



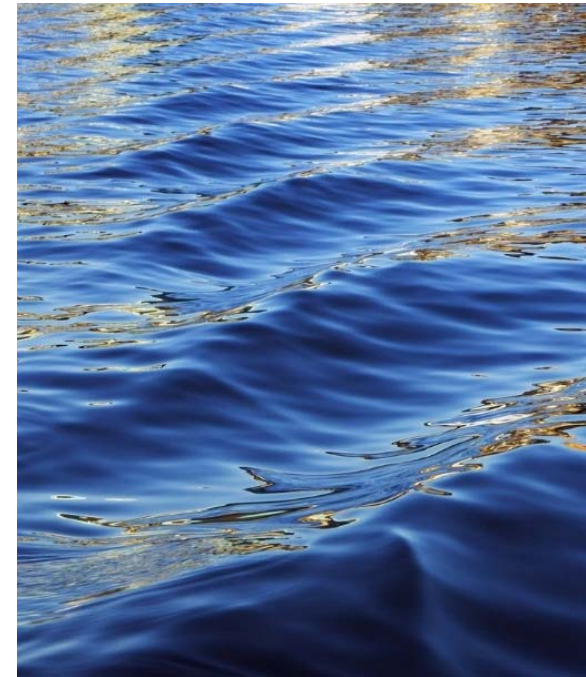
Rate Analysis Results and Recommendation

Jeff S. Landers, P.E.



Moore+Bruggink
Consulting Engineers

Creating Community Since 1956



Rate Analysis Approach

- Evaluate current rate structure and how it compares to similarly sized entities
- Analyze past trends in sewer fund revenues and expenditures
- Analyze past trends in sewer system fund balance
- Define scope and estimates for needed system improvements
- Create a prediction for 10-year outlook – “Where are we headed?”
- Create rate structure options to produce net-positive funding prediction
- Make a final recommendation



Current Rate Structure

- No municipal water service
- No flow meters on sanitary
- Flat Rate Structure per Residential Equivalent Unit (REU)
- Current annual rate increases of \$1.00 per quarter, per REU (1.5%)

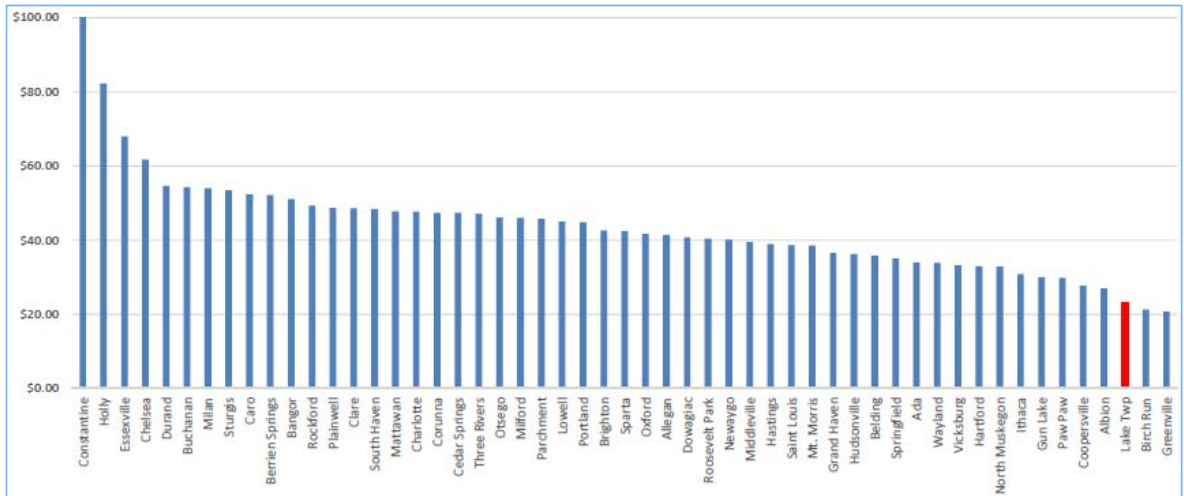
Rate Per Qtr	Unit	Monthly Rate per REU
\$69.51	REU	\$23.17

$$\$23.17 \times 741 \text{ users} \times 12 \text{ months} = \underline{\underline{\$206,027}}$$



Rate Comparisons

- 53 Michigan communities from our database
- 3rd Lowest rates



<u>Community</u>	<u>2018 Sewer Rate</u>
Constantine	\$100.15
Holly	\$82.21
Essexville	\$68.00
Chelsea	\$61.74
Durand	\$54.65
Buchanan	\$54.29
Milan	\$54.05
Sturgis	\$53.55
Caro	\$52.40
Berrien Springs	\$52.13
Bangor	\$51.06
Rockford	\$49.36
Plainwell	\$48.65
Clare	\$48.58
South Haven	\$48.38
Mattawan	\$47.78
Charlotte	\$47.67
Corunna	\$47.40
Cedar Springs	\$47.37
Three Rivers	\$47.18
Otsego	\$46.15
Milford	\$46.02
Parchment	\$45.71
Lowell	\$45.04
Portland	\$44.81
Brighton	\$42.64
Sparta	\$42.47
Oxford	\$41.67
Allegan	\$41.46
Dowagiac	\$40.77
Roosevelt Park	\$40.37
Newaygo	\$40.12
Middleville	\$39.49
Hastings	\$38.99
Saint Louis	\$38.67
Mt. Morris	\$38.53
Grand Haven	\$36.49
Hudsonville	\$36.29
Belding	\$35.85
Springfield	\$35.09
Ada	\$34.00
Wayland	\$33.84
Vicksburg	\$33.25
Hartford	\$32.99
North Muskegon	\$32.87
Ithaca	\$30.84
Gun Lake	\$30.00
Paw Paw	\$29.86
Coopersville	\$27.66
Albion	\$26.96
Lake Twp	\$23.17
Birch Run	\$21.31
Greenville	\$20.70



Analyze past trends in sewer fund revenues and expenditures

- M+B obtained audit reports and bank statements from the Township
- From 2012-2017, the Township has been increasing revenue from rates an average of \$508 per year.
- From 2012-2017, the Township has been increasing operating expenses an average of \$9,630 per year.
- This means the rate of increased revenue is not covering the increased costs.
- Causes of increased expenses:
 - Operating Expenses
 - Repairs and Maintenance = Aging Infrastructure
 - Professional Services
 - Contracted Services



Analyze past trends in sewer system fund balance

- From 2012-2017, there was a total loss of in the fund of \$79,606.
- Largest annual loss was \$44,361

2017 Income = 207,120 from user fees

2017 Expense = \$288,386

2018 Income = 207,263 from user fees

2018 Expense = \$240,613

Operating \$50-100,000 over



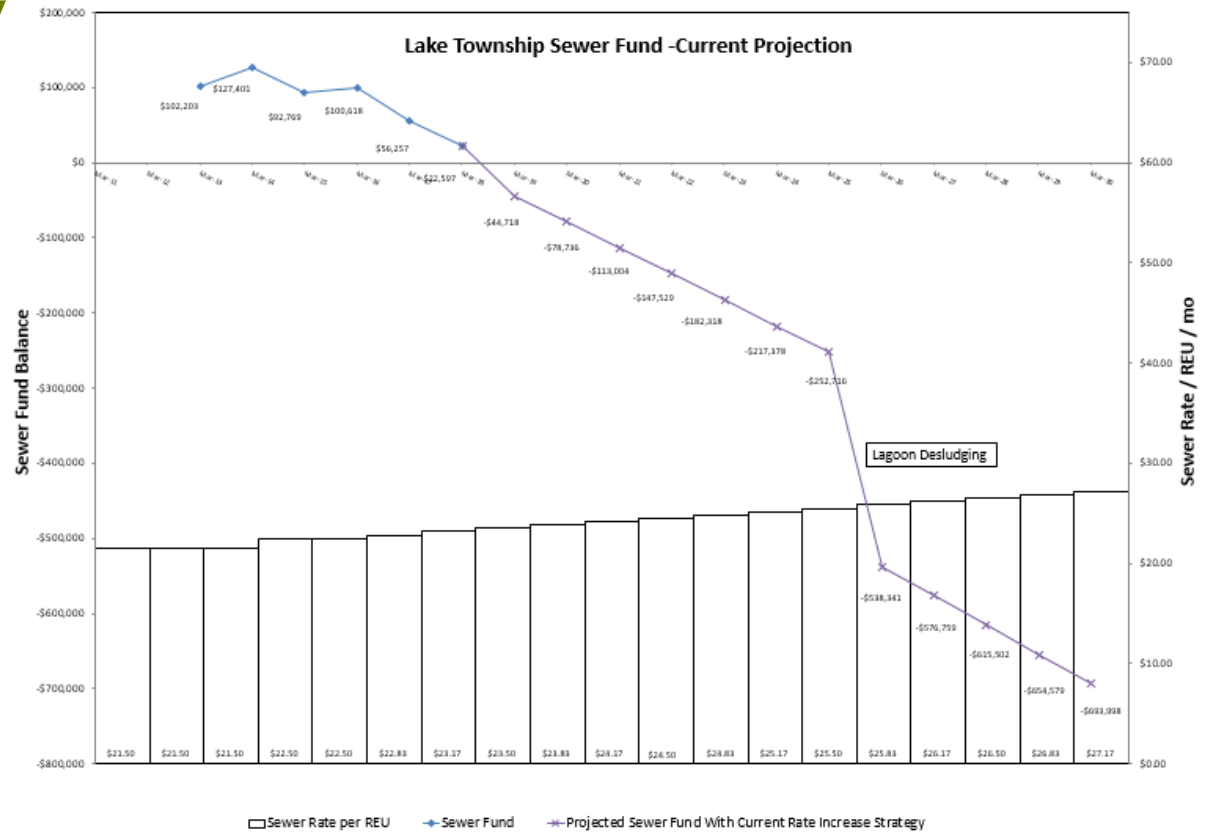
Define scope and estimates for needed system improvements

- Upcoming projects to the sewer system
 - Septage Receiving Station (\$150,000)
 - Creates a revenue stream: estimated at **\$58,000** per year
 - Wastewater Treatment Lagoon Capacity increase (\$250,000)
 - Lagoon de-sludging in 8-10 years (\$250,000)



Create a prediction for 10-year outlook – “Where are we headed?”

- Continued decline in the sewer fund.
- Using 1% annual increase in expenditures offsets the 1% increases in rates causing a linear decline.



Create rate structure options to produce net-positive funding prediction

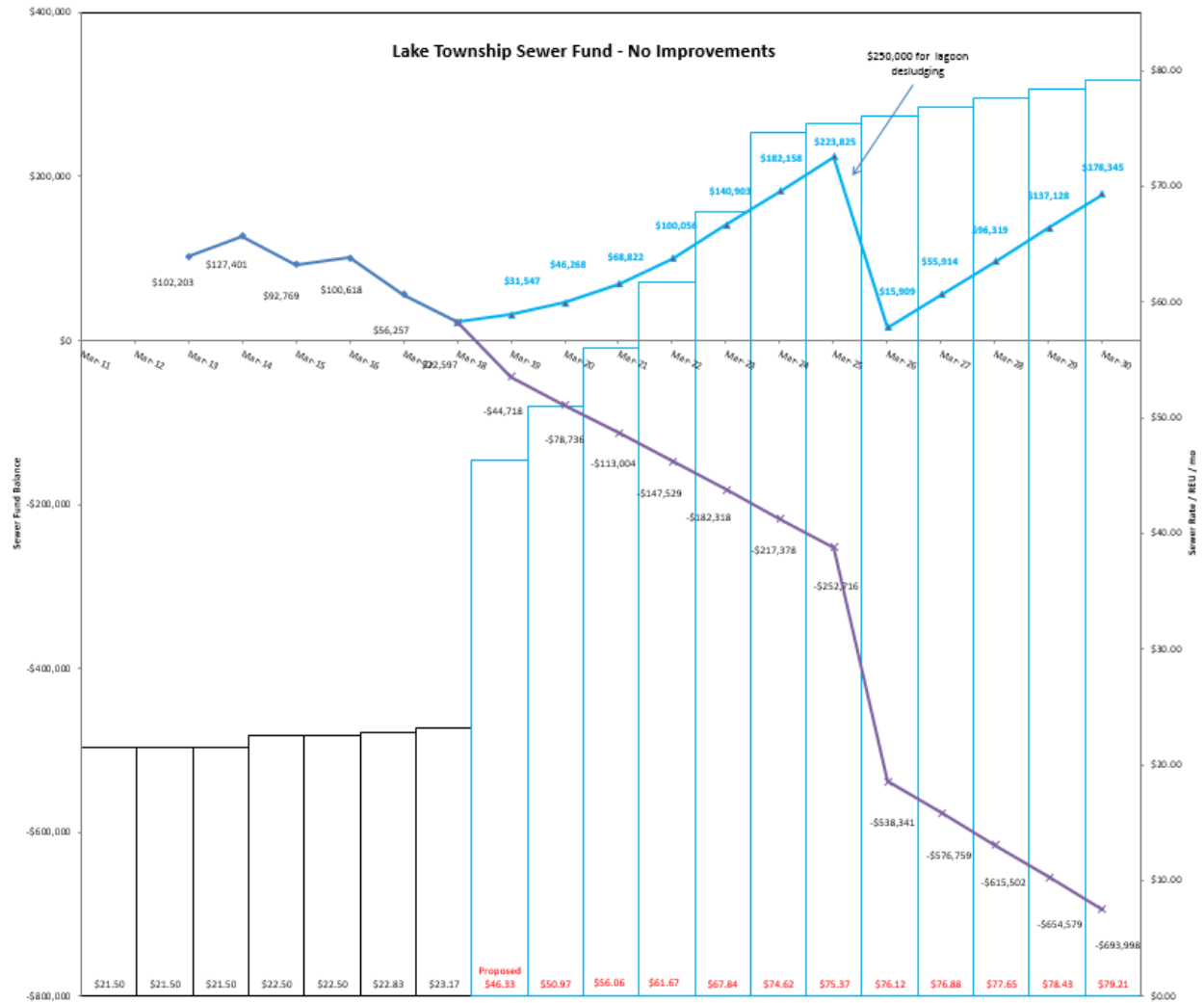
Created 4 Rate Plans to produce a net positive sewer fund

- Rate Plan 1 – No improvements
- Rate Plan 2 – Improvements included without a loan
- Rate Plan 3 - Improvements included with a loan, Ramping Rate Increases
- Rate Plan 4 – Improvements included with a loan, Immediate Rate Increases



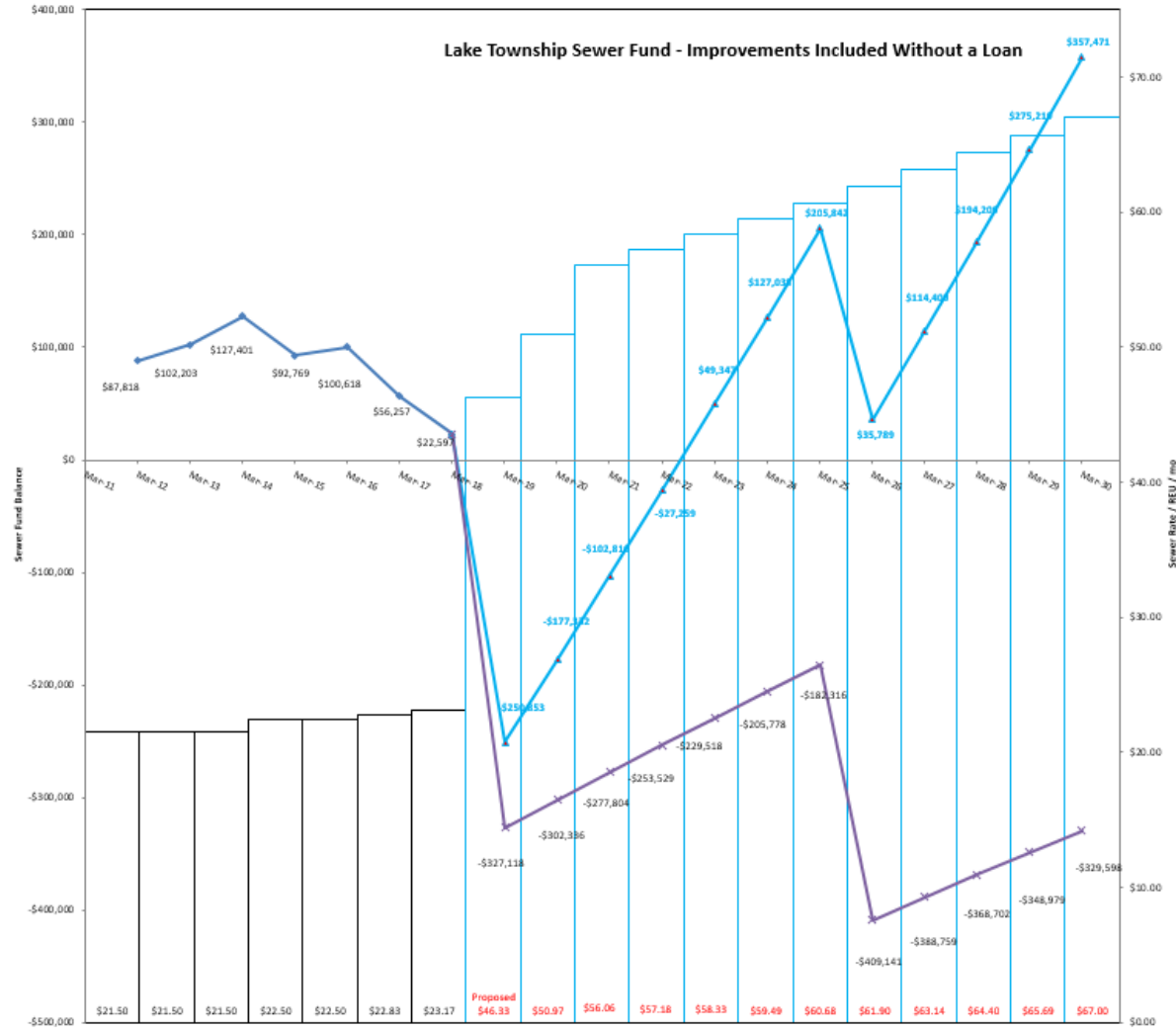
Rate Plan 1

FY	Rate increase	New monthly rate
2019	100%	\$46.3
2020	10%	\$51.0
2021	10%	\$56.1
2022	10%	\$61.7
2023	10%	\$67.8
2024	10%	\$74.6
2025	1%	\$75.4
2026	1%	\$76.1
2027	1%	\$76.9
2028	1%	\$77.7
2029	1%	\$78.4
2030	1%	\$79.2
2031	1%	\$80.0



Rate Plan 2

FY	Rate increase	New monthly rate
2019	100%	\$46.3
2020	10%	\$51.0
2021	10%	\$56.1
2022	2%	\$57.2
2023	2%	\$58.3
2024	2%	\$59.5
2025	2%	\$60.7
2026	2%	\$61.9
2027	2%	\$63.1
2028	2%	\$64.4
2029	2%	\$65.7
2030	2%	\$67.0
2031	2%	\$68.3



Let's look at a loan

In order to create a scenario where funding is available to cover the improvements which will allow capture of the septage receiving additional revenue into the Sewer Fund for Missaukee, a USDA Rural Development loan or Municipal Bonding may be a good option.

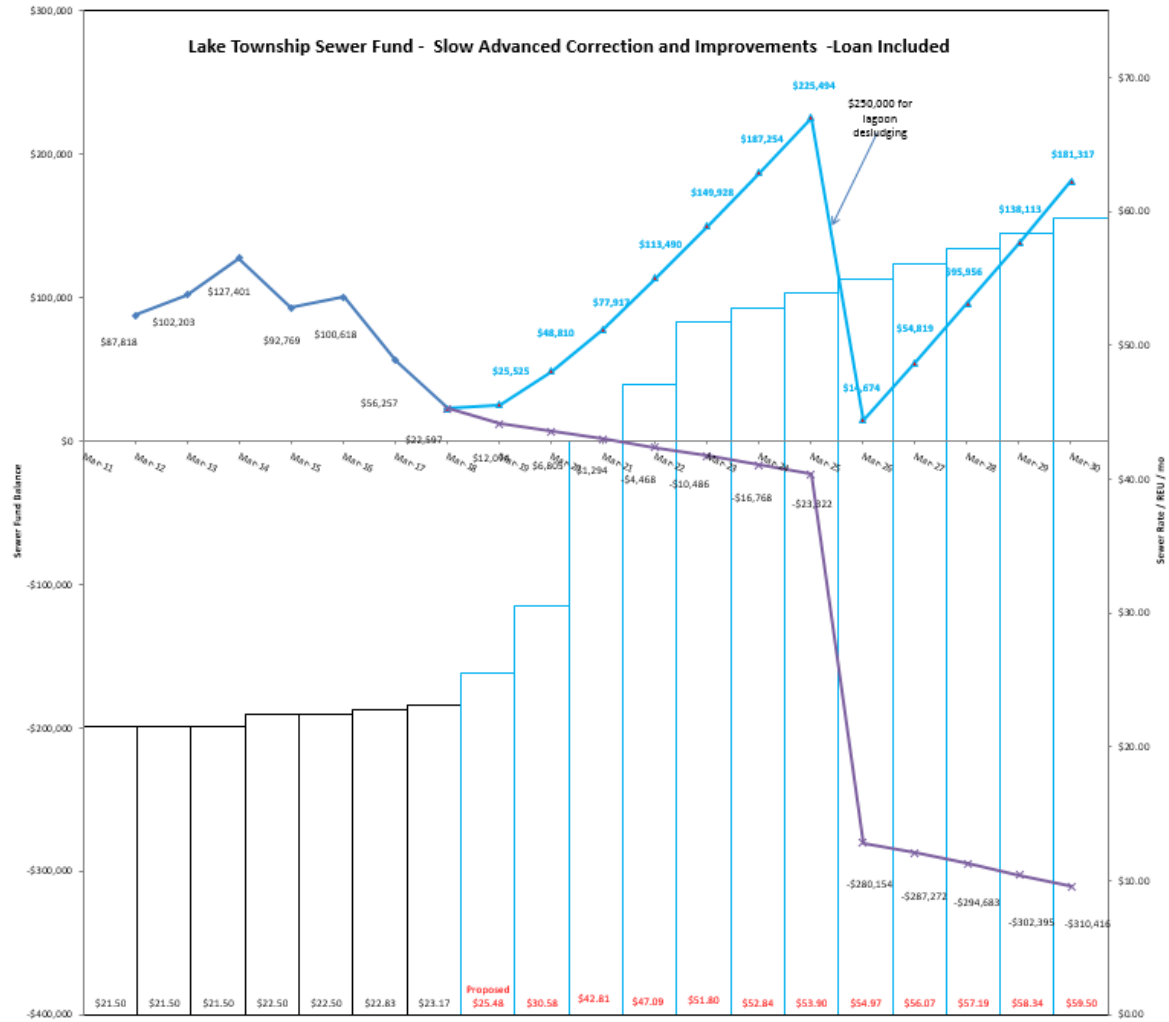
<u>Loan Amount</u>	<u>interest</u>	<u>N (yrs)</u>	<u>Ann Pmt</u>
\$400,000	4.50%	20	\$30,750.46

Impact on rates: $\$30,000/741 \text{ REUs} = \$3.50/\text{month}$



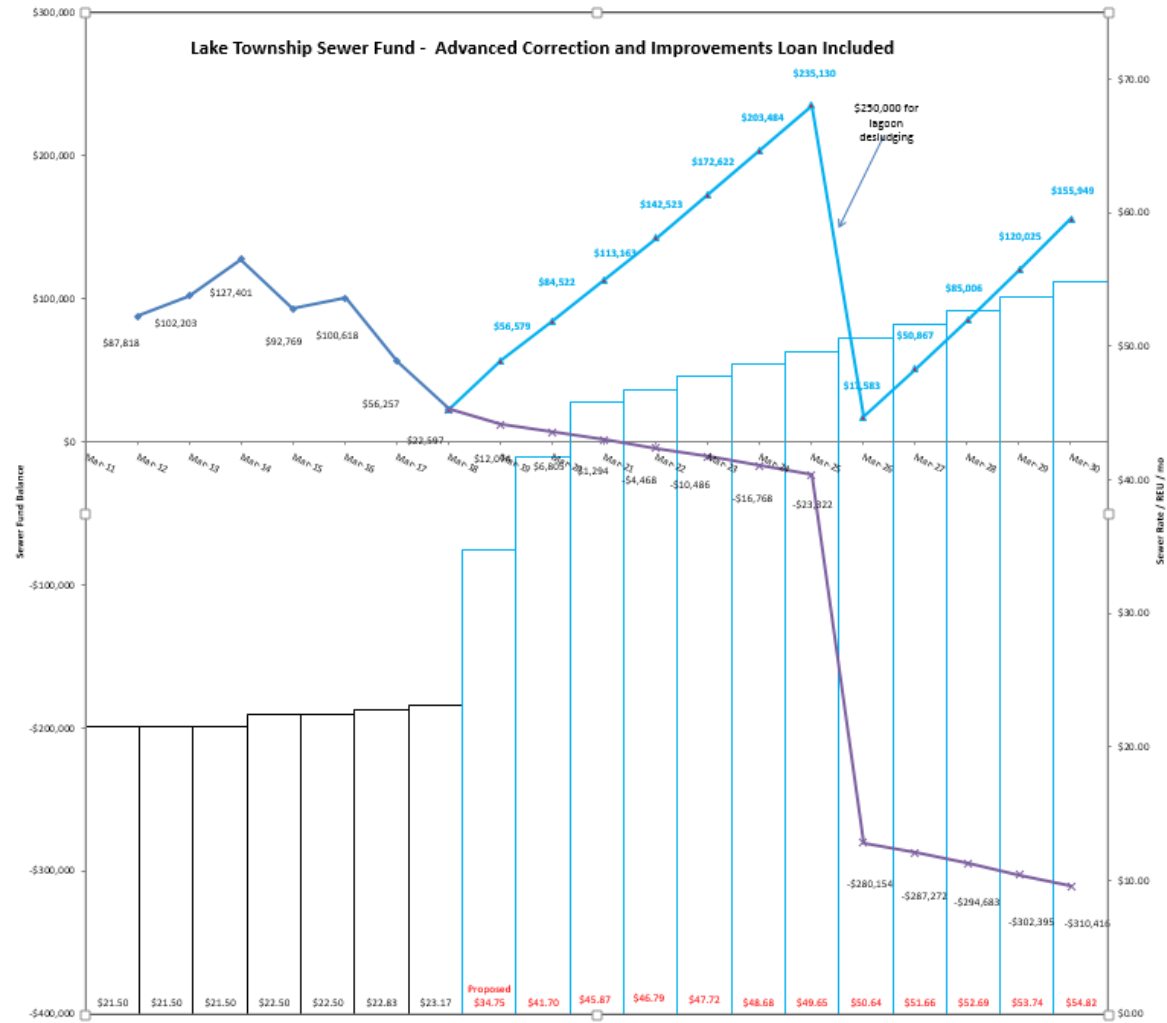
Rate Plan 3

FY	Rate increase	New monthly rate
2019	10%	\$25.5
2020	20%	\$30.6
2021	40%	\$42.8
2022	10%	\$47.1
2023	10%	\$51.8
2024	2%	\$52.8
2025	2%	\$53.9
2026	2%	\$55.0
2027	2%	\$56.1
2028	2%	\$57.2
2029	2%	\$58.3
2030	2%	\$59.5
2031	2%	\$60.7



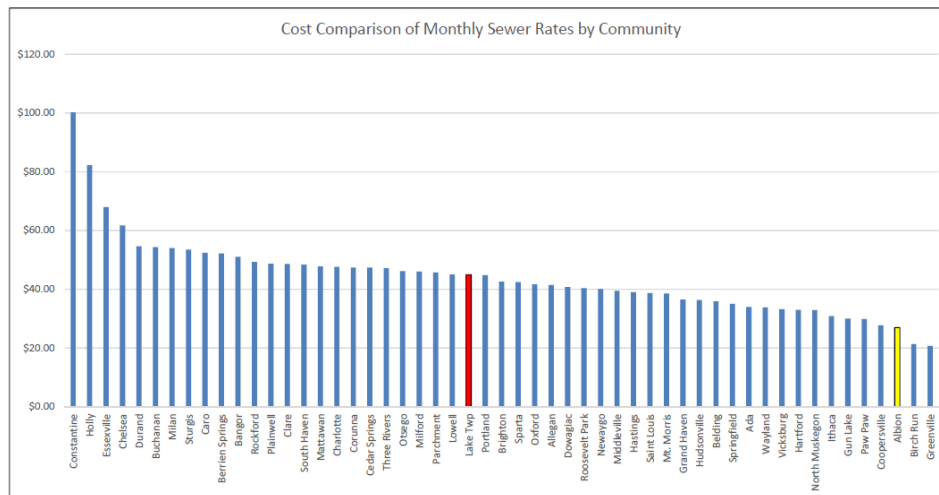
Rate Plan 4

FY	Rate increase	New monthly rate
2019	50%	\$34.8
2020	20%	\$41.7
2021	10%	\$45.9
2022	2%	\$46.8
2023	2%	\$47.7
2024	2%	\$48.7
2025	2%	\$49.7
2026	2%	\$50.6
2027	2%	\$51.7
2028	2%	\$52.7
2029	2%	\$53.7
2030	2%	\$54.8
2031	2%	\$55.9



Final Recommendation

- Threshold for sustainability is approximately \$43-45.00/mo.
- Rate Plan 4 is recommended.
- The quicker the changes to the rates, the better final rates



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Questions



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