



Public Information Centre No. 1 Presentation Transcript

Slide 1 – Title Slide

Hello and welcome to the first Public Information Centre for the Havelock Wastewater Treatment Plant Schedule 'C' Municipal Class Environmental Assessment, or Class EA Study. My name is Rinita Banerjee and I will be presenting on behalf of CIMA+, the Township of Havelock-Belmont-Methuen and the Ontario Clean Water Agency also known as OCWA. CIMA+ was the consultant selected by the Township and OCWA to complete the Class EA study for this project.

Public Information Centre 1 for this study is being held to introduce the project, provide background information on the Havelock Wastewater Treatment Plant and the need for infrastructure upgrades, describe the Class EA study process and the steps taken to date and in the future phases of the project, answer any questions about the study, and provide an opportunity to get involved in the project.

Before we begin, some housekeeping notes. This video will be available on the Township's website as of March 3rd, 2022. On the Township's website, there is a transcript of my narration for this presentation, and a PDF copy of the slides. If you have any questions or comments, please send them to Amber Coupland from OCWA or Erin Longworth from CIMA+. Contact information for these project leads is in this presentation. Alternatively, you could fill out a comment form provided on the Township's website and submit it to the project team.

Slide 2 – Why are we here?

The main objectives of this virtual Public Information Centre are:

- to provide an understanding of why the project is being undertaken,
- provide information on the Class EA decision-making process, the preliminary alternatives being considered and the preliminary preferred solution for providing additional wastewater treatment capacity for the village of Havelock
- and finally, to offer an opportunity for the public to provide their input on the project.

Slide 3 – We Need Your Input!

Public consultation and engagement are integral to Municipal Class EA studies. We are holding this session to provide the public with opportunities to learn more about the Municipal Class EA process being followed. Activities completed to date and a Preliminary Preferred Solution will be presented at this session.



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As mentioned, background information including this presentation is available on the Township's website for your review. An online comment form is also available on the website for your use. We look forward to your feedback!

Slide 4 - What is the Purpose of the Study?

The Township of Havelock-Belmont-Methuen has one wastewater treatment plant that receives wastewater from homes and businesses in the urban area of the Village of Havelock, and hauled septage from the rural areas within the Township. The Havelock WWTP ensures that wastewater is fully treated before clean effluent is returned to the Plato Creek.

There are two main purposes for this study. First, in order to support population growth in the Village of Havelock up to the year 2041, additional wastewater servicing capacity needs to be planned for the Havelock system. The second purpose is to identify and recommend the preferred infrastructure improvements to accommodate the required capacity increase, while minimizing impacts on the natural and socio-cultural environments as well as considering technical and financial implications. More details will be provided regarding the wastewater treatment process and population projections in the subsequent slides.

Slide 5 – Municipal Class EA Process and Timeline

A Schedule C Municipal Class EA follows the 5 main steps shown in the diagram.

The first step involves reviewing background information and establishing the problem or opportunity statement. A notice of study commencement is issued at this stage. The Notice of Commencement for this project was issued to the project stakeholder list in August of 2021.

The next step involves brainstorming ways to address existing concerns, reviewing the study area, evaluating options that address the problem or opportunity statement, and recommending the Preliminary Preferred Solution. Information developed through this step is presented at the first public information centre, and input is sought from all project stakeholders to incorporate into the next steps of the project, which is what we are doing here today through this presentation.

In the next stage, design concepts are developed to implement the Preferred Solution. Design concepts are evaluated based on their impacts and mitigation measures, and the results of this step, including the evaluation process, and preliminary preferred design concept are then presented at the 2nd Public Information Centre. This is currently planned for Spring or Summer of 2022.

Once the Preliminary Preferred Design Concept has been confirmed via input from the public, a report called and Environmental Study Report is compiled, to document the



results of the EA. The report will be made available for public review for a minimum of 30 days. The study is anticipated to be completed in summer or fall of 2022.

Following the completion of the Class EA process and subsequent approval of the project, the project implementation phase includes detailed design of the recommended design concept and construction, planned for 2023 to 2025.

Slide 6 – Overview of Existing Havelock Wastewater Treatment Plant (WWTP)

The Havelock WWTP is located at 719 Old Norwood Road. It services the Village of Havelock, shown as the shaded area on the figure to the right. The plant was built in 2009 and has a current rated capacity of 1,200 cubic metres per day (m³/d).

An overall study area, outlined in red, was identified at the beginning of the project to define the area on the existing treatment plant site for potential future infrastructure. The study area image shows the Havelock WWTP, marked with the yellow star, and two adjacent lagoons which previously provided wastewater treatment for the community. The lagoons were decommissioned when the new Havelock WWTP was built in 2009. The study area also includes the access road from Old Norwood Road, leading to the treatment facility.

Slide 7 – Key Process Components of the Havelock WWTP

This slide provides an overview of the treatment processes utilized at the Havelock WWTP. Wastewater enters the facility through the raw sewage pumping station which pumps the wastewater to the headworks building. A septage receiving facility is located adjacent to the pumping station which receives wastewater in the form of hauled septage from the rural population in Havelock, and transfers it to the pumping station.

At the headworks building, the wastewater is passed through screening and grit removal processes before it can enter the main treatment process, which is the Sequencing Batch Reactors, referred to as SBRs. SBR is a form of biological wastewater treatment which uses microbes to “digest” the wastewater. In this system, wastewater is added to a single “batch” reactor, treated to remove undesirable components, and then discharged to the next treatment step. The process takes advantage of micro-organisms that can digest organic matter in sewage, and clump together (by flocculation) as they do so. It thereby produces a liquid that is relatively free from suspended solids, and flocculated particles that will readily settle out and can be removed. Reaction with the microbes is facilitated by a fine bubble aeration system run by blowers.

An equalization tank is located next to the SBRs. The main purpose of this tank is to prevent short-term surges during high flow conditions. From here, the wastewater is transferred to the tertiary filters for further treatment.



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The tertiary filters employ sand filtration technology combined with chemical precipitation. A coagulant is added at this step to expedite the precipitation process, and further remove solids from the wastewater. Filtered wastewater is treated for bacteria and viruses via ultraviolet reactors before the clean effluent is discharged to Plato Creek.

The SBRs also contain sludge pumps which transfer waste solids to a sludge digester to be stabilized. Processed sludge is pumped from the sludge digester to the biosolids holding tank where it is stored temporarily before it can be hauled away.

Slide 8 – Proposed Growth and Design Flows for the Havelock WWTP

In order to establish the needs for this project, it was important to understand the growth projections, and associated wastewater design flows, anticipated for the Township. Planned growth was identified in the Havelock South Development Area, which includes 3 phases of residential homes, the Peterborough Housing Development and the Havelock Long-Term Care Facility. Additional growth was also forecasted to approximately 2,400 people over a 20-year planning period to provide some flexibility to the Township for future growth and wastewater treatment.

The current rated capacity of the Havelock WWTP, 1,200 m³/d, is shown as a blue bar on the chart, and the projected capacity required to accommodate the future population, 1,580 m³/d, is shown in orange. The red line in the middle of the chart represents the current average day flow of approximately 950 m³/d. Typically for water and wastewater systems, the need to initiate planning for upgrades or expansion is triggered when the treatment plant reaches 75-80% of the rated capacity, as is the case with the Havelock WWTP.

Slide 9 – Class EA Phase 1 –Problem/Opportunity Statement

The problem or opportunity statement is defined at the initial phase of the Class EA process based on the identified needs for the project. The three main driving factors for this study are:

- Population forecasts in terms of growth within the Township to the year 2041
- The Havelock WWTP, which services the community, is nearing its rated capacity and would not be able to accommodate the additional population, and
- Need for long-term recommendations to meet future growth servicing requirements, maintain high treatment standards and meet current best practices for wastewater treatment.



Slide 10 – Selecting the Preferred Wastewater Servicing Solution –The Process

Selecting the preferred solution follows the procedure required for a Schedule C Municipal Class EA.

The first step is to identify and screen alternative solutions. At this stage, a long list of potential solutions to the problem statement are developed. These are screened against “must meet” criteria which represent crucial requirements of the project. Must meet criteria in this case are **Compliance** – the ability of the alternative solution to meet the requirements of the future population in the year 2041, and **Technical Feasibility** – the ability of the alternative solution to maximize use of the existing infrastructure in Havelock.

Alternative solutions that did not satisfy the must meet criteria were eliminated from further consideration because they did not meet the core requirements of the project. The screening results, described in more detail in Slide 12, indicate that **Expand the Existing Havelock WWTP**, is the preliminary preferred alternative. This preliminary preferred alternative will be confirmed through input received from project stakeholders, including the public through this PIC, and carried forward for further consideration in the next phase of the study.

The next step is to develop **Alternative Design Concepts** to implement the preliminary preferred solution. These design concepts provide various options to execute the preferred solution. A set of detailed evaluation criteria are shown in the next slide, which are used to score each of the design concepts. The option with the highest score is recommended as the preferred design concept. The preferred design concept will be confirmed through public and stakeholder input at a second PIC.

Slide 11 – Selecting the Preferred Wastewater Servicing Solution– Detailed Evaluation Criteria

The chart on this slide shows the detailed evaluation criteria which will be used to evaluate the Alternative Design Concepts. The primary categories include socio-cultural, natural environment, technical and economic. The proposed weighting of each category represents the relative importance of that category in the context of this project. For this project, all 4 categories have been weighed equally, however this can be modified based on feedback from the PIC.

Specific factors were considered within each of the four criteria categories. Factors related to the socio-cultural criteria included health & safety, aesthetic & operational impacts such as visual impacts, odour and noise, construction impacts, public perception, land use, property acquisition, archaeological and cultural heritage considerations.



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Factors related to the natural environmental criteria included effluent receiving waterbody assessment, sensitive natural features and regulated areas, and climate change considerations.

Factors related to the technical criteria included operational complexity, ease of implementation, redundancy and flexibility, energy efficiency, constructability and regulatory approvals.

Finally, life cycle costs derived from capital, operation and maintenance costs were considered as part of the economic criteria.

Impacts and mitigation measures will be evaluated for each alternative based on the evaluation criteria.

Slide 12 – List of Servicing Alternatives –Screening Results

The results of the screening the long list of alternative solutions are shown on this slide. The 6 options that were considered include:

1. Do Nothing
2. Limit Community Growth
3. Reduce Inflow and Infiltration (I & I)
4. Expand the Existing Havelock WWTP
5. Construct a New WWTP on the Existing Site
6. Construct a New WWTP on a New Site

Do nothing and Limit Community Growth were eliminated because they did not meet the compliance criterion of meeting the servicing requirements for future population growth. Options 5 and 6 Construct a New WWTP on and off-site, both require major new infrastructure and were eliminated because they did not meet the Technical Feasibility criterion of maximizing existing infrastructure.

Option 3 involves reducing infiltration of stormwater into the wastewater collection system. Historically, high I & I has contributed to high influent flows at the Havelock WWTP. Control measures have already been implemented and are showing improvement in reducing extraneous flows to the sanitary sewer system. This option is not recommended as a stand-alone solution but is recommended to be included as part of a preferred solution, whereby the township continues to implement the I & I control measures.



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Option 4 - Expand the Existing Havelock WWTP met the compliance and technical feasibility 'must-meet' criteria and is being recommended as the preliminary preferred servicing solution for this Class EA study.

Slide 13 – What are the Next Steps?

The next steps in the class EA process include the following:

- The first step is to conduct additional supporting studies to gather input for the detailed evaluation. These studies include a detailed natural environment inventory, archaeological and cultural heritage assessments and a receiving water assessment for the Plato Creek. The receiving water assessment study will determine the acceptable maximum levels of nutrients and other parameters that can safely be discharged to the creek to protect human and aquatic health.
- The second step is to develop and evaluate the advantages and disadvantages of the design concepts. Alternative design concepts include as a minimum: Re-rate the Plant Capacity to achieve additional capacity with existing infrastructure, Use one or both of the existing lagoons for flow equalization and expand the mechanical plant using existing or new technologies. Further details regarding these design concepts will be developed and evaluated in the next project stages and the preliminary preferred design concept will be presented at the second PIC for public and stakeholder input.

Slide 14 – Thank you for your participation! Please Stay Engaged

Thank you for participating in this virtual Public Information Centre for the Havelock Wastewater Treatment Plant Schedule 'C' Municipal Class Environmental Assessment.

Please submit any comments or questions that you may have by email or phone to Amber Coupland or Erin Longworth before April 21, 2022.

Amber Coupland is OCWA's Operations Manager/Project Manager. Amber can be reached by phone at 613-472-2131 ext 3, or via email at acoupland@ocwa.com.

Erin Longworth is the Consultant Class EA Lead with CIMA+. Erin can be reached by phone at 519-772-2299, extension 6250, or via email at erin.longworth@cima.ca.

On behalf of the entire project team, thank you for your interest in this Project and for participating in this Public Information Centre.