Date: **April 14, 2025**

To: **Mayor and Council**

Author: **John Norton, Chief Administrative Officer**

RE: **Ruthven Sanitary System Capacity**

RECOMMENDED ACTION

That Council **approve** an Interim Control By-law, pursuant to Section 38 of the *Planning Act*, in the format attached as Schedule "A" to this report;

And that corresponding By-law 24-2025, being a By-law to establish Interim Control on lands within The Corporation of the Town of Kingsville, **be adopted** during the By-law stage of this Council Agenda;

And that Council **direct** Administration:

1. To complete a review and study in respect of the Town's land use planning policies in relation to required changes to the Town's land use planning policies, and other regulatory framework, as a result of the Town's sanitary sewer constraints for the lands reliant on the Ruthven Sanitary System;

2. To take immediate steps, as determined by Administration, to improve the flow rates in the Ruthven Sanitary System, including the installation of a pressure relief valve, larger pump, and flow monitoring equipment for each greenhouse, and any other actions which are reasonably expected to improve the flow rates;

3. To bring forward recommendations on funding these actions, with a view to full cost recovery from greenhouse operations, and include all costs such as metering of flow rates from greenhouse operations, upgrades to the Ruthven Sanitary System, and enforcement of the prohibitions as required; and

4. To prepare a Greenhouse Sewer Use By-law for Council's consideration at the next regularly scheduled meeting of Council on April 28, 2025, and which shall:

    a. Prohibit the discharge of agricultural storm and process water, including greenhouse nutrient feedwater, into Kingsville's sanitary sewer system;

    b. Require all discharge from greenhouse operations into the municipal sanitary sewer system off-peak hours and with a metering system that

provides real-time flow metering. For clarity, discharge from greenhouse operations shall not include agricultural storm or process water; and

c. Empower such steps as are deemed necessary to enforce this Greenhouse Sewer Use By-law, including the power of entry onto private property.

BACKGROUND

Between 2010 and 2011, the Ontario Ministry of the Environment conducted the Greenhouse Wastewater Monitoring Project. This study revealed that many greenhouses were discharging process water with high phosphorus levels into nearby creeks that flow into Lake Erie. As a result, the Ministry determined that it could not support further greenhouse development near affected watercourses without ensuring that process water is properly treated before being discharged into natural water bodies and Lake Erie. The process water could have been treated on-site at individual greenhouse locations or at a centralized facility, such as a municipal water treatment plant.

To address the water quality issues in local waterways and to support area growers, the Town of Kingsville commissioned Stantec Engineering to assess the feasibility of allowing certain greenhouse operations to discharge into the Ruthven Sanitary System. The conclusions and recommendations of this study and the associated report were as follows:

- The Ruthven Pump Station has a capacity for greenhouse discharges of 25 L/s during off-peak hours (2:00 am and 6:00 am) and dry weather.

- Local greenhouses should be allowed to discharge at a uniform discharge rate of 0.0785 L/s per hectare during the prescribed off-peak hours.

- Flow control and monitoring systems should be implemented to regulate the quantity of effluent discharged from greenhouse operations.

- Greenhouse operations must conduct routine sampling and testing of their effluent prior to discharge to ensure compliance with Kingsville's Sewer Use By-law requirements.

- Greenhouse operations are charged at 130% of current water rates for each cubic meter of effluent discharged into the municipal sewer system and these funds are to be allocated to a reserve account dedicated to the Ruthven area sewer system, and pump station future expansion.

Following the study, greenhouse operations were permitted to connect to the Ruthven Sanitary System if they complied with the recommendations specified in the Stantec Report. It should be noted that when faced with similar issues, the neighbouring

Municipality of Leamington did not allow the connection of greenhouse operations into their sanitary collection system.

Wastewater from homes and businesses in Ruthven is collected and transported to the sewage treatment plant in Kingsville. This process is facilitated by a pump station located on Road 2 E and a sanitary forcemain that runs underground beneath the Chrysler Greenway.

The Ruthven Pump Station was designed with a maximum capacity of 50 Litres per second (L/s). However, currently the actual measured maximum capacity is 34 L/s. The difference between designed maximum capacity and actual measured maximum capacity is due to the forcemain which is impairing pumping efficiency.

In August 2023, a significant storm event, with extreme amounts of rainfall, impacted our region. Intense rainfall over a short period caused widespread flooding across the southern portions of Essex County. During the storm, there were numerous reports from residents in Ruthven that sanitary effluent was flooding their basements. Town staff responded and determined that the Ruthven Pump Station and sanitary collection system was surcharged. They worked diligently through the storm to pump down the sanitary system to minimize property damage. Since then, Administration has spent significant time gathering information, inspecting infrastructure, and working with various stakeholders to determine possible causes.

As part of the investigation, flow monitoring was conducted in several sewer catchment areas to assess flow rates during dry and wet weather. Town staff received preliminary data in 2024 and became immediately concerned about baseline flow rates observed in the Ruthven Sanitary System.

DISCUSSION

After receiving the flow monitoring data, Administration initiated an internal investigation and engaged Dillon Consulting Limited to analyze flow rates in the sewer collection system compared to peak performance of the Ruthven Pump Station. A breakdown of observed sanitary flow is as follows:

Flow Source	Average Flows (L/s)	Peak Flow (L/s)
Greenhouse Contribution	26.8	54.1
Residential Contribution	5.0	16.9
Total Inflow	**31.8**	**71.0**
Maximum Current Capacity	**34.1**	**34.1**

After reviewing and analyzing the data, the report identified the following major issues:

- Total sewer inflow rates are exceeding Ruthven Pump Station design approximately 20% of the time.

- Peak greenhouse flow rates were 54.1 L/s, which is higher than the pump station's total capacity of 34.1 L/s.

- Greenhouses account for 76% of the estimated total peak sewer inflow into the Ruthven Pump Station.

- That greenhouses are not pumping during off-peak hours between 2:00 am and 6:00 am.

The report recommends several upgrades to the Ruthven Pump Station to address the differences between current flow rates and the pump's capacity. Some of these upgrades are being designed now and are expected to be installed by Summer 2025.

The report also presents strategies to reduce peak flow, such as implementing a Sewer-Use By-law with a schedule of offences and penalties to ensure connected greenhouses meet the original connection requirements. Until these solutions are implemented, the Dillon report recommends that the Town prohibit any new connections to the existing wastewater collection system, which includes residential, commercial, industrial, and greenhouse connections.

In response to the findings in the Dillon report, Administration is recommending that Council consider passing an Interim Control By-law which would have the effect of restricting development in Ruthven for a period of one year, with the potential to renew for a further year but allow exemptions as capacity improves.

Since greenhouses were permitted to connect, the Town of Kingsville approved two residential subdivisions and one industrial subdivision in Ruthven. Currently, there are still 85 undeveloped permit-ready residential building lots and 20 industrial building lots that would be unable to proceed due to the passing of an Interim Control By-law. In 2023 and 2024, the Town issued 5 and 12 building permits respectively in Ruthven which required a connection to the sewer.

It is also important to note that Administration is aware of two new plans of subdivision and one proposed greenhouse expansion that will also be affected by the recommended prohibition on development.

FINANCIAL CONSIDERATIONS

Sewage backups can lead to property damage and significant stress for homeowners, resulting in considerable costs for residents. Additionally, these issues create financial burdens for the Town of Kingsville, as town staff must take emergency measures to address sewage backups as effectively as possible. Conversely, imposing a prohibition on construction, even if temporary, will cause financial strain on developers and hinder economic growth in the area. When considering these conflicting issues, combined with the adverse health effects associated with sewage backups, Administration recommends a pause on development until sewage capacity is improved in Ruthven.

The 2025 budget includes $400,000 for upgrades to address issues at the pump station. To date, $50,000 has already been spent, with an additional $150,000 earmarked for other immediate upgrades to improve pump performance. The remaining $200,000 will fund engineering and design work to increase pump capacity, with construction scheduled for 2026.

Administration is also proceeding with a new sewage meter and flow monitoring program which is expected to cost approx. $340,000 to implement. The cost of this program will be recovered from greenhouses discharging into the wastewater system.

The Town currently generates approx. $500,000 per year from greenhouse related wastewater flows. While this revenue is significant, greenhouse flows are contributing to higher chemical and other treatment related expenses compared to other Wastewater Facilities operated by Ontario Clean Water Agency.

In addition to capacity concerns with the Ruthven Pump Station, the Town will also need to consider the limitations of Kingsville's treatment facility, which currently operates at over 90% of its rated capacity. In 2022, Council approved a joint project between the Town of Kingsville and the Ontario Clean Water Agency to conduct a Municipal Class Environmental Assessment (EA) for the phased expansion of the Town's wastewater treatment plant and lagoon system. This study will be complete in late 2025, but expansion is anticipated to require significant financial investments.

The Town's ability to continue to support the greenhouse industry will be contingent on the adoption of a fiscally responsible rate structure which provides for the recovery of necessary capital and operating expenses.

ENVIRONMENTAL CONSIDERATIONS

Sewage backups can pose significant health risks through exposure to harmful pathogens and toxic chemicals. Sewage water is laden with dangerous bacteria and parasites that can cause gastrointestinal illnesses, respiratory issues, skin irritation and other infections. Additionally, the dampness resulting from sewage backups can further aggravate respiratory conditions like asthma and allergies.

Excessive nutrient levels, particularly phosphorus and nitrate, in Lake Erie are causing significant water quality issues, including harmful algal blooms and low-oxygen zones that threaten aquatic life. According to the Ministry of Environment, a strong correlation was observed in 2010 between the growth of commercial greenhouses in Kingsville and Leamington and elevated nutrient loads in nearby waterways. To address this issue, greenhouse operations were allowed to discharge process water into municipal sewer systems.

CONSULTATIONS

Senior Management Team
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PREPARED BY:

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