**Peel Wastewater Treatment Solutions**

**G.E. Booth Wastewater Treatment Plant Schedule C Class EA**

**Clarkson Wastewater Treatment Plant Schedule C Class EA**

The Virtual Public Information Centre No. 1, which included a presentation video, was posted to the project webpages on October 14th, 2020, along with a questionnaire for interested individuals to provide comments on both studies. The presentation described background information on the G.E. Booth Wastewater Treatment Plant (WWTP) and Clarkson WWTP and surrounding areas, why additional wastewater treatment capacity in Peel is required, and potential solutions for providing this additional capacity. The PIC presentation and questionnaire can be viewed on either of the two project webpages at:

[www.peelregion.ca/Clarkson](http://www.peelregion.ca/Clarkson)

[www.peelregion.ca/GEBooth](http://www.peelregion.ca/GEBooth)

During the 2-week engagement period, we received approximately 300 visits, and over 60 presentation views. Most of the visits were to the G.E. Booth WWTP website. Frequently asked questions received are presented below, along with the Region of Peel’s Project Team responses.

1. **Is it feasible to construct a new wastewater treatment plant (or plants) to meet our future wastewater treatment capacity requirement?**

The Peel wastewater collection and treatment system has been planned and developed in a strategic manner over several decades to meet the needs of its citizens, while protecting the environment and human health. The Peel wastewater system consists of 2,644 kms of sewers, 36 wastewater pumping stations, and two wastewater treatment facilities – the Clarkson WWTP and the G.E. Booth WWTP. Each of the WWTP sites were selected and designed with a future vision in mind.

Constructing a new wastewater treatment plant (or plants), presumably in a new location in Mississauga or Brampton, is inconsistent with Peel’s long-term vision and presents several challenges. A new treatment plant would require a new site, associated sewer and pumping station infrastructure to convey flows to the new site, and a new outfall to discharge treated effluent to a receiving body of water (e.g. Lake Ontario or one of Peel’s Rivers or Creeks). Extensive planning and approvals would be necessary. The capital and operating costs associated with a new plant (or plants) would be very significant.

Expanding the existing wastewater treatment plants maximizes the use of the existing facilities and infrastructure resulting in lower costs and less impacts to the environment and Peel citizens, while providing flexibility to meet long-term servicing needs of the community. A new plant (or plants) would not take advantage of the investment made in the existing infrastructure across Peel over many years.

1. **Will reducing flows to our sewer systems through water efficiency and inflow and infiltration (I/I) control eliminate the need for WWTP expansion?**

A review of the measured and projected reductions in flows from water conservation and I/I reduction programs have shown that they will not eliminate the need for the WWTP expansions. However, reducing flows to the wastewater collection system ultimately delay the timing for the future expansions and the required capacity of the future plants. Consequently, Water Efficiency and I/I Control Programs are part of Peel’s Overall Wastewater Management Strategy:

* **Water Efficiency**: Water Efficiency is the smart use of our water resource. Peel’s Water Efficiency Strategy was first developed in 2004 with the goal of reducing peak day water demands, meeting legislative requirements, managing system water loss, and helping citizens manage their water demands more effectively. Water demands and wastewater generation rates in Peel have been reduced as a result, and as such Peel continues efforts through its 2013-2025 Water Efficiency Strategy Update. While we are seeing a reduction in the liquid part of the wastewater, the solids loadings are not affected by water efficiency initiatives.
* **Inflow and Infiltration (I/I) Control:** Rainwater and groundwater that enter wastewater sewers from sources including cracks, opening, and joints is referred to as Inflow and Infiltration (I/I), and is a major contributor to surcharging of sanitary sewers and peak flows to the WWTPs especially during extreme weather events. Effects of climate change combined with vulnerabilities such as aging infrastructure result in increased susceptibility to I/I. The Region of Peel has and is undertaking many studies and programs to identify sources and controls of I/I. Vulnerable areas in the wastewater sewer system are continually being repaired, maintained and upgraded. The result is a decrease in surcharging and overflows of the collection system, and by-passing of secondary treatment processes at WWTPs.
1. **Are our wastewater treatment plants effective against COVID-19 virus?**

Yes, wastewater treatment plants treat disease causing organisms including viruses. COVID-19 is a type of virus that is susceptible to disinfection. Standard treatment and disinfection processes at the Region’s wastewater treatment plants are expected to be effective. For further facts on the Region of Peel Water and Wastewater Division steps to protect the public during Coronavirus pandemic please refer to the Customer Confidence Fact Sheet at:

<https://www.peelregion.ca/pw/water/water-trtmt/Water-WW-facts-COVID19.pdf>

1. **What are the implications of the COVID-19 Pandemic on the Class Environmental Assessments (EAs)?**

During this difficult period, the Region of Peel Public Works, as an essential service provider, has continued to design, construct, operate and maintain our existing infrastructure and plan for future growth. These Class EAs are required to plan for additional growth in Peel and will move forward to completion as scheduled.

Consultation and engagement with the public and stakeholders are essential and necessary components of these Class EAs. Recognizing that COVID-19 does have an impact on the Region’s ability to interact with the public, Peel’s approach is to remain flexible and adjust our programs to adapt to changing needs.

To adhere to the COVID-19 protocols of social distancing and limiting large gatherings and events, Peel is relying more on the use of online engagement, virtual meetings and social media use. Virtual events have been found to have greater participation in some cases than attending meetings in person. This seems to be the case with the Virtual PIC #1 held as part of this study.

1. **How will odour from the wastewater treatment plants be controlled?**

The Region of Peel recognizes that odour management remains critical to the long-term operations of its wastewater treatment plants. Odour control systems are currently in place at both the Clarkson and G.E. Booth WWTPs. As part of these Class EAs, the existing systems as well as different technologies for odour control will be identified and assessed to meet future needs. Local communities will be consulted with, and the technologies that best meet regulatory and community needs will be implemented.

Potential odours from the G.E. Booth WWTP has been acknowledged to be of concern given planned residential and recreational development in the area. On this basis, the Region of Peel is proactively developing an odour management strategy to meet any new odour control limits, which involves modelling the existing and potential future odours and developing options to control these odours. Management options may include containing odour at source by covering tanks and treatment processes, implementing technologies to remove contaminants before they are emitted to the environment, and enhancing operational and maintenance practices. As part of the G.E. Booth WWTP Class EA, the air quality modelling will be updated and the most effective methods of managing odour identified in consultation with the City of Mississauga, the local developers and community, and the Ontario approval agency, the Ministry of Environment, Conservation and Parks (MECP).

1. **Will new technologies for treating wastewater be considered in these Class EAs?**

Yes, during Phase 3 of the Class EA, alternative technologies for treating our wastewater and biosolids will be identified and assessed. Preferred technologies will be selected based on their ability to protect the environment and human health.

1. **How will the water quality of Lake Ontario be protected?**

As part of the wastewater treatment process, the clean water that has undergone treatment is discharged into Lake Ontario – this is referred to as treated effluent. Detailed assessments of the impacts from the treated effluent on water quality of Lake Ontario will be completed. These assessments will characterize the current conditions of Lake Ontario and develop effluent criteria that considers the potential impact to drinking water intakes, as well as the impact to environmentally sensitive sites along the shoreline area including beaches. Solutions will be selected that allow Peel to continue to meet the quality requirements set by the MECP to protect water quality, the aquatic habitats and public health.

1. **Will the incinerators at the G.E. Booth WWTP be expanded? Will alternatives to incinerating our biosolids be considered?**

With the approved population and employee growth in Peel, the future amount of biosolids generated will exceed the current capacity of the incinerators before 2041.   Capacity expansion of the incineration system at the G.E. Booth WWTP is not a preferred alternative for the G.E. Booth WWTP.   Alternative methods of treating and utilizing additional biosolids at the Clarkson WWTP and the G.E. Booth WWTP will be identified and assessed in detail in Phase 3 of the Class EA.  Biosolids treatment methods may include digestion, dewatering, thermal-drying, alkaline stabilization or composting, while end-use options for biosolids may include beneficial land application such as farming, parks or golf courses, landfill or ash reuse options.

1. **What are the potential impacts on surrounding residential communities, specifically around G.E. Booth?  What will the Region do to control impacts?**

Both the Clarkson WWTP and G.E. Booth WWTP are existing facilities that have been in place for many decades. As the surrounding communities continue to expand, the Region of Peel is very aware of the need to partner with the communities and developers to achieve common goals and minimize impacts, particularly for the G.E. Booth WWTP with planned development neighbouring the site. As part of these Class EAs, the Region will generate architectural drawings to communicate the future vision for the plants; specifically focusing on sight lines from the surrounding residential and recreational areas.

The most effective technologies will be implemented to control the impact of odour, air emissions and noise on the communities surrounding the plant. Input from the local public will be sought to help develop preferred alternatives that meet the needs of the community.

1. **How will these projects benefit the environment?**

Wastewater treatment is critical to protecting the health of our water, environment and communities. Since the 19th century, when Cities began to understand the need to remove pollutants from wastewater before returning it to our lakes and rivers, the practice of wastewater collection and treatment has made substantial engineering and regulatory improvements. Canada is among the countries which rank the highest in terms of wastewater treatment, particularly the Province of Ontario.

These projects will benefit the environment by protecting and enhancing the quality of our water, air and terrestrial resources. Further they will:

* Support growth and investment in Peel and help our local economy,
* Provide more flexibility in how we manage our wastewater,
* Be sustainable in meeting the needs of the Peel community now and in the future, and
* Address community expectations regarding level of service, odour, air/noise, and aesthetics.

Through effective wastewater treatment, we can make sure the water returning to Lake Ontario is as clean as possible while protecting our air quality and natural ecosystems.