

# Regional Sewer Update

Committee of the Whole

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# Answers to Frequently Asked Questions



# Why are the lagoons smelling?

- Biological plant - bacteria consume waste through 5 treatment lagoons
- Air is added to incoming wastewater through blowers and oxygen diffusers in the lagoons
- In the past, dated and plugged aerators did not supply enough air in the lagoons
- The lack of oxygen is the leading reason for odour (the level of oxygen in lagoons 1 and 2 is not in balance with the strength (load) of the incoming waste)



# Old Aerators (now replaced)



# New Aeration Diffusers (in operation on right)



# What is being done to eliminate the smell?

- Air blowers supplying oxygen to Lagoons 1 and 2 have been upgraded and reconfigured
- Air blowers supplying Lagoons 3, 4, and 5 were tuned during the first week of June
- An oxygen-boosting compound is being added
- Mechanical mixers were added to lagoons 1 and 2





**New High Efficiency Blower Installation  
(now in operation – output adjusted June 16)**

# Blowers to Lagoons 3, 4 & 5



- Now supplying 70% more air to these lagoons
- Now seeing Dissolved Oxygen increases in Lagoons 3, 4, & 5



Equipment being  
used for dosing of  
Oxygen Boosting  
Compound



# Mechanical Mixers in Operation



# More Recent Advice & Work

- Ongoing adjustments to air output:
  - Supplying Lagoon 3, 4, 5 increased by 70%
  - Supplying Lagoon 2 increased by 48% (June 16)
- Materials ordered to install additional 1 diffuser string cell 2
- Continued dosing of oxygen boosting supplement



# Advice Received and Under Development

- Engineered design underway for the addition of 7 to 8 additional diffuser strings in Lagoon 1
- Smaller screen mesh has been ordered for drum screens (intended to address the amount of solids entering Lagoon 1)
- Floating “mats” being removed



# Length of Time for Waste Processing

- The lagoon-based treatment plant retains wastewater for approximately 60 days
  - from the time of inlet
  - through the 5-lagoon treatment system
  - to the point of effluent discharge



# Biosolid Removal – 2010 Regulations

- During 2021 and 2024 more than 11,000 metric tonnes was removed from the lagoons (not including geotubes)
- Regional produces a Class B municipal biosolid
- The Municipality has been measuring the buildup of biosolids with sonar technology
- Desludging of lagoon 2 is planned for the fall



# Biosolid Removal – Con't

## Past Experience

- Land application could not be accommodated due to volume (capacity of licensed windrow operations)
- Too much volume for direct land application (topping) at wastewater plant locations, i.e., not enough area
- Can be used in Second Generation Landfill operations for daily cover or cell closure but cannot be stockpiled



# Biosolid Removal – Con't

## Past Experience

- Class B materials have stockpile restrictions
- Class A and B materials have storage restrictions some of which relate to drinking water supplies
- Other Nova Scotia municipalities have similar experiences
- Disposal will be revisited prior to 2025 removal



# Capital Costs 2019-20 to 2024-25

| Fiscal Year | Aeration/Plant Upgrades | Engineering - Treatment | Engineering - Forcemain | Engineering - Forcemain | Fencing & Other | Lift Station Upgrades | Sludge Management | Forcemain Estimated Payable | Grand Total   |
|-------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------|-----------------------|-------------------|-----------------------------|---------------|
| 2019/20     | \$ 775,572              | \$ 39,533               | \$ -                    | \$ 18,803               | \$ 52,577       | \$ -                  | \$ -              | \$ -                        | \$ 886,484    |
| 2020/21     | 248,940                 | 3,050                   | 144,435                 | -                       | -               | -                     | -                 | -                           | 396,425       |
| 2021/22     | 25,512                  | 16,686                  | -                       | 7,084                   | 18,004          | -                     | 1,971,613         | -                           | 2,038,899     |
| 2022/23     | 573,734                 | 29,465                  | -                       | 16,575                  | -               | -                     | 47,972            | -                           | 667,746       |
| 2023/24     | 2,842,881               | 170,169                 | -                       | 15,121                  | 12,514          | -                     | 2,408,476         | -                           | 5,449,162     |
| 2024/25     | 64,490                  | 15,571                  | 821,774                 | 147,998                 | 3,135           | 42,138                | 221,179           | 1,767,958                   | 3,084,242     |
| Grand Total | \$ 4,531,129            | \$ 274,474              | \$ 966,209              | \$ 205,581              | \$ 86,230       | \$ 42,138             | \$ 4,649,240      | \$ 1,767,958                | \$ 12,522,958 |

| Year               | Metric Tonnes |
|--------------------|---------------|
| 2019-21            | 6,943         |
| 2022-24            | 3,996         |
| Total <sup>1</sup> | 10,939        |

| Activity    |              |
|-------------|--------------|
| Desludge/D  | \$ 3,058,238 |
| Disposal    | 710,695      |
| Transport   | 880,306      |
| Grand Total | \$ 4,649,240 |

1. Does not include Geotube storage .

# Size of the System

- The system services residents, businesses, industry, and institutional users between Greenwich and Coldbrook
- Includes:
  - approx. 22,000 residents
  - businesses and industry within Kentville Industrial Park
  - retail sector in New Minas
  - Valley Regional Hospital



# Annual Budget for Regional Partners

| 2025/2026 REGIONAL SEWER BUDGET |                      |         |           |           |              |         |
|---------------------------------|----------------------|---------|-----------|-----------|--------------|---------|
|                                 | Capital <sup>1</sup> |         | Operating |           | Total        | Percent |
| Kentville                       | \$                   | 461,912 | \$        | 639,977   | \$ 1,101,890 | 48.0%   |
| New Minas                       |                      | 146,938 |           | 343,374   | 490,312      | 21.4%   |
| Pepsico                         |                      | 117,394 |           | 179,270   | 296,664      | 12.9%   |
| Kings                           |                      | 84,256  |           | 320,779   | 405,035      | 17.7%   |
|                                 | \$                   | 810,500 | \$        | 1,483,400 | \$ 2,293,900 | 100.0%  |

1. \$810,550 is the current year portion of the below 2025-26 capital budget

# Annual Budget for Regional Partners

## 2025-26 Capital Spend:

|                                                       |    |           |
|-------------------------------------------------------|----|-----------|
| Sewerlines - Conveyance line replacement              | \$ | 400,000   |
| Aeration and desludging                               |    | 1,600,000 |
| Regional Equipment                                    |    | 310,000   |
| Consulting (I&I and Hydraulic Retention)              |    | 90,000    |
| Lift Stations (including wet well wizards/aeration)   |    | 1,325,000 |
| Rehabilitation of 4 overflow chambers and UV upgrades |    | 900,000   |
|                                                       | \$ | 4,625,000 |

## Funding Sources:

|                 |    |           |
|-----------------|----|-----------|
| Capital Reserve | \$ | 410,000   |
| Operations      |    | 90,000    |
| Grants          |    | 1,532,500 |
| Debenture       |    | 2,592,500 |
|                 | \$ | 4,625,000 |

# Long Term Plan

- Pre-design report on the entire system (tendered in Feb 2025)
  - Process upgrades (pre-screening solutions, possible conversion to alternative treatment technologies, post-treatment clarification or filtration, sludge management solutions and overall sewer treatment facility optimization)



# Long Term Plan – Con't

- Study will encompass the type of incoming waste and projected growth and development in the area
- To be completed by the spring of 2026



# Questions from Council

[www.countyofkings.ca/regionalsewerupdates](http://www.countyofkings.ca/regionalsewerupdates)

