



HAGERSVILLE MASTER SERVICING PLAN

Public Information Centre

Welcome to this Public Information Centre for the **Hagersville Master Servicing Plan (MSP).**

We want to hear from you.

Please fill out the comment sheet provided at today's Public Information Centre and leave it in one of the boxes provided.

Additional information is available on the project website at www.haldimandcounty.ca

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Problem / Opportunity Statement

The purpose of this Master Servicing Plan Update is to evaluate Hagersville's long-term infrastructure needs to match the growth in Hagersville over the Master Plan Planning Horizon. Four servicing components will be evaluated through this Master Servicing Plan Update:

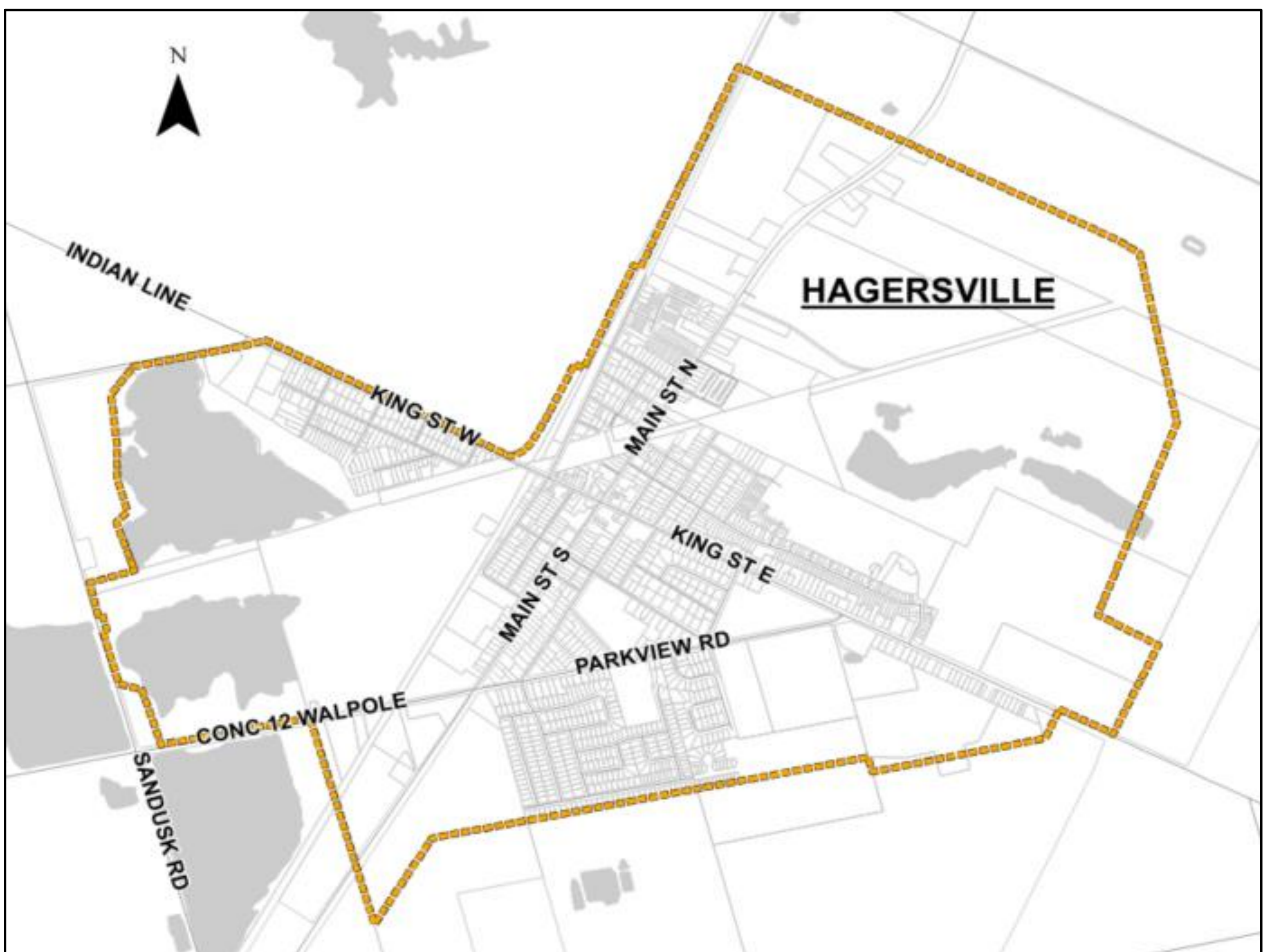
WATER

WASTEWATER

STORMWATER

TRANSPORTATION

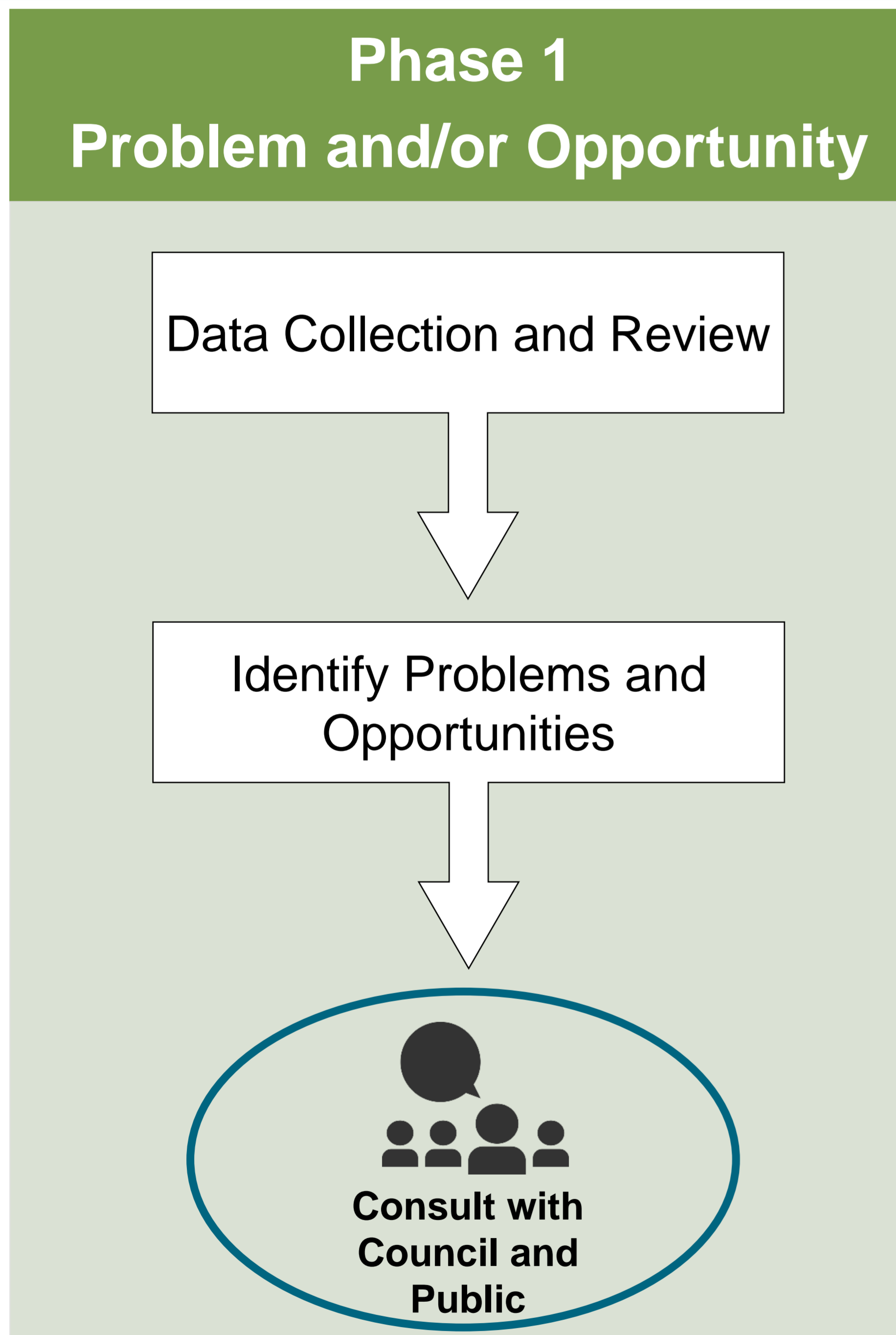
Through consultation with participating stakeholders and rightsholders, the Municipal Class Environmental Assessment (MCEA) framework will enable the consideration of options and identify preferred infrastructure solutions that are environmentally, socially, and financially responsible and sustainable.



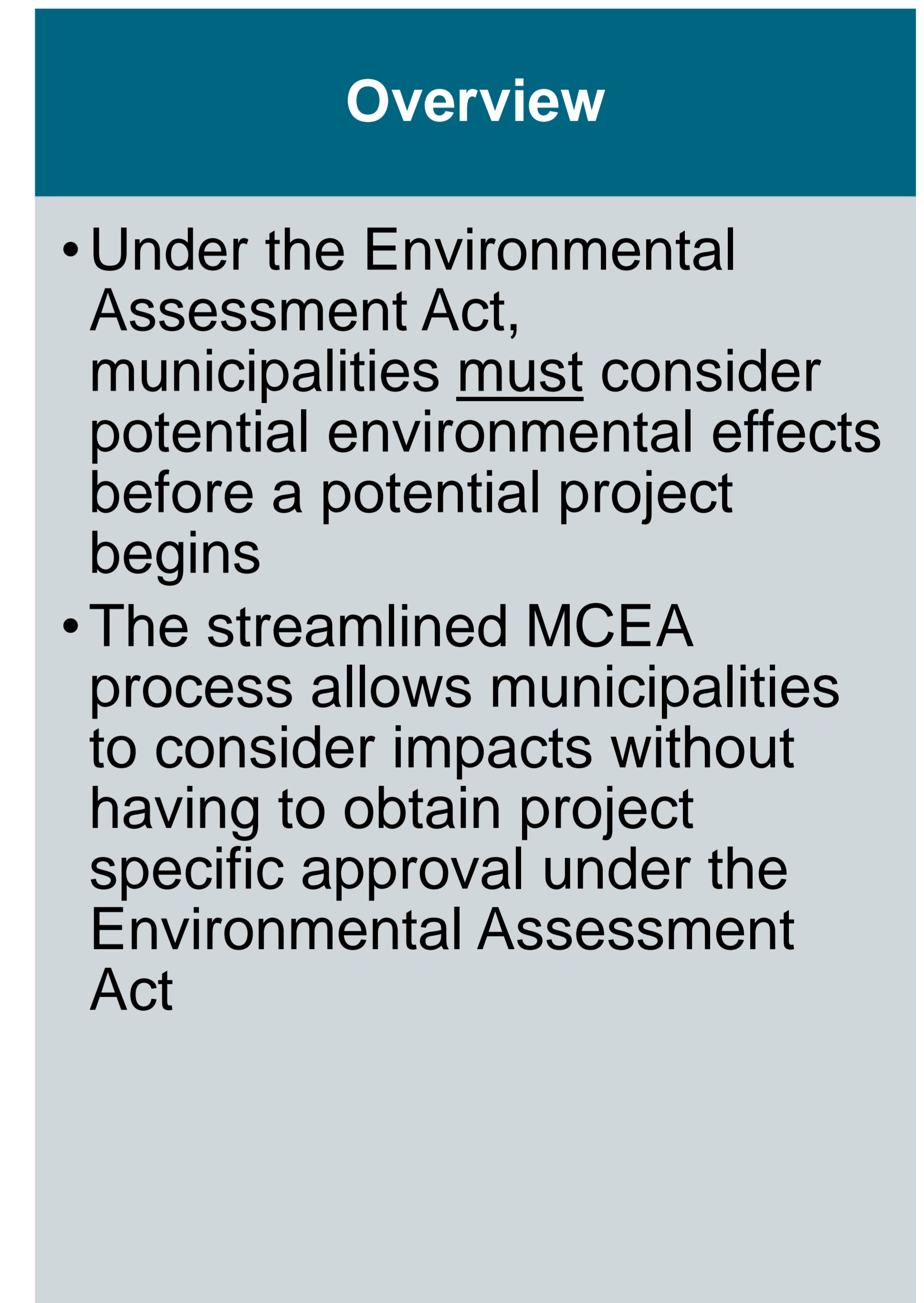
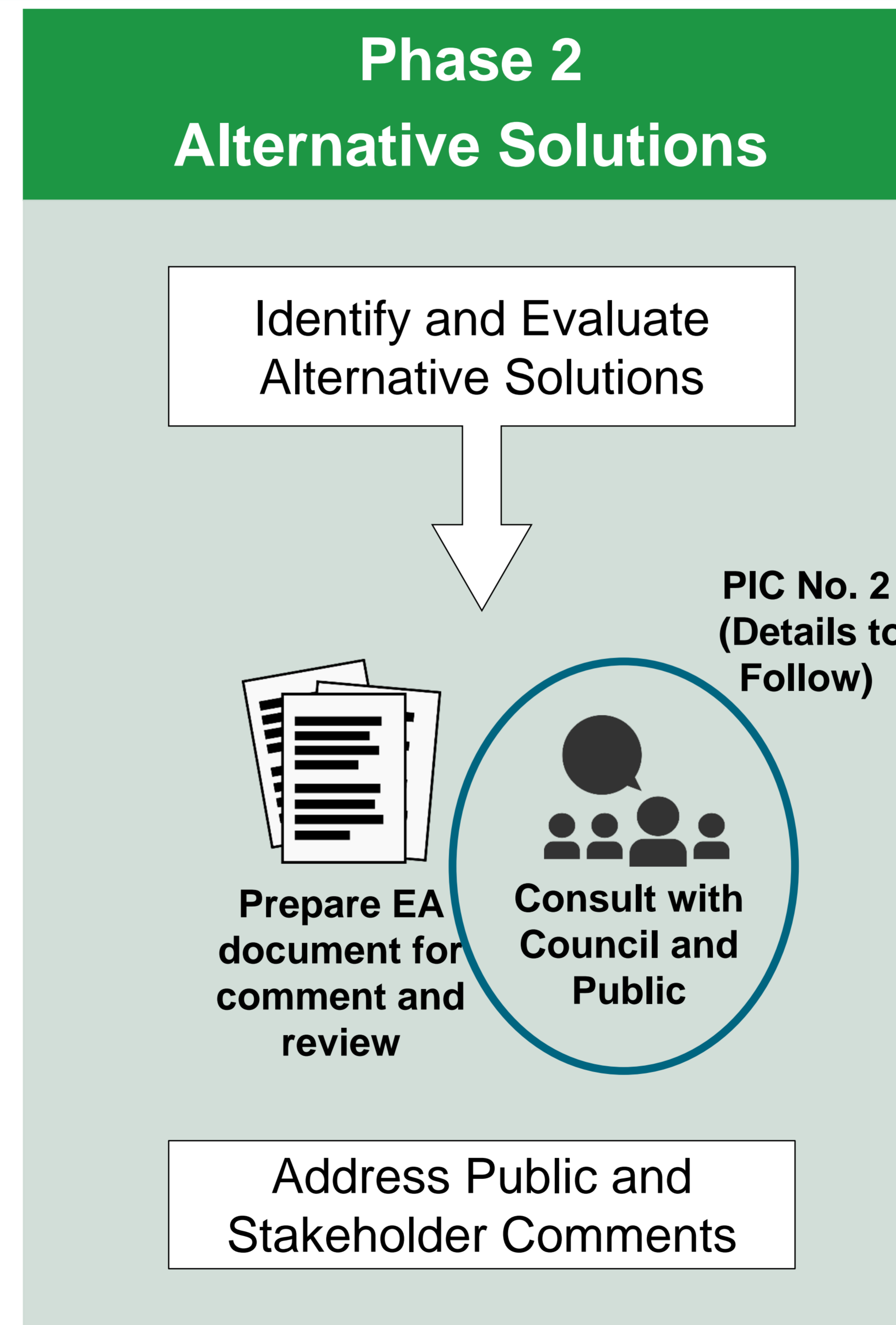
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Municipal Class Environmental Assessment (MCEA) Process



Current Project Stage (We Are Here)



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Future Development

Existing and Future Growth in Hagersville:

Existing (2023)

3,164 units

Future Residential Growth

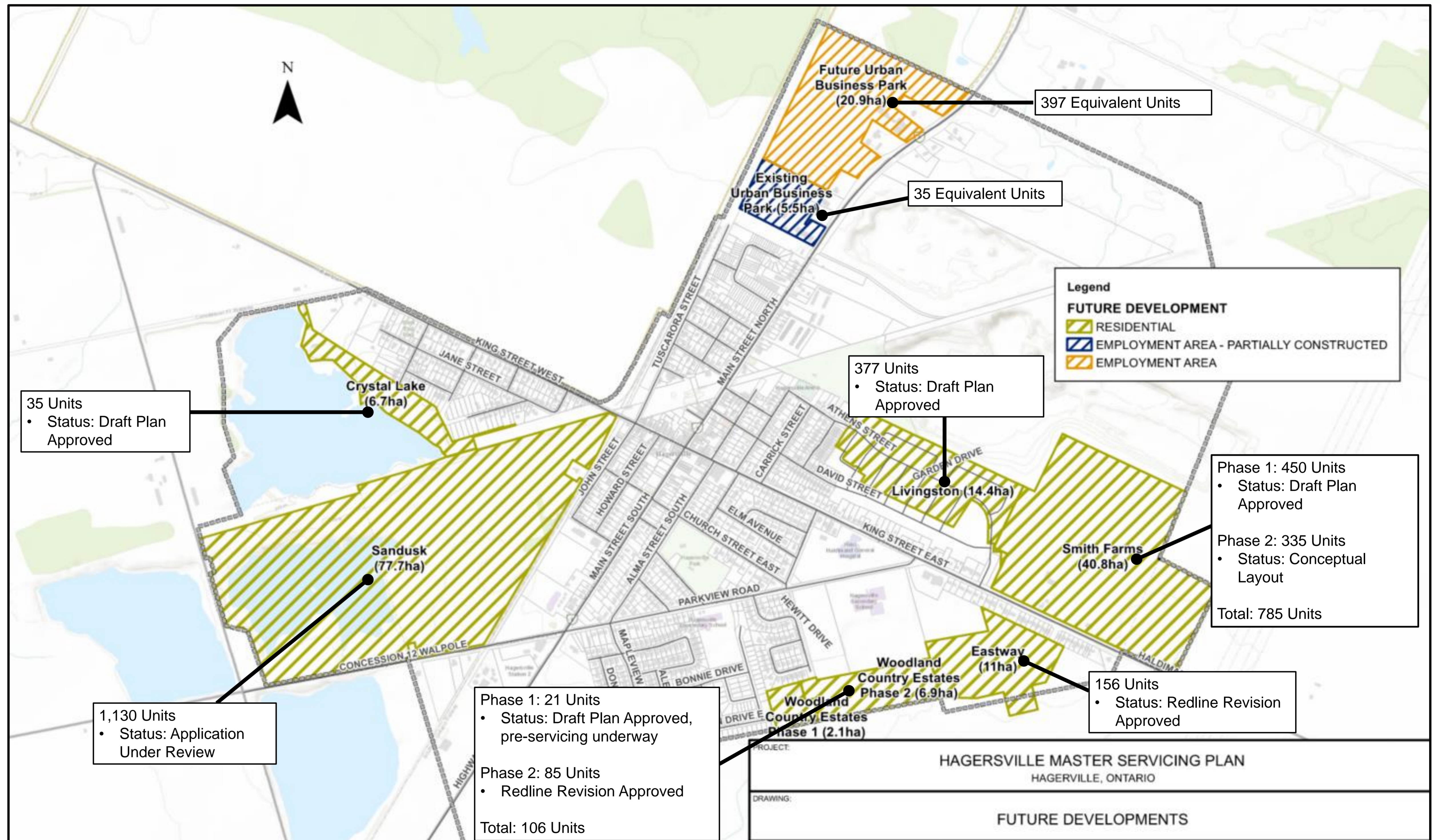
2,589 units

Future Industrial, Commercial, or Institutional (ICI) Growth

432 units

Total (Existing + Future)

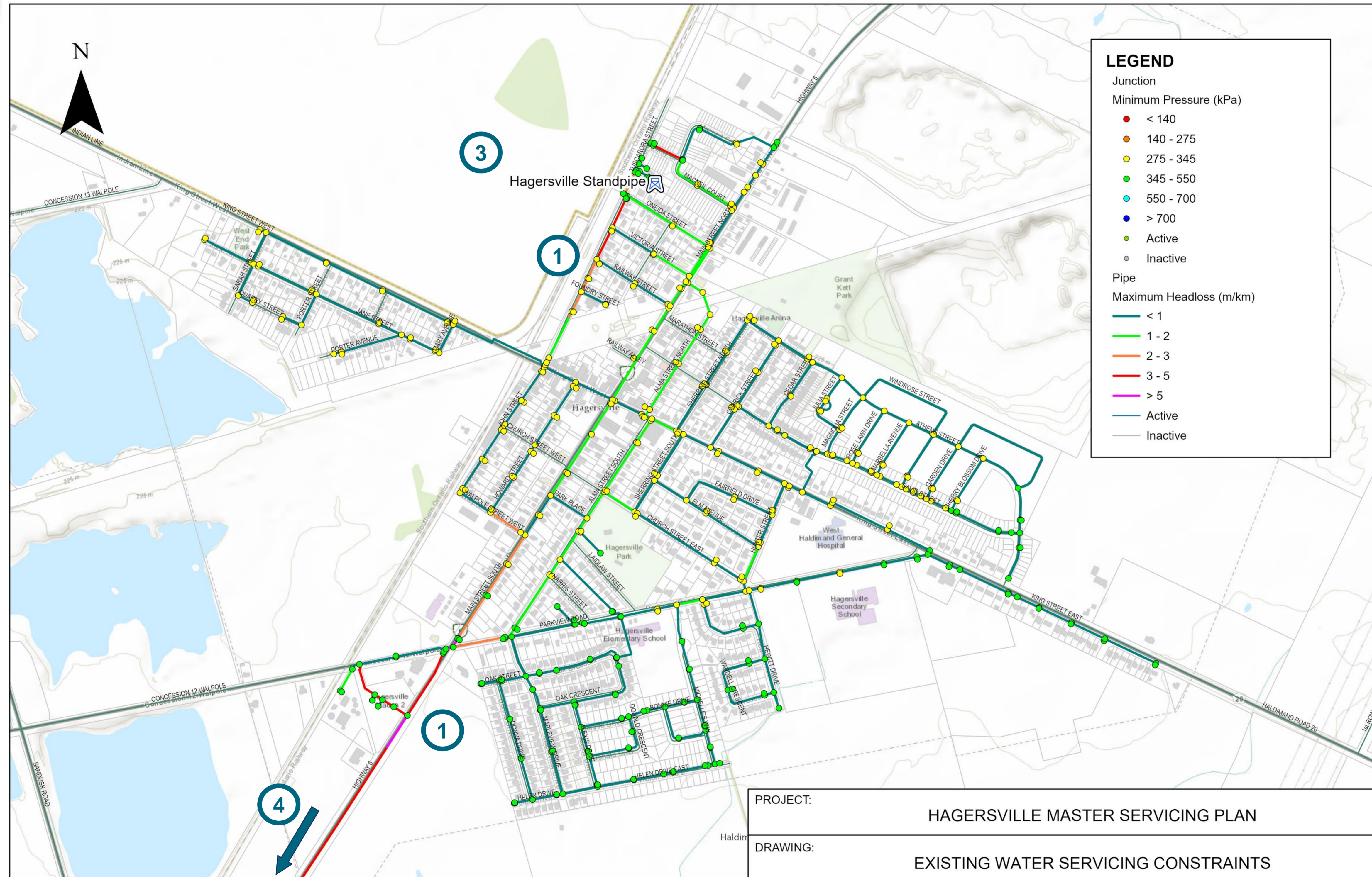
6,185 units



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Existing Water Servicing Issues and Constraints



1 Existing demands result in small areas of **high headlosses** greater than 2 m/km. Areas of particular concern are as follows:

- Highway 6
- Tuscarora St

2 **Minimum pressures** throughout the distribution system are above the preferred minimum value of 275 kPa.

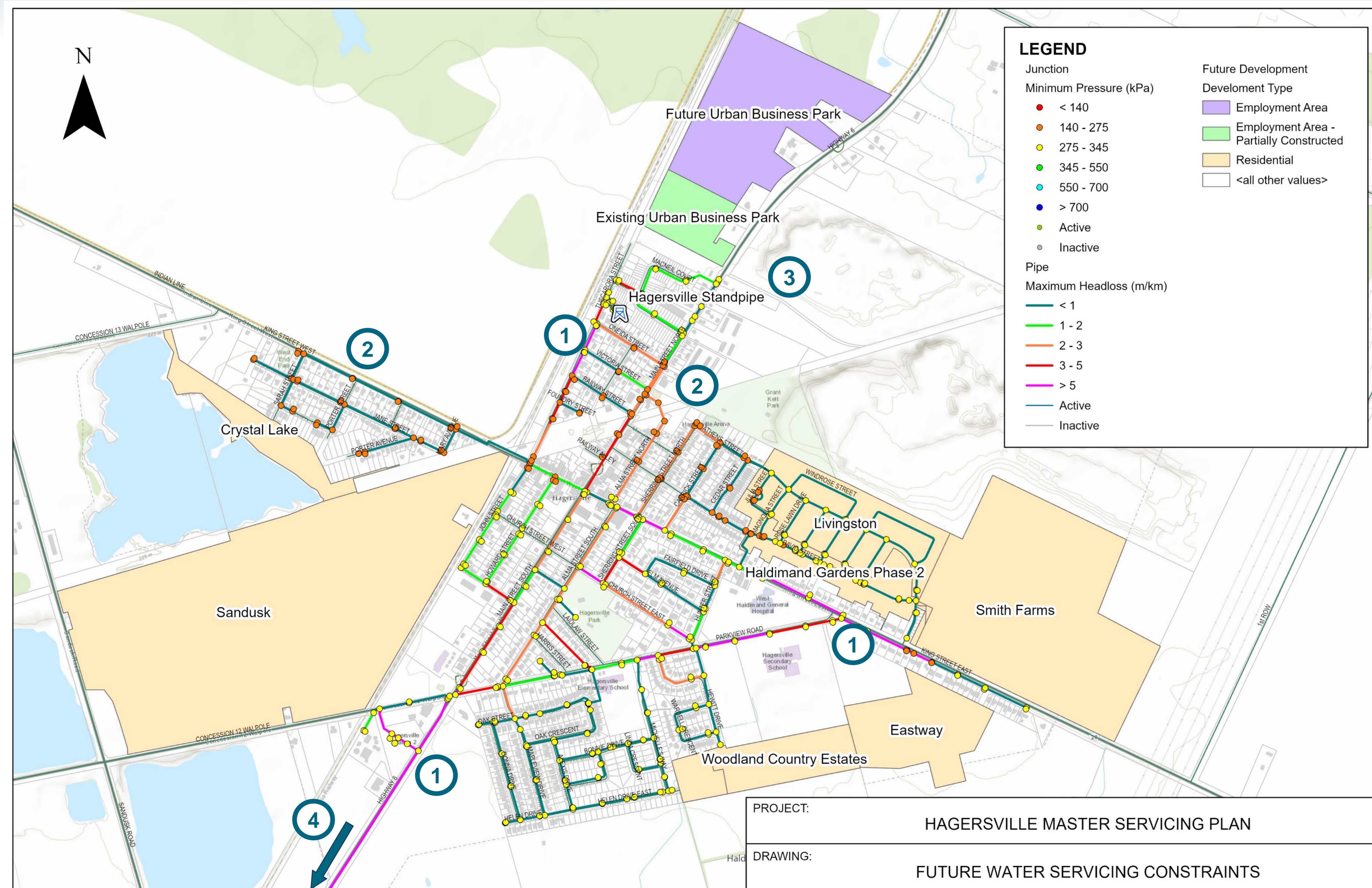
3 The Hagersville Standpipe has **sufficient storage** under existing demands.

4 Existing demands are within the rated capacity of the Hagersville Booster Pumping Station.

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Future Water Servicing Issues and Constraints

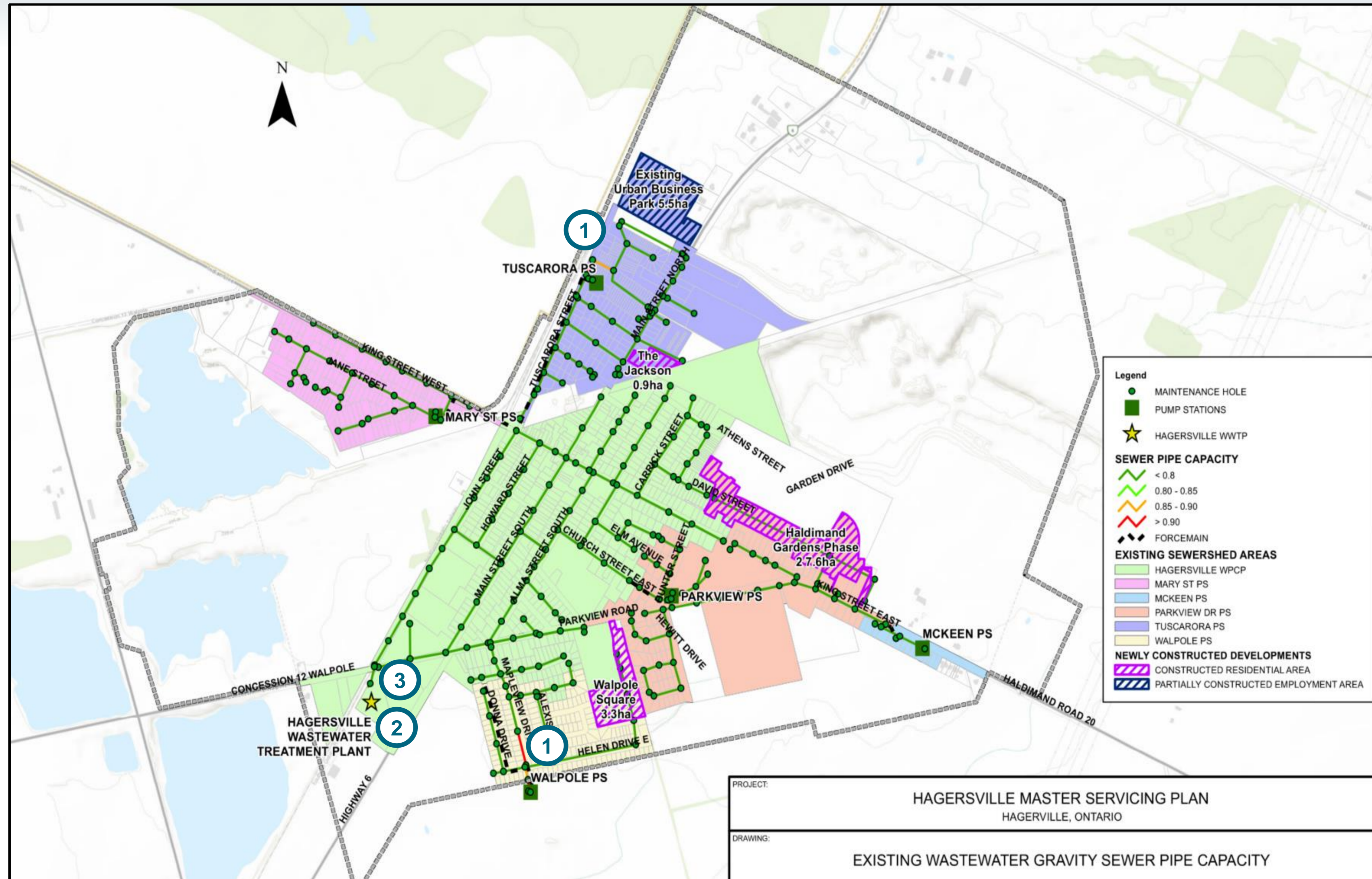


- 1 System constraints result in **high headlosses** greater than 2 m/km in watermains throughout the distribution system. Areas of particular concern are as follows:
 - Highway 6
 - King St E
 - Tuscarora St
 - Parkview Rd
- 2 High headlosses throughout the system cause a **drop in pressure** as water is carried throughout Hagersville. **Minimum pressures** below the preferred range of 275 kPa are observed in areas of higher elevation.
- 3 The Hagersville Standpipe will be at a **storage deficit** under future demands. Additional water storage will be evaluated.
- 4 Existing and future water demands are within the rated capacity of the Hagersville Booster Pumping Station, should sufficient storage be provided.

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Existing Wastewater Servicing Issues and Constraints



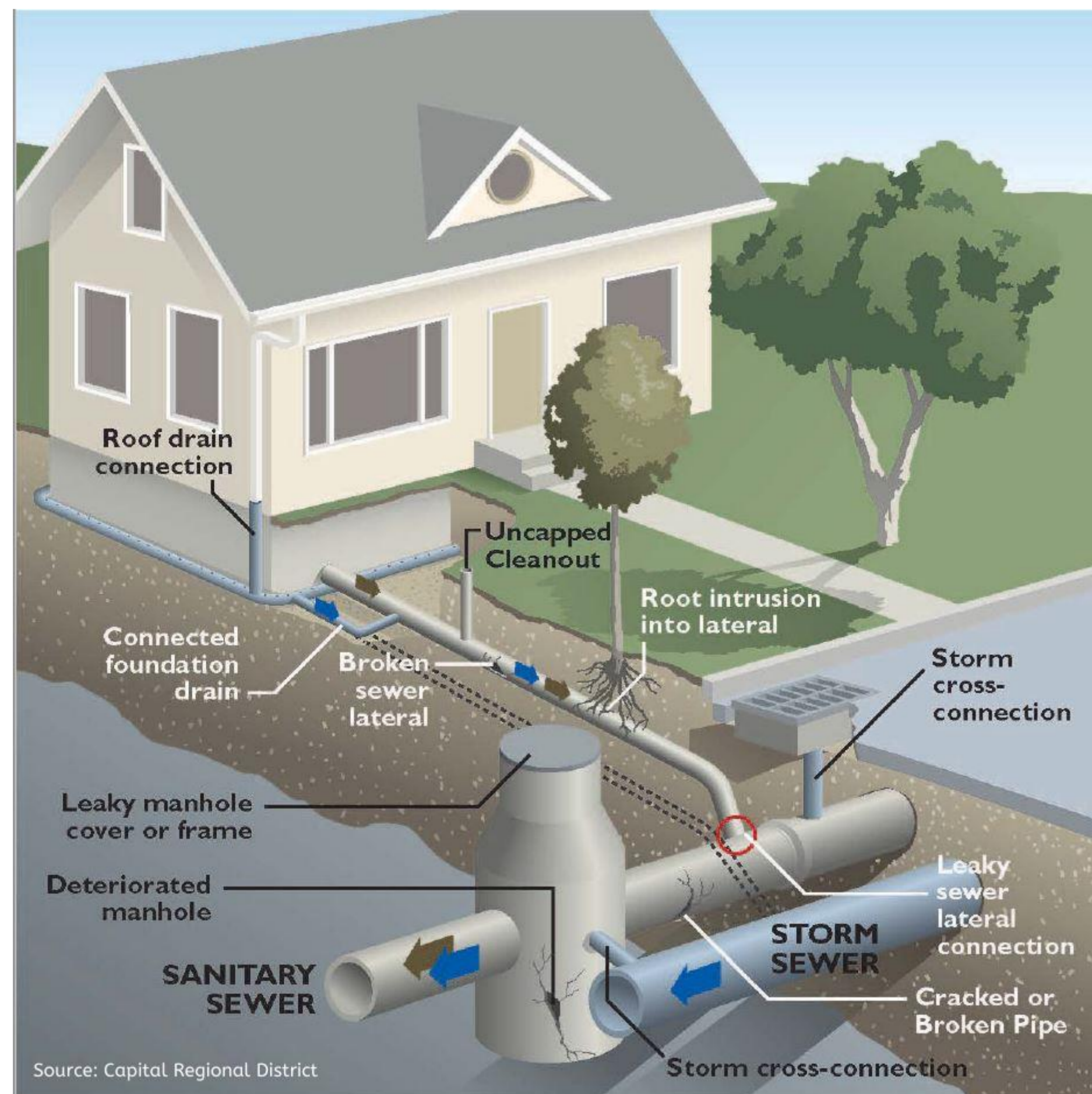
1 Capacity constraints under existing conditions have been identified for gravity sewers in the following areas:

- Near Tuscarora PS
- Near Walpole PS

2 Wastewater Treatment Plant Performance During Wet Weather Events: High flows during wet weather events and high levels of inflow and infiltration have resulted in **bypass events** and **high levels of Total Suspended Solids** in the wastewater at the Wastewater Treatment Plant (WWTP).

3 Several **odour complaints** have been received at the WWTP over the past five (5) years, typically associated with the biosolids treatment process and onsite storage of biosolids at the treatment plant.

Haldimand County has identified high levels of **Inflow** and **Infiltration** in the Hagersville sanitary sewer system. This has impacts on the capacity of the sanitary sewer system and the performance of the WWTP.



Understanding the Sanitary Sewer System:

What is a Sanitary Sewer?

A sanitary sewer is a relatively small diameter pipe, usually located under the road, that is designed solely to collect and transport wastewater from sanitary fixtures (such as sinks, toilets or bathtubs) and floor drains inside your home, to Haldimand County's Wastewater Treatment Plant.

What is a storm sewer?

A storm sewer is a relatively large diameter pipe, often located beneath the road or boulevard, that is designed to carry rain water and related runoff. In many areas, the storm sewer system also includes roadside ditches and culverts. Storm sewers are normally much larger than sanitary sewers because they are designed to carry much larger amounts of flow. Storm water runoff does not require the same treatment as sanitary sewage and results in unnecessary treatment costs if permitted to infiltrate the sanitary sewage system.

What is a sewer lateral?

A sewer lateral is a small pipe (usually 4" to 6" in diameter) that runs from your house to the main sewer. All properties serviced by County sanitary sewers have a sanitary sewer lateral. Some properties, but not all, depending on their age and the presence of local storm sewers, also have a storm sewer lateral.



The community shares the Sanitary Sewer System.

What is Inflow and Infiltration?

Inflow and Infiltration (I&I) is defined as storm water and groundwater that enters the sanitary sewer system.

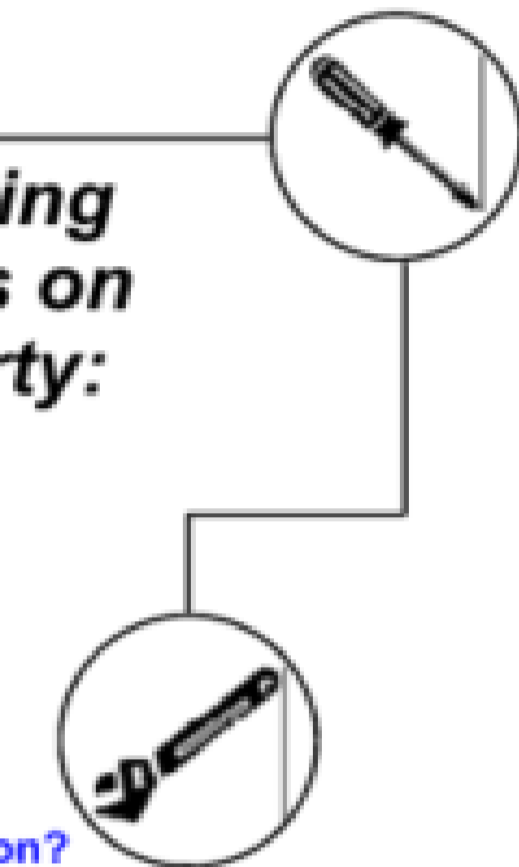
Inflow is water from rainfall or snow melt that enters the sanitary sewage system through direct sources such as roof downspouts, foundation drains, cross-connections with storm drains, (all of which are not allowed under the County's Sewer Use By-law #1443/14), and manhole covers. Peak inflow usually occurs during heavy rainfall or snow melt events and can result in sewer backups or system overflows.

Infiltration is groundwater that enters through holes and cracks in manholes, laterals, and sewer pipes. Infiltration quantities often exhibit seasonal variations in response to groundwater levels.

What is sewer surcharging and how can it cause basement flooding?

During storm events, the addition of storm water, through illegal connections, to the normal sanitary flow could exceed the capacity of the sanitary sewer resulting in a "surcharged" sanitary sewer. As flow to the surcharged sewer increases, pressure within the sewer builds and seeks to relieve itself through any means possible. One way is by backing up private sanitary sewer laterals into basements and crawl spaces, leaving a flood of sewage. If your home has sanitary fixtures or floor drains at a height below the surcharge level, basement flooding can occur.

Understanding Connections on your Property:



What is an illegal connection?

An illegal connection is a connection that permits inflow and infiltration to enter the sanitary sewer system. Storm water should be directed to the storm sewer or allowed to soak into the ground without ever entering the sanitary sewer.

Examples of illegal connections include connections of down spouts, sump pumps, foundation drains and area drains to the sanitary sewer or private service lateral. In addition, defective service laterals can cause extraneous water to enter the sanitary sewer, thus they are also illegal connections.

These connections have always been there. How is it that they are illegal?

These types of connections were allowed in the past, and older sanitary sewers were designed to accommodate a certain amount of rainwater. Haldimand County enacted a new Sewer Use By-Law that will prohibit connection of rainwater sources to the sanitary sewer system.

Is the requirement to remove illegal connections unique to Haldimand County?

No. In response to various Provincial and Federal Acts and Regulations, many municipalities have adopted or are considering ordinances or codes prohibiting storm water infiltration to sanitary sewers.

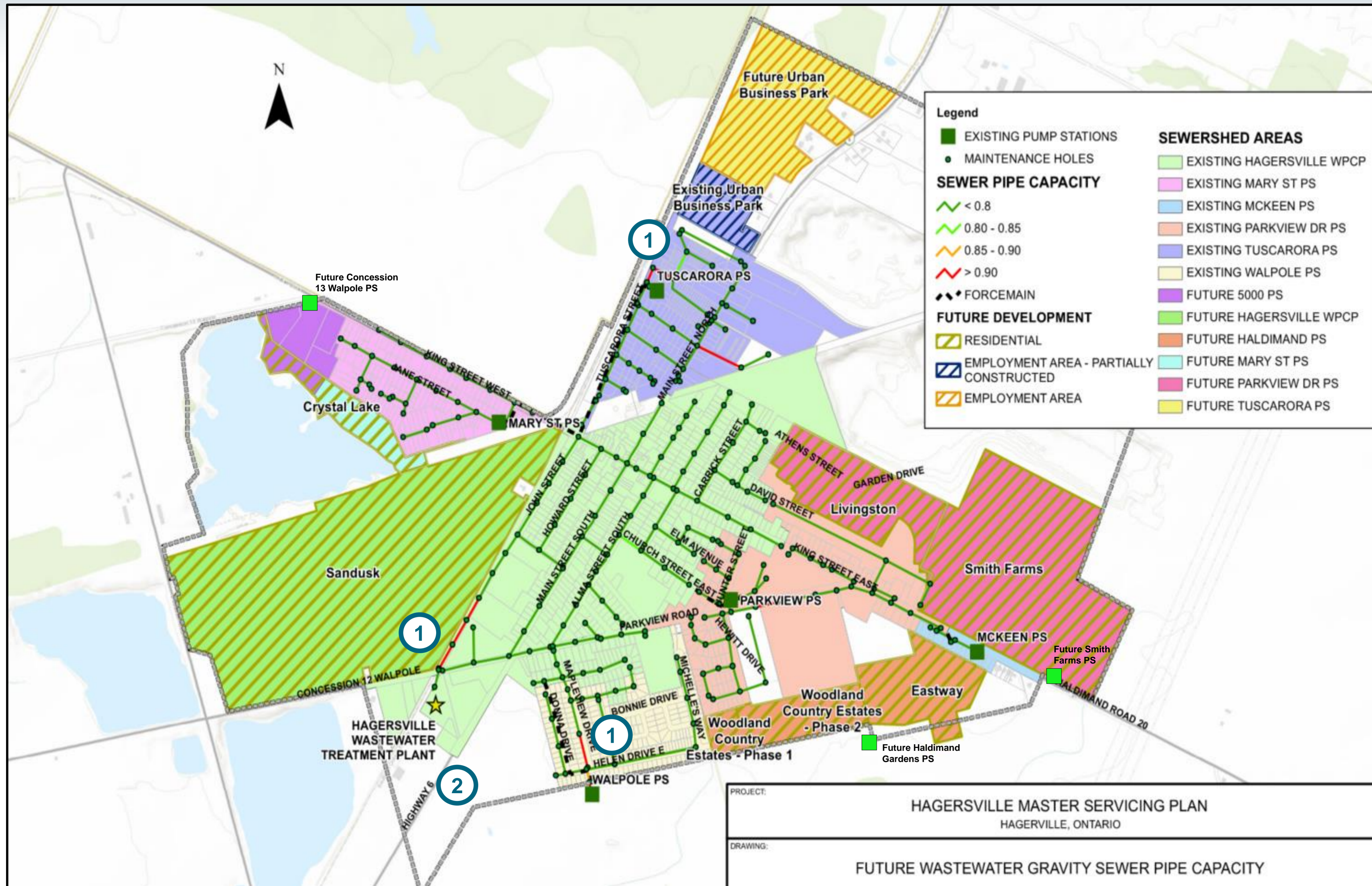
Do illegal connections really contribute large amounts of extraneous water to the sanitary sewer system?

Yes. For example, an eight-inch sanitary sewer can handle domestic water flow from up to 465 homes; however, it takes only twelve sump pumps operating at full capacity to overload an eight-inch sanitary sewer.

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Future Wastewater Servicing Issues and Constraints



1 Capacity constraints are anticipated under future development conditions for gravity sewers in the following areas:

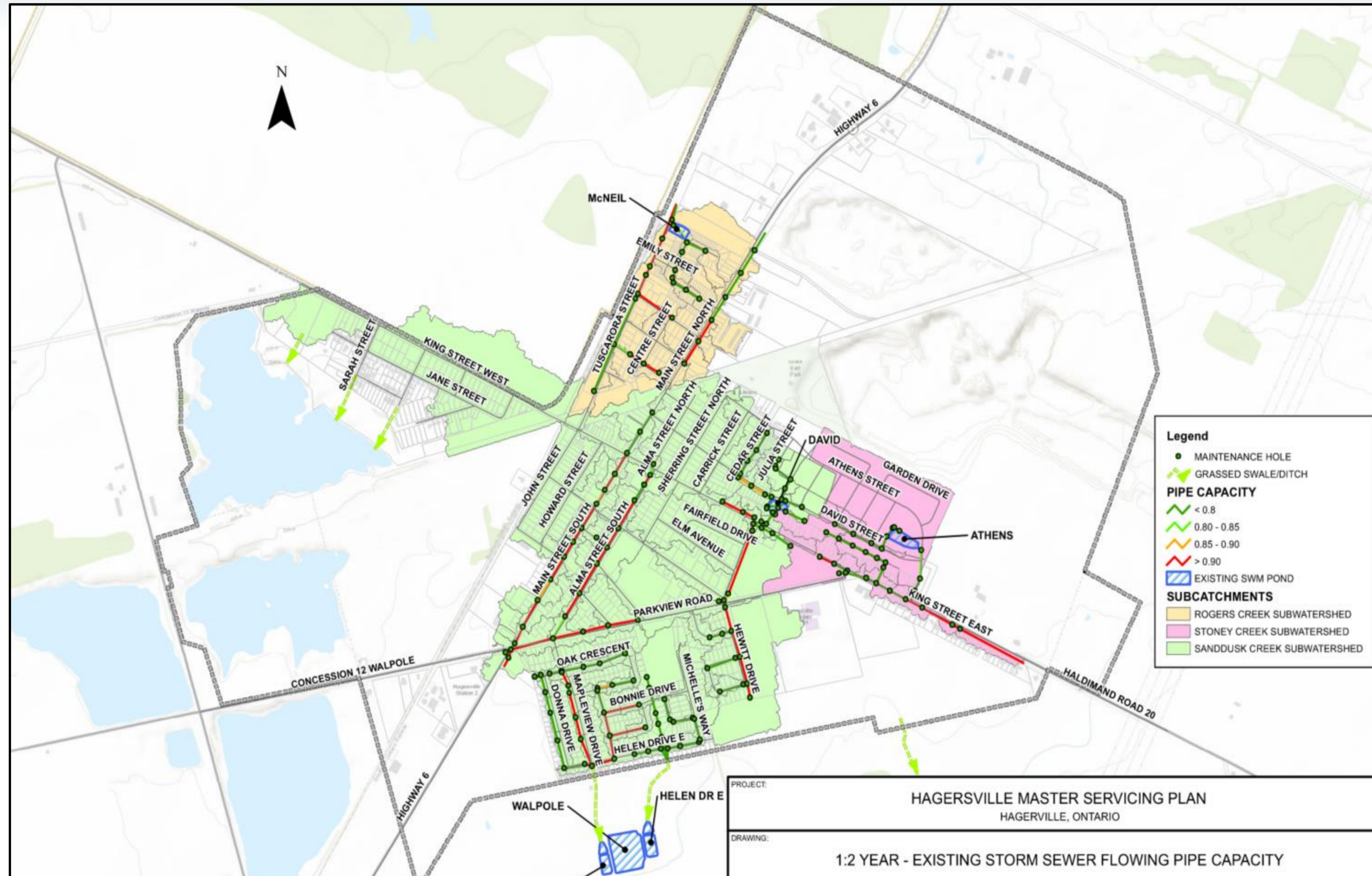
- Near Tuscarora PS and the Future Urban Business Park
- Near Walpole PS
- Near the future Sandusk development

2 The WWTP has a rated capacity of 4,200 m³/day. Future average day wastewater flows will be approximately 4,700 m³/day, therefore **the WWTP has insufficient capacity under future conditions.** It is also anticipated that Hagersville will continue to experience high levels of inflow and infiltration if these issues are not addressed. High inflow and infiltration can impact WWTP performance, causing bypass events and/or and high levels of Total Suspended Solids in the wastewater.

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Existing Stormwater Servicing Issues and Constraints

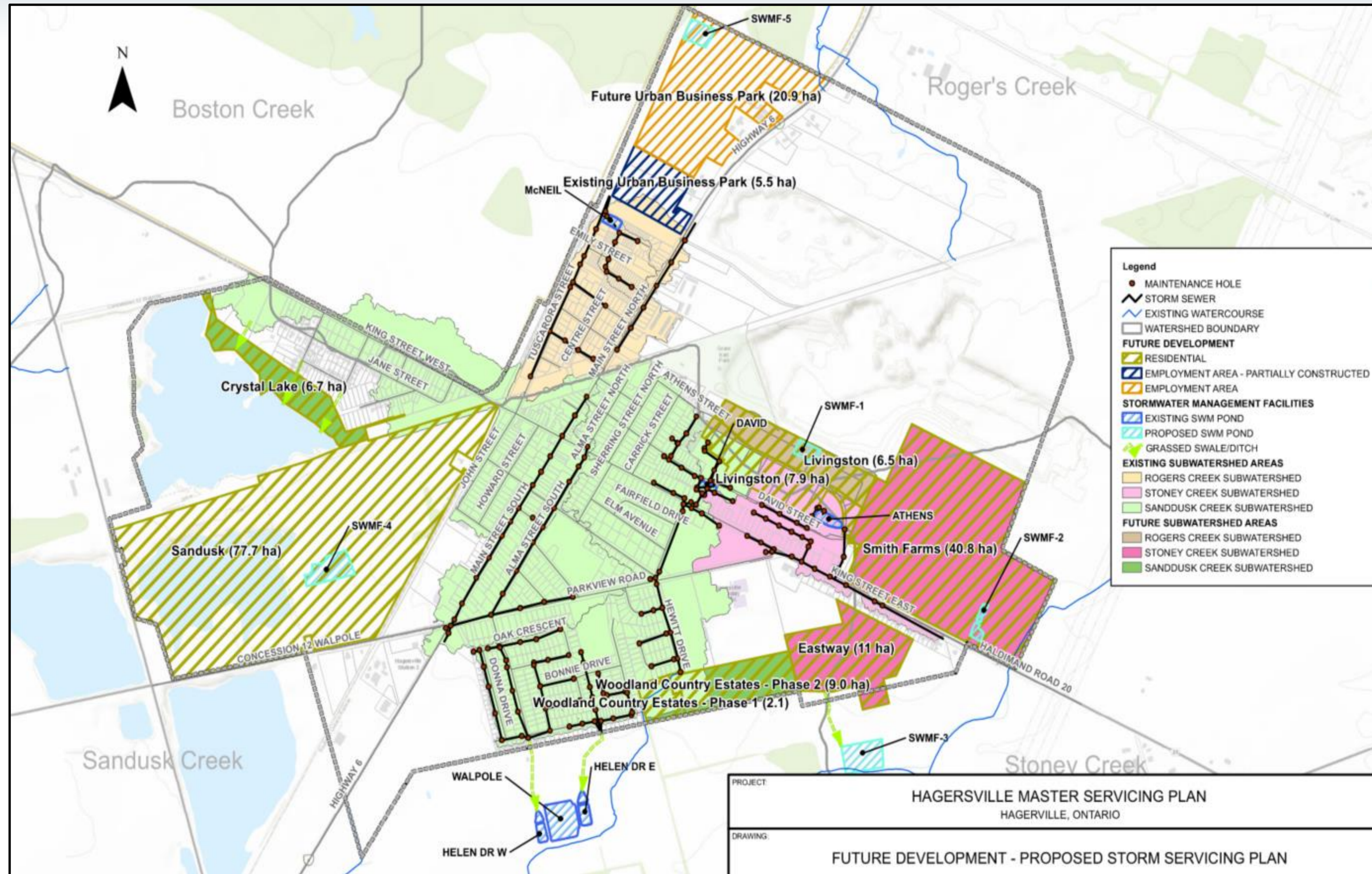


Under the 1:2-year storm event under existing development conditions, 4.7 km of storm sewer (shown in red) have **limited or no residual capacity** in these pipe sections to accommodate future development in Hagersville. Most of these locations are within the Sandusk Creek Subwatershed.

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Future Stormwater Servicing Issues and Constraints



1

All future development in Hagersville is **required to control post-development stormwater flows to existing stormwater flow rates** and satisfy required water quality criteria established by the Ministry of the Environment, Conservation, and Parks (MECP).

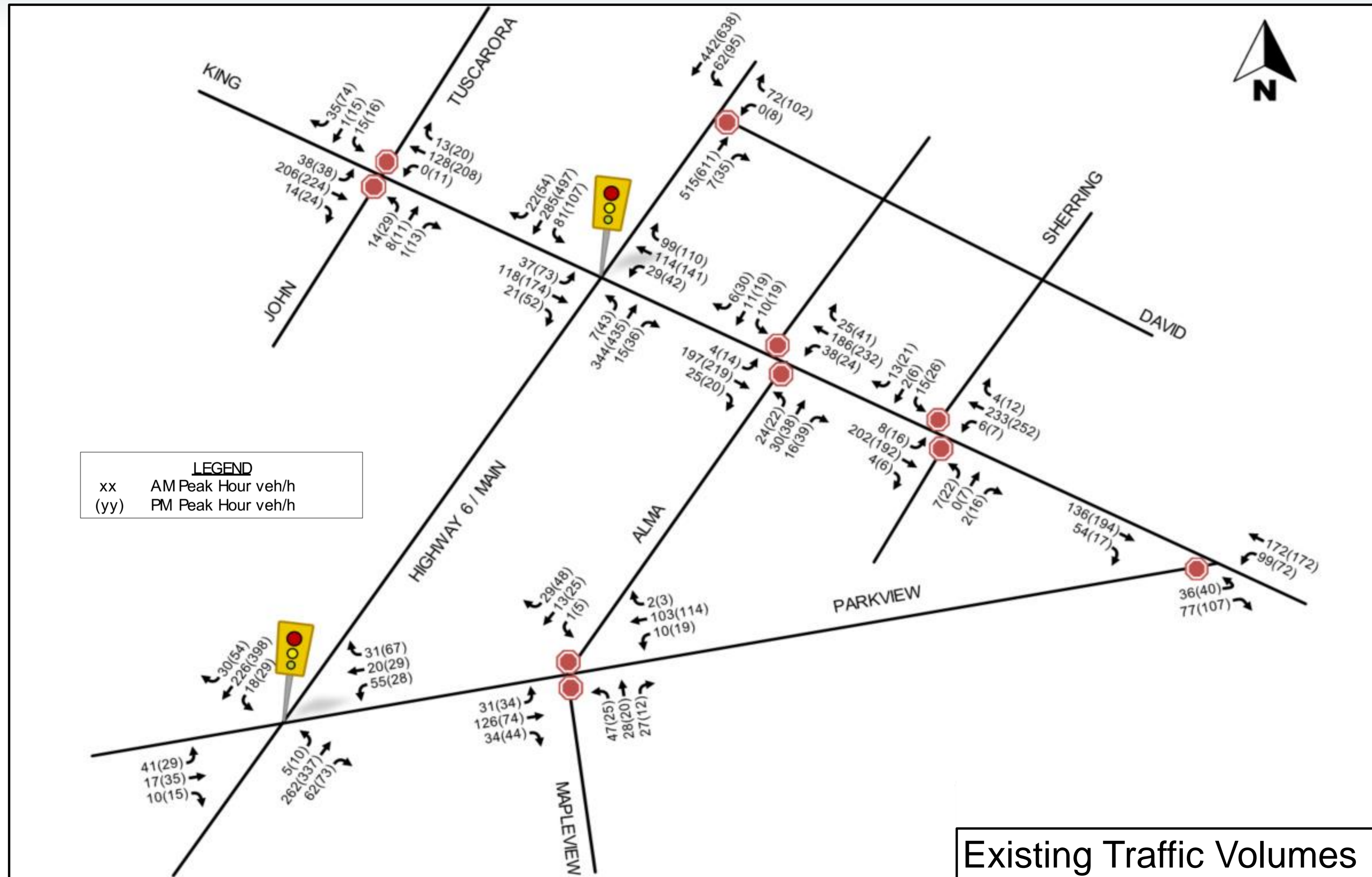
2

Future developments will **need to adhere to all stormwater management requirements** set by the MECP at the time of approval. The figure to the left shows a proposed storm servicing plan to satisfy these stormwater management requirements

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Existing Transportation Servicing Issues and Constraints

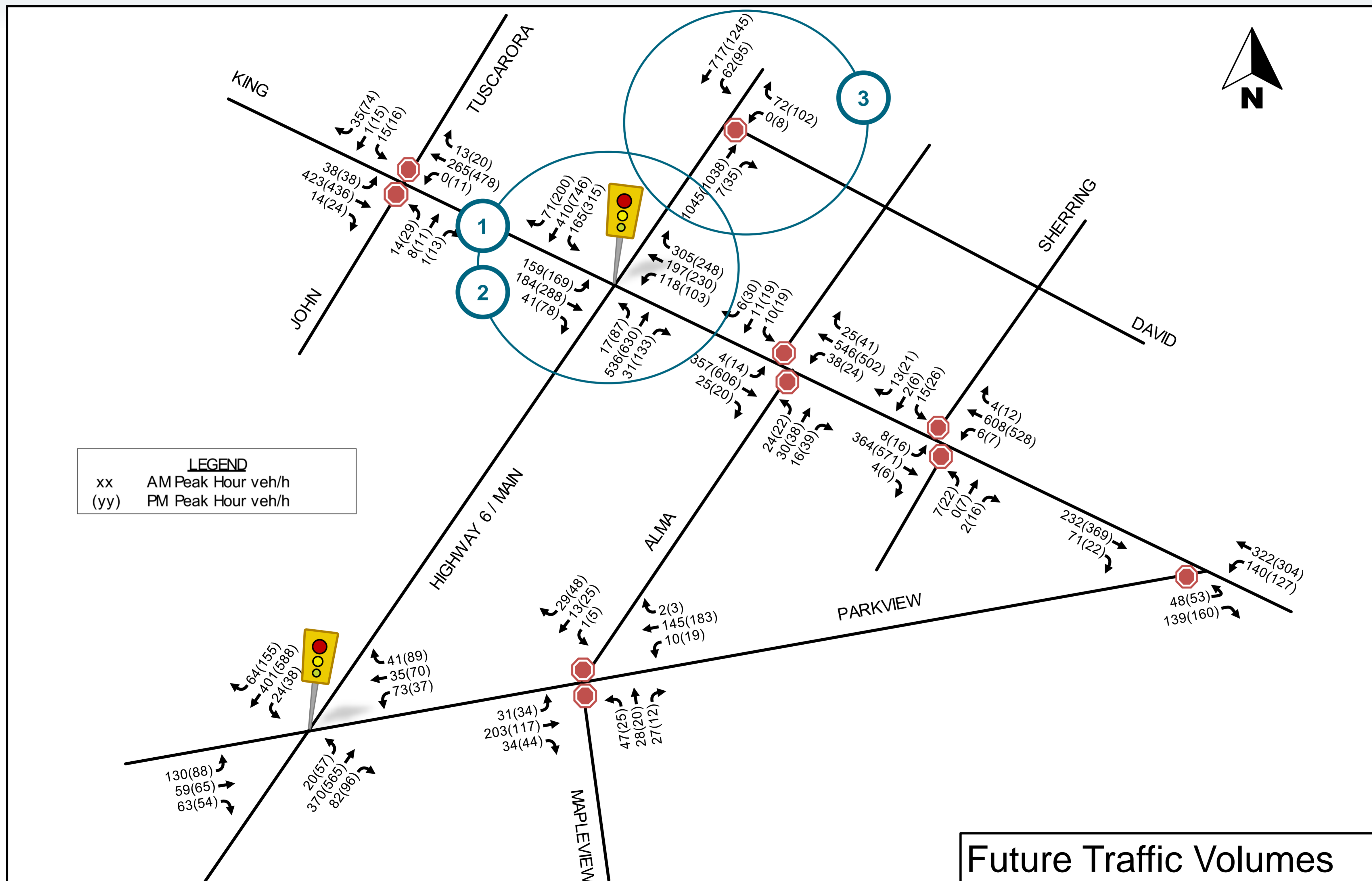


Under existing development conditions, there are no major transportation servicing issues or constraints. All intersections are operating with acceptable volumes of traffic and have sufficient storage capacity during the morning and afternoon peak hours.

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Future Transportation Servicing Issues and Constraints



1 Under future development conditions, the **Highway 6-Main St/King St intersection experiences high traffic volumes** and is projected to operate near or over capacity during the afternoon peak hour.

2 Under future development conditions, the northbound left-turn and southbound left-turn movements at the **Highway 6-Main St/King St intersection is projected to exceed available storage capacity** during the afternoon peak hour.

3 Under future development conditions, the **Highway 6-Main St/David St intersection experiences high traffic volumes** and is projected to operate near or over capacity during the morning and afternoon peak hour.



Impacts of Climate Change

- **Higher precipitation** from extreme weather
 - Increased **Inflow and Infiltration**, impacting sanitary system and treatment plant performance
 - **Higher flows and runoff**, impacting stormwater system performance
 - **Higher nutrient loading and algal blooms**, impacting drinking water treatment performance
 - **Flooding** of infrastructure
- **Water level fluctuations** in lakes and groundwater table impacting water supply
- **Evaporation** due to extreme heat
- **Energy usage** during extreme weather



Mitigation and Adaptation

- Once proposed infrastructure alternatives are identified (Phase 2 of the MCEA), climate change mitigation and adaptation measures will be identified and assessed
- **Potential Mitigation and Adaptation Measures:**
 - Working with Conservation Authority, Provincial, and Federal **climate change adaptation initiatives**
 - **Renewable energy generation** and backup power
 - Building **resilient infrastructure**
 - Consideration of **future climate** conditions during the design of infrastructure

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Cumulative Effects and Potential Impacts to Treaty Rights

Haldimand County is home to many Indigenous peoples, including the Six Nations of the Grand River and the Mississaugas of the Credit First Nation. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and Canada's commitment to implement these rights under the UNDRIP Act (UNDRIPA), was used as reference to determine the potential impacts of this Master Servicing Plan to the rights of Indigenous People within the project study area:

Rights Relating to Culture, Traditions, Customs, and Spirituality:

UNDRIP Act Article	Impact Considerations	Impact Mitigation
<ul style="list-style-type: none"> Articles 11.1, 12.1, 15.1, 24.1, 25, 31.1 	<ul style="list-style-type: none"> Several areas within the project study area have been identified as having the potential for archaeological and cultural heritage significance. Natural features of traditional significance (e.g., hardwood trees, medicinal plants, animals) may be present on proposed project sites. 	<ul style="list-style-type: none"> Once preferred project sites are known, a walk-through could be conducted with the affected Indigenous community for further investigation to determine specific concerns and mitigation measures. Knowledge learned from these site walk-throughs could be incorporated into the project.

Rights Relating to Decision Making and Participation in Projects:

UNDRIP Act Article	Impact Considerations	Impact Mitigation
<ul style="list-style-type: none"> Articles 13.2, 18 	<ul style="list-style-type: none"> Indigenous peoples have the right to participate in decision-making for matters that affect their rights. Several types of project information are used to inform interested persons of the project; there may be interested persons who are unable to understand provided information and unable to participate in the project. 	<ul style="list-style-type: none"> By following the MCEA process, the study will meet the intention of meaningful consultation with Indigenous communities, including ensuring all provided project information can be understood by Indigenous peoples. Indigenous peoples can participate in the evaluation and decision-making process of the MCEA by providing comments and concerns on proposed projects.

Rights Relating to Development and Economic & Social Conditions:

UNDRIP Act Article	Impact Considerations	Impact Mitigation
<ul style="list-style-type: none"> Articles 21.1, 21.2, 23 	<ul style="list-style-type: none"> Indigenous peoples living in Hagersville have the right to improvement of their municipal services without discrimination. 	<ul style="list-style-type: none"> By following the MCEA process, areas of Hagersville requiring municipal service improvement will be identified without discrimination against Indigenous communities. Appropriate provincial guidelines will be followed for preferred projects so that members of Indigenous communities will be protected from municipal services in poor condition.

Rights Relating to the Environment and Conservation:

UNDRIP Act Article	Impact Considerations	Impact Mitigation
<ul style="list-style-type: none"> Articles 29.1, 29.2 	<ul style="list-style-type: none"> Development of municipal services will be proposed as part of this MSP, which may have environmental impacts. 	<ul style="list-style-type: none"> By following the MCEA process, potential projects will undergo an evaluation process that considers the protection and conservation of the environment. Through meaningful consultation, particular areas or conditions of concerns held by Indigenous communities can be discussed and incorporated into the project.



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Get Involved

How Do I Get More Information?

- Complete the sign-in form to join the study mailing list
- Check the website (www.haldimandcounty.ca) for study updates
- Plan to attend the next Public Information Centre, details to follow.
- If you have questions regarding the study, or have any accessibility requirements in order to participate in this project, please contact one of the individuals below at any time:

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