

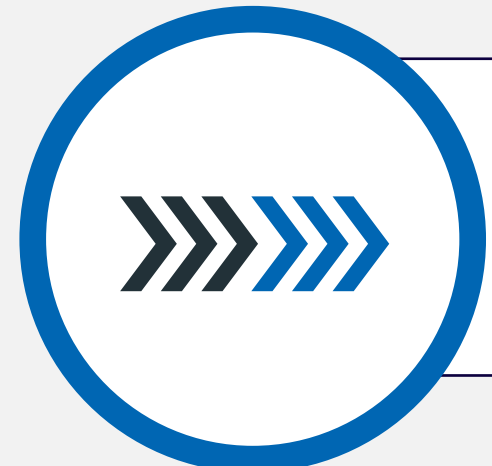
Why are we here?

Public Information Centre (PIC) No. 2

Public Information Centre (PIC) Objectives



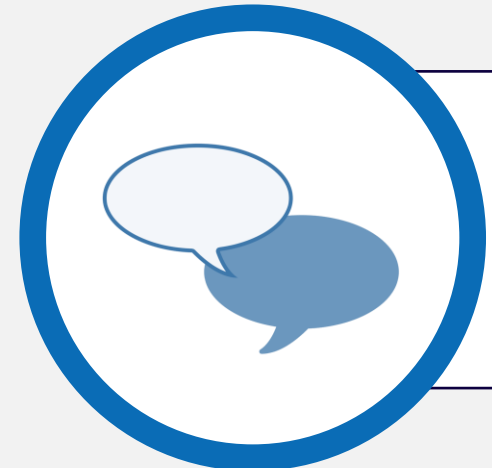
Present the study area and objectives



Review activities since PIC No.1



Present preliminary capital program



Receive feedback on the proposed capital program strategies

This is final PIC for this study.

Key Dates

- Notice of Study Commencement – Oct 10, 2023
- PIC 1 – Dec 14, 2023
- **PIC 2 – Dec 12, 2024**
- Notice of Completion – Spring of 2025

PIC Materials are available on the project website:
<https://letstalk.niagarafalls.ca/master-servicing-plan>



Stay Engaged!

- ✓ Please sign in and take a comment sheet.
- ✓ Have a look at the project information on display and chat with the Project Team.
- ✓ Provide your feedback regarding the information presented.

What is this study about?

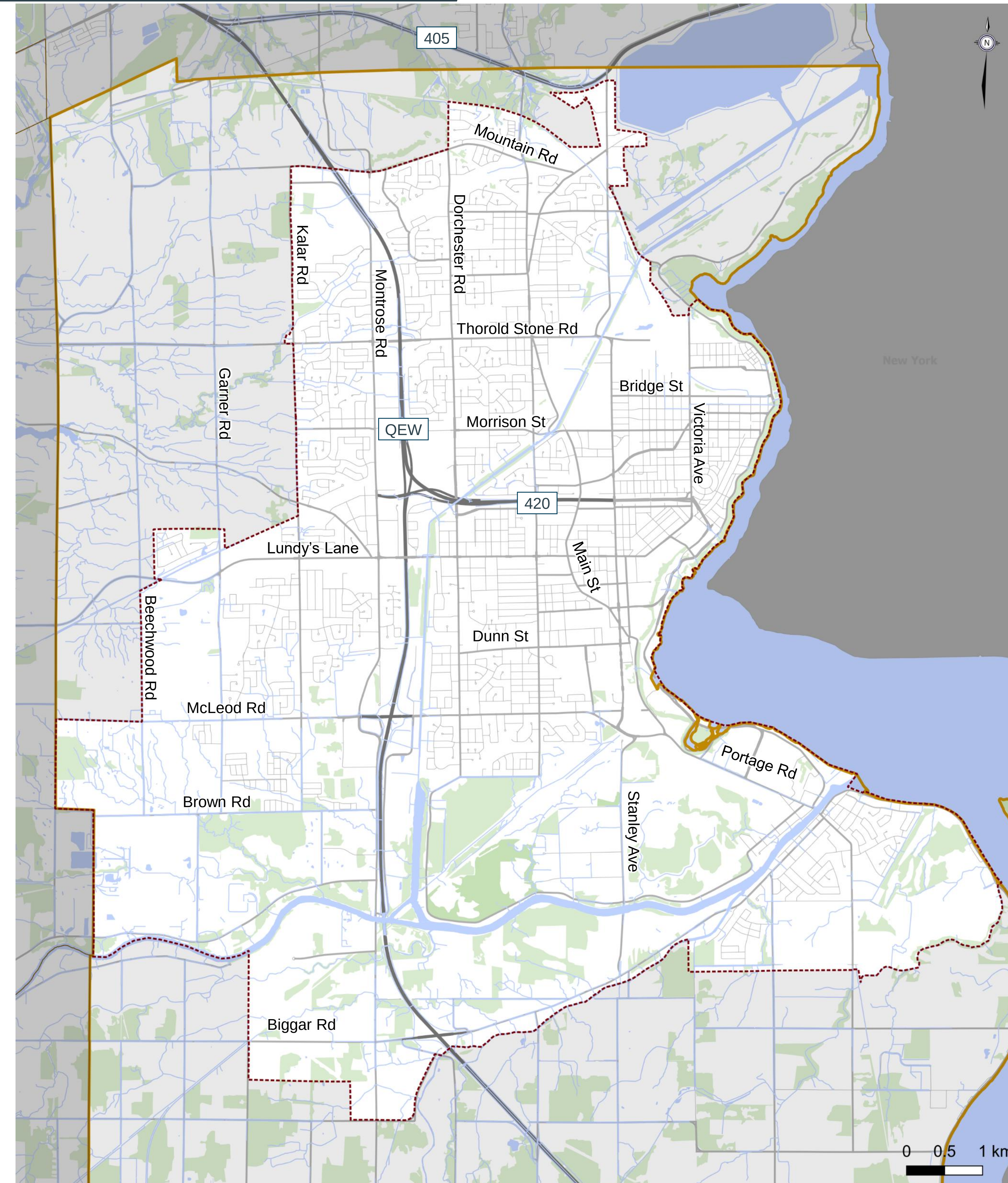
Background and Study Purpose

The City of Niagara Falls is undertaking a **Master Servicing Plan and Wet Weather Management Strategy** project. This initiative incorporates ongoing planning, management and operations of the City's water, wastewater, and stormwater infrastructure. The intent of this study is to:

- Complete an evaluation of the City's existing infrastructure
- Establish short and long-term visions, strategies, and policies to support the management and enhancement of infrastructure
- Optimize future infrastructure needs, including operation and maintenance improvements, within the City of Niagara Falls through to 2051 and beyond

Key Strategic Goals:

- ✓ Fulfill the Class Environment Assessment process.
- ✓ Ensure the best use of the existing water, wastewater, and stormwater infrastructure.
- ✓ Plan for water, wastewater, and stormwater infrastructure required to service future growth.

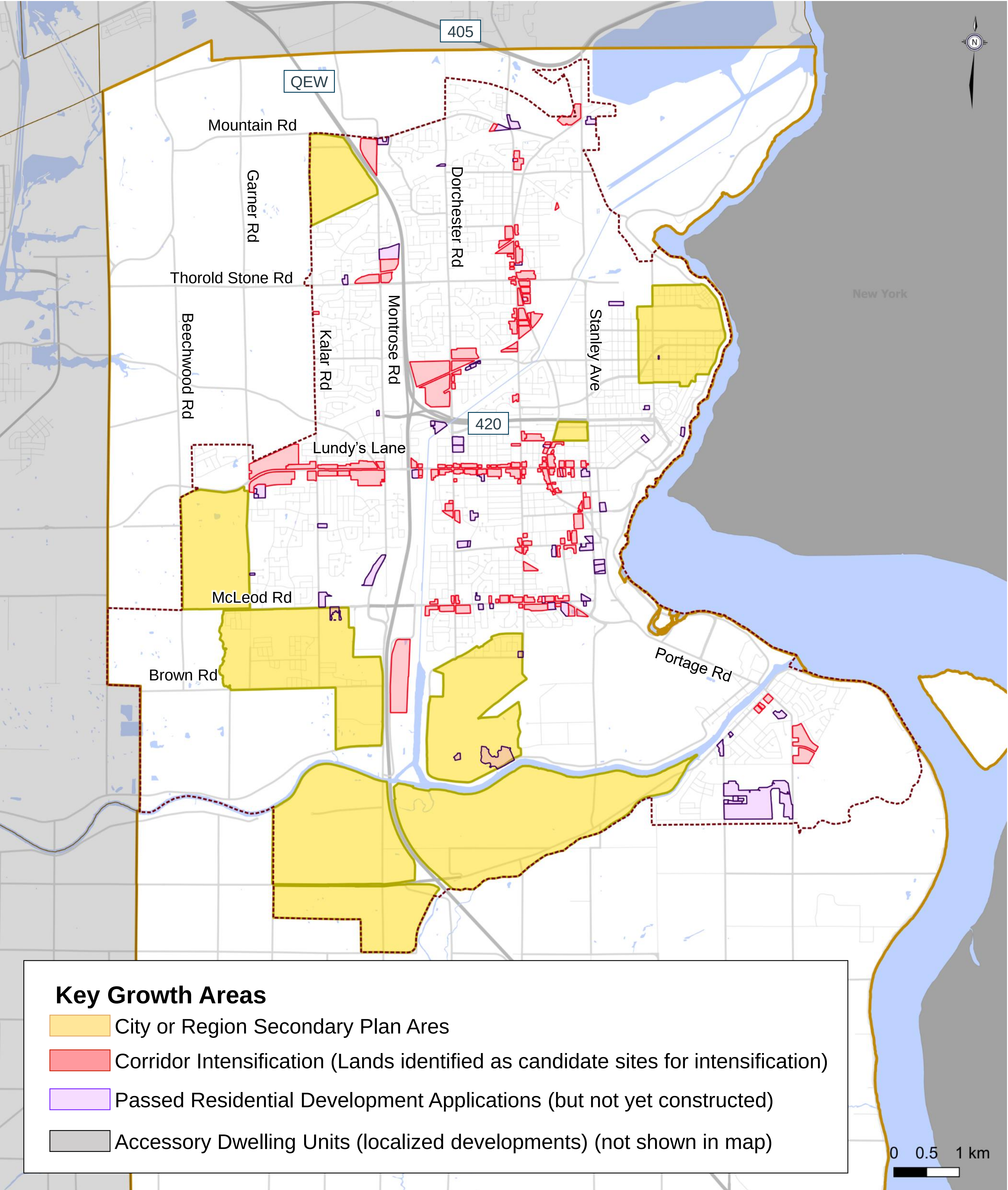
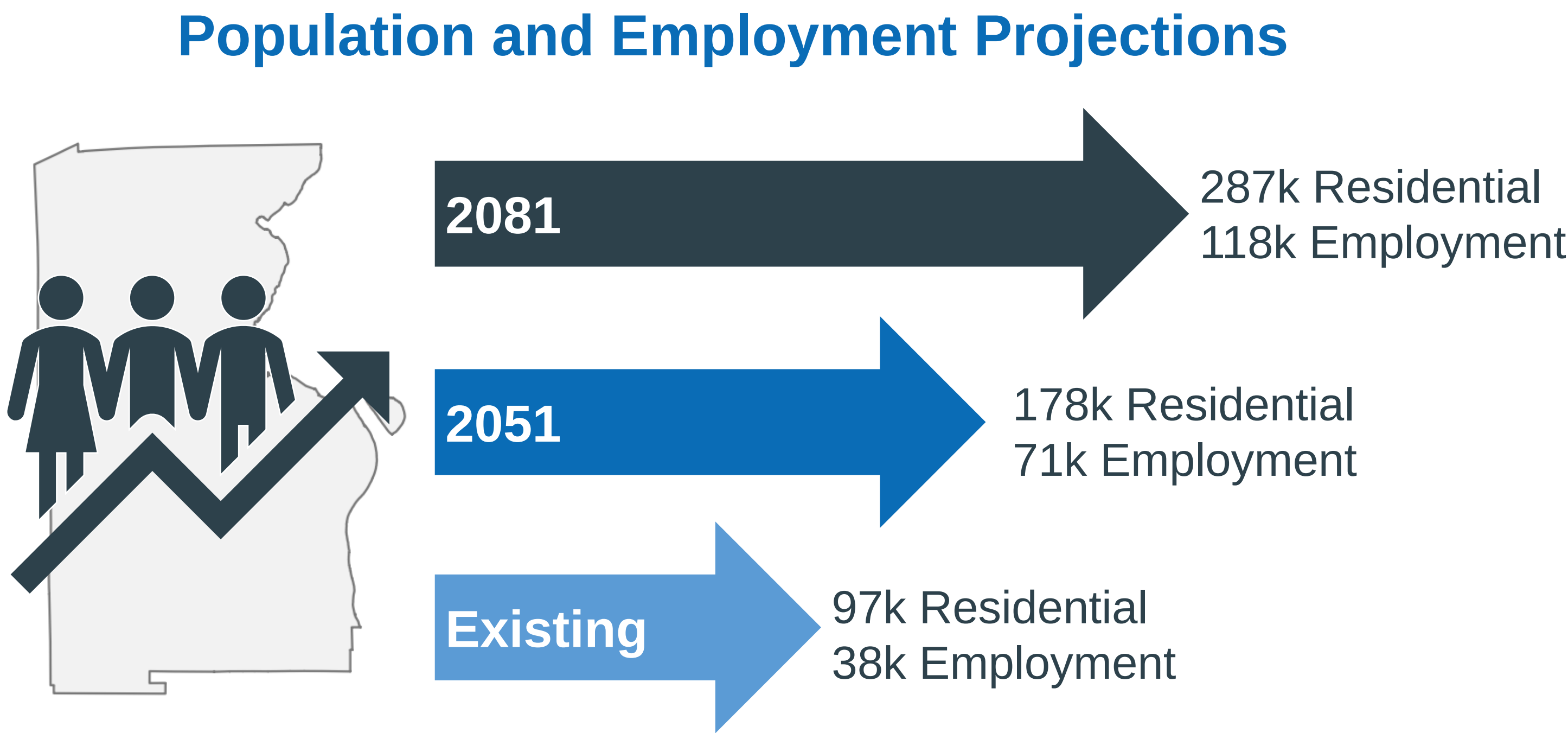


Why is this study being conducted? Planning for Growth



The City of Niagara Falls is growing. Focus is on identifying the water, wastewater, and stormwater infrastructure needs to support the City 2051 growth and beyond.

Water, wastewater, and stormwater infrastructure has a typical lifespan of **50 to 100 years**. Sizing of new infrastructure will consider both 2051 and 2081 growth needs.



How is the study being conducted?

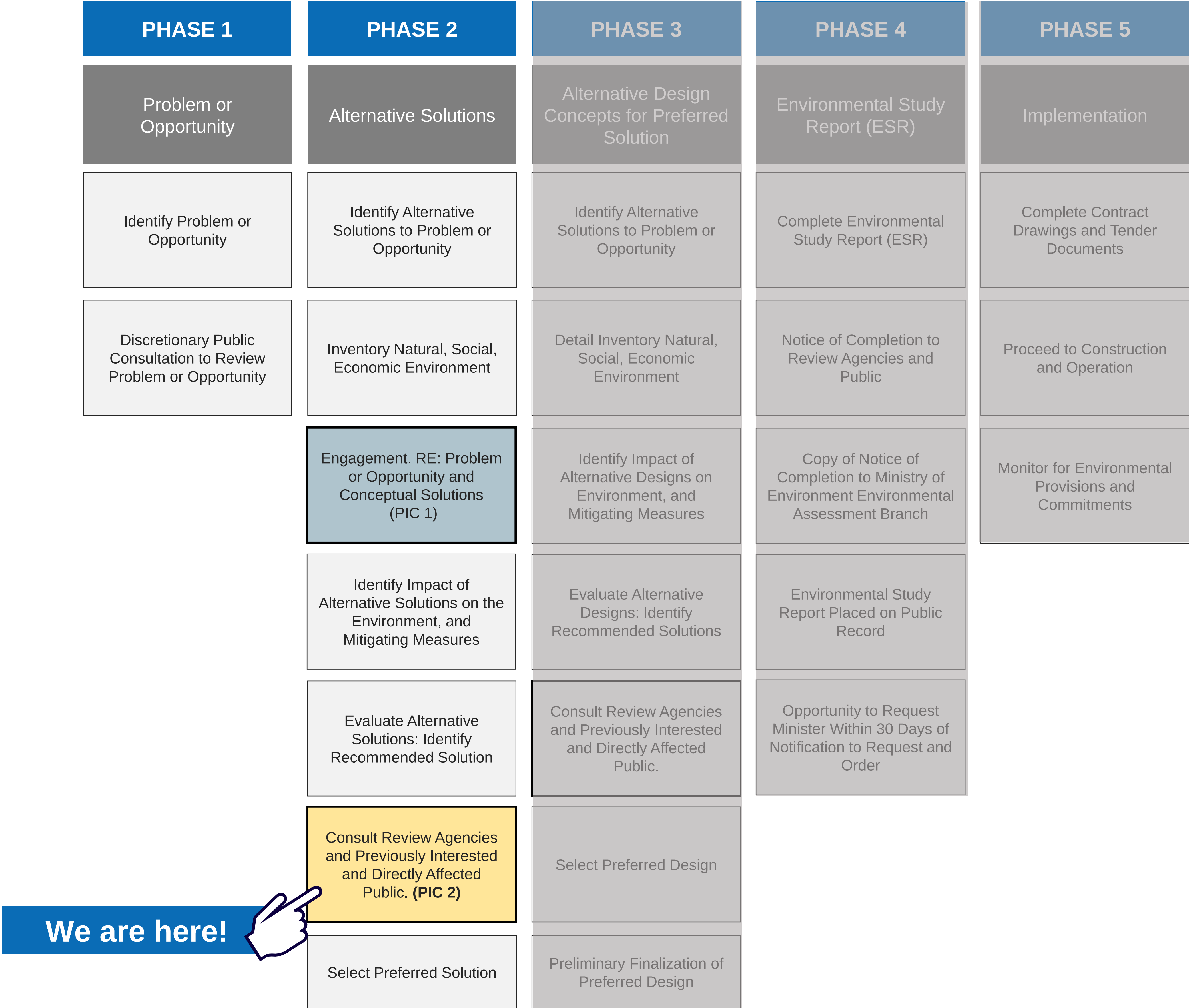
Municipal Class Environmental Assessment Process



The **Master Servicing Plan and Wet Weather Management Strategy** is being undertaken as a Master Plan under the Municipal Class Environmental Assessment (MCEA) process (October 2000, as amended in 2007, 2011, 2015, and 2023).

The study will satisfy **Phases 1 and 2** of the MCEA process and provide the basis for carrying out follow-up Environmental Assessment Studies for specific components.

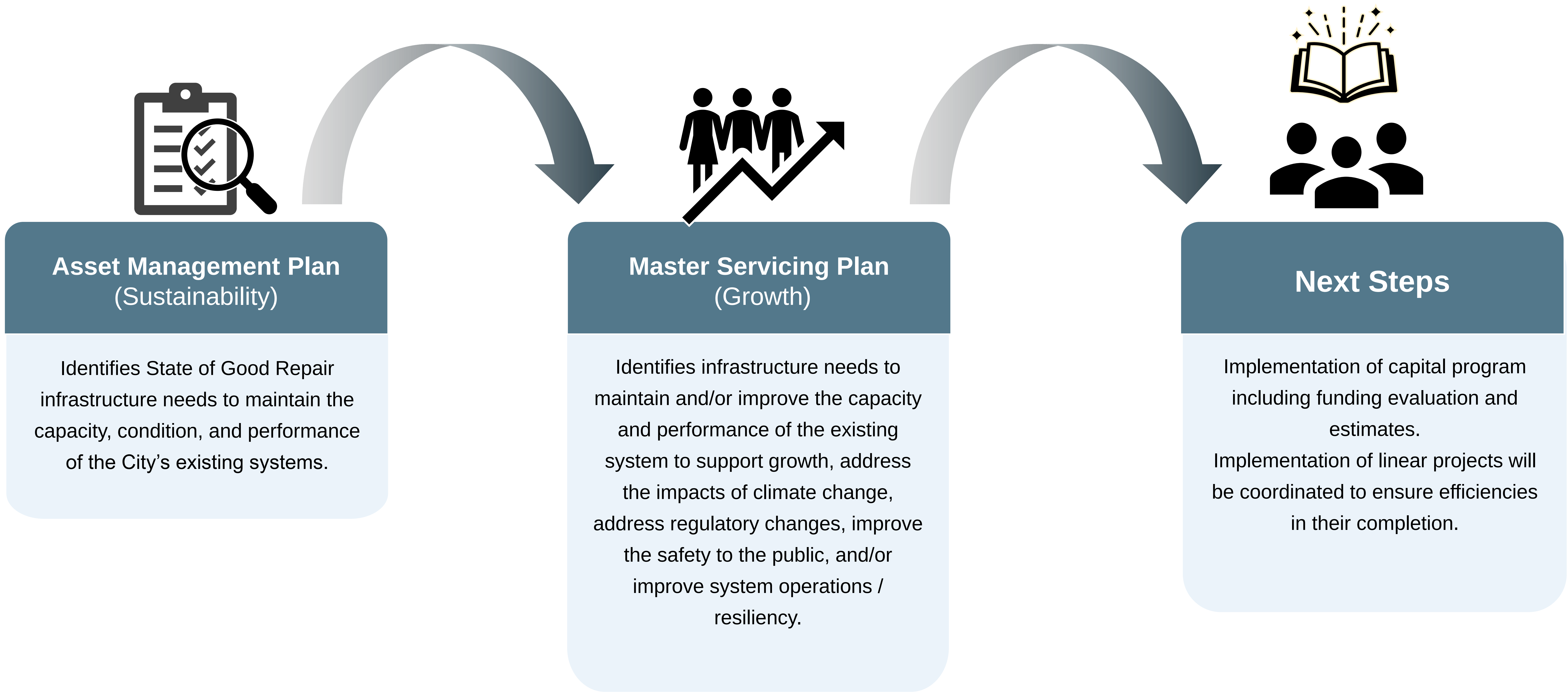
This study will hold two Public Information Centres (PICs).



We are here!

How does this integrate with other plans?

Municipal Servicing Context



What assets are owned and managed by the City?

Municipal Servicing Context



	Service Objective	City Assets	Regional Assets
Water Infrastructure	To provide an efficient, sustainable, and a safe water system that meets regulatory requirements, minimizes service disruptions, and is capable of accommodating growth.	Distribution - Local watermains - Fire hydrants - Service connections	Treatment - Water treatment plant Transmission - Trunk watermains - Pumping stations - Storage facilities (water towers and reservoirs)
Sewer Infrastructure	To provide an efficient, sustainable, and reliable wastewater system that minimizes environmental impacts and is capable of accommodating growth.	Collections - Local sewers - Local sewage pumping station & forcemain	Treatment - Wastewater treatment plant Transmission - Trunk sewers - Sewage pumping stations & Forcemains
Stormwater Infrastructure	To provide an efficient, sustainable, and reliable stormwater management system that minimizes environmental impacts and protects public health and property.	- Storm sewers - Roadside ditches - Channels and watercourses - Culverts - Catch basins - Stormwater management ponds - Water quality treatment facilities - Any other low impact development (LIDs)	Infrastructure on Regional Roads

What are the servicing strategies?

Capital Program Overview



The Master Servicing Plan and Wet Weather Management Strategy’s preliminary capital program evaluated alternatives to identify water, wastewater, and stormwater **system needs** and **triggers for upgrades**.

The preliminary preferred capital program aimed to:

- Make improvements to the existing networks
 - Optimization of replacement of older linear works
 - Deliver a consistent and sustainable level of service to existing customers
- Support areas of proposed growth
 - Identification of new infrastructure or upgrades to the existing system to support growth areas
- Increase overall resiliency and performance
 - Strengthen systems through key upgrades and key initiatives
 - Undertake key operations and maintenance activities to improve system performance
 - Identify potential funding sources for the capital program (Development Charges, Rate Reserves, grants, etc.)

Program Components	Cost Estimate
Water Capital Projects	\$363 million
Wastewater Capital Projects	\$184 million
Stormwater Capital Projects	\$71 million
Inflow and Infiltration Prioritization Capital Projects	\$95 million
Sewer Separation	\$205 million

\$ 918 Million
Total

What are the servicing strategies?

Preliminary Preferred Capital Program – Water



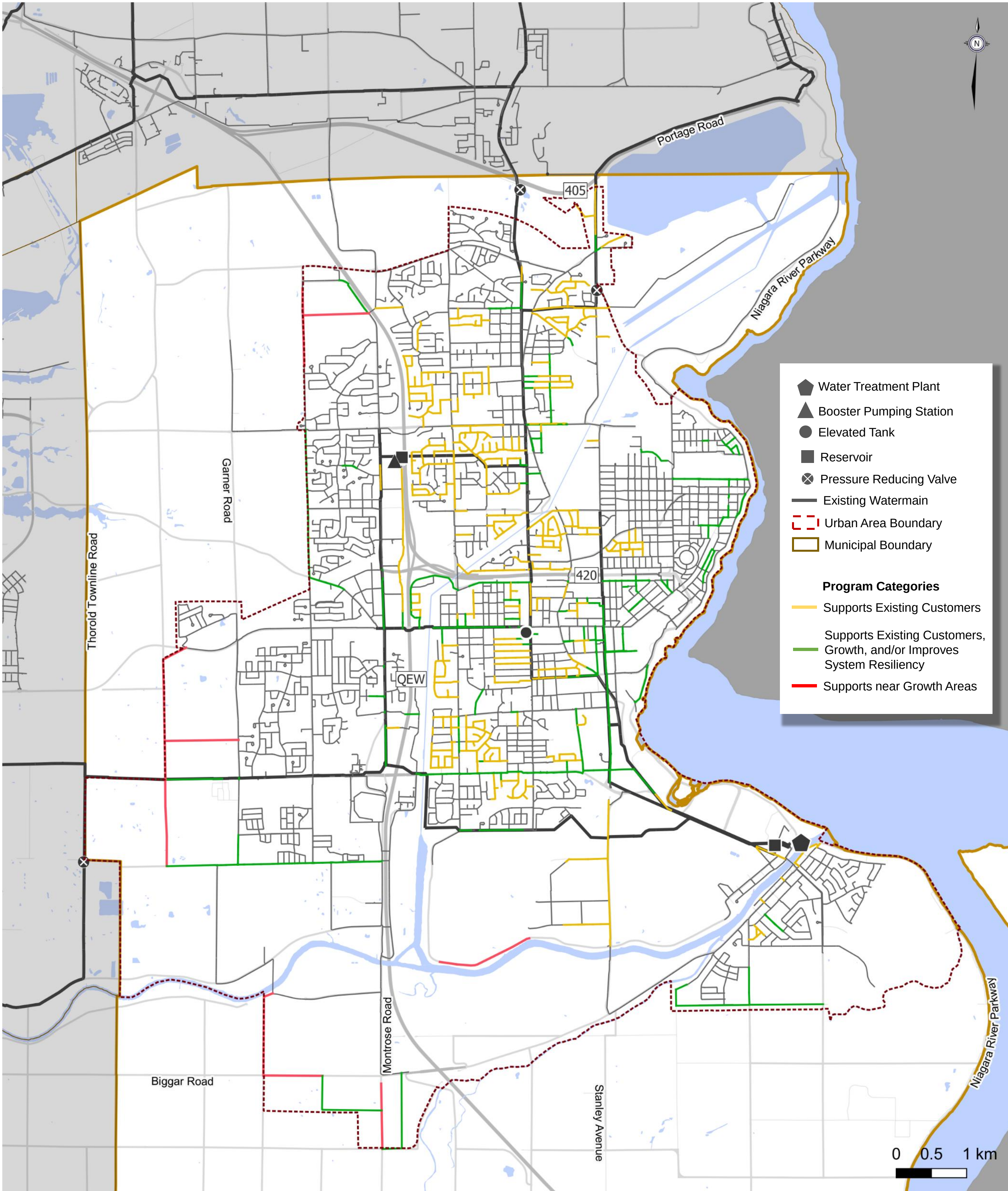
The preliminary preferred water capital program enhances the existing water system through:

- Strategic replacement of aging watermains to improve overall water capacity and level of service
- Upsizes existing watermains to support intensification and growth
- Construction of new watermains to support greenfield growth areas
- Improvement of overall system resiliency through key watermain upsizing

Additional recommended next step programs and studies for ongoing water system needs include:

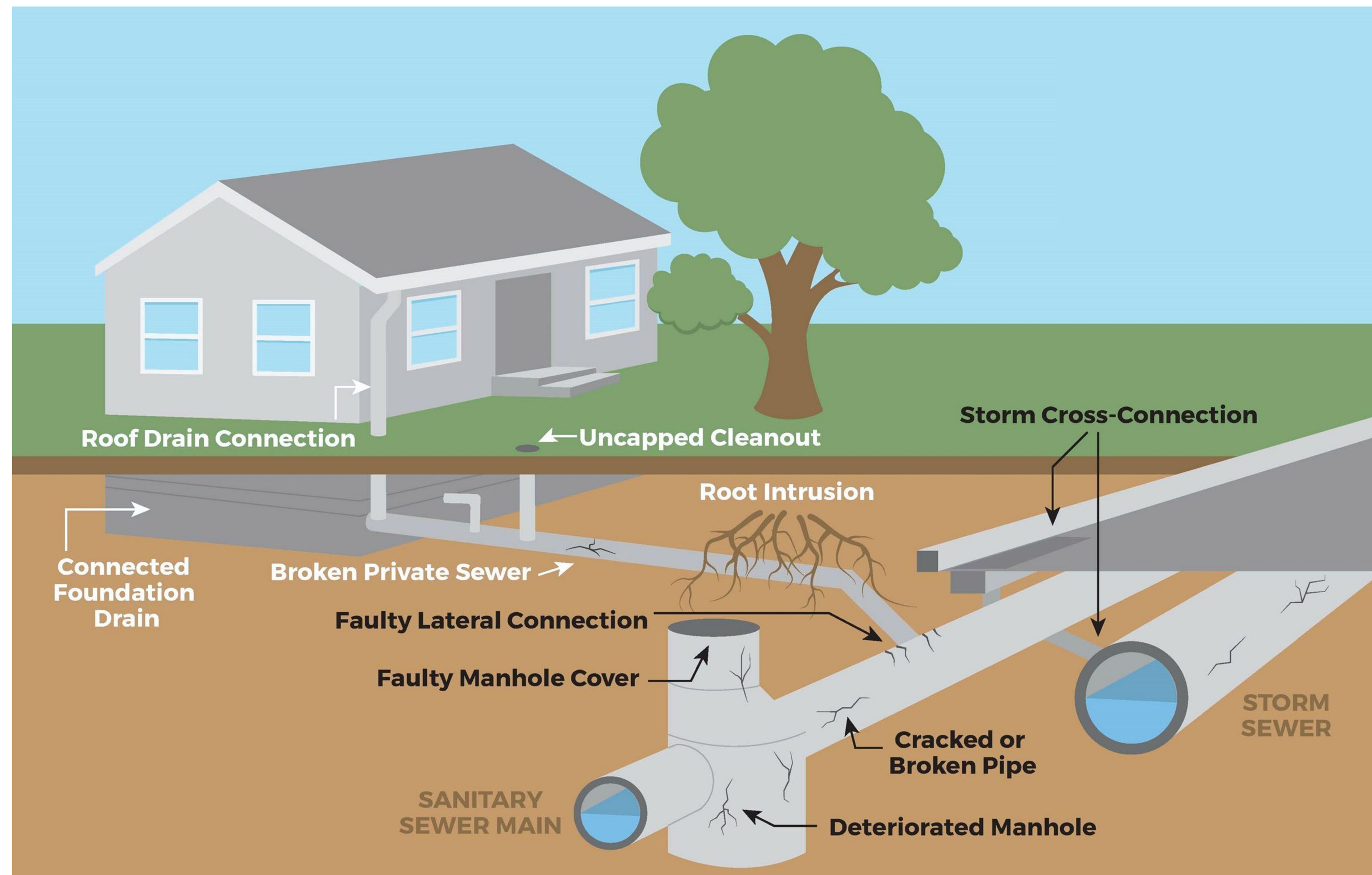
- Sampling and flushing program
- Valve turning program
- Back flow prevention
- Tracking non-revenue water
- Ductile iron corrosion study

Program Categories	0 to 10 Year Cost	> 10 Year Cost
Supports existing customers	\$47 million	\$155 million
Supports existing customers, growth, and/or improves system resiliency	\$108 million	\$15 million
Supports near growth areas	\$27 million	\$11 million
		\$363 Million Total



System Opportunities and Challenges

What is Inflow and Infiltration?



What is Inflow and Infiltration?

Groundwater and stormwater that enters the wastewater (or sanitary) sewer system through cross connections with the stormwater system or through cracks and other imperfections within the wastewater system.

Is Inflow and Infiltration Expected in the City's Infrastructure?

Inflow and infiltration is a normal component of municipal wastewater sewer systems. Municipalities allow for a certain rate of inflow and infiltration in the design of wastewater infrastructure. The goal is to minimize inflow and infiltration in order to:

- Minimize additional cost of pumping and treating the extraneous flows
- Maximize the existing capacity of wastewater infrastructure

What are the servicing strategies?

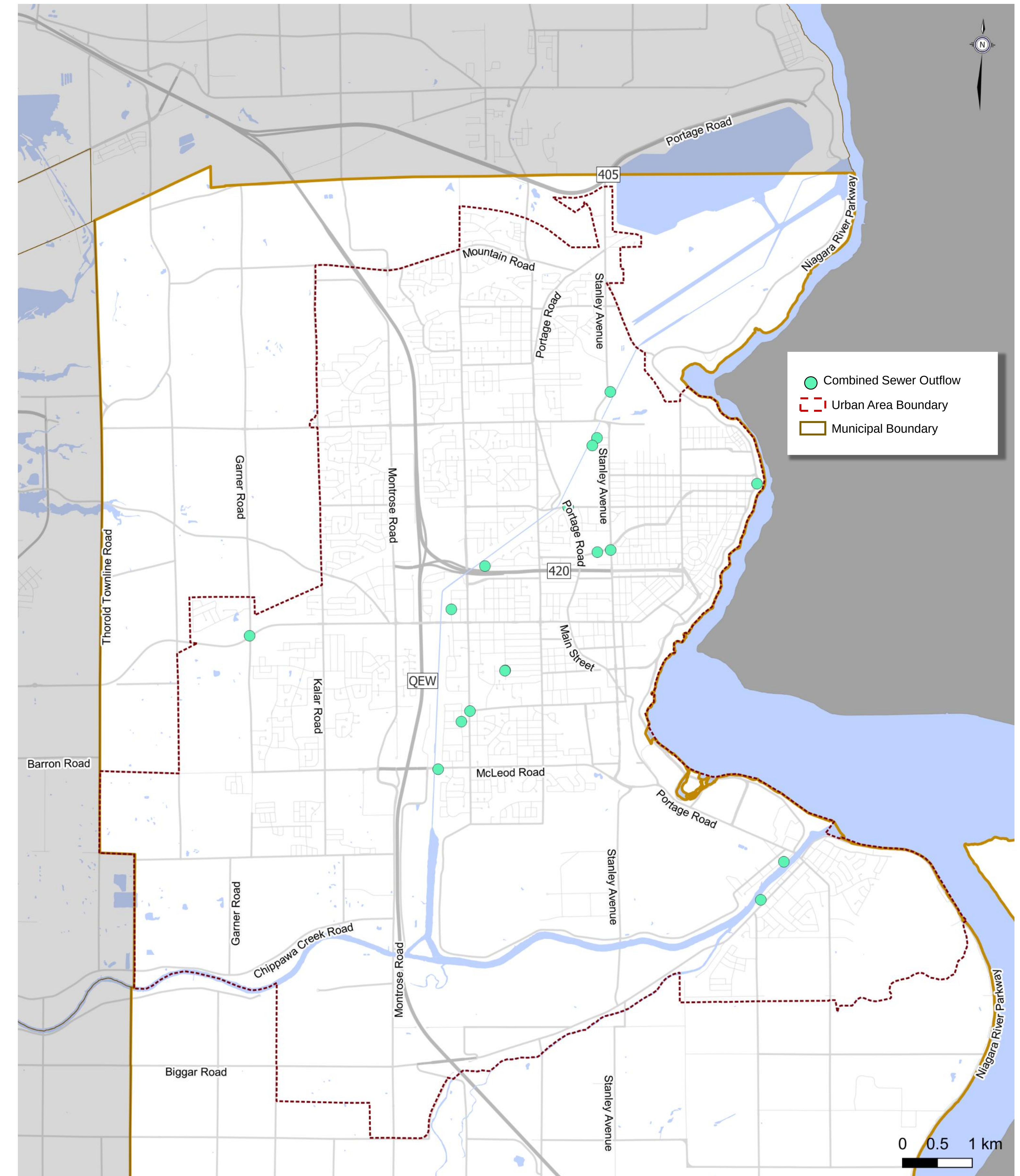
Preliminary Preferred Capital Program – MECP F-5-5 Procedure

The Ministry of Environment, Conservation, and Parks (MECP) F-5-5 Procedure defines the rules for treating municipal and private combined and partially separated sewers. Combined sewers receive wastewater sewage and stormwater flows in the same pipe. Within the City, combined sewers make up approximately 12% of all wastewater sewers and approximately 16% of all stormwater sewers. Partially separated sewers may receive stormwater from private connections such as downspouts and foundation drains. When it rains, sewer capacity can be used up from stormwater runoff and cause the sewer system to be overwhelmed. In an effort to reduce basement flooding risk, Sewer systems may have regulators, or combined system overflows, which can release untreated sewage and stormwater to the environment when the system is overwhelmed.

The F-5-5 procedure requires wastewater systems to:

- Treat 100% of dry weather flows
- Treat 90% of wet weather flows from April to October in an average year
- Maintain or improve the existing level of treated sewage
- Provide recommendations through an implementation plan to satisfy procedure

The recommendations from this study, including the implementation plan, helps the City to satisfy the F-5-5 Procedure.



What are the servicing strategies?

Preliminary Preferred Capital Program – Wastewater



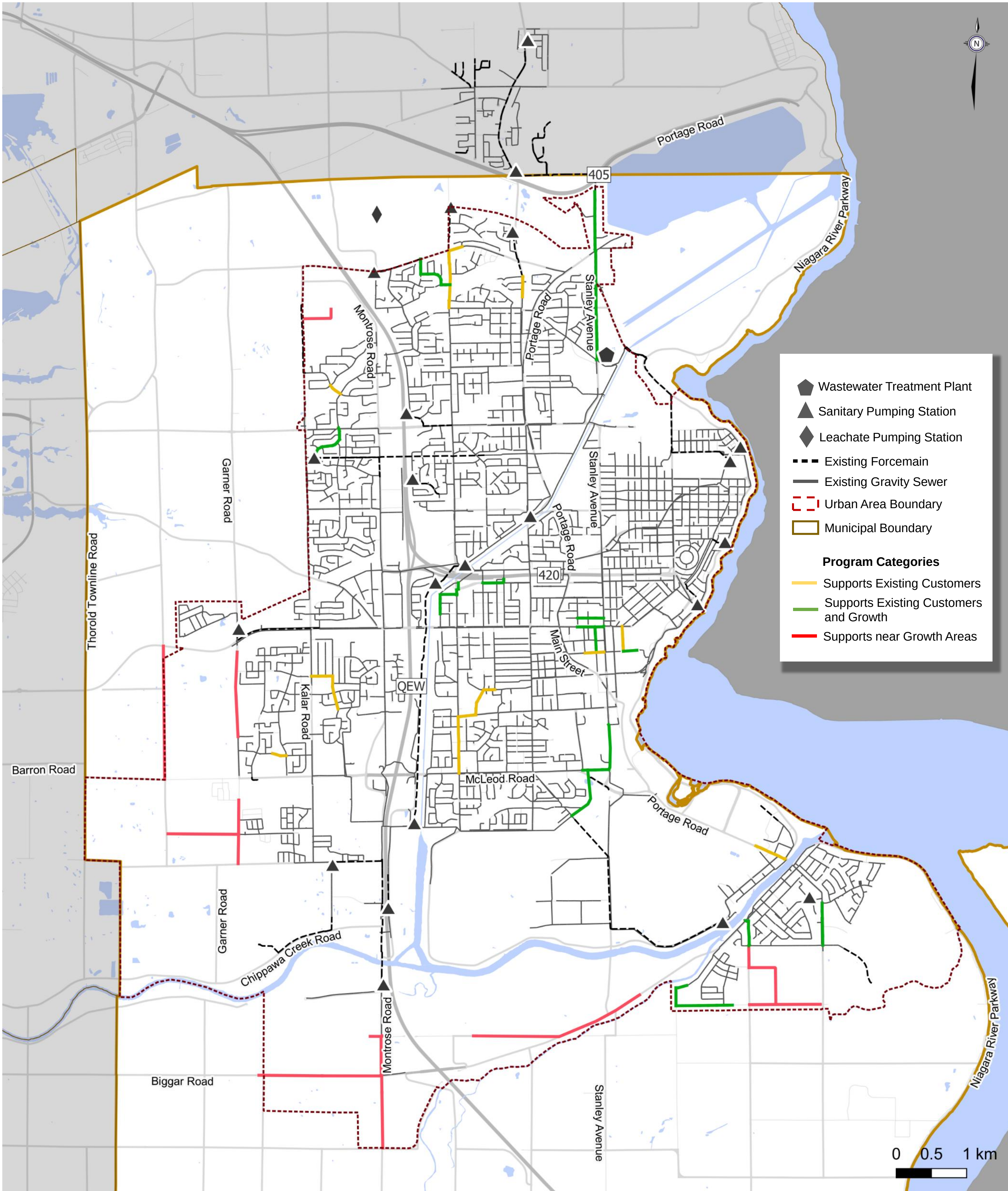
The preliminary preferred wastewater capital program enhances the existing wastewater system through:

- Strategic upsizing of undersized wastewater sewers to accommodate existing flows
- Upsizes existing wastewater sewers to support intensification and growth
- Construction of new sewers to support greenfield growth areas

Recommended next step programs and studies for ongoing wastewater system needs include:

- Flow monitoring program to confirm sewer capacity and overflow volumes
- Inflow and Infiltration (Wet Weather Flows) reduction program
- Completion of F-5-5 reporting

Program Categories	0 to 10 Year Cost	> 10 Year Cost
Supports existing customers	\$52 million	\$8 million
Supports existing customers and growth	\$22 million	\$12 million
Supports near growth areas	\$82 million	\$8 million
		\$184 Million Total



What are the servicing strategies?

Preliminary Preferred Capital Program – Inflow and Infiltration Program



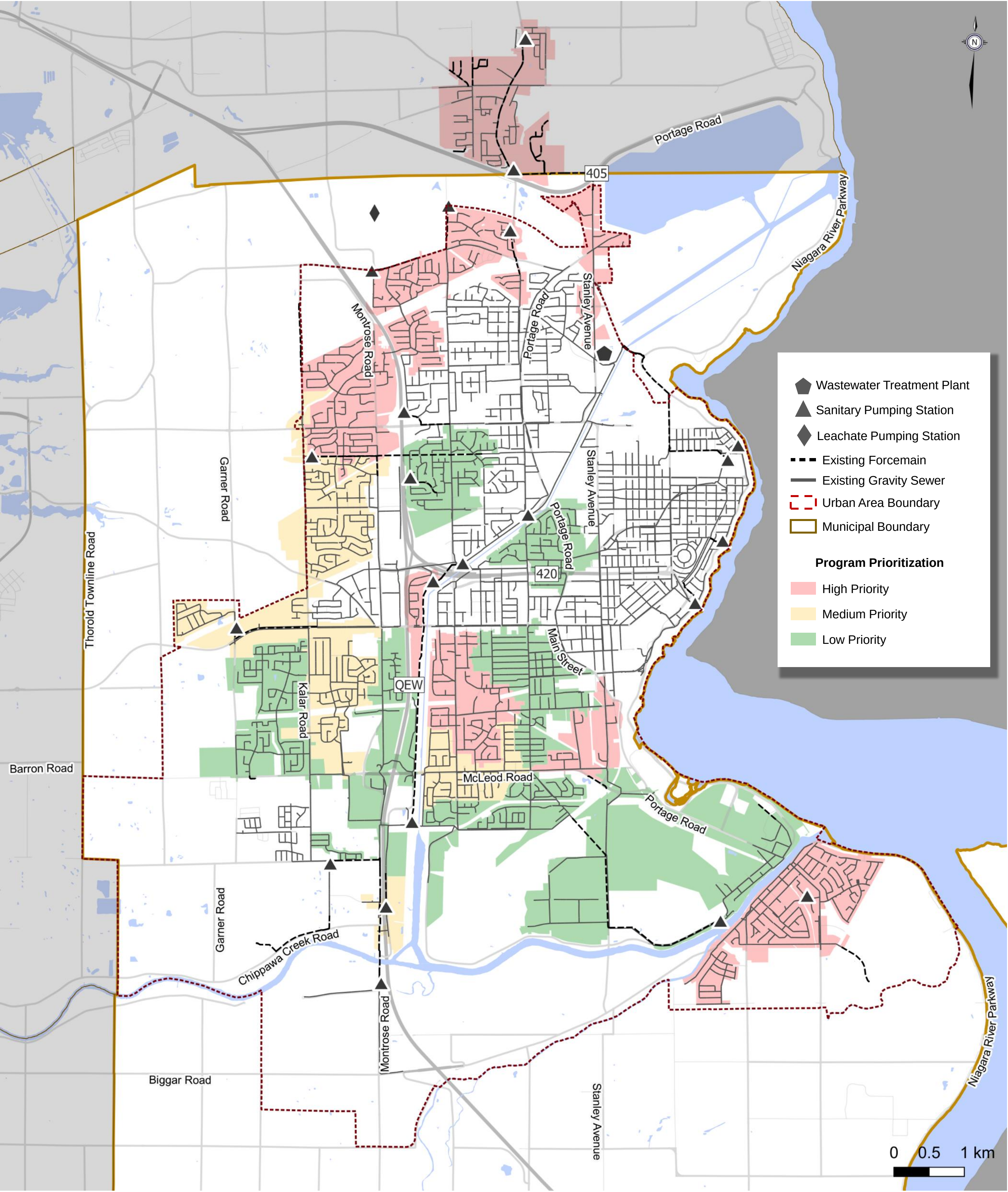
Areas of high Inflow and Infiltration (I&I) result in wastewater system capacity restrictions and poses an increased risk of basement flooding. The I&I reduction program is prioritized with aims to:

- Remove undesirable wet weather flows
- Maximize existing system capacity
- Provide climate change resiliency

The I&I reduction program may consist of the following components:

- Flow monitoring (pre/post completion of works)
- CCTV sewer inspection and review
- Smoke and dye testing
- Curbside drainage surveys
- Lateral (sanitary service connection) inspections
- Downspout and weeping tile disconnections
- New subdivision flow monitoring and acceptance criteria
- Combined sewer separation

Program Prioritization	Estimated Cost
High	\$48 million
Medium	\$12 million
Low	\$35 million
\$95 Million Total	



What are the servicing strategies?

Preliminary Preferred Capital Program – Stormwater



The preliminary preferred stormwater capital program enhances the existing stormwater system through:

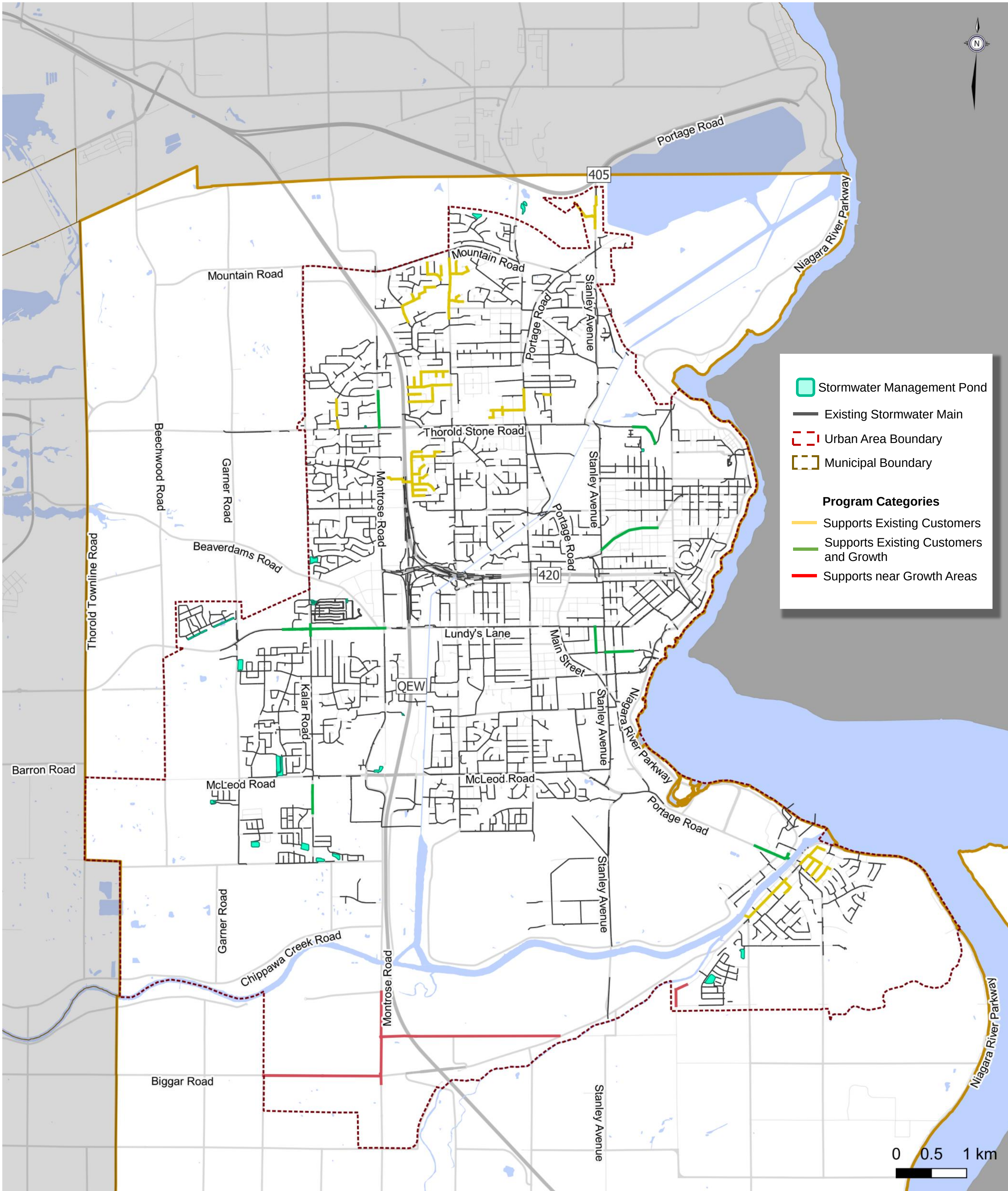
- Strategic upsizing of undersized stormwater sewers to accommodate existing flows
- Upsizes existing stormwater sewers to along intensification corridors
- Construction of new sewers to support greenfield growth areas

Recommended next step programs and studies for ongoing stormwater system needs include:

- Flow monitoring program to confirm sewer capacity and overflow volumes
- Water quality monitoring
- Enhanced data collection for a more comprehensive understanding of the existing stormwater system
- Combined sewer Environmental Assessments
- Catch basin disconnection and reconnection
- Maintenance and rehabilitation of stormwater management ponds as needed

Program Categories	0 to 10 Year Cost	> 10 Year Cost
Supports existing customers	-	\$54 million
Supports existing customers and growth	\$15 million	-
Supports near growth areas	\$2 million	-

\$71 Million
Total



What are the servicing strategies?

Preliminary Preferred Capital Program – Sewer Separation



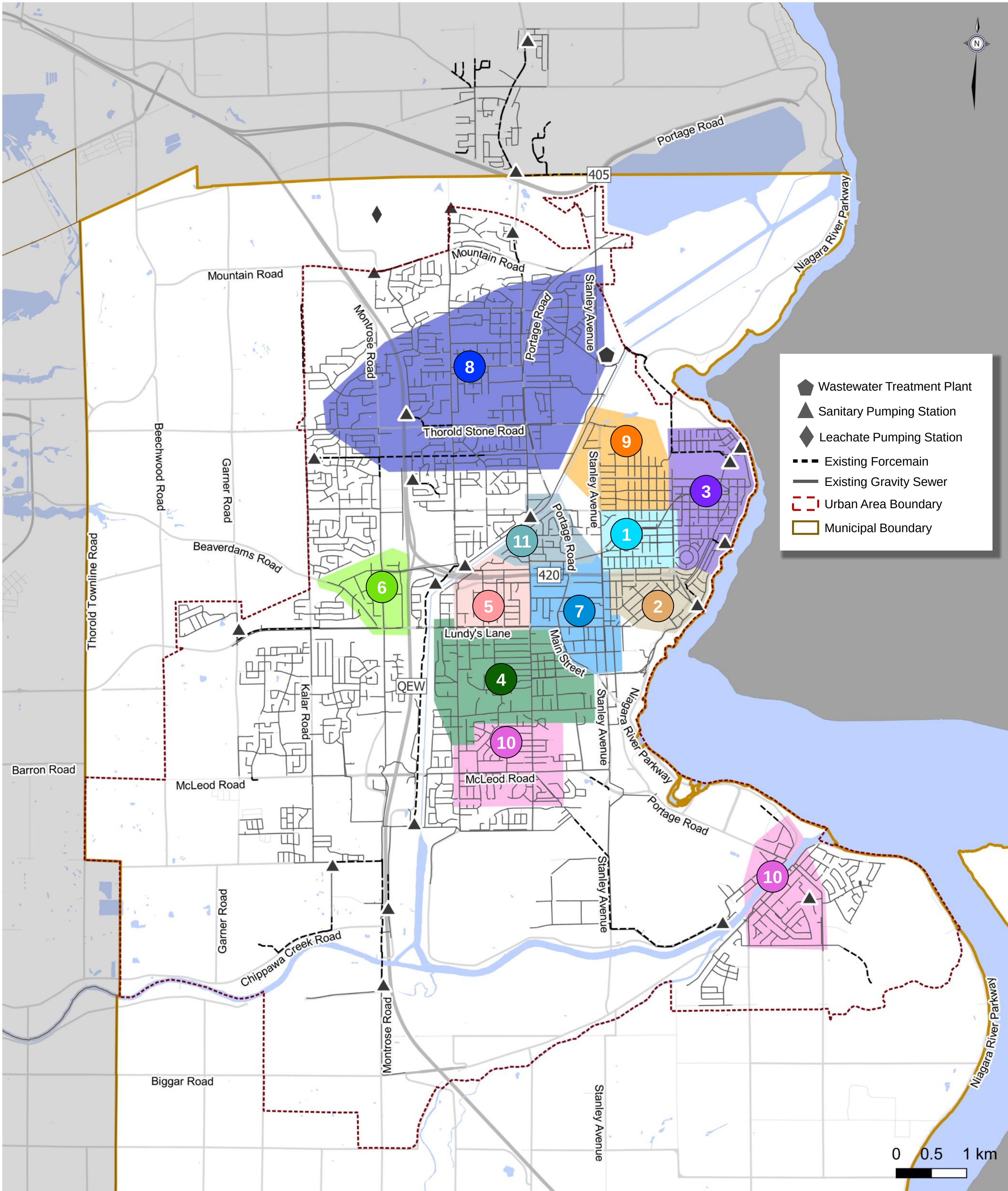
The sewer separation strategy aims to separate the combined wastewater and stormwater systems with the following objectives:

- Reduce the risk of flooding and surcharging
- Reduce combined sewer overflow discharges to the storm water network and downstream water courses
- Reduce the costs related to wet weather flows entering pumping stations and treatment works
- Provide additional capacity in the sewer system and at facilities

The separation of the wastewater and stormwater sewers was prioritized to ensure the more critical and higher risk areas in need for separation are addressed first.

Prioritization Rank	Catchment Area	Estimated Length	Estimated Project Cost
1	Valley Way	6.2 km	\$36 million
2	Falls Avenue	1.7 km	\$13 million
3	Bridge Street	9.0 km	\$35 million
4	Corwin	9.2 km	\$7 million
5	Frederica Street	2.7 km	\$3 million
6	Belmont Avenue	3.5 km	\$23 million
7	Main Street	5.9 km	\$10 million
8	Thorold Stone Road	9.1 km	\$14 million
9	Stanley Avenue	3.2 km	\$24 million
10	South Niagara Falls	1.1 km	\$36 million
11	Portage Road	0.7 km	\$4 million

49.5 km Total \$205 Million Total



What are we doing next?

- Confirmation of the Capital Program following the completion of PIC 2 and receipt of any comments
- Completion of the Master Servicing Plan and Wet Weather Management Strategy Final Report
- 30-day Public Review of Completed Report

Additional project information can be found on the project website:
<https://letstalk.niagarafalls.ca/master-servicing-plan>



This is the final PIC for this study.

Do you have any questions, comments, or want to stay up to date?
Please contact us anytime!

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