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Date: July 22, 2019
To: Mayor and Council
Author: Tiffany Hong, Manager of Financial Services
RE: 2020 Wastewater Rate Structure Proposal
Report No.: FS-2019-13

AIM

To present to Council an alternative wastewater rate structure for residential customers.

BACKGROUND

The Town's wastewater rate structure is currently comprised of a flat rate charge for residential homes and a consumption based charge for multi-residential, commercial and industrial customers. Separate rates are established for each sewage service area based on the operating and capital costs of the area. As the Kingsville and Lakeshore West (KLW) facilities are integrated, these service areas share common rates.

On March 25, 2019, Council was presented with a Water and Wastewater Rate Study. Administration also presented report number FS-2019-07 regarding the 2019 Water & Wastewater Rates. Consideration for an alternative rate structure was presented in both the Rate Study and Administration's report. Motion 201-2019 directed Administration to explore the implementation of a fixed and variable residential wastewater rate structure for 2020.

DISCUSSION

The proposed alternative rate structure will provide residents with the ability to control their wastewater charges. Over the past few years, some residents have expressed frustration with the current rate structure, particularly those who live alone and use a minimal amount of water and those who only live in Kingsville on a seasonal basis. As steady increases to the base charges over the next decade will be required, the fixed rate structure may also become an affordability issue for some residents. Further, the proposed alternative rate structure will encourage and reward water conservation efforts.

Rate Structure Comparison:

| Fixed Rate Structure | Alternative Rate Structure |
|----------------------|----------------------------|
| Fixed Charge | Base Charge |
| | Volume Charge / m3 |
| | Charges are capped |

Proposed Alternative Rate Structure – Base Charge plus Volume Rates

Based on the funding requirements outlined in the 2019 Water and Wastewater Rate Study, Administration is proposing the following wastewater rates to be effective April 1, 2020:

- A minimum base charge of \$20 / month (\$60 / quarter) for each residential unit.
- Volume charges of \$0.60 / m3 for Kingsville / Lakeshore West (KLW) and \$0.65 / m3 for Cottam.
- A maximum sewage charge or “cap” of \$40 / month (\$120 / quarter) per residential unit.

According to the Watson Study, approximately 92% of municipalities who have a volume rate structure will also impose a base monthly charge. This is appropriate, as every wastewater system contains costs that are fixed in nature which need to be funded no matter what the usage levels are and costs that fluctuate with the amount of water that is discharged into the system. The base charge will provide some stability in the cost recovery of the wastewater system, while the balance of the costs will be recovered through the volume rates.

The volume rates were determined by dividing the remaining funding requirements by the historical residential water volumes for each sewage area.

The maximum or “cap” charge will prevent residents from experiencing drastic changes in their sewage bills.

As recommended in the Watson report, annual increases of approximately 4% will be applied to the base fees and the maximum or “capped” fees.

A summary of the recommended rate structure for the next 5 years is outlined below.

Monthly

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------------|---------|---------|---------|---------|---------|
| Base Charge | \$20.00 | \$20.83 | \$21.67 | \$22.50 | \$23.33 |
| King/LW -Volume Rate/m3 | \$0.60 | \$0.66 | \$0.72 | \$0.78 | \$0.84 |
| Cottam -Volume Rate/m3 | \$0.65 | \$0.70 | \$0.75 | \$0.80 | \$0.85 |
| Maimum Charge | \$40.00 | \$41.67 | \$43.33 | \$45.00 | \$46.83 |

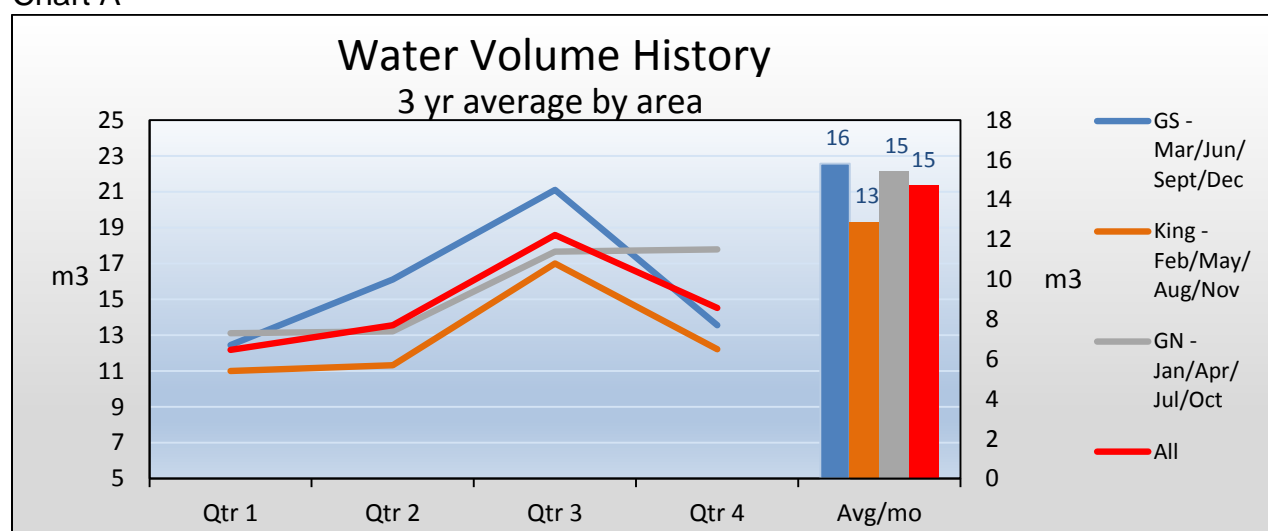
Annually

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------------|----------|----------|----------|----------|----------|
| Base Annual Charge | \$240.00 | \$250.00 | \$260.00 | \$270.00 | \$280.00 |
| King/LW -Volume Rate/m3 | \$0.60 | \$0.66 | \$0.72 | \$0.78 | \$0.84 |
| Cottam -Volume Rate/m3 | \$0.65 | \$0.70 | \$0.75 | \$0.80 | \$0.85 |
| Maximum Annual Charge | \$480.00 | \$500.00 | \$520.00 | \$540.00 | \$562.00 |

Water Volume History

An examination of the past 3 years of water usage reveals a median household consumption of 15m³ per month. Chart A illustrates the median water volumes for each billing area.

Chart A



Wastewater Rate Comparison to Existing Rate Structure

Water usage varies by area and property owner. To illustrate the impact of the prescribed alternative rate structure, the annual bill for a low, median and high water volume property is calculated below and compared to the existing fixed rate structure.

Kingsville/LW - Annual Base Charge plus Volume Rate Wastewater Bill (rounded)

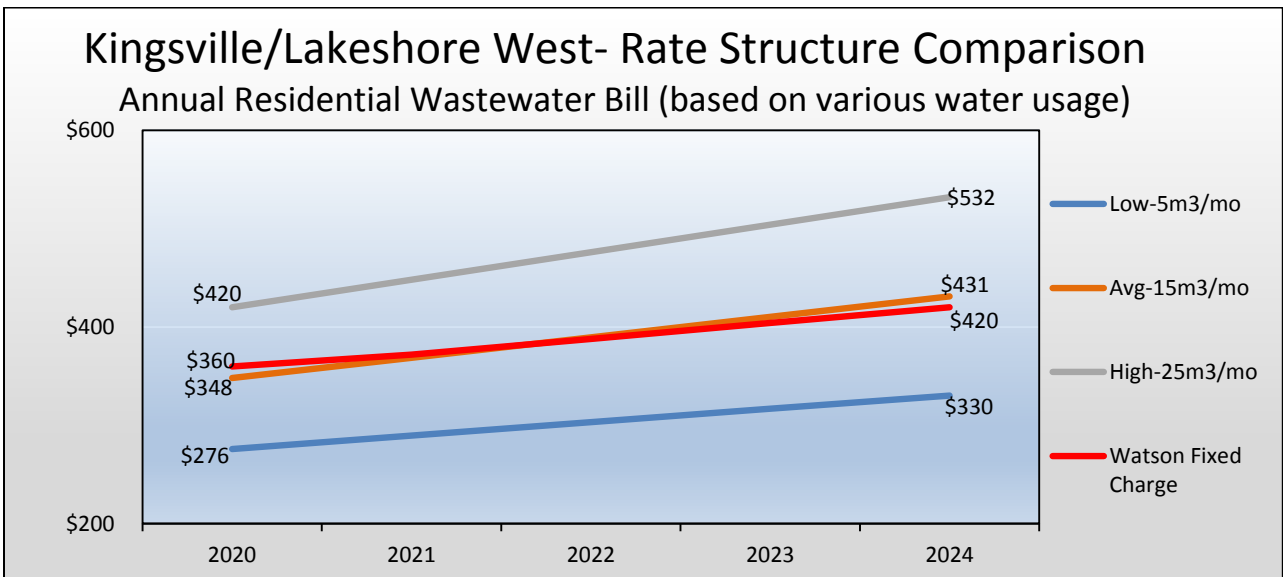
| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------|-------|-------|-------|-------|-------|
| Base Annual Charge | \$240 | \$250 | \$260 | \$270 | \$280 |
| Plus: | | | | | |
| Volume charge -5m3/mo. | \$36 | \$40 | \$43 | \$47 | \$50 |
| Volume charge -15m3/mo. | \$108 | \$119 | \$130 | \$140 | \$151 |
| Volume charge -25m3/mo. | \$180 | \$198 | \$216 | \$234 | \$252 |
| Total: | | | | | |
| Wastewater Bill -5m3/mo. | \$276 | \$290 | \$303 | \$317 | \$330 |
| Wastewater Bill -15m3/mo. | \$348 | \$369 | \$390 | \$410 | \$431 |
| Wastewater Bill -25m3/mo. | \$420 | \$448 | \$476 | \$504 | \$532 |

Kingsville/LW - Annual Fixed Charge Wastewater Bill

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|-----------------|-------|-------|-------|-------|-------|
| Wastewater Bill | \$360 | \$372 | \$388 | \$404 | \$420 |

Based on a median consumption household of 15m3/mo., chart B below depicts how the alternative rate structure results in minimal billing differences to the current fixed rate structure. As forecasted to 2024, the billing differences remain minimal. For households with low water usage, the alternative rate structure provides them with the opportunity to benefit from managing their water consumption.

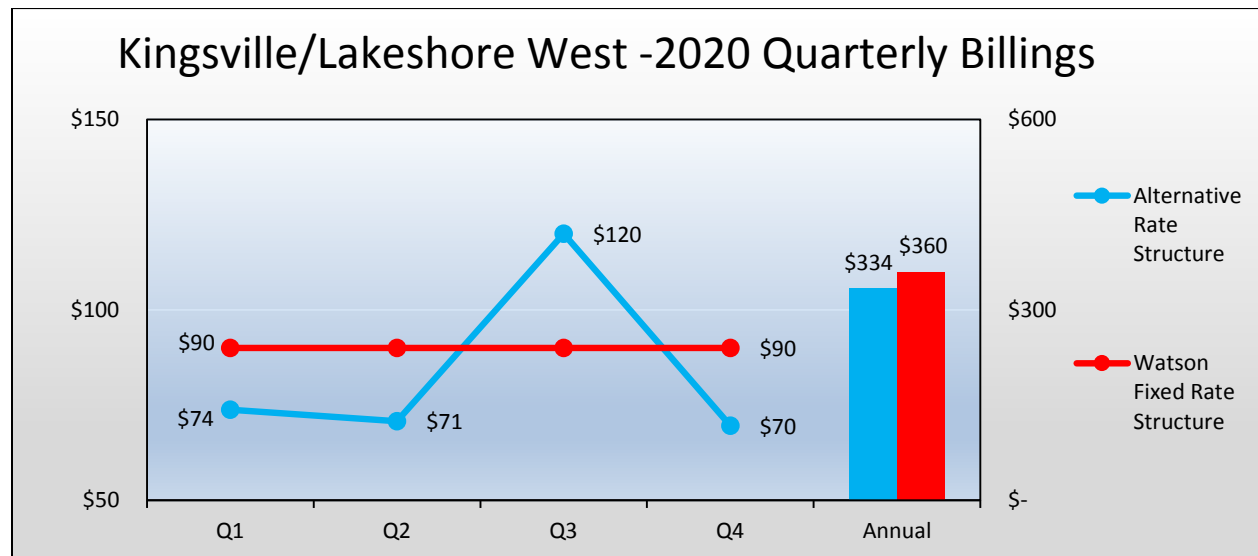
Chart B



The previous example assumes a consistent water consumption pattern over the course of the year. In reality, water volumes tend to fluctuate seasonally. To illustrate the application of the alternative rate structure to seasonal consumption patterns for an actual account whose annual usage averages to 15m3/mo., chart C below depicts the quarterly billings this household can anticipate during the course of 2020 under each of the rate structures.

The sum of the quarterly billings under the alternative rate structure will be \$334/yr versus the fixed rate structure of \$360/yr. Therefore, the alternative rate structure results in a decrease in charges of \$26/yr.

Chart C



| | Q1 | Q2 | Q3 | Q4 |
|-------------------------|---------|---------|----------------|---------|
| (A) Water Volume m3/qtr | 23 | 18 | 123 | 16 |
| (B) Volume Rate \$/m3 | \$0.60 | \$0.60 | \$0.60 | \$0.60 |
| (C) Volume Charge - A*B | \$13.80 | \$10.80 | Capped \$60.00 | \$9.60 |
| (D) Base Charge | \$60.00 | \$60.00 | \$60.00 | \$60.00 |
| Total Charge – C+D | \$73.80 | \$70.80 | \$120.00 | \$69.60 |

For Cottam, the same analysis is performed below. Based on a median consumption household of 15m3/mo., chart D below depicts how the alternative rate structure results in minimal billing differences to the fixed rate structure.

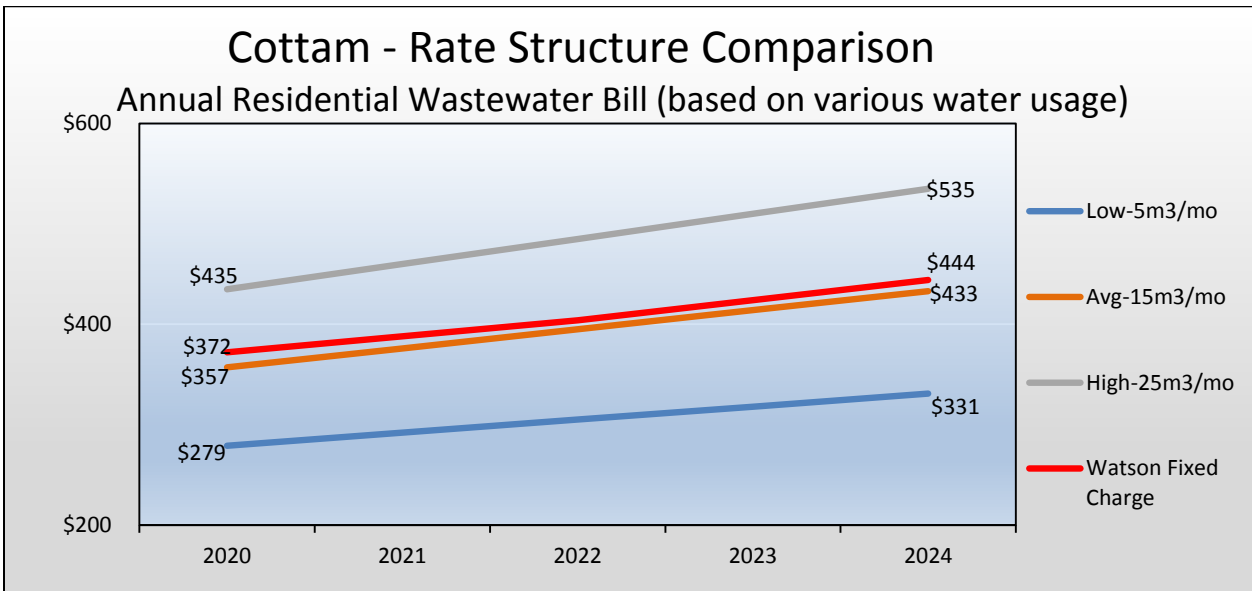
Cottam - Annual Base Charge plus Volume Rate Wastewater Bill (rounded)

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------|-------|-------|-------|-------|-------|
| Base Annual Charge | \$240 | \$250 | \$260 | \$270 | \$280 |
| Plus: | | | | | |
| Volume charge -5m3/mo. | \$39 | \$42 | \$45 | \$48 | \$51 |
| Volume charge -15m3/mo. | \$117 | \$126 | \$135 | \$144 | \$153 |
| Volume charge -25m3/mo. | \$195 | \$210 | \$225 | \$240 | \$255 |
| Total: | | | | | |
| Wastewater Bill -5m3/mo. | \$279 | \$292 | \$305 | \$318 | \$331 |
| Wastewater Bill -15m3/mo. | \$357 | \$376 | \$395 | \$414 | \$433 |
| Wastewater Bill -25m3/mo. | \$435 | \$460 | \$485 | \$510 | \$535 |

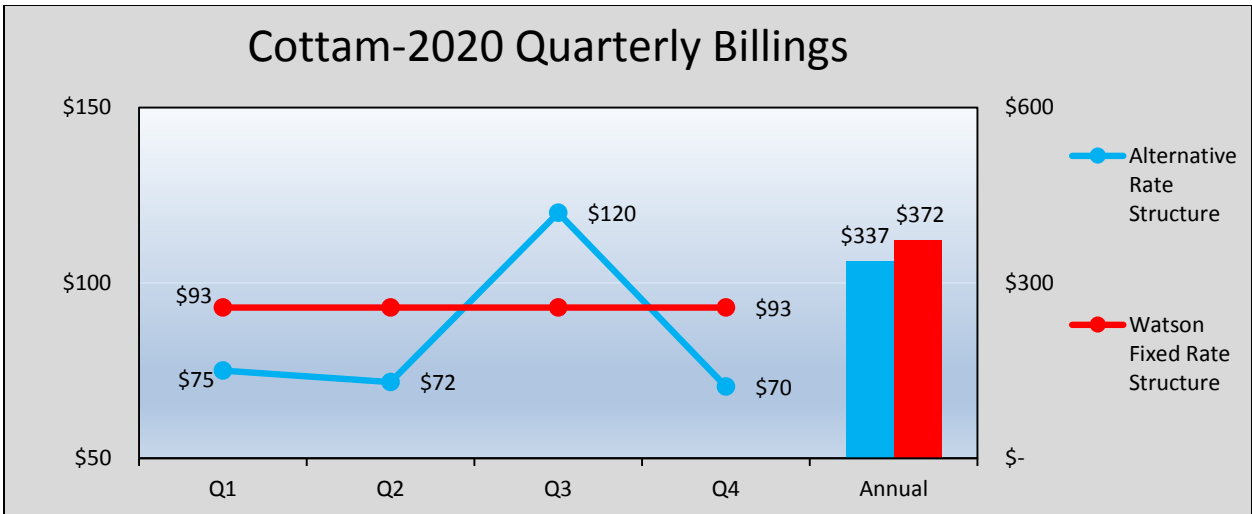
Cottam - Annual Fixed Charge Wastewater Bill

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------|-------|-------|-------|-------|-------|
| Annual | \$372 | \$388 | \$404 | \$424 | \$444 |

Chart D



A Cottam resident with the same seasonal water usage can anticipate the following quarterly billings in 2020 under each of the rate structures. The sum of the quarterly billings under the alternative rate structure will be \$337/yr versus the fixed rate structure of \$372/yr. Therefore, the alternative rate structure results in a decrease in charges of \$35/yr.



| | Jan | April | July | Oct |
|-------------------------|---------|---------|----------------|---------|
| (A) Water Volume m3/qtr | 23 | 18 | 123 | 16 |
| (B) Volume Rate \$/m3 | \$0.65 | \$0.65 | \$0.65 | \$0.65 |
| (C) Volume Charge - A*B | \$14.95 | \$11.70 | Capped \$60.00 | \$10.40 |
| (D) Base Charge | \$60.00 | \$60.00 | \$60.00 | \$60.00 |
| Total Charge – C+D | \$74.95 | \$71.70 | \$120.00 | \$70.40 |

Wastewater Rate Comparison to other Municipalities in Region

Kingsville is currently the only municipality in Essex County with 100% fixed residential wastewater rates. Windsor and the six surrounding municipalities in the County use a combination of base charges plus volume rates to calculate their wastewater charges in order to recover fixed costs required to operate the wastewater system and the variable costs incurred from the amount of water the system needs to process.

Refer to Appendix A for a comparison of the proposed wastewater rates to the rates currently in effect at other municipalities in the region.

LINK TO STRATEGIC PLAN

Effectively manage corporate resources and maximize performance in day-to-day operations.

FINANCIAL CONSIDERATIONS

The financial impact to the Town will remain neutral as the proposed rate structure is designed to generate the same amount of revenue as the existing fixed rate structure.

CONSULTATIONS

Watson & Associates, Water and Wastewater Rate Study, March 20, 2019

RECOMMENDATION

Council approve the following rates and rate structure for residential wastewater customers, effective April 1, 2020.

- A minimum base charge of \$20 / month (\$60 / quarter) for each residential unit.
- Volume charges of \$0.60 / m³ for Kingsville / Lakeshore West and \$0.65 / m³ for Cottam.
- A maximum wastewater charge or “cap” of \$40 / month (\$120 / quarter) per residential unit.

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