

Halton Region Integrated Master Plan - Public Information Centre #2

Video 2 Water and Wastewater

Slide 1: Water and Wastewater Introduction

Welcome to the Water and Wastewater video – the second of four videos for the Halton Region Integrated Master Plan Study. This video will review the Water and Wastewater systems in Halton Region, the key strategy inputs, and the preliminary preferred water and wastewater infrastructure for each municipality.

The water component of the plan focuses on the delivery of safe, clean drinking water to homes and businesses, while the wastewater component addresses the collection and treatment of sewage before returning the treated water to the environment.

Slide 2: Regional Water Supply and Distribution System

Drinking water in Halton Region is supplied through groundwater and Lake Ontario water systems.

In the late 1990s, the Halton Urban Structure Plan identified that growth in the Region would be more sustainably serviced through expansions of the lake-based treatment system. Over the past two decades, infrastructure has been installed to convey water from Halton Region's three lake-based water treatment plants northward to growth areas through a network of large trunk watermains and pumping stations.

The lake-based system distributes water to Burlington, Oakville, parts of Milton and Halton Hills, while some existing communities in Acton and Georgetown and the central portion of Milton continue to be serviced by networks of groundwater wells.

Slide 3: Regional Wastewater Collection and Treatment System

In general, the wastewater system operates by gravity, where collected wastewater flows to the Region's six wastewater treatment plants by following the natural topography.

Similar to the water system, the wastewater system is a large, integrated lake-based system, with smaller stream-based systems in Acton and Georgetown. Wastewater collected from urban areas generally flows south through a network of large trunk wastewater mains and pumping stations to four wastewater treatment plants, where it is treated before being discharged into the lake.

Slide 4: Water and Wastewater - Ongoing Municipal Class Environmental Assessment (MCEA) Studies

A number of Municipal Class Environmental Assessments (MCEA) studies that were identified through the 2011 Master Plan to accommodate growth to 2031 are currently ongoing or upcoming, including:

- Lower Base Line Wastewater Pumping Station and Associated Forcemains Class EA Study
- Halton Hills #4 Wastewater Pumping Station Class EA Study
- Burloak Water Treatment Plant Phase 2 Expansion (for growth beyond 2031) EA Addendum
- West River Wastewater Pumping Station Class EA Study
- Biosolids Composting Facility Class EA Study
- Mid-Halton Wastewater Treatment Plant Expansion Class EA Study

Additional information on ongoing MCEA Studies can be found on halton.ca.

Slide 5: Key Water and Wastewater Strategy Inputs - Ensure resiliency to support growth

Significant infrastructure is needed to support a population that is expected to double. As the Region assessed these needs, it was essential to ensure that the infrastructure servicing aligned with the Vision and Key Considerations previously identified in Video #1 - Introduction.

Building on the Region's proven, sustainable approach to managing growth, this Master Plan identifies projects that will strengthen system resilience while ensuring growth can be accommodated without affecting levels of service for existing users. Creating additional pathways for servicing areas makes the system more efficient while providing redundancy, with areas being serviced by many pieces of key infrastructure.

The key projects that will be delivered through this strategy include:

- New Central pumping station and transmission main "spine" to provide additional water pathways to supply lake-based water to growth in North Oakville, Milton and Halton Hills
- Supplementary feed to support lake-based supply into South Georgetown
- Capacity upgrades at key pumping stations and increased system conveyance to support growth in established communities without increasing the risk of basement flooding

Slide 6: Key Water and Wastewater Strategy Inputs: Develop strategies that can be adaptive to growth priorities

Another area of focus for the strategies is ensuring they can adapt to changes in growth priorities. While high-level growth estimates used in the IMP are a good basis for planning long-term infrastructure, the exact location and timing of infrastructure may change as local municipalities update their plans for growth.

The strategy of building on the existing network with multiple service pathways helps accommodate changes in growth priorities.

Key projects supporting this strategy include:

- Wastewater trunk systems through Halton Hills and Milton configured to access capacity from the large pumping stations that include Drumquin, Britannia and Lower Base Line.
- New water transmission paths from the Central pumping station to northeast Oakville.
- Phased plant expansions to allow for system upgrades that match the timing of growth.

Slide 7: Key Water & Wastewater Strategy Inputs: Balance demands on groundwater and lake-based systems

The final key factor in strategy development is the protection of Halton's valuable groundwater resources. The IMP will maintain groundwater servicing in Milton and Halton Hills by adding new lake-based supply pathways to service new growth areas in Milton and Halton Hills. The Region will continue ongoing monitoring of the existing groundwater systems in these areas to ensure sustained use.

Slide 8: Treatment Capacity Expansions

A summary of the treatment plant capacity expansions needed to support growth to 2051 is shown in the figures.

Many of the Region's older plants have limited potential for large-scale expansion, which has led to the focusing of future expansions at the Mid-Halton wastewater treatment plant and Burloak water treatment plant. These properties were selected originally to support large future expansions. Expansions are already underway at both plants to support growth beyond 2031, and future expansions will be closely coordinated to support the pace of growth in the Region.

Smaller-scale wastewater treatment plant expansions are planned for Oakville South -West and Skyway to support future growth in the Region's southern communities. Upgrades and optimizations will also continue at all treatment plants to maintain the Region's high-performance standards.

Slide 9: Burlington – Water Servicing Strategies

Having highlighted the critical inputs for water and wastewater infrastructure for growth, we will now review details on key projects that will support growth priorities in each of our local municipalities through 2051.

Each of the maps shown on the following slides identifies three categories of projects including the 2023 Allocation Program which refers to projects that support growth to 2031 including the Local Municipal Housing Pledges and have been updated based on the ongoing Master Plan. These projects are shown in pink. The projects required to support growth to 2041 are shown in green and the projects to support growth to 2051 are shown in blue.

Please note that the timing shown is preliminary and will be coordinated with the Local Municipalities to support their growth priorities.

Starting in Burlington, servicing of key growth areas in North Aldershot is being provided through the 2023 Allocation Program, and we continue to work with Hamilton to optimize access to their water system to support growth in the near term.

Additionally, a new east to west transmission main and adjustments to system operation will ensure acceptable water pressure in both new and existing developments.

Slide 10: Burlington – Wastewater Servicing Strategies

On the wastewater side, in addition to the extension of services to the growth areas in North Aldershot, conveyance and pumping projects have been identified to support intensification growth.

Other key components of the plan include future expansion of treatment capacity and constructing a new inlet sewer at the Skyway Wastewater Treatment Plant.

Slide 11: Halton Hills – Water Servicing Strategies

Moving north to Halton Hills, this Master Plan includes new transmission and storage projects to increase lake-based water supply to new growth areas and to further support security of supply to new lake-based customers in south Georgetown. Future growth in Acton is supported through additional supplies from the Acton Reservoir.

Slide 12: Halton Hills – Wastewater Servicing Strategies

Wastewater servicing of new growth areas in Georgetown will be accommodated at the Mid-Halton wastewater treatment plant. Capacity for treatment of wastewater from the existing community will continue to be required at the Georgetown wastewater treatment plant which will be upgraded for sustained service and operational flexibility. In Acton, the strategy includes upgrading the Black Creek trunk sewer and the Acton wastewater treatment plant inlet, as well as decommissioning the Agnes Street pumping station.

Slide 13: Milton – Water Servicing Strategies

For Milton, communities in new growth areas will be serviced through additional pumping, transmission and storage projects to increase lake-base supply across the Town and improve system resiliency. Groundwater servicing will continue to service the existing community within the downtown core.

Slide 14: Milton – Wastewater Servicing Strategies

Growth will be supported in Milton through the completion of the Lower Base Line station at the south end of Milton and this will also service the new communities planned on Tremaine Road. New and existing gravity trunk mains will balance flow between the existing Britannia and Drumquin pumping stations and the new Lower Base Line station to maximize system capacity available for growth.

Slide 15: Oakville – Water Servicing Strategies

Lastly, in Oakville, new storage, pumping stations, transmission mains, and upgrades to existing facilities, will support continued growth in North Oakville as well as increased growth and intensification throughout. In addition, the expansion at the Burloak Water Treatment Plant will support growth in the entire lake-based system.

Slide 16: Oakville – Wastewater Servicing Strategies

Expansions at the Mid-Halton Wastewater Treatment Plant will provide the required treatment capacity for a significant amount of growth projected in the lake-based system, which will be delivered through pumping station upgrades in North Oakville and diversion of flows from the Bronte MTSA area. A minor expansion at the Oakville Southwest Wastewater treatment plant and consolidation of some existing pumping stations will provide servicing to support future intensification areas.

Slide 17: We Want to Hear From You

This concludes our presentation of what was considered in the water and wastewater strategy process and highlights the preliminary preferred water and wastewater infrastructure strategies to service growth to 2051.

Thank you for your interest in this study. We encourage you to share your comments and feedback by completing the online survey by May 12, 2025. All input will be considered as we move into the final phase of the Master Plan study.

This concludes Video 2 for Water and Wastewater. Please continue for Video 3 Transportation.