

Loyalist Township Water & Sewer Rates Study Public Information Session



Monday, September 23, 2019

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Consulting Ltd.



Study Objectives

1. Rate Structure Review
2. Rate Setting and Financial Analysis
3. Rate Results and Impact Per User – Status Quo Rate Structure
4. Rate Results and Impact Per User – 40:60 Rate Structure (transition)



BACKGROUND INFORMATION

Background Information

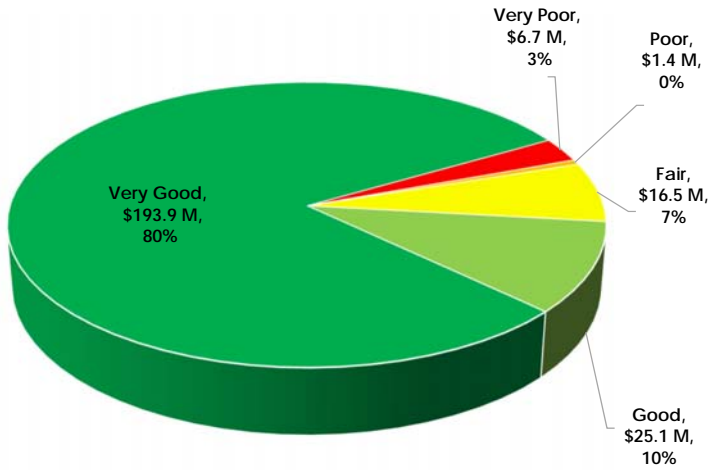
- Since 2014, Township has increased water and sewer rates generally in accordance with the rates outlined in the 2014 Rate Study

- Rates were calculated to ensure the Township generates sufficient revenues to fund costs

- The 2014 Study calculated water and sewer rates for a 10-year period (to 2024) with a view to update the study in 3 to 5 years.
 - Given the 5-year timeframe is near complete, the Township initiated this update rate study

Summary of Water and Sewer Infrastructure

Water and Sewer Infrastructure
Total = \$243.6 Million



- Financial statements indicate historical value of assets to be about \$71.3 million
- Actual replacement value estimated over \$243 million
 - Water: \$144.4 million
 - Sewer: \$99.2 million
- Township has done a good job of maintaining assets in state of good repair and saving for future replacement

2019 Bimonthly Water and Sewer Rates:

| 1. Water Fixed Charge | |
|-----------------------|------------------|
| Description | Rate (bimonthly) |
| Flat charge per ERU | \$68.08 |

| 1. Sewer Fixed Charge | |
|-----------------------|------------------|
| Description | Rate (bimonthly) |
| Flat charge per ERU | \$60.44 |

| 2. Water Consumption Charge | |
|---------------------------------|----------------------------|
| Description | Rate (per m ³) |
| All consumption – constant rate | \$1.71 |

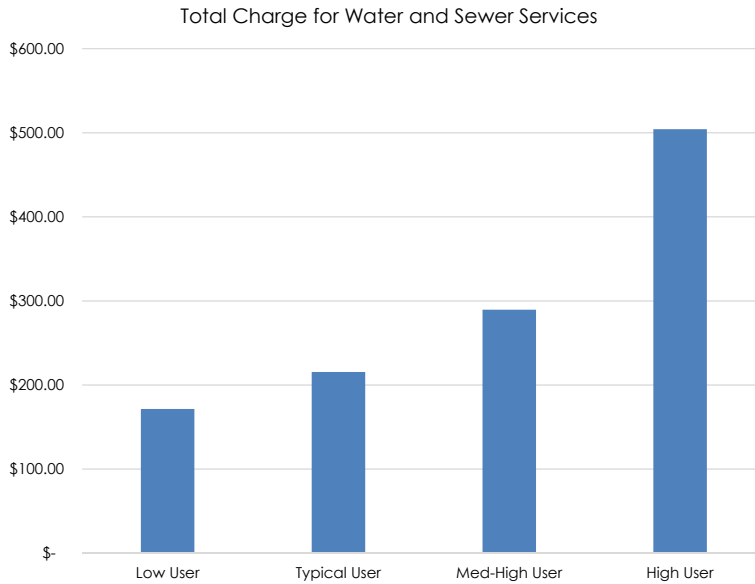
| 2. Sewer Consumption Charge | |
|---------------------------------|----------------------------|
| Description | Rate (per m ³) |
| All consumption – constant rate | \$1.51 |

***Fixed Cost Recovery: 60%**
Variable Cost Recovery: 40%

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Variable Cost Recovery: 40%

**Identified cost recovery target*

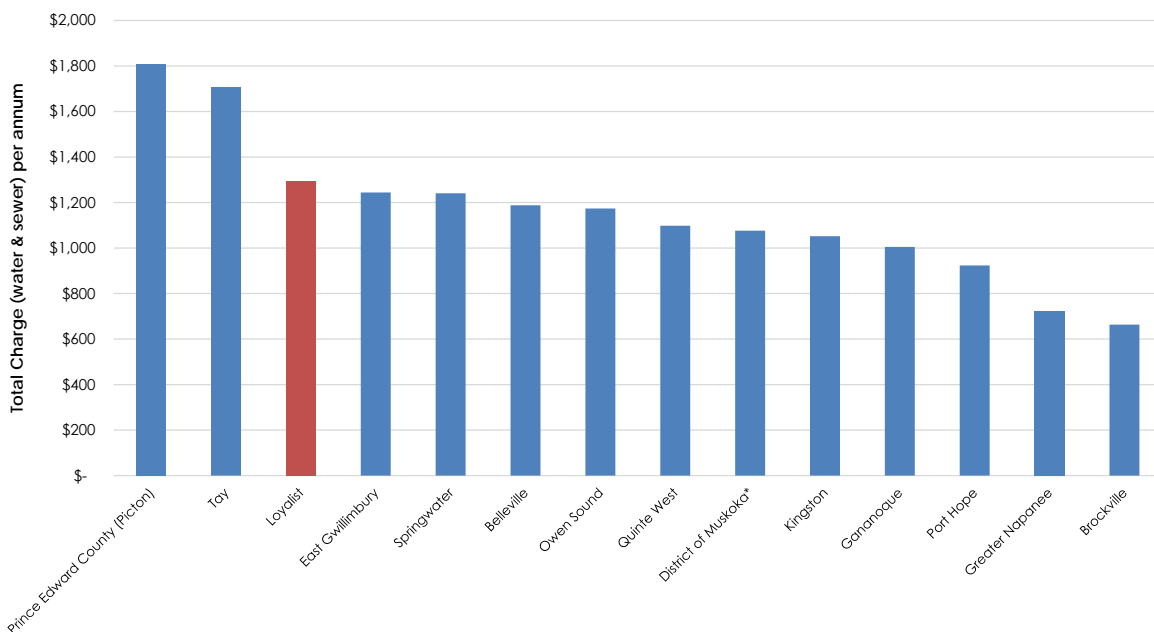
Total Bimonthly Charge for a Range of Household Users (in 2019):



- Total charge dependent on the amount of water consumed
- Residents have control over their total bill
- Existing structure encourages conservation

High User: 117m³ per 2 months
 Med-High User: 50m³ per 2 months
 Typical User: 27m³ per 2 months
 Low User: 13m³ per 2 months

Benchmarking Analysis: Cost per Typical Household (162 m³)



Note*: Rate applies to all communities in the District of Muskoka
 All rates illustrated include both water and sewer services



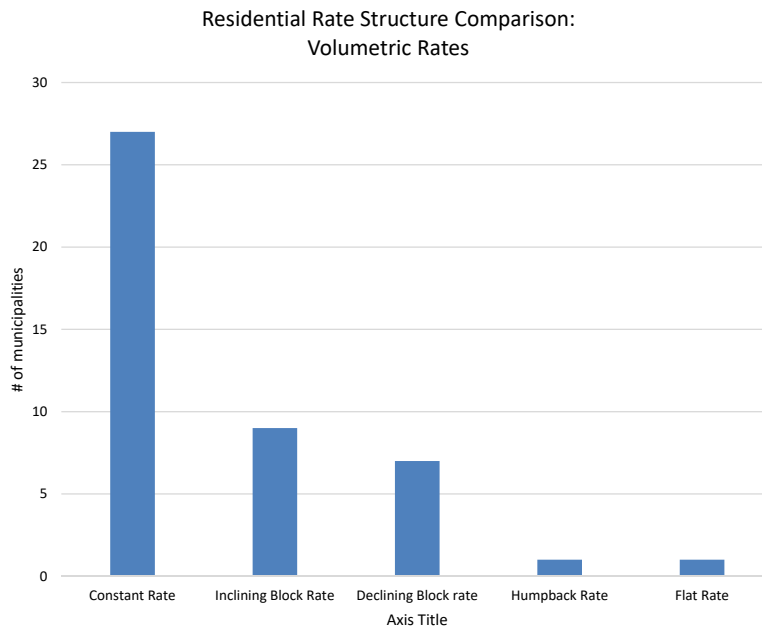
RATE STRUCTURE REVIEW



Rate Structure Review

- Hemson and Township staff have examined a variety of rate structures
- Intention is to examine the current rate structure and provide options that reflect changing consumption patterns and demographic trends
- Ensure fiscal stability and sustainability from a service delivery standpoint

Benchmarking Analysis: Rate Structure Review



- Survey of 45 municipalities in Ontario that range in population from 15,000 to 25,000 people were considered (plus direct neighbours)
- About 60% of communities (including Loyalist) employ a constant rate structure for consumption based component
- Inclining and declining block structures are also common

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Rate Structure Review: Key Township Objectives

- The rate structure should consider the following factors:
 - Cost recovery;
 - Equity;
 - Conservation;
 - Administration;
 - Transparency and efficiency; and
 - Economic Development

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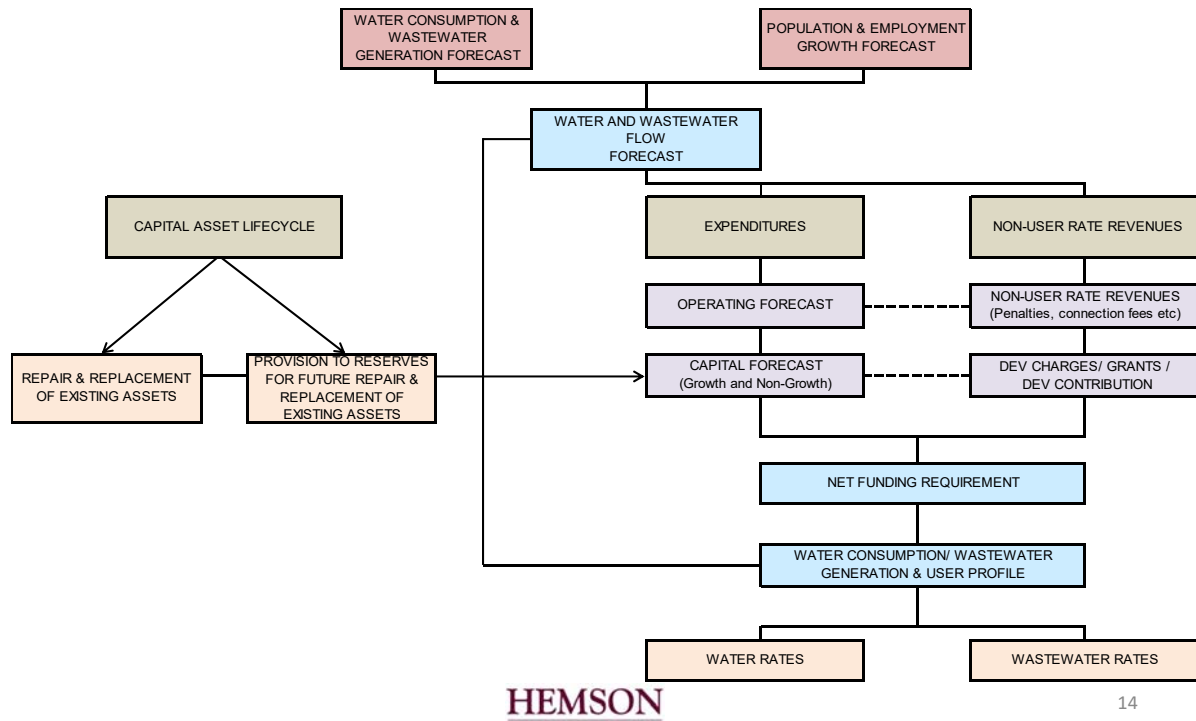
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Rate Structures Considered Under This Study

| Rate Structure Alternatives | General Impact and assessment |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Scenario 1. Adjust the Fixed vs. Variable Rate Cost Recovery to 40:60 in 2020</p> | <p>Bill would be reduced for low volume water users.</p> <p>Typical households would pay marginally more relative to status quo scenario (60:40 Structure)</p> <p>The burden would largely be shifted to water users above the typical household. Non-residential users would also see higher rate increases.</p> |
| <p>Scenario 2. Adjust the Fixed vs. Variable Rate Cost Recovery to 40:60 over the planning period</p> | <p>Bill would be reduced for low volume water users but the impact would be captured over a longer horizon relative to scenario 1 (40:60 Structure).</p> <p>Impact on a typical household would be moderated in early years relate to Scenario 1 (40:60 Structure)</p> <p>The burden would largely be shifted to water users above the typical household. Non-residential users would also see higher rate increases.</p> |
| <p>Scenario 3. Minimum Bill (includes 20m³ every 2 months)</p> <p>Each cubic meter charged above the minimum would be equal to the minimum bill \$/m³</p> | <p>Bill would be reduced for low and typical volume water users relative to status quo (60:40 Structure)</p> <p>The burden would be shifted to water users above the typical household. High volume non-residential users would see higher rate increases.</p> |

RATE SETTING AND FINANCIAL ANALYSIS

Rate Setting Approach

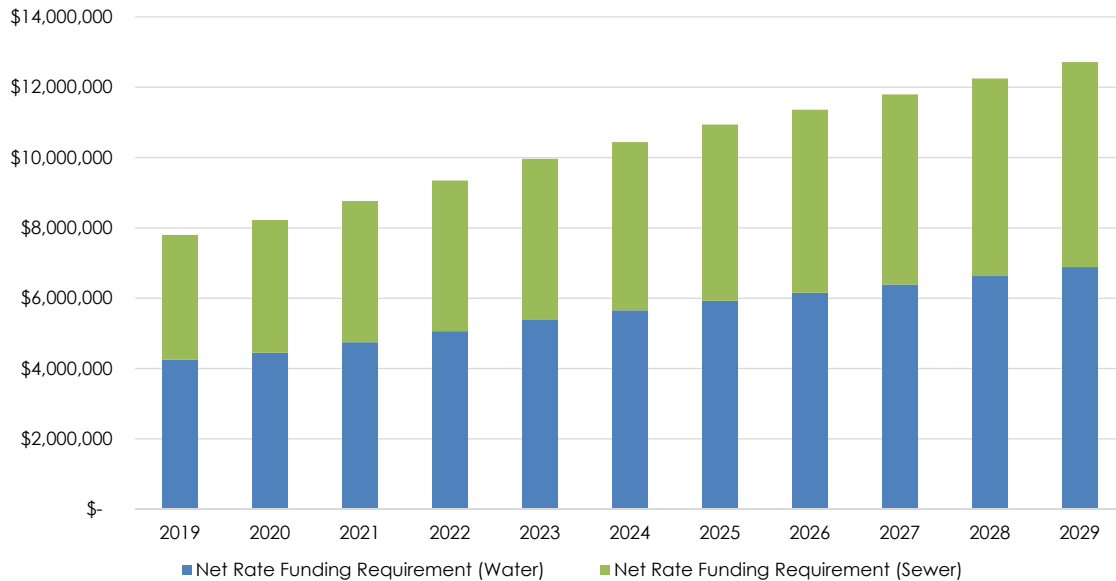


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Rate Setting Approach

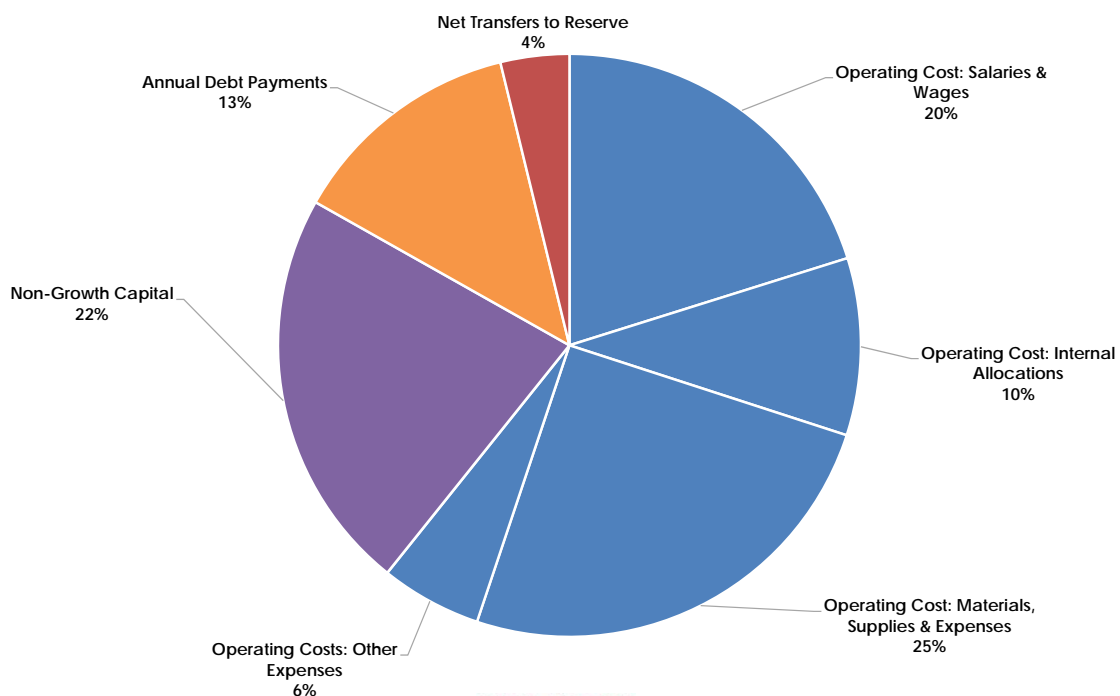
- Rates calculated based on the following:
 1. Full recovery of operating costs
 - Based on the Township's 2019 budget
 - Costs have been adjusted to account for inflation
 2. Full recovery of annual capital needs
 - In-year capital requirements identified by the 10-year capital plan and discussions with staff
 - Financing costs required to carry out the capital plan have been included (where applicable)
 - Only non-growth related costs have been included
 3. Provision for future asset replacement

How much Revenue Needs to be Collected from Water & Sewer Rates?



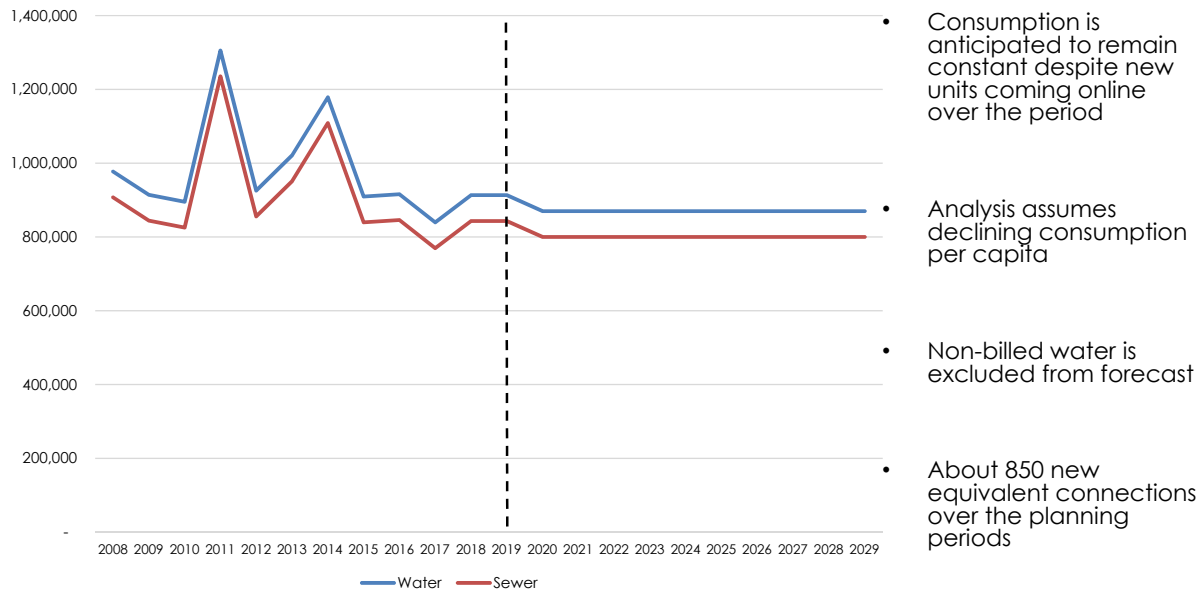
Note: The net rate funding requirement represents the amount of funds that must be funded through the water & sewer rates

Allocation of Water and Sewer Expenditures – 2019 Budget



Note: Other expenses include: contracted services, insurance and utility costs

Projected Consumption



Note 1: For the purposes of setting a utility rate, only the water that is distributed to the end-user is used to determine the rate. This is referred to as "billable" water.
 Note 2: Sewer generation is based on water consumption billed by sewer users connected to the water system.

RATE RESULTS AND IMPACT PER USER – STATUS QUO RATE STRUCTURE (60:40)

Rates Required to fund the 10-year Program (Status Quo)

Water & Sewer:

- Fixed & Variable Rates:
 - 6% annual increase from 2020 to 2023
 - 4% annual increase from 2024 to 2025
 - 3% annual increase from 2026 to 2029

- An adjustment to the way the Township bills multi-unit customers is assumed for 2020.
 - Transition to “Actual ERUs”

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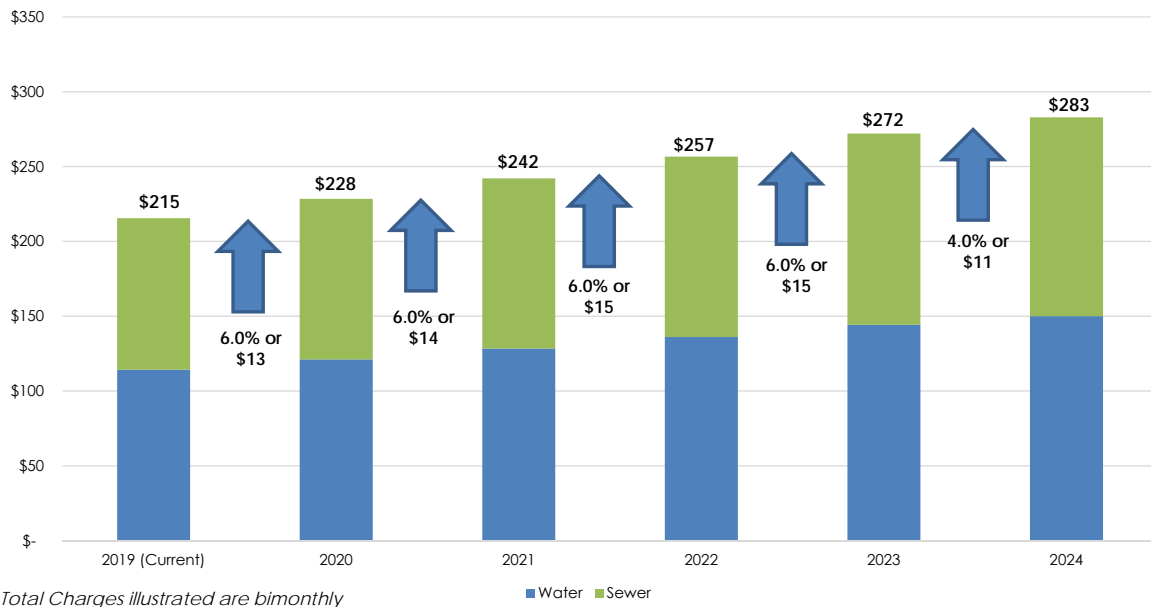
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Status Quo: 60:40 Structure

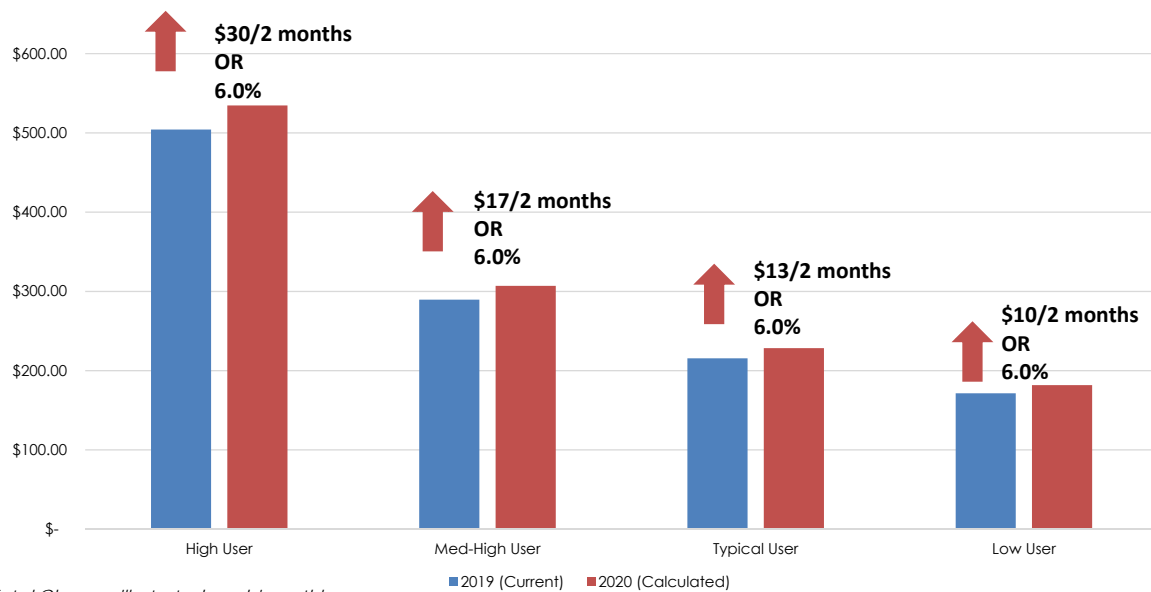
| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| Fixed Charge Bimonthly – Water | \$68.08 | \$72.16 | \$76.48 | \$81.06 | \$85.92 | \$89.36 |
| <i>% Change</i> | | 6.0% | 6.0% | 6.0% | 6.0% | 4.0% |
| Fixed Charge Bimonthly– Sewer | \$60.44 | \$64.06 | \$67.90 | \$71.98 | \$76.30 | \$79.36 |
| <i>% Change</i> | | 6.0% | 6.0% | 6.0% | 6.0% | 4.0% |
| Charge per Cubic Meter – Water | \$1.710 | \$1.813 | \$1.922 | \$2.037 | \$2.159 | \$2.245 |
| <i>% Change</i> | | 6.0% | 6.0% | 6.0% | 6.0% | 4.0% |
| Charge per Cubic Meter – Sewer | \$1.510 | \$1.601 | \$1.697 | \$1.799 | \$1.907 | \$1.983 |
| <i>% Change</i> | | 6.0% | 6.0% | 6.0% | 6.0% | 4.0% |

| Bimonthly Charge per Typical User (27m ³) | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Bimonthly Charge – Water | \$114 | \$121 | \$128 | \$136 | \$144 | \$150 |
| Bimonthly Charge – Sewer | \$101 | \$107 | \$114 | \$121 | \$128 | \$133 |
| Total Bimonthly Charge | \$215 | \$228 | \$242 | \$257 | \$272 | \$283 |
| <i>\$ Change</i> | | \$13 | \$14 | \$15 | \$15 | \$11 |
| <i>% Change</i> | | 6.0% | 6.0% | 6.0% | 6.0% | 4.0% |

Status Quo: Typical Household Charge (1)

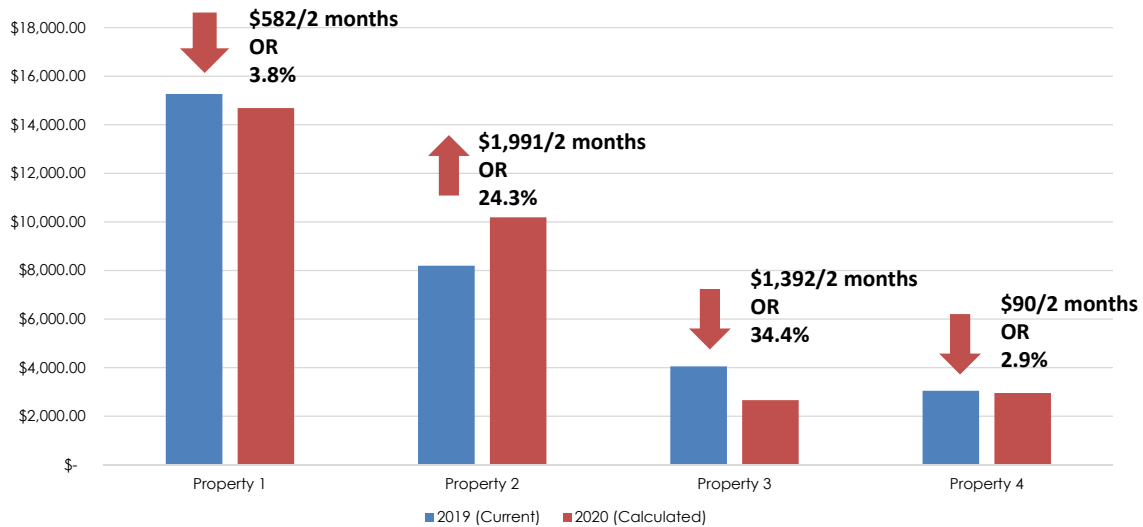


Calculated Utility Rates (Water & Sewer) Range of Residential Users (Status Quo)



High User: 117m³ per 2 months
 Med-High User: 50m³ per 2 months
 Typical User: 27m³ per 2 months
 Low User: 13m³ per 2 months

Calculated Utility Rates (Water & Sewer) Range of Apartment Users (Status Quo)



Total Charges illustrated are bimonthly

Property 1: 1,908m³ per 2 months – 71 ERUs (2019) – 60 ERUs (2020)

Property 2: 1,148m³ per 2 months – 35 ERUs (2019) – 46 ERUs (2020)

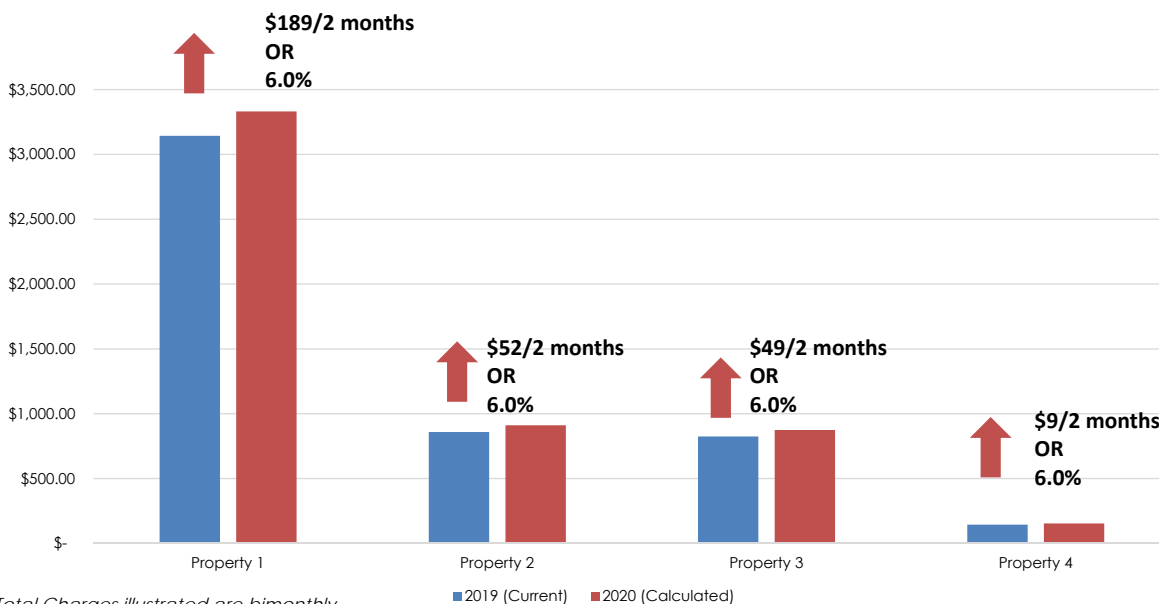
Property 3: 300m³ per 2 months – 24 ERUs (2019) – 12 ERUs (2020)

Property 4: 347m³ per 2 months – 15 ERUs (2019) – 13 ERUs (2020)

NOTE:
2019 ERUs are units billed
2020 ERUs represent actual ERUs based on an average

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Calculated Utility Rates (Water & Sewer) Range of Commercial Users (Status Quo)



Total Charges illustrated are bimonthly

Property 1: 377m³ per 2 months – 15 ERUs

Property 2: 107m³ per 2 months – 4 ERUs

Property 3: 96m³ per 2 months – 4 ERUs

Property 4: 5m³ per 2 months – 1 ERU

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PREFERRED SCENARIO TO 40:60 GRADUALLY

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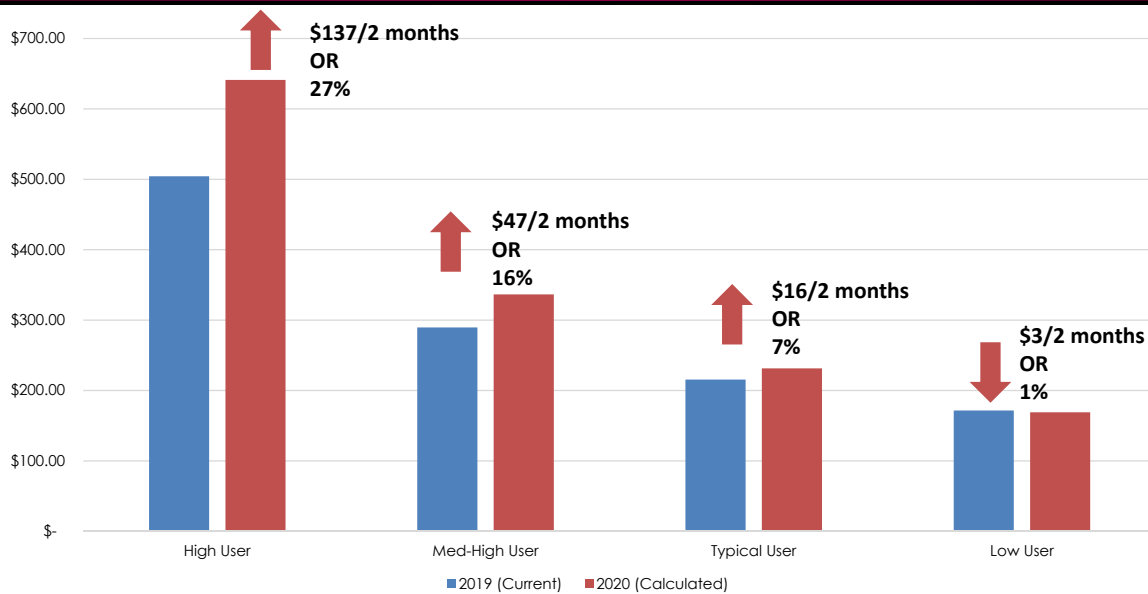
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Preferred Scenario: 60:40 to 40:60 (Gradual)

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| Fixed Charge Bimonthly – Water | \$68.08 | \$57.00 | \$57.00 | \$57.00 | \$57.00 | \$58.71 |
| <i>% Change</i> | | -16.3% | 0.0% | 0.0% | 0.0% | 3.0% |
| Fixed Charge Bimonthly– Sewer | \$60.44 | \$51.00 | \$51.00 | \$51.00 | \$51.00 | \$52.54 |
| <i>% Change</i> | | -15.6% | 0.0% | 0.0% | 0.0% | 3.0% |
| Charge per Cubic Meter – Water | \$1.710 | \$2.520 | \$2.772 | \$3.049 | \$3.354 | \$3.622 |
| <i>% Change</i> | | 47.4% | 10.0% | 10.0% | 10.0% | 8.0% |
| Charge per Cubic Meter – Sewer | \$1.510 | \$2.050 | \$2.337 | \$2.617 | \$2.853 | \$3.081 |
| <i>% Change</i> | | 35.8% | 14.0% | 12.0% | 9.0% | 8.0% |

| Bimonthly Charge per Typical User (27m ³) | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Bimonthly Charge – Water | \$114 | \$125 | \$132 | \$139 | \$148 | \$157 |
| Bimonthly Charge – Sewer | \$101 | \$106 | \$114 | \$122 | \$128 | \$136 |
| Total Bimonthly Charge | \$215 | \$231 | \$246 | \$261 | \$276 | \$292 |
| <i>\$ Change</i> | | \$16 | \$15 | \$15 | \$15 | \$17 |
| <i>% Change</i> | | 7.4% | 6.3% | 6.1% | 5.6% | 6.0% |

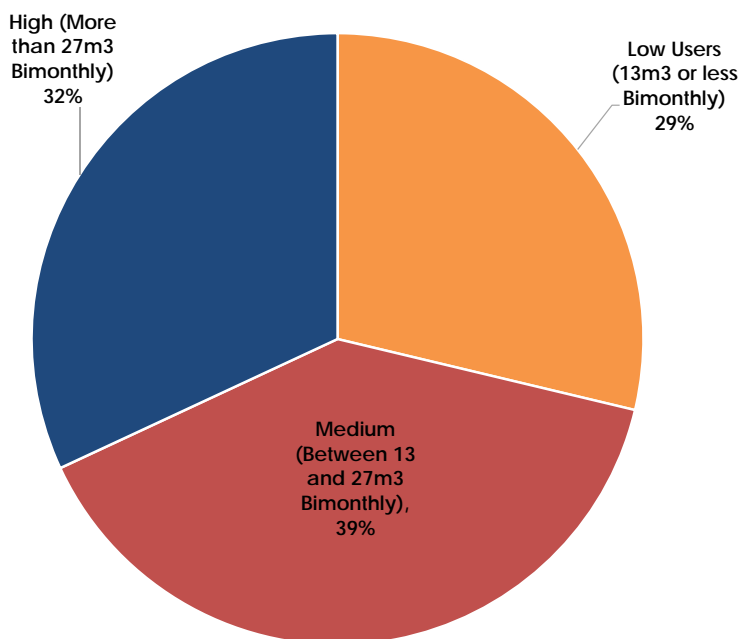
Calculated Utility Rates (Water & Sewer) Range of Residential Users (Preferred)



Total Charges illustrated are bimonthly
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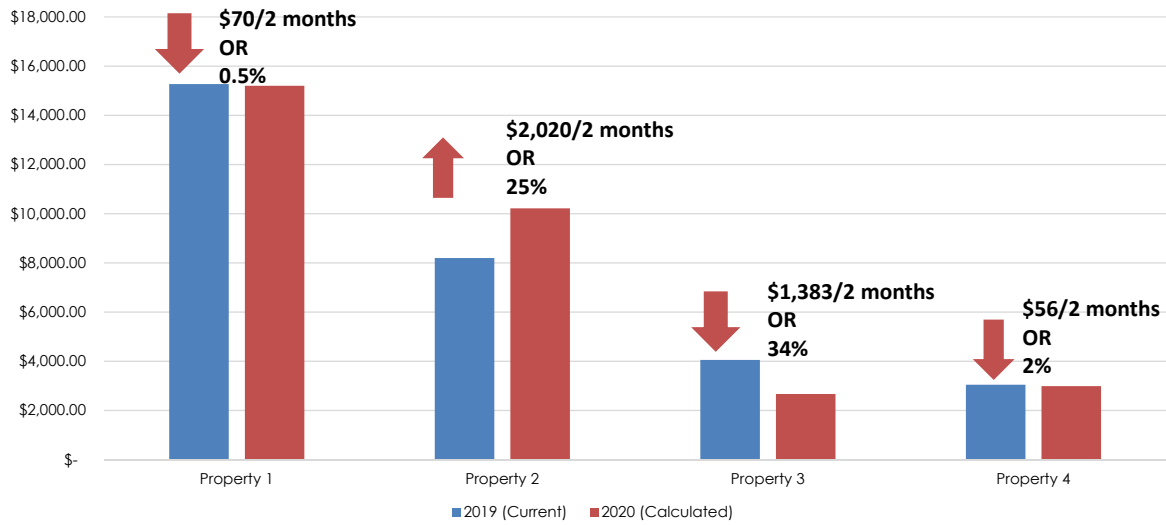
Customer Profiles: Quantifying the # of accounts in each category



- About 70% of accounts consume 162m³ per year or less
- About 30% of customers will see a decrease in their total bill (from 2019)

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Calculated Utility Rates (Water & Sewer) Range of Apartment Users (Preferred)



Total Charges illustrated are bimonthly

Property 1: 1,908m³ per 2 months – 71 ERUs (2019) – 60 ERUs (2020)

Property 2: 1,148m³ per 2 months – 35 ERUs (2019) – 46 ERUs (2020)

Property 3: 300m³ per 2 months – 24 ERUs (2019) – 12 ERUs (2020)

Property 4: 347m³ per 2 months – 15 ERUs (2019) – 13 ERUs (2020)

Calculated Utility Rates (Water & Sewer) Range of Commercial Users (Preferred)



Total Charges illustrated are bimonthly

Property 1: 377m³ per 2 months – 15 ERUs

Property 2: 107m³ per 2 months – 4 ERUs

Property 3: 96m³ per 2 months – 4 ERUs

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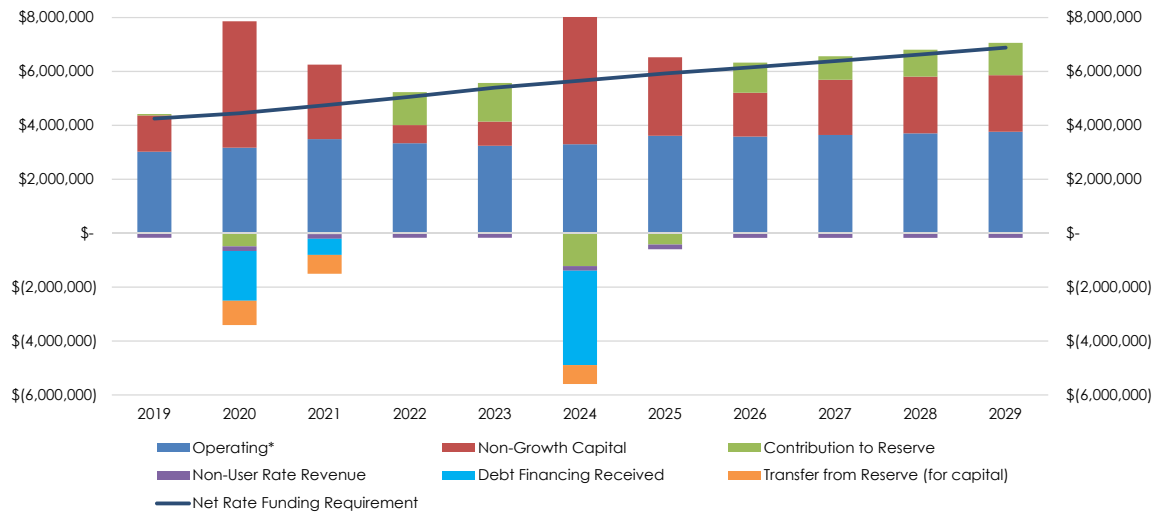
Summary of Key Outcomes and Concluding Comments

- Any rate structure adjustment will lead to changes in customers total bills – the total revenue requirement remains **constant** in all scenarios
- Calculated rates continue to provide Township with sufficient revenue to fund costs
- This study should be reviewed every 3-5 years (or earlier depending on the rate of growth, significant cost adjustments or changes to the pattern of consumption)



SUPPLEMENTARY SLIDES

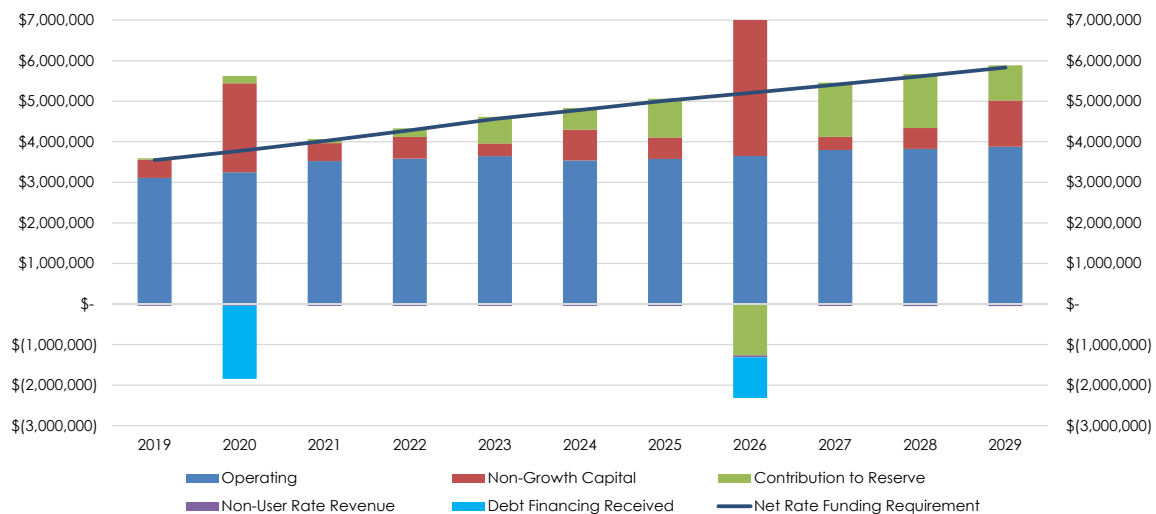
How much Revenue Needs to be Collected from Water Rates?



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How much Revenue Needs to be Collected from Sewer Rates?



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Status of Reserve Funds: Short-term Snapshot

| Service | 2018 Year-End Balance | 2024 Year-End Projected Balance | Relationship to Replacement Value* |
|-----------------------|-----------------------|---------------------------------|------------------------------------|
| Water | \$2.30 M | \$3.18 M | 1.9% (of \$168.1 M) |
| Sewer | \$.3.21 M | \$6.97 M | 6.3% (of \$109.7 M) |
| Total Combined | \$5.51 M | \$10.15 M | 3.7% (of \$277.8 M) |

*The current replacement value of water and sewer infrastructure has been provided by the Township of Loyalist and inflated to 2024\$ for comparison purposes.

- Summary of reserve funds in the short-term:
 - **Water:** reserves are projected to increase, although, the projected balance is less than 2% of the total water system replacement value in 5-years.
 - **Sewer:** reserves are projected to increase and the projected balance is about 6% of the total sewer system replacement value in 5-years.

Average Cost per Actual ERU by Multi-Unit Property

