15	6	2025	9	\$1,500	100%	\$1,500	60%	40%			0					\$100	
													0						
BOD Incubator	2014	15	2	2029	13	\$4,300	100%	\$4,300	87%	13%			0					\$287	
Autoclave	2012	15	4	2027	11	\$5,200	100%	\$5,200	73%	27%			0					\$347	
													0						
BOD Meter	2012	5	4	2017	1	\$1,500	100%	\$1,500	20%	80%			0					\$300	
													0						
													0						
													0						
Water Softener	2000	20	16	2020	4	\$3,000	100%	\$3,000	20%	80%			0					\$150	
													0						
													0						
Primary Sampler	2010	15	6	2025	9	\$6,150	100%	\$6,150	60%	40%			0					\$410	
Final Sampler	2008	15	8	2023	7	\$6,150	100%	\$6,150	47%	53%			0					\$410	
													0						
Soda Computer	2011	5	5	2016	0	\$4,500	100%	\$4,500	0%	100%			0					\$900	
Soda Computer "Backup"	2011	7	5	2018	2	\$4,500	100%	\$4,500	29%	71%			0					\$643	
													0						
Miscellaneous													0						
													0						
Heat and A/C Unit for WWTP on Roof	2010	20	6	2030	14	\$5,000	100%	\$5,000	70%	30%			0					\$250	
													0						
													0						
Vehicles													0						
Vector	2011	25	5	2036	20	\$325,000	100%	\$325,000	80%	20%			0					\$13,000	
Camera Truck	2013	20	3	2033	17	\$75,000	100%	\$75,000	85%	15%			0					\$3,750	
T-1 PICKUP	2009	12	7	2021	5	\$21,500	100%	\$21,500	42%	58%			0					\$1,792	
Crane/Hoist	2014	20	2	2034	18	\$2,800	100%	\$2,800	90%	10%			0					\$140	
Garage ROOF	2011	20	5	2031	15	\$17,500	100%	\$17,500	75%	25%			0					\$875	
													0						
ROOFS - GRIT INTERMEDIATE LS. VALVE CONTROL BLD	1997	20	19	2017	1	\$15,000	100%	\$15,000	5%	95%			0					\$750	
TRANSFORMER - ELECTRICAL	2011	25	5	2036	20	\$15,000			80%	20%			0					\$0	\$0
						\$700,276		\$685,276	48%									\$	\$ 30,528

ASSET INVENTORY, REPLACEMENT & REHABILITATION SCHEDULE						
COST OF LIVING INCREASE					2.00%	
ESTIMATED RESERVE FUNDS						
AVG. INTEREST RATE IN SAVINGS					0.10%	
USDA RURAL DEVELOPMENT RRI ANNUAL RESERVE						
ASSET REPLACEMENT ANNUAL FUNDING					\$ 30,528	
ASSET REHAB ANNUAL FUNDING					\$ -	
COMBINED ANNUAL RESERVED					\$ 30,528	
Percent Funded					133%	
Annual Funding Applied to Budget / Rates					\$ 40,602	
YEAR	PURPOSE	ANNUAL REHAB EXPENDITURES WITH	ANNUAL REPLACEMENT EXPENDITURES WITH	ANNUAL FUNDING	RUNNING BALANCE	
2016	SEE EQUIPMENT LIST	\$0	\$32,442	\$ 40,602	\$8,200	
2017	FOR ANNUAL EXPENDITURES	\$0	\$24,990	\$40,602	\$23,820	
2018		\$0	\$4,680	\$40,602	\$59,766	
2019		\$0	\$0	\$40,602	\$100,427	
2020		\$0	\$10,843	\$40,602	\$130,286	
2021		\$0	\$28,600	\$40,602	\$142,418	
2022		\$0	\$1,680	\$40,602	\$181,482	
2023		\$0	\$7,011	\$40,602	\$215,254	
2024		\$0	\$5,062	\$40,602	\$251,008	
2025		\$0	\$148,597	\$40,602	\$143,264	
2026		\$0	\$5,400	\$40,602	\$178,609	
2027		\$0	\$8,174	\$40,602	\$211,215	
2028		\$0	\$31,682	\$40,602	\$220,346	
2029		\$0	\$5,418	\$40,602	\$255,750	
2030		\$0	\$12,339	\$40,602	\$284,268	
2031		\$0	\$28,600	\$40,602	\$296,554	
2032		\$0	\$7,920	\$40,602	\$329,532	
2033		\$0	\$129,310	\$40,602	\$241,153	
2034		\$0	\$9,743	\$40,602	\$272,253	
2035		\$0	\$0	\$40,602	\$313,127	
2036		\$0	\$461,300	\$40,602	(\$107,259)	
2037		\$0	\$23,430	\$40,602	(\$90,194)	
2038		\$0	\$8,856	\$40,602	(\$58,539)	
2039		\$0	\$6,570	\$40,602	(\$24,566)	
2040		\$0	\$38,761	\$40,602	(\$22,750)	
2041		\$0	\$6,750	\$40,602	\$11,079	
2042		\$0	\$10,184	\$40,602	\$41,508	
2043		\$0	\$39,347	\$40,602	\$42,804	
STARTING BALANCE EQUIVALENT IN ENDING YEAR =					\$0	

What is Equipment Replacement?

A replacement schedule should be developed that indicates those assets that will be replaced within the next 30 years that will be **funded out of system revenues**. The schedule will contain assets that are smaller dollar amount or routinely recurring and should include assets that will be paid for out of system revenues. 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, sanitary sewer lines 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, programmed repair elements, 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 30 year period. The Repair and Replacement Schedule should be updated annually so that it is always 30 years long.

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 payment would be greater than that year's expenses, so money would go into a Repair and Replacement Reserve. Other times, the amount collected would be less than required so the additional funds would come from the reserve account. The annual annuity set would have to be sufficient to cover all of the expenses over the 30 year period. It may need to be increased over time if expenses increase and it can be decreased if it turns out too much money was dedicated to this purpose.

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

FIVE YEAR INCREASE													
GRAND LEDGE SEWER													
GRAND LEDGE SEWER QUARTERLY													
LOANS, RESERVE FUNDING & OTHER EXPENSES		\$14.92				LOANS, RESERVE FUNDING & OTHER EXPENSES				\$3.55			
LABOR & OPERATIONS COST PER 3/4" METER		\$8.46				LABOR & OPERATIONS COST PER UNIT				\$4.94			
TOTAL RATE		\$23.38				TOTAL RATE PER UNIT				\$8.49			
Suggested annual increase in percent		2.0%				Suggested annual increase in percent				2.0%			
BASE RATE COST		1,000 GAL.											
YEAR	% INCREASE	\$ INCREASE	LABOR & OPER. RATE	TOTAL RATE	PROJECTED INCOME FIXED COST	% INCREASE	\$ INCREASE	LABOR & OPER. RATE	TOTAL RATE	PROJECTED INCOME CONSUMPTION	COMBINED INCOME	NON OPERATING INCOME	TOTAL COMBINED INCOME
2017	2.0%	\$0.169	\$8.634	\$23.553	\$373,412	2.0%	\$0.0987	\$5.034	\$8.588	\$1,738,020	\$2,111,432	\$10,000	\$2,121,432
2018	2.0%	\$0.173	\$8.807	\$23.726	\$376,150	2.0%	\$0.1007	\$5.135	\$8.688	\$1,758,397	\$2,134,547	\$10,000	\$2,144,547
2019	2.0%	\$0.176	\$8.983	\$23.902	\$378,942	2.0%	\$0.1027	\$5.238	\$8.791	\$1,779,182	\$2,158,124	\$10,000	\$2,168,124
2020	2.0%	\$0.180	\$9.162	\$24.082	\$381,790	2.0%	\$0.1048	\$5.342	\$8.896	\$1,800,382	\$2,182,172	\$10,000	\$2,192,172
2021	2.0%	\$0.183	\$9.346	\$24.265	\$384,695	2.0%	\$0.1068	\$5.449	\$9.003	\$1,822,006	\$2,206,702	\$10,000	\$2,216,702

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.

GRAND LEDGE SEWER	
BUDGET ITEMS	ANNUAL BUDGET
LABOR & BENEFITS	\$ 542,905
OPERATION & MAINTENANCE EXPENSES	\$ 590,166
LOANS, BONDS, INTEREST, ANNUAL PAYMENT	\$ 442,631
ASSET REPLACEMENT AND REHABILITATION	\$ 101,353
ITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$ 411,716
TOTALS	\$ 2,088,771

GRAND LEDGE SEWER		
BUDGET ITEMS	ANNUAL BUDGET	BASE PORTION
LABOR & BENEFITS	\$ 542,905	\$ 65,149
OPERATIONAL EXPENSES	\$ 590,166	\$ 69,049
BONDS, LOAN/ANNUAL	\$ 442,631	\$ 88,526
ASSET REPLACEMENT AND REHABILITATION	\$ 101,353	\$ 20,372
CAPITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$ 411,716	\$ 127,632
TOTALS	\$ 2,088,771	\$ 370,728

GRAND LEDGE SEWER			
BUDGET ITEMS	ANNUAL BUDGET	BASE PORTION	COST PER 3/4" METER
LABOR & BENEFITS	\$ 542,905	\$ 65,149	\$ 4.11
OPERATIONAL EXPENSES	\$ 590,166	\$ 69,049	\$ 4.36
BONDS, LOAN/ANNUAL	\$ 442,631	\$ 88,526	\$ 5.58
ASSET REPLACEMENT AND REHABILITATION	\$ 101,353	\$ 20,372	\$ 1.28
CAPITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$ 411,716	\$ 127,632	\$ 8.05
TOTALS	\$ 2,088,771	\$ 370,728	\$ 23.38
BILLING UNITS / YEAR		#FEET	\$ 0.11
NON OPERATING INCOME REDUCTION			23.27
TOTAL COST PER UNIT		NEW RATES	

GRAND LEDGE SEWER			
BUDGET ITEMS	ANNUAL BUDGET	VARIABLE PORTION	COST / UNIT OF WATER
LABOR & BENEFITS	\$ 542,905	\$ 477,756	\$ 2.36
OPERATIONAL EXPENSES	\$ 590,166	\$ 521,117	\$ 2.57
BONDS, LOAN/ANNUAL	\$ 442,631	\$ 354,105	\$ 1.75
ASSET REPLACEMENT AND REHABILITATION	\$ 101,353	\$ 80,981	\$ 0.40
CAPITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$ 411,716	\$ 284,084	\$ 1.40
TOTALS	\$ 2,088,771	\$ 1,718,043	\$ 8.49
BILLING UNITS / YEAR		202.383	\$ 0.04
NON OPERATING INCOME REDUCTION			8.45
TOTAL COST PER UNIT		NEW RATES	

GRAND LEDGE SEWER			
BUDGET ITEMS	ANNUAL BUDGET	COST PER 3/4" METER	COST / UNIT OF WATER
LABOR & BENEFITS	\$ 542,905	\$ 4.11	\$ 2.36
OPERATIONAL EXPENSES	\$ 590,166	\$ 4.36	\$ 2.57
BONDS, LOAN/ANNUAL	\$ 442,631	\$ 5.58	\$ 1.75
ASSET REPLACEMENT AND REHABILITATION	\$ 101,353	\$ 1.28	\$ 0.40
CAPITAL IMPROVEMENT + \$75,000 + \$36,150 Jones St	\$ 411,716	\$ 8.05	\$ 1.40
TOTALS	\$ 2,088,771	\$ 23.38	\$ 8.49
BILLING UNITS / YEAR		\$ 0.11	\$ 0.04
NON OPERATING INCOME REDUCTION			
TOTAL COST PER UNIT		NEW RATES	\$ 23.27 \$ 8.45

GRAND LEDGE SEWER	
SIZE OF METER	COST PER METER
3/4"	\$23.27
1"	\$58.18
1.25"	\$0.00
1.5"	\$116.36
10"	\$0.00

MICHIGAN RURAL WATER ASSOCIATION RATE EVALUATION PROGRAM

GRAND LEDGE SEWER

SURCHARGE FOR HIGH STRENGTH SEWAGE

	% OF BUDGET	ANNUAL BUDGET	COST PER LINE ITEM/ YEAR	COST PER DAY	COST PER GALLON
FLOW	40%	\$ -	\$ -	\$ -	#DIV/0!
BOD	25%	\$ -	\$ -	\$ -	
S.S.	25%	\$ -	\$ -	\$ -	
PHOS	10%	\$ -	\$ -	\$ -	

	AVERAGE MG/L RAW SEWAGE	AVERAGE MGD FLOW =	EQUALS LBS / DAY
BOD MG/L			0.0 BOD MG/L
S.S. MG/L			0.0 S.S. MG/L
PHOS MG/L			0.0 PHOS MG/L

	COST PER DAY	POUNDS OF EACH / DAY	COST PER POUND
BOD	\$0.00	0	#DIV/0!
S.S.	\$0.00	0	#DIV/0!
PHOS	\$0.00	0	#DIV/0!

	SURCHARGED WASTE - MG/L	GALLONS OF SEWAGE	EQUALS POUNDS
BOD MG/L			0
S.S. MG/L			0
PHOS MG/L			0

	POUNDS OF	COST / POUND	SURCHARGE	TOTAL
BOD	0	#DIV/0!	#DIV/0!	
S.S.	0	#DIV/0!	#DIV/0!	
PHOS	0	#DIV/0!	#DIV/0!	#DIV/0!

GALLONS		#DIV/0!	#DIV/0!	For liquid only
---------	--	---------	---------	-----------------

Equipment Replacement Cost

WWTP

Location	Description	Cost	Life/Yrs.
Screening Room			
	Bar Screen	\$ 61,700.00	
	Washing Screw Compactor	\$ 40,650.00	
	Control	\$ 22,300.00	
	Recycle Pump	\$ 8,650.00	
	Electric Controls		
	Gas Detectors		
	Exhaust Fan		
	Chlorine Tablet		
	Muffin Monster		
Grit Building			
	Sampler for Influent	\$ 5,200.00	
	Grit Blower and 10 H.P. Motor	\$ 3,451.00	
	Exhaust Fan		
	Parshall Flume	\$ 2,570.00	
	Influent Flow Meter	\$ 3,500.00	
Chlorine Room			
	Chlorine Puck Unit	\$ 3,000.00	
	(2) Chlorine Regulators	\$ 5,200.00	
	Chlorine Gas Leak Detector	\$ 2,531.00	
	Final Effluent Flow Meter	\$ 3,500.00	
Pump Room			
	(2) Lobe Pro Sludge Pumps 10 H.P.	\$ 14,920.00	
	Spare Parts Kit (Lubric)	\$ 3,451.00	
	(3) Return Pumps 15 H.P.	\$ 39,960.00	
	(2) Effluent Pumps 10 H.P.	\$ 4,630.00	
	Power Valve	\$ 1,900.00	
	(3) "Wagner" Return Sludge Waste	\$ 8,330.00	
	(2) Sump Pumps	\$ 600.00	
	Thickened Sludge Pum "Old Marlow"	XXX	
	Cummins Diesel Powered Generator with Switch Gear	\$ 129,000.00	
Intermediate Lift Station			
	(3) 15 H.P. Submersible Pumps	\$ 42,000.00	
	Hoist for Pump Service	\$ 2,100.00	
	Electric Panel and Controls		
Primary Tanks			
	Flight Drive	\$ 7,695.00	
	Cross Screws		
	Replacement Chain/Flights	\$ 22,140.00	
Aeration Tanks			
	Replacement Membranes for All Diffusers (8 Year Life)	\$ 12,000.00	
Blower Room			
	(3) Centrifugal Blowers	\$ 99,000.00	
	Air Flow Monitor	\$ 600.00	
	Air Compressor	\$ 750.00	
Final Clarifier Drives			
	(2) Final Drive Gearboxes		
Chemical Feed Room			
	Lime Pumps	\$ 17,000.00	
	Ferric Pumps	\$ 8,850.00	
	Bisulfite Pumps	\$ 8,200.00	
	Bisulfite Tank and Mixer	\$ 940.00	
	5,000 Gallon Ferric Tanks	\$ 27,942.00	
	Air Compressor	\$ 1,200.00	
	Pulse Dampeners for Lime Pumps	\$ 4,364.00	
	Lime Dust Collector		
Lab Equipment			
	Spectrophotometer	\$ 3,140.00	
	"Top Loader" Scale	\$ 1,300.00	
	"Door Scale"	\$ 2,400.00	
	Drying Oven	\$ 2,230.00	
	(2) Desiccators	\$ 1,200.00	
	pH Meter	\$ 1,500.00	
	Stirrer w/Heat	\$ 840.00	
	Muffle Furnace	\$ 1,500.00	
	Incubator (E-coil)	\$ 900.00	
	Hot Plate for Phos.	\$ 500.00	
	Refrigerator	\$ 500.00	
	BOD Incubator	\$ 4,300.00	
	Autoclave	\$ 5,200.00	
	Fecal Incubator	\$ 900.00	
	BOD Meter	\$ 1,900.00	
	pH Probe	\$ 470.00	
	NH3-N Probe	\$ 624.00	
	BOD Probe	\$ 1,270.00	
	Chlorine Probe	\$ 614.00	
	(4) Bact Funnels	\$ 1,000.00	
	Water Heater	\$ 1,000.00	
	Water Softener	\$ 3,000.00	
	Breakroom Refrigerator	\$ 1,000.00	
	(3) Emergency Eyewash/Shower	\$ 1,845.00	
	Primary Sampler	\$ 6,150.00	
	Final Sampler	\$ 6,150.00	
	Lab Cabinets and Containers	\$ 20,000.00	
	Scada Computer	\$ 4,500.00	
	Scada Computer "Backup"	\$ 4,500.00	
Miscellaneous			
	Hoist for Intermediate Lift Station Pumps	\$ 2,100.00	
	Heat and A/C Line for WWTP on Roof		
Vehicles			
	Vector	\$ 325,000.00	20 \$ 16,250.00
	Camera Truck	\$ 75,000.00	15 \$ 5,000.00
	T-1	\$ 21,900.00	12 \$ 1,791.67
	Crane/Hoist	\$ 2,800.00	12 \$ 233.33
Garage			
	Misc. Tools and Equipment		
Valve Building			
	Electric Panel and Misc. Tools		

Equipment Replacement Cost

Lift Stations

Location	Description	Cost	Life/Yrs.	Annual Exp.
Lift Stations				
Eaton Hwy	(2) Pumps	\$ 17,300.00	15	\$ 1,153.33
	Controls	\$ 4,400.00	15	\$ 293.33
	Electric Panel/Gear	\$ 5,000.00	10	\$ 500.00
Loch Ledge				
	(2) Pumps	\$ 4,500.00	15	\$ 300.00
	Controls	\$ 4,400.00	15	\$ 293.33
	Electric Panel/Gear	\$ 5,000.00	10	\$ 500.00
Whitney St				
	(2) Pumps	\$ 32,200.00	20	\$ 1,610.00
	Controls	\$ 5,000.00	15	\$ 333.33
	Electric Panel/Gear	\$ 7,500.00	10	\$ 750.00
	(2) Motors	\$ 7,700.00	15	\$ 513.33
Burt Ave				
	(2) Pumps	\$ 4,500.00	15	\$ 300.00
	Controls	\$ 4,400.00	15	\$ 293.33
	Electric Panel/Gear	\$ 5,000.00	10	\$ 500.00
W River St				
	(3) Pumps	\$ 15,000.00	20	\$ 750.00
	(3) Motors	\$ 1,650.00	15	\$ 110.00
	(3) Check Valve 6"	\$ 2,700.00	10	\$ 270.00
	Control Panel Allen Brady	\$ 2,400.00	15	\$ 160.00
	Electric Panel/Gear	\$ 8,500.00	10	\$ 850.00
	(3) VFD	\$ 15,000.00	15	\$ 1,000.00
	Mag/Flowmeter	\$ 3,000.00	10	\$ 300.00
	Overflow Mag	\$ 3,000.00	10	\$ 300.00
	Generator	\$ 33,000.00	25	\$ 1,320.00
	Confined Space Hoist/Syst	\$ 5,000.00	15	\$ 333.33
W Jefferson St				
	(2) Pumps	\$ 63,300.00	20	\$ 3,165.00
	Generator	\$ 40,000.00	25	\$ 1,600.00
	(2) Check Valves	\$ 4,600.00	10	\$ 460.00
	(2) VFD Cutler Hammer SL	\$ 18,000.00	15	\$ 1,200.00
	(3) Valves	\$ 14,700.00	15	\$ 980.00
	Mag Flowmeter	\$ 3,800.00	10	\$ 380.00
	Controls Multismart	\$ 2,600.00	15	\$ 173.33
	Electric Gear/Panels	\$ 8,500.00	10	\$ 850.00
	Fitzgerald Field			
	(2) Pumps	\$ 10,300.00	15	\$ 686.67
	Controls	\$ 4,400.00	15	\$ 293.33
Total Annual Budget				\$ 22,522

City of Grand Ledge
 5-Year Capital Improvement Projects

Fiscal Year	Project Name	Est. Water Cost	Est. San. Sewer Cost
2017	E. River/Russel Reconstruction (100 & 200 Block E. River & Russel St.	\$ 118,000	\$ 71,000
2017	Jenne St. Reconstruction, Edwards to M43	-	\$ 337,765
2018	E. River Reconstruction, Russel to Franklin	\$ 152,000	\$ 261,500
2018	W. Colonial Reconstruction, Edwards to Park Ct.	\$ 107,900	-
2019	S. Bridge Reconstruction, Jenne to Scott	\$ 100,900	\$ 172,000
2019	Cedar St. Reconstruction, S. Clinton to Old Post	\$ 58,500	\$ 134,500
2020	E. Kent Reconsruction, Jenne to Scott	\$ 107,250	\$ 182,750
2021	Green St. Reconstruction, Jones to W. South	\$ 117,000	\$ 201,000
2022	Jones St. Reconstruction, Green to Kennedy (includes water main on Kennedy & Seminary)	\$ 200,125	-
2022	Jenne St. Reconstruction, South to W. Lincoln	-	\$ 187,000