

# Water & Wastewater Master Servicing Plan Update

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Water and Wastewater  
Development Charge Capital  
Program  
Summary

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May 11, 2022



# Agenda

1. Planning and Servicing Context
2. Policy, Guidelines and Design Criteria
3. Cost Estimating Approach
4. Water Servicing Strategy and Capital Program
5. Wastewater Servicing Strategy and Capital Program
6. DC Program Summary
7. MSPU Next Steps

## Objectives

1. Provide overview of the servicing strategies developed through the Master Servicing Plan Update
2. Provide overview of the Development Charges related to water and wastewater

# Planning and Servicing Context

- Master Servicing Plan Update (MSPU) based on addressing growth to the year 2051 planning horizon with strategic consideration for potential build out requirements
- MSPU focused on municipally serviced systems (excluding Wainfleet)
- Population and Employment Forecasts based on Region led process:
  - 2051 Region Population – 694,000 people
  - 2051 Region Employment – 272,000 jobs

# Key Servicing Policies

- Niagara Region will endeavor to maintain sufficient reserve capacity in its water and wastewater infrastructure and facilities to provide operational flexibility and meet potential changes in servicing conditions
- Niagara Region shall endeavor to provide reliability, redundancy and security in its water and wastewater systems with attention to high risk and critical areas
- Niagara Region shall be aware of and consider the potential impact of climate change on the planning and sizing of infrastructure
- Niagara Region shall design water and wastewater facilities with consideration to energy use
- Niagara Region will consider levels of storage beyond MOE Guidelines where appropriate in order to provide operational flexibility, energy management and system security
- Niagara Region will review a combination of servicing strategies including infrastructure and non-infrastructure (e.g. i/i reduction) solutions to meet wet weather level of service and provide sufficient wastewater capacity
- Niagara Region will approach Guidelines F-5-5 and F-5-1 such that new development will not put the Region out of compliance with regulations and the Region will consider opportunities to not increase wet weather overflows beyond current conditions

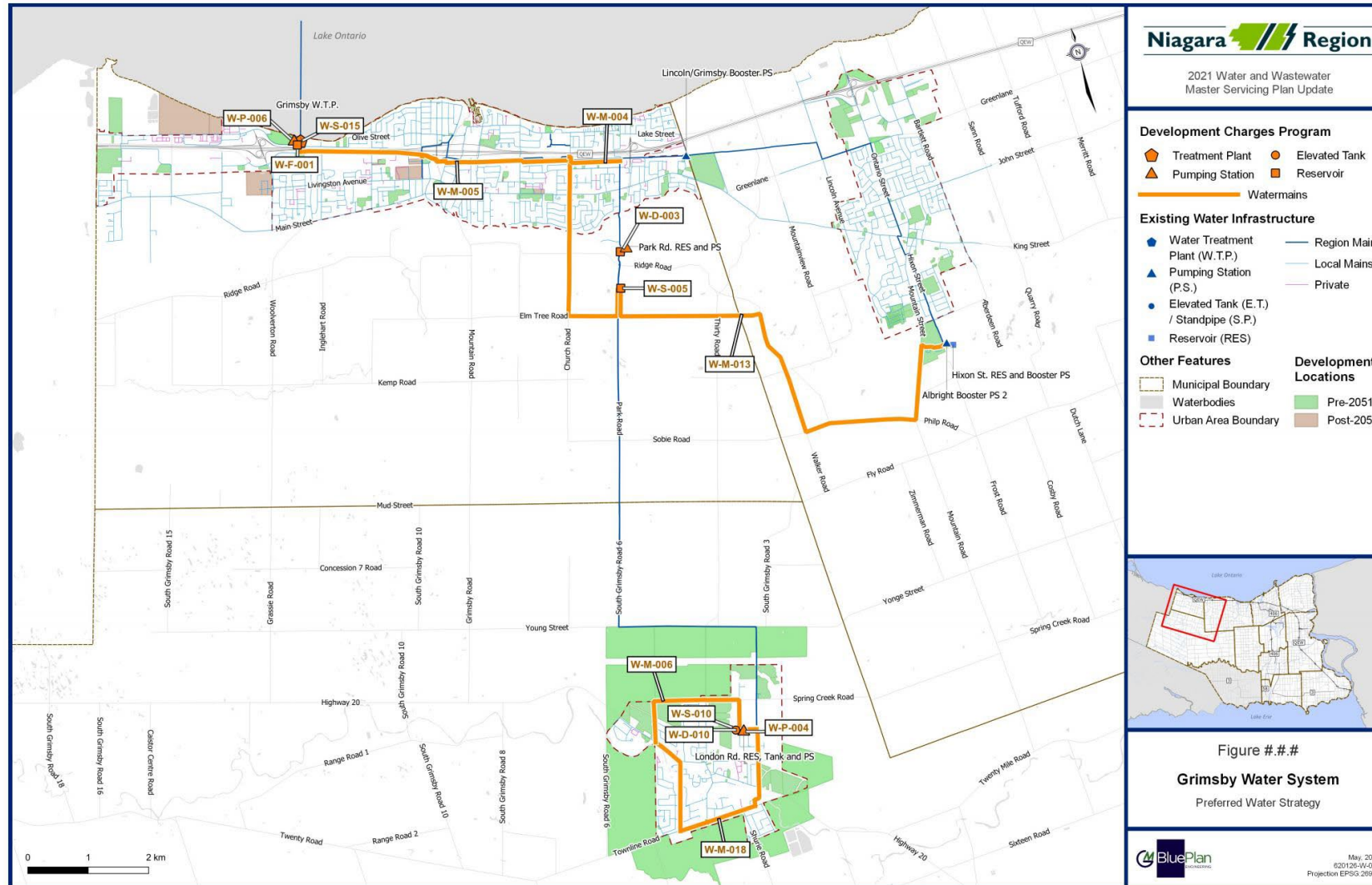
# Design Criteria

- MSPU process undertook a review of per capita water consumption and wastewater flows for each system – indicates opportunity for reduction
- The Design Criteria applied to the growth projections and used to plan and size growth related infrastructure has been reduced from previous studies
  - Water per capita reduced from 300 Lpcd to 248 Lpcd equivalent (17% reduction)
  - Wastewater per capita reduced from 275 Lpcd to 267 Lpcd equivalent (3% reduction)
  - Wastewater extraneous flow adjusted from 0.286 L/s/ha to 0.286 L/s/ha for new growth areas only and 0.4 L/s target for existing areas

# Cost Estimating Approach

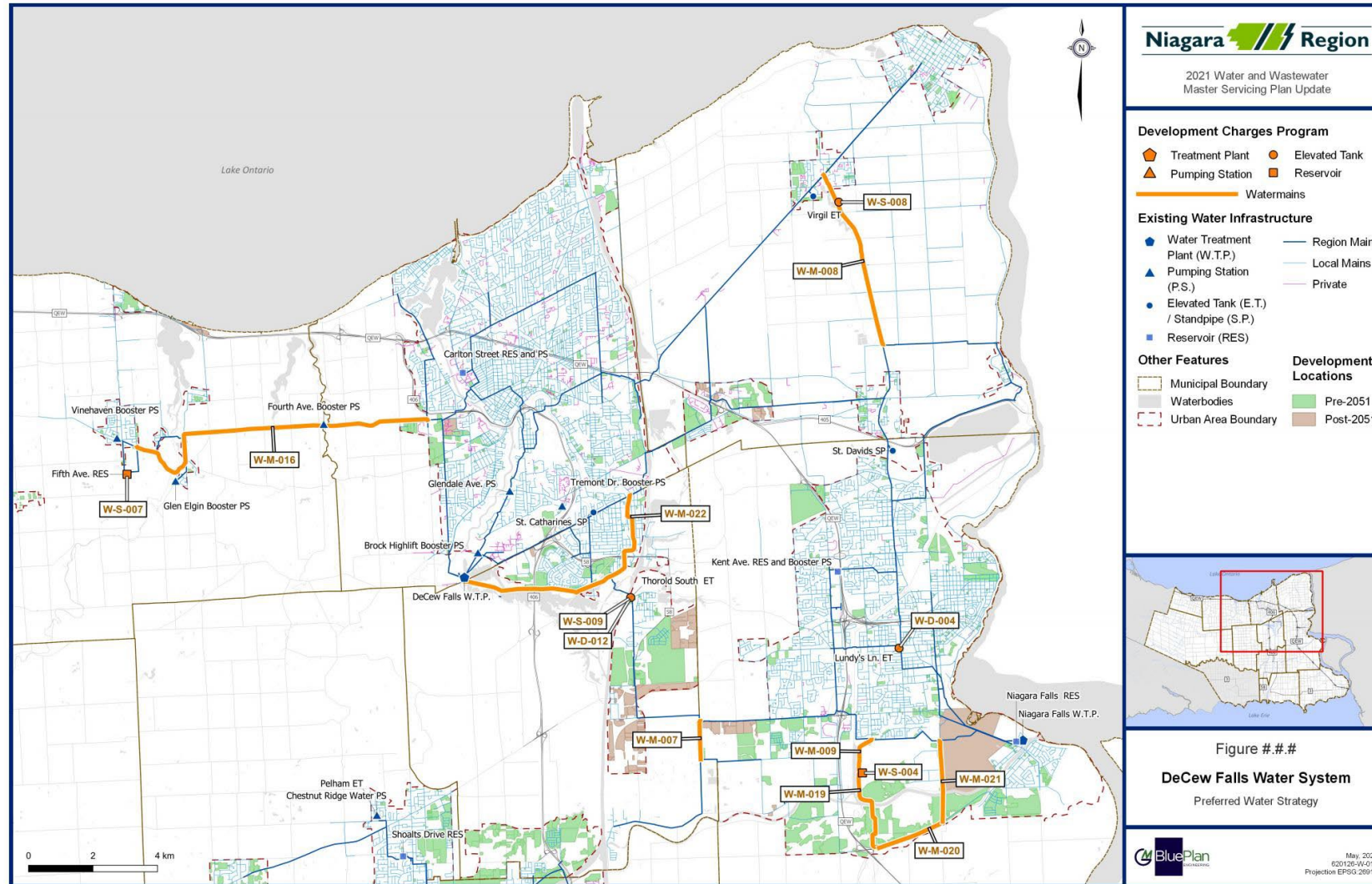
- Base unit costs indexed by 4% per year from 2016 MSPU
- Property costs updated based on current market conditions
- Utilize recent studies for detailed estimates (SNF)
- Utilize perspective from construction projects in Niagara and other Regions
- Update project components
  - Internal project costs
  - Odour control
  - Facility impacts

# Water Servicing Strategy



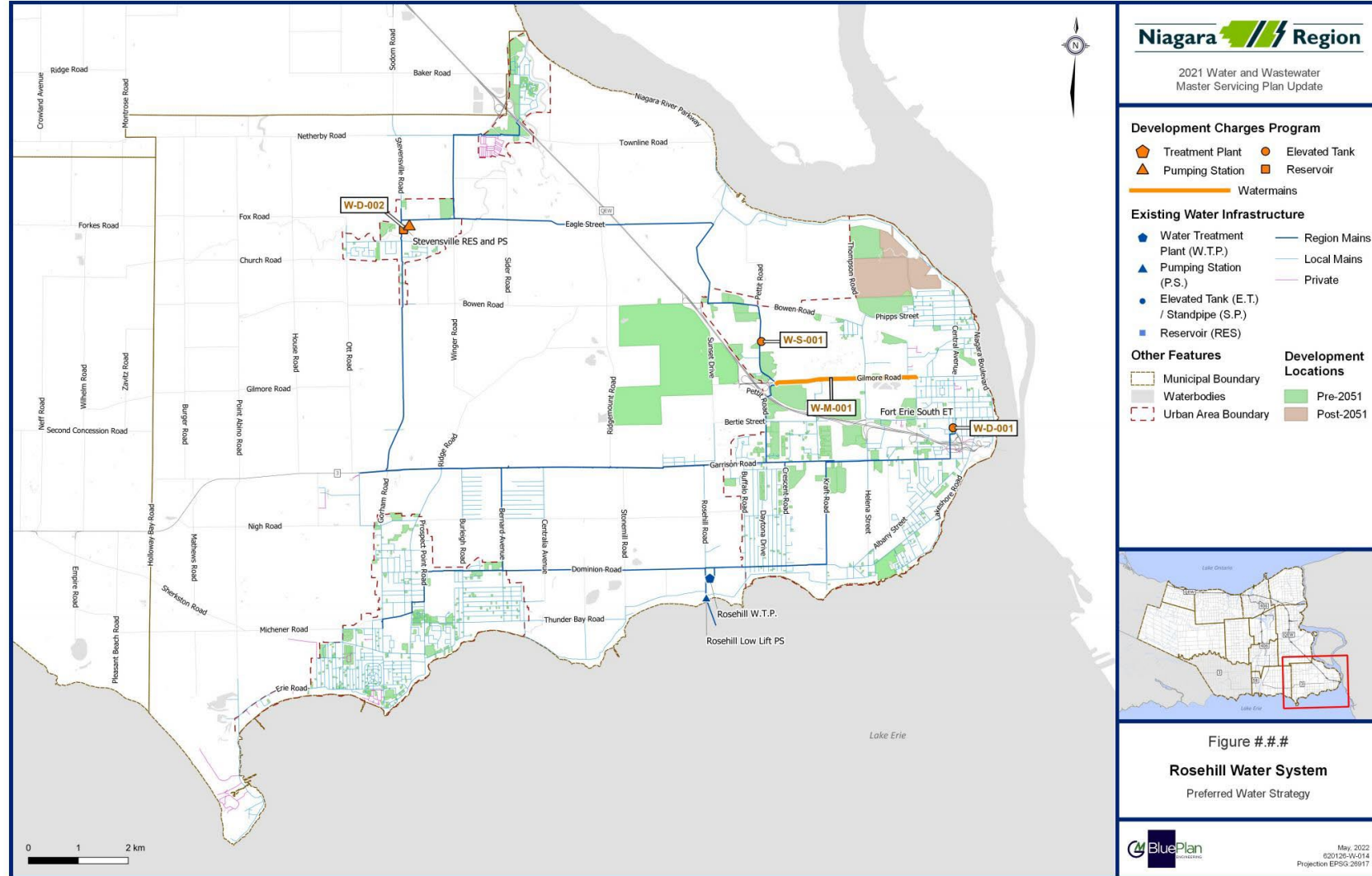


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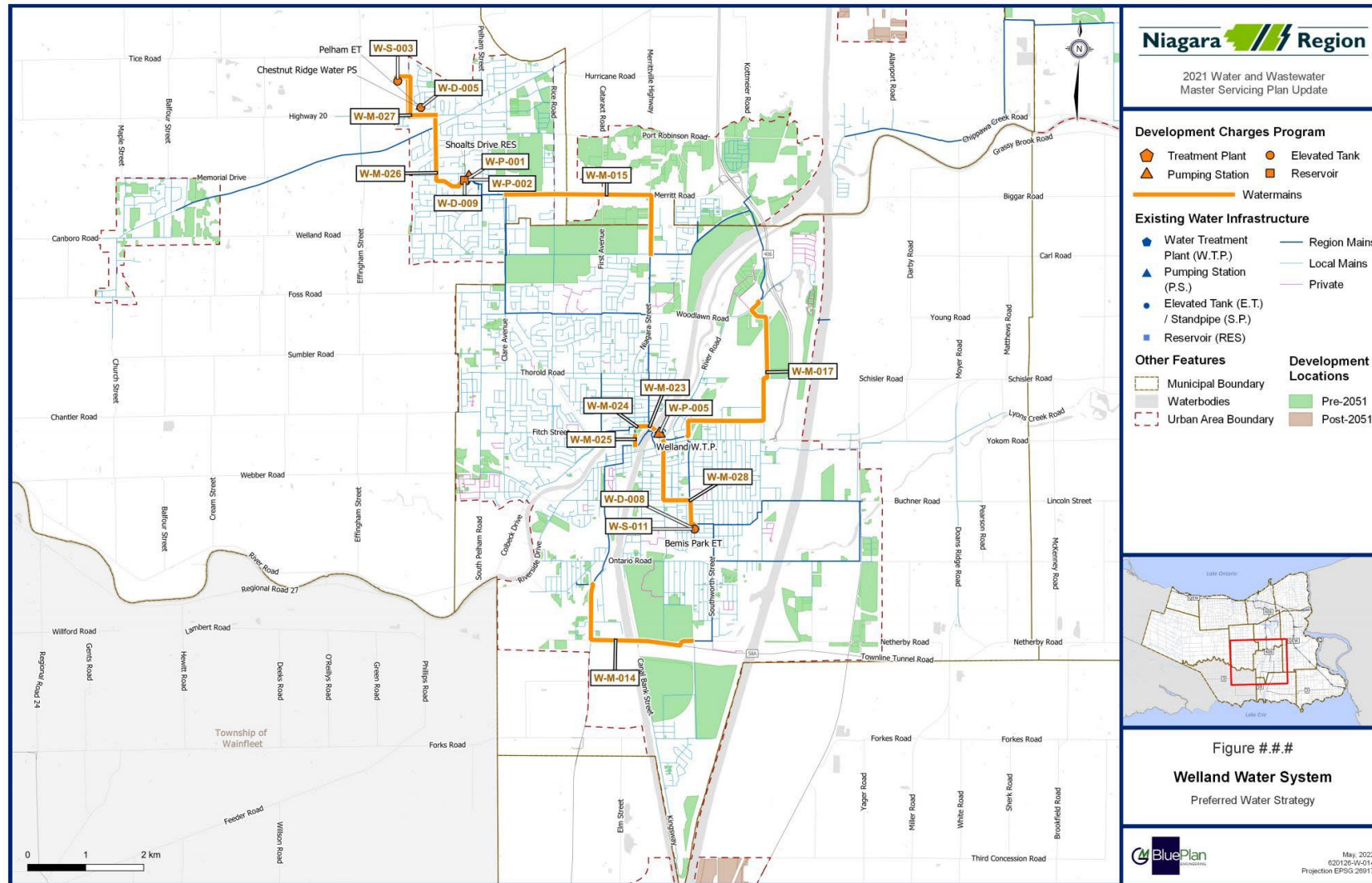




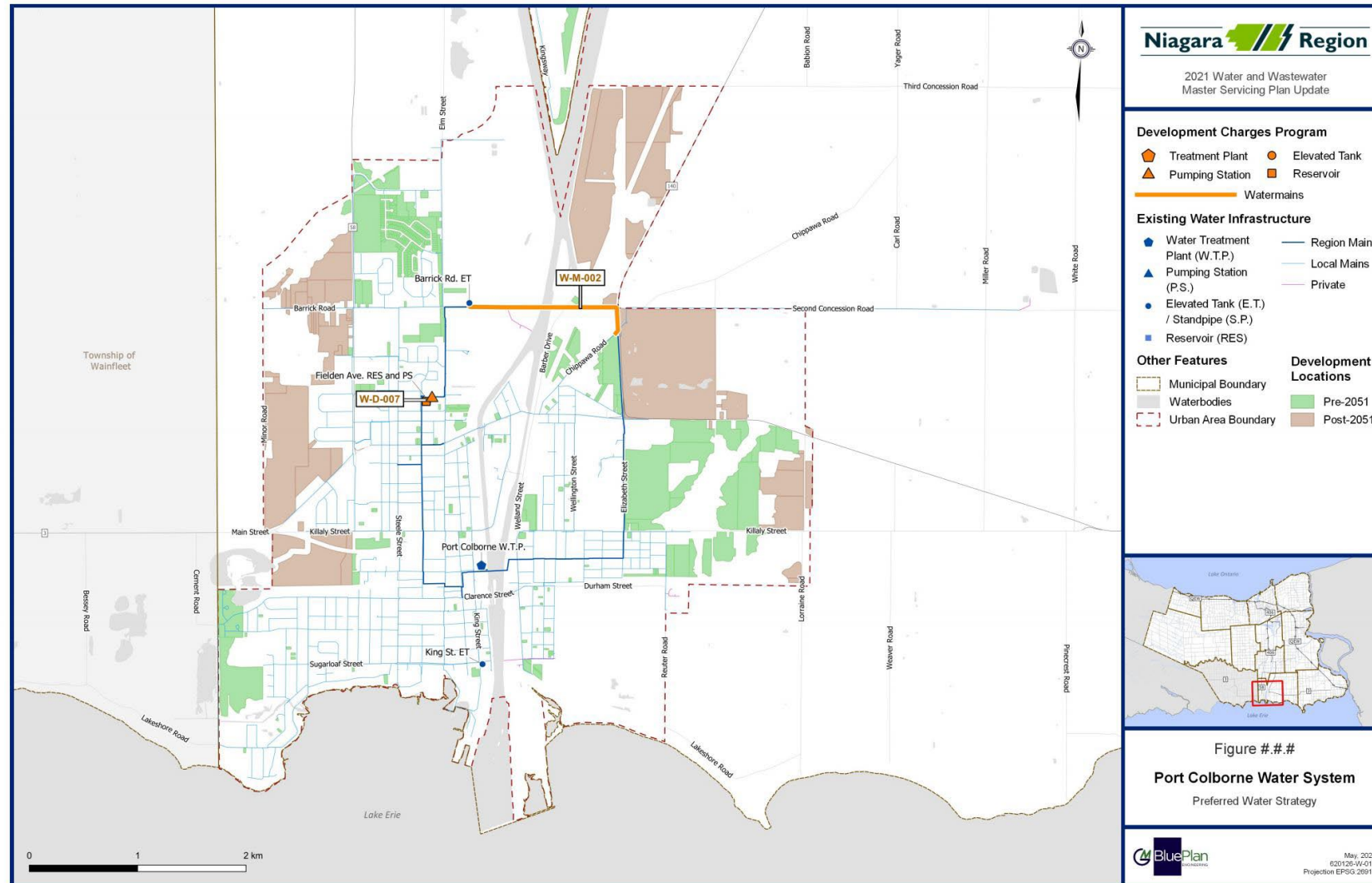
# Water Servicing Strategy



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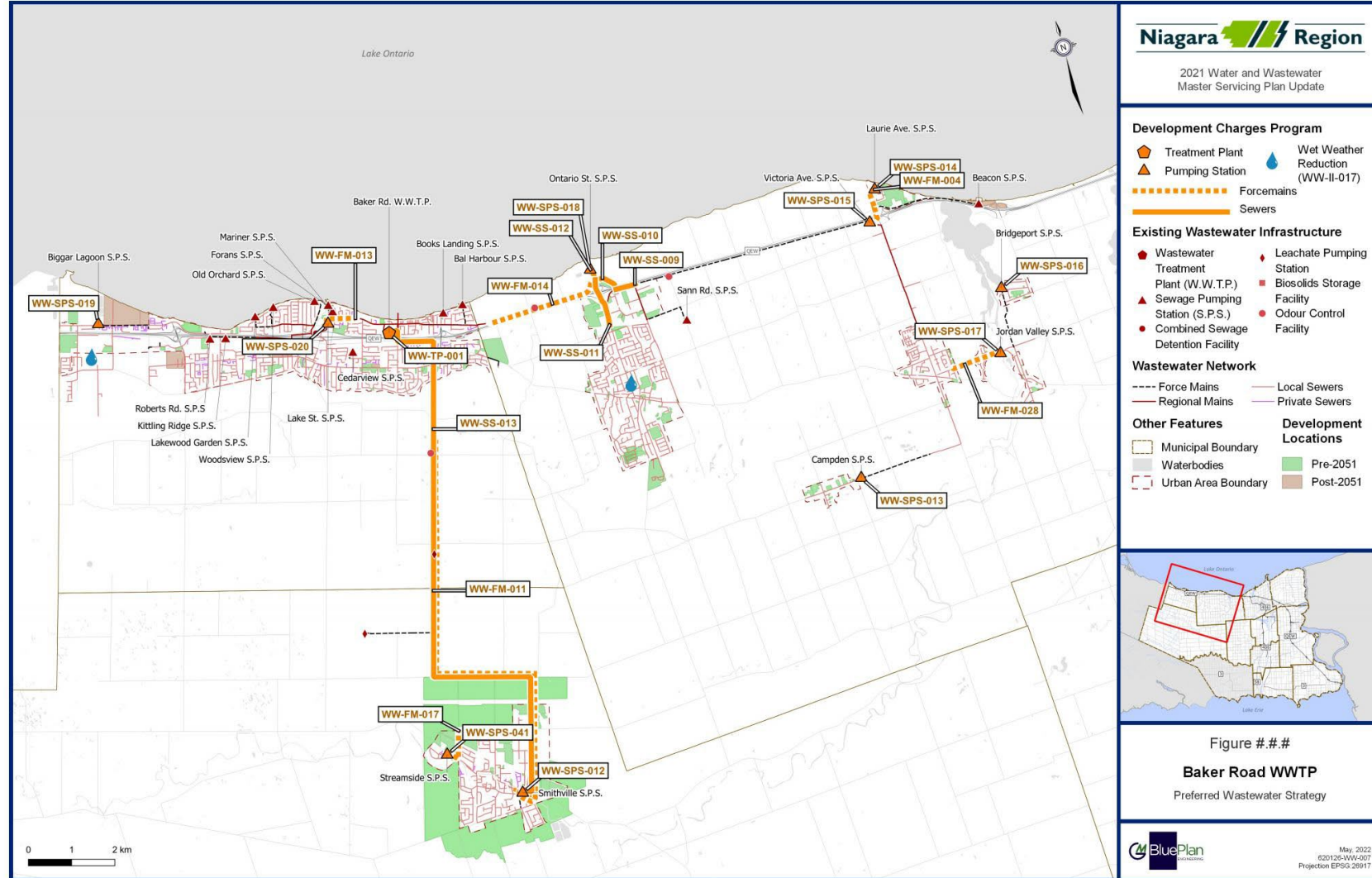


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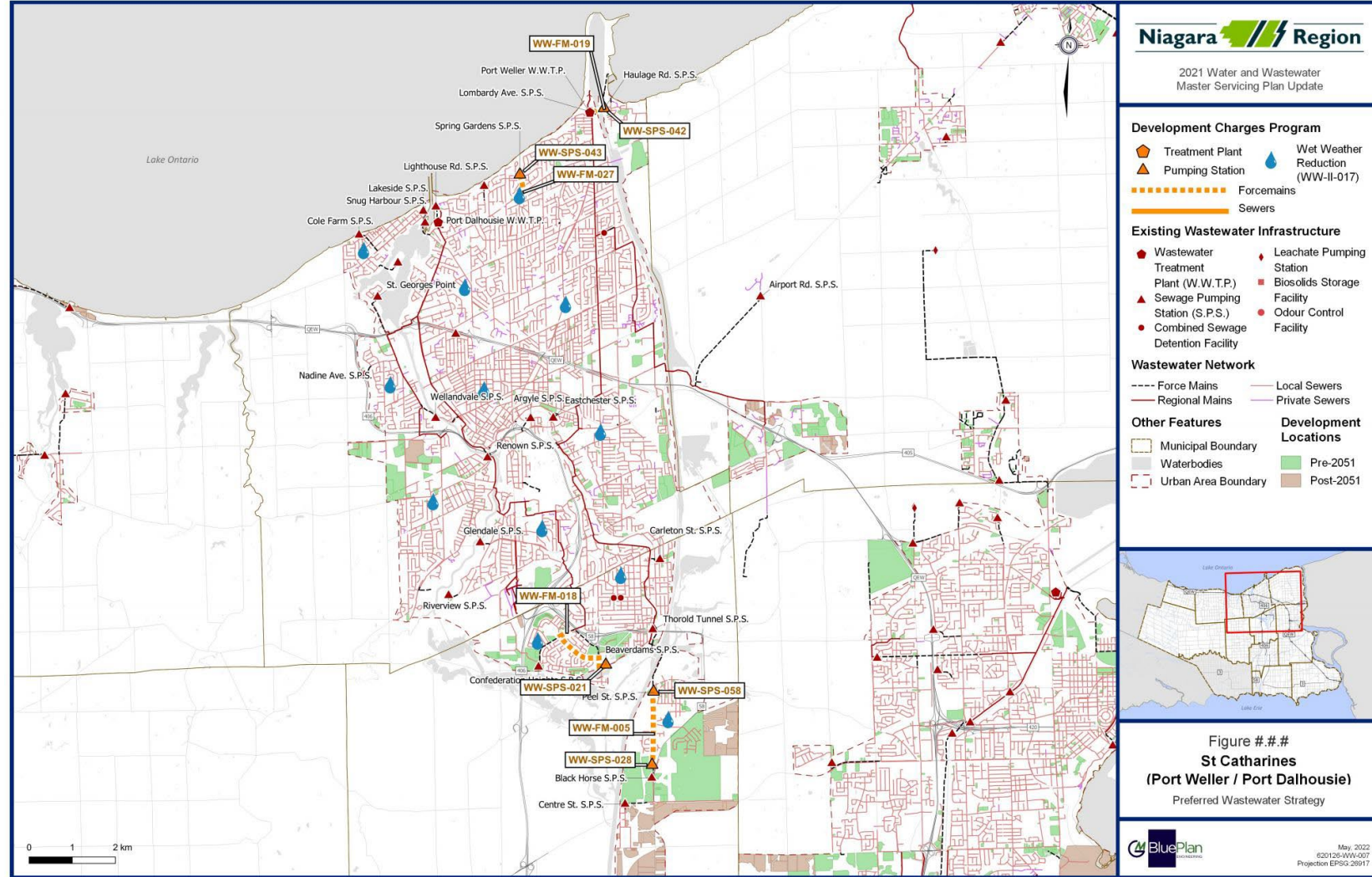




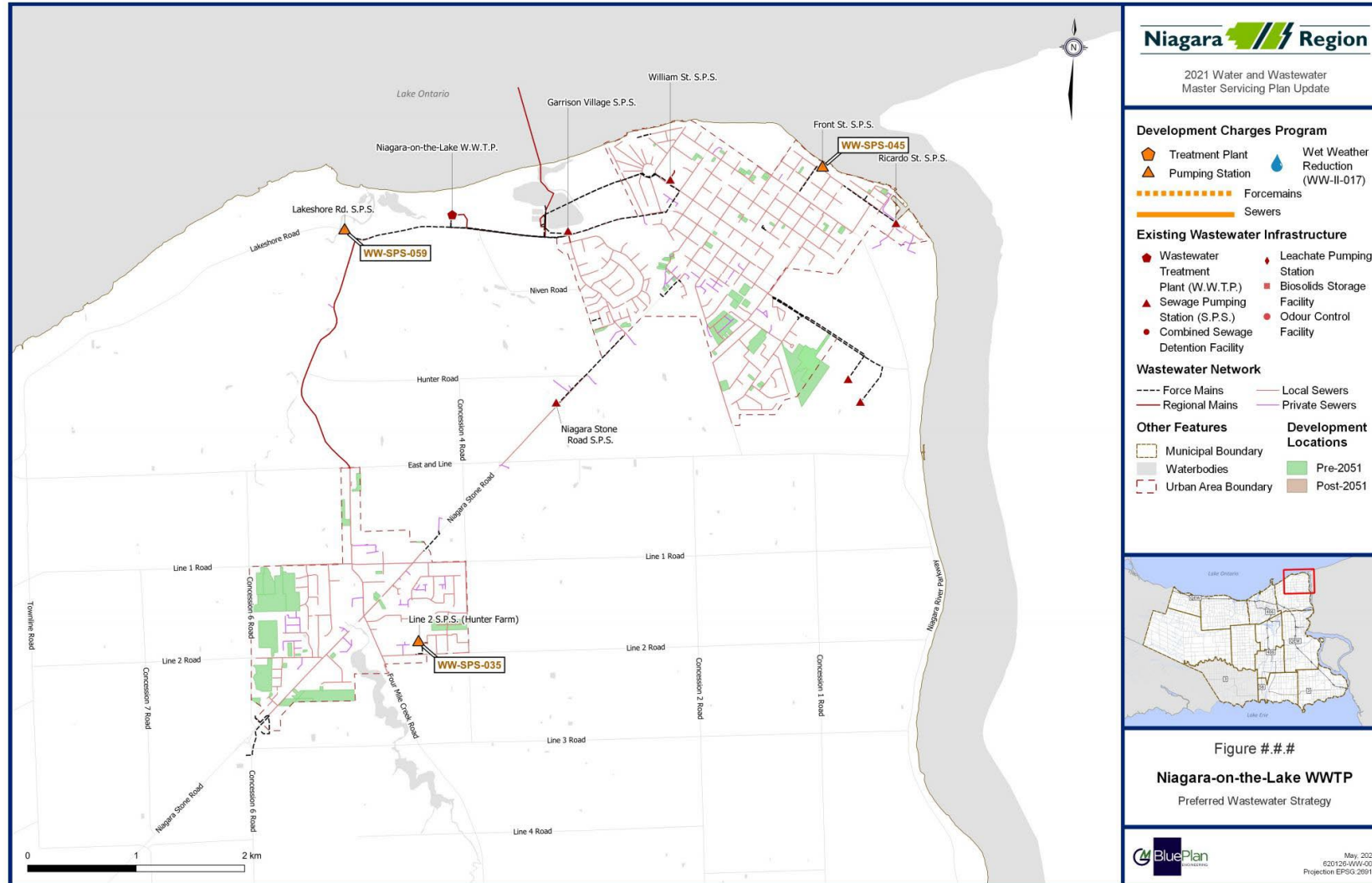
# Wastewater Servicing Strategy



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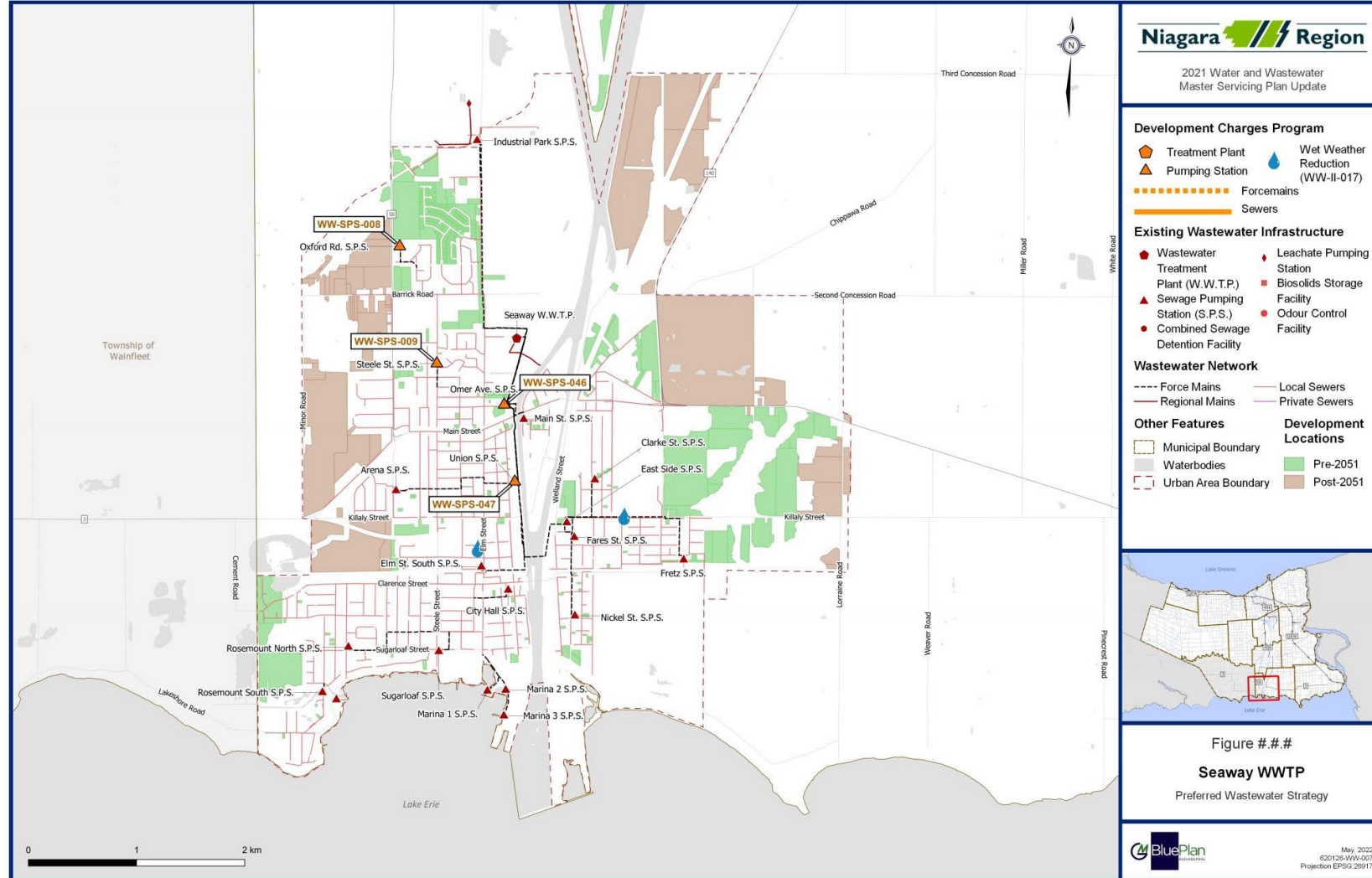
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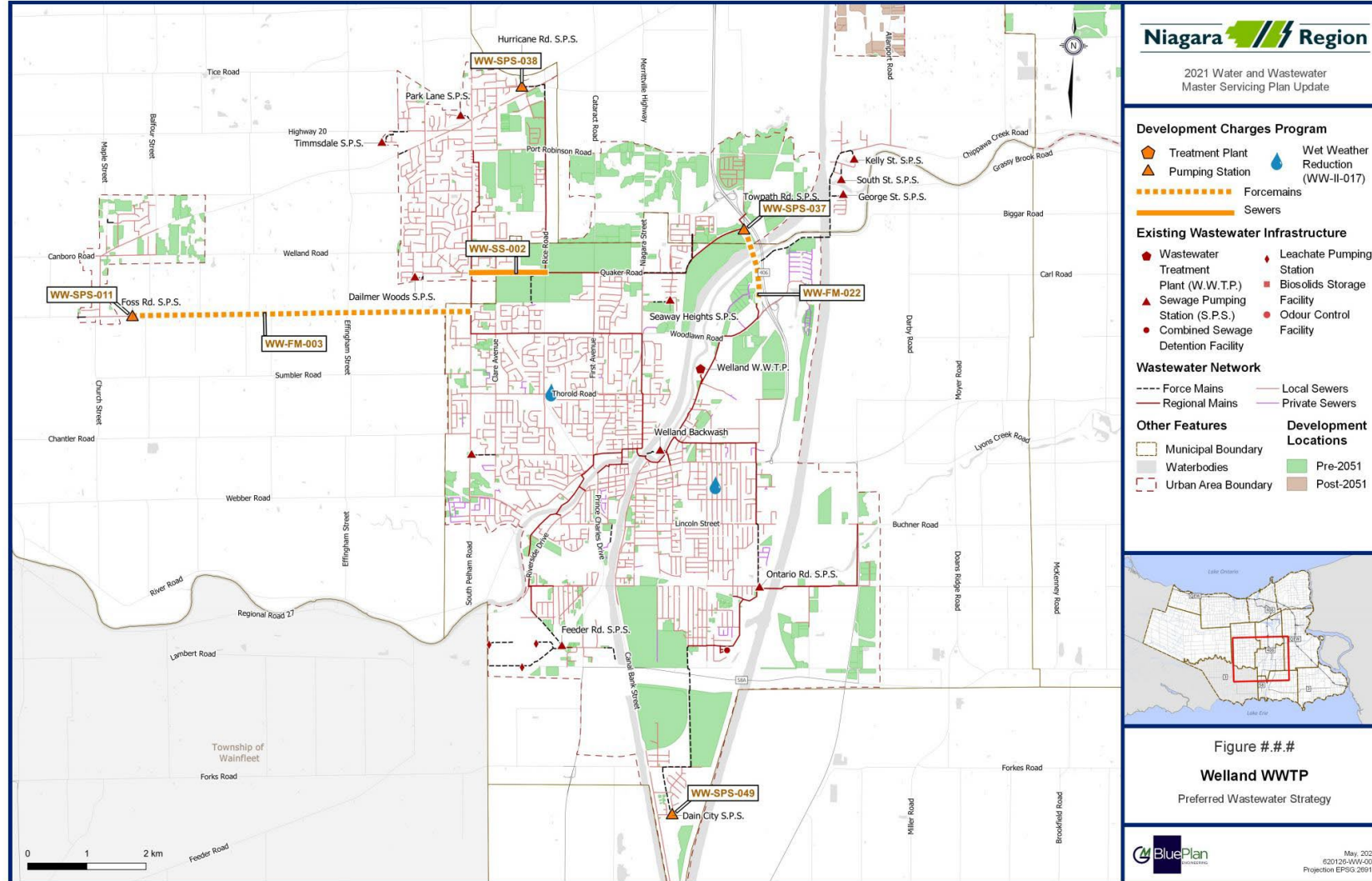


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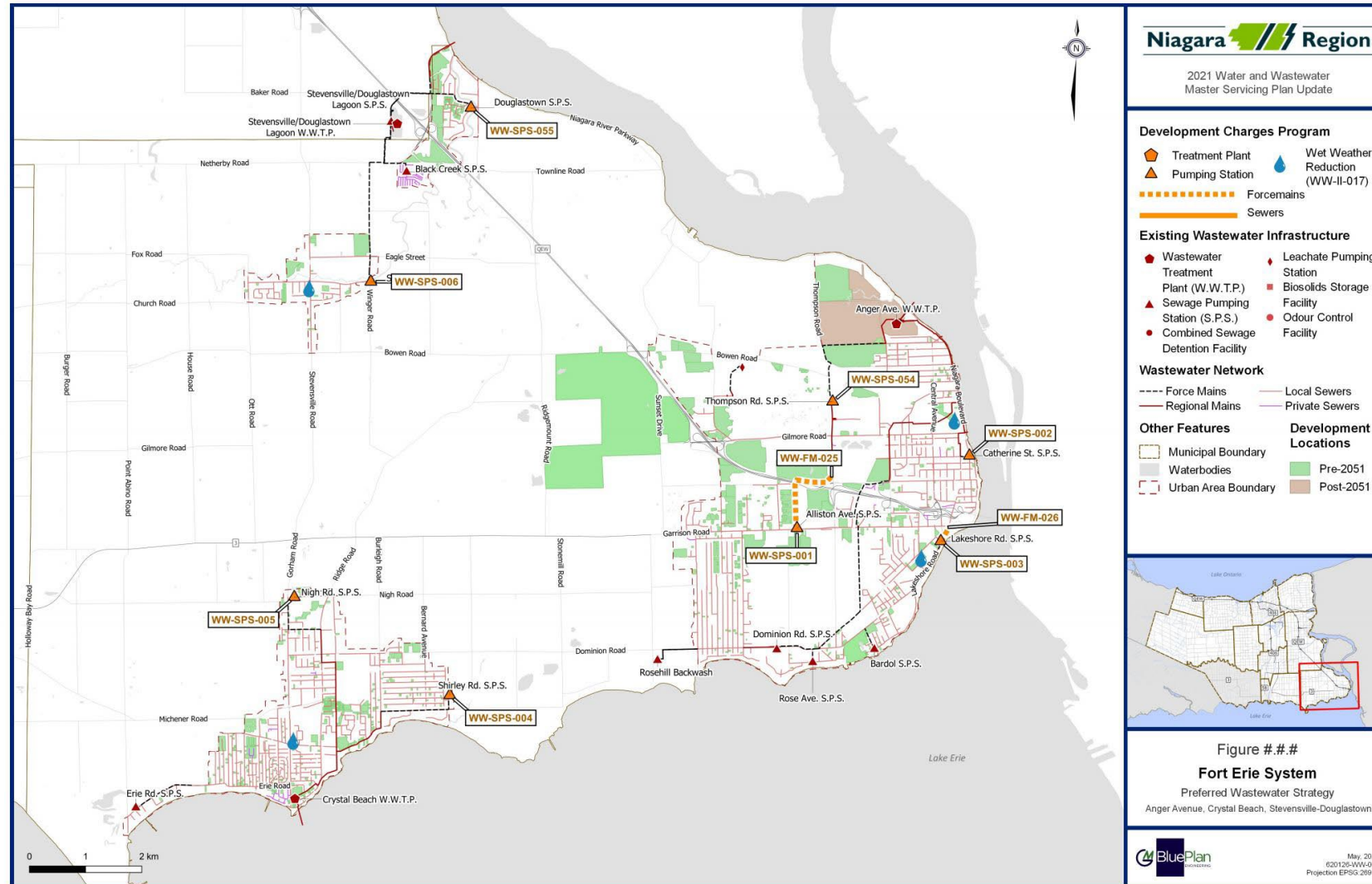




# Wastewater Servicing Strategy



# Wastewater Servicing Strategy



# Water Capital Program Impacts

- Additional growth out to year 2051
- Increased storage requirements
- Additional Regional Transmission Main requirements
- Increase in cost estimates for some projects previously identified in 2016 MSPU
- Additional new projects to service growth areas and 2051 capacity requirements



# Water Capital Program and Development Charges

Total Capital Program	Benefit to Existing (BTE)	Post Period Benefit (PPB)	Grants & Contributions	DC Eligible Cost
\$660,059,000	\$178,663,085	\$111,193,708	\$0	\$370,202,207

See Section 5.4.2 of the DC Background Study

# Wastewater Capital Program Impacts

- Additional growth out to year 2051
- Increased wet weather program
- Region-wide projects (odour control, ECA, flow monitoring/data)
- SNF program updated costs
- Increase in cost estimates for some projects previously identified in 2016 MSPU
- Additional new projects to service growth areas and 2051 capacity requirements

# Wastewater Capital Program and Development Charges

Total Capital Program	Benefit to Existing (BTE)	Post Period Benefit (PPB)	Grants & Contributions	DC Eligible Cost
\$1,269,229,000	\$458,696,247	\$135,752,038	\$0	\$674,780,715

See Section 5.4.1 of the DC Background Study

# Key Messages

- Servicing strategies based on maintaining appropriate levels of service throughout the systems
- It is essential that the existing infrastructure is maintained and performs in order to support the growth servicing
- The sustainability and state-of-good-repair program is essential and is a capital program over and above the growth-related MSPU program
- Investment is needed to support operations, maintenance, staff and other resources
- With new growth-related projects will come resourcing requirements to deliver the program
- The development community must similarly commit to appropriate levels of service and construction practices to support the capacity goals for growth
- MSPU cost estimates represent conceptual level estimating. We continue to see significant fluctuations in project costs related to volatile market conditions, supply chain issues, and other variables. It is difficult to predict future costs, however, best available information has been used under the MSPU.

# MSPU Next Steps

- Final Program Review
- Incorporation of Sustainability/SOGR program
- Additional Local Area Municipality Engagement
- MSPU Documentation
- Comprehensive MSPU Presentation to PWC in August 2022
- Final Public Information Centre (fall 2022)
- Public Filing (late 2022)