

**BrookMcIlroy/**

## Memorandum

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**To:** Rosa Bustamante, Manager of Policy Planning, Mobility Hubs, City of Burlington

**From:** Brook McIlroy Incorporated, N. Barry Lyon Consultants, Dillon Consulting Limited, Amec Foster Wheeler and ASI Heritage Consultants,

**Project Name:** Burlington Mobility Hubs

**Date:** November 9, 2017

**Subject:** Burlington GO Mobility Hub Technical Memo

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### Introduction:

The Burlington GO Mobility Hub Study Area is centered on the Burlington GO Station and has an area of approximately 97 hectares. The following memo provides a summary of the key findings, status and next steps for the Burlington GO Mobility Hub as related to projected densities, market analysis, environmental impact study, stormwater management, water / wastewater and archaeological resources.

### Projected Density:

Density calculations for the hub are based on full build out of the Preferred Land Use and Building Height Plans (see images following this section of the memo) as well as recommended residential and office distribution identified in NBLC's Market Analysis, input from the above-mentioned disciplines, and factors such as property depth, underground parking and required floorplates based on setbacks, stepbacks and other direction from the City's Tall Building Design Guidelines. As well, in the absence of formal City design guidelines for mid-rise buildings we have adopted principles from the City of Toronto's Avenues and Mid-Rise Buildings Study to which proposed development adheres.

The purpose of these projections is to identify that the preferred land use concept for the Burlington GO Mobility Hub is capable of meeting and exceeding the minimum projected density target of 300 people and jobs per hectare identified for mobility hubs within Burlington.

Please note that GFA calculations are Order of Magnitude and will be subject to refinement following completion of the Storm Water Management Assessment.

### Assumptions:

The following assumptions have been used as inputs to derive the desired calculations:

1. Average Gross Residential Unit Size = 93 square metres per unit;
2. Population Per Unit = 1.8 persons per unit;
3. GFA Per Employee (Office – Commercial/Institutional) = 30.2 square metres per person
4. GFA Per Employee (Big Box Commercial/Retail) = 72.8 square metres per person
5. GFA Per Employee (Street Oriented Commercial/Retail) = 38.9 square metres per person; and

6. GFA Per Employee (Industrial) = 74.3 square metres per person.

GFA per employee assumptions are based on Watson's 2016-2031 Non-Residential Growth Forecast by Fiscal Impact Study Development Type from their April 20, 2017 City of Burlington Fiscal Impact Study.

Retail and Office Distribution Assumptions for Mixed-Use Areas:

- Properties fronting Brant Street and Fairview Street as well as adjacent to the Station Area include 40 percent of ground floor GFA identified for potential retail use;
- Properties within remaining mixed-use areas include 20 percent of ground floor GFA identified for potential retail use; and
- Tallest, Tall and Mid-rise blocks within mixed-use areas include an office to retail GFA ratio of 2 to 1.

Conclusions:

Projected total new GFA for the Burlington GO Mobility Hub at full build out is approximately 1,430,000 square metres or 15,390,000 square feet.

This includes:

- 1,130,000 square metres (12,200,000 square feet) of residential GFA;
- 43,000 square metres (465,000 square feet) of retail GFA; and
- 253,000 square metres (2,700,000 square feet) of office space.

Resulting in approximately:

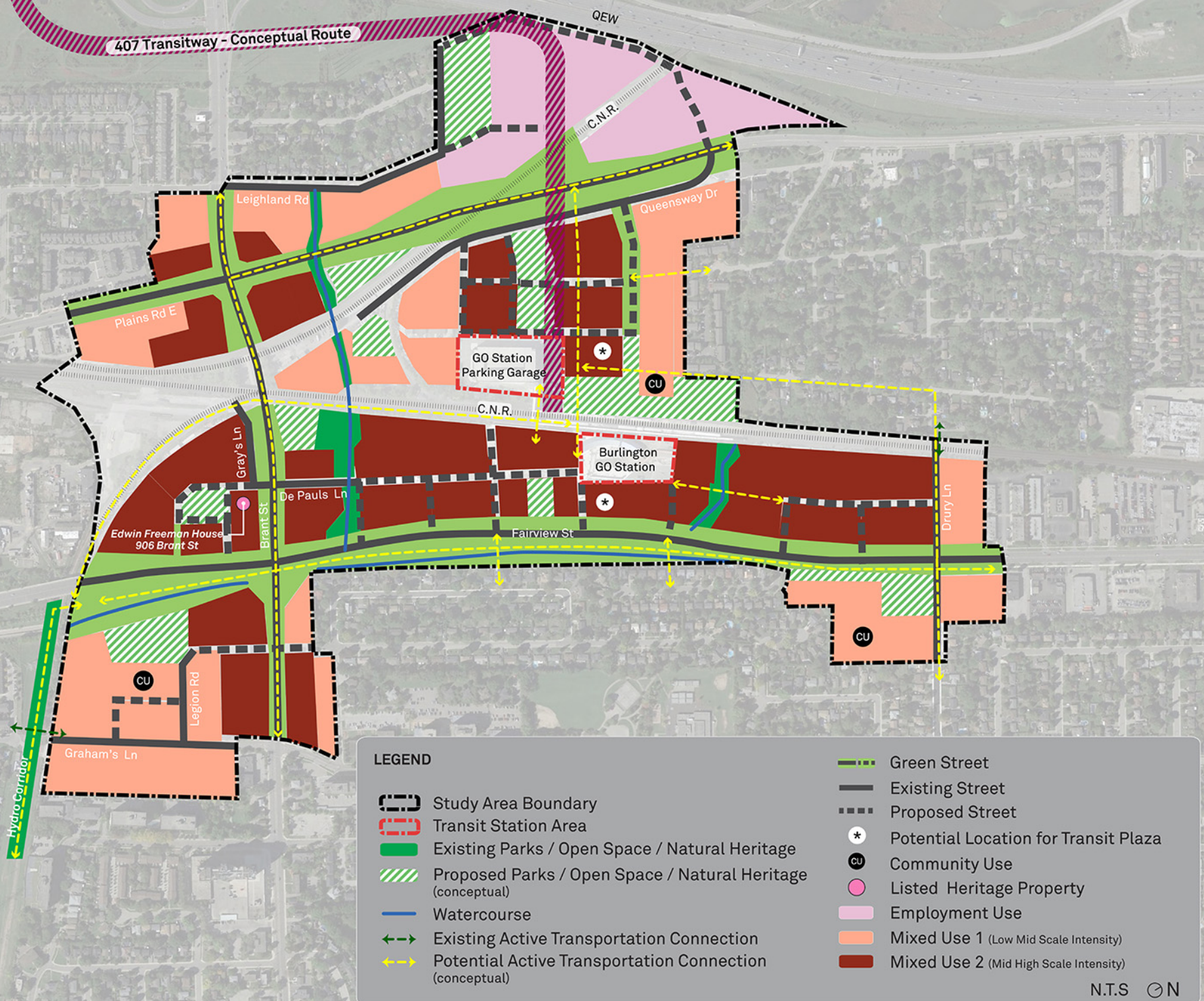
- 12,000 residential units;
- 22,000 residents;
- 1100 retail jobs; and
- 8400 office jobs.

Therefore, at full build out the Burlington GO Mobility Hub is projected to have capacity for 22,000 new people and 9500 new jobs or a total of 31,500 people and jobs and a gross density of 325 people and jobs per hectare. This results in a population to employment ratio of 2.3:1.



# BURLINGTON GO MOBILITY HUB

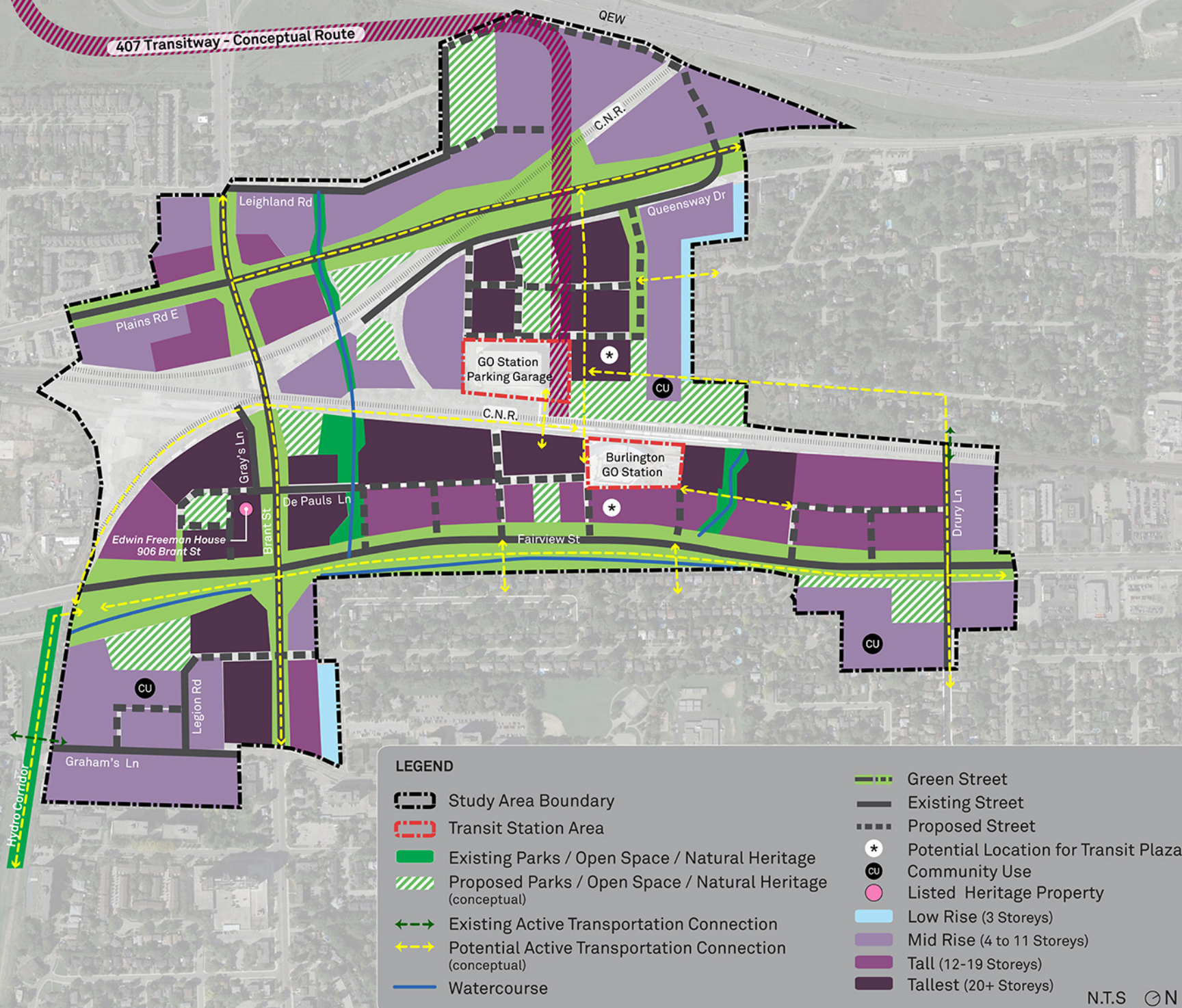
PREFERRED CONCEPT: LAND USE





# BURLINGTON GO MOBILITY HUB

PREFERRED CONCEPT: HEIGHTS



## Market Analysis:

- The Burlington GO Mobility Hub is likely to attract significant demand for intensified development in the future. The under-construction Paradigm condominium apartment project is evidence of the market impacts of expanding GO service, and the City can likely expect continued investment in this area over time.
- The Burlington GO Mobility Hub offers the following market benefits:
  - The area benefits from its proximity to the Downtown and all its associated amenities, while also having excellent vehicular access to the QEW;
  - Plans for enhanced transit service in the area, including Regional Express Rail and the City's future Frequent Transit Corridors, will increase interest from buyers and the development community;
  - Despite the pioneering nature of the project, Paradigm has been successful, with increasing pricing and absorption rates in each subsequent phase;
  - The presence of older, space expansive industrial and commercial uses offers excellent flexibility in terms of a range of development options; and
  - The Mobility Hub area includes a large amount of land that is already designated Mixed-Use Corridor in the Official Plan.
- However, unlike the Downtown, the Burlington GO area has not yet fully established itself as a destination for new residential and non-residential development. The area is not considered to be pedestrian-friendly and generally has a suburban built form. New development will need to focus on creating a sense of place, and improvements should be made to streetscapes to create a more walkable and pedestrian-friendly environment, where possible and provide more amenities such as increased public space.
- The less established nature of the Burlington GO Mobility Hub is likely to ensure that pricing for new residential uses remains lower than the Downtown, making the area more accessible to a wider mix of buyers or tenants.
- Investors are likely to increase their presence in new residential developments as the high-density residential market establishes itself. An increase in investor-owned units will have the effect of helping to close the gap between supply and demand for rental units.
- The Fairview Street and Brant Street corridors appear to have the highest potential for new high-density residential development given the large parcels of land and mixed-use designations that are in place. The existing retail plazas at Fairview Street and Brant Street, at Brant Street and Plains Road East, and the area between the rail corridor and Plains Road East may also provide opportunities for infill development.
- Given the forecasts from Watson and Associates for future non-residential space in Burlington to 2031, the potential for demand for more than one or two small office buildings in the Burlington GO area is not envisioned in the near to mid-term. More likely will be the inclusion of office space within mixed-use buildings.



- Overall, the market outlook for the Burlington GO Mobility Hub area is positive as several opportunities for new transit-oriented development that will move the area towards becoming a more complete community appear to exist.

## **Environmental Impact Study:**

### **Results of background review**

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- The Study Area is located within the North Shore Watershed Area.
- There are two tributaries located within the Study Area, running approximately east-west;
  - Both tributaries are extensions of Upper Rambo Creek.
- Natural features identified during the background review consisted of;
  - One Woodland.
  - Minor Valley System(Upper Rambo Creek).
  - No Unevaluated Wetland.
  - No Provincial Significant Wetlands.
  - No areas of natural and scientific interest (ANSI)
- A total of 33 species at risk (SAR) have the potential to occur within the overall Study Area.

### **Results of field investigations**

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- The following natural vegetation ecological communities were documented within the Study Area during the ecological land classification survey;
  - FODM4-5: Dry - Fresh Manitoba Maple Deciduous Forest Type.
  - FODM7-4: Fresh – Moist Black Walnut Lowland Deciduous Forest Type.
  - WODM4-4: Dry - Fresh Black Walnut Deciduous Woodland Type.
- Upper Rambo Creek was characterized as permanent, coldwater defined channel providing direct fish habitat;
  - Eroded banks present throughout with bank stabilization efforts observed within the downstream reach.
  - Potential seasonal barrier to fish migration located at upstream limit of the Study Area.
  - Watercourse flows through a concrete lined channel with no low flow channel
- Rambo-Hager Diversion Channel was characterized as permanent, coldwater defined channel providing direct fish habitat;
  - Watercourse flows through a concrete lined channel with no low flow channel.
  - No important fish habitat observed.
- The one woodland located centrally within the Study Area is greater than 0.50 ha and is within 50 m of a watercourse;
  - Considered Significant.
- A total of 20 bird species were observed during breeding bird surveys in 2017;
  - none are considered area sensitive and all are considered common.
- No Butternut trees were identified within the Study Area.
- No other SAR or SAR habitat was identified within the Study Area during 2017 field surveys.
- No incidental wildlife species were observed within the Study Area.

### **Stormwater Management Assessment:**

Amec Foster Wheeler presented preliminary results for the Burlington GO Mobility Hub at the September 27, 2017 Mobility Hub Technical Advisory Committee meeting, however these works were largely focused on the Hager- Rambo Diversion Channel spill impacts to the Downtown Burlington Mobility Hub. Additional analyses are underway to assess the extents of riverine floodplains for the Burlington GO Mobility Hub (i.e. for the East and West Rambo Creeks, upstream of the diversion channel).

Key to this additional work has been the development of a revised operating curve for the East Rambo Storm Water Management Facility (North Service Road west of Guelph Line), as the majority of the spill from this facility would be expected to discharge through the CNR culvert beneath the QEW to the West Rambo Creek (whereas low flow discharge is directed to the East Rambo Creek). This is contrary to the currently approved modelling (which directs all flow to East Rambo Creek), however has been verified through a review of available mapping data (and is consistent with Conservation Halton's comments of September 12, 2017).

The impacts of this flow split to floodplain extents are currently being assessed.

### **Water / Wastewater Assessment:**

Water and Wastewater infrastructure in Burlington is owned, planned and managed by Halton Region. Halton Region's planning framework to service the growth in Halton Region is through its Master Plan which was last updated in 2011. Infrastructure Planning in Halton has focused on a sustainable regionalized approach in which growth in the Region is serviced by the Lake Based System. In this planning framework, trunk infrastructure for water wastewater infrastructure is designed and planned in the South (near Lake Ontario) and moves up Northward into branches into the primary growth areas in North Oakville, North Burlington, Milton and Halton Hills/Georgetown. Our understanding of the infrastructure is based on information provided by Halton Region.

**Wastewater:** The Burlington GO Mobility Hub is situated north of an 1800 mm trunk sanitary sewer that conveys flows for treatment in the Skyway Wastewater Treatment Plant as shown in Figure 1. This is a large capacity system that is designed to take on flows from most of the Skyway Wastewater Treatment Plant Service Area. This sewer will form the primary outlet to the collection system for the proposed development in the Burlington GO Mobility Hub through possible three existing connecting smaller trunk sewers along Maple Avenue, Brant Street, and Drury Lane.

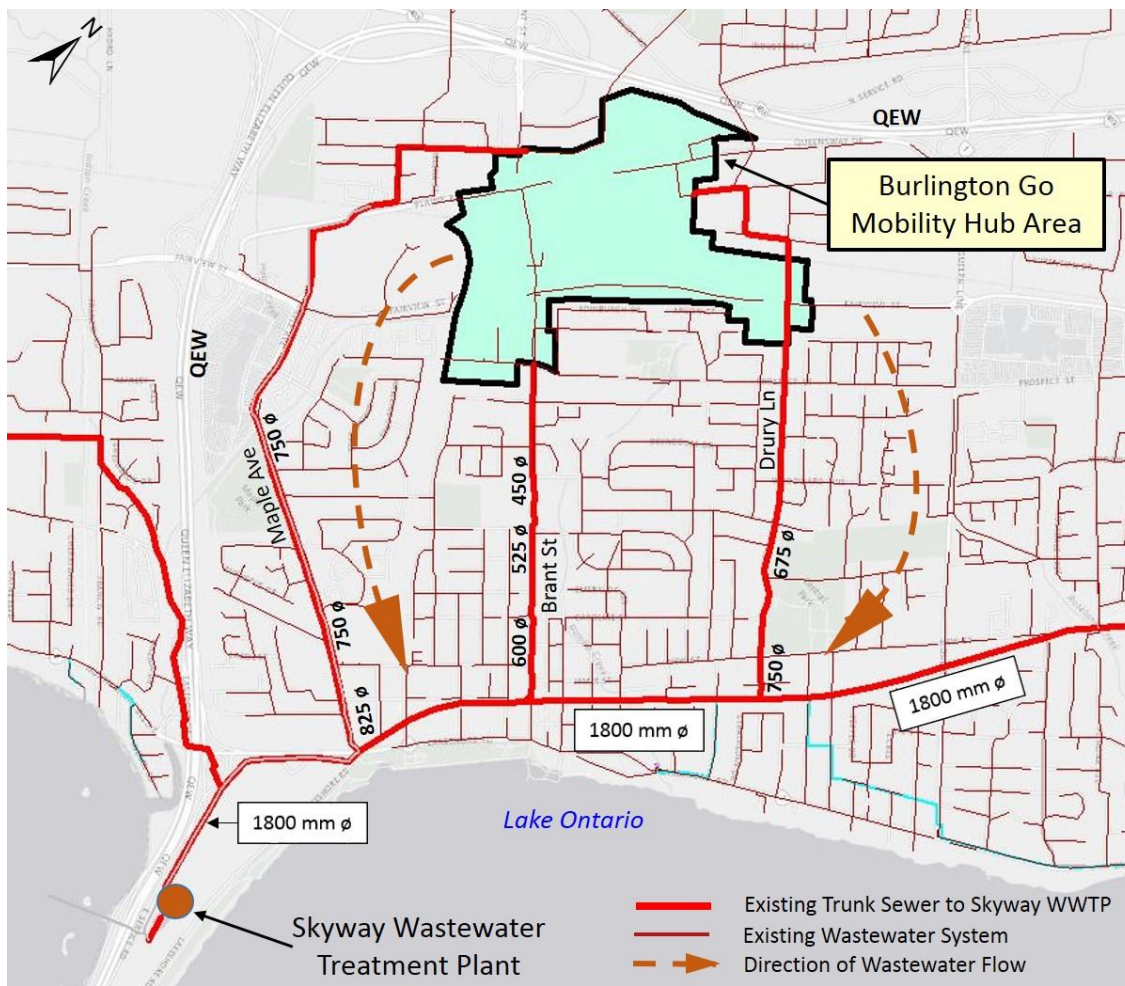


Figure 1 Existing Sanitary Services in and around the Burlington GO Mobility Hub Planning Area

Lands within the mobility hub are to be serviced by gravity sewers connecting to 1800 mm trunk sanitary sewer. Future services required for intensification in the Burlington GO Mobility Hub would include Local Sewer Conveyance Improvements, and capital contribution to the life-cycle component for the Halton wastewater collection and treatment system within the Skyway Wastewater Treatment Plant Sewershed.

**Water:** The Burlington GO Mobility Hub lands are located within the Burlington Zone 1 (BZ1) water distribution zone. Currently, Halton's Lake Based Supply has a capacity of 432 ML/d which can meet the needs of a population of 800,000. Capacity expansion is reviewed on a Region wide basis as part of the Master Planning Process. The water supply system in and around the Burlington GO Mobility Hub is shown in Figure 22. Burlington GO Mobility Hub's location within BZ1 is accessible to high capacity trunk infrastructure in the Halton Lake Based System.



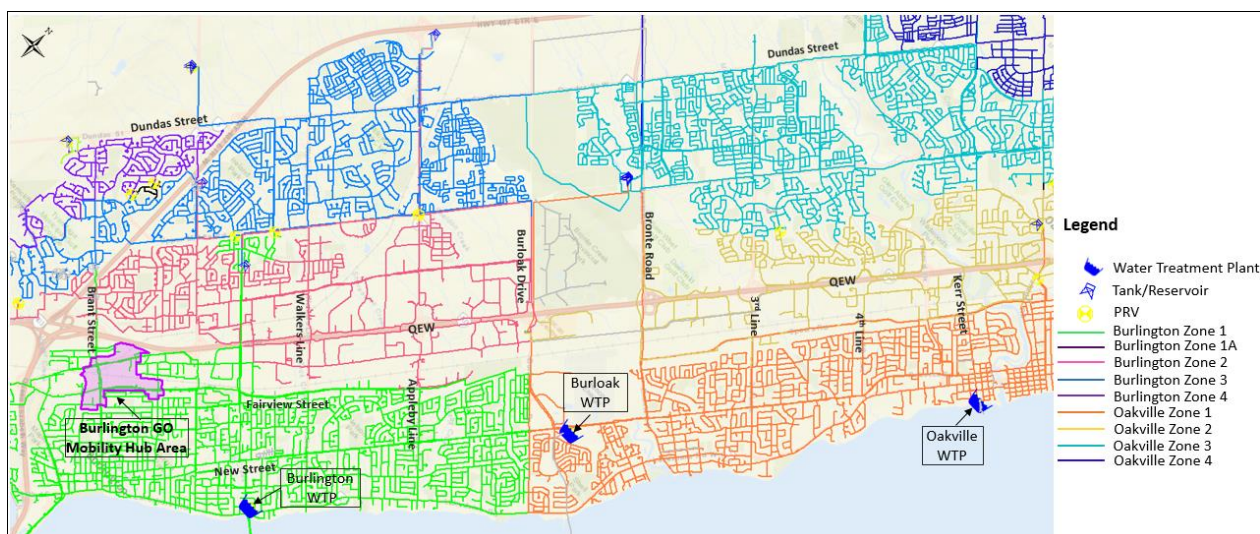


Figure 2 Existing Water System in and around the Burlington GO Mobility Hub Planning Area

Future services required for intensification in the Burlington GO Mobility Hub would include Local Conveyance System Improvements, as well as a capital contribution to the life-cycle component for the Halton Integrated Lake Based Water Supply System (Treatment, Distribution & Storage).

Further assessment of water / wastewater servicing will be conducted through Stage 2 of the Burlington Mobility Hubs Study following confirmation of the preferred concept.

### Archaeological Resources Existing Conditions:

The Stage 1 background research indicates that the Study Area has been occupied by Indigenous peoples for thousands of years. It is situated within the traditional territory of the Huron-Wendat First Nation, the Seneca First Nation, and the Mississauga First Nation. The background research also acknowledges that, since the eighteenth century, the Métis have lived in southern Ontario. Since 1795, the Study Area has been occupied by Euro-Canadian peoples and is situated within the former Township of Nelson, County of Halton.

The S & G, Section 1.3.1, lists criteria which are indicative of archaeological potential. The Study Area meets the following criteria which are indicative of archaeological potential:

- Proximity to 29 previously registered archaeological sites;
- Proximity to Euro-Canadian settlements (farmsteads, inn, Village of Burlington, hamlet of Freeman);
- Proximity to historic transportation routes (Great Western Railway, Hamilton & North Western Railway, Brant Street, Road, Plains Road); and,
- Proximity to water sources (Rambo Creek).

These criteria are indicative of the Study Area as having potential for the identification of Euro-Canadian and Indigenous archaeological sites, depending on the degree of disturbance and physical features of the Study Area. The Project will require a Stage 1 archaeological assessment, including a property inspection, once a preferred concept has been determined to further assess archaeological potential as per the Standards and Guidelines for Consultant Archaeologists.