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## **Council-In-Committee Meeting – June 08, 2021**

Subject: IUWS Short Term Recommendations – **Budget Amendment**  
Report Number: EIS 21-29  
Division: Environmental and Infrastructure Services  
Department: Administration  
Purpose: For Decision

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### **Executive Summary:**

The goal of the Inter Urban Water Supply study (IUWS) was to identify water quantity and quality issues, develop alternatives to mitigate these issues, and provide recommendations on next steps to provide the County with a secure, long-term water supply servicing strategy. This report is intended to obtain direction for the implementation of IUWS and to provide an update on various issues currently affecting the County's water supplies.

### **Discussion:**

The water challenge in Norfolk County has been a long-standing issue. Below is an excerpt from a 2007 report to the Council at the time. Though this commentary is almost 15 years old, it is even more relevant today. The reason it is more relevant today, is because the underlying issues did not go away over the last 15 years. In fact they have intensified to a critical, if not near crisis, situation.

*“The former Region, as a long term strategy, recognized the need and benefit to interconnect all or some of these separate municipal water supply systems and to supply water from one centralized water treatment plant, however, due to the high costs involved to construct both the long pipelines to interconnect communities and a centralized water treatment facility, the Region elected, for the short term, to remain with operating the six separate water supply systems. Since its inception, the County has been faced with the same dilemma. However, the ever increasing regulatory environment of to-day, the ever increasing high cost of operating and maintaining separate water treatment facilities, and the diminishing ability of the County's current water treatment and supply facilities to meet future capacity needs has heightened the need for the County to seriously consider a centralized water supply system. The Nanticoke Grand Valley Area Water Supply Project is timely as a pipeline from Haldimand County's Nanticoke W.T.P. is a viable option for the Norfolk County to seriously consider as a future centralized water supply facility for Norfolk's needs.”*

PW 21-11, The Path Forward for Norfolk County's Water Supply, was presented to Norfolk County Council-in-Committee on February 9, 2021. This report provided an overview of the issues currently facing Norfolk County's municipal drinking water systems, and included details of the Inter Urban Water Supply study (IUWS).

From that report, Council approved the following recommendations:

THAT Staff Report PW 21-11, The Path Forward for Norfolk County's Water Supply, be received as information;

AND THAT Staff be directed to initiate the required updates to the Integrated Sustainable Master Plan;

AND THAT Staff be directed to negotiate a draft Water Supply Agreement with Haldimand County relating to the supply of potable water from the Nanticoke Water Treatment Plant

AND THAT Staff be directed to present an update to Council within 60 days as to the draft Water Supply Agreement with Haldimand County to Norfolk County Council for approval;

AND THAT Staff be directed to work with Haldimand County in the development of grant applications for available infrastructure funding programs;

AND THAT Staff be directed initiate detailed water quality studies relating to the impact of blending different water sources;

AND THAT Staff be directed to provide the additional details related to upgrading the Port Dover Water Treatment Plant as outlined in this report;

AND THAT Staff be directed to provide additional details related to the optimization of the Simcoe groundwater supplies and the potential development of the Simcoe Northeast Well;

This report is intended to provide Council with additional details related to the direction provided in PW 21-11.

### Simcoe Water Supply

#### Development Review:

A detailed review of the current water supply availability and the County's ongoing and future development commitments in Simcoe has been completed by a team of internal staff, as well as a third-party engineering consultant. This review has highlighted the following:

- The Simcoe Municipal Drinking Water System is capable of meeting the current needs of the community
- The Simcoe Municipal Drinking Water System is capable of meeting the development needs of the community for those applications which are currently committed or in progress
- The Simcoe Municipal Drinking Water System is NOT capable of meeting additional future needs of the community without increasing water capacity
- There is a recommended solution to address the deficiency beyond the existing development applications
- Given there is a known, budgeted and approved, solution to address the deficiency, development applications can be considered, and those that are approved by Council will include the “Hold” provision subject to applicable development agreements and confirmation of servicing capacity.
- In a future report to Council, the capacity allocation process and proposed policy will be described in order to facilitate this process going forward.

### Simcoe Water Supply Mitigation Strategies

Staff are undertaking a number of short-term mitigation strategies to address the water issue in Simcoe.

#### *Well Optimization Works*

Staff have engaged with outside parties to examine additional optimization efforts of its existing wells. Any additional capacity that will be obtained will assist with dealing with any developments that have a Hold placed on it. The optimization work is not a long-term solution but will assist marginally with development.

#### *Simcoe Northeast Well Development*

This well is a budgeted and approved project. The detailed hydrogeological analysis for the Simcoe Northeast Well has been completed. This report indicates that this well is capable of producing approximately 5800 m<sup>3</sup> per day, which would address a significant level of growth capacity for Simcoe. The remaining construction time on this project would be similar to the development of a pipeline to Haldimand.

#### *Connection of Simcoe to Delhi or Haldimand*

Staff are evaluating a connection to Delhi or Haldimand. Staff have concerns with a Delhi connection as that will limit the growth capacity in Delhi.

Staff are awaiting final confirmation of capacity amounts from Haldimand which is anticipated this fall. It is staff's recommendation that any decision on well or connection solutions for Simcoe be deferred until such time as the Nanticoke WTP stress test and potential re-rating exercise is complete. Only at that time will staff be in a position to make the best informed recommendation to Council on which option is in the best interest of Norfolk County.

To be clear a connection to Haldimand noted in this section only relates to obtaining some existing excess water capacity from Haldimand, this does not contemplate expanding the Nanticoke site.

### Port Dover Water Supply

#### Water Treatment Plant:

The ongoing Port Dover Water Treatment Plant Clarifier Replacement is currently on schedule for completion in the fall of 2021.

As highlighted in PW 21-11, completion of local treatment upgrades at the Port Dover Water Treatment Plant represents the fastest alternative to addressing the water supply deficiency in Port Dover. Local treatment upgrades will address the immediate needs of Port Dover, and based on the current development and growth estimates, will meet the needs of Port Dover until 2041. This course of action is consistent with the recommendations of the ISMP, and is in line with the IUWS Alternative 2.4.

The engineering design for Port Dover WTP clarifier replacement has been approved and is proceeding in a manner that is sufficient to address future capacity expansion. A third DAF unit has been purchased and will be installed as outlined in EIS 21-16.

The engineering design for a portion of the capacity expansion (UV disinfection and high-lift pumping upgrades) was started by WSP, our consultant, in 2018 and is at the 90% completion stage. This work is currently on hold to address the clarifier concerns. Further engineering is required for the DAF filter process conversion which includes filter media, air scour blowers, filter backwash modifications/supply tank and new backwash waste tank. Updated engineering and construction estimates have been provided and are outlined below.

Staff along with WSP have reviewed the remaining treatment process modifications required for the ultimate capacity increase as noted above for the Port Dover WTP. WSP has provided an engineering proposal to complete the remaining engineering design, contract administration and construction site inspection services with a cost of \$399,316.50. It is recommended that a single source supply be approved for WSP to an upset limit of \$450,000 which would include additional investigations such as geotechnical, designated substance survey, etc. The timeline for preliminary engineering, detailed engineering and tendering to award is 10 months, with a spring 2022 construction start and a fall 2022 construction completion.

WSP has also completed an engineering capital cost estimate for the remaining works (UV Disinfection, High lift pumping upgrades, DAF-Filter conversion). The engineering capital cost estimate for the remaining works is \$5,200,000. This estimated cost is within the previous estimate for remaining anticipated costs as outlined in report EIS 21-16.

It is staff recommendation to proceed with full capacity expansion of the Port Dover Water Treatment Plant as identified in IUWS Alternative 2.4 and as described above. The currently approved budget for relating to the Port Dover Water Treatment Plant is \$8.3M. In order to complete the required treatment capacity upgrade, this budget is required to be increased by \$2.7M, providing a total budget of \$11M.

### Port Rowan Water Supply

#### Development Review:

A detailed review of the current water supply availability and the County's ongoing and future development commitments in Port Rowan has been completed by a team of internal staff, as well as a third-party engineering consultant. This review has highlighted the following:

- The Port Rowan Municipal Drinking Water System is capable of meeting the current needs of the community
- The Port Rowan Municipal Drinking Water System is capable of meeting the development needs of the community for those applications which are currently committed or in progress
- The Port Rowan Municipal Drinking Water System is NOT capable of meeting additional future needs of the community without increasing water capacity
- All new development applications for lands located within the Urban Area of Port Rowan urban settlement boundary be deemed premature and deferred in accordance with 8.9.3 of the Official Plan until such time that measures to expand water supply capacity are developed and approved by Council

#### Water Treatment Plant:

Recognizing the need for a water supply increase in Port Rowan, investigations are ongoing relating to the water treatment plant intake. This information will be used to determine one of the following simplified options:

- a. Rehabilitate the existing intake and perform water treatment capacity upgrades
- b. Replace the existing intake and perform water treatment capacity upgrades
- c. Establish a groundwater source and perform water treatment capacity upgrades
- d. Construct a watermain connection to another municipal drinking water system

Staff anticipate having additional information and a proposed path forward in the fall of 2021.

### Master Plan Updates

Staff will be updating the water and wastewater sections of the ISMP for the urban centers. This involves reviewing and updating the input data from 2015 with current data, updating the hydraulic modelling for the water and wastewater systems and recommendations to improve system efficiencies and capacities.

The 2021 – 2030 Capital Plan identifies project placeholders for annual updates in each urban area.

Staff deemed Simcoe as a priority, therefore water modeling and calibration of the system is currently underway. The results of the modeling and calibration study will have no effect on increased capacity, however will identify upgrades required to support future development in Simcoe.

### Staff Discussions with Haldimand County:

Norfolk County Staff have been in regular communication with Haldimand County Staff as the work on the IUWS has progressed. This was confined to discussion surrounding the necessary technical and organizational requirements for the supply of water to Norfolk. This discussion has been productive and necessary to support the deliberations that will occur as Council considers its options moving forward.

Since PW 21-11 was presented in February, Haldimand staff have engaged a consultant to assist with completing stress testing and possible re-rating of the existing Nanticoke WTP. This work is on-going and is expected to be completed in the next few months. This process is intended to increase the rated capacity of the facility, which will determine exactly how much water Haldimand County will be able to provide Norfolk County without a treatment capacity increase at the Nanticoke Water Treatment Plant.

Until the results of this stress test are available, and Haldimand County is able to confirm the volume of water that will be made available for immediate sale to Norfolk

County, it is premature for Norfolk County to make any firm decision on a short-term solution for Simcoe.

If a short-term wholesale water contract agreement is entered into there has been preliminary agreement with Haldimand staff that the nature of the contract would be that the water would be supplied to Norfolk County at Haldimand's cost plus 15% as well as some administration costs this would represent a return on the use of Haldimand's capital infrastructure as well as any costs incurred for the contract. Norfolk County would be responsible for pipeline construction costs even for pipelines in Haldimand County. The cost charge from Haldimand is estimated to be \$1.40 - \$1.50 per cubic metre. Staff would need to finalize these costs. The additional debt servicing costs for the additional infrastructure as well as the life cycle asset management costs required for distribution to Norfolk County would mean the cost per cubic metre would be approximately \$1.75. These figures are high level estimates at this time, and will need to continually be reassessed as more information becomes available.

As it relates to the long term water solution involving Haldimand County, staff from both counties have been able to mutually agree to a framework for the expansion the Nanticoke Water Treatment Plant and provision of water to Norfolk County. The discussions and analysis was assisted by third party consultants from Watson & Associates.

The preliminary fee and investment structure agreed to by staff would see Norfolk County being responsible for its proportionate capital cost for the plant expansion and required distribution infrastructure. The cost for the water produced at the plant would be the same for Norfolk County residents and Haldimand residents as both parties would assume the operational and asset management obligations of the plant. Norfolk County water users would be responsible for the cost to distribute water to its residents. The cost for the production of the water is estimated to be approximately \$1.38 per cubic metre. The cost once factoring in distribution costs would be approximately \$1.64.

It is estimated that these costs are slightly higher today than our current fully burdened rates of about \$1.60. However, our rates are projected to increase due to asset replacement costs and required growth expansion costs. One benefit of a centralized water system with Haldimand is long-term rate stability by expanding the size of the customer base.

#### Water Quality Effects:

The IUWS has highlighted the potential impacts of blending water from different sources. Although the source water in Port Dover and Nanticoke are generally similar, since they are both drawn from Lake Erie, it is important to understand the impacts of combining water from different sources, especially when considering blending a lake-based water supply with a groundwater-based supply (i.e. Nanticoke water blended with

Simcoe water). Detailed water quality studies relating to the impact of blending different water sources has not yet been initiated as staff have been focused on the above mentioned short-term improvements for the County's water supplies. These studies will be initiated through the course of the summer.

#### Norfolk County Official Plan – Managing Growth:

The Official Plan (OP) has specific policy that articulates the manner in which growth will be managed in the County. Section 6 of the Official Plan outlines a growth management approach including growth and development policies and urban structures for the six Urban Areas and other areas of the County. Norfolk's population has historically increased at a modest rate, and the OP outlines specific growth projections to the year 2036.

The Provincial Policy Statement, 2020 (PPS) provision 1.1.2 states in part that: "Sufficient land shall be made available to accommodate an appropriate range and mix of land uses to meet projected needs for a time horizon of up to 25 years, informed by provincial guidelines."

Through the last Official Plan Review process, it was confirmed that based on that analysis all the lands located within the County including the Urban Areas was sufficient to meet this requirement.

Section 1.4 Housing of the PPS further requires that municipalities maintain at all times the ability to accommodate residential growth for a minimum of 15 years through residential intensification and redevelopment as well as maintain at all times where new development is to occur a land supply with servicing capacity sufficient to provide at least a three-year supply of residential units through lands suitably zoned to facilitate residential intensification and redevelopment, and land in draft approved and registered plans.

Notwithstanding the provincial requirements, there is a continued pressure for new development in many of the urban areas including Simcoe, Port Dover, Waterford and Delhi for existing greenfield sites as well as many infill locations.

Ensuring there are appropriate servicing solutions both in the short and long term are necessary in order to meet these pressures in accordance with applicable municipal and provincial policy.

#### Overall

Staff are recommending Alternative 2.4 from the IUWS. This would see the County move forward with the expansion of the Port Dover plant as well as move forward with a strategy for the co-development of the expansion of the Nanticoke plant with Haldimand County. Staff acknowledge that based on the study this is projected to be the highest cost solution. However, due to the fact that the County does not have what would be

the normal amount of development lead time for the planning and construction of water infrastructure, Alternative 2.4 is the lowest risk option for the County and it will deliver water to the County the fastest.

The risks are lower as we have lower design and construction risks due to our advancement of engineering of the Port Dover expansion. By building some capacity to address the issues in Port Dover and Simcoe, the County can absorb any delays in the expansion of the Nanticoke plant.

It should also be noted that the projected water cost to residents from Haldimand is lower than what was assumed in the study and as such the total life costs of Alternative 2.4 is anticipated to be significantly less.

### **Financial Services Comments:**

The Approved 2021 Capital Plan includes a total budget of \$8,368,000 for the Port Dover Clarifier with funding provided from the issuance of debentures. As outlined in this report, there is a request to increase this budget by \$2,700,000, which would result in a total project value of \$11,068,000. At this time, the recommended funding source for this budget amendment is debentures. However, Financial Services staff will also work with the Development Charge consultants to determine if a portion of these costs are eligible to be funded through Development Charges, as the project relates to expanding capacity at the plant. A revised Certificate of Treasurer has also been presented, to recognize the increase in project costs.

Within the recommendations, there is a motion which provides direction to staff to engage internal and external legal Counsel to provide options to allow some development activities to continue to the point where water connectivity is required. The approved budget allocation for Legal Services within the 2021 Rate Supported Budget is \$3,400. The cost of the external counsel is not anticipated to be significant, and it is anticipated that it will be accommodated within the current approved budget allocation.

The water rate budget forecasts included costs related to the IUWS options. Once a direction is established by Council and more information is obtained future budgets will be adjusted to reflect the best information at that time.

### **Interdepartmental Implications:**

Not applicable.

### **Consultation(s):**

Engineering Department, Environmental Services Department, Planning Department, Chief Administrative Officer, County Solicitor, Haldimand County, WSP, WT Infrastructure

**Strategic Plan Linkage:**

This report aligns with the 2019-2022 Council Strategic Priorities "Build Solid Foundations", "Build and Maintain Reliable, Quality Infrastructure", "Create an Optimal Place for Business" and "Foster Vibrant, Creative Communities".

Explanation:

**Conclusion:**

The implementation of the IUWS will re-shape the County's drinking water systems and provide a long term financially viable solution built on a solid foundation for the provision of safe and secure drinking water for the County.

There are identified solutions for servicing capacity for the County, and in particular Simcoe (budgeted) and Port Dover (budget amendment requested). To this end, future development applications could continue to move forward subject to the addition of "Hold" provisions order that confirmation of the actual capacity and appropriate development agreements are in place.

Staff recognize that the recommendations of the IUWS come at a high cost, and that there are no 'quick-fixes' to these water supply issues. We recognize that there is an immediate need to rapidly address current deficiencies in the County's water systems – specifically in Port Dover, Simcoe and Port Rowan. Connection to the Nanticoke Water Treatment plant will re-establish security of water supply in Norfolk County and will create an environment that encourages further development across the County and will provide stability for many years; however, it will take multiple years to achieve. Staff believe that connection to Haldimand County represents the best long-term solution to address the ongoing and future water supply concerns in Norfolk County.

Alternative 2.4 of the IUWS provides the lowest risk alternative for resolving the current water supply concerns in Port Dover, while providing the base framework for a long-term water solution for all of Norfolk County. This course of action will result in a water capacity increase for the community of Port Dover near the end of 2022. By moving forward with expansion projects for the Port Dover water plant, reduces any risks related to not being able to complete an agreement with Haldimand or any construction risks on the more complex Haldimand water plant expansion.

There are a number of ways to implement short term solutions for Simcoe, however there is currently insufficient data to make a firm recommendation on the path forward. This being said we do have a known, budgeted solution that can progress forward with the North East well. Staff are reviewing the continuation of the well project in Simcoe as one option, which will see water available to expansion growth in approximately 18 months. Additionally, staff are awaiting information from Haldimand regarding how much bulk water capacity they could sell to Norfolk County. This option will require the completion of a pipeline as well as other infrastructure to augment the Simcoe water supply, which may ultimately be implemented instead of the North East well project. Staff will continue to work concurrently on the various options in order to minimize the

implementation timelines for all solutions and will report back to Council as soon as more definitive information is available, anticipated to be in September of 2021. It should also be noted that staff will be providing additional information on the current state of the Simcoe water situation in July of 2021 and any shorter-term capital projects that maybe required to maximize current production levels.

**Recommendation(s):**

THAT Staff Report EIS 21-29, IUWS Short Term Recommendations, be received as information;

AND THAT development applications filed pursuant to the *Planning Act* for lands located within the Urban Areas of Simcoe and Port Dover be permitted to start being processed beyond public hearing committee for Council consideration;

AND THAT development applications in all Urban Areas that have current or pending capacity solutions, including Simcoe, and Port Dover be subject to a "Holding" provision with the following conditions:

1. Confirmation by the General Manager, Environmental and Infrastructure Services or delegate that there is sufficient servicing capacity prior to the lifting,
2. Completion of applicable development agreement registered on title for the allocation of servicing for the proposed development including an expiry date for the servicing allocation in accordance with the servicing allocation policies of the County, as adopted and amended from time to time;

AND FURTHER THAT new development applications for lands located within the Urban Area of Port Rowan urban settlement boundary be deemed premature and be deferred in accordance with 8.9.3 of the Official Plan until such time that measures to expand water supply capacity are developed and approved by Council;

AND FURTHER THAT staff be directed to create a County service monitoring and allocation policy to identify the process for allocation of servicing to new and existing approved plans which have not been constructed, with report back to Council prior to November 2021. This report will articulate the process for development applications that are deemed premature or approved with a "H";

AND FURTHER THAT staff continue to develop short- and long-term water supply solutions for Norfolk County.

AND FURTHER THAT Council supports Alternative 2.4 from the Inter Urban Water Supply study as the preferred option for the long-term water supply solution for Norfolk County;

AND FURTHER THAT staff finalize negotiations of a long-term water supply agreement with Haldimand County, including the determination of a mutually acceptable governance model;

AND FURTHER THAT Approved Capital budget for the Port Dover WTP Clarifier be amended to accommodate the overall water treatment capacity expansion of the Port Dover Water Treatment Plant, which will result in an increase in budget of \$2,700,000;

AND FURTHER THAT the funding for the amendment related to the Port Dover WTP Clarified and Capacity Expansion project be provided from the issuance of debentures of up to \$2,700,000 with a term not to exceed 20 years;

AND FURTHER THAT Council permit a single source supply as outlined in Norfolk County Purchasing Policy ECS-02, section 4.8.4 with WSP for the completion of engineering services related to the Port Dover Water Treatment Plant capacity expansion as described in this report;

AND FURTHER THAT the General Manager, Environmental and Infrastructure Services be authorized to execute an agreement with an upset limit amount of \$450,000 (excluding taxes) to WSP for the completion of engineering services related to the Port Dover Water Treatment Plant capacity expansion;

AND FURTHER THAT staff be directed to engage internal and external legal Counsel to provide options to allow some development activities to continue to the point where water connectivity is required.

**Attachment(s):**

Attachment A – CT 21-05 Port Dover Clarifier and Capacity Expansion

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