City of Port Colborne
Council Meeting Agenda

Date: Tuesday, September 8, 2026
Time: 6:30 pm
Location: Council Chambers, 3rd Floor, City Hall
66 Charlotte Street, Port Colborne

Pages

1. Call to Order

2. Adoption of Agenda

3. Disclosures of Interest

4. Closed Session (Beginning at 5:30 p.m.)

    4.1 Approval of Closed Session Minutes

        a. Regular Council Meeting (Closed Session) - July 14, 2026

        b. Regular Council Meeting (Closed Session) - August 11, 2026

    4.2 Staff Reports

        a. Confidential Human Resources Department Report - Workplace Performance Discussion, 2026-127

        Confidential Human Resources Department Report - Workplace Performance Discussion, 2026-127 pursuant to the to the *Municipal Act*, *2001*, Subsection 239(2)(b) personal matters about an identifiable individual, including municipal or local board employees.

5. Back to Open Session (Beginning at 6:30 p.m.)

6. National Anthem

7. Land Acknowledgement

The Niagara Region is situated on treaty land. This land is steeped in the rich history of the First Nations such as the Hatiwendaronk, the Haudenosaunee, and the Anishinaabe, including the Mississaugas of the Credit First Nation. There are many First Nations, Métis, and Inuit people from across Turtle Island that live and work in Niagara today. The City of Port Colborne stands with all Indigenous people, past and present, in promoting the wise stewardship of the lands on which we live.

8. Statutory Public Meeting

Statutory public meetings are held to present planning applications in a public forum as required by the Planning Act. Requests to delegate virtually will be accepted until 12:00 p.m. on the day of the meeting by contacting deputyclerk@portcolborne.ca. To delegate in person, requests are appreciated, but not mandatory.

8.1 Statutory Public Meeting Report for Proposed Site-Specific Zoning By-law Amendment – Vacant Land Forkes Road – File D14-04-26, 2026-134 1

9. Proclamations

9.1 Fetal Alcohol Syndrome Disease (FASD) - September 2026 18

9.2 Rail Safety Week - September 21 to 27, 2026 20

10. Presentations

10.1 CLTN Niagara 23

11. Delegations

In order to speak at a Council meeting, individuals must register no later than 12 noon on the date of the scheduled meeting. To register, complete the online application at www.portcolborne.ca/delegation, email deputyclerk@portcolborne.ca or phone 905-228-8118.

12. Mayor's Report

13. Regional Councillor's Report

14. Consent Agenda

All items listed in the Consent Agenda are subject to a single motion that is not debatable. A Member may make a brief comment or ask a question regarding a Consent Item prior to the consideration of the motion, however, if an item requires further discussion, debate, or an amendment it must be removed from the Consent Agenda and dealt with under Items Requiring Separate Discussion.

14.1 Approval of Minutes

a. Public Meeting - July 7, 2026 48

b. Special Council Meeting - August 11, 2026 52

14.2 Receipt of Minutes of Boards & Committees

a. Port Colborne Public Library Board - July 27, 2026 66

14.3 Staff Reports

a. Niagara Compliance Audit Committee – 2026 Municipal and School Board Election, 2026-135 68

b. Vacant Position – Resignation of Councillor Eric Beauregard, 2026-136 78

c. Multi Year Accessibility Plan 2027-2031, 2026-126 82

d. Algoma Gateway CIP - 2026-94 107

e. Gateway Community Improvement Program, Tax Increment Grant – Fontaine Transport, 2026-23 117

f. Petition for Drainage – Peter Storm Drain, 2026-108 125

g. Purchase of VL Wellington Street PIN 64152-0063 to Facilitate Future Drainage Realignment Project, 2026-130 149

14.4 Receipt of Correspondence Items

a. Correspondence from Fred Davies MP Niagara South - Regarding Ridgeway Nine 161

b. Town of Grimsby - Request for Expansion of Provincial Disaster Assistance Programs 163

c. Town of Ingersoll - Review of the Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions 165

d. Municipality of Wawa - Health Care System Support 172

e. District of Parry Sound - Township of Armour - Funding for Ontario's Public Libraries 174

f. Municipality of St. Charles - Support Townships of Brudnell, Lyndoch and Raglan - Request for Provincial Legislation Amendments, Health and Safety Concerns 176

15. Items Requiring Separate Discussion

15.1 2026 Water and Stormwater Master Plan and Pollution Prevention Control Plan, 2026-95 179

16. Staff Remarks

17. Councillors' Remarks

18. Motions

18.1 Councillor Bodner - Thank a Farmer Month 685

19. Notice of Motions

20. Procedural Motions

21. By-laws

21.1 By-law No. 7495/79/26 686

A By-law to Change the Name of Ramey Road (North of Highway 140) Within the City of Port Colborne

21.2 By-law No. 7496/80/26 688

Being a By-Law to Amend By-Law No. 4310/146/02, as amended, Being a By-Law Prescribing On and Off-Street Parking For Persons with Disabilities Within the City of Port Colborne

21.3 By-Law No. 7497/81/26 689

Being a By-Law to Amend By-Law No. 89-2000, as amended, Being a By-Law regulating Traffic and Parking on City Roads (Parking Prohibition Tow Away Locations)

21.4 By-law No. 7498/82/26 690

Being a By-law to Authorize Entering into an Agreement of Purchase and Sale with Mr. James Gonschior

21.5 By-law No. 7499/83/26 697

By-law to Adopt, Ratify and Confirm the Proceedings of the Council of The Corporation of the City of Port Colborne

22. Adjournment

PORT COLBORNE

Subject: **Statutory Public Meeting Report for Proposed Site-Specific Zoning By-law Amendment – Vacant Land Forkes Road – File D14-04-26**

To: **Council - Public Meeting**

From: **Planning and Development Department**

Report Number: 2026-134

Meeting Date: September 8, 2026

Recommendation:

That Planning and Development Report 2026-134 be received as information; and

That Council direct staff to consider Council, agency, and community feedback received as part of this statutory public meeting, prior to bringing forward a subsequent staff report respecting the proposed Zoning By-law Amendment.

Purpose:

The purpose of this report is to fulfill the public meeting requirements under the authority of the *Planning Act*. This report and statutory public meeting introduce a privately initiated proposal for a Zoning By-law Amendment (ZBA) for the purpose of rezoning a portion of vacant land legally described as Part of Lots 23 to 25, Concession 4 and municipally referred to as “Vacant Lot Forkes Road” (the Subject Lands), which are currently zoned Industrial Development with Special Provision 47 and a Holding Provision (I-47-H) to a site-specific Industrial Development (ID-XX) Zone.

The application proposes to remove the existing Holding Provision (H) on the southernmost portion of the lands, to establish a Site-Specific Zone with special provisions to develop a 186 square metre two storey office building, a 5 space surface parking lot, outdoor storage and logistics trailer parking areas, gravel driveways providing access to and from Third Concession Road, and a septic tank with a plumbing chamber.

The objective of this public meeting is to solicit comments from interested members of the community and public agencies on the applicant’s proposed amendment. No

decision regarding this application has been made at this time.

Background:

A pre-consultation meeting for a construction material recycling facility and associated office, outdoor storage, and logistics trailer parking use was held on August 10, 2023. Following the initial pre-consultation meeting, a revised development proposal for the subject site was prepared. A pre-consultation meeting for the revised concept was held on July 24, 2025. Following this, a formal application to amend the City of Port Colborne Zoning By-law was submitted to the Planning Department on July 23, 2026. Staff deemed the application complete on August 4, 2026. The materials submitted as part of this application include:

- Air Quality/Noise & Vibration Study;
- Archaeology Assessment: Stages 1 and 2;
- Environmental Impact Study;
- Functional Servicing Report;
- Water Supply and Demand Assessment Report;
- Gas Well Study;
- Geotechnical Report;
- Traffic Brief;
- Tree Inventory and Preservation Plan;
- Planning Justification Report;
- Conceptual Site Plan;
- Architectural Drawings;
- Stormwater Management Brief;
- Site Grading and Servicing Report;
- Landscape Plan;
- Application Form; and,
- Draft Zoning By-law Amendment.

Copies of relevant supporting materials have been made available on the City's Current Applications Webpage. No decision regarding the proposed amendments is being made at this time.

Internal Consultations:

The applicant's submission package was circulated to appropriate internal departments and external agencies on August 4, 2026.

As of the date of writing this report, staff have received comments from the following departments/ agencies:

- Drainage Superintendent;
- City of Port Colborne Fire;
- Enbridge;
- HydroOne;
- Six Nations of the Grand River;

Planning staff are continuing review of the documents submitted, and a formal return of comments package will be provided to the applicant following the conclusion of the statutory public meeting.

Public Engagement:

Notice of the Public Meeting was circulated in accordance with the requirements of the *Planning Act*. The Notice was mailed to property owners within a 120-metre radius of the Subject Lands on August 14, 2026. A sign was posted on the property on August 10, 2026. There have been no comments from the public received as of the date of preparing this report.

Discussion:

As the proposed development requires site-specific zoning provisions that are currently not permitted in the Industrial Development with Special Provision 47 and a Holding Provision (ID-47-H) Zone, a Zoning By-law Amendment is required to:

1. Remove the Holding Symbol; and,
2. Establish site-specific policies to facilitate the proposed development on the lands.

Specific details of the requested amendment and development proposal are provided later in this report.

Site and Surrounding Area Description

The Subject Lands are located on a portion of vacant lands east of the Welland Canal in the City of Port Colborne, Ontario. The expansive site is legally known as Part of Lots 23 to 25, Concession 4, municipally known as a Vacant Lot on Forkes Road (ARN: 27110400522410) in the City of Port Colborne, Regional Municipality of Niagara. The proposed development that is subject to this application is limited to approximately 2.17 hectares on the southernmost extent of the property, located at the northwest intersection of Ramey Road and Third Concession Road, approximately 900 metres west of Highway 140 (hereinafter referred to as the “Subject Site”).

Figure 1 below shows the extent of the lands subject to the Zoning By-law Amendment, for reference.



Figure 1: Location Map

Lands adjacent to the Subject Site are predominantly vacant and rural in nature, with surrounding uses including lands designated for future employment development, significant natural heritage features, recreational trail uses, and the Welland Canal. The surrounding land uses and designations are summarized below:

North: The entire remainder of the subject lands, being employment lands and lands intended for future industrial development.

East: Natural heritage features, including woodlands, wetlands, streams, and open space lands.

South: Recreational trail lands, employment lands, and urban residential areas further south.

West: The Welland Canal and the rural community of Dain City beyond the canal.

The following designations apply to the Subject Lands:

- Rural Employment, in accordance with Schedule A – City-Wide Land Use in the City of Port Colborne Official Plan
- Designated Greenfield and Employment Area in accordance with Schedule B, Regional Structure of the Niagara Official Plan; and,
- Industrial Development with Special Provision 47 and a Holding Provision (ID-47-H) Zone, in accordance with Schedule "A2" By-law No. 6575/30/18, being the City of Port Colborne Zoning By-law.

Proposal

The applicant is proposing to develop the Subject Site for dry industrial storage uses. The proposal includes:

- A 186 square metre two storey office building;
- A small surface parking lot with 5 parking spaces;
- Outdoor storage;
- Logistics trailer parking areas;
- Gravel driveways providing access to and from Third Concession Road; and,
- A 4,500-litre septic tank and associated plumbing chamber

Figure 2 shows the site plan submitted by the applicant. Larger size versions of the site plan and architectural drawings are provided as **Appendix A.**

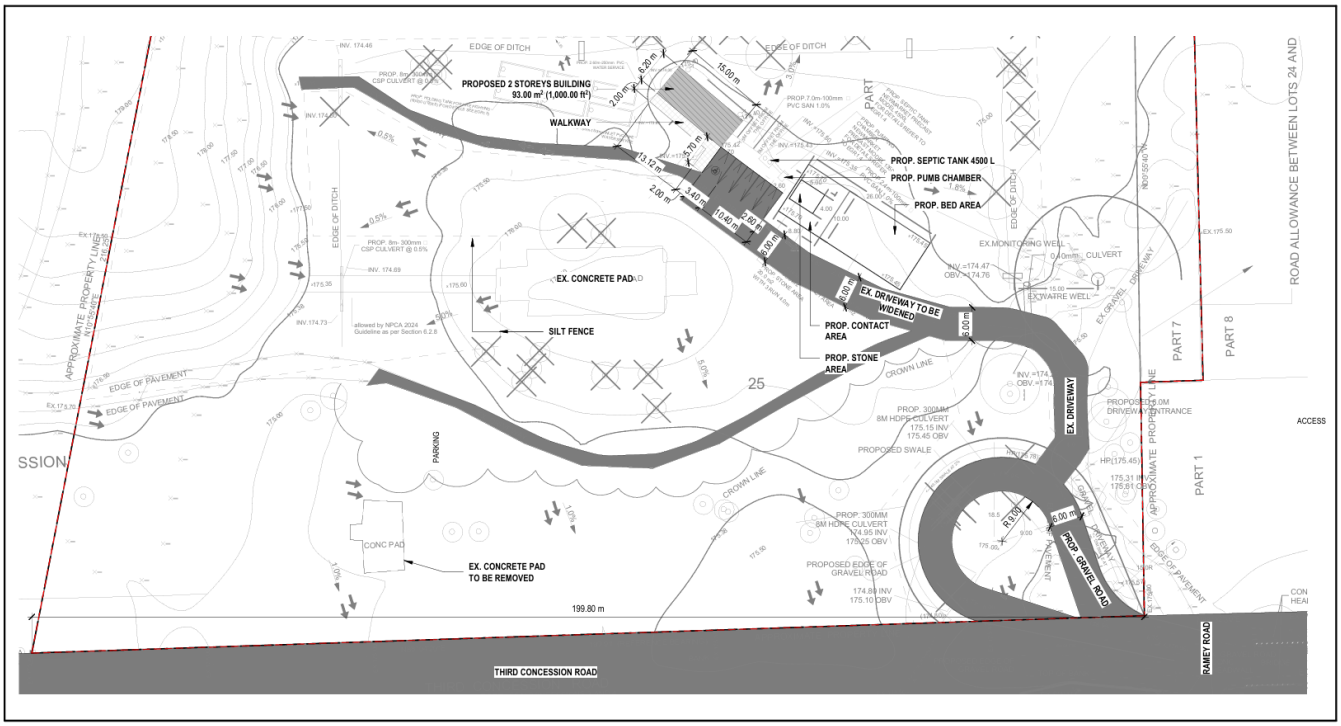


Figure 2: Site Plan

Proposed Zoning By-law Amendment

The Subject Lands are currently zoned as Industrial Development with Special Provision 47 and a Holding Provision (ID-47-H). The provisions of the ID-47-H Zone are as follows:

- The ID-47-H Zone permits agricultural farm related commercial or industrial uses, contractors yard, heavy equipment sales and service, multi-modal storage facility, research facility, transportation depot, warehouse, accessory uses that do not include obnoxious, dangerous, or offensive trades; and,
- Notwithstanding the provisions of the ID Zone, Special Provision 47 applies the following:
  a) Prior to any dry industrial development, a Zoning By-law Amendment is required to establish the permitted uses and zone requirements; and
  b) Development on the subject lands shall not occur until the Holding Symbol (H) is removed through an amending By-law enacted by the City of Port Colborne. Removal of the Holding Symbol (H) may only occur when:
     i. The owner enters into a Site Plan Agreement with the City of Port Colborne which will include recommendations made in the supporting technical studies conducted in association with the development application;
     ii. Submission of appropriate technical studies and their recommendations being deemed satisfactory to the City of Port Colborne; and
     iii. Approval from the applicable authority for the appropriate location and design for a private sewage disposal system and private water supply system.

Based on these provisions, a Zoning By-law Amendment is required to establish permitted uses and zone requirements; and, remove the Holding Symbol (H). The applicant has submitted a concurrent Site Plan Agreement Application along with supporting studies to work towards removing the Holding Symbol (H).

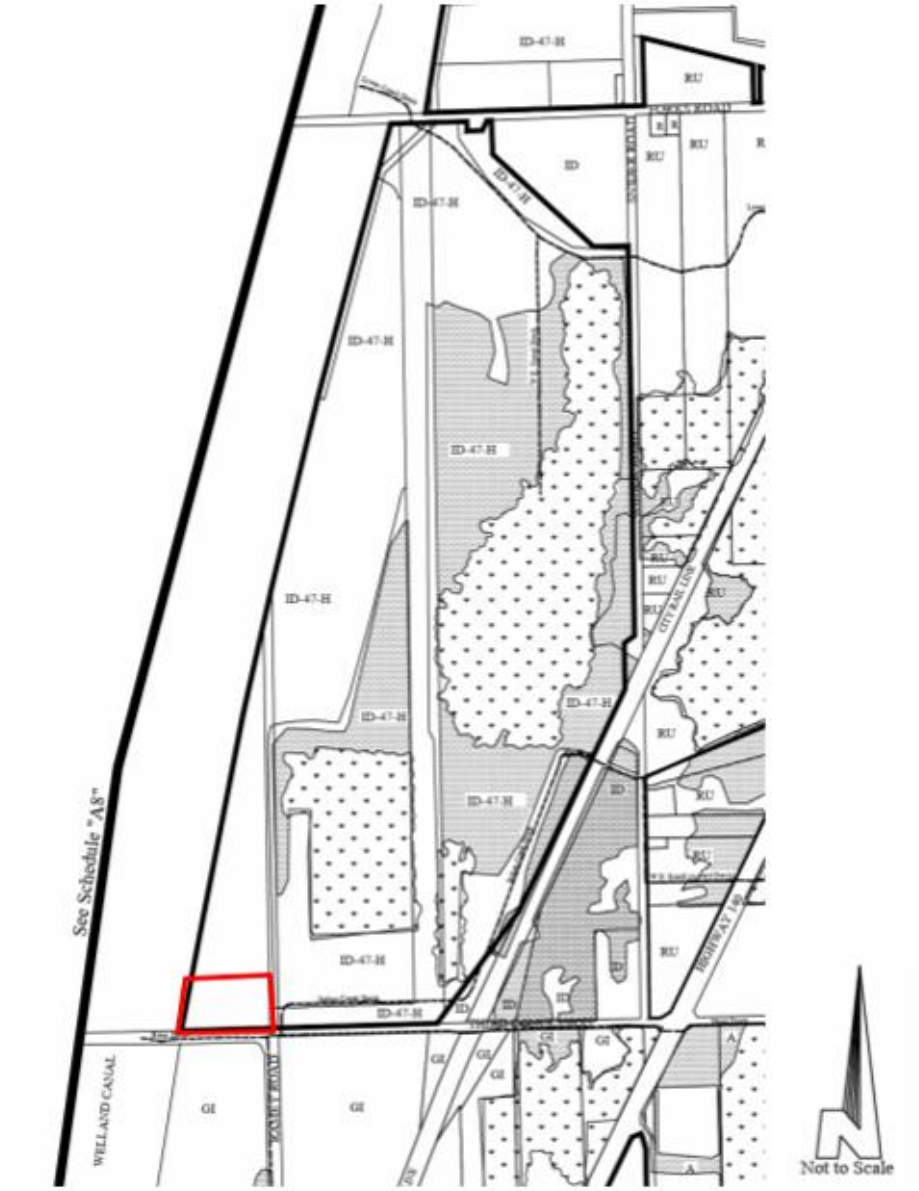
The Zoning By-law Amendment submitted by the applicant proposes to change the zoning of the Subject Site from the existing Industrial Development with Special Provision 47 and a Holding Provision (ID-47-H) to a site-specific Industrial Development (ID-XX) Zone. **Figure 3** shows the extent of the requested zoning change.

Schedule "A"

By-law No. XXXX

To the

City of Port Colborne Zoning By-law No. 6575/30/18 Schedule "A2"



Lands to be re-zoned to Industrial Development Zone with Special Provision XX (ID-XX)

Figure 3: Applicant's Proposed Zoning Schedule

The proposed site-specific provisions being requested include:

Notwithstanding the provisions of the Industrial Development (ID) Zone, the following shall apply:

a) Outside storage is permitted in all yards except the front yard and may be greater than 10% of the total gross floor area on the lot;
b) A minimum parking rate of 1 space per 40 square metres of gross floor area;
c) A reduced dimension for the accessible parking space to a minimum of 3.4 metres by 5.7 metres; and
d) No bicycle parking space is required.

A copy of the applicant's proposed Draft Zoning By-law Amendment is attached to this report as **Appendix B**.

Planning staff have completed a detailed zoning review of the proposal. Planning comments, along with other agency and department comments, will be communicated to the applicant through the formal return of comments following the statutory public meeting. It is expected that a resubmission will be required.

Next Steps

The proposed amendments will be reviewed with the consideration of applicable policies in the Provincial Planning Statement (2024), the Niagara Official Plan (2022), the City of Port Colborne Official Plan (2013), the City of Port Colborne Comprehensive Zoning By-law 6575/30/18 and any applicable amending by-laws. A further policy review will follow when the recommendation report for this application returns to Council for a decision.

Financial Implications:

There are no financial implications for the City at this time.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillar(s) of the strategic plan:

- Welcoming, Livable, Healthy Community
- Economic Prosperity

Conclusion:

This Statutory Public Meeting Report has been prepared to allow all agency, public and councillor comments to be received and considered prior to a decision being made on the applicant's proposed Zoning By-law Amendment. Planning staff will prepare and present a recommendation report on this application at a future Council meeting.

Appendices:

a. Applicant's Site Plan and Architectural Drawings
b. Applicant's Draft Zoning By-law Amendment

Respectfully submitted,

Kelly Martel, MCIP, RPP
Manager of Planning
905-228-8130
kelly.martel@portcolborne.ca

Owen McDonnell
Planning Student
owen.mcdonnell@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

"ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT."

DO NOT SCALE DRAWINGS.

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

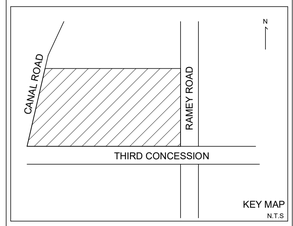
No.	Issues	Date	By
3	SPA Submission	2024-04-29	TM
5	Issued for Review	2026-04-29	OS
6	SPA Submission	2026-05-14	SW

OFFICE BUILDING

0TH FORK ROAD, LOT 23 TO 25, PORT COLBORNE, ON.

Sheet List	
A-000	Cover Page
A-001	Site Plan
A-101	Ground & First Floor Plan
A-201	Elevations
A-301	Section





TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F:416 800 3485

XUE JU (JACK) ZHENG

INDUSTRIAL DEVELOPMENT

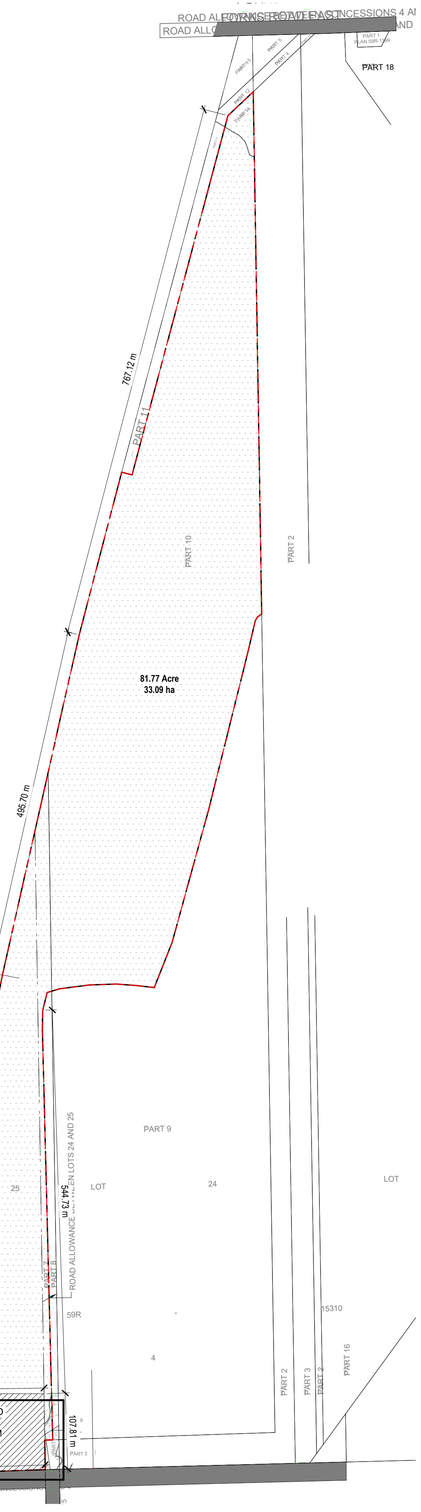
0TH FORK ROAD, LOTS 23 TO 25
PORT COLBORNE

Project No.	T2023027
Drawn	Scale
Checked	Date 2023-06-06

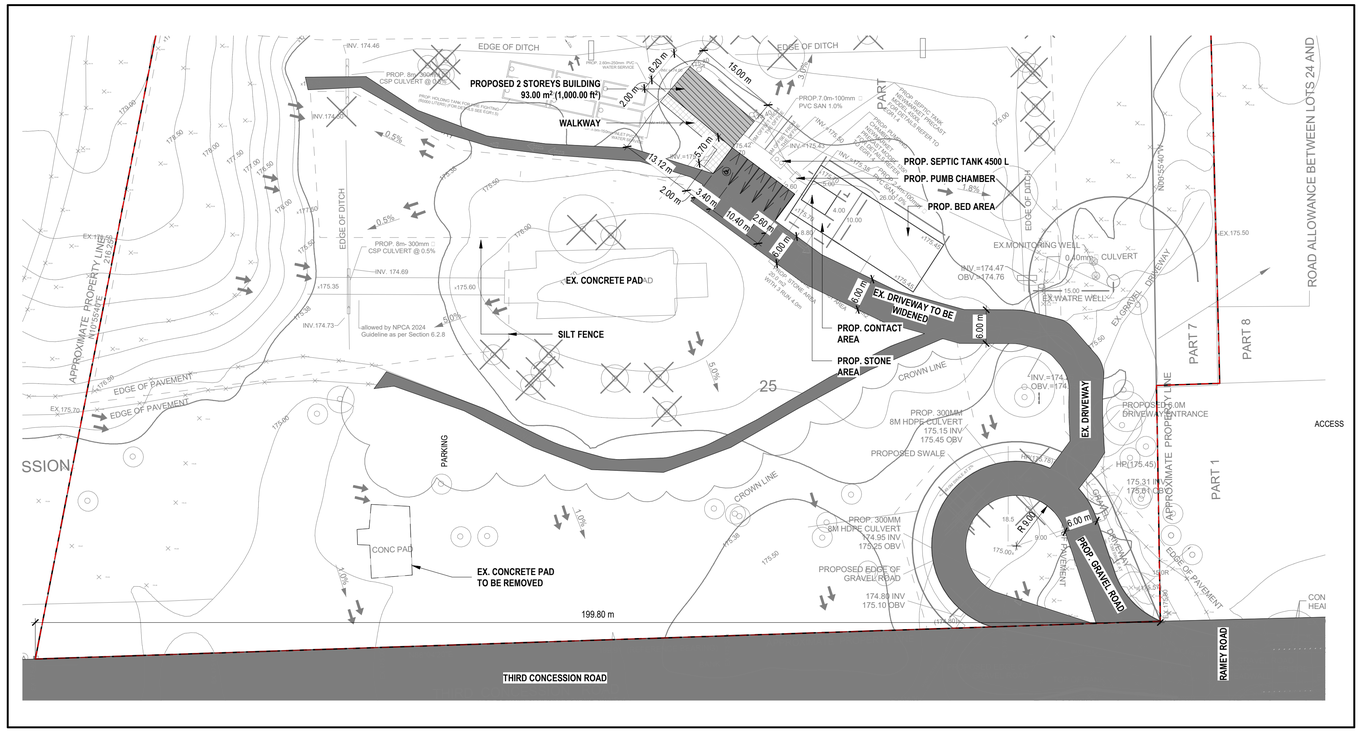
Cover Page

Drawing No.
A-000

Copyright © 2021 TAES Architects Inc.



1 A-001 KEY PLAN
SCALE: 1 : 4000



2 A-001 SITE PLAN
SCALE: 1 : 500

Statistics

ZONING	ID- 47-H - (BY-LAW # 6575/30/18 & 5989/95-2013)		
LEGAL DESCRIPTION	PIN 64456-0099(LT) PART OF LOTS 23, 24 AND 25 PLAN 59R - 12468	TOTAL LOT AREA	319,420.15 SM 31.94 HA 78.92=3 ACRE
LOT FRONTAGE	200.28 M	LOT DEPTH	1,986.34 M

DESCRIPTION	EXISTING	PROPOSED	REQUIRED	SECTION
MIN.LOT FRONTAGE	200.28 M	NO CHANGE	30.00 M	27.4
MIN. LOT WIDTH	EXISTING	NO CHANGE	N/A	
MIN. LOT AREA	319,420.15 SM	NO CHANGE		
MAX.BUILDING HEIGHT		8.00 M	MAX. 11.00 M	27.4
NO. OF STORIES		2		
DRIVEWAY WIDTH	2.00 M	6.00 M		
BUILDING AREA		93.00 SM (1,000.00 SF)		
GROSS FLOOR AREA				
GROUND FLR		93 SM	TOTAL 186 SM	
SECOND FLR		93 SM	(2,000.00 SF)	
FLOOR SPACE INDEX (FSI)				
		186 SM / 319,420.15 SM =0.00		

SETBACK	EXISTING	PROPOSED	REQUIRED	SECTION
FRONT (NORTH)		12.60 M	7.50 M	27.4
SIDE (EAST)		59.97 M	15.00 M	27.4
SIDE (WEST)		132.12 M	15.00 M	27.4
REAR (SOUTH)		> 100.00 M	8.00 M	27.4

AREAS	EXISTING	PROPOSED		REQUIRED	SECTION
PROPOSED DEVELOPED AREA		100 %	20,425.50 SM		
PROPOSED BUILDING AREA		0.5 %	93.00 SM		
DRIVEWAY & PARKING SPACES		6.0 %	1,217.02 SM		
EXISTING CONCRETE PAD		1.8 %	360.00 SM		
LANDSCAPED AREA		91.8 %	18,755.48 SM		
PARKING	**EXISTING**	**PROPOSED**		**REQUIRED**	**SECTION**
TOTAL PARKING		4 SPACES		1 SPACE PER 100 SM GFA	3.1.2
INCLUDING ACCESIBLE PARKING		1 SPACES		1 SPACES	3.3
LOADING	**EXISTING**	**PROPOSED**		**REQUIRED**	**SECTION**
NUMBER OF LOADING SPACES				3.5M X 9 M	3.10

OBC CLASSIFICATION: PART 9 - GROUP F DIVISION 3
NOT SPRINKLERED

PROPOSED BUILDING
ROAD / STREET
SITE BOUNDARY

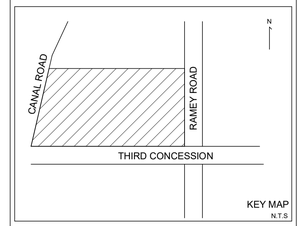
"ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT."

DO NOT SCALE DRAWINGS.

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

No.	Issues	Date	By
1	For Client Review	2023-06-12	TM
2	Revision	2023-09-25	TM
3	SPA Submission	2024-04-29	TM
5	Issued for Review	2026-04-29	OS
6	SPA Submission	2026-05-14	SW



TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F:416 800 3485

XUE JU (JACK) ZHENG

INDUSTRIAL DEVELOPMENT

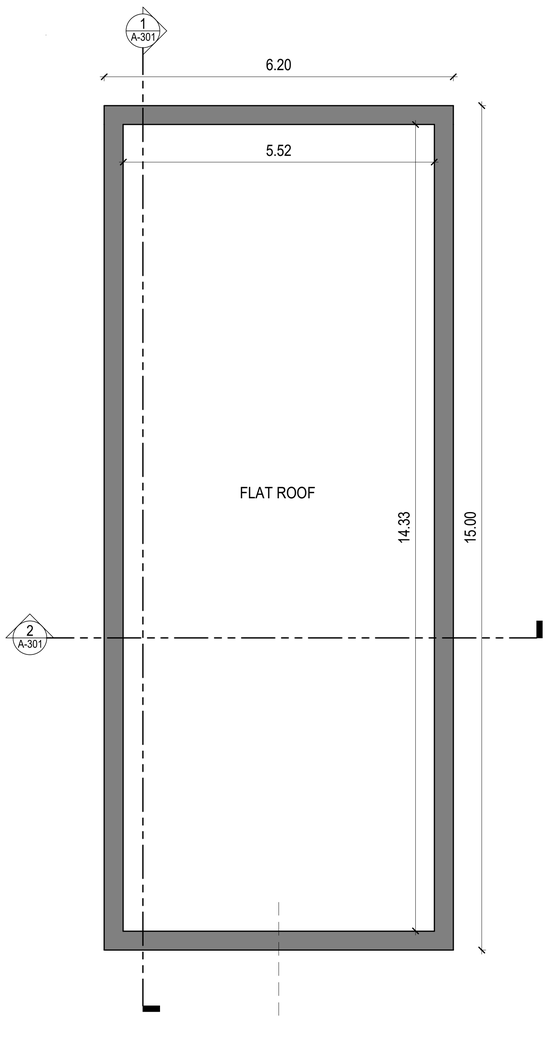
0TH FORK ROAD, LOTS 23 TO 25
PORT COLBORNE

Project No.	T2023027
Drawn	Scale As indicated
Checked	Date 2023-06-06

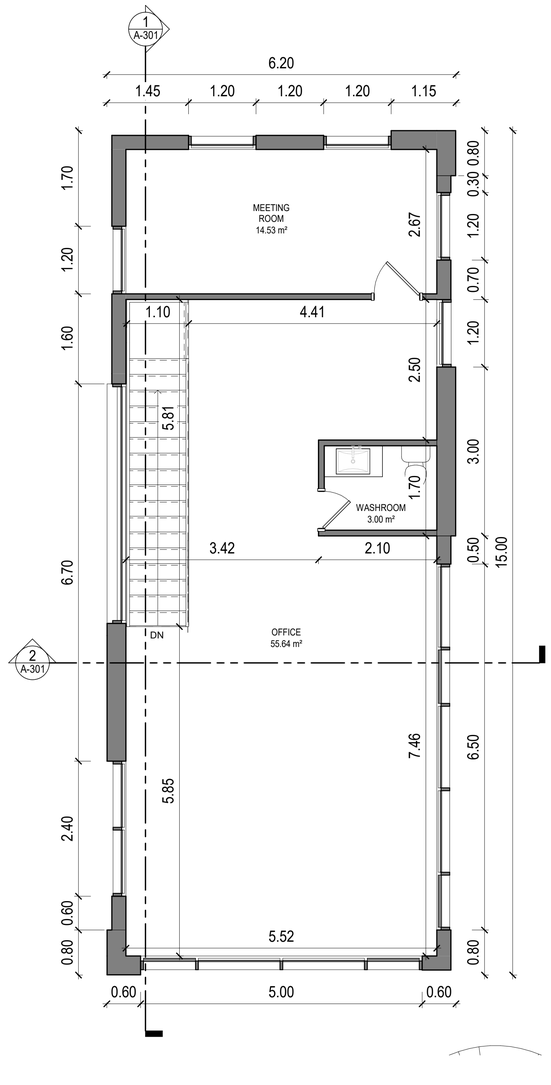
Site Plan

Drawing No.
A-001

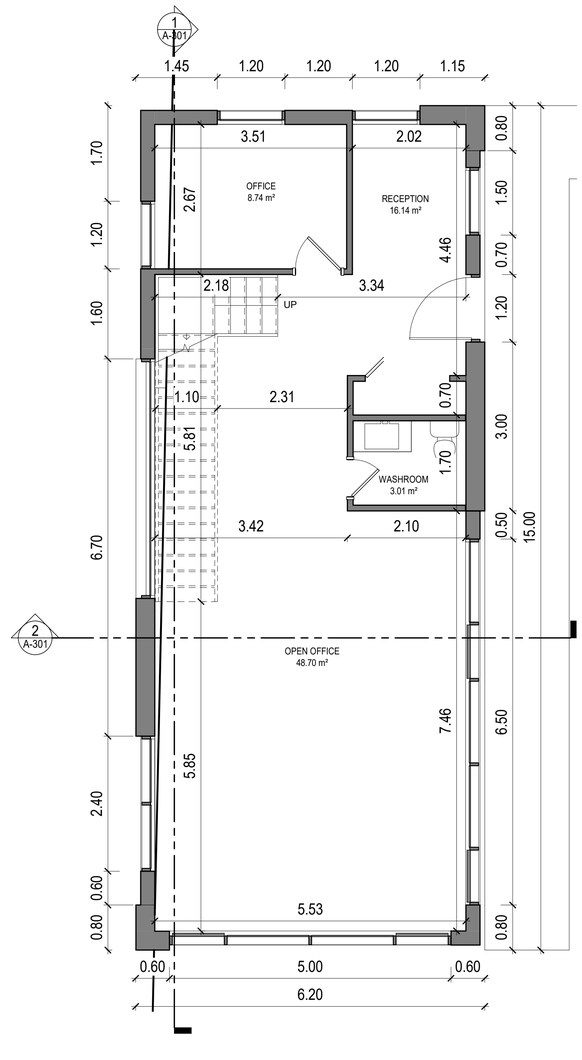
Copyright © 2021 TAES Architects Inc.



3 A-101 ROOF FLOOR PLAN
SCALE: 1 : 50



2 A-101 1ST FLOOR PLAN
SCALE: 1 : 50



1 A-101 GROUND FLOOR PLAN
SCALE: 1 : 50

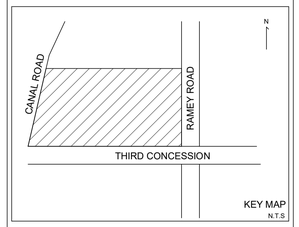
"ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT."

DO NOT SCALE DRAWINGS.

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

No.	Issues	Date	By
3	SPA Submission	2024-04-29	TM
5	Issued for Review	2026-04-29	OS
6	SPA Submission	2026-05-14	SW



TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F:416 800 3485

XUE JU (JACK) ZHENG

INDUSTRIAL DEVELOPMENT

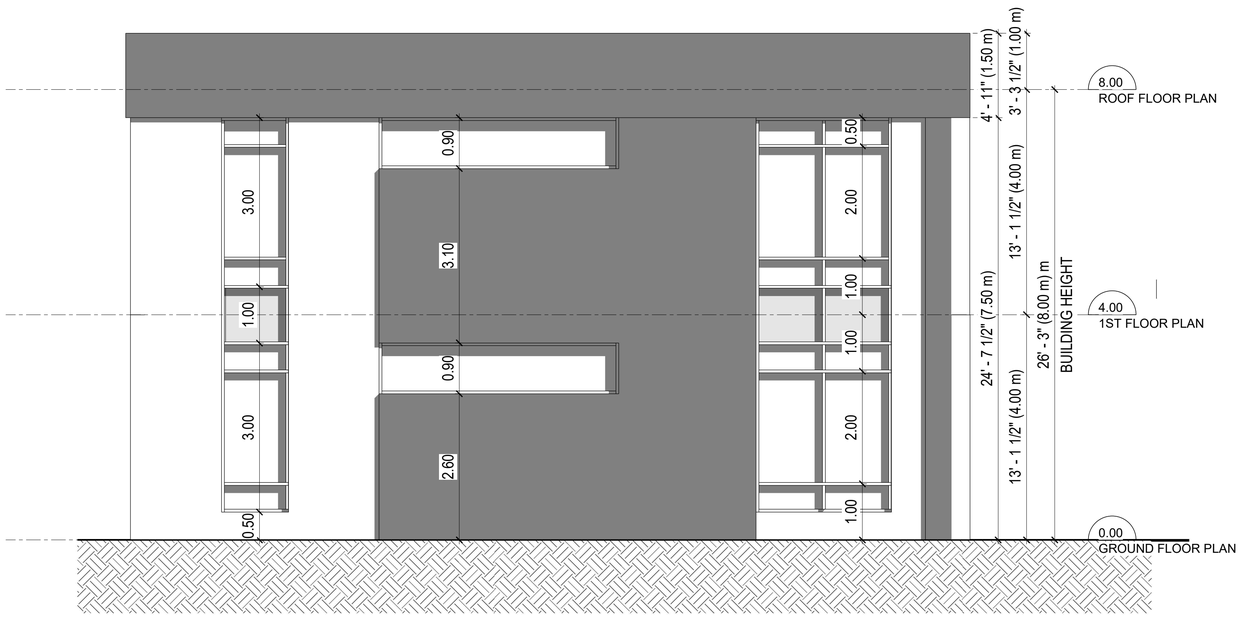
0TH FORK ROAD, LOTS 23 TO 25
PORT COLBORNE

Project No.	T2023027
Drawn	Scale 1 : 50
Checked	Date 2023-06-06

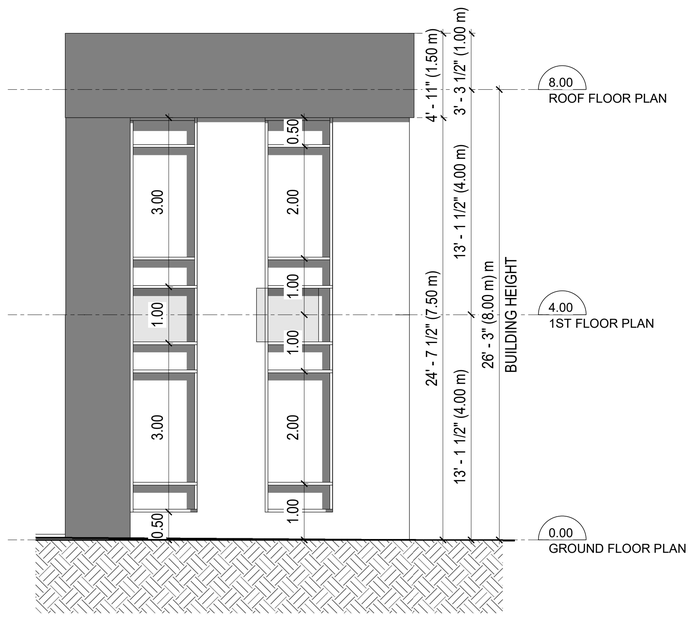
Ground & First Floor Plan

Drawing No.
A-101

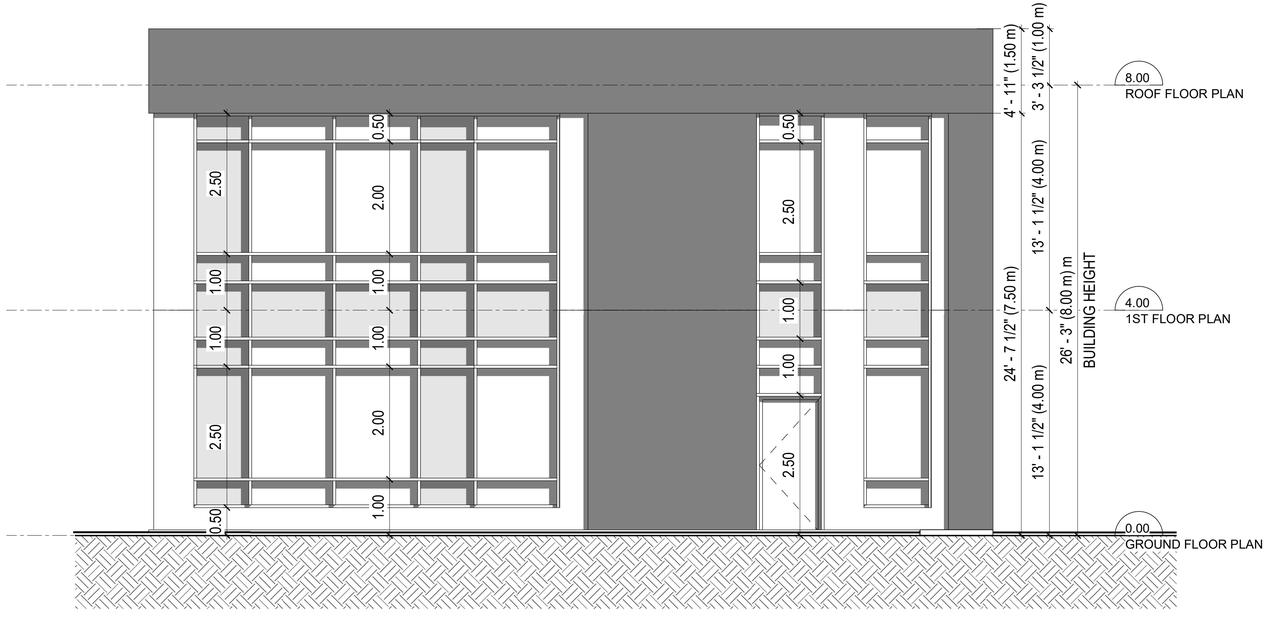
Copyright © 2021 TAES Architects Inc.



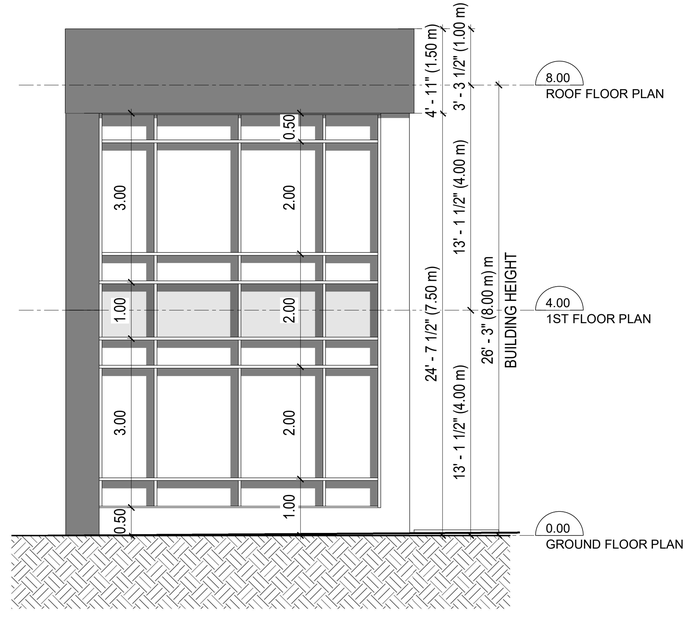
4 A-201 SIDE ELEVATION (WEST)
SCALE: 1 : 50



2 A-201 REAR ELEVATION
SCALE: 1 : 50



3 A-201 SIDE ELEVATION (EAST)
SCALE: 1 : 50



1 A-201 FRONT ELEVATION
SCALE: 1 : 50

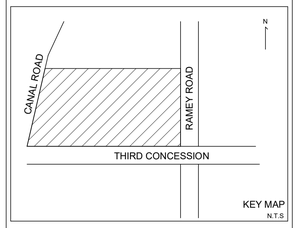
"ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT."

DO NOT SCALE DRAWINGS.

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

No.	Issues	Date	By
3	SPA Submission	2024-04-29	TM
5	Issued for Review	2026-04-29	OS
6	SPA Submission	2026-05-14	SW



TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F:416 800 3485

XUE JU (JACK) ZHENG

INDUSTRIAL DEVELOPMENT

0TH FORK ROAD, LOTS 23 TO 25
PORT COLBORNE

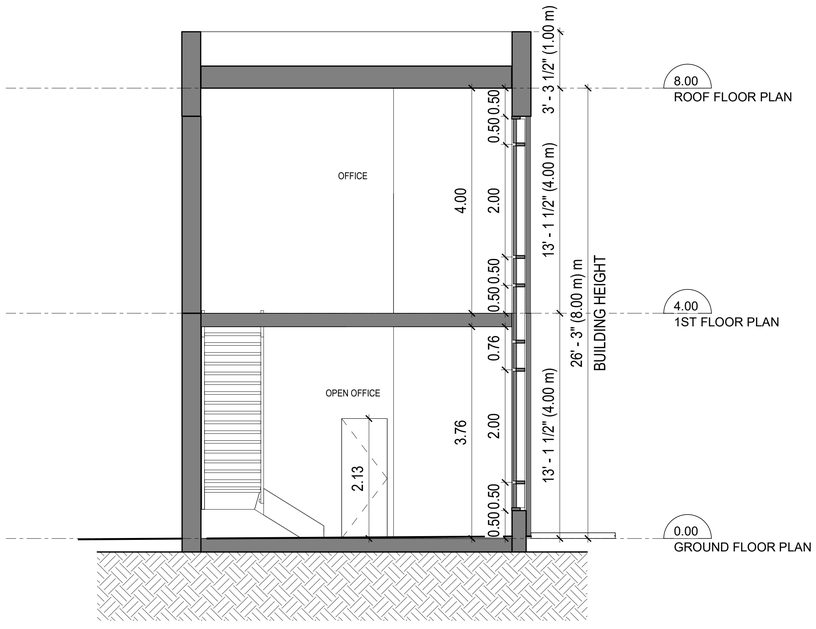
Project No.	T2023027
Drawn	Scale 1 : 50
Checked	Date 2023-06-06

Elevations

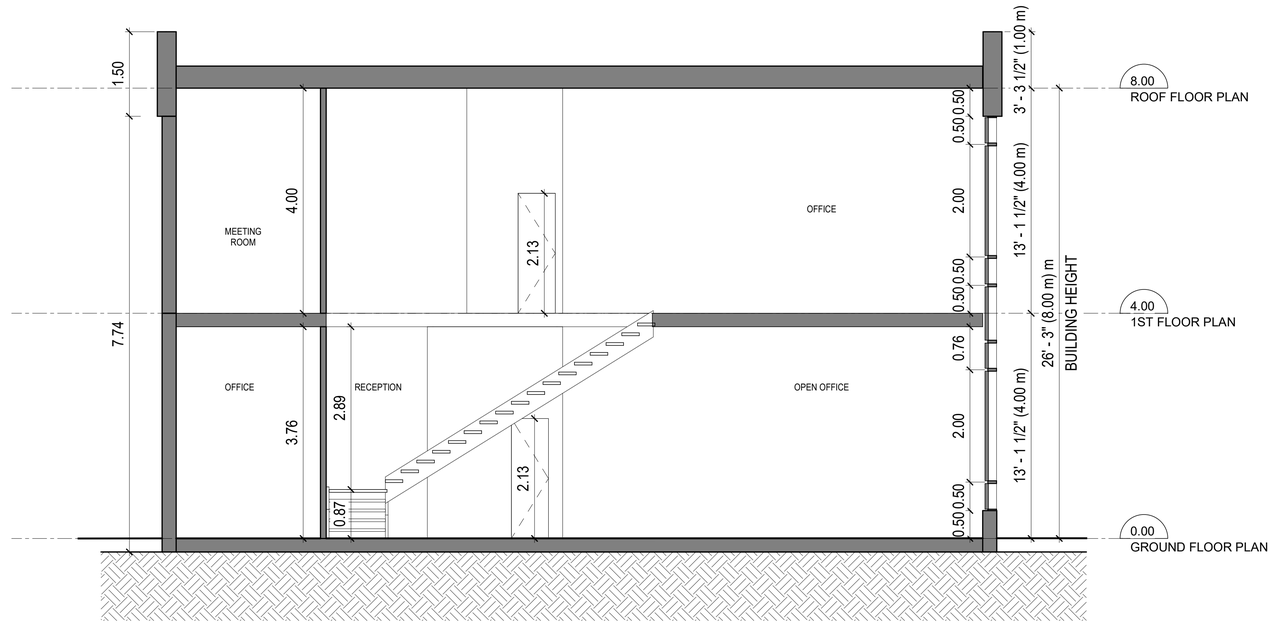
Drawing No.

A-201

Copyright © 2021 TAES Architects Inc.



2 A-301 Section 2
SCALE: 1 : 50



1 A-301 Section 1
SCALE: 1 : 50

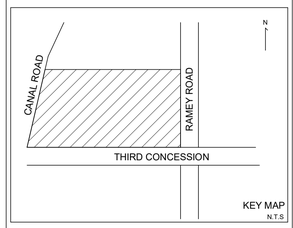
"ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR IN WHOLE IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT."

DO NOT SCALE DRAWINGS.

CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

No.	Issues	Date	By
3	SPA Submission	2024-04-29	TM
5	Issued for Review	2026-04-29	OS
6	SPA Submission	2026-05-14	SW



TAES Architects Inc.
98 SCARSDALE ROAD,
TORONTO, ONTARIO, M3B 2R7
T: 416 800 3284
F:416 800 3485

XUE JU (JACK) ZHENG

INDUSTRIAL DEVELOPMENT

0TH FORK ROAD, LOTS 23 TO 25
PORT COLBORNE

Project No.	T2023027
Drawn	Scale 1 : 50
Checked	Date 2023-06-06

Section

Drawing No.
A-301

Copyright © 2021 TAES Architects Inc.

The Corporation of the City of Port Colborne

By-law No. XXXX

Being a by-law to amend Zoning By-law 6575/30/18 respecting Part of Lots 23 to 25, Concession 4, East of the Welland Canal, City of Port Colborne, Regional Municipality of Niagara, Ontario.

WHEREAS By-law 6575/30/18 is a By-law of The Corporation of the City of Port Colborne restricting the use of land and the location and use of buildings and structures;

AND WHEREAS, the Council of The Corporation of the City of Port Colborne desires to amend the said By-law.

NOW THEREFORE, and pursuant to the provisions of Section 34 of the *Planning Act*, R.S.O. 1990, The Corporation of the City of Port Colborne enacts as follows:

1. This amendment shall apply to those lands described on Schedule "A" attached to and forming part of this By-law.

2. That the Zoning Map referenced as Schedule "A2" forming part of By-law 6575/30/18 is hereby amended by rezoning the lands outlined in Schedule A of this Amendment to Industrial Development with Special Provision XX (ID-XX).

3. That Section 37.2 entitled "List of Special Provisions" of Zoning By-law 6575/30/18, as amended, is hereby further amended by adding the following:

   Special Provision: ID-XX Formerly: n/a By-law No.: XXXX/XX/XX

   Notwithstanding the Provision of the Industrial Development (ID) Zone, the following shall apply:

   a) Outside storage is permitted in all yards except the front yard and may be greater than 10% of the total gross floor area on the lot

   b) A minimum parking rate of 1 space per 40 square metres gfa

   c) A reduced dimension for the accessible parking space of minimum 3.4 metres x 5.7 metres

   d) No bicycle parking pace is required

4. That this By-law shall come into force and take effect on the day that it is passed by Council, subject to the provisions of the *Planning Act*.

5. The City Clerk is hereby authorized and directed to proceed with giving notice of the passing of this By-law, in accordance with the *Planning Act*.

Enacted and passed on this XX day of XX, 20XX.

_____

Bill Steele
Mayor

_____

Charlotte Madden
City Clerk

Schedule “A”

By-law No. XXXX

To the

City of Port Colborne Zoning By-law No. 6575/30/18 Schedule “A2”



Lands to be re-zoned to Industrial Development Zone with Special Provision XX (ID-XX)

From: FASD <fasd@contactniagara.org>
Sent: August 6, 2026 9:36 AM
To: Alexis Higginbotham <Alexis.Higginbotham@portcolborne.ca>
Subject: FASD Awareness Month & Day

Hi there,

My name is Katie McKay, and I'm part of the FASD Program at Contact Niagara for Children's and Developmental Services.

I'm reaching out as part of FASD Awareness Month this September, which is recognized across Canada, with September 9 marking FASD Awareness Day.

We are coordinating a Niagara-wide awareness effort focused on increasing understanding of Fetal Alcohol Spectrum Disorder (FASD), a lifelong disability that affects about 4% of Canadians—more than Autism Spectrum Disorder, Down syndrome, and Cerebral Palsy combined.

We are wondering if Port Colborne City Hall would consider participating by lighting your building or landmark in red on September 9 in recognition of FASD Awareness Day.

Lighting landmarks red is part of a broader national effort to increase awareness and help build more supportive, inclusive communities.

In addition to lighting City Hall in red on September 9, we would also be grateful if Council would consider proclaiming September as FASD Awareness Month and September 9 as FASD Awareness Day in Port Colborne.

Even small acts of participation like this can have a meaningful impact in helping raise awareness across Niagara.

I would be happy to provide any additional details or support as needed.

Thank you very much for considering this request.

Best,

Katie McKay

Contact Niagara for Children's and Developmental Services

PORT COLBORNE

September 8, 2026

Moved by Councillor
Seconded by Councillor

WHEREAS Fetal Alcohol Spectrum Disorder (FASD) is a diagnostic term used to describe the impacts on the brain and body of individuals prenatally exposed to alcohol. FASD is a lifelong disability. Individuals with FASD experience some degree of challenges in their daily living, and need support with motor skills, physical health, learning, memory, attention, communication, emotional regulation, and social skills to reach their full potential. Each person with FASD is unique and has areas of both strengths and challenges; and

WHEREAS Raising public awareness about the risks of prenatal alcohol exposure is essential in preventing alcohol use during pregnancy and promoting the health and well-being of pregnant people, families, and future generations; and

WHEREAS Individuals with FASD can thrive, contribute meaningfully to their communities, and lead fulfilling lives when provided with the appropriate accommodations and supports; and

WHEREAS the City of Port Colborne recognizes the lifelong effects of FASD and is committed to supporting FASD awareness, healthy pregnancies, improving access to early diagnosis and assessment of FASD, and intervention and support for children, youth, and adults with FASD and their families; and

WHEREAS International FASD Awareness Day is observed globally on September 9, 2026, and FASD Awareness Month is observed throughout September 2026 as a reminder of the importance of alcohol-free pregnancies throughout the nine months of gestation, and to encourage compassion, inclusion, and support for those impacted by FASD; and

WHEREAS The 2026 FASD Awareness Month theme, **"Everyone Plays a Part: It Takes a Community,"** highlights the vital role that individuals, families, educators, service providers, workplaces, and communities play in supporting those impacted by FASD and in creating a more inclusive society;

NOW THEREFORE, I Mayor William C. Steele do hereby proclaim the month of September 2026 as **"Fetal Alcohol Spectrum Disorder Awareness Month "** and September 9, 2026 shall be known as **" Fetal Alcohol Spectrum Disorder Awareness Day"** in the City of Port Colborne.

_____
William C. Steele
Mayor

Dear Mayor Steele,

Rail Safety Week will take place across Canada from September 21 to 27, 2026.

CN has partnered with Operation Lifesaver Canada (OL) to raise public awareness about the dangers of crossing and trespassing on railway property for more than 20 years. Unfortunately, we have recently seen disturbing spikes in deaths and serious injuries related to both. Inattention and distraction at crossings, risky behaviour on and around trains, the rise of homeless encampments along rail corridors, and mental health crises are all factors.

CN and OL ask your council to help keep communities safe by raising awareness about the critical issue of rail safety. Options include adopting the enclosed Rail Safety Week proclamation and promoting rail safety on your social media platforms.

Rail Safety is a shared responsibility, and your leadership plays a vital role in educating the public. We would be honoured to publicly acknowledge your commitment to this cause if you agree to participate.

If you have any questions or concerns, please contact Daniel Salvatore, your local CN Public Affairs representative, at daniel.salvatore@cn.ca.

For more information:

- Questions or concerns about rail safety in your community, contact our Public Inquiry Line at 1-888-888-5909 or contact@cn.ca
- For additional information about Rail Safety Week 2026 visit cn.ca/RailSafety or https://www.operationlifesaver.ca
- Let us know how you promote rail safety in your community by posting on cn.ca/RSW2026
- For any questions about this proclamation, please email RailSafety@cn.ca
- Visit cn.ca/RSW-toolkit to access the Rail Safety Week toolkit which includes resources to help you further promote rail safety education in your community

Thank you in advance for your support.



Patrick Lortie
Senior Vice-President and Chief Strategy and Stakeholder Relations Officer

Shawn Will

CN Chief of Police and Chief Security Officer

Chloé Devine Drouin

Director, Marketing and Engagement

Operation Lifesaver Canada

PORT COLBORNE

September 8, 2026

Moved by Councillor
Seconded by Councillor

WHEREAS Rail Safety Week is to be held across Canada from September 21 to 27 2026; and

WHEREAS 252 railway crossing and trespassing incidents occurred in Canada in 2025; resulting in 69 avoidable fatalities and 60 avoidable serious injuries; and

WHEREAS educating and informing the public about rail safety (reminding the public that railway rights-of-way are private property, enhancing public awareness of the dangers associated with highway rail grade crossings, ensuring pedestrians and motorists are looking and listening while near railways, and obeying established traffic laws) will reduce the number of avoidable fatalities and injuries cause by incidents involving trains and citizens; and

WHEREAS Operation Lifesaver is a public/private partnership whose aim is to work with the public, rail industry, governments, police services, media and others to raise rail safety awareness; and

WHEREAS CN and Operation Lifesaver have requested City Council adopt this resolution in support of its ongoing efforts to raise awareness, save lives and prevent injuries in communities, including our municipality.

NOW THEREFORE I, Mayor William C. Steele, do hereby proclaim September 21 – 27, 2026 **"Rail Safety Week"** in the City of Port Colborne.

_____
William C. Steele
Mayor

CLTN

COMMUNITY LAND TRUST OF NIAGARA

Presentation to:
City of Port Colborne

Presented on: September 8, 2026

What is a Community Land Trust?



CLTN

The Canada Mortgage and Housing Corporation describes community land trusts as:

"non-profit corporations created to acquire and hold land for a community.

“The land is perpetually held in trust to help provide access for community uses, such as affordable housing.”

47 Community Land Trusts across Canada

Recent emergence and momentum

The Community Land Trust

- ➔ Works with governments, community groups, developers, financial institutions, and any other partners with a stake in affordable housing.
- ➔ Not only work to make housing attainable, but also ensure that any housing developed remains affordable forever.

2023 Survey Results

Canadian Network of Land Trusts

Most Up to Date Extensive Study on Land Trusts in Canada

Amongst the 47 CLTs in Canada

One-third incorporated between 2020 and 2023

5 are still in the process of formal incorporation.

Only about one-third of them have property.

Units in active CLTs

3 CLTs have 1 unit

769 units on average for organizations with a residential portfolio

21% of CLTs serve an entire municipality

36% focus on “one or more neighbourhoods.”

Residential property units

The CLTs with residential property account for 9,995 units.
Another 2,383 units are expected by the end of 2024.

Why a CLT in Niagara now?

Why a CLT in Niagara Now?

Help more people access safe, decent housing.

CLTN
COMMUNITY LAND TRUST
OF NIAGARA

- Formed in **response to severe housing affordability crisis.**
- Affordable housing **cannot be built** without financial support
- **Loss of affordable housing** stock through renovictions, etc.

CLTN

The current situation calls for action

Rent prices in Niagara are rapidly increasing.

- Rent increased by 6.1% in 2022, 5.7% in 2023, and 4.0 % in 2024 with upward pressure continuing in 2025.
- Current listings show much higher prices: $1,800–$2,200/month for a modest two-bedroom unit.

CLTN

Wait times for households with dependents

City / town	Two bedrooms	Three bedrooms	Four bedrooms	Five bedrooms
Fort Erie	4 years	4 years	8 years	No units
Lincoln (Beamsville)	4 years	8 years	No units	No units
Niagara Falls	7 years	8 years	10 years	11 years
Port Colborne	9 years	8 years	7 years	No units
St. Catharines	8 years	15 years	10 years	12 years
Thorold	8 years	8 years	No units	No units
Welland	4 years	8 years	8 years	7 years
West Lincoln (Smithville)	10 years	7 years	No units	No units



Who is the Community Land Trust of Niagara?

CLTN
COMMUNITY LAND TRUST OF NIAGARA

CLTNiagara is a social purpose real estate developer of non-market housing

As a community land trust, CLTNiagara helps to create *permanently* affordable housing solutions

CLTNiagara builds the housing, community partners manage the properties

Who is the Community Land Trust of Niagara?

VISION

Increasing the supply of accessible, affordable, and sustainable housing in Niagara.

MISSION

Acquiring and holding land and buildings in Niagara for the purpose of providing affordable housing to residents of Niagara with low or limited means

** Incorporated Not-for-Profit (2023)*

Board of Directors

Chair - **Caleb Ratzlaff**, Councillor, City of St. Catharines

Vice Chair – **Lori Beech**, Executive Director, Second Story Community Homes and Services (formerly Bethlehem Housing)

Secretary - **Sarah Lukaszczyk,** Ontario Federation of Indigenous Friendship Centres

Treasurer – **Rob DePetris**, Tax Accountant, long-time community leader

Nick Godfrey, Planner, Upper Canada Consultants

Ronald Hong, Real Estate Leader, Complex Deals, Infrastructure Ontario

Tom Richardson, Senior Legal Counsel

Justin Goulding, Real Estate developer

Cindi LoForti, Realtor

Joanne Heritz, Professor, Political Science

Advisors

John Armstrong, Armstrong Strategy Group

Ken Janzen, Former CEO PenFinancial Credit Union

CLTN Strategic Goals

Build more community affordable housing

Build

Protect the current stock of community affordable housing

Protect

Support community housing providers

Support



How does a CLT acquire property?



How does a CLT acquire property?

CLT Property Acquisition Methods

Receive Donations

Receive dollars/property as donations from individuals, foundations, corporations, Gov't

Government Programs

CMHC, Build Canada Homes, Regional, Municipal

Equity Collaborative

Pool and convert un-leveraged assets from NFPs and faith groups into equity

Community Bonds/Social Impact Investors

Raise capital by issuing debt from the community and/or impact investors

Rents/Asset Accumulation

Sustainability will be achieved with profitable rental housing

CLTN

Our First Project - Crowther Avenue Community Housing Continuum

- The Community Housing Continuum project will maintain an inclusive, diverse group of residents housed in two buildings with approximately 40 units each (total 84 units).

- Second Story Community Homes and Services (SSCH) and Community Land Trust Niagara (CLTN), in partnership and collaboration with the City of Welland, Build Canada Homes (BCH), CMHC, Strat Homes and Rankin Construction are embarking on an innovative mixed Community Housing Continuum project.

Crowther Avenue Community Housing Continuum

- Sale of surplus land with the City of Welland, the land and building will be owned in trust and perpetuity by CLTN.

- The building will be leased to, managed and operated by SSCH.

- The tenant group will include low to medium income households, individuals and families that can live independently and can afford rents in the range of 80% CMHC Median Market Rents to attainable market rent.

Community Housing Continuum: Stakeholders

Lease land, own and operate the residence



Own the land and residence, contract the operator

CLTN
COMMUNITY LAND TRUST OF NIAGARA

Municipal support and services

CITY OF Welland

Regional support and services

Niagara Region

Financing: contribution and loans

BUILD CANADA HOMES

Meridian

CMHC SCHL

NCF
NIAGARA COMMUNITY FOUNDATION

Develop & build the project

STRAT HOMES

Rankin Construction Inc.



How can you help?

CLTN
COMMUNITY LAND TRUST OF NIAGARA



How can you help?

Partner with us to support a new project

CLTN will connect housing advocates and builders from all sectors of the community to help deliver on new projects.

If an agency or organization is looking for a means to develop new housing, CLTN can help connect them to land, resources, and developers and help support the project through to completion and sustainable operation.

CLTN
COMMUNITY LAND TRUST OF NIAGARA



How can you help?

Help CLTN acquire property, to be held as affordable housing in perpetuity

CLTN is open to opportunities to acquire either land for new housing projects, or already existing properties in need of new and innovative solutions, towards the goal of sustainable affordability.

Through our partnerships with like-minded entities, we can acquire property that will guarantee affordable housing in perpetuity.

CLTN
COMMUNITY LAND TRUST OF NIAGARA



How can you help?

Ally with CLTN as a developer to help build the affordable housing Niagara needs

New affordable housing cannot be built without help from dedicated construction workers, planners, and developers.

CLTN can help developers build contacts with supporting agencies and access funding and support to help bring new housing projects to life.

The societal benefits of secure housing are well-documented. When living conditions are stable, safe, and healthy, families are empowered to thrive.

The positive ripple effects that result are felt for generations, significantly reducing social services costs (healthcare, justice, law enforcement, social supports, etc.) and creating a more successful community.

Questions?

We are CLTNiagara

City of Port Colborne

Public Meeting Minutes

Date:	**Tuesday, July 7, 2026**
Time:	**6:30 pm**
Location:	**Council Chambers, 3rd Floor, City Hall** **66 Charlotte Street, Port Colborne**
Members Present:	M. Aquilina, Councillor M. Bagu, Councillor R. Bodner, Councillor G. Bruno, Councillor F. Danch, Councillor D. Elliott, Councillor T. Hoyle, Councillor W. Steele, Mayor (presiding officer)
Member(s) Absent:	E. Beauregard, Councillor
Staff Present:	J. Beaupre, Deputy Clerk K. Martel, Manager of Planning
Others Present:	D. Landry, Nethery Planning S. Keeper, Dunsire Developments

1. Call to Order

Mayor Steele called the meeting to order at 6:30 p.m.

2. Adoption of Agenda

Moved By Councillor R. Bodner
Seconded By Councillor T. Hoyle

That the Public Meeting agenda dated July 7, 2026, be confirmed, as amended.

Carried

3. Disclosures of Interest

3.1 Councillor E. Beauregard - Statutory Public Meeting Report for Proposed Site-Specific Zoning By-law Amendment – 434 and 484 Barrick Road – File D14-03-26, 2026-100

I, Eric Beauregard, declare an indirect pecuniary interest as my employer is an agent of the Applicant.

3.2 Councillor E. Beauregard - Staff Presentation

I, Eric Beauregard, declare an indirect pecuniary interest as my employer is an agent of the Applicant.

3.3 Councillor E. Beauregard - Applicant Presentation

I, Eric Beauregard, declare an indirect pecuniary interest as my employer is an agent of the Applicant.

3.4 Councillor E. Beauregard - Delegations

I, Eric Beauregard, declare an indirect pecuniary interest as my employer is an agent of the Applicant.

3.5 Councillor E. Beauregard - Katie Postiglione

I, Eric Beauregard, declare an indirect pecuniary interest as my employer is an agent of the Applicant.

4. Statutory Public Meetings

4.1 Statutory Public Meeting Report for Proposed Site-Specific Zoning By-law Amendment – 434 and 484 Barrick Road – File D14-03-26, 2026-100

Moved By Councillor D. Elliott
Seconded By Councillor M. Aquilina

That Planning and Development Report 2026-100 be received for information; and

That Council direct staff to consider Council, agency, and community feedback received as part of this statutory public meeting, prior to bringing forward a subsequent staff report respecting the proposed Zoning By-law Amendment.

Carried

a. Staff Presentation

Kelly Martel, Manager of Planning, presented to Council on 434 and 484 Barrick Road.

b. Applicant Presentation

Denise Landry, Planner from Nethery Planning and agent for the applicant, and the applicant, Shawn Keeper from Dunsire Developments presented to Council on 434 and 484 Barrick Road.

c. Delegations

a. Katie Postiglione

A written delegation was submitted.

b. Lou Czerlau

Delegated on 434 and 484 Barrick Road.

c. Cameron Klemm

Delegated on 434 and 484 Barrick Road.

d. Emily DaRosa

Delegated on 434 and 484 Barrick Road.

e. Ron Rienas

Delegated on 434 and 484 Barrick Road.

f. Tracie Grieve

Delegated on 434 and 484 Barrick Road.

g. Andrew Grieve

Delegated on 434 and 484 Barrick Road.

5. By-laws

5.1 By-law No. 7476/60/26

Moved By Councillor G. Bruno
Seconded By Councillor T. Hoyle

That By-law No. 7476/60/26 be passed and enacted, as presented.

Carried

6. Adjournment

Mayor Steele adjourned the meeting at 7:50 p.m.

William C. Steele, Mayor

Jessica Beaupre, Deputy Clerk

City of Port Colborne

Special Meeting of Council Minutes

Date:	**Tuesday, August 11, 2026**
Time:	**6:30 pm**
Location:	**Council Chambers, 3rd Floor, City Hall** **66 Charlotte Street, Port Colborne**

Members Present:	M. Aquilina, Councillor M. Bagu, Councillor E. Beauregard, Councillor R. Bodner, Councillor G. Bruno, Councillor F. Danch, Councillor D. Elliott, Councillor T. Hoyle, Councillor W. Steele, Mayor (presiding officer)
Staff Present:	B. Boles, Chief Administrative Officer J. Beaupre, Deputy Clerk G. Bisson, Senior Health Advisor S. Double, Fire Chief G. Long, Director of Development & Business Enterprises C. Madden, City Clerk K. Martel, Manager of Planning J. Rorison, Corporate Affairs Manager S. Shypowskyj, Director of Public Works
Others Present:	V. Badawey, Regional Councillor B. Mosley, Ezri Canada

1. Call to Order

Mayor Steele called the meeting to order at 5:09 p.m.

2. Adoption of Agenda

Two delegations were added to the agenda, and Appendix A was replaced on item 14.2, Report 2026-116.

C-25- 136

Moved by Councillor R. Bodner
Seconded by Councillor F. Danch

That the Special Council agenda, dated August 11, 2026, be confirmed, as amended.

Carried

3. Disclosures of Interest

Councillor Bruno declared a conflict on item 20.1 as his company provided consulting services to the company purchasing the project/ parcel of land. Councillor Beauregard declared a conflict on item 14.4 and on item 20.1 as he is employed by an agent of the applicant. Councillor Elliott declared a conflict on item 20.1 as his employer is involved in the project.

4. Closed Session (Beginning at 5 p.m.)

C-25- 137

Moved by Councillor M. Bagu
Seconded by Councillor M. Aquilina

That Council do now proceed to meet in Closed Session at 5:10 p.m. under the *Municipal Act, 2001*:

- subsection 239(3.1) A meeting of a council or local board or of a committee of either of them may be closed to the public if the following conditions are both satisfied: 1. The meeting is held for the purpose of educating or training the members. 2. At the meeting, no member discusses or otherwise deals with any matter in a way that materially advances the business or decision-making of the council, local board or committee.
- subsection 239(2)(c) a proposed or pending acquisition or disposition of land by the municipality or local board.
- subsection 239(2)(f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose.
- subsection 239(2)(h) information explicitly supplied in confidence to the municipality or local board by Canada, a province or territory or a Crown agency of any of them

- subsection 239(2)(k) a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board.

Carried

4.1 Council Training and Education

a. Confidential Education Presentation regarding Municipal Responsibilities for Community and Social Services

4.2 Staff Reports

a. Legal Update on Healthcare in Port Colborne, 2026-128

b. Potential Acquisition of Property, 2026-131

c. Verbal Report from the Chief Administrative Officer - Municipal Services Corporation Update

5. Back to Open Session (Beginning at 6:30 p.m.)

C-25- 138

Moved by Councillor M. Aquilina
Seconded by Councillor E. Beauregard

That Council rise and reconvene from Closed Session at 6:45 p.m. with report:

4.1 Staff Reports

a. That staff follow the direction provided in Closed Session in accordance with the Municipal Act.

b. That staff follow the direction provided in Closed Session in accordance with the Municipal Act.

Carried

6. National Anthem

Everyone stood for the National Anthem.

7. Land Acknowledgement

The Land Acknowledgement was read:

The Niagara Region is situated on treaty land. This land is steeped in the rich history of the First Nations such as the Hatiwendaronk, the Haudenosaunee, and

the Anishinaabe, including the Mississaugas of the Credit First Nation. There are many First Nations, Métis, and Inuit people from across Turtle Island that live and work in Niagara today. The City of Port Colborne stands with all Indigenous people, past and present, in promoting the wise stewardship of the lands on which we live.

Mayor Steele called a moment of silence for the passing of former Mayor, Bob Saracino.

8. Proclamations

There were no proclamations.

9. Presentations

There were no presentations.

10. Delegations

10.1 Betty Konc

Betty Konc delegated on items 14.1 and 14.2.

10.2 Gary Gaverluck

Gary Gaverluck delegated on items 14.1 and 14.2.

11. Mayor's Report

A copy of the Mayor's report is attached.

12. Regional Councillor's Report

Vance Badawey, Regional Councillor, provided a report to Council.

13. Consent Agenda

Items 13.3 a, 13.3 d, 13.3 e, 13.3 f, 13.3 g, 13.4 e, 13.4 i, 13.4 j, and 13.4 k were lifted from the consent agenda and considered under item 14, Items Requiring Separate Discussion.

C-25- 139

Moved by Councillor M. Bagu
Seconded by Councillor G. Bruno

That Council hereby approves the listed consent items on the August 11, 2026, Special Council agenda; and

That the consent items be approved on the recommendations as contained therein.

Carried

13.1 Approval of Minutes

a. Regular Council Meeting - July 14, 2026

13.2 Receipt of Minutes of Boards & Committees

a. Port Colborne Public Library Board - June 6, 2026

13.3 Staff Reports

b. Records/Information Management Policy and Retention Schedule, 2026-123

c. Memorandum to Council - Update on Niagara area CAO discussions on Governance and Service Review - 2026-132

13.4 Receipt of Correspondence Items

a. Niagara Region - Niagara Region Growth Report 2026 Year-End Summary and 10 Year Growth Forecast

b. Niagara Region - Motion - Community Safety and Shelter Operations Plan

c. Town of Lincoln - Environmental Registry of Ontario (ERO) Proposals

d. Tudor and Cashel Township - Request for Review of Extended Producer Responsibility for One-Pound Single-Use Propane Cylinders

f. Municipality of Wawa - Permanent Ontario Community Infrastructure Fund (OCIF) Funding

g. Township of South-West Oxford - Request for Changes to the Pesticides Act to Permit the Use of Pesticides in Playground Areas for Weed Management

h. Town of Wasaga Beach - Letter of Support from the Town of Wasaga Beach – Modernizing Ontario's Invasive Plant Regulatory Framework

14. Items Requiring Separate Discussion

14.1 Community Health and Wellness Action Plan - Public Engagement Results, 2026-115

Renée Bisson, Senior Health Advisor and Bryan Mosley from Esri Canada presented to Council on the public engagement results and the healthcare data dashboard.

C-25- 140

Moved by Councillor M. Aquilina
Seconded by Councillor R. Bodner

That Office of the Chief Administrative Officer Report 2026-115 be received; and

That Council receive the Community Health and Wellness Action Plan Engagement Results attached as Appendix A; and

That Council approve the revised Community Health and Wellness Action Plan, attached as Appendix B.

Carried

14.2 Community Health Hubs-Planning for a Sustainable Healthcare Future in Port Colborne, 2026-116

C-25- 141

Moved by Councillor R. Bodner
Seconded by Councillor M. Aquilina

That the Office of the Chief Administrative Officer Report 2026-116 be received; and

That Council direct staff to develop a comprehensive business case for a Port Colborne Community Health Hub, including community governance options, financial analysis, partnership opportunities, site considerations, and capital funding opportunities; and

That Council direct staff to seek partnerships and funding opportunities to support a Community Health Hub.

That staff report back to Council following the 2026 Municipal Election with the completed business case and recommendations for Council's consideration.

Carried

14.3 Expansion of the Main Street Community Improvement Plan Area to include Vacant Lot, Neff Street, 2026-124

C-25- 142

Moved by Councillor F. Danch
Seconded by Councillor G. Bruno

That Planning and Development Department Report 2026-124 be received; and
That the expansion of the Main Street Community Improvement Plan area to include a vacant lot on Neff Street, as shown in Appendix A (outlined in red) attached hereto, be approved.

Carried

14.4 Information and Status Update Report for Proposed Site-Specific Zoning By-law Amendment- 434 and 484 Barrick Road (File D14-03-26), 2026-122

Councillor E. Beauregard declared a conflict on this item.

C-25- 143

Moved by Councillor D. Elliott
Seconded by Councillor T. Hoyle

That Planning and Development Department Report 2026-122 be received.

Carried

14.5 Sale of Surplus City Property to neighbours – Maple Street, 2026-97

C-25- 144

Moved by Councillor G. Bruno
Seconded by Councillor F. Danch

That Planning and Development Report 2026-97 be received;

That Council approve entering into the Agreements of Purchase and Sale, attached hereto as Appendix, D, F, H, J, L, and N with owners at 2, 10, 14, 18, 26 and 34 Maple Street.

That the lands legally described on Plan 59R-18555 (Appendix B) and the corresponding by-laws be brought forward; and

That the Mayor and City Clerk be authorized to sign any and all documentation respecting the sale of the above-mentioned lands.

Carried

14.6 Request to Designate Heritage Report – Port Colborne War Memorial, H.H. Knoll Lakeview Park, 2026-117

C-25- 145

Moved by Councillor R. Bodner
Seconded by Councillor T. Hoyle

That Planning and Development Department Report 2026-117 be received; and

That Council direct staff to issue a Notice of Intention to Designate the Port Colborne War Memorial at H.H. Knoll Lakeview Park, under Part IV Section 29 of the Ontario Heritage Act, R.S.O. 1990.

Carried

14.7 2026 Mid-Year Financial Reporting and Strategic Plan Progress Update, 2026-93

C-25- 146

Moved by Councillor M. Bagu
Seconded by Councillor E. Beauregard

That Financial Services Department Report 2026-93 be received; and

That the recommended to and from the City's capital close-out account, reserves, capital and related projects, including the recommended project transfers ~~and combinations~~, as outlined in Appendix A of Financial Services Department Report 2026-93, be approved, **as amended.**

Carried

Amendment:
Moved by Councillor M. Bagu
Seconded by Councillor E. Beauregard

That the words "and combinations" be removed from the second paragraph of the recommendation.

Carried

14.8 Municipality of Trent Lakes - Request for Provincial Action on the Accuracy of Municipal Voters’Lists

Councillor Aquilina inquired whether the concerns raised in the correspondence regarding non-resident elector counts were affecting Port Colborne's List of Electors.

The City Clerk advised that Elections Ontario has completed additional reviews and updates to the voters' list and has confirmed that Port Colborne's non-resident elector counts are now generally consistent with 2022 levels. Staff are satisfied with the accuracy of the voters' list and do not share the concerns raised in the correspondence.

C-25- 147

Moved by Councillor M. Bagu
Seconded by Councillor E. Beauregard

That the correspondence from the Municipality of Trent Lakes - Request for Provincial Action on the Accuracy of Municipal Voter's Lists be received.

Carried

14.9 Town of Wasaga Beach - Letter of Support from the Town of Wasaga Beach – Finlay’s Law on Emergency Room Reform

C-25- 148

Moved by Councillor M. Aquilina
Seconded by Councillor E. Beauregard

That Council support the letter of Correspondence from the Town of Wasaga Beach regarding Finlay's Law on Emergency Room Reform.

Carried

14.10 Town of Wasaga Beach - Letter of Support from the Town of Wasaga Beach – Innovative Housing and Support Models forAdults with Developmental Disabilities

C-25- 149

Moved by Councillor M. Aquilina
Seconded by Councillor E. Beauregard

That Council support the letter of Correspondence from the Town of Wasaga Beach regarding Innovative Housing and Support Models for Adults with Developmental Disabilities.

Carried

14.11 Town of Wasaga Beach - Letter of Support from the Town of Wasaga Beach – Traffic Calming and Speeding Mitigation

C-25- 150

Moved by Councillor M. Aquilina
Seconded by Councillor E. Beauregard

That Council support the letter of Correspondence from the Town of Wasaga Beach regarding Traffic Calming and Speeding Mitigation.

Carried

15. Staff Remarks

Charlotte Madden, City Clerk, provided updates on the upcoming 2026 Municipal and School Board Election. She noted the deadline to register to vote through Elections Ontario is August 12, 2026, and that the deadline for those running for office to file their nomination papers is August 21, 2026, at 2 p.m. An appointment is required to file and can be set up with the Election Coordinator via email at election@portcolborne.ca or by calling 905-228-8120. She also reminded folks that the ward structure has changed to a 3-ward structure for the upcoming election, and residents can check which ward they are in through the online interactive map or via the printed ward maps at City Hall. She also noted there would be additional outreach activities, and the deadline to register to vote by mail is September 25, 2026. Lastly, she highlighted that recruitment for election workers is now open, and applications are being accepted until August 31, 2026, and applications are available on the City's website or paper copies are available at City Hall.

Danny Rodgers, Chief Building Official, provided an update on Short Term Rentals. He noted that 666 operators have participated in the licensing process, and 605 are fully licenses. There have been 41 enforcement files, and have issued 21 orders that have resulted in $15,600 in fines; AMPs penalties are subject to an appeal process, but if they are not appealed or paid, it gets applied to the property owner's taxes.

Stan Double, Fire Chief, noted they have been busy during the summer season, and thanked staff for their diligence. He also thanked City staff for their work during Canal Days.

Steve Shypowskyj, Director of Public Works, spoke about the bicycle use issues on the promenade, and explained they will be installing signage asking uses to dismount during that section from Clarence Street to Sugarloaf Street and will be designing some education awareness campaigns with the Communications department. He spoke about the impact of the recent rainfall on the City and positive infrastructure performance. Lastly, he noted there is a road closure planned on Kallaly Street East from Welland Street to Fair Street from August 11th - August 26, 2026.

Gary Long, Development & Business Enterprises, spoke about the upcoming AMO conference in Ottawa, where they have 11 delegation meetings confirmed with different government officials and meetings set up with various organizations. He also spoke about an affordable housing project and that they are the Niagara Region are pursuing all capital funding opportunities.

Kelly Martel, Manager of Planning, explained they held two open house events for the Official Plan at the Vale Health and Wellness Centre and they were well attended. She noted the Official Plan is now in its 90-day review period with the province, and it is available for public review on the City's website, and they will continue to intake comments over the next 90 days. Planning staff will be coming back to Council later this year with a public meeting, and likely an adoption meeting early next year.

Bryan Boles, Chief Administrative Officer, thanked the leadership team, including Adam Pigeau and Julie Rorison, for the mid-year report. He also thanked Renée Bisson for the healthcare report. Lastly, he thanked all staff and Councillors for their participation in Canal days, and thanked Jasmine Peazel-Graham, Greg Zwiep, Luke Rowe, and Olga Loeffen for planning the event.

16. Councillors' Remarks

Councillor Aquilina thanked all staff for their work on Canal Days. She also inquired to Danny Rodgers, Chief Building Official, about short-term rentals, and

if they could receive a monthly report to Councillors regarding by-law services. She also spoke about fallen trees down at Pleasant Beach Road and Sherkston Road, and thanked staff for their prompt response.

Councillor Beauregard thanked staff for their work on Canal Days.

Councillor Bagu inquired to Steve Shypowskyj about Welland Street and concerns regarding the paving job.

Councillor Bruno thanked Steve for assisting residents during the storm event near Reservoir Park. He also inquired to Danny about the process for appealing fines applied to short-term rentals and enforcement.

Councillor Elliott inquired to Steve if a property on Elm Street has been looked at, as it floods during weather events. He also inquired about the construction work on the City's daycare site. Lastly, he noted he received compliments on how clean the City was during Canal Days and after the event.

Councillor Danch inquired to staff about building permits for an apartment building.

Councillor Hoyle thanked staff for answering his inquiries and for everyone's work on Canal Days. He also thanked Shianne Peters from the Communications Department for rescuing his dog during a test firework during Canal Days.

Councillor Bodner thanked staff for work on Canal Days. He also inquired if motorized scooters were included in the planned signage on the promenade.

17. Motions

There were no motions.

18. Notice of Motions

There were no notices of motions.

19. Procedural Motions

There were no procedural motions.

20. By-laws

20.1 By-law No. 7486/70/26

Councillor G. Bruno, Councillor E. Beauregard and Councillor D. Elliott all declared a conflict on this item.

C-25- 151

Moved by Councillor F. Danch
Seconded by Councillor T. Hoyle

That By-law No. 7486/70/26 be passed and enacted, as presented.

Carried

20.2 By-law No. 7487/71/26

20.3 By-law No. 7488/72/26

20.4 By-law No. 7489/73/26

20.5 By-law No. 7490/74/26

20.6 By-law No. 7491/75/26

20.7 By-law No. 7492/76/26

20.8 By-law No. 7493/77/26

20.9 By-law No. 7494/78/26

C-25- 152

Moved by Councillor D. Elliott
Seconded by Councillor G. Bruno

That the following by-law(s) be passed and enacted, as presented:

- By-law No. 7487/71/26
- By-law No. 7488/72/26
- By-law No. 7489/73/26
- By-law No. 7490/74/26
- By-law No. 7491/75/26
- By-law No. 7492/76/26
- By-law No. 7493/77/26
- By-law No. 7494/78/26

Carried

21. Adjournment

Mayor Steele adjourned the meeting at 9:06 p.m.

William C. Steele, Mayor

Charlotte Madden, City Clerk

Port Colborne Public Library Board Meeting Minutes

Date:	**Monday, July 27, 2026**
Time:	**6:00 pm**
Location:	**Library Auditorium, Port Colborne Public Library** **310 King St, Port Colborne**
Members Present:	M. Bagu, Councillor B. Ingram, Chair (Attended virtually) C. MacMillan (Attended virtually) E. Tanini (Attended virtually) A. Smits (Attended virtually)
Member(s) Absent:	A. Desmarais, Vice Chair H. Cooper B. Beck M. Booth
Staff Present:	R. Tkachuk, Chief Executive Officer (Board Secretary-Treasurer) L. MacDonald, Library Services Manager
Others Present:	Alexandra Taylor, Consultant, Ontario Library Services (Attended virtually)

1. Call to Order

The Chair called the meeting to order at 6:09 PM.

2. Land Acknowledgement

The Chair recited the Land Acknowledgement.

3. Disclosures of Interest

Nil.

4. Adoption of Agenda

Moved by A. Smits
Seconded by E. Tanini

That the agenda dated July 27, 2026, be confirmed, as circulated.

Carried

5. Approval of Minutes

Moved by A. Smits
Seconded by C. MacMillan

That the minutes dated June 6, 2026, be approved, as circulated.

Carried

6. Presentations

6.1 Strategic Planning Presentation (A. Taylor)

The Library Board received a Strategic Planning Presentation from a Consultant from the Ontario Library Service.

The Chair left the meeting at approximately 7:55 PM. A. Smits chaired the remainder of the meeting.

7. Notice of Motions

Nil.

8. Roundtable

Nil.

9. Next Meeting Date and Adjournment

The next meeting will be held Wednesday, August 5, 2026, at 6 PM in the Library Auditorium. A. Smits adjourned the meeting at approximately 8:04 PM.

Bryan Ingram, Chair	Rachel Tkachuk, Chief Executive Officer (Board Secretary-Treasurer)

PORT COLBORNE

Subject: **Niagara Compliance Audit Committee – 2026 Municipal and School Board Election**

To: **Council**

From: **Legislative Services Department**

Report Number: 2026-135

Meeting Date: September 8, 2026

Recommendation:

That Legislative Services Department Report 2026-135 be received; and

That the City Clerk be delegated the authority to appoint members to the Niagara Compliance Audit Committee (the Committee) for the 2026-2030 term and to make any necessary administrative updates to the Committee's Terms of Reference in consultation with the participating municipalities.

Purpose:

This report seeks Council authorization to delegate authority to the City Clerk to appoint members to the Niagara Compliance Audit Committee for the 2026-2030 term of Council in accordance with the *Municipal Elections Act*, 1996 (the "Act").

Background:

The purpose of a Compliance Audit Committee is to consider applications from qualified electors who believe, on reasonable grounds, that a candidate or registered third party advertiser has contravened the campaign finance provisions of the Act. Where appropriate, the Committee may grant a compliance audit, appoint an auditor, receive and consider the auditor's report, and determine whether legal proceedings should be commenced.

Section 88.37 of the Act requires municipalities and local boards to establish a Compliance Audit Committee before October 1 in an election year.

Since 2010, Niagara Region, the twelve local area municipalities, and the Niagara Catholic District School Board and District School Board of Niagara (collectively, the

"Joint Participants") have participated in a joint Niagara Compliance Audit Committee. The joint model has proven to be an efficient and cost-effective approach that provides access to qualified members with expertise in relevant fields while ensuring consistency across participating jurisdictions.

For the past two municipal elections in 2018 and 2022, Council delegated authority to the City Clerk to appoint members to the Niagara Compliance Audit Committee and to make administrative and legislative updates to the Committee's Terms of Reference as required. Staff are recommending that Council continue its participation in the joint Committee and provide similar delegated authority for the 2026-2030 term.

Discussion:

The Local Area Municipal Clerks' group has discussed and approved the 2026 Terms of Reference for the Niagara Compliance Audit Committee. The updated Terms of Reference are attached to this report as Appendix A. Only minor administrative changes were made to the version from 2022.

Pursuant to Section 4(1) of the Terms of Reference, appointments to the Committee must be approved by the participating Councils, or their delegated authorities, prior to October 1 of an election year. Accordingly, staff are requesting delegated authority to appoint members to the Committee on behalf of the City of Port Colborne.

Delegating appointment authority to the City Clerk reflects current best practices and is consistent with the approach adopted by many municipalities across Ontario. This model helps preserve the independence and impartiality of the Committee by maintaining an appropriate level of separation between the appointment process and elected officials who may be candidates in the election and, potentially, subject to a compliance audit application.

The Committee will consist of a minimum of three (3) and a maximum of seven (7) members. Preference will be given to individuals who possess professional knowledge and experience in accounting, auditing, law, election administration, public administration, or related disciplines. Experience serving on municipal boards, quasi-judicial bodies, tribunals, or similar committees is considered an asset.

The Committee's responsibilities include:

- Receiving and considering applications and determining whether an audit should be granted or rejected;
- Appointing an auditor where a compliance audit application has been granted;
- Receiving and considering compliance audit reports prepared by the appointed auditor; and

- Determining whether legal proceedings should be commenced against a candidate or registered third party advertiser where the auditor's report identifies a potential contravention of the campaign finance provisions of the Act.
- Considering reports submitted by participating municipal clerks with respect to contributions and determining whether legal proceedings should be commenced against a contributor where appropriate.

Participation in the joint Niagara Compliance Audit Committee continues to provide an efficient and coordinated approach to meeting the City's legislative obligations under the Act while minimizing administrative burden and associated costs.

Financial Implications:

In accordance with the Terms of Reference, Committee members will receive a retainer of $350.00 for the four-year term, including mileage, participation in mandatory training, and preparation time associated with meetings. These costs are shared equally among the Joint Participants.

In addition, members will receive an honorarium of $250.00 per meeting attended, plus an additional $50.00 for each application or report considered after the first item on the meeting agenda. Mileage will be reimbursed in accordance with the rate established by the responding municipality

Should a compliance audit application be filed for one of the certified candidates in Port Colborne’s 2026 municipal election, the City would be responsible for all costs associated with the Committee's consideration of that application, including the retention of an auditor and any costs arising from decisions of the Committee. Any such expenditures would be funded through the approved 2026 Municipal Election budget.

Public Engagement:

On August 24, 2026, the advertisement for the Joint Niagara Compliance Audit Committee was posted on the Niagara Region website, and the City’s website.

Strategic Plan Alignment:

The initiative contained within this report supports good governance and accountability practices and aligns with Council's commitment to transparent, effective, and responsible municipal administration.

Conclusion:

The *Municipal Elections Act, 1996* requires municipalities to establish a Compliance Audit Committee prior to October 1 in an election year. Continued participation in the joint Niagara Compliance Audit Committee provides an effective, consistent, and cost-efficient means of meeting this legislative requirement.

Staff recommend that Council delegate authority to the City Clerk to appoint members to the Niagara Compliance Audit Committee for the 2026-2030 term and to make any necessary administrative updates to the Terms of Reference in consultation with participating municipalities.

Appendices:

a. Updated Terms of Reference for Niagara Compliance Audit Committee

Respectfully submitted,

Charlotte Madden
City Clerk/Manager of Legislative Service
905-228-8031
Charlotte.Madden@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

Terms of Reference for
Niagara Compliance Audit Committee

1. Authority

1. Section 88.33(1) of the *Municipal Elections Act, 1996* (*Act*) provides that an elector who is entitled to vote in an election and believes on reasonable grounds that a candidate has contravened a provision of the *Act* relating to election campaign finances may apply for a compliance audit of the candidate's election campaign finances, even if the candidate has not filed a financial statement under section 88.25.

2. Section 88.35(1) of the Act provides that an elector who is entitled to vote in an election in a municipality and believes on reasonable grounds that a registered third party who is registered in relation to the election in the municipality has contravened a provision of the *Act* relating to campaign finances may apply for a compliance audit of the campaign finances of the registered third party in relation to third party advertisements, even if the registered third party has not filed a financial statement under section 88.29.

3. Sections 88.34 and 88.36 of the *Act* requires the clerk to review the contributions reported on the financial statements submitted by a candidate or registered third party to determine whether any contributor appears to have exceeded any of the contribution limits and, if so, report any apparent contraventions to the compliance audit committee.

4. Section 88.37 of the *Act* requires a council or local board to establish a compliance audit committee before October 1 of an election year for the purposes of the *Act*.

2. Establishment of Committee

1. A Joint Compliance Audit Committee is established with the potential participants as set out below, and shall be named the "Niagara Compliance Audit Committee" ("Committee"):

    - "Local Area Municipalities": Town of Fort Erie, Town of Grimsby, Town of Lincoln, City of Niagara Falls, Town of Niagara-on-the-Lake, Town of Pelham, City of Port Colborne, City of St. Catharines, City of Thorold, Township of Wainfleet, City of Welland, and Township of West Lincoln
    - "Region": Regional Municipality of Niagara
    - "School Boards": District School Board of Niagara and Niagara Catholic District School Board.

2. The potential participants as set out in Section 2.1, shall each determine its participation in the Committee, the results of which shall form the "Joint Participants."

3. The Committee is a statutory committee.

3. References

1. Responding municipality and responding school board means the municipality or school board responsible for the office. Local area municipalities are responsible for the office of Mayor and Councillors and School Boards responsible for the office of trustees.

2. The local area municipality that is the returning office shall receive applications for compliance audit on behalf of the school boards and immediately provide the same to the school board to commence the compliance audit proceedings.

4. Term

1. In accordance with section 88.37(1) of the *Act*, the Committee shall be established before October 1st in an election year. The Committee members shall be appointed by each Council or by delegated authority prior to October 1st in each election year.

2. In accordance with section 88.37(5) of the *Act*, the term of the Committee shall be the same as the term of council or local board. The term of appointment of the Committee members shall be November 15 of the regular election year to November 14 of the next regular election year, including any by-elections, or until such time as the applicable Committee has disposed of any remaining matters in accordance with the *Act*.

5. Mandate

1. The mandate of the Committee is to hear and make decisions on applications filed and reports prepared in accordance with Sections 88.33 to 88.36 of the *Act*.

2. Applications for Compliance Audit

   With respect to an application for a compliance audit of the campaign finances of a candidate or a registered third party, the Committee shall:

   (a) Receive and consider applications and determine whether the compliance audit should be granted or rejected;
   (b) Appoint an auditor, if the compliance audit is granted;
   (c) Receive the compliance audit report from the auditor; and
   (d) Review the auditor's report and, if the report concludes that the candidate or registered third party appears to have contravened a provision of the *Act* relating to campaign finances, decide whether legal proceedings should be commenced against the candidate.

The Committee is required to consider and render a decision on applications for compliance audits and reports from an auditor within 30 days of receipt.

3. Clerk's Report – Contributions

With respect to a report from a participating municipality's Clerk identifying each contributor to a candidate or registered third party who appears to have contravened any of the contribution limits under the *Act*, the Committee shall:

(a) Consider the report(s) from any participating municipality's Clerk and decide whether legal proceedings should be commenced against the contributor.

The Committee is required to consider and render a decision on reports from any participating municipality's Clerk within 30 days of receipt.

6. Composition

1. The roster of Committee members shall include a minimum of 3 and a maximum of 7 members who are eligible electors in any of the Local Area Municipalities and shall not include:

(a) employees or officers of the Joint Participants;
(b) members of the Council or Board of the Joint Participants;
(c) any persons who are candidates in the election for which the Committee is established;
(d) any person who is or intends to volunteer or seek employment to assist any candidate or registered third party in the election for which the Committee is established;
(e) any person who prepares the financial statement of, or have any other formal relationship with, any candidate or registered third party in the election for which the Committee is established; or
(f) any person who is a registered third party in any local area municipality in the election for which the Committee is established.

2. The preference is for members of the Committee to have a professional background in accounting, auditing, law, election administration and / or public administration, an understanding of municipal campaign finance provisions, and experience with or as a member of a government board, task force or quasi-judicial body.

3. When an Application for Compliance Audit has been filed or a Clerk's Report has been prepared identifying contributor(s) who appear to have contravened any of the contribution limits under the Act, in accordance with section 88.37(2) of the Act a minimum of 3 and maximum of 7 of the members on the roster for the Committee shall comprise the Committee for the purposes of reviewing and considering the matter in its entirety.

4. The Clerk of the responding municipality or the Secretary of the responding school board shall determine the size and selection of the 3 to 7 sitting members of the Committee from the roster of members.

5. Members that do not complete the mandatory training to the satisfaction of the Nomination Committee shall be removed from the roster of Committee members.

7. Member Selection and Appointment

1. The recruitment of committee members shall be advertised on the websites of the participating municipalities and school boards. Other recruitment measures may be initiated by the participating municipalities and school boards, as may be deemed appropriate.

2. All persons interested in serving on the Committee shall participate in a recruitment process as determined by the Clerks of the Joint Participants, setting out their qualifications and experience.

4. A Nomination Committee consisting of a minimum of 3 Clerks or designates from the Local Area Municipalities, plus the Clerk or designate from the Region, will review the applications and submit a joint short list of candidates to the Joint Participants for appointment approval.

5. In the event a vacancy occurs during the term, the municipality may rely on the remaining members to compose a Committee of 3 to 7 members.

8. Selection Criteria

1. Without limiting the foregoing, members shall be selected on the basis of the following:
   (a) demonstrated knowledge and understanding of municipal election campaign finance rules;
   (b) proven analytical and decision-making skills;
   (c) experience working on a committee, administrative tribunal, task force or similar setting;
   (d) demonstrated knowledge of quasi-judicial proceedings
   (e) availability and willingness to attend meetings during daytime and evening hours;
   (f) excellent oral and written communication skills.

9. Chair of Committee

1. The Committee shall select a Chair from amongst its sitting members at the first meeting held to consider an application in accordance with the Procedures for the Niagara Compliance Audit Committee.

10. Secretary to Committee

1. The Clerk of the responding municipality or Secretary of the responding school board shall act as Secretary to the Committee.

11. Compensation

1. Members shall receive a retainer of $350.00 (including mileage) for the four-year term which includes participation in one mandatory training session and any preparation/review time required for meetings the costs of which shall be shared equally amongst the Joint Participants.

2. Members shall receive an honorarium of $250.00 per meeting paid by responding municipality or school board plus mileage (from their residence or previous / next location to the meeting location, whichever distance is shortest), at the rate of the responding municipality or school board. An additional $50 will also be provided for each additional application or report being considered after the first at a meeting.

12. Costs and Funding

1. The responding municipality or board shall fund and pay all costs associated with the Committee, including the retention of an auditor and any costs incurred as a result of prosecution or a decision of the Committee being challenged to the Ontario Superior Court of Justice.

2. The Joint Participants shall equally share in the costs associated with advertising and training.

13. Auditor

1. The Region shall, on behalf of the local area municipalities and school boards, take the necessary steps to secure an auditor or roster of auditors to undertake any audits as may be requested by the Committee.

14. Meetings and Procedures

1. The Committee shall conduct its meetings in public but may deliberate in private.

2. The responding municipality's or school board's website shall be used to communicate meeting notices, agendas, minutes and decisions.

3. The Committee shall conduct its meetings in accordance with the Procedures for the Niagara Compliance Audit Committee and the *Statutory Powers Procedures Act,* with modifications as deemed necessary.

15. Conflicts

1. Pursuant to the provisions of the *Municipal Conflict of Interest Act*, it shall be the sole responsibility of each Member to:
   a. Disclose any conflicts of interest as they arise, and in doing so, to clearly state the reason for every such conflict;
   b. File a written statement of their conflict of interest and the general nature of the interest with the Clerk of the responding municipality or the Secretary of the responding school board; and
   c. Remove themselves from meetings for the duration of the consideration of the Application or Clerk's Report, including discussion, deliberation and voting with respect to the matter.

2. In the event a member is aware of a conflict of interest when an Application for Compliance Audit or Clerk's Report is forwarded to the Committee, the member shall disclose the interest and recuse themselves from being part of the Committee for the purposes of reviewing and considering that Application for Compliance Audit or Clerk's Report.

3. In the event a member discloses a pecuniary interest in advance of the initial meeting, the Clerk of the responding municipality or Secretary of the responding school board may decide to continue with the sitting members if there are a minimum of members remaining or may select another member to replace the original member on the Committee.

4. To avoid possible conflicts of interest, an auditor or accountant appointed to the Committee must agree, in writing, not to undertake the audits or preparation of the financial statements of any candidate or registered third party for the election for which the Committee is established.

5. All Committee members must agree, in writing, to not work for, volunteer for, or contribute to any candidate or registered third party in any capacity in the election for which the Committee is established. If upon being made aware that a member has participated or contributed to a candidate or registered third party, the member shall be removed from the roster of Committee members.

16. Practices and Procedures

1. The Clerks and Secretaries of the Joint Participants have the authority to establish administrative practices and procedures for the Committee and shall carry out any other duties required under the *Act* to implement the Committee's decisions.

PORT COLBORNE

Subject: **Vacant Position – Resignation of Councillor Eric Beauregard**

To: **Council**

From: **Legislative Services Department**

Report Number: 2026-136

Meeting Date: September 8, 2026

Recommendation:

That Legislative Services Department Report 2026-136 be received; and

That the Ward 2 Council seat of Councillor Eric Beauregard be declared vacant pursuant to and in accordance with Sections 262 and 259(1) of the *Municipal Act, 2001*; and

That the Ward 2 Council seat be left vacant pursuant to Section 263(5)3 of the *Municipal Act, 2001*.

Purpose:

The purpose of this report is to advise Council of the resignation of Councillor Eric Beauregard, facilitate the declaration of a vacancy on City Council, present the options available under the *Municipal Act, 2001* for addressing the vacant seat, and seek Council's direction to leave the seat vacant until the October 2026 Municipal Election, as permitted under the *Municipal Elections Act, 1996*.

Background:

On August 13, 2026, Councillor Eric Beauregard submitted a written resignation to the City Clerk in accordance with section 260 of the *Municipal Act, 2001*.

Pursuant to subsection 260(1) of the *Municipal Act, 2001*, a resignation becomes effective when the written notice is received by the Clerk or at a later date specified in the resignation. As a result, Councillor Beauregard's seat on Council became vacant effective August 13, 2026.

Section 262 of the *Municipal Act, 2001* requires Council to declare the office vacant at its next meeting following the occurrence of a vacancy. The *Municipal Act, 2001* also establishes a framework for addressing vacancies on municipal councils, including provisions related to appointments, by-elections, and circumstances where a vacancy may remain unfilled.

Discussion:

As a result of Councillor Beauregard's resignation, Council is required to declare the office vacant in accordance with the *Municipal Act, 2001*.

The *Municipal Act, 2001*, the *Municipal Elections Act, 1996*, and the City's Council Vacancy Policy establish the options available to Council when a vacancy occurs. While vacancies may generally be filled by appointment or by-election, a by-election is not permitted in this instance. Pursuant to subsection 65(2) of the *Municipal Elections Act, 1996*, municipalities are prohibited from holding a by-election after March 31 in a regular election year. As the 2026 Municipal Election is scheduled for October 26, 2026, this option is unavailable.

Section 263(5)3 of the *Municipal Act, 2001* further provides that Council is not required to fill a vacancy that occurs within 90 days of voting day in a regular election year. Given the timing of the vacancy and the proximity of the 2026 Municipal Election, staff have reviewed the practicality of proceeding with an appointment process.

Under the City's Council Vacancy Policy, Council may fill a councillor vacancy by appointing an eligible individual. However, with only one regular Council meeting remaining in the current term, an appointment process would be of limited practical value and would likely require additional Council meetings and administrative resources to complete. Any appointment would also necessitate onboarding, legislative training, technology access, and administrative supports involving multiple departments.

Given the proximity of the regular municipal election, the limited time remaining in the current term of Council, and the significant resources currently dedicated to the administration of the 2026 Municipal Election, maintaining the vacancy for the remainder of the term is considered the most practicable option.

Councillor Beauregard served on the Committee of Adjustment, Museum Board, Heritage Sub-Committee, and Niagara Region Transit. The remaining meetings of the Committee of Adjustment and Museum Board can continue to proceed despite the vacancy. For the Committee of Adjustment, quorum is achieved with the attendance of three members in accordance with subsection 44(5) of the *Planning Act, 1990*.

Council participation in advisory committees will be reviewed during the new term of Council, starting in November, 2026.

Financial Implications:

There are no significant financial implications associated with the option to leave the vacant Council seat unfilled for the remainder of the current term.

Should Council choose to proceed with an appointment process, additional administrative costs would be incurred to facilitate the appointment and onboarding of a new member of Council. These costs would primarily consist of staff time required to administer the appointment process, coordinate onboarding activities, provide legislative and corporate orientation, and establish the necessary technology and administrative supports. These activities would require resources from the Office of the City Clerk as well as other departments, including Human Resources and Information Technology.

Given the limited time remaining in the current term of Council and the City's ongoing preparations for the 2026 Municipal Election, the administrative resources required to fill the vacancy would outweigh the limited benefit of doing so for the balance of the term.

Strategic Plan Alignment:

This report is administrative and legislative in nature and is being brought forward to ensure compliance with the requirements of the *Municipal Act, 2001*. As such, the recommendation does not directly support a specific pillar of Council's Strategic Plan.

The recommendation supports the effective governance and continuity of municipal operations by ensuring that Council addresses the vacancy in accordance with legislative requirements while maintaining focus on the administration of the 2026 Municipal Election.

Conclusion:

Council is required to declare the office of Councillor vacant as a result of Councillor Beauregard's resignation. Based on a review of the legislative requirements, the available options under the *Municipal Act, 2001*, and the proximity of the 2026 Municipal Election, filling the vacancy is neither practical nor necessary for the balance of the current term.

Accordingly, declaring the seat vacant and leaving it unfilled until the commencement of the next term of Council following the October 26, 2026 Municipal Election is considered the most practicable option.

Respectfully submitted,

Charlotte Madden
City Clerk
905-228-8031
Charlotte.Madden@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

PORT COLBORNE

Subject: **Multi Year Accessibility Plan 2027-2031**

To: **Council**

From: **Human Resources Department**

Report Number: 2026-126

Meeting Date: September 8, 2026

Recommendation:

That Human Resources Department Report 2026-126 be received; and

That Council approve the Multi Year Accessibility Plan 2027-2031, attached hereto as Appendix A.

Purpose:

This report has been written to present the proposed Multi Year Accessibility Plan 2027-2031 to Council for approval and to ensure compliance with the *Accessibility for Ontarians with Disabilities Act*, 2005.

Background:

Under the Accessibility for *Ontarians with Disabilities Act, 2005*, and Ontario Regulation 191/11 (Integrated Accessibility Standard) (AODA), public and private sector organizations in the Province of Ontario are required to develop a multi-year accessibility plan (MYAP). This plan aims to identify and address barriers to information and communication, employment, transportation, and customer service for people with disabilities

The Joint Accessibility Advisory Committee (JAAC) of Lincoln, West Lincoln, Pelham, Thorold, Niagara-on-the-Lake, Grimsby, and Port Colborne presented the current Multi-Year Accessibility Plan (2022-2026) to Council on September 13, 2022, and Council approved the plan. Since that time the plan has been brought forward annually to provide Council with an update on progress Initiatives to improve accessibility provide the City and our JAAC partner municipalities with an opportunity to deliver excellence in customer service and an accessible experience to all citizens. The municipalities are

steadfast in their commitment to meeting the accessibility needs of both their citizens and staff.

Discussion:

Staff are committed to advancing accessibility through a variety of initiatives, including ensuring access to information through accessible documents and an accessible website, evaluating the built environment, incorporating accessibility considerations into site plan review, completing provincial reporting requirements, and delivering accessible customer service.

The Multi-Year Accessibility Plan (MYAP) identifies the steps that municipalities represented by the Joint Accessibility Advisory Committee (JAAC) have taken and will continue to take to ensure their programs, services, and facilities are accessible to people of all abilities.

The 2027-2031 MYAP (Appendix A) outlines goals and actions to improve accessibility in the areas of information and communications, employment standards, transportation, and customer service and design of public spaces.

The City of Port Colborne is required under the Accessibility for Ontarians with Disabilities Act (AODA) to make the Plan available on the City's website and provide annual updates on its implementation. The MYAP will be made available on the new City website, currently in development. Staff will continue to report to Council as the identified goals and actions are completed.

Internal Consultations:

The Director of Public Works, Manager of Corporate Communications, Library Chief Executive Officer, and the City's Chief Administrative Officer (CAO) have reviewed the proposed Multi-Year Accessibility Plan and provided input and feedback on the proposed goals and objectives.

Financial Implications:

The implementation of the MYAP will involve a combination of initiatives that can be accommodated within existing departmental resources, as well as actions that may require additional financial investment. At this time, the specific costs associated with each action item have not been fully determined, as they will vary depending on the scope, timing, and resources required to complete each initiative.

Where financial impacts are identified, funding requirements will be considered as part of the annual budget process and will be brought forward for Council's consideration as appropriate. Departments will continue to assess opportunities to incorporate

accessibility improvements through existing programs, capital projects, operational planning, and available funding opportunities.

The implementation of the Plan will be monitored over its five-year term, and any material financial implications will be identified and addressed through the regular budget process.

Public Engagement:

Under the AODA, when drafting its MYAP, the municipality is required to consult with the public and people with disabilities. A six-week public consultation period occurred in each member municipality. Members of the public were encouraged to complete surveys to provide their feedback regarding accessibility in Niagara. City staff were also consulted.

The public consultation allowed for the development of trends and themes across the JAAC catchment area of Lincoln, West Lincoln, Pelham, Thorold, Niagara-on-the-Lake, Grimsby and Port Colborne, and the results are contained within the MYAP.

Strategic Plan Alignment:

The Multi-Year Accessibility Plan is a legislated requirement. However, accessibility is also a foundation of the City's strategic plan which supports all of the strategic pillars:

- Environment and Climate Change
- Welcoming, Livable, Healthy Community
- Economic Prosperity
- Increased Housing Options
- Sustainable and Resilient Infrastructure

Conclusion:

Staff are confident that the Multi-Year Accessibility Plan meets the City's obligations under the *Accessibility for Ontarians with Disabilities Act* (AODA) and demonstrates the City's ongoing commitment to identifying, addressing, and reducing barriers for people with disabilities. Staff recommend that Council approve the 2027-2031 Multi-Year Accessibility Plan, as attached.

Appendices:

a. Multi-Year Accessibility Plan 2027-2031

Respectfully submitted,

Mary Murray, CHRE, MIR
Chief Human Resources Officer
905-228-8033
Mary.murray@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

City of Port Colborne

Multi-Year Accessibility Plan

2027 TO 2031



PORT COLBORNE

Background: Accessibility and the Province of Ontario

Under the Accessibility for Ontarians with Disabilities Act (AODA), 2005, Ontario Regulation 191/11 (Integrated Accessibility Standard) public and private sector organizations in the Province of Ontario must develop a Multi-Year Accessibility Plan (MYAP) to identify and address barriers to information and communication, employment, transportation, design of public spaces and customer service for people with disabilities.

The City of Port Colborne is continuing its proactive approach to accessibility planning by developing its MYAP for 2027-2031. The Plan includes a public engagement process and includes consultation with its Accessibility Advisory Committee (AAC) and staff. Port Colborne remains committed to meeting the accessibility needs of its citizens and staff.

This Plan identifies the steps Port Colborne has taken and will continue to take to ensure the City's goods and services are accessible to all people of all abilities. The City of Port Colborne is committed to providing excellent customer service to all its citizens.

Port Colborne is committed to compliance with AODA and its accessibility standards and will provide accessibility and accommodation for persons with disabilities through AODA's customer service standard, integrated accessibility standard and all other standards as they are developed, and in accordance with the requirements of the Ontario Human Rights Code.

Port Colborne wishes to thank its community partners, stakeholders and service partners in helping the City to achieve its accessibility goals.

Message from the Mayor

Port Colborne is a community that values inclusion, respect and the opportunity for everyone to participate fully. Ensuring our city is accessible to people of all abilities is an important part of building a place where everyone feels welcome and can take part.

Our 2027–2031 MYAP reflects the City's continued commitment to identifying, preventing and removing barriers. It builds on the progress we have made while setting out priorities for the years ahead, from improving the accessibility of our facilities and public spaces to how we communicate, provide customer service and deliver programs and services.

The AODA provides an important foundation for this work. Equally important is listening to the people who experience barriers firsthand. The feedback received through the development of this Plan has helped us better understand where progress has been made, where challenges remain and where we should focus our efforts moving forward.

On behalf of City Council, I want to thank the residents, members of the ACC and City staff who contributed their time, experience and perspectives to this Plan. By continuing to listen, learn and make improvements, we can help ensure Port Colborne remains a community where everyone has the opportunity to participate and feel included.

Bill Steele
Mayor, City of Port Colborne

Message from the CAO

Accessibility is an important part of how we serve the community and how we operate as a municipal organization. It should be considered in the decisions we make, the services we provide, the information we share, the public spaces we maintain and the workplace we create for our employees.

The City's 2027–2031 MYAP establishes clear priorities for the next five years and reinforces our responsibilities under the AODA. It also challenges us to continue looking carefully at how we do our work, recognize barriers that may exist and identify practical opportunities for improvement.

That work takes many forms. Some improvements are physical and easy to see. Others come through better training, more accessible information, thoughtful customer service and a greater understanding of the different ways people experience our facilities, programs and services. The Plan also recognizes the importance of understanding disabilities that may not be immediately apparent and ensuring staff have the knowledge and tools to respond appropriately.

I want to thank our staff, the ACC and the members of the community who shared their perspectives through the development of this Plan.

Accessibility requires ongoing attention and shared responsibility across the organization, and we are committed to continuing this work and making meaningful improvements in how we serve Port Colborne.

Bryan Boles
Chief Administrative Officer, City of Port Colborne

General Requirements

General Requirements under the AODA include the establishment of accessibility policies, the accessibility plan and addresses needs related to accessible procurement. This section of the AODA also communicates training requirements for greater understanding of the AODA and accessibility needs of clients and customers.

What We Will Continue to Do

- Prepare and share publicly our MYAP outlining our commitment to accessible goods and services for citizens within the City of Port Colborne.

2027-2031 Goals

- Provide strong municipal guidance, direction and ownership to ensure accessibility is captured within the parameters of the City's business.
- Review accessibility policy, procurement policies and other related policies to ensure accessibility needs are addressed adequately.
- Provide annual updates on the implementation progress of the Multi-Year Accessibility Plan.
- Support the development of the AAC by reviewing the recruitment process to strengthen representation of a variety of disability experiences at the committee table.
- Provide immediate training for new hires and refresher training to existing staff and the AAC every 3 years on the AODA, the Ontario Human Rights Commission requirements, other Accessibility Standard requirements as necessary and the customer service experience.
- Source and provide additional training for staff on different disabilities, especially invisible disabilities such as neurodiversity, so that staff will gain a greater understanding of issues and accessibility barriers.
- Source and provide additional training for by-law enforcement officers on AODA requirements to ensure a more inclusive understanding of accessibility barriers.

- Source and provide additional training for development staff on AODA requirements and on different disabilities to ensure a more inclusive understanding of disability experiences and barriers.

Who is Responsible

- Human Resources
- Accessibility Consultant

Customer Service

The Customer Service Standard establishes customer service policies. With the welcoming of service animals and support persons, the Standard allows for an effective customer service experience. It also addresses communication needs through the development of an accessible feedback process and the need for accessible formats for information. Staff increase their customer service effectiveness through customer service training.

What We Will Continue to Do

- Welcome service animals and support persons on City premises to support the accessibility needs of people with disabilities.
- Review the Customer Service Policy to ensure it is current and reflects any internal changes/updates.
- Receive public and internal feedback using multiple accessible methods to improve customer service.
- Provide alternate formats of customer service information upon request.

2027-2031 Goals

- Provide additional training on accessible customer service and invisible disabilities so that front line staff receive further awareness to better respond to the accessibility needs of the public. Customer service training refreshers for staff will emphasize the face-to face customer service needs.
- Improve the customer service experience by ensuring accessibility information is available by creating an Accessibility Guide. The guide would be useful to the public in finding accessibility features in the City and would be helpful to staff in addressing enquiries or customer service needs with accurate, up to date information.

- Provide an “additional support” option, that is not web-based, to allow people with disabilities with assistance in registering for programs and services so that registration can occur offline.

Who is Responsible

- Human Resources
- Accessibility Consultant

Information and Communication

The Information and Communications Standard ensures that municipal information and web-based communications are accessible and available in alternate formats upon request. It ensures that public emergency information is accessible and focuses on information available through public libraries.

What We Will Continue to Do

- Ensure web-based information is compliant with WCAG 2.2 Accessibility Standards, to Level AA.
- Provide alternate formats of City information upon request.
- Provide improvements to the website, especially keeping information current.
- The public library will:
    - Access to or arrange for accessible materials where they exist.
    - Provide information about the availability of accessible materials and provide this information in an accessible format upon request.
    - Provide accessible formats for archival materials, special collections, rare books and donations.

2027-2031 Goals

- Conduct an annual website audit to ensure City website is fully compliant with WCAG 2.2, Level AA.
- Increase awareness among staff, through training, on the barriers faced by people with disabilities in using the internet.
- Source and provide training on accessible content creation and website considerations.
- Ensure that City information is available beyond the website, including pamphlets, posters and other mailouts.

- Review how the organization communicates with and informs the public about the availability of emergency plans and policies, provides accessible materials where they exist, and provide communication support upon request.
- Source and provide resources for employees on accessible public engagement and consultation processes.
- Redesign business cards to have a larger, clear text font.

Who is Responsible

- Corporate Communications
- Accessibility Consultant

Employment Standards

The Employment Standard attempts to reduce and eliminate barriers to employment for people with disabilities. It approaches accessibility throughout the employment life cycle through recruitment to redeployment. It requires the development of accommodation plans and emergency response plans for employees with disabilities. It ensures accessibility is considered in all employment related functions.

What We Will Continue to Do

- Ensure accessibility is addressed throughout the employment life cycle from recruitment to re-deployment.
- Develop employment accommodation plans as needed for employees.
- Develop emergency response plans for employees as needed.

2027-2031 Goals

- Review employment letter templates to ensure the availability of accommodations is clearly stated.
- Source and provide training to Human Resources staff (e.g. managers and supervisors) on disability awareness especially invisible disabilities so that staff have more understanding of barriers faced in employment.
- Source and provide training to Human Resources staff on providing disability-related accommodations.
- The library will explore and implement how to create safer spaces (lowered lighting, reduced sound) for individuals who are neurodivergent.

Who is Responsible

- Human Resources
- Accessibility Consultant

Transportation

The Transportation Standard examines accessibility in both conventional and specialized transit systems. It requires fare parity, accessible features on buses and requires a specific accessibility plan for transit services. The Standard also addresses accessibility in municipal taxi services.

While the transportation system is now managed by Niagara Region, the municipality will continue to work with the Niagara Region Transit to ensure the needs of Port Colborne and surrounding community citizens are met.

What We Will Continue to Do

- Work with the Niagara Region Transit to ensure the needs of Port Colborne citizens are communicated and met to ensure good service.

2027-2031 Goals

- Work with the Region to improve transit access, routes, schedule and bus stops throughout the City.

Who is Responsible

- Clerks, Legislative staff/Human Resources
- Joint Accessibility Advisory Committee

Design of Public Spaces

The Design of Public Spaces Standard reduces barriers to public spaces through specific requirements in exterior design elements, recreational trails, outdoor play spaces and accessible parking. Also considered are service counters in customer service interior and exterior areas.

What We Will Continue to Do

- Refer to the completed Accessibility Audit of facilities to identify areas for improvement and implement recommendations from the project report.
- Work with the ACC to review development applications and site plans to identify and prevent barriers.

2027-2031 Goals

- Investigate through the BIA, the Stop Gap Initiative to local businesses within the City to improve accessibility.
- Conduct refresher Accessibility Audits to ensure barriers are being captured and addressed throughout City facilities.
- Ensure existing accessibility features (e.g. automatic door openers) are functional and working during business hours.
- Ensure City staff are trained in accessible built environment considerations so that private sector development addresses accessibility barriers.
- Initiate an educational campaign to address the need for appropriate snow removal.
- Conduct a survey of sidewalks to determine if barriers exist and develop a rehabilitation plan as appropriate.
- Explore installing a park that is fenced. This would reduce barriers for children with disabilities and improve safety.

- Conduct a study to determine braille and large print signage needs at City-owned facilities and areas. Install large print, braille and tactile signage as needed.
- The library will explore and implement how to create safer spaces (lowered lighting, reduced sound) for individuals who are neurodivergent.

Who is Responsible

- Public Works staff
- Library staff
- Joint Accessibility Advisory Committee
- Accessibility Consultant

Conclusion

The Accessibility Plan enables the City of Port Colborne to address accessibility issues proactively. Through the Plan, Port Colborne aims to provide accessible goods and services to all citizens. The Accessibility Standards serve as a guide for accessibility improvement initiatives and offer a framework for achieving universal access. Port Colborne looks forward to collaborating with the community to achieve accessibility.

Joint Accessibility Advisory Committee of Lincoln, West Lincoln, Pelham, Thorold, Niagara-on-the-Lake, Grimsby and Port Colborne

Public and Staff Consultation Report for the Development of the MYAP 2027-2031

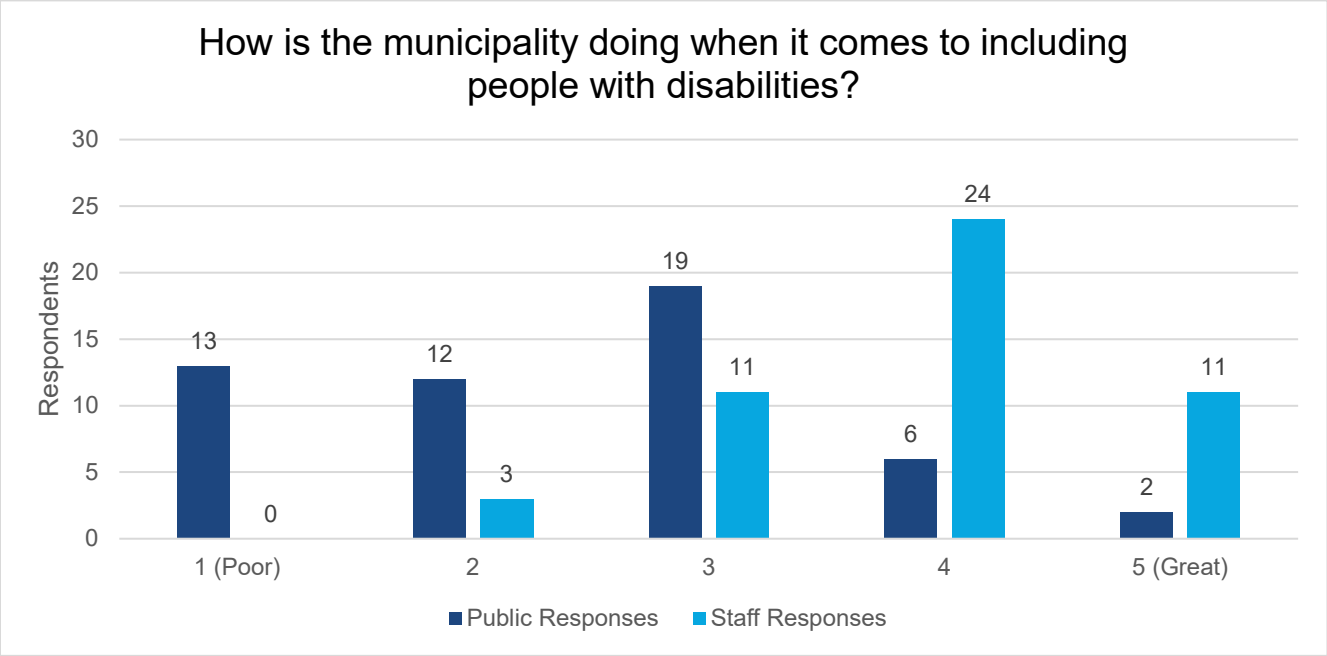
Background: Consultation Report for MYAP 2027-2031

Under the AODA, when drafting its MYAP, the municipality is required to consult with the public and people with disabilities. This Plan was developed after this consultation process took place. Municipal staff were also consulted.

In total, we received 52 responses from the public and 49 responses from municipal staff. The results vary greatly between these two groups, as outlined in the responses and graphs below. In general, staff perceive the accessibility efforts of the municipality as more successful than the public. However, the public included public access to businesses and private sector organizations in their responses.

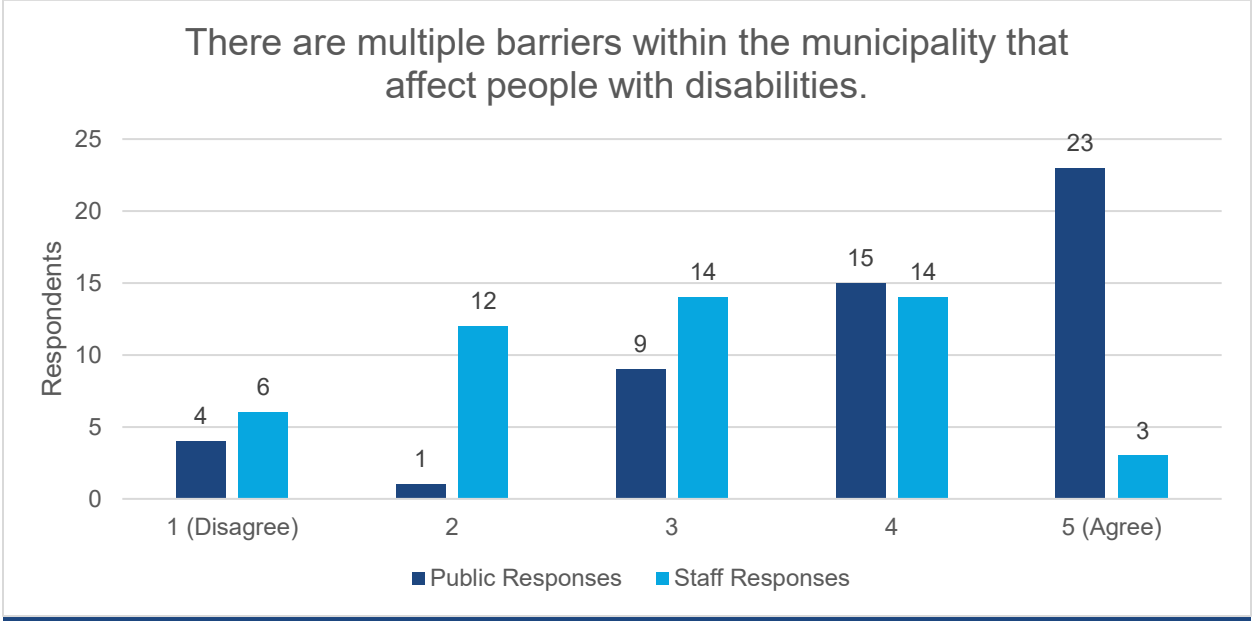
The consultation allowed for the development of trends and themes across the Joint Accessibility Advisory Committee catchment area of Lincoln, West Lincoln, Pelham, Thorold, Niagara-on-the-Lake, Grimsby and Port Colborne.

Question #1: How is the municipality doing when it comes to including people with disabilities?



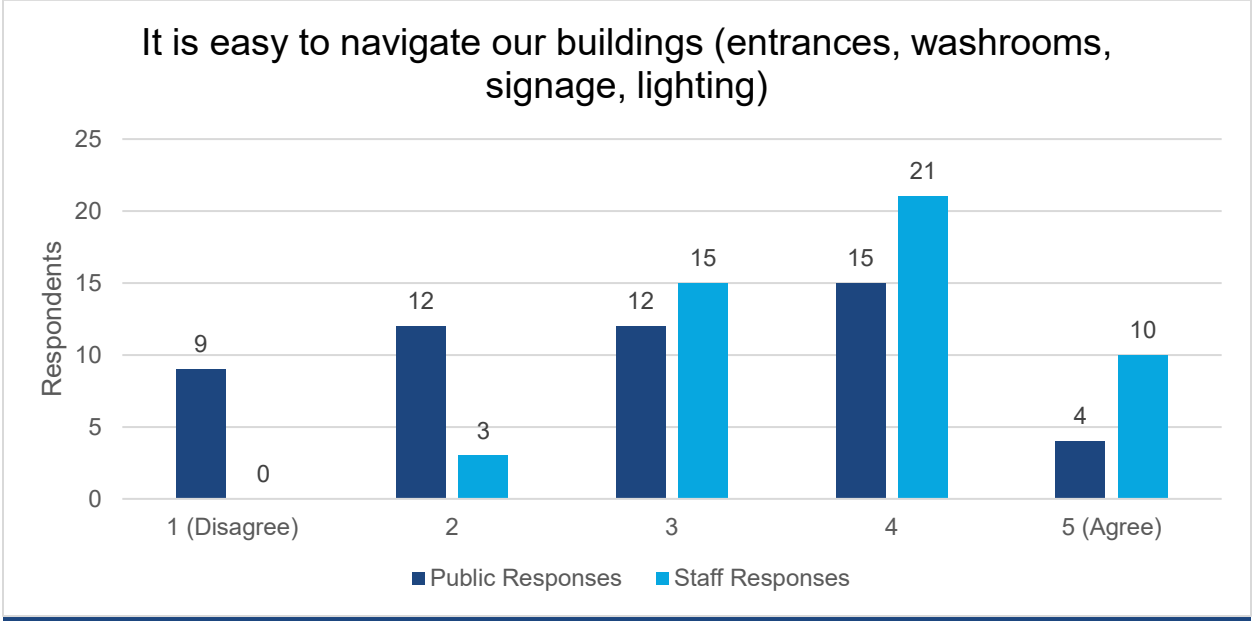
The results show a notable difference between public and staff perceptions of the municipality's efforts to include people with disabilities. Public responses were more mixed and generally lower, with 3 out of 5 the most common rating. In comparison, staff responses were considerably more positive, with most staff rating the municipality a 4 or 5. This highlights a gap between how inclusion efforts are perceived internally and by the broader community.

Question #2: To what extent do you agree or disagree with the following statement? There are multiple barriers within the municipality that affect people with disabilities.



Responses indicate that both the public and staff recognize there are multiple barriers within the municipality that affect people with disabilities, although public respondents were more likely to strongly agree. Nearly two-thirds of public respondents rated the statement a 4 or 5, compared with approximately one-third of staff. Overall, the results suggest a difference in how accessibility barriers are perceived by the public compared with municipal staff.

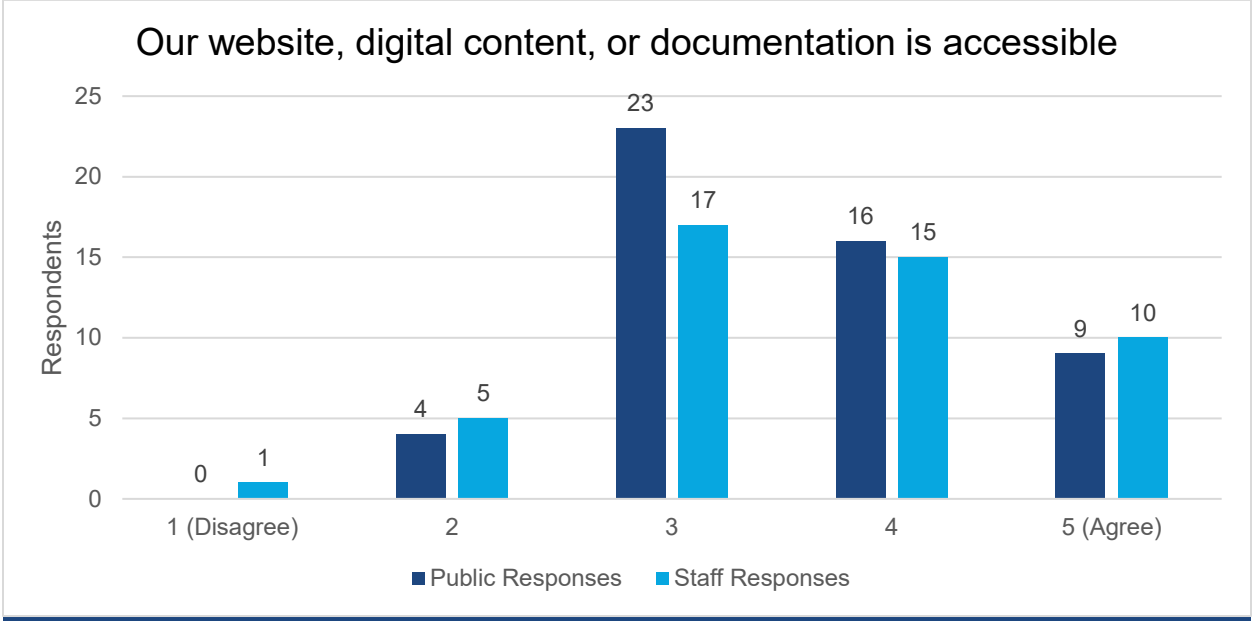
Question #3: To what extent do you agree or disagree with the following statement? It is easy to navigate our buildings (entrances, washrooms, signage, lighting)



When asked what the municipality is doing well when including people with disabilities, the public cited municipal facilities, ramps and following the AODA most often. Staff mentioned building accessibility, IT accessibility and programs and services being available to people with disabilities.

In terms of building accessibility, the graph above shows the public perceives access as greatly varied, with many stating that buildings are not easy to navigate, while others indicate that they agree that buildings are accessible. Staff, however, report they see buildings as mostly accessible. The discrepancy could be accounted for the public reporting private sector facilities in their responses.

Question #4: To what extent do you agree or disagree with the following statement? Our website, digital content, or documentation is accessible.



The consultation also asked about digital accessibility. The public reported they perceive digital accessibility as “good” to “great” with content clear, and easy to understand, as shown in the graph below. Staff also report strong digital access being available.

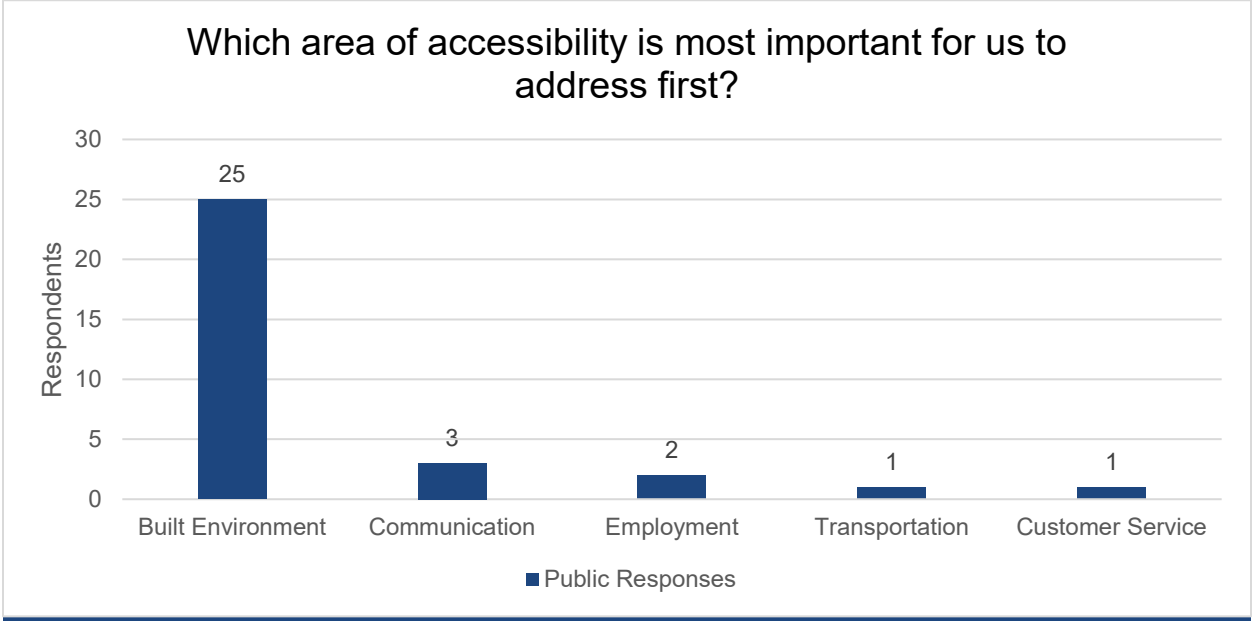
Question #5: Are you aware of any attitudinal barriers in our policies, programs, or services?

When asked about attitudinal barriers, respondents reported barriers 30.8% of the time, but 69.2% indicated there were no attitudinal barriers. Barriers reported include a lack of understanding about invisible, nonphysical disabilities and a heavy reliance of web resources creating a barrier for community seniors. Staff indicate attitudinal barriers for staff with invisible disabilities.

Question #6: Do you have suggestions for improving accessibility across our facilities, programs, or services?

Suggestions for improving accessibility include better by-law enforcement, asking people with disabilities for input and guidance and improving curb cuts and sidewalk accessibility. Staff recommend enhanced training on diverse disabilities, digital accessibility and greater awareness of employee accessibility needs.

In terms of next steps, as shown in the graph below, overwhelming indicated that built environment accessibility should be the priority for the municipality.



Staff indicated a strong need for additional training in invisible disabilities, neurodivergence and AODA requirements and implementation. Both staff and the public mentioned the importance of consulting people with disabilities when developing or improving existing goods and services. Ultimately there needs to be strong municipal guidance, direction and ownership to ensure accessibility is captured

Conclusion

The consultation findings demonstrate that, while progress has been made in areas such as municipal facilities, digital accessibility, and compliance with the AODA, important barriers remain. Differences between public and staff perceptions highlight the need to centre the lived experiences of people with disabilities when evaluating accessibility and setting priorities. The feedback identifies the built environment, by-law enforcement, accessible sidewalks and curb cuts, staff training, awareness of invisible disabilities and neurodivergence, and continued consultation as key areas for action.

These findings will inform the MYAP for 2027–2031 and support a coordinated municipal approach to removing barriers. Ongoing leadership, accountability, and engagement with people with disabilities will be essential to achieving meaningful and measurable improvements across the participating municipalities.

PORT COLBORNE

Subject: **Gateway Community Improvement Plan Tax Increment Grant - Algoma Central Properties Inc. (Allied Marine) – 1 Lake Street**

To: **Council**

From: **Planning and Development**

Report Number: 2026-94

Meeting Date: September 8, 2026

Recommendation:

That Planning and Development Department Report 2026-94 be received; and

That the Gateway CIP Tax Increment Grant for Algoma Central Properties Inc for property located at 1 Lake Street be approved; and

That the Economic Development Officer be directed to send notice of approval to the Niagara Region.

Purpose:

The purpose of this report is to provide Council with a recommendation for the application by Algoma Central Properties Inc. for a Niagara Gateway Economic Zone and Centre Community Improvement Plan (Gateway CIP) Tax Increment Grant (TIG). The applicant proposes to undertake a significant facility expansion and future build at 1 Lake Street, to grow and enhance the ship repair business by Allied Marine, due to new agreements and licenses.

Background:

The Niagara Gateway Economic Zone and Centre Community Improvement Plan (Gateway CIP) is intended to support projects that revitalize and diversify strategic zones in five Niagara municipalities, including Port Colborne. The program provides eligible projects with property tax reductions between 40% and 100% for five to ten years to eligible property owners in the municipalities of Fort Erie, Niagara Falls, Port Colborne, Thorold, and Welland. Those same projects are also eligible for grants to

cover Regional Development Charges. Projects that promote private sector investment, development, redevelopment, and construction activity in strategic zones identified in each City may be eligible.

The Tax Increment Based Grant Program provides an incremental tax grant to completed projects within the Gateway Project Area based on the project's economic and environmental design performance. Successful applicants will receive a tax rate rebate of a percentage of the post-project values, for a period of five or ten years depending on the location of the project. The tax savings resulting from this program can be a significant incentive for development.

The City acts in partnership with Niagara Region on assessment and monitoring of the program and ensures applicants continue to meet all obligations of the City prior to the tax rebate being paid each year.

Discussion:

The project proposed at 1 Lake Street is eligible under the terms of the Gateway CIP and will result in significant improvements to the current building and vacant land on site.

The Gateway CIP TIG is being applied for by Algoma Central Properties Inc. which currently owns the land on which Allied Marine operates. Allied Marine has been awarded new licenses and contracts that take effect in 2027 and will be expanding operations in Port Colborne. As publicly announced, Allied Marine was selected as the North American Agent to represent Swiss-based marine power provider WinGD which produces two-stroke engines fitted into many Canadian-owned vessels operating on the Great Lakes and worldwide. This is one of the most significant developments for Allied Marine in its ship maintenance and repair business. Additional business developments are moving forward but are confidential at this time.

To facilitate these opportunities, Allied Marine requires a 15,000 sq. ft. expansion to its current operations. Together, Allied Marine and Algoma have additional future expansion plans for the site including a 100,000-sq.ft. facility and other smaller buildings that will further solidify both Allied Marine and Algoma's long-term future and increase employment opportunities in the City of Port Colborne.

There is potential for an additional two phases of expansion bringing further investment and increases in jobs and tax assessment to the City. The estimated TIG Calculations for these additional two phases can be found in Appendices D & E. Conditions in phase one must be met before future phases would be included in the CIP Agreements required.

Development costs for the current expansion (phase 1) are estimated in excess of $11,000,000. Under the application, the total estimated grant for phase 1 over the ten-

year period from the City is $444,738 and the Niagara Region for a five-year period is $171,028 for the initial phase, totalling $615,766.

Under the terms of the Gateway CIP program, the final schedule of grant payments is contingent upon the new assessment by the Municipal Property Assessment Corporation (MPAC) following completion of the project. The applicant will be required to enter a tri–party agreement with the City and Region outlining the terms and conditions of the funding.

The payment of grants commences upon verification of the program requirements and reassessment of the property by MPAC. Applicants are given 365 days from the issuance of an occupancy permit within which to contact the City regarding the achievement of the eligibility points outlined in their submission.

The City of Port Colborne and Niagara Regional Economic Development staff work together to verify that all conditions are met. If approved, the applicant, Algoma Central Properties Inc. will be required to provide proof yearly that the conditions of the agreement continue to be met prior to receiving the tax rebate. The rebate amount remains constant throughout the 10-year period.

The standard agreement also outlines the terms and conditions of the grant payments over the ten-year period. Key terms and conditions include the following:

- Property owner must maintain property taxes in good standing. Properties must have no outstanding work orders and/or orders or request to comply from a City department or other regulatory authority.
- Annual grant payments after the first grant payment are adjusted downward in the event the municipal tax increment in any subsequent year has been reduced.
- If the property taxes are owing for more than one full year, the City will have the option, without notice and at its own discretion, to terminate all future grant payments.
- In the event of the sale, conveyance, transfer or entering into any agreement of sale or transfer of the title of the property, the City shall have absolute discretion in ceasing any further grant payments.
- Where, in the opinion of Council, the commercial relationship between the City and the Applicant has been impaired by, but not limited to, the Applicant being involved in litigation with the City, the City may, at its discretion and without notice, terminate all future grant payments. Applicants are individuals, corporate entities, and individuals behind the corporation (Officers/Directors/shareholders).

For the applicant to continue to be eligible for the tax rebate grant, approval must be granted by the City prior to building permits being issued. Algoma Central Properties Inc. intend to submit building permit applications as soon as possible. To this end, they are seeking approval of the Gateway TIG incentives from the City and the Region to

proceed with building permit applications to keep the project timelines on track. Staff will bring the Grant Agreement and by-law to a future meeting of Council.

Internal Consultations:

The Gateway CIP application, submitted by Algoma Central Properties Inc., has been reviewed by the Niagara Region and City of Port Colborne Economic Development staff. Based on the points-based scoring system, a preliminary review of construction value, number of full-time jobs created and environmental design performance (smart growth criteria) the applicant has scored 13 points. This score makes the applicant eligible for a 65% reduction on the incremental tax assessment. The applicant would be eligible for a 10-year grant from the City and 5 years from Niagara Region for the first phase.

The potential subsequent phases of expansion are estimated to score 17 for an 85% TIG Grant should they proceed and continue to meet the Gateway CIP guidelines.

Financial Implications:

Over the next ten years the City will see an increase in tax assessment for this property from the expansion, with the value to be determined after project completion, by MPAC. Provided the applicant meets the Gateway CIP program criteria annually, they will be entitled to a tax rebate of 65%, which, over the initial ten-year period, amounts to an estimated $444,738 from the City. Phase one is attached in the appendixes. The two additional phases are estimated to be eligible for an 85% TIG Grant if constructed under the applicable criteria.

The estimated increase in City property taxes to be received from the first phase of the project shown in Appendix B, is $23,948 per year over the 10 years of TIG 1 not including future annual tax increases. This figure is over and above the grant that will be funded from the project, as illustrated in Appendix C.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillars of the strategic plan:

- Welcoming, Livable, Healthy Community
- Economic Prosperity

Conclusion:

The City of Port Colborne has put in place a number of CIP programs aimed at increasing industrial development, tax assessments, and employment within the City including the Gateway CIP. Algoma Central Properties Inc., located at 1 Lake Road, is making a significant investment in expansion and has expressed that the Gateway CIP was an important consideration in their decision-making process. The applicant has met all the criteria, and the approval of the Gateway CIP TIG supports the principles of the program including development and regeneration. The tri-party agreement and by-law will be brought to a future Council meeting for approval. If approved, the Gateway CIP will support expansion of existing business within the City while encouraging future economic development.

Appendices:

a. Map of 1 Lake Road
b. Algoma Central Properties Inc. - Phase 1 TIG Calculation
c. City Tax Increase over 10-year TIG
d. Algoma Central Properties Inc. - Phase 2 TIG Calculation
e. Algoma Central Properties Inc. - Phase 3 TIG Calculation

Respectfully submitted,

Bram Cotton
Economic Development Officer
(905) 228-8063
Bram.Cotton@portcolborne.ca

Erik Acs
Chief Planner
(905) 228-8117
Erik.Acs@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

Algoma Central / Allied Marine Properties



8/13/2026

- Assessment Parcel - Assessment Parcels
- Welland and Lake Street Properties
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations
- 60cm Resolution Metadata

1:3,020

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

Esri Canada, New York State, Microsoft, Vantor

NIAGARA ECONOMIC GATEWAY & COMMUNITY IMPROVEMENT PLANS

TAX INCREMENT GRANT PROGRAM ESTIMATE

Municipality: Port Colborne
Address: 1-3 Lake Road
Roll Number: 271102000700100
Pre Project Year: 2026
Post Project Year: 2026

	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Pre-Project Taxes	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Post Project Taxes	Tax Increment	Annual Grant amount
Class Code	**IT**	**IX**	**CT**		**IT**	**IX**	**CT**			
Assessment Value[1]	**$2,326,000**	**$0**	**$149,000**	$2,475,000	**$4,622,405.00**	**$0.00**	**$0.00**	$4,622,405.00		
Municipal Taxes[2,3,4]	$72,402	$0	$3,059	**$75,461**	$143,883	$0	$0	$143,883	$68,421	$44,474
Regional Taxes[5,6,7]	$55,685	$0	$2,353	**$58,039**	$110,662	$0	$0	$110,662	$52,624	$34,206
Provincial Taxes[8,9,10]	$20,469	$0	$1,311	**$21,780**	$40,677	$0	$0	$40,677	N/A	
					Total				$121,045.11	
					% of Tax Increment Year 1[11]				**65.00%**	
					Annual Grant Payment[13]				$78,679.32	

This estimates the completed project being assessed at $4,622,405 based on cost of land and construction costs; actual assessment will be completed by MPAC following the project completion. Existing assessment value is based on actual ? MPAC assessment. These calculations reflect the grant percentage that would be received based on a project score of 13/20 . These results are estimated using the 2026 tax rates. Actual annual amount will be based on the grant percentage applied to the incremental taxes paid each year for the duration of the grant however may be subject to a reduction should the taxes owing be reduced in any given year due to a assessment appeal.

[1] Both Pre- and post-project completion assessments are estimates and may be subject to change.
2 Municipal Industrial Tax Rate
3 Municipal Industrial - Vacant and Excess Land Tax Rate
4 Municipal Commercial Tax Rate
5 Regional Industrial Tax Rate
6 Regional Industrial - Vacant and Excess Land Tax Rate
7 Regional Commercial Tax Rate
8 Education Industrial Tax Rate
9 Education Industrial - Vacant and Excess Land Tax Rate
10 Education Commercial Tax Rate

2026	2026
Pre-Project Tax Rates	Post-Project Tax Rates
0.03112721	**0.03112721**
0.03112721	**0.03112721**
0.02053330	**0.02053330**
0.02394045	**0.02394045**
0.02394045	**0.02394045**
0.01579250	**0.01579250**
0.00880000	**0.00880000**
0.00880000	**0.00880000**
0.00880000	**0.00880000**

[13] This is an estimate only and does not constitute any guarantee or assurance of a grant and should not be relied upon as such.

SUMMARY FORECAST (excluding education)

Event	Year	Grant %	Municipal Grant Estimate	Regional Grant Estimate	Total Grant Estimate
Base year	2026				
Grant Year 1	2026	65%	$ 44,473.79	$ 34,205.53	$ 78,679.32
Grant Year 2	2027	65%	$ 44,473.79	$ 34,205.53	$ 78,679.32
Grant Year 3	2028	65%	$ 44,473.79	$ 34,205.53	$ 78,679.32
Grant Year 4	2029	65%	$ 44,473.79	$ 34,205.53	$ 78,679.32
Grant Year 5	2030	65%	$ 44,473.79	$ 34,205.53	$ 78,679.32
Grant Year 6	2031	65%	$ 44,473.79		$ 44,473.79
Grant Year 7	2032	65%	$ 44,473.79		$ 44,473.79
Grant Year 8	2033	65%	$ 44,473.79		$ 44,473.79
Grant Year 9	2034	65%	$ 44,473.79		$ 44,473.79
Grant Year 10	2035	65%	$ 44,473.79		$ 44,473.79
Total Estimate	Total Estimate		$ 444,737.92	$ 171,027.63	$ 615,765.55

Year	1	2	3	4	5	6	7	8	9	10	Completion
Tax Increase*		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NEW	$143,883.00	$151,077.15	$158,631.01	$166,562.56	$174,890.69	$183,635.22	$192,816.98	$202,457.83	$212,580.72	$223,209.76	$234,370.25
OLD	$75,461.00	$99,409.00	$106,603.15	$114,157.01	$122,088.56	$130,416.69	$139,161.22	$148,342.98	$157,983.83	$168,106.72	$178,735.76
INCREASE	$68,422.00	$51,668.15	$52,027.86	$52,405.55	$52,802.13	$53,218.53	$53,655.76	$54,114.85	$54,596.89	$55,103.04	$55,634.49
GRANT**	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$44,474.00	$0.00
CITY YEARLY INCREASE	**$23,948.00**	**$7,194.15**	**$7,553.86**	**$7,931.55**	**$8,328.13**	**$8,744.53**	**$9,181.76**	**$9,640.85**	**$10,122.89**	**$10,629.04**	**$55,634.49**

* Estimated Tax increase as a set percentage for consistency

** Grant amount is set after Year 1 and does not change

CITY TOTAL INCREASE OVER 10 YEARS **$103,274.76**

NIAGARA ECONOMIC GATEWAY & COMMUNITY IMPROVEMENT PLANS

TAX INCREMENT GRANT PROGRAM ESTIMATE

Municipality: Port Colborne
Address: 1-3 Lake Road
Roll Number: 271102000700100
Pre Project Year: 2026
Post Project Year: 2026

	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Pre-Project Taxes	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Post Project Taxes	Tax Increment	Annual Grant amount
Class Code	**IT**	**IX**	**CT**		**IT**	**IX**	**CT**			
Assessment Value[1]	**$4,622,405**	**$0**	**$0**	$4,622,405	**$8,622,405.00**	**$0**	**$0**	$8,622,405.00		
Municipal Taxes[2,3,4]	$143,883	$0	$0	**$143,883**	$268,391	$0	$0	$268,391	$124,509	$93,382
Regional Taxes[5,6,7]	$110,662	$0	$0	**$110,662**	$206,424	$0	$0	$206,424	$95,762	$71,821
Provincial Taxes[8,9,10]	$40,677	$0	$0	**$40,677**	$75,877	$0	$0	$75,877	N/A	
					Total				$220,270.64	
					% of Tax Increment Year 1[11]				**75.00%**	
					Annual Grant Payment[13]				$165,202.98	

This estimates the completed project being assessed at $8,622,405 based on cost of land and construction costs; actual assessment will be completed by MPAC following the project completion. Existing assessment value is based on actual ? MPAC assessment. These calculations reflect the grant percentage that would be received based on a project score of 15/20 . These results are estimated using the 2026 tax rates. Actual annual amount will be based on the grant percentage applied to the incremental taxes paid each year for the duration of the grant however may be subject to a reduction should the taxes owing be reduced in any given year due to a assessment appeal.

[1] Both Pre- and post-project completion assessments are estimates and may be subject to change.	2026 Pre-Project Tax Rates	2026 Post-Project Tax Rates
2 Municipal Industrial Tax Rate	**0.03112721**	**0.03112721**
3 Municipal Industrial - Vacant and Excess Land Tax Rate	**0.03112721**	**0.03112721**
4 Municipal Commercial Tax Rate	**0.02053330**	**0.02053330**
5 Regional Industrial Tax Rate	**0.02394045**	**0.02394045**
6 Regional Industrial - Vacant and Excess Land Tax Rate	**0.02394045**	**0.02394045**
7 Regional Commercial Tax Rate	**0.01579250**	**0.01579250**
8 Education Industrial Tax Rate	**0.00880000**	**0.00880000**
9 Education Industrial - Vacant and Excess Land Tax Rate	**0.00880000**	**0.00880000**
10 Education Commercial Tax Rate	**0.00880000**	**0.00880000**

[13] This is an estimate only and does not constitute any guarantee or assurance of a grant and should not be relied upon as such.

SUMMARY FORECAST (excluding education)

Event	Year	Grant %	Municipal Grant Estimate	Regional Grant Estimate	Total Grant Estimate
Base year	2026				
Grant Year 1	2026	75%	$ 93,381.63	$ 71,821.35	$ 165,202.98
Grant Year 2	2027	75%	$ 93,381.63	$ 71,821.35	$ 165,202.98
Grant Year 3	2028	75%	$ 93,381.63	$ 71,821.35	$ 165,202.98
Grant Year 4	2029	75%	$ 93,381.63	$ 71,821.35	$ 165,202.98
Grant Year 5	2030	75%	$ 93,381.63	$ 71,821.35	$ 165,202.98
Grant Year 6	2031	75%	$ 93,381.63		$ 93,381.63
Grant Year 7	2032	75%	$ 93,381.63		$ 93,381.63
Grant Year 8	2033	75%	$ 93,381.63		$ 93,381.63
Grant Year 9	2034	75%	$ 93,381.63		$ 93,381.63
Grant Year 10	2035	75%	$ 93,381.63		$ 93,381.63
Total Estimate	Total Estimate		$ 933,816.30	$ 359,106.75	$ 1,292,923.05

NIAGARA ECONOMIC GATEWAY & COMMUNITY IMPROVEMENT PLANS

TAX INCREMENT GRANT PROGRAM ESTIMATE

Municipality: Port Colborne
Address: 1-3 Lake Road
Roll Number: 271102000700100
Pre Project Year: 2026
Post Project Year: 2026

	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Pre-Project Taxes	Industrial	Industrial - Vacant and Excess Land	Commercial	Total Post Project Taxes	Tax Increment	Annual Grant amount
Class Code	**IT**	**IX**	**CT**		**IT**	**IX**	**CT**			
Assessment Value[1]	**$8,622,405**	**$0**	**$0**	$8,622,405	**$11,622,405.00**	**$0**	**$0**	$11,622,405.00		
Municipal Taxes[2,3,4]	$268,391	$0	$0	**$268,391**	$361,773	$0	$0	$361,773	$93,382	$79,374
Regional Taxes[5,6,7]	$206,424	$0	$0	**$206,424**	$278,246	$0	$0	$278,246	$71,821	$61,048
Provincial Taxes[8,9,10]	$75,877	$0	$0	**$75,877**	$102,277	$0	$0	$102,277	N/A	
					Total				$165,202.98	
					% of Tax Increment Year 1[11]				**85.00%**	
					Annual Grant Payment[13]				$140,422.53	

This estimates the completed project being assessed at $11,622,405 based on cost of land and construction costs; actual assessment will be completed by MPAC following the project completion. Existing assessment value is based on actual ? MPAC assessment. These calculations reflect the grant percentage that would be received based on a project score of 17/20 . These results are estimated using the 2026 tax rates. Actual annual amount will be based on the grant percentage applied to the incremental taxes paid each year for the duration of the grant however may be subject to a reduction should the taxes owing be reduced in any given year due to a assessment appeal.

	2026	2026
[1] Both Pre- and post-project completion assessments are estimates and may be subject to change.	**Pre-Project Tax Rates**	**Post-Project Tax Rates**
2 Municipal Industrial Tax Rate	**0.03112721**	**0.03112721**
3 Municipal Industrial - Vacant and Excess Land Tax Rate	**0.03112721**	**0.03112721**
4 Municipal Commercial Tax Rate	**0.02053330**	**0.02053330**
5 Regional Industrial Tax Rate	**0.02394045**	**0.02394045**
6 Regional Industrial - Vacant and Excess Land Tax Rate	**0.02394045**	**0.02394045**
7 Regional Commercial Tax Rate	**0.01579250**	**0.01579250**
8 Education Industrial Tax Rate	**0.00880000**	**0.00880000**
9 Education Industrial - Vacant and Excess Land Tax Rate	**0.00880000**	**0.00880000**
10 Education Commercial Tax Rate	**0.00880000**	**0.00880000**

[13] This is an estimate only and does not constitute any guarantee or assurance of a grant and should not be relied upon as such.

SUMMARY FORECAST (excluding education)

Event	Year	Grant %	Municipal Grant Estimate	Regional Grant Estimate	Total Grant Estimate
Base year	2026				
Grant Year 1	2026	85%	$ 79,374.39	$ 61,048.15	$ 140,422.53
Grant Year 2	2027	85%	$ 79,374.39	$ 61,048.15	$ 140,422.53
Grant Year 3	2028	85%	$ 79,374.39	$ 61,048.15	$ 140,422.53
Grant Year 4	2029	85%	$ 79,374.39	$ 61,048.15	$ 140,422.53
Grant Year 5	2030	85%	$ 79,374.39	$ 61,048.15	$ 140,422.53
Grant Year 6	2031	85%	$ 79,374.39		$ 79,374.39
Grant Year 7	2032	85%	$ 79,374.39		$ 79,374.39
Grant Year 8	2033	85%	$ 79,374.39		$ 79,374.39
Grant Year 9	2034	85%	$ 79,374.39		$ 79,374.39
Grant Year 10	2035	85%	$ 79,374.39		$ 79,374.39
Total Estimate	Total Estimate		$ 793,743.86	$ 305,240.74	$ 1,098,984.59

Subject: **Gateway Community Improvement Program, Tax Increment Grant – Fontaine Transport**

To: **Council**

From: **Planning and Development Department**

Report Number: 2026-23

Meeting Date: September 8, 2026

Recommendation:

That Planning and Development Report 2026-23 be received;

That Council approve the Gateway Community Improvement Program Tax Increment Grant for 1338277 Ontario Inc. (Fontaine Transport) and the Economic Development Officer be directed to send notice of approval to the Niagara Region;

That the Mayor and Clerk be authorized to execute a Grant Agreement between the City of Port Colborne and 1338277 Ontario Inc. (Fontaine Transport), subject to project completion approval City of Port Colborne Economic Development Department; and

That a Bylaw to enter into a Grant Agreement with 1338277 Ontario Inc. (Fontaine Transport) be brought forward at a future meeting of Council.

Purpose:

The purpose of this report is to provide Council with a recommendation for the application made by 1338277 Ontario Inc. (Fontaine Transport) requesting a Niagara Gateway Economic Zone and Centre Community Improvement Plan (Gateway CIP) Tax Increment Grant (TIG), that is currently ineligible under the eligibility criteria of the program. The applicant proposes to undertake a significant expansion of the warehouse and improvements to the structures, to improve efficiency and functionality of the grounds and improvements to the entire parcel of land.

Background:

The Niagara Gateway Economic Zone and Centre Community Improvement Plan (Gateway CIP) is intended to support projects that revitalize and diversify strategic

zones in five Niagara municipalities, including Port Colborne. The program provides eligible projects with property tax reductions between 40% and 100% for five to ten years to eligible property owners in the municipalities of Fort Erie, Niagara Falls, Port Colborne, Thorold and Welland. Those same projects are also eligible for grants to cover Regional Development Charges. Projects that promote private sector investment, development, redevelopment and construction activity in strategic zones identified for each city may be eligible.

The Tax Increment Based Grant Program provides an incremental tax grant to completed projects within the Gateway Project Area based on the project's economic and environmental design performance. Successful applicants will receive a tax rate rebate of a percentage of the post-project values, for a period of five or 10 years depending on the location of the project. The tax savings resulting from this program can be a significant incentive for development.

The City acts in partnership with Niagara Region on assessment and monitoring of the program to ensure applicants continue to meet all obligations of the City prior to the tax rebate being paid each year.

The applicant is currently receiving a Gateway CIP TIG which was approved in Report 2022-33, on March 22, 2022.

Discussion:

An application for a Niagara Gateway Economic Zone and Centre Community Improvement Plan (Gateway CIP) submitted by 1338277 Ontario Inc. (Fontaine Transport) has been reviewed by Economic Development and Niagara Region staff and deemed complete but ineligible. The reason the application is deemed ineligible is that under the terms of the program, only one TIG may be approved per property at a time, and a grant was approved in 2022. However, given the economic changes since that time, and the significance of the investment, staff are recommending Council approve an exemption and request Niagara Region to do the same.

At the time of the 2022 approval no further expansions were envisioned. However, after approval was granted, market conditions in Niagara, the industry and for Fontaine Transport have changed. With the expansion at Jungbunzlauer and Vesuvius in Welland and growth of other industries in Port Colborne and Niagara, the expansion at Fontaine Transport is needed to support the industrial supply chain, to retain jobs at the company and support further growth.

If the application was eligible, a preliminary review of the criteria of construction value, number of full-time jobs created, and environmental design performance (smart growth criteria) would have scored 13 points. This score would make the applicant eligible for a 65% reduction on the incremental tax assessment. If eligible, the geographic location of the property would make the applicant eligible for 5 years of incremental tax

assessment reduction from both the City and the Region and an additional 5 years from the City. This is a total of 5 years from the Niagara Region and 10 years from the City of Port Colborne.

Although this application has been deemed ineligible by the Niagara Region and is ineligible under the eligibility criteria, City staff are bringing it forward for Council consideration for an exemption in this instance. When the original Gateway CIP was approved the applicant had not considered any need for additional phases of expansion. However, market conditions have changed considerably for them in the past two years. The ongoing expansion of the industrial base in Port Colborne and Welland has necessitate the expansion.

Internal Consultations:

The project proposed at 76 Killaly Street is ineligible under the terms of the Gateway CIP and will result in significant improvements to the vacant land. Development costs are estimated at $1,855,000 and the total estimated grant over the ten-year period from the City is $166,833**.**

Any final schedule of grant payments will be contingent upon the new assessment by MPAC following completion of the project. The applicant would be required to enter into a Tri–Party Agreement with the City and Niagara Region outlining the terms and conditions of the funding - or just with the City should the Region fail to approve its portion.

Under the terms of the Gateway CIP program, the final schedule of grant payments is contingent upon the new assessment by MPAC (Municipal Property Assessment Corporation) following completion of the project. The applicant will be required to enter a Tri–Party Agreement with the City and Region outlining the terms and conditions of the funding.

The payment of grants commences upon verification of the program requirements and reassessment of the property by MPAC. Applicants are given 365 days from the issuance of an occupancy permit within which to contact the City regarding the achievement of the eligibility points outlined in their submission.

The City of Port Colborne and Niagara Regional Economic Development staff verify that all conditions are met. If approved, the applicant, Algoma Central Properties Inc. will be required to provide proof yearly that the conditions of the agreement continue to be met prior to receiving the tax rebate. The rebate amount remains constant throughout the 10-year period.

The standard agreement also outlines the terms and conditions of the grant payments over the ten-year period. Key terms and conditions include the following:

- Property owner must maintain property taxes in good standing. Properties must have no outstanding work orders and/or orders or request to comply from a City department or other regulatory authority.
- Annual grant payments after the first grant payment are adjusted downward in the event the municipal tax increment in any subsequent year has been reduced.
- If the property taxes are owing for more than one full year, the City will have the option, without notice and at its own discretion, to terminate all future grant payments.
- In the event of the sale, conveyance, transfer or entering into any agreement of sale or transfer of the title of the property, the City shall have absolute discretion in ceasing any further grant payments.
- Where, in the opinion of Council, the commercial relationship between the City and the Applicant has been impaired by, but not limited to, the Applicant being involved in litigation with the City, the City may, at its discretion and without notice, terminate all future grant payments. Applicants are individuals, corporate entities, and individuals behind the corporation (Officers/Directors/shareholders).

For the applicant to continue to be eligible for the tax rebate grant, approval must be granted by the City prior to building permits being issued. Algoma Central Properties Inc. staff would like to submit building permit applications as soon as possible to the City for review. To this end, they are seeking approval of the Gateway TIG incentives from the City and the Region to proceed with building permit applications to keep the project timelines on track. Staff will bring the Grant Agreement and by-law to a future meeting of Council.

Financial Implications:

Over the next 10 years the City will see an increase in tax assessment for this property, to be determined by MPAC. There will be no negative tax impact to the City as 1338277 Ontario Inc. will be required to pay 100% taxes on the property on an annual basis. Provided the applicant meets the Gateway CIP program criteria annually, the applicant will be entitled to a tax rebate of 65%, estimated to be $16,683 per year. Over a ten-year period, this amounts to $166,833.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillars of the strategic plan:

- Welcoming, Livable, Healthy Community
- Economic Prosperity

Conclusion:

The City of Port Colborne has put in place a number of CIP programs aimed at increasing industrial development, tax assessments and employment within the City including the Gateway CIP. 1338277 Ontario Inc. (Fontaine Transport), located at 72 Killaly Street is making a significant investment in expansion. Although the application has been deemed ineligible the application does support the principles of the program including development and regeneration.

For this reason, staff are recommending Council consideration for an exemption to the criteria of only Gateway CIP Grant on a property at one time and request that the Region do the same. Since the first expansion and Gateway CIP was approved the economic situation for Fontaine Transport has positively changed that was not necessarily foreseen at the time with the growth of the City and Regions manufacturing base. It is because of this growth that it is requested of Council to waive the criteria of to have only one Grant at a time on a property and approve the City portion of the program and request that the Region do the same.

All Gateway CIP approvals send an important message that the City of Port Colborne is supportive of industrial businesses locating to and expanding in the City.

Appendices:

a. Map of Property
b. 1338277 Ontario Inc. (Fontaine Transport) – Next Phase TIG Calculation
c. City Tax Increase over 10-year TIG

Respectfully submitted,

Bram Cotton
Economic Development Officer
(905) 228-8063
Bram.Cotton@portcolborne.ca

Erik Acs
Chief Planner
(905) 228-8117
Erik.Acs@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

Port Colborne Mapping Application



2026-08-25, 3:58:34 p.m.

- ~~Port Colborne Boundary~~
- ~~Building Footprints~~
- ~~Assessment Parcel~~
- ~~Guiderail~~

~~Roads~~

- ~~MUN~~
- ~~PRIV~~
- ~~RMN~~
- ~~ON~~
- ~~SLSA~~

~~2023 Aerial Imagery~~

- ~~Red: Red~~
- ~~Green: Green~~
- ~~Blue: Blue~~

~~World_Hillshade~~

1:2,426

0 112.5 225 450 ft

0 30 60 120 m

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, NASA, NGA, USGS, FEMA

City of Port Colborne

© City of Port Colborne

NIAGARA ECONOMIC GATEWAY & COMMUNITY IMPROVEMENT PLANS

TAX INCREMENT GRANT PROGRAM ESTIMATE

Municipality: Port Colborne
Address: 76 KILLALY ST E
Roll Number: 271102001400201
Pre Project Year: 2026
Post Project Year: 2026

Report 2026-23
Appendix B

	Residential	New Multi-residential	Commercial	Total Pre-Project Taxes	Residential	New Multi-residential	Commercial	Total Post Project Taxes	Tax Increment	Annual Grant amount
Class Code	**RT**	**NT**	**CT**		**RT**	**NT**	**CT**			
Assessment Value[1]	**$0**	**$0**	**$1,855,000**	$1,855,000	**$0.00**	**$0.00**	**$3,105,000.00**	$3,105,000.00		
Municipal Taxes[2,3,4]	$0	$0	$38,089	$38,089	$0	$0	$63,756	$63,756	$25,667	$16,683
Provincial Taxes[8,9,10]	$0	$0	$16,324	$16,324	$0	$0	$27,324	$27,324	N/A	
					Total				$25,666.63	
					% of Tax Increment Year 1[11]				**65.00%**	
					Annual Grant Payment[13]				$16,683.31	

[1] Both Pre- and post-project completion assessments are estimates and may be subject to change.
2 Municipal Residential Tax Rate
3 Municipal New Multi-residential Tax Rate
4 Municipal Commercial Tax Rate
8 Education Residential Tax Rate
9 Education New Multi-residential Tax Rate
10 Education Commercial Tax Rate

Pre-Project Tax Rates	Post-Project Tax Rates
0.01183544	0.01183544
0.01183544	0.01183544
0.0205333	0.0205333
0.00153	0.00153
0.00153	0.00153
0.0088	0.0088

[13] This is an estimate only and does not constitute any guarantee or assurance of a grant and should not be relied upon as such.

SUMMARY FORECAST (excluding education)

Event	Year	Grant %	City Grant Estimate
Base year	2026		
Grant Year 1	2026	65%	$ 16,683.31
Grant Year 2	2027	65%	$ 16,683.31
Grant Year 3	2028	65%	$ 16,683.31
Grant Year 4	2029	65%	$ 16,683.31
Grant Year 5	2030	65%	$ 16,683.31
Grant Year 6	2031	65%	$ 16,683.31
Grant Year 7	2032	65%	$ 16,683.31
Grant Year 8	2033	65%	$ 16,683.31
Grant Year 9	2034	65%	$ 16,683.31
Grant Year 10	2035	65%	$ 16,683.31
Total Estimate	Total Estimate		$ 166,833.06

Year	1	2	3	4	5	6	7	8	9	10	11 Completion
		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NEW	$63,755.90	$66,943.69	$70,290.88	$73,805.42	$77,495.69	$81,370.48	$85,439.00	$89,710.95	$94,196.50	$98,906.32	$103,851.64
OLD	$38,089.27	$39,993.74	$41,993.42	$44,093.09	$46,297.75	$48,612.63	$51,043.27	$53,595.43	$56,275.20	$59,088.96	$62,043.41
INCREASE	$25,666.63	$26,949.96	$28,297.45	$29,712.33	$31,197.94	$32,757.84	$34,395.73	$36,115.52	$37,921.29	$39,817.36	$41,808.23
GRANT	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$16,683.31	$0.00
CITY YEARLY INCREASE	**$8,983.32**	**$10,266.65**	**$11,614.15**	**$13,029.02**	**$14,514.64**	**$16,074.53**	**$17,712.43**	**$19,432.21**	**$21,237.99**	**$23,134.05**	**$41,808.23**

*Using a 5% tax increase per year

CITY TOTAL INCREASE OVER 10 YEARS **$155,998.99**

PORT COLBORNE

Subject: **Petition for Drainage – Peter Storm Drain**

To: **Council**

From: **Public Works Department**

Report Number: 2026-108

Meeting Date: July 14, 2026

Recommendation:

That Public Works Department Report 2026-108 be received; and

That Council accept the petitions for drainage works related to the Peter Storm Drain, attached hereto as Appendices A-E; and

That Council direct Joel Miller, P.Eng., of K. Smart Associates, in accordance with his appointment under By-law No. 7377/68/25, to review and incorporate the petitions attached hereto as Appendix A-E into the ongoing Peter Storm Drain Engineer's Report.

Purpose:

The purpose of this report is for Council to consider the drainage petitions received. Council has the option to refuse the petitions with proper grounds or may approve the petitions which will be reviewed by the appointed engineer in conjunction with the previously approved road authority petition. Additionally, this report provides Council with a summary of petitions and associated engineering work being completed under the Drainage Act.

In 2020, Council approved the appointment of an engineer and the preparation of a new Engineering Report for the Peter Storm Drain, based on the City's petition for drainage as the road authority. Since that time, additional petitions for drainage have been received and are now being formally presented to Council. Pursuant to Section 5 of the Drainage Act, the Municipality is required to consider petitions received under Section 4 of the Act and determine whether drainage works should proceed.

This report serves to formally acknowledge the receipt of those additional petitions and seek Council's approval for them to be reviewed by the appointed Engineer and incorporated into the ongoing Engineer's Report as part of the continued study of the drainage system.

Background:

In 2012, a petition was signed by 14 landowners requesting drainage in the South Branch of the Black Creek Drain. The petition was not filed with the Clerk nor was it brought forward to Council for consideration at that time, and no further action was taken.

The discussion was revisited on November 5, 2019, when staff met with the original signatories to confirm if drainage was still desired. Following this meeting, one landowner submitted a formal petition for drainage (Appendix A). At the same time, the City identified a need for drainage improvements to support three local roads: Learn Road (south of Third Concession), Zavitz Road (west of Holloway Bay Road) and Second Concession Road (south of Learn Road). These City Petitions were the only petitions previously recognized by Council.

Based on the identified City drainage needs, Report 2020-1 was presented to Council and approved on January 13, 2020. Council subsequently enacted By-law 6750/01/20 appointing Neal Morris, P.Eng., of K. Smart Associates to review the petitions under Sections 4 and 8 of the Drainage Act and to prepare a new Engineer's Report, based on the City's petitions alone. The City has received additional petitions for drainage within the watershed that are now being formally presented to Council for consideration with the ongoing study, in accordance with Sections 4 and 5 of the Drainage Act and are discussed below.

Discussion:

The following provides a chronological summary of the petitions, engineering activities, and other key developments related to the Peter Storm Drain project, including the additional petitions received since the project was originally authorized:

- On December 13, 2019, a petition for drainage of land, roll 040-006-02200 and 040-006-02801 dated November 27, 2019, was received by staff Appendix A)
- On November 29, 2023, a petition for drainage of land, roll 040-001-39200 was received by staff (Appendix B)
- On December 12, 2023, a petition for drainage of a Fort Erie parcel, roll 020-025-07000 was received by staff (Appendix C)
- On October 28, 2024, a meeting was held to review the preliminary report. A draft proposal and preliminary cost estimates were presented to those who attended the meeting.
- On June 27, 2025, staff were informed that Neal Morris was no longer working with the Engineering firm, and a replacement engineer was required to complete the work.

- On August 26, 2025, Joel Miller was appointed as the new engineer to complete the works known as the Peter Storm Drain.
- On August 7, 2026, a petition for drainage of six Fort Erie parcels, roll 020-031-06100, 020-031-06300, 020-031-12100, 020-031-11800, 020-031-11600, and 020-031-11405 were received by staff (Appendix D)
- On September 3, 2026, 2026, a petition for drainage from the Town of Fort Erie for all seven roads that cross the ditch currently know as the Peter Storm Drain was received by staff (Appendix E)

These petitions, if approved, will further expand the scope of the project. In addition to the City's request for drainage works, these additional petitions have further reinforced the need to proceed with the engineering work. Appendix F is a map showing the parcels that have petitioned.

To date, the landowner petitions received under Section 4 of the Drainage Act have not been formally presented to Council. The appointed Engineer has completed a preliminary review of each petition and confirmed that the requested drainage work aligns with the Drainage Act and are valid to pursue.

As Council has already authorized the preparation of an Engineer's Report for the Peter Storm Drain, Council is required to formally acknowledge these additional petitions and consider incorporating them into the ongoing study. Including the petitions as part of the current engineering assignment will allow the Engineer to assess all drainage requests through a single report, rather than requiring separate engineering studies at a later date. This approach ensures all affected landowners are considered together.

The timing is also appropriate as the engineering work is actively underway and this will allow the additional petitions to be incorporated before the engineering design and assessments are finalized.

As part of the engineering process, several meetings have been held with the Niagara Peninsula Conservation Authority, the Department of Fisheries and Oceans, and the project's consulting biologist to evaluate the relationship between the petitioned drainage works and adjacent Provincially Significant Wetlands. These discussions will help complete the Engineer's Report and ensure the proposed drainage works appropriately consider environmental constraints and applicable regulatory requirements while fulfilling the requirements of the Drainage Act.

Financial Implications:

All costs associated with this petition shall be assessed through the Engineer's Report and be held by the Municipality until the assessments can be recovered through the billing of the Peter Storm Drain watershed.

Conclusion:

The Drainage Act requires the City to consider valid petitions for drainage and determine whether they should proceed. As the Peter Storm Drain Engineer's Report is currently being prepared, staff recommend that the additional petitions be incorporated into the ongoing study. This approach allows all identified drainage needs within the watershed to be considered through a single engineering process, minimizes duplication of work, and supports the efficient completion of the Engineer's Report.

Appendices:

a. Petition for Drainage Works – roll 040-006-02200 and roll 040-006-02801 – Mark Koabel
b. Petition for Drainage Works – roll 040-001-39200 – Andy Veenstra
c. Petition for Drainage Works – Fort Erie roll 020-025-07000 – Dorothy Veenstra
d. Petition for Drainage Works – Fort Erie rolls 020-031-06100, 020-031-06300, 020-031-12100, 020-031-11800, 020-031-11600, and 020-031-11405 – Clarke and Heather Fretz
e. Petition for Drainage Works by Road Authority – Town of Fort Erie
f. Map of parcels for petitions
g. Bylaw – 7377/68/25
h. Report 2020-01

Respectfully submitted,

Alana Vander Veen
Drainage Superintendent
905-228-8127
Alana.VanderVeen@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.

Ontario

Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Owners
Form 1

Drainage Act, R.S.O. 1990, c. D.17, clause 4(1)(a) or (b)

This form is to be used to petition municipal council for a new drainage works under the *Drainage Act.* It is not to be used to request the improvement or modification of an existing drainage works under the *Drainage Act.*

To: The Council of the Corporation of the City of Port Colborne

The area of land described below requires drainage (provide a description of the properties or the portions of properties that require drainage improvements)

THE PETER STORM DRAIN.

In accordance with section 9(2) of the *Drainage Act*, the description of the area requiring drainage will be confirmed or modified by an engineer at the on-site meeting.

As owners of land within the above described area requiring drainage, we hereby petition council under subsection 4(1) of the *Drainage Act* for a drainage works. In accordance with sections 10(4), 43 and 59(1) of the *Drainage Act,* if names are withdrawn from the petition to the point that it is no longer a valid petition, we acknowledge responsibility for costs.

Purpose of the Petition (To be completed by one of the petitioners. Please type/print)

Contact Person (Last Name)	(First Name)	Telephone Number
KOABEL	MARK	[redacted]

Address

Road/Street Number	Road/Street Name
[redacted]	[redacted]

Location of Project

Lot	Concession	Municipality	Former Municipality (if applicable)
[redacted]	[redacted]	NIAGARA	HUMBERSTONE

What work do you require? (Check all appropriate boxes)

- ☐ Construction of new open channel
- ☐ Construction of new tile drain
- ☐ Deepening or widening of existing watercourse (not currently a municipal drain)
- ☐ Enclosure of existing watercourse (not currently a municipal drain)
- ☐ Other (provide description ▼)

PETER STORM DRAIN.

Name of watercourse (if known)

Estimated length of project

General description of soils in the area

What is the purpose of the proposed work? (Check appropriate box)

☐ Tile drainage only ☑ Surface water drainage only ☐ Both

Petition filed this 27 day of November, 20 19

Name of Clerk (Last, first name)	Signature
~~LaPointe, Amber~~ Maddon, Charlotte	C. Madd

Property Owners Signing The Petition | Page of

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number | Property Description [redacted]

Ward or Geographic Township: HUMBERSTONE | Parcel Roll Number [redacted]

LEARN RD

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☑ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2019/11/27

☐ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

Number | Property Description [redacted]

Ward or Geographic Township: HUMBERSTONE | Parcel Roll Number [redacted]

LEARN RD

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☐ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☑ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2019/11/27
		2019/11/27

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

☐ Check here if additional sheets are attached | Clerk initial

Petitioners become financially responsible as soon as they sign a petition.

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality *(municipality to complete)*

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.

0173E (2012/08)

Ontario | Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Owners
Form 1

Drainage Act, R.S.O. 1990, c. D.17, clause 4(1)(a) or (b)

This form is to be used to petition municipal council for a new drainage works under the *Drainage Act*. It is not to be used to request the improvement or modification of an existing drainage works under the *Drainage Act*.

To: The Council of the Corporation of the City of Port Colborne, Ontario

The area of land described below requires drainage (provide a description of the properties or the portions of properties that require drainage improvements)

Area west of Wilhelm Rd, north of Highway #3 as shown on the attached plan as shown as roll 1-392

In accordance with section 9(2) of the *Drainage Act*, the description of the area requiring drainage will be confirmed or modified by an engineer at the on-site meeting.

As owners of land within the above described area requiring drainage, we hereby petition council under subsection 4(1) of the *Drainage Act* for a drainage works. In accordance with sections 10(4), 43 and 59(1) of the *Drainage Act*, if names are withdrawn from the petition to the point that it is no longer a valid petition, we acknowledge responsibility for costs.

Purpose of the Petition (To be completed by one of the petitioners. Please type/print)

Contact Person (Last Name)	(First Name)	Telephone Number
Veenstra	Andy	[redacted] ext.

Address

Road/Street Number	Road/Street Name
[redacted]	[redacted]

Location of Project

Lot	Concession	Municipality	Former Municipality (if applicable)
[redacted]	[redacted]	Port Colborne	Township of Humberstone

What work do you require? (Check all appropriate boxes)

- [x] Construction of new open channel
- [ ] Construction of new tile drain
- [x] Deepening or widening of existing watercourse (not currently a municipal drain)
- [ ] Enclosure of existing watercourse (not currently a municipal drain)
- [ ] Other (provide description ▼)

cleaned out

Name of watercourse (if known)
Peter Storm Drain

Estimated length of project
approximately 1500m south from Second Concession Road

General description of soils in the area
N/A

What is the purpose of the proposed work? (Check appropriate box)

- [ ] Tile drainage only
- [x] Surface water drainage only
- [ ] Both

Petition filed this 23 day of August, 2026

Name of Clerk (Last, first name)	Signature
Madden, Charlotte	C. Madden

Property Owners Signing The Petition

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number	Property Description

Ward or Geographic Township	Parcel Roll Number
Humberstone	[redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☑ Sole Ownership

Owner Name (Last, First Name) (Type/Print)		Date (yyyy/mm/dd)
[redacted]	[redacted]	2023/11/29

☐ Partnership (Each partner in the ownership of the property

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print)	Signature
Name of Corporation	I have the authority to bind the Corporation.
Position Title	Date (yyyy/mm/dd)

Number	Property Description

Ward or Geographic Township	Parcel Roll Number

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☑ Sole Ownership

Owner Name (Last, First Name) (Type/Print)		Date (yyyy/mm/dd)
[redacted]	[redacted]	2023/11/29

☐ Partnership (Each partner in the ownership of the property

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print)	Signature
Name of Corporation	I have the authority to bind the Corporation.
Position Title	Date (yyyy/mm/dd)

☑ Check here if additional sheets are attached

Clerk initial EM

Petitioners become financially responsible as soon as they sign a petition.

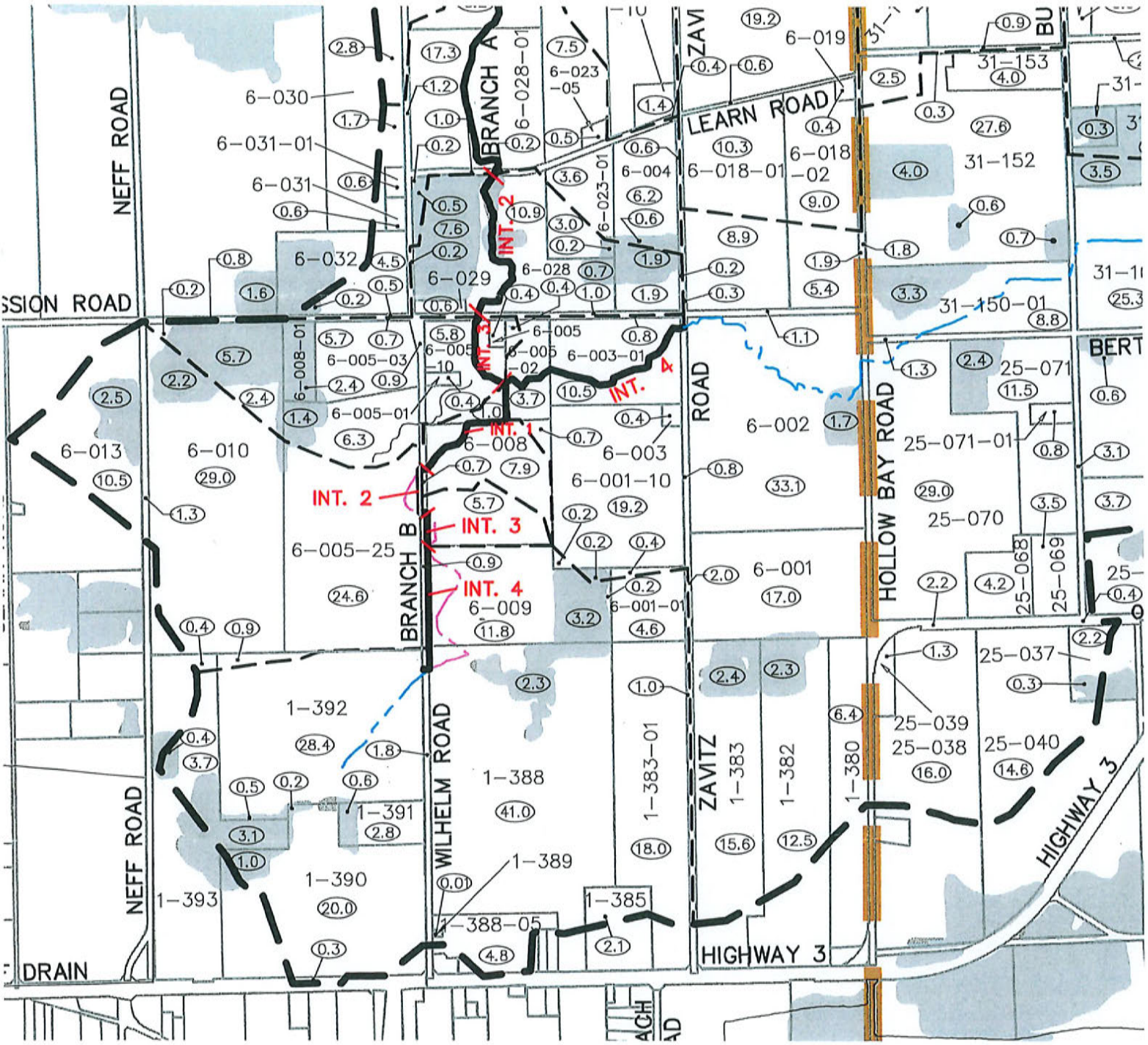
- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality (municipality to complete)

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.

pg 3 of 3


NEFF ROAD
SSION ROAD
BRANCH A
BRANCH B
LEARN ROAD
ZAVITZ ROAD
HOLLOW BAY ROAD
WILHELM ROAD
HIGHWAY 3
DRAIN
BERT
INT. 1
INT. 2
INT. 3
INT. 4
6-030
6-031-01
6-031
6-032
6-029
6-028-01
6-023-05
6-023-01
6-004
6-018-01
6-018-02
6-019
31-153
31-152
31-150-01
6-005
6-005-03
6-005-10
6-005-02
6-005-01
6-003-01
6-008-01
6-008
6-003
6-001-10
6-001-01
6-002
6-001
6-009
6-005-25
6-013
6-010
25-071
25-071-01
25-070
25-068
25-069
25-037
25-039
25-038
25-040
1-392
1-391
1-390
1-393
1-388
1-389
1-388-05
1-385
1-383-01
1-383
1-382
1-380

Ontario Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Owners
Form 1

Drainage Act, R.S.O. 1990, c. D.17, clause 4(1)(a) or (b)

This form is to be used to petition municipal council for a new drainage works under the *Drainage Act*. It is not to be used to request the improvement or modification of an existing drainage works under the *Drainage Act*.

To: The Council of the Corporation of the City of Port Colborne, Ontario

The area of land described below requires drainage (provide a description of the properties or the portions of properties that require drainage improvements)

Area east of Holloway Bay Rd, south of Bertie Rd as shown on the attached plan as shown as roll 25-070

In accordance with section 9(2) of the *Drainage Act*, the description of the area requiring drainage will be confirmed or modified by an engineer at the on-site meeting.

As owners of land within the above described area requiring drainage, we hereby petition council under subsection 4(1) of the *Drainage Act* for a drainage works. In accordance with sections 10(4), 43 and 59(1) of the *Drainage Act*, if names are withdrawn from the petition to the point that it is no longer a valid petition, we acknowledge responsibility for costs.

Purpose of the Petition (To be completed by one of the petitioners. Please type/print)

Contact Person (Last Name)	(First Name)	Telephone Number
Veenstra	Andy	[redacted] ext.

Address

Road/Street Number	Road/Street Name
[redacted]	[redacted]

Location of Project

Lot	Concession	Municipality	Former Municipality (if applicable)
[redacted]	[redacted]	Fort Erie	Township of Bertie

What work do you require? (Check all appropriate boxes)

- [x] Construction of new open channel
- [ ] Construction of new tile drain
- [x] Deepening or widening of existing watercourse (not currently a municipal drain)
- [ ] Enclosure of existing watercourse (not currently a municipal drain)
- [ ] Other (provide description ▼)

cleaned out

Name of watercourse (if known)
Peter Storm Drain

Estimated length of project
approximately 750m east of Holloway Bay Road

General description of soils in the area
N/A

What is the purpose of the proposed work? (Check appropriate box)

- [ ] Tile drainage only
- [x] Surface water drainage only
- [ ] Both

Petition filed this 23 day of August, 2026

Name of Clerk (Last, first name)	Signature
Madder, Charlotte	C. Madder

Property Owners Signing The Petition

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number	Property Description

Ward or Geographic Township	Parcel Roll Number
Bertie	[redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☑ Sole Ownership

Owner Name (Last, First Name) (Type/Print)		Date (yyyy/mm/dd)
[redacted]	[redacted]	2023/12/12

☐ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print)	Signature
Name of Corporation	I have the authority to bind the Corporation.
Position Title	Date (yyyy/mm/dd)

Number	Property Description

Ward or Geographic Township	Parcel Roll Number

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☑ Sole Ownership

Owner Name (Last, First Name) (Type/Print)		Date (yyyy/mm/dd)
[redacted]	[redacted]	2023/12/12

☐ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print)	Signature
Name of Corporation	I have the authority to bind the Corporation.
Position Title	Date (yyyy/mm/dd)

☑ Check here if additional sheets are attached

Clerk initial CM

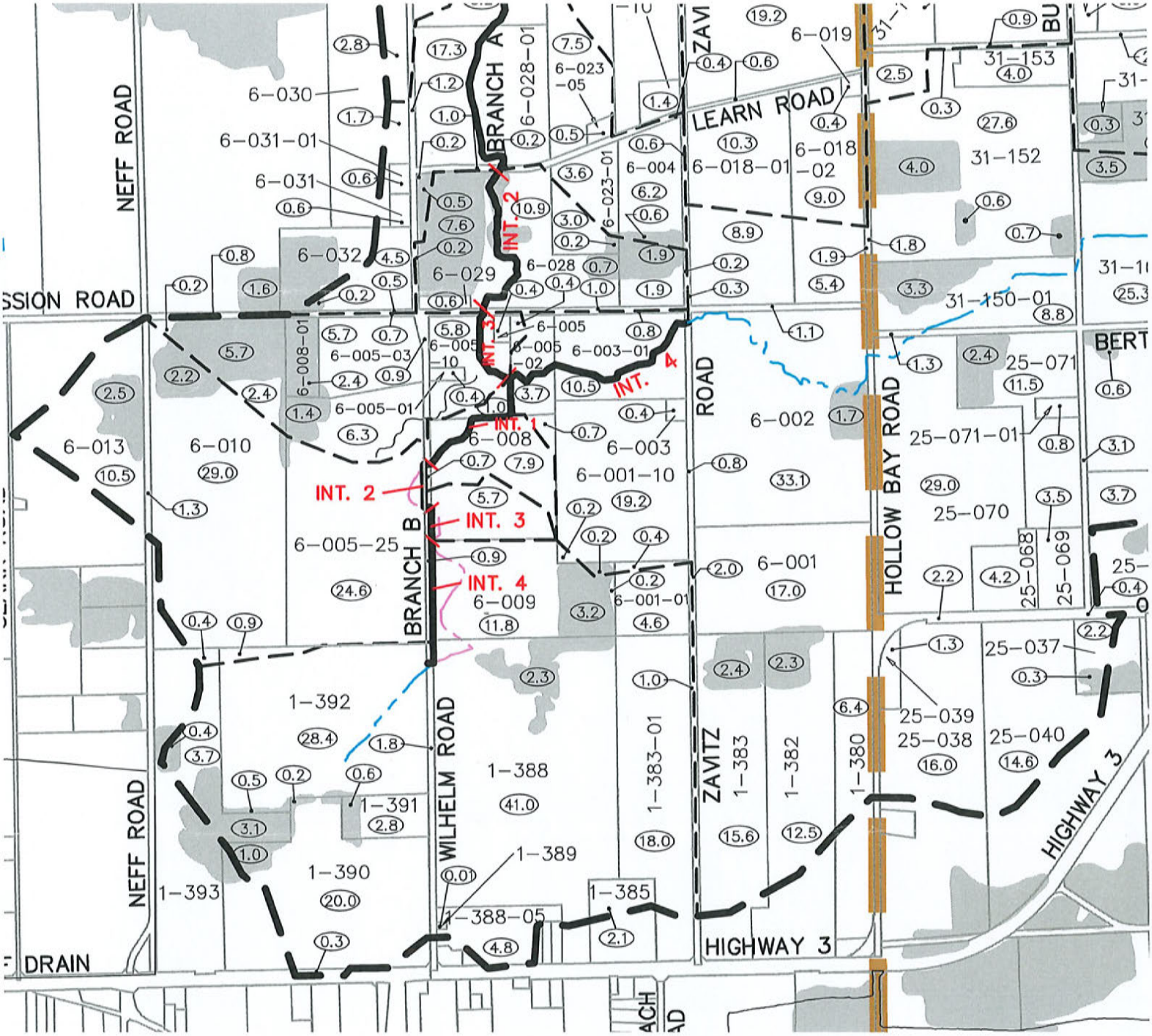
Petitioners become financially responsible as soon as they sign a petition.

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality (municipality to complete)

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.


NEFF ROAD
BRANCH A
LEARN ROAD
HOLLOW BAY ROAD
BRANCH B
WILHELM ROAD
ZAVITZ
HIGHWAY 3
INT. 1
INT. 2
INT. 3
INT. 4
6-030
6-031-01
6-031
6-032
6-029
6-028-01
6-023-05
6-004
6-018-01
6-018-02
6-019
31-153
31-152
31-150-01
6-028
6-023-01
6-005
6-005-03
6-005-10
6-005-02
6-003-01
6-008-01
6-005-01
6-008
6-003
6-001-10
6-002
6-013
6-010
6-005-25
6-009
6-001
6-001-01
25-071
25-071-01
25-070
25-068
25-069
25-037
25-039
25-038
25-040
1-392
1-391
1-390
1-393
1-388
1-389
1-388-05
1-385
1-383-01
1-383
1-382
1-380
DRAIN

Ontario | Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Owners
Form 1

Drainage Act, R.S.O. 1990, c. D.17, clause 4(1)(a) or (b)

This form is to be used to petition municipal council for a new drainage works under the *Drainage Act*. It is not to be used to request the improvement or modification of an existing drainage works under the *Drainage Act*.

To: The Council of the Corporation of the City of Port Colborne

The area of land described below requires drainage (provide a description of the properties or the portions of properties that require drainage improvements)

Con 14 NR PT Lot 4 - Southwest corner of property near Point Abino Rd (MS, AV)

Con 14 NR PT Lot 5 Lot 6 - Northwest corner of property near Point Abino Road (MS, AV)

In accordance with section 9(2) of the *Drainage Act*, the description of the area requiring drainage will be confirmed or modified by an engineer at the on-site meeting.

As owners of land within the above described area requiring drainage, we hereby petition council under subsection 4(1) of the *Drainage Act* for a drainage works. In accordance with sections 10(4), 43 and 59(1) of the *Drainage Act*, if names are withdrawn from the petition to the point that it is no longer a valid petition, we acknowledge responsibility for costs.

Purpose of the Petition (To be completed by one of the petitioners. Please type/print)

Contact Person (Last Name)	(First Name)	Telephone Number
Fretz	Clarke	[redacted]

Address

Road/Street Number	Road/Street Name
[redacted]	[redacted]

Location of Project

Lot	Concession	Municipality	Former Municipality (if applicable)
[redacted]	[redacted]	Fort Erie	Bertie

What work do you require? (Check all appropriate boxes)

- [x] Construction of new open channel
- [ ] Construction of new tile drain
- [x] Deepening or widening of existing watercourse (not currently a municipal drain)
- [ ] Enclosure of existing watercourse (not currently a municipal drain)
- [ ] Other (provide description ▼)

Name of watercourse (if known)

Estimated length of project

1800m

General description of soils in the area

Silty Clay. over porous rock

What is the purpose of the proposed work? (Check appropriate box)

- [ ] Tile drainage only
- [x] Surface water drainage only
- [ ] Both

Petition filed this 07 day of August, 2026

Name of Clerk (Last, first name)	Signature
Beaupre, Jessica	Jessica Beaupre

Property Owners Signing The Petition | Page of

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number | Property Description [redacted]

Ward or Geographic Township: Bertie Township | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☐ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☒ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2026/07/24
		2026/07/24

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

Number | Property Description [redacted]

Ward or Geographic Township: Bertie Township | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☐ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☒ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2026/07/24
		2026/07/24

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

☐ Check here if additional sheets are attached | Clerk initial

Petitioners become financially responsible as soon as they sign a petition.

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality *(municipality to complete)*

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.

Ontario | Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Owners
Form 1

Drainage Act, R.S.O. 1990, c. D.17, clause 4(1)(a) or (b)

This form is to be used to petition municipal council for a new drainage works under the *Drainage Act*. It is not to be used to request the improvement or modification of an existing drainage works under the *Drainage Act*.

To: The Council of the Corporation of the City of Port Colborne.

The area of land described below requires drainage (provide a description of the properties or the portions of properties that require drainage improvements)

Con 15 NR PT Lot 8 – Low-lying lands adjacent to existing water course (MS, AV)

Con 15 NR PT Lot 7 – Low-lying lands adjacent to existing tributary + water course (MS, AV)

Con 15 NR PT Lot 6 Lot 5 – Lands near sherk Road and buildings (MS, AV)

In accordance with section 9(2) of the *Drainage Act*, the description of the area requiring drainage will be confirmed or modified by an engineer at the on-site meeting.

As owners of land within the above described area requiring drainage, we hereby petition council under subsection 4(1) of the *Drainage Act* for a drainage works. In accordance with sections 10(4), 43 and 59(1) of the *Drainage Act*, if names are withdrawn from the petition to the point that it is no longer a valid petition, we acknowledge responsibility for costs.

Purpose of the Petition (To be completed by one of the petitioners. Please type/print)

Contact Person (Last Name)	(First Name)	Telephone Number
Fretz	Clarke	[redacted]

Address

Road/Street Number	Road/Street Name
[redacted]	[redacted]

Location of Project

Lot	Concession	Municipality	Former Municipality (if applicable)
[redacted]	[redacted]	Fort Erie	Bertie Township

What work do you require? (Check all appropriate boxes)

- ☐ Construction of new open channel
- ☐ Construction of new tile drain
- ☐ Deepening or widening of existing watercourse (not currently a municipal drain)
- ☐ Enclosure of existing watercourse (not currently a municipal drain)
- ☐ Other (provide description ▼)

Name of watercourse (if known)

Estimated length of project

1100 m

General description of soils in the area

High magnesium clay

What is the purpose of the proposed work? (Check appropriate box)

☐ Tile drainage only ☐ Surface water drainage only ☒ Both

Petition filed this 07 day of August, 2026

Name of Clerk (Last, first name)	Signature
Beaupre, Jessica	Jessica Beaupre

Property Owners Signing The Petition | Page of

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number | Property Description [redacted]

Ward or Geographic Township: Bertie | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☒ Sole Ownership

Owner Name (Last, First Name) (Type/Print) [redacted] | Signature [redacted] | Date (yyyy/mm/dd): 2026/07/24

☐ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

Number | Property Description [redacted]

Ward or Geographic Township: Bertie | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☐ Sole Ownership

Owner Name (Last, First Name) (Type/Print) | Signature | Date (yyyy/mm/dd)

☒ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2026/07/24
		2026/07/24

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

☑ Check here if additional sheets are attached | Clerk initial

Petitioners become financially responsible as soon as they sign a petition.

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality *(municipality to complete)*

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.

Property Owners Signing The Petition | Page of

- Your municipal property tax bill will provide the property description and parcel roll number.
- In rural areas, the property description should be in the form of (part) lot and concession and civic address.
- In urban areas, the property description should be in the form of street address and lot and plan number if available.
- If you have more than two properties, please take copy(ies) of this page and continue to list them all.

Number | Property Description [redacted]

Ward or Geographic Township [redacted] | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☐ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☒ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2026/07/24
		2026/07/24

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

Number | Property Description [redacted]

Ward or Geographic Township: Bertie Township | Parcel Roll Number [redacted]

I hereby petition for drainage for the land described and acknowledge my financial obligations.

Ownership

☒ Sole Ownership

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)
[redacted]	[redacted]	2026/07/24

☐ Partnership (Each partner in the ownership of the property must sign the petition form)

Owner Name (Last, First Name) (Type/Print)	Signature	Date (yyyy/mm/dd)

☐ Corporation (The individual with authority to bind the corporation must sign the petition)

Name of Signing Officer (Last, First Name) (Type/Print) | Signature

Name of Corporation | I have the authority to bind the Corporation.

Position Title | Date (yyyy/mm/dd)

☐ Check here if additional sheets are attached | Clerk initial

Petitioners become financially responsible as soon as they sign a petition.

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible in equal shares for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the original petitioners are responsible for the costs in shares proportional to their assessment in the engineer's report. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

Notice of Collection of Personal Information

Any personal information collected on this form is collected under the authority of the *Drainage Act,* R.S.O. 1990, c. D.17 and will be used for the purposes of administering the Act. Questions concerning the collection of personal information should be directed to:
where the form is addressed to a municipality *(municipality to complete)*

and where the form is addressed to a territory without municipal organization, the Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs, 1 Stone Rd W, Guelph ON N1G 4Y2, 519 826-3552.

Ontario

Ministry of Agriculture, Food and Rural Affairs

Petition for Drainage Works by Road Authority – Form 2

Drainage Act, R.S.O. 1990, c. D.17, subs. 4(1)(c)

To: The Council of the Corporation of the Town of Fort Erie

Re: Road name and road location (provide description of road or section of road that requires drainage)
These are the roads that required a drainage outlet;
House Road - Between Church Road and Bowen Road at both Drainage channels
Bowen Road - Between House Road and Pt. Abino Road at the cross culverts
Point Abino Road - 300m North of Peter Storm Drain, and 150m South of the Peter Storm Drain
Sherk Road - Between Pt. Abino Road and Burger Road, at the cross culvert
Burger Road - 150m North of Peter Storm Drain - Main Drain
Burger Road - At the cross culvert 167m north of Bertie Street
Bertie Street - At Double Cross Culvert 170m East of Holloway Bay Road

I, Peazel, Tommy , as an individual having jurisdiction over
(Last, first name)

the above road system for the Town of Fort Erie

declare that the road described above requires drainage and hereby petition under subsection 4(1)(c) of the *Drainage Act* that this area be drained by means of a drainage works.

Organization
Town of Fort Erie

Position Title	Signature	Date (yyyy/mm/dd)
Director of Infrastructure Services	Tommy Peazel	2026/09/03

Petitioners become financially responsible as soon as they sign a petition:

- Once the petition is accepted by council, an engineer is appointed to respond to the petition. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 8(1).
- After the meeting to consider the preliminary report, if the petition does not comply with section 4, the project is terminated and the road authority is responsible for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 subs. 10(4).
- After the meeting to consider the final report, if the petition does not comply with section 4, the project is terminated and the road authority is responsible for the costs. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 43.
- If the project proceeds to completion, a share of the cost of the project will be assessed to the involved properties in relation to the assessment schedule in the engineer's report, as amended on appeal. *Drainage Act,* R.S.O. 1990, c. D. 17 s. 61.

0175E (2022/11) © King's Printer for Ontario, 2022 Disponible en français



APP. A

APP. B

APP. C

NAVIGATOR

DRAIN PETITIONS

Legend

Override 1

Areas

Override 2

Roads

Provincial

Regional

Municipal/Private

Unimproved

Assessment Parcels

0 0.33 0.65 1.3 1.95 2.6 km

Date: 2026-06-22 Time: 2:16 PM

© 2025 Niagara Region and its suppliers. Projection is UTM, NAD 83, Zone 17. The Niagara Region makes no representations or warranties whatsoever, either expressed or implied, as to the accuracy, completeness, reliability,currency or otherwise of the information shown on this map.

The Corporation of the City of Port Colborne

By-law No. 7377/68/25

Being a By-Law to Amend By-Law No. 6750/01/20, Being a By-law to Authorize Entering into an Engineering Agreement with K. Smart Associates for the Peter Storm Municipal Drain

Whereas at its meeting of January 13, 2020, the Council of The Corporation of the City of Port Colborne ("Council") approved the recommendations of the Department of Engineering and Operations, Engineering Division, Report No. 2020-01, Subject: Peter Storm Municipal Drain Petition – Appointment of Engineer; and

Whereas at its meeting of January 13, 2020, Council adopted By-law No. 6750/01/20, Being a By-law to Authorize Entering into an Engineering Agreement with K. Smart Associates for the Peter Storm Municipal Drain; and

Whereas effective June 27, 2025, Neal Morris, P. Eng., became no longer employed by K. Smart Associates; and

Whereas on July 11, 2025, the City of Port Colborne's Drainage Superintendent received notice from K. Smart Associates that Joel Miller would be the new Drainage Engineer to complete the Engineer's Report for the Repair and Improvements of the Peter Storm Municipal Drain;

Now therefore the Council of The Corporation of the City of Port Colborne under the *Drainage Act R.S.O. 1990*, enacts as follows:

1. That effective as of July 11, 2025, section 1 of By-law No. 6750/01/20 be amended by striking out the following words:

   "Neal Morris"

   And adding thereto the following words:

   "Joel Miller"

2. That the Clerk is authorized to affect any minor modifications, corrections, or omissions, solely of an administrative, numerical, grammatical, semantical, or descriptive nature to this by-law after passage of this by-law.

Enacted and passed this 26th day of August 2025.

William C. Steele
Mayor

Charlotte Madden
City Clerk

Engineering & Operations Department
Engineering Division

Report Number: 2020-01 **Date: January 13, 2020**

SUBJECT: Peter Storm Municipal Drain Petition - Appointment of Engineer

1) PURPOSE

This report prepared by Alana Vander Veen, Drainage Superintendent has been authorized by Chris Lee, Director of Engineering & Operations. The purpose of this report is to provide Council with information related to the appointment of an Engineer and the preparation of a new Engineer's Report, under Section 78 and Section 4 of the *Drainage Act R.S.O. 1990* (the Act), for the update of the existing report and the petition of a new drain to recognize the existing Peter Storm Drain, and requisite actions.

2) HISTORY, BACKGROUND, COUNCIL POLICY, PRACTICES

The Peter Storm Drain dates back to the late 1800's and is a shared system between Fort Erie and Port Colborne with the down stream end outletting in Fort Erie. The only files within our records is a by-law dated July 1884 where it indicates that John Lowe, Esq., Provincial Land Surveyor, was appointed to complete a report. Accompanying the by-law is a copy of the assessment schedule for works completed within the Township of Humberstone.

The by-law defines the location of the drain as: extending from about the center of Lot 10, Fort Erie, in the 3rd Concession at the Side Road between lots 10 & 11, thence northeasterly along the southern margin of the Great Marsh to a creek on Lot 9 in the 14th Concession of the Township of Bertie which creek is one of the main outlets of the said marsh.

The following description is to provide a more recognizable location. The drain outlets within the northwesterly portion of the lots locally know between Ott Road and House Road and Church Road and Bowen Road. The drain meanders south west towards House Road just north of Bowen Road where it then follows southwest along the north side of Bowen Road crossing Point Abino Road, Burger Road and finally Holloway Bay Road just north of Sherk Road, Fort Erie. The drain continues southwesterly in Port Colborne crossing Zavitz Road and terminates just easterly of Wilhelm Road approximately halfway between Learn Road and Third Concession Road.

For a number of years, this drain was assumed to be a natural channel, a contributor to the south branch of the Black Creek until approximately 8 years ago when the above-noted by-law was located within our files. Completing a small investigation indicated that the portion described above does in fact have statues as a drain.

Drain Maintenance records date back as far as 1980, and there is no indication that maintenance has been completed from this timeframe forward.

3) STAFF COMMENTS AND DISCUSSIONS

The Peter Storm drain provides outlet for a larger area than described above. This drain also provides outlet for Learn Road allowance drainage as well as Second Concession Road drainage both between Wilhelm Road and Zavitz Road collecting runoff as far south as Highway #3 in the proximity of Wilhelm Road. Due to the Municipal road allowances relying on this outlet for sufficient drainage, under Section 4(1)(c) of the Act, it is recommended that the road authority petition the drain to be extended to the south side of Second Concession Road. If this petition is executed, this will not only allow for drainage of our road allowance but also the lands of the Antique Power property on the southeast corner of Second Concession and Wilhelm Road.

In the late months of 2012, a petition for maintenance on the Peter Storm Drain was submitted to the Engineering Department. The petition was submitted by Willard Storm and was originally signed by seven Port Colborne property owners as well as six Fort Erie property owners. Unfortunately, this petition was never filed with the Clerk's office, therefore rendering it obsolete.

An invitation to the original petitioners was sent and on November 5, 2019 a meeting was held with those who could attend. Those in attendance were informed that the petition was not submitted to the Clerk's office and that the City would require a new petition to be signed. In addition, it was indicated that the City's road authority will be petitioning for the drain extension as far south as Second Concession and those wishing to show support of this work were asked to re-sign a petition.

Staff have inquired with the Region of Niagara Road Authority to see if there is interest to continue the drain further south while still providing a sufficient outlet for Wilhelm Road; however, a response has not yet been received.

To be effective in drain maintenance, a full up to date report is required. The current report does not offer details such as working sides of the drain nor the access routes to maintain this drain. The major benefit of establishing a work side of a drain is that it minimizes the conflict between staff and the property owner, which ultimately makes for a better working relationship.

On September 12, 2019, a preemptive letter was sent to the appropriate authorities of the intent to move forward with this appointment as a requirement of Section 6 of the Act.

4) OPTIONS AND FINANCIAL CONSIDERATIONS:

a) Do nothing.

For this Municipal Drain, it is a possibility; however, it is not the recommendation as it is a requirement of Ontario Municipal Agriculture and Rural Affairs (OMAFRA) to keep up to date reports.

b) Other Options

Proceed forward with an appointment of a new Engineer to define the watershed limits

of this drain and prepare a new report complete with assessment schedules, plan and profiles. An up-to-date report provides for an effective drain maintenance and roadside ditching program, which in turn will reduce overall costs, providing ratepayers with a reasonable level of service.

At this stage, the Municipality will be expected to finance the Engineering Fees. These fees will be held by the City until the time of completion of the Engineer's report and completion of construction. At that time, the expenses according to the adopted assessment schedules can be invoiced to the watershed. Like all Municipal Drains, there will be an assessment to the City of Port Colborne for the proportionate share of roads and any City-owned properties.

5) COMPLIANCE WITH STRATEGIC PLAN INITIATIVES

Municipal Drain Maintenance Strategic Planning is currently under review. This project complies with all City legislative requirements.

6) ATTACHMENTS

Appendix A – Plan of Peter Storm Ditch and Watershed.

Appendix B – Petition for drainage works to provide for sufficient outlet of municipally owned Second Concession Road, Learn Road, Zavitz Road and the westerly half of Holloway Bay Road.

7) RECOMMENDATION

That the Council of the City of Port Colborne consider and approve the attached petition for drainage works;

That the Council of the City of Port Colborne direct the Clerk to notify the petitioners and others of Council's decision respecting the petition, in accordance with Section 5(1) (a) and (b) of the Act; and

That the Council of the City of Port Colborne appoint Neal Morris, P. Eng. of K. Smart Associates Limited to prepare a new engineer's report under Section 4 of the Act for the Peter Storm Municipal Drain.

8) SIGNATURES

Prepared on December 20, 2019

Alana Vander Veen
Drainage Superintendent

Reviewed by:

Chris Lee
Director, Engineering & Operations

Reviewed and respectfully submitted by:

Peter Senese
Interim Chief Administrative Officer

PORT COLBORNE

Subject: **Purchase of VL Wellington Street PIN 64152-0063 to Facilitate Future Drainage Realignment Project**

To: **Council**

From: **Planning and Development Department**

Report Number: 2026-130

Meeting Date: September 8, 2026

Recommendation:

That Planning and Development Department Report 2026-130 be received; and

That Council approve the purchase of the vacant property on Wellington Street, legally described as Plan 8 Lot 78 PT Lot 77 NP 836 RP59R7627 Part 1, lying between 93 and 83 Wellington Street, PIN 64152-0063 attached hereto as Appendix A, with Mr. James Gonscior and the corresponding by-law be brought forward; and

That the Mayor and City Clerk be authorized to sign any and all documentation respecting the purchase of the above-mentioned lands.

Purpose:

The purpose of this report is to seek Council approval to purchase vacant property on Wellington Street, legally described as Plan 8 Lot 78 PT Lot 77 NP 836 RP59R7627 Part 1, lying between 93 and 83 Wellington Street.

Background:

The City is currently preparing a Stormwater Master Plan for the Clarke Area. This area includes Wellington Street, Humbolt Parkway, and Clarke Street. Most of the stormwater system in this area was not built as a planned underground stormwater system. Many of the roads originally used roadside ditches to carry stormwater. Over time, these ditches were filled in and replaced with underground culverts. Today, many of these culverts, including the main stormwater, have reached the end of their service life. They continue to deteriorate and, in some areas, have begun to collapse.

As part of the Master Plan, the City is reviewing the entire stormwater system to identify the best route for a new main stormwater and connecting pipe network. Several factors are being considered, including the shape of the land, existing underground utilities, and construction costs.

Through the Clarke Area Stormwater Master Plan, Public Works has identified the Wellington Street property as the preferred route for a future drainage realignment serving the Wellington Street, Humbolt Parkway, and Clarke Street area. The preferred route for the new stormwater is through the vacant Wellington Street property, located south of 93 Wellington Street and north of 83 Wellington Street. This route would be connected to the Central Park Municipal Drain within the Vale Health and Wellness Centre property, cross Wellington Street, follow the existing right-of-way in line with Russell Avenue, and connect to the existing main stormwater on Russell Avenue.

To allow this drainage realignment to proceed, the City would need to acquire the Wellington Street property, shown in Appendix A.

Discussion:

Funding for the design work for the proposed drainage realignment was approved in the 2026 Capital Budget. Identifying the preferred route for the new stormwater is part of that design work.

Public Works current plan is to complete the stormwater work when construction funding for the project is identified. At the time of writing this report Staff are reviewing the Build Communities Strong Fund as a potential source of some funding.

The realignment of the stormwater will be designed and ready to construct when a complete funding source has been secured and having ownership of this property will facilitate that work.

Internal Consultations:

Staff from Public Works, Planning, and Economic Development with hired consultants have been working collaboratively on the Clarke Area Stormwater Master Plan.

Financial Implications:

As noted above, staff have obtained an appraisal for the property and after discussions with the property owner, have agreed on a price of $220,000 and closing costs. This will be funded from the Stormwater Reserve fund.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillar of the strategic plan:

- Sustainable and Resilient Infrastructure

Conclusion:

A Stormwater Master Plan for the Clarke Area of the City is currently being completed with Council approval for funding for the design work in the 2026 Capital Budget.

Purchasing the vacant Wellington Street lot would support Public Works planned drainage realignment by allowing the City to use the preferred route for replacing stormwater infrastructure that is at the end of its service life and failing in some locations.

Staff are recommending Council approve the purchase of the vacant property on Wellington Street, legally described as Plan 8 Lot 78 PT Lot 77 NP 836 RP59R7627 Part 1, lying between 93 and 83 Wellington Street and that the Mayor and City Clerk be authorized to sign the agreement, by-law, and other documentation for this transaction.

Appendices:

a. Proposed Property for Purchase
b. By-law
c. Agreement of Purchase and Sale

Respectfully submitted,

Bram Cotton
Economic Development Officer
(905) 228-8063
Bram.Cotton@portcolborne.ca

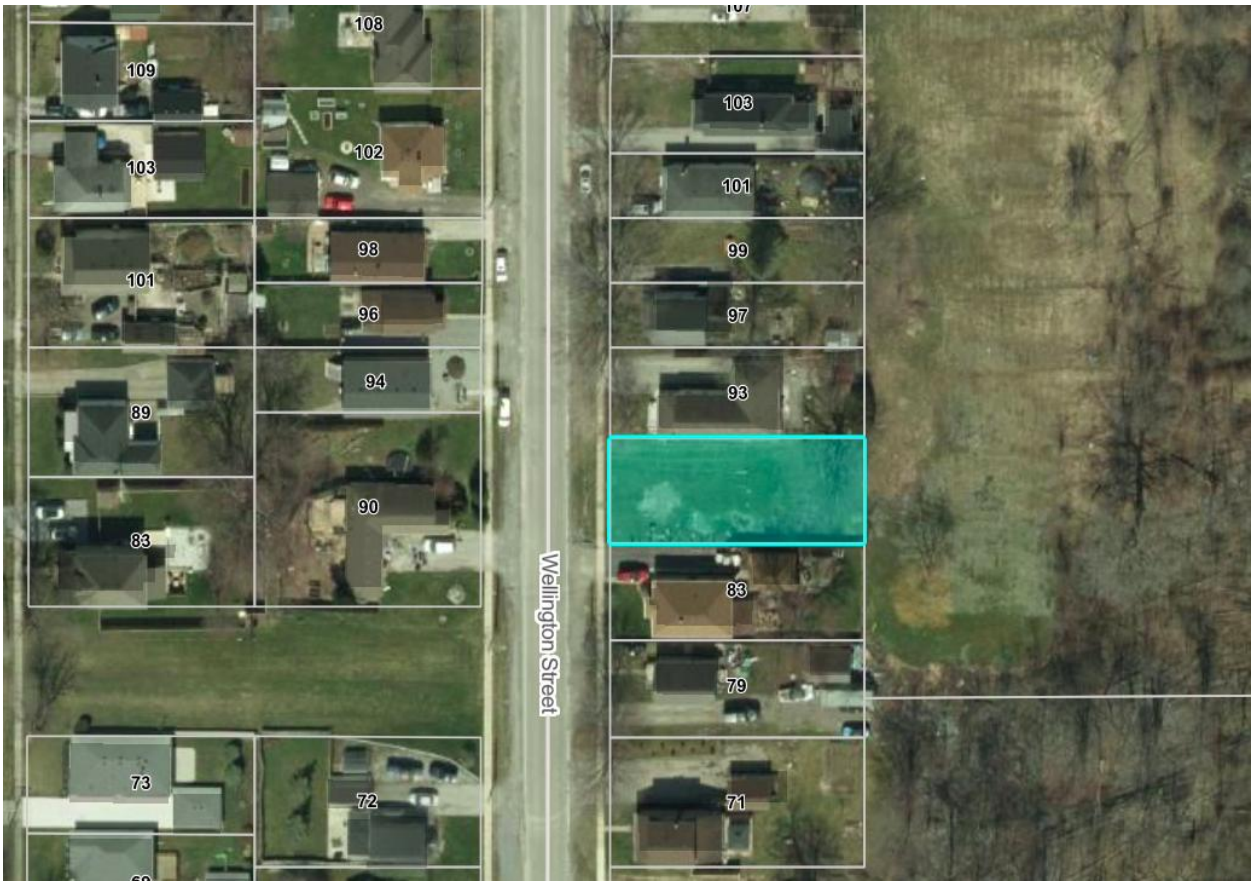
Erik Acs
Chief Planner
(905) 228-8117
Erik.Acs@portcolborne.ca

Steve Shypowskyj

Director of Public Works
(905) 228-8133
Steve.Shypowskyj@portcolborne.ca

Report Approval:

All confidential reports reviewed and approved by the Chief Administrative Officer.



Highlighted property is the subject property of this report.

The Corporation of the City of Port Colborne

By-law No._____

Being a By-law to Authorize Entering into an Agreement of Purchase and Sale with Mr. James Gonschior

Whereas at its meeting of September 8th, 2026, the Council of The Corporation of the City of Port Colborne (Council) approved the recommendations of Report 2026-130 Subject: Purchase of VL Wellington Street PIN 64152-0063 to Facilitate Future Drainage Realignment Project.

Whereas Council is desirous of entering into an Agreement of Purchase and Sale with Mr. James Gonschior regarding the purchase of VL Wellington Street – PIN 64152-0063; and

Whereas the *Municipal Act*, 2001 S.O. 2001, c.25, as amended, confers broad authority on municipalities to enter into such agreements;

Now therefore the Council of The Corporation of the City of Port Colborne enacts as follows:

1. That The Corporation of the City of Port Colborne enters into an Agreement of Purchase and Sale with Mr. James Gonschior regarding the purchase of VL Wellington Street PIN 64152-0063.

2. That the Mayor and the City Clerk be and they are hereby authorized and directed to sign the said agreement, attached hereto as Schedule “A”, together with any documents necessary to complete the conditions of the said agreement, and the City Clerk is hereby authorized to affix the Corporate Seal thereto.

3. That the Mayor and City Clerk be and they are hereby authorized to make changes to the purchase agreement (ie. closing date) which are not material and do not impact the purchase price.

Enacted and passed this 8th day of September, 2026.

_____
William C. Steele
Mayor

_____
Charlotte Madden
City Clerk

AGREEMENT OF PURCHASE AND SALE

THIS AGREEMENT is dated for reference as of the ____ day of _____, 2026.

BETWEEN:

THE CORPORATION OF THE CITY OF PORT COLBORNE
(the "**Purchaser**")

- and -

GONSCHIOR, JAMES
the "**Vendor**")

In consideration of the mutual covenants and agreements set forth in this Agreement and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the parties agree as follows:

1. **Real Property**

Upon and subject to the terms and conditions of this Agreement, the Purchaser hereby agrees to and with the Vendor to purchase, and the Vendor agrees to and with the Purchaser to sell, those lands and premises legally described as LT 78 PL 836 VILLAGE OF HUMBERSTONE; PT LT 77 PL 836 VILLAGE OF HUMBERSTONE PT 1, 59R7627 ; PORT COLBORNE, being all of PIN 64152-0063 (LT) (the "**Property**"). [**NTD: This is if City is purchasing all of the PIN**]

2. **Payment of Purchase Price**

The purchase price for the Property is TWO HUNDRED TWENTY THOUSAND DOLLARS ($220,000.00) (the "**Purchase Price**") plus Harmonized Sales Tax ("**H.S.T.**"), payable as follows:

(a) Within two (2) business Days after the acceptance date of this Agreement by the Vendor, the Purchaser shall pay FIVE THOUSAND DOLLARS ($5,000.00) Dollars by wire transfer or certified cheque drawn against the trust account of [**NTD: Vendor's Solicitors**], as the Vendor's solicitors (the "**Deposit**"). The Deposit will be held in trust pending completion or other termination of this transaction, and it will be credited on account of the Purchase Price on the Closing Date. The Deposit will not be invested in an interest bearing account; and

(b) Upon the completion of the transaction contemplated herein (the "**Closing**"), the Purchaser will be pay the sum of TWO HUNDRED FIFTEEN THOUSAND DOLLARS ($215,000.00) subject to the usual adjustments, if any.

3. **Title Clause**

This Agreement is subject to the title to the Property being good and free from all encumbrances, save only any easements for servicing or utilities, municipal agreements, registered restrictions, restrictive covenants, municipal by-laws, or governmental enactments. The Purchaser is not to call for the production of any title deeds, abstracts, survey or other evidence of title except such as are in the possession of the Vendor. The Purchaser is allowed until ten (10) days prior to Closing to examine the title at their own expense. If within that time, any valid objection to title is made in writing to the Vendor which the Vendor shall be unable or unwilling to remove, and which the Purchaser will not waive, then this Agreement shall, notwithstanding any intermediate acts or negotiations in respect of such objections, be null and void and any deposit shall be returned by the Vendor to the Purchaser forthwith without interest or deduction and the parties shall have no other liabilities to each other. Save as to any valid objections so made within such time, the

Purchaser shall be conclusively deemed to have accepted title of the Vendor to the Property.

4. Assignment

This Agreement may not be assigned by the Purchaser without the express written consent of the Vendor, which consent may be arbitrarily withheld.

5. Purchaser's Acceptance of Real Property "As Is, Where Is"

(a) The Purchaser acknowledges that the Vendor makes no representation nor gives any warranties with respect to the Property or the fitness of the Property for the Purchaser's intended uses, and, the Property is being sold by the Vendor and accepted by the Purchaser on an "As Is, Where Is" basis, including without limitation, state of title, outstanding work orders, zoning and development approval status, locations of any and all structures, walls, retaining walls or fences (freestanding or otherwise) or encroachments by buildings or fences or otherwise on the Property or adjoining properties or streets, soil condition, environmental status and as to quantity, quality or condition.

(b) The Purchaser agrees that the Vendor shall not be obligated to perform any work in respect of the Property in order to bring the Property, or any part thereof, into compliance with any applicable standards of any relevant authority. The Purchaser also agrees not to make any claim against the Vendor in respect of any such work that may be required in order to bring the Property, or any part thereof, into such compliance.

6. Future Use

The Vendor acknowledges and agrees that the Purchaser is under no obligation by virtue of the purchase and sale of the Property herein, to grant any approvals, including approvals for changes to the City of Port Colborne Official Plan or Comprehensive Zoning By-law, or with respect to site plan control, minor variances, or building permits, or to support approvals required by any other approval authority which may be necessary for any contemplated use of the Property, or any other lands that may be occupied or owned by the Vendor.

7. Closing Date

The transaction of purchase and sale shall be completed by no later than 5:00 p.m. on the ___ day of _____, 2026 (the "**Closing Date**").

8. Adjustments (Including Payment of Vendor's Legal Fees), Harmonized Sales Tax and Land Transfer Tax

Realty taxes, local improvements, and assessment rates shall be apportioned and allowed to the Closing Date (with the Closing Date to be for the account of the Purchaser). The Purchaser will pay for the reasonable legal fees of the Vendor incurred in connection with this transaction and this will be adjusted for on Closing. H.S.T. shall be in addition to the Purchase Price. The Vendor will not collect H.S.T. only if the Purchaser provides to the Vendor an H.S.T. number as proof that it is an H.S.T. registrant under the *Excise Tax Act* ("**ETA**"), together a warranty and indemnity, satisfactory to the Vendor acting reasonably, certifying, among other things, that the Purchaser will self-assess and remit the H.S.T. payable and file the prescribed form required under the ETA. The foregoing warranties shall not merge but shall survive the completion of the transaction. The Purchaser shall be responsible for Land Transfer Tax exigible respecting the transaction.

9. Closing Documents

(a) The Vendor and Purchaser shall cause their respective solicitors to enter into a Document Registration Agreement in prescribed form and content to facilitate the electronic registration required for Closing.

(b) The Vendor represents and warrants that it is not now and shall not at the time of Closing be a non-resident of Canada within the meaning of the *Income Tax Act* (Section 116), and, it shall deliver on closing an affidavit verifying same.

(c) In addition to the other deliveries contemplated herein, the Vendor shall prepare and deliver the Transfer, save for the Land Transfer Tax Statements, and, the parties shall exchange, Undertakings to Readjust and Statement of Adjustments, as necessary.

(d) The Vendor and Purchaser acknowledges and agrees that the exchange of closing funds, non-registrable documents and other items (the "**Requisite Deliveries**") and the release thereof to the Vendor and Purchaser, will (a) not occur at the same time as the registration of the Transfer (and any other documents intended to be registered in connection with the completion of this transaction) and (b) be subject to conditions whereby the lawyer(s) receiving any of the Requisite Deliveries will be required to hold same in trust and not release same except in accordance with the terms of a document registration agreement between the said solicitors.

10. Non-Merger

It is agreed that all covenants, representations and warranties of the parties herein contained shall not merge on the Closing of the transaction or the delivery of the transfer but shall survive thereafter.

11. Binding Agreement/Time of the Essence

This Agreement, when executed by both parties shall constitute a binding contract of purchase and sale, and time shall in all respects be of the essence hereof, provided that the time for doing or completing of any matter provided for herein may be extended or abridged by an agreement in writing signed by the Vendor and Purchaser, or, by their respective lawyers who may be specifically authorized in that regard.

12. Entire Agreement

It is agreed that there is no representation, warranty, collateral agreement or condition affecting this Agreement or the Property or supported thereby other than as expressed herein in writing.

13. Tender

Any tender of documents or money hereunder may be made upon the solicitor acting for the party on whom tender is desired on the Closing Date, and, it shall be sufficient that a negotiable bank draft or certified cheque may be tendered in lieu of cash.

14. Non-Fettering

(a) Nothing in this Agreement shall derogate from, interfere with or fetter the discretion of any present or future Council in the exercise of its decisions or in the Purchaser's determinations or actions in the capacity of the Purchaser as a municipal corporation, or

the rights of the municipality to act or refuse to act in connection with its approval, regulatory or inspection rights as a regulator or municipal corporation.

(b) All rights, benefits and obligations of the Purchaser under this Agreement shall be rights, benefits and obligations of the Purchaser in its capacity as a party to this Agreement, but notwithstanding the other provisions of this Agreement, shall not derogate or interfere with or fetter the rights, benefits, and obligations of the Purchaser in its function and capacity as a municipal corporation with respect to matters of general application.

15. Non-Registration

The Purchaser agrees not to register this Agreement nor notice thereof against the title to the Property. The Purchaser acknowledge that in the event that any registration respecting this Agreement or notice thereof occurs, the Vendor, in addition to any other rights or remedies it may have, shall be entitled to injunctive relief, and the Vendor may rely upon this provision in support thereof.

16. Business Day

For purposes of this Agreement, a business day means a day other than Saturday, Sunday or a statutory holiday for the Province of Ontario.

17. Severability

If any provision contained herein shall be found by a court of competent jurisdiction to be illegal or unenforceable, then such provision shall be considered separate and severable from the rest of this Agreement, and the remainder of this Agreement shall continue to be in full force and effect and shall continue to be binding upon the parties as though the illegal or unenforceable provision had never been included.

18. Notices

Any notice, demand, approval, consent, information, agreement, offer, request or other communication (hereinafter referred to as a "**Notice**") to be given under or in connection with this Agreement shall be in writing and shall be given by personal delivery, facsimile transmission or registered mail to the address set out below or to such other address or facsimile number as may from time to time be the subject of a Notice:

To the Vendor:

[**NTD: Vendor to confirm address for service**]

To the Purchaser:

The Corporation of the City of Port Colborne
66 Charlotte Street, Port Colborne, ON L3K 3C8

Attention: Chief Administrative Officer

Any Notice, if personally delivered, shall be deemed to have been validly and effectively given and received on the date of such delivery, and if sent by registered mail, shall be deemed to have been validly and effectively given and received five (5) business days after the date it was sent, and if sent by facsimile transmission with confirmation of transmission prior to 5 p.m., shall be deemed to have been validly and effectively given and received on the day it was sent, unless the confirmation of transmission was after 5 p.m. or on a non-

business day, in which case it shall be deemed to have been given and received on the next following business day.

19. <u>Successors and Assigns</u>

All of the covenants and agreements in this Agreement shall be binding upon the parties hereto and their respective successors and assigns and shall enure to the benefit of and be enforceable by the parties hereto and their respective successors and their permitted assigns pursuant to the terms and conditions of this Agreement.

20. <u>Counterparts and Electronic Delivery</u>

The parties agree that this Agreement may be executed in counterparts and transmitted by telecopier or email and that the reproduction of signatures in counterpart by way of telecopier or email will be treated as though such reproduction were executed originals.

21. <u>Offer Open for Acceptance</u>

Once executed by the Purchaser and delivered to the Vendor or its representative, this document shall constitute an irrevocable offer to purchase the Property on the terms and conditions herein contained, open for acceptance by the Vendor until 5 p.m. on _____, 2026, after which time, if not accepted, such offer shall become null and void.

[**next page is signature page**]

IN WITNESS WHEREOF the Purchaser have executed this Agreement the ____ day of _____, 2026.

THE CORPORATION OF THE CITY OF PORT COLBORNE

Per: _____
Name:
Title:

Per: _____
Name:
Title:
I/We have authority to bind the Corporation.

IN WITNESS WHEREOF the Vendor has executed this Agreement the ____ day of _____, 2026.

WITNESS:

_____ _____
JAMES GONSCHIOR

From: Davies, Fred - Personal <fred.davies.P9@parl.gc.ca>
Sent: August 13, 2026 1:23 PM
To: Mayor <mayor@portcolborne.ca>; Mark Bagu <mark.bagu@portcolborne.ca>; Dave Elliott <Dave.Elliott@portcolborne.ca>; Eric Beauregard <eric.beauregard@portcolborne.ca>; Tim Hoyle <Tim.Hoyle@portcolborne.ca>; Gary Bruno <gary.bruno@portcolborne.ca>; Frank Danch <frank.danch@portcolborne.ca>; Ron Bodner <ron.bodner@portcolborne.ca>; Monique Aquilina <Monique.Aquilina@portcolborne.ca>
Cc: Bryan Boles <Bryan.Boles@portcolborne.ca>

Subject: Ridgeway Nine

Mayor & Council:

RE: Petition to the Government of Canada: Ridgeway Nine

Many of you know the history of the Battle of Ridgeway, just down the road from Port Colborne. What many may not know is that the line of command had a strong and vital Port Colborne connection. The Battle fought on June 2, 1866 is argued to be the very first battle fought entirely with Canadian men and led by Canadians. It is also the first occasion of a casualty on Canadian soil with a soldier wearing a Canadian uniform. The unfolding events over the decades since has diminished the significance of this event. It has less than adequate attention in history curriculum behind modest references related to Fenian Raids.

The history of this is fascinating and should be honoured by all of us here in Niagara.

I have written to the Minister of Veterans' Affairs and she has agreed to meet with me in the Fall. Also, I have put a petition forward advocating that the Ridgeway Nine, and others, be honoured in a Book of Remembrance, a gesture of both recognition and respect for the sacrifice these Canadians made to Canada. Please, sign this petition, share it with your network; talk to people in Port Colborne and beyond to help make this slight against the very first Canadian soldiers to be killed on Canadian soil, made right.

The link: **Petition e-7642 - Petitions**

We will be posting this in every Legion Hall across Canada, sending this to High Schools in Niagara, and other places with an interest in Canadian history.

Mr. Mayor, please make reference to this in your report to Council. It is important.

Many thanks,

Fred

Fred Davies

Member of Parliament

Niagara South

Room 613, Confederation Building

House of Commons, ON K1A 0A6

613 995-0988

Main Constituency Office

800 Niagara Street, Welland, ON. L3C 5Z4

905 788-4434

(Seaway Mall next to Winners)

Satellite office Fort Erie

46 Jarvis St., Fort Erie, ON L2A 2S4

866 630-7916

Email: Fred.Davies@parl.gc.ca

This E-mail may contain privileged and confidential information intended only for the individual or entity named in the message. If the reader of this message is not the intended recipient, or the agent responsible to deliver it to the intended recipient, you are hereby notified that any review, dissemination, distribution or copying of this communication is prohibited. If this communication was received in error, please notify us by reply E-mail and delete the original message.

The Corporation of the Town of Grimsby
Administration
Office of the Town Clerk
160 Livingston Avenue, Grimsby, ON L3M 0J5
Phone: 905-945-9634 Ext. 2171 | **Fax:** 905-945-5010
Email: vsteele@grimsby.ca

August 13, 2026

SENT VIA E-MAIL
premier@ontario.ca

Attention: The Honourable Doug Ford, Premier of Ontario

RE: Request for Expansion of Provincial Disaster Assistance Programs

Please be advised that the Council of the Corporation of the Town of Grimsby at its meeting held on August 10, 2026, passed the following resolution:

C-26-166
Moved by: Councillor DiFlavio
Seconded by: Councillor Freake

Resolved that the Council of the Town of Grimsby request that the Province of Ontario review and expand its available disaster assistance programs to better reflect the impacts experienced by residents, businesses, farms and municipalities during these events; and

1. That the Province consider the impacts experienced across the entire Niagara Region when determining eligibility for disaster assistance; and

2. That a copy of this resolution be forwarded to the Premier of Ontario, the Minister of Municipal Affairs and Housing, the local MPP, the Regional Municipality of Niagara and the municipalities across Niagara for their support.

If you require any additional information, please let me know.

Regards,

Victoria Steele
Town Clerk

CC: Hon. Rob Flack, Minister of Municipal Affairs and Housing
Hon. Sam Oosterhoff, Associate Minister of Energy-Intensive Industries
Regional Municipality of Niagara
Municipalities within the Niagara Region
Sarah Kim, Chief Administrative Officer
Victoria Steele, Director of Legislative Services/Town Clerk
Brandon Wartman, Director of Public Works

August 13, 2026

Doug Ford
Premier of Ontario
Legislative Building
Queen's Park
Toronto, ON M7A 1A1

Re: Town of Ingersoll Resolution - Review of OLT and Enhancing Deference to Municipal Planning Decisions

Dear Premier Ford,

Please be advised that at their regular meeting on August 10, 2026, Council of the Corporation of the Town of Ingersoll adopted the following resolution:

> **Resolution # 2026-230**
>
> **Moved by Councillor Eus; seconded by Councillor Bowman**
>
> **THAT** the Council of the Corporation of the Town of Ingersoll receive the correspondence from the Town of the Blue Mountains regarding Review of OLT and Enhancing Deference to Municipal Planning Decisions;
>
> **AND THAT** Council support the resolution regarding Review of OLT and Enhancing Deference to Municipal Planning Decisions;
>
> **AND THAT** the resolution be forwarded to other municipalities in Ontario, Oxford MPP Ernie Hardeman, all relevant ministries, and the provincial government.
>
> **CARRIED**

Please don't hesitate to contact me if you have any questions or concerns.

Kind regards,

Julie Clayton

Julie Clayton
Deputy Clerk

cc: Hon. Rob Flack, Ontario Minister of Municipal Affairs and Housing
Ernie Hardeman, Member of Provincial Parliament for Oxford
Association of Municipalities of Ontario (AMO)
All municipalities in Ontario

130 Oxford St | Ingersoll Ontario N5C 2V5 | Tel: 519-485-0120 | Fax: 519-485-3542 | www.ingersoll.ca

Title: Kathryn Douglas, Supervisor, Legislative Services, Town of Whitby
Date: Monday, July 13, 2026
Time: 6:16 PM

Moved by: Councillor Hope
Seconded by: Councillor Porter

THAT Council of the Town of The Blue Mountains receives for information the June 25, 2026, correspondence from Kathryn Douglas, Supervisor, Legislative Services, Town of Whitby, and supports the June 22, 2026 Town of Whitby Council resolution regarding a Review of Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions;

AND THAT Council directs staff to circulate this resolution of support to the Premier of Ontario, the Minister of Municipal Affairs and Housing, Local Members of Provincial Parliament, the Association of Municipalities (AMO) and all Ontario Municipalities for consideration and support

YES: 6 **NO: 0** **ABSENT: 1**

The motion is Carried

YES: 6

Deputy Mayor Bordignon, Councillor Ardiel, Councillor Hope, Councillor Maxwell, Councillor McKinlay, Councillor Porter

NO: 0

ABSENT: 1

Mayor Matrosovs

Town of Whitby
575 Rossland Road East,
Whitby, ON L1N 2M8
905.430.4300
whitby.ca

June 25, 2026

Via Email

The Honourable Doug Ford
Premier of Ontario
premier@ontario.ca

Re: Review of the Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions

Please be advised that at its meeting held on June 22, 2026, the Council of the Town of Whitby adopted the following as Resolution # 166-26:

> Whereas local councils are elected by residents to make planning decisions that reflect the needs and priorities of their communities;
>
> Whereas municipalities rely on extensive public consultation, professional planning advice, engineering studies, and technical reports when making land-use decisions;
>
> Whereas the Ontario Land Tribunal (OLT) has the authority to overturn municipal planning decisions, often requiring municipalities to spend significant taxpayer dollars defending decisions that have already undergone a thorough local review process;
>
> Whereas lengthy and costly appeals can delay housing projects, consume municipal resources, and reduce the ability of municipalities to focus on delivering services to residents; and,
>
> Whereas local governments should have greater certainty and authority when decisions are consistent with approved Official Plans, provincial policies, and sound planning principles.
>
> Now Therefore be it Resolved:
>
> 1. That the Government of Ontario be requested to review the role and mandate of the Ontario Land Tribunal to ensure greater respect for municipal planning decisions that are supported by evidence, public consultation, and approved planning policies;

2. That the Province consider amendments to the Planning Act and Ontario Land Tribunal Act to provide stronger deference to municipal decisions that align with provincial planning frameworks and Official Plans;

3. That the Province improve transparency and accountability within the Ontario Land Tribunal by requiring clear and detailed reasoning when municipal decisions are overturned;

4. That the Province explore measures to reduce the financial burden on municipalities defending planning decisions before the OLT, helping to protect taxpayer dollars and improve the efficiency of the planning process; and,

5. That Staff be directed to circulate this resolution to the Premier of Ontario, the Minister of Municipal Affairs and Housing, Local Members of Provincial Parliament, the Association of Municipalities of Ontario (AMO), and all Ontario municipalities for consideration and support.

Should you require further information, please do not hesitate to contact the Office of the Town Clerk at 905-430-4300.



Kathryn Douglas
Supervisor, Legislative Services
clerk@whitby.ca

Copy: C. Harris, Director of Legislative Services/Town Clerk - clerk@whitby.ca

The Honourable Rob Flack, Minister of Municipal Affairs and Housing - minister.mah@ontario.ca
Peter Bethlenfalvy, MPP, Pickering-Uxbridge - peter.bethlenfalvy@pc.ola.org
Lorne Coe, MPP, Whitby - lorne.coe@pc.ola.org
Jennifer K. French, MPP, Oshawa - jfrench-co@ndp.on.ca
Todd J. McCarthy, MPP, Durham - todd.mccarthy@pc.ola.org
Rob Cerjanec, MPP, Ajax - rcerjanec.mpp.co@liberal.ola.org
Laurie Scott, MPP, Haliburton-Kawartha Lakes-Brock - laurie.scott@pc.ola.org
Robin Jones, President, Association of Municipalities of Ontario - amopresident@amo.on.ca
All Ontario Municipalities

MUNICIPALITY OF
North Perth
www.northperth.ca
A Community of Character 330 Wallace Ave. N., Listowel, ON N4W 1L3 Phone: 519-291-2950 Toll Free: 888-714-1993

August 10, 2026

The Honourable Doug Ford
Premier of Ontario
premier@ontario.ca

Re: Support for the Town of Whitby – Review of the Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions

Please be advised that the Council of the Municipality of North Perth passed the following resolution at its meeting on July 6, 2026:

> **THAT:** The Council of the Municipality of North Perth supports Consent Agenda Item 7.4 from the Town of Whitby regarding the Review of the Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions and that a copy of the support resolution be sent to all relevant parties, including MPP Matthew Rae, Minister of Municipal Affairs and Housing, Perth County Lower Tiers, County of Perth and all Ontario Municipalities.

A copy of the Town of Whitby's resolution is attached for reference.

Please accept this correspondence for your information and consideration.

Regards,

Lindsay Cline
Clerk/Legislative Services Supervisor

Encl.: Town of Whitby Resolution

CC: Town of Whitby
The Honourable Rob Flack, Minister of Municipal Affairs and Housing
Matthew Rae, MPP Perth-Wellington
County of Perth
Town of St. Marys
Township of Perth East
Township of Perth South
Municipality of West Perth
All Ontario Municipalities

Town of Whitby
575 Rossland Road East,
Whitby, ON L1N 2M8
905.430.4300
whitby.ca

June 25, 2026

Via Email

The Honourable Doug Ford
Premier of Ontario
premier@ontario.ca

Re: Review of the Ontario Land Tribunal and Enhancing Deference to Municipal Planning Decisions

Please be advised that at its meeting held on June 22, 2026, the Council of the Town of Whitby adopted the following as Resolution # 166-26:

> Whereas local councils are elected by residents to make planning decisions that reflect the needs and priorities of their communities;
>
> Whereas municipalities rely on extensive public consultation, professional planning advice, engineering studies, and technical reports when making land-use decisions;
>
> Whereas the Ontario Land Tribunal (OLT) has the authority to overturn municipal planning decisions, often requiring municipalities to spend significant taxpayer dollars defending decisions that have already undergone a thorough local review process;
>
> Whereas lengthy and costly appeals can delay housing projects, consume municipal resources, and reduce the ability of municipalities to focus on delivering services to residents; and,
>
> Whereas local governments should have greater certainty and authority when decisions are consistent with approved Official Plans, provincial policies, and sound planning principles.
>
> Now Therefore be it Resolved:
>
> 1. That the Government of Ontario be requested to review the role and mandate of the Ontario Land Tribunal to ensure greater respect for municipal planning decisions that are supported by evidence, public consultation, and approved planning policies;

2. That the Province consider amendments to the Planning Act and Ontario Land Tribunal Act to provide stronger deference to municipal decisions that align with provincial planning frameworks and Official Plans;

3. That the Province improve transparency and accountability within the Ontario Land Tribunal by requiring clear and detailed reasoning when municipal decisions are overturned;

4. That the Province explore measures to reduce the financial burden on municipalities defending planning decisions before the OLT, helping to protect taxpayer dollars and improve the efficiency of the planning process; and,

5. That Staff be directed to circulate this resolution to the Premier of Ontario, the Minister of Municipal Affairs and Housing, Local Members of Provincial Parliament, the Association of Municipalities of Ontario (AMO), and all Ontario municipalities for consideration and support.

Should you require further information, please do not hesitate to contact the Office of the Town Clerk at 905-430-4300.



Kathryn Douglas
Supervisor, Legislative Services
clerk@whitby.ca

Copy: C. Harris, Director of Legislative Services/Town Clerk - clerk@whitby.ca

The Honourable Rob Flack, Minister of Municipal Affairs and Housing - minister.mah@ontario.ca
Peter Bethlenfalvy, MPP, Pickering-Uxbridge - peter.bethlenfalvy@pc.ola.org
Lorne Coe, MPP, Whitby - lorne.coe@pc.ola.org
Jennifer K. French, MPP, Oshawa - jfrench-co@ndp.on.ca
Todd J. McCarthy, MPP, Durham - todd.mccarthy@pc.ola.org
Rob Cerjanec, MPP, Ajax - rcerjanec.mpp.co@liberal.ola.org
Laurie Scott, MPP, Haliburton-Kawartha Lakes-Brock - laurie.scott@pc.ola.org
Robin Jones, President, Association of Municipalities of Ontario - amopresident@amo.on.ca
All Ontario Municipalities

The Corporation of the Municipality of Wawa

REGULAR COUNCIL MEETING

RESOLUTION

Tuesday, August 11, 2026

Resolution # RC26159	Meeting Order: 6
Moved by: Cathy Cannon	Seconded by:

WHEREAS the Canadian Centre for Policy Alternatives (CCPA) has identified that Ontario hospitals are significantly underfunded relative to the growing demand for health care services; and

WHEREAS the CCPA's report, Failure by Design, identifies that smaller and rural hospitals are disproportionately affected by provincial underfunding; and

WHEREAS rural communities, including the Municipality of Wawa, depend on stable and adequately funded hospitals to provide timely access to emergency, acute, and specialized health care services; and

WHEREAS prolonged emergency department wait times, increasing health care costs, staffing shortages, and limited capacity continue to place significant strain on Ontario's health care system; and

WHEREAS maintaining access to high-quality health care services is essential to the health, safety, economic development, and long-term sustainability of northern and rural Ontario communities;

NOW THEREFORE BE IT RESOLVED THAT the Council of the Corporation of the Municipality of Wawa hereby supports the Municipality of Central Manitoulin and the Municipality of Northeastern Manitoulin and the Islands in their request that the Province of Ontario provide immediate and sustained funding to strengthen Ontario's hospital system, including increased operating funding for small and rural hospitals to address capacity pressures, improve patient care, and reduce emergency department wait times; and

Page 2.....

The Corporation of the Municipality of Wawa

REGULAR COUNCIL MEETING

RESOLUTION

BE IT FURTHER RESOLVED THAT a copy of this resolution be forwarded to:

- The Honourable Doug Ford, Premier of Ontario;
- The Honourable Sylvia Jones, Deputy Premier and Minister of Health;
- Bill Rosenberg, MPP, Algoma–Manitoulin;
- The Association of Municipalities of Ontario (AMO);
- The Rural Ontario Municipal Association (ROMA);
- The Municipality of Central Manitoulin;
- The Municipality of Northeastern Manitoulin and the Islands; and
- All Ontario municipalities for their consideration and support.

RESOLUTION RESULT	RECORDED VOTE		
☐ CARRIED	MAYOR AND COUNCIL	YES	NO
☐ DEFEATED	Mitch Hatfield		
☐ TABLED	Cathy Cannon		
☐ RECORDED VOTE (SEE RIGHT)	Melanie Pilon		
☐ PECUNIARY INTEREST DECLARED	Jim Hoffmann		
☐ WITHDRAWN	Joseph Opato		

Disclosure of Pecuniary Interest and the general nature thereof.

☐ Disclosed the pecuniary interest and general name thereof and abstained from the discussion, vote and influence.

Clerk:_____

MAYOR – MELANIE PILON	CLERK – MAURY O'NEILL
M. Pilon	Maury O'Neill

This document is available in alternate formats.

DISTRICT OF PARRY SOUND

56 ONTARIO STREET
PO BOX 533
BURK'S FALLS, ON
P0A 1C0

(705) 382-3332
(705) 382-2954
Fax: (705) 382-2068
Email: admin@armourtownship.ca
Website: www.armourtownship.ca

Date: **August 11, 2026**

Motion # 2026-236

WHEREAS public libraries provide essential services including literacy, education, technology access, employment resources, and community programming;

AND WHEREAS the Burk's Falls, Armour & Ryerson Union Public Library serves the residents of the Township of Armour and surrounding communities;

AND WHEREAS the provincial funding received by the Burk's Falls, Armour & Ryerson Union Public Library has remained at $13,914 annually since 1990, despite significant increases in the cost of providing library services;

AND WHEREAS the Township of Armour's contribution to library services has increased from $14,097.99 in 2001 to $98,722 in 2026, placing an increasing financial burden on municipal taxpayers;

AND WHEREAS the Ontario Library Association and Federation of Ontario Public Libraries have called for increased and sustainable provincial funding for public libraries;

NOW THEREFORE BE IT RESOLVED THAT the Council of the Township of Armour petitions the Government of Ontario, through the Ministry of Tourism, Culture and Gaming, to substantially increase and provide sustainable, predictable operating funding for Ontario's public libraries;

AND BE IT FURTHER RESOLVED THAT copies of this resolution be forwarded to the Premier of Ontario, the Minister of Tourism, Culture and Gaming, the local Member of Provincial Parliament, the Association of Municipalities of Ontario (AMO), the Ontario Library Association (OLA), and the Federation of Ontario Public Libraries (FOPL) for their support and advocacy;

AND BE IT FURTHER RESOLVED THAT this resolution be circulated to municipalities across Ontario for their consideration and support.

Moved by:			**Seconded by:**		
	Blakelock, Rod	☐		Blakelock, Rod	☐
	Brandt, Jerry	☐		Brandt, Jerry	☑
	Haggart-Davis, Dorothy	☑		Haggart-Davis, Dorothy	☐
	Ward, Rod	☐		Ward, Rod	☐
	Whitwell, Wendy	☐		Whitwell, Wendy	☐

Carried / Defeated _____

Declaration of Pecuniary Interest by: _____

DISTRICT OF PARRY SOUND

56 ONTARIO STREET
PO BOX 533
BURK'S FALLS, ON
P0A 1C0

(705) 382-3332
(705) 382-2954
Fax: (705) 382-2068
Email: admin@armourtownship.ca
Website: www.armourtownship.ca

Date: **August 11, 2026**

Recorded vote requested by: _____

Recorded Vote:	For	Opposed
Blakelock, Rod	☐	☐
Brandt, Jerry	☐	☐
Haggart-Davis, Dorothy	☐	☐
Ward, Rod	☐	☐
Whitwell, Wendy	☐	☐

TOWNSHIP OF
BRUDENELL, LYNDOCH AND RAGLAN

42 Burnt Bridge Road, PO Box 40
Palmer Rapids, Ontario K0J 2E0
TEL: (613) 758-2061 · FAX: (613) 758-2235

May 6, 2026

RE: Request for Provincial Legislation Amendments, Health and Safety Concerns

Dear Minister Piccini,

Please be advised that at the Regular Council Meeting on May 6th, 2026, Council for the Corporation of the Township of Brudenell, Lyndoch and Raglan approved the following:

Resolution No: 2026-05-06-08
Moved by: Councillor Banks
Seconded by: Councillor Kauffeldt

"Be it resolved that the Council for the Corporation of the Township of Brudenell, Lyndoch and Raglan support the correspondence from the Association of Ontario Road Supervisors (AORS) regarding the Request for Provincial Legislation Amendments, Health and Safety Concerns.

And further that this resolution be forwarded to the Premier of Ontario, Solicitor General of Ontario, Minister of Emergency Preparedness and Response, Minister of Municipal Affairs and Housing, Minister of Transportation, Acting Minister of Infrastructure, Renfrew Nipissing Pembroke MP and MPP, AMO, AORS and all Ontario Municipalities."

CARRIED

Sincerely,

Tammy Thompson

Tammy Thompson
Deputy Clerk
Township of Brudenell, Lyndoch and Raglan

Minister of Labour, Immigration, Training and Skills Development David Piccini
14th Floor, 400 University Avenue
Toronto, ON M7A 1T7

February 5, 2026

Dear Minister Piccini,

On behalf of Ontario's municipal public works professionals, we are writing to raise an urgent health and safety concern that is increasingly placing municipal workers and subcontractors at risk while they maintain the critical infrastructure our communities rely on every day.

While the Occupational Health and Safety Act establishes important protections against workplace hazards, it does not adequately address a growing and very real threat: unsafe working conditions created by interference, harassment, and dangerous actions from members of the public.

Through consultations with AORS members across the province, we are hearing consistent and deeply troubling examples of escalating behaviour directed at municipal workers - particularly winter maintenance operators. These are not isolated incidents, but a pattern that is becoming increasingly normalized during significant weather events. Examples reported to AORS include:

- An individual throwing a large chunk of ice at an active piece of municipal equipment while it was operating.
- A resident threatening to kill a sidewalk plow operator.
- A man climbing onto a snow plow and refusing to get off until the operator agreed to plow his road next.
- Two municipal staff members being confronted, accosted, and aggressively yelled at in public - one at a gas station and another while simply standing in line for coffee - by individuals angry about road conditions that were not even under that municipality's jurisdiction, as well as a mailbox that had been struck.
- A voicemail left by a resident threatening to shoot a municipal plow driver with a shotgun the next time the street was plowed.
- A resident angry about snow at the end of their driveway jumping in front of an active plow and refusing to move. The plow was delayed for over an hour during a major snow event, placing service levels and the municipality's overall emergency response at risk. The situation was only resolved once supervisors and by-law officers arrived on scene.

These incidents represent only a small sample of what municipal plow drivers and winter maintenance crews are experiencing across Ontario. What was once limited to disgruntled complaints has escalated into direct threats, physical interference, and dangerous confrontations that place workers, subcontractors, and the public at risk. This issue is becoming a systematic threat to municipal service delivery and is only amplified during significant weather events.

Municipal workers and their contracted partners are responsible for maintaining roads, bridges, sidewalks, and other essential services - often in extreme weather and high-risk environments. When these workers are threatened or obstructed, it becomes not only a workplace safety issue, but a broader public safety concern. In some cases, conditions have become so unsafe that

municipal staff and subcontractors have walked off job sites, jeopardizing timely service delivery during critical events.

We respectfully ask the Province to consider the following changes:

- Under the Emergency Management and Civil Protection Act, when a municipality declares a Significant Weather Event, municipal winter maintenance vehicles and operators - including subcontractors working on behalf of municipalities - should be afforded enhanced protection, with interference or obstruction treated with the same severity as interference with police, fire, or paramedic services.
- Establish clear public-safety interference provisions, similar in intent to Ontario's Slow Down, Move Over legislation, that recognize the essential role of municipal roadside workers.
- Consider adopting provisions similar to Manitoba's recently passed Bill 38, an amendment to their Highway Traffic Act effective January 1, 2026, which requires motorists to maintain a minimum distance of 30 metres behind snowplows where speed limits are 80 km/h or lower, and 100 metres where speed limits exceed 80 km/h.

These changes would provide clarity, deterrence, and enforceability—sending a strong message that interference with municipal workers performing essential services will not be tolerated. Just as Ontario protects first responders from obstruction during emergencies, we must extend similar protections to the public works professionals who keep our communities safe, connected, and functioning.

AORS would welcome the opportunity to meet with you and your staff to discuss these concerns further and to collaborate on legislative solutions that better protect municipal workers and subcontractors while strengthening public safety across the province.

Thank you for your consideration of this critical issue.

Sincerely,





Karla Musso-Garcia, CRS-I
President, Association of Ontario Road Supervisors
Operations Manager, Township of Oro-Medonte

Kelly Elliott
Interim Executive Director
Association of Ontario Road Supervisors

Cc (via e-mail)
Premier Doug Ford
Minister of Emergency Preparedness and Response Jill Dunlop
Minister of Municipal Affairs and Housing Rob Flack
Minister of Transportation Prabmeet Sarkaria
Acting Minister of Infrastructure Todd McCarthy
Scott Butler, Good Roads Executive Director
Walid Abou-Hamde, Ontario Road Builders' Association Chief Executive Officer

PORT COLBORNE

Subject: **2026 Water and Stormwater Master Plan and Pollution Prevention Control Plan**

To: **Council**

From: **Public Works Department**

Report Number: 2026-95

Meeting Date: September 8, 2026

Recommendation:

That Public Works Department Report 2026-95 be received; and

That Council endorse, in principle, the draft 2026 Water and Stormwater Master Plan and 2026 Pollution Prevention Control Plan for the Wastewater System and the 2026 Pollution Prevention Control Plan for the Wastewater System as the recommended strategies to meet Port Colborne's future servicing needs through 2051 while ensuring the effective management of existing infrastructure assets; and

That Council direct Staff to file a Notice of Completion and commence the 30-day public review period as required under the Municipal Class Environmental Assessment (MCEA) process.

Purpose:

The purpose of this report is to seek Council’s endorsement, in principle, of the draft 2026 Water Master Servicing Plan, the Stormwater Master Servicing Plan (MSPs) and the Pollution Prevention and Control Plan (PPCP) for the wastewater system. The three plans provide a strategic roadmap to service existing needs and accommodate future growth within Port Colborne.

Background:

Water and wastewater servicing in Port Colborne operates under a two-tier system. The Niagara Region is responsible for water and wastewater treatment facilities, storage reservoirs, pumping stations, and major trunk infrastructure, while the City owns, operates, and maintains the local water distribution and wastewater collection systems.

The City is also responsible for the majority of the stormwater collection system, including catch basins, storm sewers, culverts, ditches, a stormwater management pond, and a stormwater pumping station.

The City's Strategic Plan includes several objectives related to water, wastewater, and stormwater infrastructure, including renewal or improvements to all stormwater and wastewater assets in the "very poor" condition category by 2030 and all water assets by 2040. Achieving these objectives requires long-term infrastructure planning and sustained investment in asset renewal.

Like many municipalities across Ontario, Port Colborne is managing aging underground infrastructure. The City's water system experiences higher than average water loss, with up to 50% of treated water purchased from the Niagara Region not reaching customers due to a combination of factors, including leaks from aging watermains. Similarly, the City incurs wastewater treatment costs based on the volume of flow sent to the Region's wastewater treatment plant. These flows are increased due to inflow and infiltration (I&I) from groundwater infiltration, stormwater inflow, and improper cross-connections, placing additional demand on the collection system and increasing costs. These infrastructure challenges required the MSPs and PPCP to balance long-term growth planning with an aggressive asset renewal strategy.

MSPs are high-level strategic planning documents that evaluate the City's long-term infrastructure needs and establish a framework for future investment. PPCPs are completed instead of wastewater master plans to consider sources of pollution associated with wastewater overflows that occur during precipitation events causing exceedances in the wastewater collection system and excess flows are then discharged to the environment or stormwater systems. Overflows represent a potential health hazard and can have adverse effects on aquatic life, recreational uses, and water supplies. Although Port Colborne does not have a combined wastewater and stormwater system (where both flows are conveyed in a single pipe system), the volume of I&I entering the wastewater system can cause the system to function similarly to a combined system during significant wet weather events. This is why a PPCP was completed, as opposed to a traditional wastewater master plan.

The MSPs and PPCP were completed using the Municipal Class Environmental Assessment (MCEA) Approach 1 process, an approved planning process under Ontario's Environmental Assessment Act. The study process included consultation with residents, government review agencies, developers, First Nations and Indigenous communities, and other interested stakeholders. A Public Information Centre (PIC) was held in December 2025 to present the study findings, receive public input, and provide an opportunity for stakeholders to comment on the proposed servicing strategies. Through technical analysis, consultation, and evaluation of multiple servicing alternatives, the studies identify preferred approaches to support future growth while maintaining reliable municipal services.

The MSPs also reviewed historical and current growth forecasts to establish the assumptions used to assess future servicing needs and infrastructure requirements. Two growth scenarios were considered:

- a full buildout scenario, which identifies the City's ultimate long-term infrastructure requirements, and
- a 2051 growth scenario, which represents the projected development outlook and forms the basis for the recommended capital program.

With potential changes to provincial planning policy, including the impacts of Bill 23, growth in Port Colborne could occur more quickly than previously anticipated. The City therefore needs to position itself to accommodate a growing community, including both new residential development and significant industrial and employment growth. The Master Plans provide a framework to balance these growth pressures with the City's existing infrastructure needs by:

- prioritizing the rehabilitation and renewal of aging assets,
- addressing known capacity and operational constraints, and
- identifying the strategic upgrades required to accommodate future growth.

This approach allows the City to maintain its existing infrastructure in a state of good repair while strategically investing in additional capacity where it is required.

Previous servicing studies for the City's water and wastewater systems relied primarily on Niagara Region hydraulic models. To improve the accuracy of future planning, the City initiated the development of detailed hydraulic models specific to its own water, wastewater, and stormwater infrastructure. This work began in 2022 as part of the PPCP and continued in 2023 through the Water and Stormwater Master Servicing Plans.

Developing these calibrated models required extensive field investigations, including wastewater and stormwater flow monitoring, watermain C-factor testing, fire flow testing, and the collection of additional system data. These field measurements allowed the models to be calibrated to actual system performance, providing a more accurate representation of the City's infrastructure than was previously available.

The calibrated models were then used to assess existing system performance, evaluate future growth and build-out scenarios, and identify long-term infrastructure improvements. The resulting recommendations form the technical foundation for future capital planning and asset management decisions. As strategic planning documents, the recommendations will continue to be refined through detailed engineering, condition assessments, operational review, and Council approval as projects are advanced through future capital budgets.

Discussion:

The updated MSPs and PPCP provide the City's long-term servicing strategy through the 2051 planning horizon. The studies evaluate existing system capacity, future growth, and infrastructure needs using updated hydraulic models developed specifically for City-owned infrastructure.

The studies identify long-term infrastructure improvements required to maintain reliable service, support planned growth, improve system performance, and renew aging assets. As strategic planning documents, the recommended capital programs represent long-term infrastructure needs rather than committed capital projects.

Following completion of the studies, staff completed additional engineering review and quality assurance/quality control of the recommended programs. Recommendations were refined to reflect current asset condition, operational experience, infrastructure already renewed through recent capital projects, ongoing investigations, affordability, and alignment with the financial strategy presented through the Municipal Services Corporation (MSC) Business Case (Office of the CAO Report 2026-112). Taken together, the MSPs, PPCP and Water and Wastewater MSC Business Case establish a long-term path forward for addressing the City's infrastructure needs.

The refined implementation programs summarized below represent the infrastructure investments staff recommend for future capital planning. Individual projects will continue to be evaluated through future budget deliberations and detailed engineering prior to construction.

Wastewater

The City's PPCP identified investment in I&I reduction as one of the most cost-effective strategies for increasing available wastewater capacity and accommodating future growth. While hydraulic modelling identified approximately $33 million in potential wastewater capacity upgrades, many of these projects are recommended to be deferred until the City's ongoing I&I reduction program is further advanced. The current hydraulic model reflects existing system conditions and does not yet fully account for the reductions in wet-weather flows being achieved through the City's ongoing rehabilitation program.

Since 2022, Council has approved approximately $15.4 million in wastewater rehabilitation projects, including wastewater mainline lining, service lateral rehabilitation and maintenance hole renewal. These investments directly align with the recommendations of the PPCP, and staff began implementing priority initiatives as the plan was being developed. The City has also received funding through the Niagara Region's Wet Weather CSO Program to support I&I reduction initiatives and implementation of the PPCP recommendations.

The results of this work are now becoming evident through ongoing flow monitoring. The Omer Avenue/Bartok Crescent area provides a strong example of the impact of targeted I&I reduction. This area was identified as a priority due to historical basement flooding, a drive for new development, and to prevent wastewater overflows to the environment due to extreme wet weather flows. Between August 2024 and January 2026, the City completed:

- approximately 4.0 km of sewer lining,
- rehabilitated 209 service laterals,
- repaired 47 cleanouts,
- disconnected three downspouts and
- sealed six maintenance holes in this area.

These improvements have resulted in an estimated 50% or greater reduction in peak wet-weather flows, compared to conditions monitored between 2023–2024.

The effectiveness of this work was particularly evident during the August 2, 2026 rainfall event, an approximately 10-year storm with 84 mm of precipitation. Despite the magnitude of the event, the Omer Sewage Pumping Station remained below its available pumping capacity, with approximately 20 L/s of capacity remaining. Under previous system conditions, the volume of extraneous water entering the system would have been substantially greater and there would have been a significant risk that a sewer overflow and associated flooding impacts would have occurred. The improvements completed in the sewer shed have therefore provided measurable benefits in terms of system resilience and flood risk reduction.

The City is continuing to apply this same targeted approach in other priority wastewater catchments, including the Clarke and Union areas. Continued investment in I&I reduction, particularly service lateral rehabilitation, is expected to further increase available wastewater capacity and reduce wet weather impacts.

Overall, the results to date demonstrate that the City’s wastewater rehabilitation program is producing tangible benefits. By keeping extraneous water out of the wastewater system, the City is reducing the risk of basement flooding and overflows, improving the resilience of existing infrastructure, and creating additional capacity for future development. Importantly, this approach may also defer or reduce the need for costly upgrades to regional sewage pump station infrastructure.

The City is seeing measurable results from the investments and strategies identified through the PPCP, reinforcing the value of continuing this work before committing to larger and more costly capacity upgrades. It is recommended that, through the budget deliberation process, an additional $8 million be allocated to support future wastewater lateral lining, which aligns with the Water & Wastewater MSC Business Case.

Water

The Water MSP identifies a significant opportunity to improve the reliability, efficiency and long-term performance of the City's water system through continued targeted investment in watermain rehabilitation and strategic system upgrades. Improvements are required to address localized pressure and fire flow deficiencies, improve water quality and system redundancy, reduce watermain breaks and emergency repairs, and ultimately reduce water loss from the system.

The preferred water servicing strategy identified in the MSP takes a targeted, integrated approach built around three key principles: rehabilitating existing watermains where feasible, replacing watermains through conventional open-cut construction where required, and strategically upsizing and looping watermains to support future growth and improve system redundancy. This approach allows the City to consider the water system as a whole when planning capital work, rather than replacing infrastructure on a project-by-project basis. For example, where a road is already scheduled for reconstruction or other underground infrastructure work, watermain renewal can be coordinated at the same time, while watermains identified for future upsizing can be prioritized differently from those that can be lined.

The City has no shortage of watermain rehabilitation needs, and prioritization is therefore critical. The current capital program focuses on the renewal of aging infrastructure, particularly cast iron watermains, with priorities informed by watermain break history, condition, fire flow deficiencies, water quality concerns, future growth requirements and opportunities to coordinate with other municipal infrastructure projects. The MSP recommends continuing this phased approach, with the remaining cast iron watermains targeted for rehabilitation or replacement by 2041.

The MSP reviewed existing system performance and identified that it's generally adequate from a pressure perspective with only localized deficiencies in higher elevation and dead-end areas. However, significant fire flow deficiencies are present across the system, with many associated with aging cast iron and dead end watermains. The preferred strategy as depicted within the Master Plan, *Concept C+B – Sub-Trunk Loops and Targeted Upgrades*, addresses these deficiencies through strategic looping and targeted watermain upgrades while continuing the City's broader cast iron rehabilitation program. This approach improves system resiliency and fire flow performance without requiring full system-wide replacement.

The proposed improvements are expected to significantly enhance future system performance. Under the buildout scenario, the preferred strategy is expected to maintain generally acceptable system pressures and increase the proportion of the system meeting the City's fire flow criteria to more than 95%. Strategic looping will also provide redundancy, improve system reliability and reduce the need for routine flushing associated with dead-end watermains.

The MSP also highlights the importance of coordinating the City's water infrastructure investments with future growth. The City's updated 2051 growth projections are substantially higher than those considered in the Niagara Region's 2021 Master Servicing Plan, increasing from approximately 6,100 to 21,718 equivalent people and jobs. As a result, additional Regional water infrastructure upgrades may ultimately be required to support the City's growth. The City's strategy is therefore intended to ensure that local infrastructure is appropriately planned and positioned to support this growth while recognizing larger Regional system improvements may be required.

The Master Plan identifies approximately $183 million in long-term water infrastructure improvements through 2051. This includes infrastructure required to support growth, some of which would be eligible for development charge funding rather than being funded through water rates. Following staff review, the implementation program has been refined to reflect projects already completed or funded, updated construction priorities, and the financial strategy being developed through the MSC Business Case.

Staff recommend focusing future investment through two core programs:

- **Watermain Renewal Program – $52.3 million:** Continued rehabilitation and replacement of aging watermains, with a particular focus on cast iron infrastructure and areas with a history of breaks, water quality concerns or fire flow deficiencies.
- **Strategic Looping and Growth Program – $27.7 million:** Targeted watermain upsizing and system looping to address hydraulic deficiencies, improve redundancy and reliability, and provide capacity for future growth.

The City’s recently approved MSC for Water, Wastewater and Stormwater also presents an opportunity to expedite the delivery of priority watermain rehabilitation and looping projects through a more coordinated long-term infrastructure investment strategy. With a strategic approach to trenchless watermain rehabilitation through lining and coordination with other capital projects, the City can maximize the value of each infrastructure investment while addressing the significant backlog of aging water infrastructure.

Stormwater

The Stormwater MSP identifies a stormwater system that has evolved over decades, with a significant portion of the network constructed before current design standards were established. Port Colborne's stormwater infrastructure includes a combination of storm sewers, roadside ditches, swales, culverts, municipal drains and natural drainage courses. In many areas, the system was not originally designed as a comprehensive engineered network and has developed through incremental improvements over time.

As a result, the City has localized stormwater deficiencies related to capacity, drainage configuration, infrastructure condition and connectivity. While much of the system

performs adequately during more typical rainfall events, isolated flooding and capacity constraints can occur during larger storms. System performance can also be significantly affected by elevated Lake Erie and Welland Canal water levels, which restrict the City's ability to discharge stormwater through some outlets.

The Stormwater MSP takes a different approach from the City's water and wastewater plans. Rather than proposing to replace or upgrade the entire stormwater system to current standards, the strategy focuses on targeted improvements where there are known flooding, capacity or outlet constraints, while ensuring that new development manages its own impacts through appropriate stormwater management.

For future growth areas, the preferred approach is generally to utilize existing drainage infrastructure where capacity is available, supplemented by new outlets, conveyance infrastructure and on-site stormwater management where required. Development will generally be required to control post-development flows and provide water quality treatment so that new growth does not worsen conditions in existing downstream systems. In several areas, existing ditches, municipal drains or natural drainage routes provide viable servicing alternatives to constructing new storm sewer systems.

The MSP identifies several priority areas for municipal investment. Major infrastructure needs are concentrated in the Clarke Street, Sugarloaf, and Elm & King Street areas, where improvements are required to address undersized or constrained systems, improve conveyance and protect against elevated lake levels. Additional localized improvements are recommended in areas such as Chippawa Road, Third Avenue and Omer Avenue, and Lakeshore Road area.

A significant component of the recommended program is focused on stormwater outlet protection. The City's outlets to Lake Erie and the Welland Canal can be affected by high water levels and backflow, limiting the ability of the system to drain during major events. The recommended strategy therefore includes outlet capacity improvements, rehabilitation and backflow protection, as well as opportunities for additional storage and real-time operational controls.

The Stormwater MSP identifies approximately $79.8 million in potential long-term infrastructure improvements, including approximately $69.2 million in storm sewer improvements and $10.6 million in outlet improvements. Following staff review, the implementation strategy has been refined to focus on two core programs:

- **Neighbourhood Stormwater Improvements and Local Stormwater Planning – $27.2 million:** Targeted improvements to address localized flooding, capacity constraints and neighbourhood drainage issues, with detailed studies and design work used to establish project priorities.
- **Stormwater Outlet Protection – $6.9 million:** Improvements to protect the City's stormwater outlets from high lake levels, backflow and erosion and improve the reliability of the City's discharge infrastructure.

The remaining infrastructure identified through the Master Plan represents longer-term needs that will be evaluated and prioritized as detailed studies are completed, development proceeds and additional information becomes available. The recommendations in the Stormwater MSP are also aligned with ongoing studies and Municipal Class Environmental Assessments in areas such as Clark and Sugarloaf, allowing the City to further refine infrastructure requirements before committing to major construction projects.

Overall, the stormwater strategy is intended to be targeted and financially sustainable. The City will focus its resources on addressing existing flooding and system constraints, while requiring new development to manage its own stormwater impacts and coordinating major infrastructure improvements with growth and other municipal capital projects. This approach recognizes the unique nature of Port Colborne's stormwater system and avoids unnecessary investment in fully engineered storm sewer infrastructure where existing drainage systems can continue to perform adequately.

Internal Consultations:

Staff across the CAO office, Public Works, Asset Management and Finance worked to align the recommended capital programs with the financial strategy presented through the MSC Business Case. The refined capital programs presented in this report reflect that review.

Financial Implications:

There are no immediate financial implications associated with this report. The MSPs and PPCP provide a long-term planning framework to guide future infrastructure investments. Individual capital projects identified through these studies will continue to be evaluated, prioritized, and brought forward through future capital budget processes, subject to available funding and Council approval. Staff will develop detailed capital budgets based on the recommendations of the MSPs to implement the required servicing and improvements on the water, wastewater and stormwater systems.

The growth-related infrastructure needs identified through the MSPs and PPCP will also support future applications for grants and other funding programs that are intended to support growth and infrastructure capacity.

Public Engagement:

Public consultation was undertaken in accordance with the MCEA process for the Water and Stormwater MSPs and the PPCP. A Joint PIC was held on December 3, 2025, at the Vale Health & Wellness Centre to present the study objectives, existing conditions,

preliminary findings, and proposed servicing strategies. Members of the public, review agencies, First Nations and Indigenous Communities, and other interested stakeholders were invited to attend, provide feedback, and discuss the studies with City staff and project consultants.

Input received through the consultation process was considered in the development of the final recommendations contained within the Master Plans and PPCP.

Strategic Plan Alignment:

The initiative contained within this report supports the following pillars of the strategic plan:

- Environment and Climate Change
- Sustainable and Resilient Infrastructure

Conclusion:

The Water and Stormwater MSPs and PPCP provide the technical framework to guide the City's long-term infrastructure planning through 2051. Endorsing these studies will establish the City's strategic servicing direction and allow staff to continue refining and advancing capital projects through future budgets, detailed design, and Council approval.

Appendices:

a. Pollution Prevention and Control Plan
b. Master Servicing Plan Volume 1 Executive Summary
c. Master Servicing Plan Volume 2 Plan and Policy
d. Master Servicing Plan Volume 3 Water
e. Master Servicing Plan Volume 4 Stormwater
f. Master Servicing Plan Volume 5 Consultation
g. Water and Stormwater Master Plans and Pollution and Prevention and Control Plan Presentation

Respectfully submitted,

Cassandra Banting

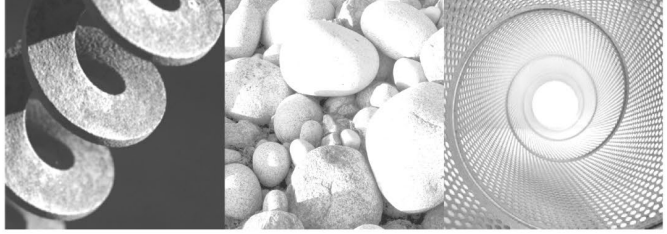
Manager of Environmental Services
905-228-8137
Cassandra.Banting@portcolborne.ca

Steve Shypowksyj
Director of Public Works
905-228-8133
Steve.Shypowskyj@portoclborne.ca

Bryan Boles, CPA, CA, MBA
Chief Administrative Officer
905-228-8018
Bryan.Boles@portcolborne.ca

Report Approval:

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.



GEI Consultants

PORT COLBORNE

2025 Pollution Prevention Control Plan

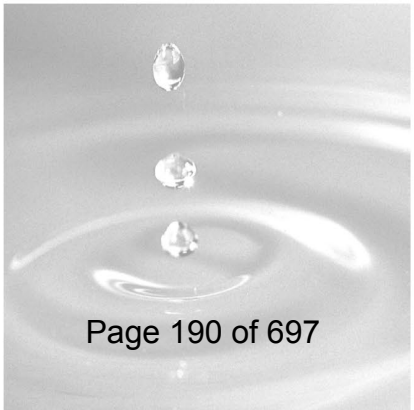
Final Report

City of Port Colborne

Submitted to:
Joe Colasurdo
1 Killaly St W
Port Colborne, ON
L3K 2L5

Submitted by:
GEI Consultants Canada Ltd.
1266 South Service Road, Unit C31
Stoney Creek, ON L8E 5R9
905-643-6688

March 22, 2026
Project No. 2402032



Alessandra Bianco, E.I.T.
Technical Specialist

Jonathan Brickman, P.Eng., IRP
Project Manager

Table of Contents

Certification iii

Record of Revisions iv

Executive Summary v

E.S.1. Background and System Overview v
E.S.2. Wastewater Servicing Principles and Criteria vi
E.S.3. Sewer Flow Monitoring Program vii
E.S.4. Wastewater Model Development and Calibration viii
E.S.5. Wastewater Growth Loading and Servicing Strategy viii
E.S.6. Summary of Recommendations x

1. Introduction 1

1.1. System Background 1
1.1.1. 2007 Pollution Control and Infrastructure Study 2
1.2. Study Objectives 3

2. Municipal Class Environmental Assessment 4

2.1. Class Environmental Assessment Process 4
2.2. Public Consultation 5
2.3. First Nations 5

3. Wastewater System Overview 6

3.1. Seaway Wastewater Treatment Plant 6
3.2. Sewage Pumping Stations 6
3.3. Sanitary Sewer Network 7
3.4. Overflow Locations 7

4. Level of Service Framework 9

4.1. Technical Performance Criteria 9

5. Methodology 10

5.1. Flow Monitoring Data Review 10
5.2. Model Development and Calibration 12
5.3. F-5-5 Analysis 14
5.3.1. Introduction 14
5.3.2. Procedure F-5-5 14
5.3.3. Typical Year Rainfall 15
5.3.4. Overflow Assessment 16
5.4. Growth Loading 16

6. Wastewater System Performance Assessment 19
6.1. Sewer Network Performance and Constraints 19
6.2. Sewage Pumping Stations Performance and Constraints 23
6.3. Seaway Wastewater Treatment Plant 24

7. Servicing Evaluation and Preferred Strategy 25
7.1. Summary of Recommendations 28

List of Tables

Table E.S. 1: Summary of Wastewater Technical Criteria vi
Table E.S. 2: Summary of Flow Monitoring Locations vii
Table E.S. 3: Proposed Capital Program ix
Table E.S. 4: Summary of the 2025 PPCP Recommendations x
Table 3-1: Summary of the Sewage Pumping Stations 6
Table 3-2: Summary of Sanitary Sewer Network 7
Table 3-3: Summary of Overflow Locations 7
Table 4-1: Summary of Wastewater Technical Criteria 9
Table 5-1: Summary of Flow Monitoring Locations 10
Table 6-1: Sewage Pumping Station Performance 23
Table 7-1: Proposed Capital Program 26
Table 7-2: Summary of the 2025 PPCP Recommendations 28

List of Figures

Figure 3-1: Wastewater System Overview 8
Figure 5-1: Flow Monitor Locations 11
Figure 5-2: Example of Model “clean up” process; incorrect inverts (left), corrected inverts (right) 12
Figure 5-3: Dry Weather Flow Calibration Example 13
Figure 5-4: Wet Weather Flow Calibration Example 13
Figure 5-5: Procedure F-5-5 Requirements 15
Figure 5-6: City Growth Locations with Key Residential and Employment Developments Highlighted 18
Figure 6-1: Sewer Network Performance - Existing 10 Year Design Storm 20
Figure 6-2: Sewer Network Performance - Growth 10 Year Design Storm 21
Figure 6-3: Sewer Network Performance - Growth 10 Year Design Storm with SPS Restrictions Removed 22
Figure 7-1: Proposed Pollution Prevention Control Plan Capital Program Projects 27

Certification

PREPARED BY:
GEI Consultants Canada Ltd.

Alessandra Bianco, E.I.T.
Technical Specialist

PREPARED BY:
GEI Consultants Canada Ltd.

Jonathan Brickman, M.Eng., P.Eng.
Project Manager

Record of Revisions

Identification	Date	Description of Issued and/or Revision
First Draft Submitted to City	September 2, 2025	First draft
Second Draft Submitted to City	May 31, 2026	Update based on City comments.

Executive Summary

The City of Port Colborne (City) retained GEI Consultants Canada Limited (formerly GM BluePlan) to update the City's Pollution Prevention Control Plan (PPCP). The 2025 PPCP is an update to the City's 2007 Pollution Control and Infrastructure Study (PCIS) and builds upon the findings and recommendations of the City's 2024 Infrastructure Needs Study (INS). The 2025 PPCP involved the development of an infrastructure plan that clearly outlines the short and long-term servicing strategy to manage the wastewater system in anticipation of future growth expected in the City by 2051 and beyond. In addition, an updated Capital Plan for necessary improvements to the City's infrastructure was developed to support both short and long-term servicing needs.

The objectives of the 2025 PPCP included the following:

- Implement a flow monitoring program to confirm existing system flows and performance.
- Build and calibrate an "all-pipe" hydraulic model of the City's wastewater system.
- Identify the key level of service priorities.
- Review and identification of expected population and employment growth projections.
- Identify alternatives to reduce system inflow & infiltration (I&I), combined sewer overflows (CSOs), and support population and employment growth.
- Evaluation of potential alternatives to identify the preferred servicing solution, including an emphasis on wet weather management strategies to reduce extraneous flows and delay or eliminate the need for specific capital projects.
- Develop a detailed capital program for wastewater infrastructure projects needed to support the existing system needs and long-term growth.

E.S.1. Background and System Overview

The City is one of twelve local tier municipalities within the Regional Municipality of Niagara (Region), situated on the north shore of Lake Erie. It is bounded by the Township of Wainfleet to the west, the Town of Fort Erie to the east and the Cities of Welland and Niagara Falls to the north.

The City's wastewater system is managed as a two-tier wastewater treatment and collection system. The City is responsible for the collection of wastewater flows from customers through the City owned and operated local collection system and smaller City-owned pump stations and forcemains. The Region is responsible for the treatment and trunk conveyance of flow through the Region's network of pumping stations, forcemains and major trunk sewers. While the City's wastewater system is nominally separated (no combined sewer infrastructure), there are several areas within the system with high rates of extraneous wet weather flow (WWF) which consume conveyance and treatment capacity. Because of these known areas of high inflow and infiltration (I&I), wet weather flow management has been identified as a key focus of the 2025 PPCP as a means of optimizing existing system capacity to accommodate future growth.

The City's wastewater system is serviced by the Regionally owned Seaway Wastewater Treatment Plant (WWTP). As per the Region's 2021 Master Servicing Plan Update (MSPU), the Seaway WWTP has a

current rated capacity of 19.6 MLD with a peak flow capacity of 45.4 MLD, where flows exceeding 45.4 MLD are diverted to a 5.67 ML storage tank. The system services an existing population of 15,969 and 4,693 employees per the 2021 Region MSPU.

E.S.2. Wastewater Servicing Principles and Criteria

The determination of reasonable hydraulic Level of Service (LOS) objectives is essential in ensuring that the proper planning and design principles are followed in the development of detailed servicing strategies, implementation of system capital program, and operations and maintenance practices.

Through the 2025 PPCP, the development of wastewater LOS objectives was based on a combination of existing documentation and related sources, and an assessment of the City's existing infrastructure condition and performance, including the following:

- City of Port Colborne Official Plan (updated 2020)
- City of Port Colborne Asset Management Plan (2022)
- Existing design criteria
    - Niagara Region 2021 Master Servicing Plan Update (MSPU)
    - 2007 Port Colborne Pollution Control and Infrastructure Study
    - Design criteria published by Ministry of Environment, Conservation, and Parks (MECP)
    - Other local Niagara Region municipalities' design criteria
- Existing system performance
    - Historic and existing system operations and performance
    - Resiliency to climate change
- Stakeholder feedback
    - City of Port Colborne and Niagara Region staff
- Financially feasible objectives (ensuring that the target LOS used to identify infrastructure needs can be delivered within a realistic cost)

The wastewater system LOS criteria that were used as the decision-making rationale related to system capacity needs and triggers for upgrades for the 2025 PPCP are summarized in **Table E.S. 1**.

Table E.S. 1: Summary of Wastewater Technical Criteria

Criteria			Performance Target
Wastewater Flows	Per Capita Sanitary Flow Rate	Residential	• 255 L/c/d[1]
		Employment	• 310 L/c/d[1]
	Peaking Factor		• Harmon's Peaking Factor with values between 2 and 4. [1]
	I&I Allowance	Existing Areas	• 0.4 L/s/ha[1]
		Greenfield	• 0.286 L/s/ha[1]
System Performance	Peak Wet Weather Design Flow		• 1-in-5-Year Design Storm[1] • 1-in-10-Year Design Storm
	Hydraulic Performance Indicators		• d/D < 1[1] • Minimum depth of cover to HGL > 1.8 m (for basement flooding protection)[1]

1. Aligned with the Region's 2021 MSPU

E.S.3. Sewer Flow Monitoring Program

The City's 2023 flow monitoring program consisted of 23 area-velocity flow monitors installed between April 2023 through August 2023. See **Table E.S. 2** for a summary of the flow monitoring locations. Two rain gauges were installed during the flow monitoring period; one City temporary rain gauge located at 310 King Street and one Region permanent rain gauge located at 30 Prosperity Avenue. Complete rain gauge coverage is critical for a flow monitoring program to spatially associate rainfall with an I&I response and effectively draw conclusions from the flow monitor data.

Table E.S. 2: Summary of Flow Monitoring Locations

City Sanitary Flow Monitor ID	Total Tributary Area (ha)	Nearest Road Intersection
FM001-Bayview Ln	27.3	Bayview Lane & Heron Point
FM002-NickelSt	97.3	Nickel Street & Fares Street
FM003-Lincoln Ave	33.5	Lincoln Avenue & Elizabeth Street
FM004-Fares St	27.6	Fares Street & St. Arnaud Street
FM005-Clarke St	104.7	Clarke Street & Russell Avenue
FM006-Steele St	66.2	Steele Street & Royal Road
FM007-RoseMount Ave N	51.6	Rosemount Avenue & Ash Street
FM008-RoseMount Ave S	77.6	Rosemount Avenue & Sugarloaf Street
FM009-SugarLoaf St	16.0	Sugarloaf Street & Tennessee Avenue
FM010-CityHallSPS S	31.3	Charlotte Street & Catharine Street
FM011-CityHallSPS N	11.7	Clarence Street & Catharine Street
FM012-Elm St	46.6	Elm Street & Princess Street
FM013-UnionStSPS	171.2	Union Street & King Street
FM014-Sheba Cres	77.6	Sheba Crescent & West Side Road
FM015-Omer Ave	229.3	Omer Avenue & Elm Street
FM016-CanalBank	24.9	Canal Bank Road & Amelia Street
FM017-Barrick Rd	87.8	Barrick Road & Elm Street
FM018-Park St Field	236.5	Park Street & Elm Street
FM019-Johnston St	31.7	Johnston Street & James Avenue
FM021-Knoll S	4.8	Knoll Street & Franklin Avenue
FM023-Borden Ave	80.4	Borden Avenue & Elm Street
FM024-Elmvale	6.7	Elmvale Crescent & Royal Road
FM028-Omer & Oak	1.8	Omer Avenue & Oak Street

E.S.4. Wastewater Model Development and Calibration

The 2025 PPCP model update focused on improving and validating the City's wastewater system model. Key areas include updating the sewer network geometry and facilities, refining system flow allocation and calibration and developing wet weather flow scenarios. The City's sanitary GIS data served as the primary source for sewer geometry, with reasonable assumptions used to address data gaps or errors. Regional pump station details were incorporated using Niagara Region's 2021 MSPU updated model. Wastewater flow allocation was based on the 2020-2023 water billing data, initially assuming 90% of billed water becomes wastewater, with adjustments made during calibration to better match observed flows. The model was calibrated for both dry and wet weather conditions using the Chartered Institution of Water and Environmental Management (CIWEM) Integrated Urban Drainage Modelling Guide (2021) criteria. Using the flow monitoring data from the 23 flow monitors across 4 critical observed rainfall events, the system was able to satisfy the target calibration criteria.

E.S.5. Wastewater Growth Loading and Servicing Strategy

Planning projection data was used to estimate future wastewater demands and support growth planning through to 2051, based on projected population, employment and established wastewater criteria. The calibrated hydraulic model was tested under both existing and future conditions using a 1-in-5-year and 1-in-10-year design storm. While the 1-in-10-year design storm produced moderately higher peak wet weather flows, it resulted in a similar number of required infrastructure upgrades compared to the 1-in-5-year scenario. As a result, the City elected to use the 1-in-10-year design storm for the 2025 PPCP to assess system performance, identify necessary upgrades, and set wet weather flow reduction targets. This decision does not change the City's standard practice of designing and sizing new wastewater infrastructure to a 1 in 5-year design storm (consistent with Niagara Region).

The proposed Capital Program for the City' infrastructure projects, including the capital costs and estimated phasing year (year when the preliminary design should commence) are listed in **Table E.S. 3.**

It should be noted that the City is currently undertaking significant I&I reduction work and the currently calibrated model does not represent the potential I&I reductions to the system. It is recommended that before implementing the capital program projects, all the I&I reduction work be completed and post-flow monitoring conducted to quantify the I&I reduction. The model can then be re-calibrated based on the post-flow monitoring data to confirm if the capital program projects are still required based on the 1-in-5-year and 1-in-10-year design storm scenarios.

Table E.S. 3: Proposed Capital Program

Sewer Section ID	Road Section(s)	US Manhole to DS Manhole	Existing Pipe Diameter (mm)	Proposed Pipe Diameter (mm)	Capital Cost (2025$)	Estimated Phasing Period
POCO_1[3]	Rosemount Ave & Stanley Street	220001421 to 220001457	200	250	$213,000	2045 - 2050
POCO_2	Wellington Street	220001900 to 220002094	300	375	$1,177,000	2030 - 2035
POCO_3	Elizabeth Street	220003303 to 220001695	200	250	$361,000	2030 - 2035
POCO_4	Elgin Street	220001231 to 220001825	200	300	$379,000	2035 - 2040
POCO_5	Main Street West & West Side Road	220001508 to 220001477	250	300	$815,000	2030 - 2035
POCO_6	Ost Avenue, Fielden Avenue & Borden Avenue	10001283 to 220001916	250	300	$904,000	2030 - 2035
POCO_7	City Hall SPS inlet to Charlotte Street	220001135 to 220001188	300	375	$150,000	2030 - 2035
	City Hall SPS Inlet[1]	220001188 to 14000114	300	375	-	
POCO_8[2]	Johnston Street	220001996 to 14000040	300	450	$568,700	<10 years
POCO_9[2]	Johnston Street	New sewer section discharging to 220001996	N/A	450	$1,651,700	10-20 years
POCO_10[2]	Killaly Street East	New sewer section discharging to POCO_14	N/A	600	$2,480,800	<10 years
POCO_11[2]	Snider Road	New sewer section discharging to POCO_10	N/A	450	$2,287,600	10-20 years
POCO_12[2]	Ramey Road	New sewer section discharging to POCO_13	N/A	450	$1,852,400	<10 years
POCO_13[2]	Barrick Road	New forcemain discharging to Seaway WWTP	N/A	300	$7,917,800	<10 years
POCO_14[2]	Elizabeth Street	New forcemain discharging to Seaway WWTP	N/A	450	$10,558,200	<10 years
				Total Capital Cost (2025$):	**$ 31,316,200**	

1. This section of sewer is Regionally owned.
2. These projects came directly from the INS and have not been modified (including the costing) as part of the current 2025 PPCP.
3. City has plans to include Stanley Street sewer upgrade as part of a future project in the Sugarloaf area.

E.S.6. Summary of Recommendations

A summary of the 2025 PPCP recommendations to be completed over the next 5 to 10 years is shown in **Table E.S. 4**.

Table E.S. 4: Summary of the 2025 PPCP Recommendations

Location	Recommendation
Omer PS Catchment	1. Finish the ongoing lateral launch program for this catchment.
	2. Develop and complete lateral lining based on the results from the lateral launches.
	3. After completing the WWF reduction activities stated in points 1-2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_6 is still necessary.
Clarke PS Catchment	1. Finish the ongoing lateral launch program for this catchment.
	2. Develop and complete lateral lining based on the results from the lateral launches.
	3. After completing the WWF reduction activities stated in points 1-2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital projects POCO_2 and POCO_3 are still necessary.
Arena PS Catchment	1. Complete the remaining main line sewer rehabilitation works.
	2. Develop and complete a lateral launch program for this catchment.
	3. Develop and complete lateral lining based on the results from the lateral launches.
	4. After completing the WWF reduction activities stated in points 1-3, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_5 is still necessary.
Rosemount N PS Catchment	1. Complete the remaining main line sewer rehabilitation works.
	2. Develop and complete a lateral launch program for this catchment.
	3. Develop and complete lateral lining based on the results from the lateral launches.
	4. After completing the WWF reduction activities stated in points 1-3, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_1 is still necessary.
Downtown Core	1. Investigate the wastewater and stormwater systems through drainage surveys, smoke testing, plumbing inspections, and any other activities that would help identify potential cross-connections between the 2 systems.
	2. Develop and complete WWF reduction activities based on the investigation work completed in point 1.
	3. After completing the WWF reduction activities stated in point 2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital projects POCO_4 and POCO_7 are still necessary.
Nickel PS Catchment	1. Complete WWF reduction activities based on the previously completed investigation activities.

1. Introduction

The City of Port Colborne (City) retained GEI Consultants Canada Limited (formerly GM BluePlan) to update the City's Pollution Prevention Control Plan (PPCP). The 2025 PPCP is an update to the City's 2007 Pollution Control and Infrastructure Study (PCIS) and builds upon the findings and recommendations of the City's 2024 Infrastructure Needs Study (INS). The 2025 PPCP involved the development of a holistic long-term plan that clearly outlines the short and long-term servicing strategy to manage the wastewater system in anticipation of future growth in the City expected by 2051 and beyond. In addition, an updated Capital Plan for necessary improvements to the City's infrastructure was developed to support both short and long-term servicing needs.

1.1. System Background

The City is one of twelve local tier municipalities within the Regional Municipality of Niagara (Region), situated on the north shore of Lake Erie. It is bounded by the Township of Wainfleet to the west, the Town of Fort Erie to the east and the Cities of Welland and Niagara Falls to the north.

The City's wastewater system is managed as a two-tier wastewater treatment and collection system. The City is responsible for the collection of wastewater flows from customers through the City owned and operated local collection system and smaller City-owned pump stations and forcemains. The Region is responsible for the treatment and trunk conveyance of flow through the Region's network of pumping stations, forcemains and major trunk sewers. While the City's wastewater system is nominally separated (no combined sewer infrastructure), there are several areas within the system with high rates of extraneous wet weather flow (I&I) which consume conveyance and treatment capacity. Because of these known areas of high I&I, wet weather flow management has been identified as a key focus of the 2025 PPCP as a means of optimizing existing system capacity to accommodate future growth.

The City's wastewater system is serviced by the Regionally owned Seaway Wastewater Treatment Plant (WWTP). As per the Region's 2021 Master Servicing Plan Update (MSPU), the Seaway WWTP has a current rated capacity of 19.6 MLD with a peak flow capacity of 45.4 MLD, where flows exceeding 45.4 MLD are diverted to a 5.67 ML storage tank. The system services an existing population of 15,969 and 4,693 employees per the 2021 Region MSPU.

1.1.1. 2007 Pollution Control and Infrastructure Study

The 2025 PPCP is an update to the City's 2007 Pollution Control and Infrastructure Study. Key recommendations of the previous study included:

City Recommendations:

- The City implemented a pilot I&I removal program within the Arena West area. The pilot program should consist of an investigation program, a public education program and works to identify and removal sources of I&I on-site. Based on the success and cost effectiveness of this program, the recommendation for a City wide I&I removal program should be re-visited and examined. Should a City wide I&I removal program prove to be more costly than pump station improvements, the Region should initiate pump station improvements.
- The City should consider migration of the City's Site Information Management System (SIMS) database information into a GIS compatible database structure similar to the Region's asset database.
- The City should complete the remaining investigation works recommended in the 1992 PPCP study.
- The City should continue to install backflow preventors in areas found to be susceptible to basement flooding.
- A public education program should be initiated to educate the public about on-lot sources of I&I and what they can do to remove these sources and protect their properties against basement flooding (including backflow preventors).
- Post-construction flow monitoring to confirm the effectiveness of each repair and to continue to develop cost-effectiveness data that can be used to assess the success of future projects.
- The City should address uncontrolled stormwater discharges into the Welland Canal and other area receiving waters.
- The City should consider an update to the PPCP document in 5 years' time.

Region Recommendations:

- The Region should continue to collect permanent flow monitoring data through the SCADA system at all pumping stations.
- The Region should undertake the completion of draw-down tests at all pumping stations to confirm station capacity.
- The Region should consider the installation of MAG meters at all pump stations as upgrades proceed.
- The Region should proceed with the expansion of the Seaway WWTP including plans to provide peak capacity of 83,000 m^3/d.
- Replacement of existing sewers on Elm Avenue and Omer Avenue is recommended to reduce the risk of basement flooding in the Bartok Crescent area. An additional storage volume of $475m^3$ is needed.

1.2. Study Objectives

Identifying a problem and opportunity statement is required as part of Phase 1 of the Municipal Class Environmental Assessment (Class EA) process. The statement guides the process of establishing preferred alternatives and mitigation measures to address the problem.

The objectives of the 2025 PPCP update are to provide a strategic plan along with sewer management recommendations including:

- Implement a flow monitoring program to confirm existing system flows and performance.
- Build and calibrate an “all-pipe” hydraulic model of the City’s wastewater collection system.
- Identify the key level of service priorities.
- Review and identification of expected population and employment growth projections.
- Identify alternatives to reduce system inflow & infiltration (I&I), combined sewer overflows (CSOs), and support population and employment growth.
- Evaluation of potential alternatives to identify the preferred servicing solution, including an emphasis on wet weather management strategies to reduce extraneous flows and delay or eliminate the need for specific capital projects.
- Develop a detailed capital program for wastewater infrastructure projects needed to support the existing system needs and long-term growth.

2. Municipal Class Environmental Assessment

The five phase Class EA planning process was developed by the Municipal Engineers Association (MEA) to simplify and streamline the Environmental Assessment Act (EAA) process. The five phases are as follows:

- **Phase 1:** Problem and Opportunity Definition.
- **Phase 2**: Identification and Evaluation of Alternative Solutions to Determine a Preferred Solution.
- **Phase 3**: Examination of Alternative Methods of Implementation of the Preferred Solution.
- **Phase 4**: Documentation of the Class EA process in the form of an Environmental Study Report (ESR); and
- **Phase 5**: Implementation and Monitoring.

A Master Plan and/or PPCP is typically prepared on behalf of a Municipality, subject to approval by Council, but does not normally require approval under the EAA. However, any specific projects within a Master Plan/PPCP must fulfill the Class EA requirements. At a minimum, Master Plans/PPCPs must address Phases 1 and 2 of the Class EA process.

There are generally four approaches to undertaking Master Plans/PPCPs under the Class EA process. The 2025 PPCP update for the City follows Approach 1 of the Class EA Master Planning process. This involves preparing the PPCP at the conclusion of Phases 1 and 2 of the Class EA process. In addition, Approach 1 provides the basis for future investigations for specific Schedule B and C projects if determined to be necessary

2.1. Class Environmental Assessment Process

Ontario's EAA requires proponents to examine and document the environmental impacts and mitigation measures that could result from major projects or activities and their alternatives. The EAA establishes the framework for a systematic, rational, and replicable environmental planning process that is based on five key principles:

1. Consultation with affected parties.
2. Consideration of a reasonable range of alternatives.
3. Identification and consideration of the effects of each alternative on all aspects of the environment.
4. Systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects and proposed mitigation measures; and
5. Provision of clear and complete documentation of the planning process to allow traceability of decision-making with respect to the project.

Projects subject to the Class EA process are classified into schedules, as defined in the Class EA document, depending on the typical impact of similar projects.

2.2. Public Consultation

Public consultation is an essential component of any Master Plan or PPCP. This opportunity allows the City to inform the public about the study and solicit input from potentially interested and affected parties. The main objectives of the public consultation process include:

- Presenting clear and concise information to stakeholders at key stages of the study process; and
- Soliciting community, regulatory and stakeholder input.

A summary of Class EA activities that will be completed throughout the project include:

- Notice of Project Commencement
- Filing Study Commencement with MECP
- Stakeholder List Maintenance
- Notice of Public Information Centers
- One Public Information Center
- 30 Day Review
- Notice of Project Completion
- Respond to issues raised during consultation process.

2.3. First Nations

First Nations communities were contacted through the project via mailouts, emails, and phone calls. This included opportunities to meet with the project team, notification of Study Commencement, Public Information Centers, and Study Completion. Any input received from these communities throughout the project was documented and taken into consideration.

The First Nations rights holders contacted for this study included:

- Mississaugas of the Credit
- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council

Additionally, First Nations interest holders like the Haudenosaunee Development Institute (HDI) were contacted as part of this study.

3. Wastewater System Overview

3.1. Seaway Wastewater Treatment Plant

The Seaway WWTP is located on the west side of the Welland Canal on 30 Prosperity Avenue, Port Colborne. The plant provides a modified conventional activated sludge treatment process with a rated capacity of 19,600 m^3/d and peak flow capacity of 45,400 m^3/d, with flows over 45,400 m^3/d being diverted to a 5,760 m^3 storage tank. Treated effluent is discharged to the Welland Canal.

From the 2021 Niagara Region's Master Servicing Plan Update (MSPU) the existing and projected 2051 average daily flow is below 80% of the wastewater treatment plant rated capacity. As such, the plant has surplus capacity and will not reach 80% capacity within the 2051-time horizon. Additionally, the post-2051 flows are expected to exceed the 80% capacity, at which time a potential upgrade study may be triggered.

3.2. Sewage Pumping Stations

There are seventeen (17) Region-owned and three (3) City-owned sewage pumping stations within Port Colborne wastewater collection system, presented in **Figure 3-1** and summarized in **Table 3-1**.

Table 3-1: Summary of the Sewage Pumping Stations

Pumping Station	Location	# of Pumps	ECA Firm Capacity (L/s)	Operational Firm Capacity (L/s)
└→Industrial SPS	1680 Elm Street, Port Colborne	2	80	67
└→Omer SPS	Omer Street, Port Colborne	3	107	108.4
└→Steele SPS	940 Steele Street, Port Colborne	2	35	25.2
└→Oxford SPS	16 Oxford Boulevard, Port Colborne	2	7.6	6.4
└→East Side SPS	Killaly Street, Port Colborne	3	252	201.9
└→Nickel SPS	Nickel Street, Port Colborne	3	117.2	93.8
└→Fares SPS	Fares Street, Port Colborne	3	65.8	60.7
└→Fretz SPS	185 Johnson Street, Port Colborne	3	95.8	83.2
└→Clarke Street SPS	111 Clarke Street, Port Colborne	2	73.8	62.3
└→Union SPS	Union Street, Port Colborne	3	126.2	100.9
└→Arena SPS	West Side Road, Port Colborne	2	116	75.9
└→Main Street SPS	Main Street, Port Colborne	2	16.4	17.9
└→Elm St South SPS	137 Princess Street, Port Colborne	4	400	298
└→City Hall SPS	City Hall, Port Colborne	3	76	67.7
└→Sugarloaf SPS	274 Sugarloaf Street, Port Colborne	2	36	37

Pumping Station	Location	# of Pumps	ECA Firm Capacity (L/s)	Operational Firm Capacity (L/s)
└→Rosemount North SPS	101 Rosemount Avenue North, Port Colborne	2	95	86.9
└→Rosemount South SPS	Bayview Lane, Port Colborne	2	20	19.2
└→Marina 1	Sugarloaf Harbour Marina, Port Colborne	2	3.0	3.0
└→Marina 2	Sugarloaf Harbour Marina, Port Colborne	2	3.0	3.0
└→Marina 3	Sugarloaf Harbour Marina, Port Colborne	2	3.0	3.0

3.3. Sanitary Sewer Network

Table 3-2 summarizes the linear infrastructure within the Port Colborne sanitary network.

Table 3-2: Summary of Sanitary Sewer Network

Type	Ownership	Length (km)
Gravity Sewer	City	90.1
Forcemain		1.7
Gravity Sewer	Region	0.4
Forcemain		31.1
Gravity Sewer	Private	0.1
Forcemain		0.2

3.4. Overflow Locations

Major water resources in the study area include the Welland Canal and Lake Erie. Within Port Colborne, the Welland Canal splits into the Welland Canal and the Weir Channel. The Welland Canal receives overflows from the East Side SPS, the City Hall SPS, and the Sugarloaf SPS. The Weir Channel receives overflows from the Omer SPS, and the Union SPS.

There are seven (7) pumping station overflows within the Port Colborne sanitary network, summarized in **Table 3-3**.

Table 3-3: Summary of Overflow Locations

Type	Ownership	Name	Discharge Water Body
SPS	Niagara Region	City Hall SPS	Welland Canal
SPS	Niagara Region	Industrial Park SPS	Greenfield Area
SPS	Niagara Region	Omer Ave SPS	Weir Channel
SPS	Niagara Region	Sugarloaf SPS	Welland Canal then Lake Erie
SPS	Niagara Region	Union SPS	Weir Channel
SPS	Niagara Region	Eastside SPS	Welland Canal
W.W.T. P	Niagara Region	Seaway WWTP	Weir Channel

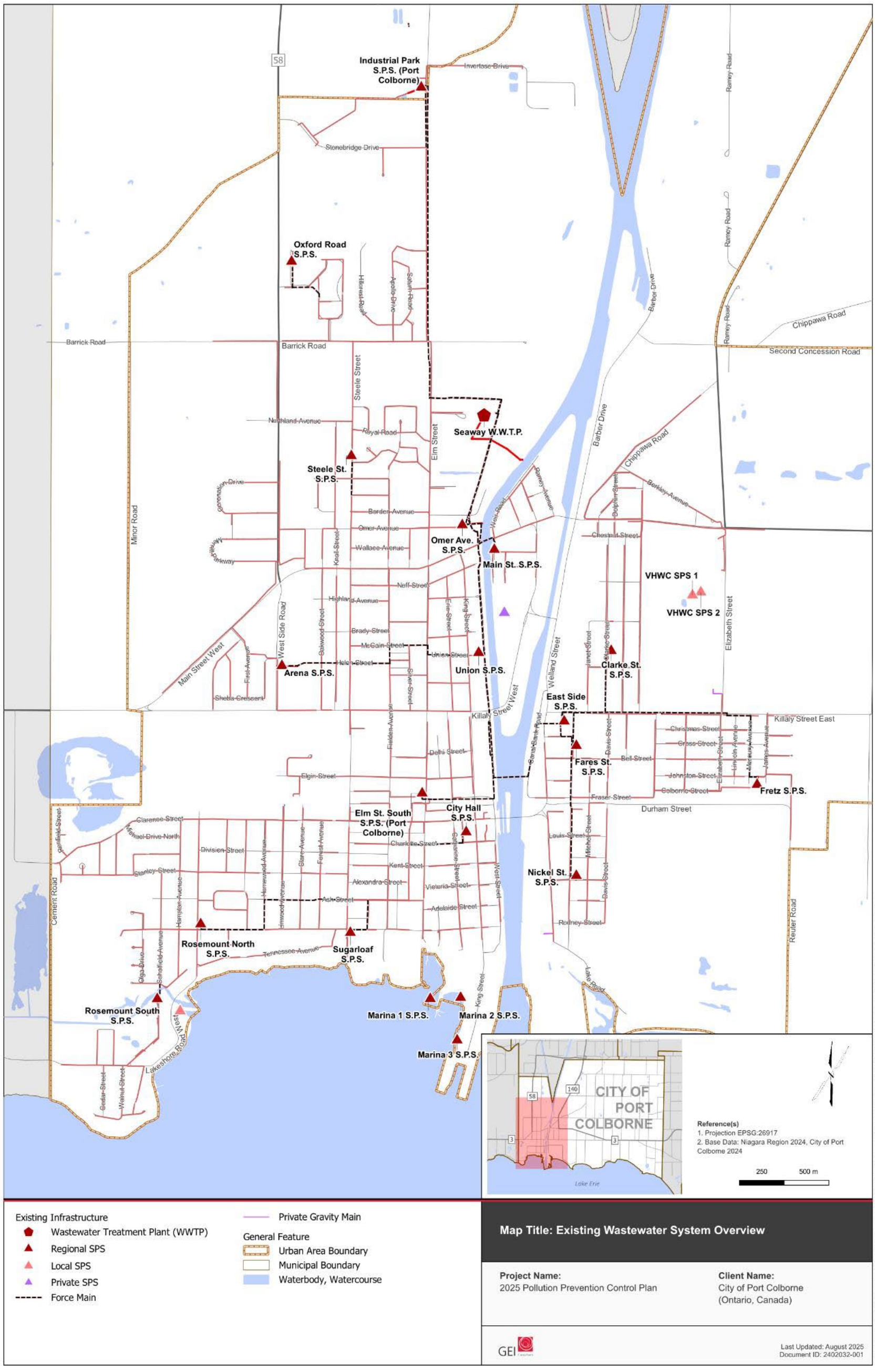


Figure 3-1: Wastewater System Overview

4. Level of Service Framework

The determination of reasonable hydraulic Level of Service (LOS) objectives is essential in ensuring that the proper planning and design principles are followed in the development of detailed servicing strategies, implementation of system capital program, and operations and maintenance practices.

Through the 2025 PPCP, the development of wastewater LOS objectives was based on a combination of existing documentation and related sources, and an assessment of the City's existing infrastructure condition and performance, including the following:

- City of Port Colborne Official Plan (updated 2020)
- City of Port Colborne Asset Management Plan (2022)
- Existing design criteria
    - Niagara Region 2021 Master Servicing Plan Update (MSPU)
    - 2007 Port Colborne Pollution Control and Infrastructure Study
    - Design criteria published by Ministry of Environment, Conservation, and Parks (MECP)
    - Other local Niagara Region municipalities' design criteria
- Existing system performance
    - Historic and existing system operations and performance
    - Resiliency to climate change
- Stakeholder feedback
    - City of Port Colborne and Niagara Region staff
- Financially feasible objectives (ensuring that the target LOS used to identify infrastructure needs can be delivered within a realistic cost)

4.1. Technical Performance Criteria

The wastewater system LOS criteria that were used as the decision-making rationale related to system capacity needs and triggers for upgrades for the 2025 PPCP are summarized in Table 4-1.

Table 4-1: Summary of Wastewater Technical Criteria

Criteria			Performance Target
Wastewater Flows	Per Capita Sanitary Flow Rate	Residential	• 255 L/c/d[1]
		Employment	• 310 L/c/d[1]
	Peaking Factor		• Harmon's Peaking Factor with values between 2 and 4. [1]
	I&I Allowance	Existing Areas	• 0.4 L/s/ha[1]
		Greenfield	• 0.286 L/s/ha[1]
System Performance	Peak Wet Weather Design Flow		• 1-in-5-Year Design Storm[1] • 1-in-10-Year Design Storm
	Hydraulic Performance Indicators		• d/D < 1[1] • Minimum depth of cover to HGL > 1.8 m (for basement flooding protection)[1]

2. Aligned with the Region's 2021 MSPU

5. Methodology

5.1. Flow Monitoring Data Review

Flow monitoring data was used to characterize the wastewater system and for model calibration and validation. The City's 2023 flow monitoring program consisted of 23 area-velocity flow monitors installed between April 2023 through August 2023. See **Figure 5-1** and **Table 5-1** for a summary of the flow monitoring locations. Two rain gauges were installed during the flow monitoring period; one City temporary rain gauge located at 310 King Street and one Region permanent rain gauge located at 30 Prosperity Avenue. Complete rain gauge coverage is critical for a flow monitoring program to spatially associate rainfall with an I&I response and effectively draw conclusions from the flow monitor data.

A detailed report of the flow monitoring data and model calibration can be found in **Appendix A**.

Table 5-1: Summary of Flow Monitoring Locations

City Sanitary Flow Monitor ID	Total Tributary Area (ha)	Nearest Road Intersection
FM001-Bayview Ln	27.3	Bayview Lane & Heron Point
FM002-NickelSt	97.3	Nickel Street & Fares Street
FM003-Lincoln Ave	33.5	Lincoln Avenue & Elizabeth Street
FM004-Fares St	27.6	Fares Street & St. Arnaud Street
FM005-Clarke St	104.7	Clarke Street & Russell Avenue
FM006-Steele St	66.2	Steele Street & Royal Road
FM007-RoseMount Ave N	51.6	Rosemount Avenue & Ash Street
FM008-RoseMount Ave S	77.6	Rosemount Avenue & Sugarloaf Street
FM009-SugarLoaf St	16.0	Sugarloaf Street & Tennessee Avenue
FM010-CityHallSPS S	31.3	Charlotte Street & Catharine Street
FM011-CityHallSPS N	11.7	Clarence Street & Catharine Street
FM012-Elm St	46.6	Elm Street & Princess Street
FM013-UnionStSPS	171.2	Union Street & King Street
FM014-Sheba Cres	77.6	Sheba Crescent & West Side Road
FM015-Omer Ave	229.3	Omer Avenue & Elm Street
FM016-CanalBank	24.9	Canal Bank Road & Amelia Street
FM017-Barrick Rd	87.8	Barrick Road & Elm Street
FM018-Park St Field	236.5	Park Street & Elm Street
FM019-Johnston St	31.7	Johnston Street & James Avenue
FM021-Knoll S	4.8	Knoll Street & Franklin Avenue
FM023-Borden Ave	80.4	Borden Avenue & Elm Street
FM024-Elmvale	6.7	Elmvale Crescent & Royal Road
FM028-Omer & Oak	1.8	Omer Avenue & Oak Street

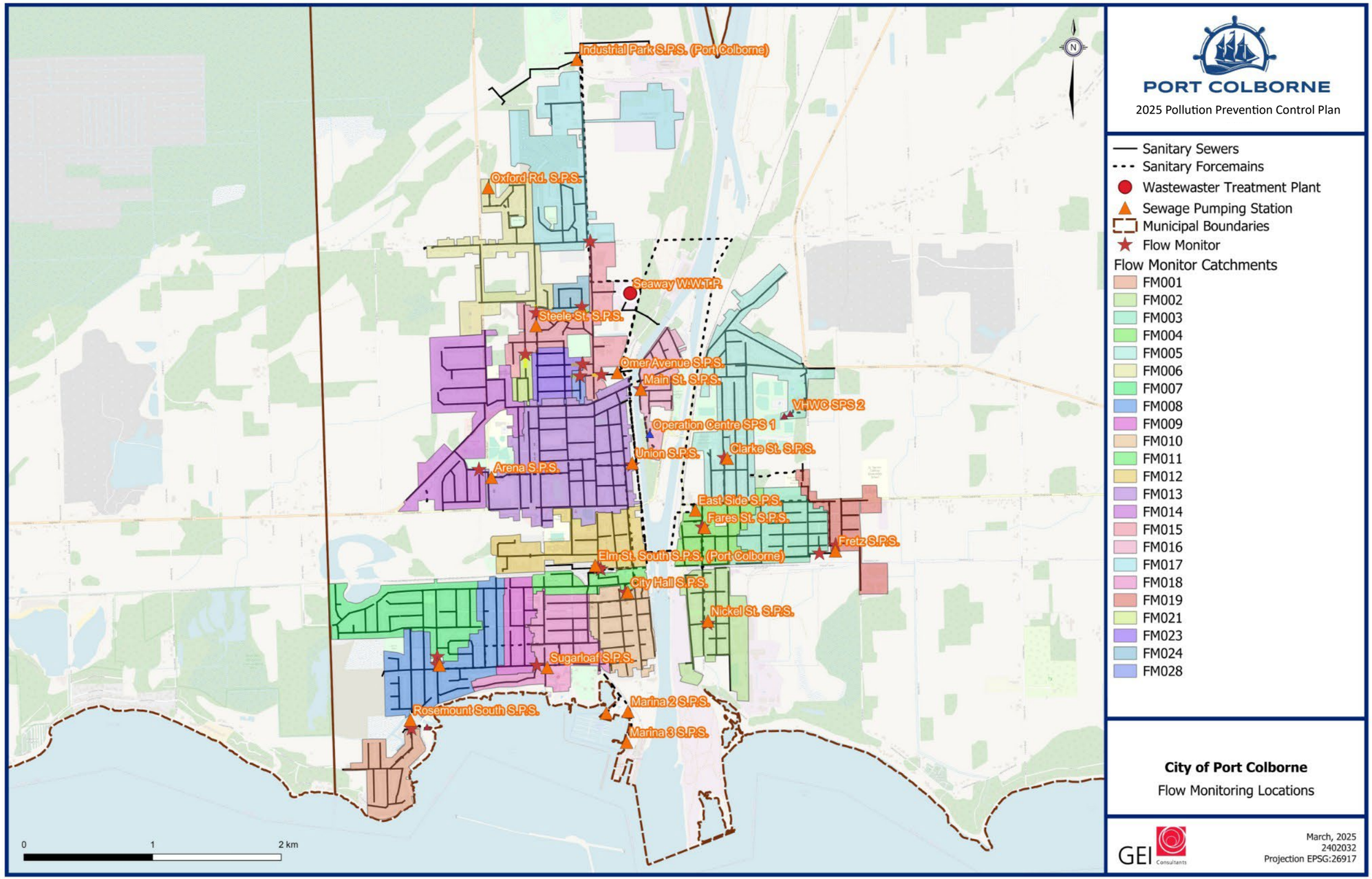


Figure 5-1: Flow Monitor Locations

5.2. Model Development and Calibration

An all-pipe, hydraulic model was developed for system assessment in PCSWMM. Based on the City's modelling objectives and taking into consideration the existing state of the City's model, the 2025 PPCP model update focused on the following key areas:

- Wastewater network update and geometry validation.
- New/upgrade facilities validation including:
    - Facility geometry,
    - Pump curve, and
    - Facility controls.
- System flow allocation and calibration.
- Development of wet weather flow scenarios.

The City's sanitary GIS data were used as the basis for the network update and were the primary sources of sewer geometry including diameters and inverts for new sewers and to validate the model's existing parameters. Wherever data gaps or erroneous data points were found within the City's GIS data, a justified set of inference or assumption methods was used to fill in or "clean up" missing or incorrect data. An example is shown in **Figure 5-1** of a sanitary sewer pipe in the model with incorrect invert elevations resulting in a negative slope (left), which was resolved through removal of the incorrect data points and interpolating between the upstream and downstream sewer pipes.

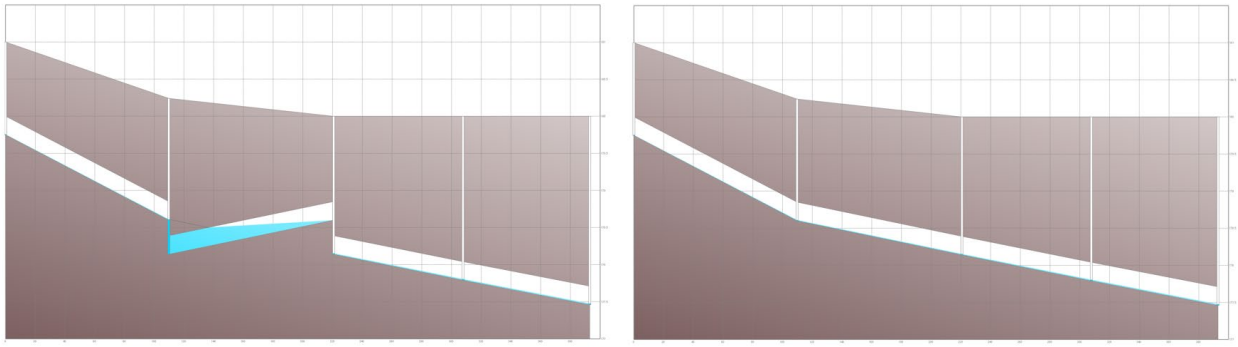


Figure 5-2: Example of Model "clean up" process; incorrect inverts (left), corrected inverts (right)

All regional facilities were recently updated in Niagara Region's wastewater hydraulic model as part of the Region's MSPU. The Region provided facility drawings including overflow details and pump capacities for all Regional pump stations within the City; these were used as the primary source for the Regional pump station modelling.

The update to the wastewater system allocation used the water billing data from 2020-2023 provided by the City for the spatial distribution of estimated sanitary flows. At the start of the calibration, it was assumed that 90% of the water billed becomes wastewater. During the calibration process the assumed percentage was increased, decreased or remained 90% depending on the catchment area response to best match the observed flow data.

The model calibration process involves adjusting various parameters within the model so that the flow it generates more closely resembles the observed flow at each monitor. This process is done separately for both dry and wet weather flow. The Chartered Institution of Water and Environmental Management (CIWEM) Integrated Urban Drainage Modelling Guide (2021) DWF and WWF calibration criteria were used to confirm that the model was valid. Using the flow monitoring data from the 23 flow monitors across 4 critical observed rainfall events, the system was able to satisfy the target calibration criteria. See **Figure 5-2** and **Figure 5-3** for examples of well calibrated DWF and WWF catchment responses.

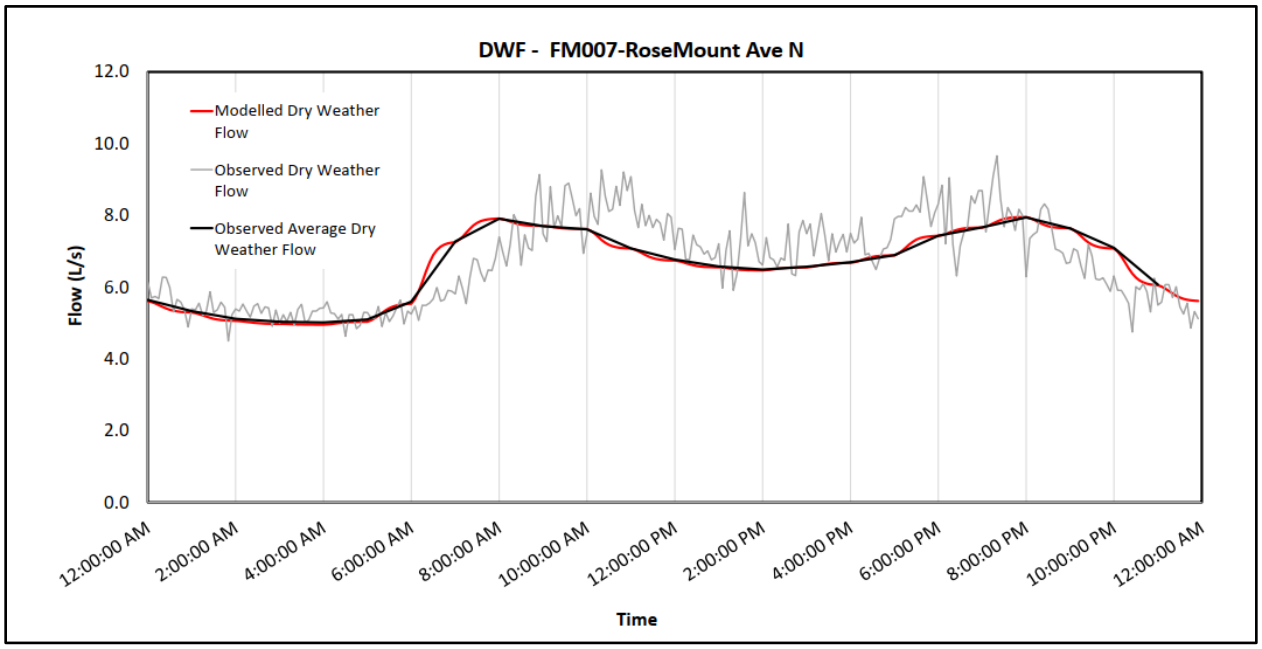


Figure 5-3: Dry Weather Flow Calibration Example

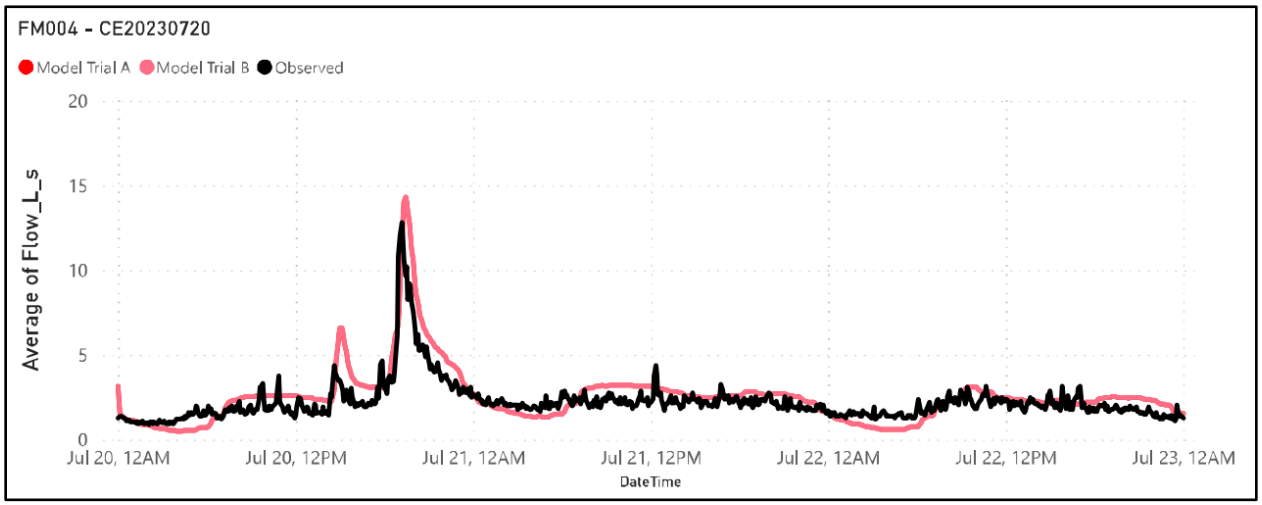


Figure 5-4: Wet Weather Flow Calibration Example

A detailed summary of the model calibration and validation can be found in **Appendix A**.

5.3. F-5-5 Analysis

5.3.1. Introduction

Procedure F-5-5 is a supporting document for the Ministry of Environment, Conservation, and Parks (MECP) Guideline F-5 "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters". The objectives of this Procedure are to:

1. Eliminate the occurrence of dry weather overflows;
2. Minimize the potential for impacts on human health and aquatic life resulting from combined sewer overflows (CSOs); and
3. Achieve as a minimum, compliance with body contact recreational water quality objectives (Provincial Water Quality Objectives (PWQO) for Escherichia coli (E. coli)) at beaches impacted by CSOs for at least 95% of the four-month period (June 1 to September 30) for an average year.

To comply with the procedure of City's wastewater system should, during a seven-month period commencing within 15 days of April 1, capture and treat for an average year all the dry weather flow plus 90% of the volume resulting from wet weather flow that is above the dry weather flow. Additional controls are required for bathing beaches or receiving waters subject to specific local circumstances that may require enhanced controls.

An existing F-5-5 analysis will estimate the capture and treatment rate of wet weather flows during the seven-month period between April to November for an average year. According to MECP, an average year of rainfall refers to "a year in which the rainfall pattern (e.g. intensity, volume and frequency) is consistent with the long-term mean of the area". This volumetric control criterion is applied to the flows collected by the system immediately above each overflow location.

MECP clearly states in its guidance for PPCP development that characterization of the combined sewer system (CSS) is required, and that "Monitoring, modelling and other appropriate means shall be used to characterize the CSS and the response of the CSS to precipitation events". The City of Port Colborne is considered a nominally separated system as there are no combined sewers in the system and all the overflow locations in the City are located at Region-owned Sewage Pumping Stations.

5.3.2. Procedure F-5-5

The MECP Guideline F-5 "Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters" provides guidance to municipalities on the expected level of treatment for separate sanitary, partially separated and combined sewers systems. Procedure F-5-5 (Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems) is further described below.

Procedure F-5-5 is normally applied to partially separated and combined sewer systems and allows for additional Combined Sewer Overflow (CSO) controls where there is a demonstrated impact on human health and aquatic life. It is important to note that the Procedure F-5-5 requires the capture and treatment of all dry weather flows in addition to 90% of the volume resulting from wet weather flows in

a 7-month period from April, starting within 15 days of April 1. Additional requirements are depicted in **Figure 5-5**.

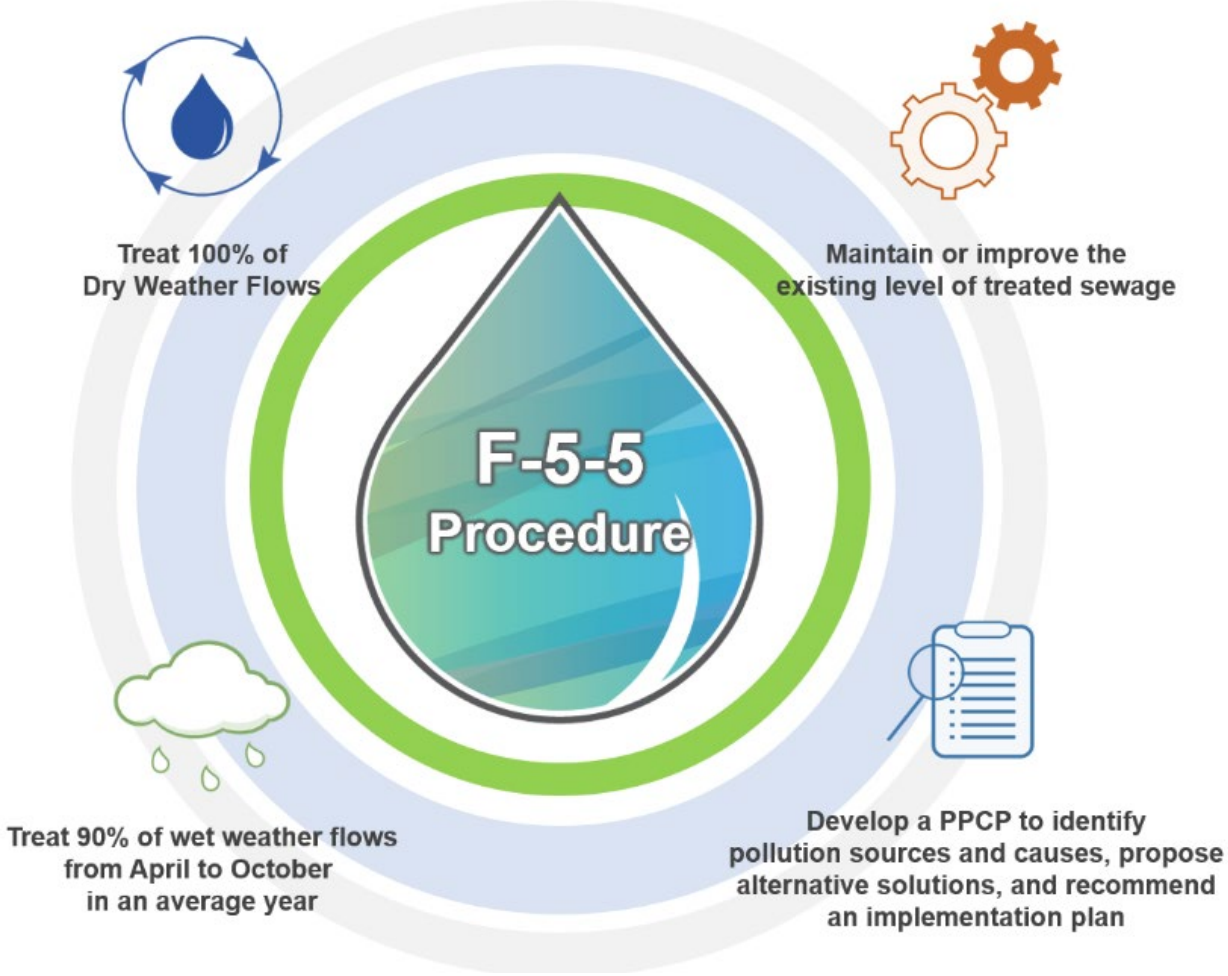


Figure 5-5: Procedure F-5-5 Requirements

5.3.3. Typical Year Rainfall

Selecting an average or "typical" rainfall year which is representative of long-term precipitation patterns enables a transparent and repeatable framework for analysis of overflows. The 2007 Pollution Control and Infrastructure Study used 1980 as the typical year; for the 2025 PPCP update a typical year assessment was completed to account for more recent precipitation trends using historic rainfall data.

Based on long-term precipitation trends from 2004 to 2023, the Seaway WWTP Climate Station rain gauge was chosen for the typical year rainfall assessment due to its overall data completeness and central gauge location. Based on the results of the assessment, 2017 was selected to be the typical year as it most closely matched the average number of rainfall events, the average total rainfall depth and the average peak rainfall intensities, per year using the data between April to October for all years over the 20-year period (2004-2023).

5.3.4. Overflow Assessment

The hydraulic model was run in continuous simulation for the average year of rainfall (for the period of April to October 2017) to estimate the total number of overflows during the typical year of rainfall and the total annual volume of overflow discharges for each facility.

As part of the F-5-5 assessment, an estimated percent capture rate is calculated which indicates the proportion of total wet weather flow (above dry weather flow) which was retained within the wastewater collection system for the typical year of rainfall. A minimum 90% capture rate is required for each facility to be considered compliant with F-5-5 requirements.

To address the impact of overflows, each overflow location was reviewed to characterize its specific frequency, volume and contribution of pollutants. Upon this review, the only overflow that was active in the model during the typical year rainfall was the Union SPS overflow. This overflow showed one discharge during the largest rainfall event in the 2017 rainfall year, with a total spill volume of 2 m^3 which translated to a 99.99% F-5-5 percent capture at the Union SPS overflow.

For collection systems with significant existing overflows, it is a common approach to repeat the typical year analysis under future growth conditions to assess how much each problematic overflow would worsen in terms of annual discharge frequency and volume. However, since the City's overflows were all shown to be compliant with F-5-5 requirements under existing conditions, no future overflow assessment was completed as part of this PPCP update.

Overall, the typical year rainfall modelling analysis indicated that the City's wastewater collection system is compliant with Procedure F-5-5. It should be noted that the City has taken a proactive approach to managing and reducing existing wet weather flows in an effort to reduce overall wastewater flow volumes and to reduce the risk of basement flooding for residents of Port Colborne. Further details on the City's long-term strategy to reduce inflow and infiltration and improve the existing level of service are provided in Sections 6 and 7.

5.4. Growth Loading

Planning projection data is a critical requirement for any future growth planning study as it defines future system demands and allows for timing estimates for individual projects. The following sources of planning data were reviewed for his study:

- Niagara Region Master Servicing Plan Update Study – (2021)
- Planning information from the City's Planning department (2024)
    - City Development Database (Aug 15 2022)
    - City's Dillan Residential Growth Analysis Estimates (2023)
    - City's Watson Growth Forecast Update – (2024)
- City's Infrastructure Needs Study (INS) – (2024)
    - Future Development Areas (developments for which formal applications have already been received by the City)
    - Pipeline Lands (developments which have not yet had a formal application, but interest has been expressed to the City through a pre-consultation meeting)

    - Vacant Lands (developable lands with no development activity to-date)
- Additional Development Reviews (2024)
    - South End Developments
    - Park Servicing Developments
    - East Side Employment Lands Developments

It should be noted that key employment developments are expected to be located on the east side of the City and serviced directly to the WWTP via a new sewage pumping station. However, there will also be smaller individual employment developments occurring throughout the existing City sewer system, as shown in **Figure 5-6**.

Using the population and employment estimate for each development and the established wastewater technical criteria, the estimated future 2051 wastewater flows were calculated. For more details on the design flow calculations and assumptions, see **Appendix B**.

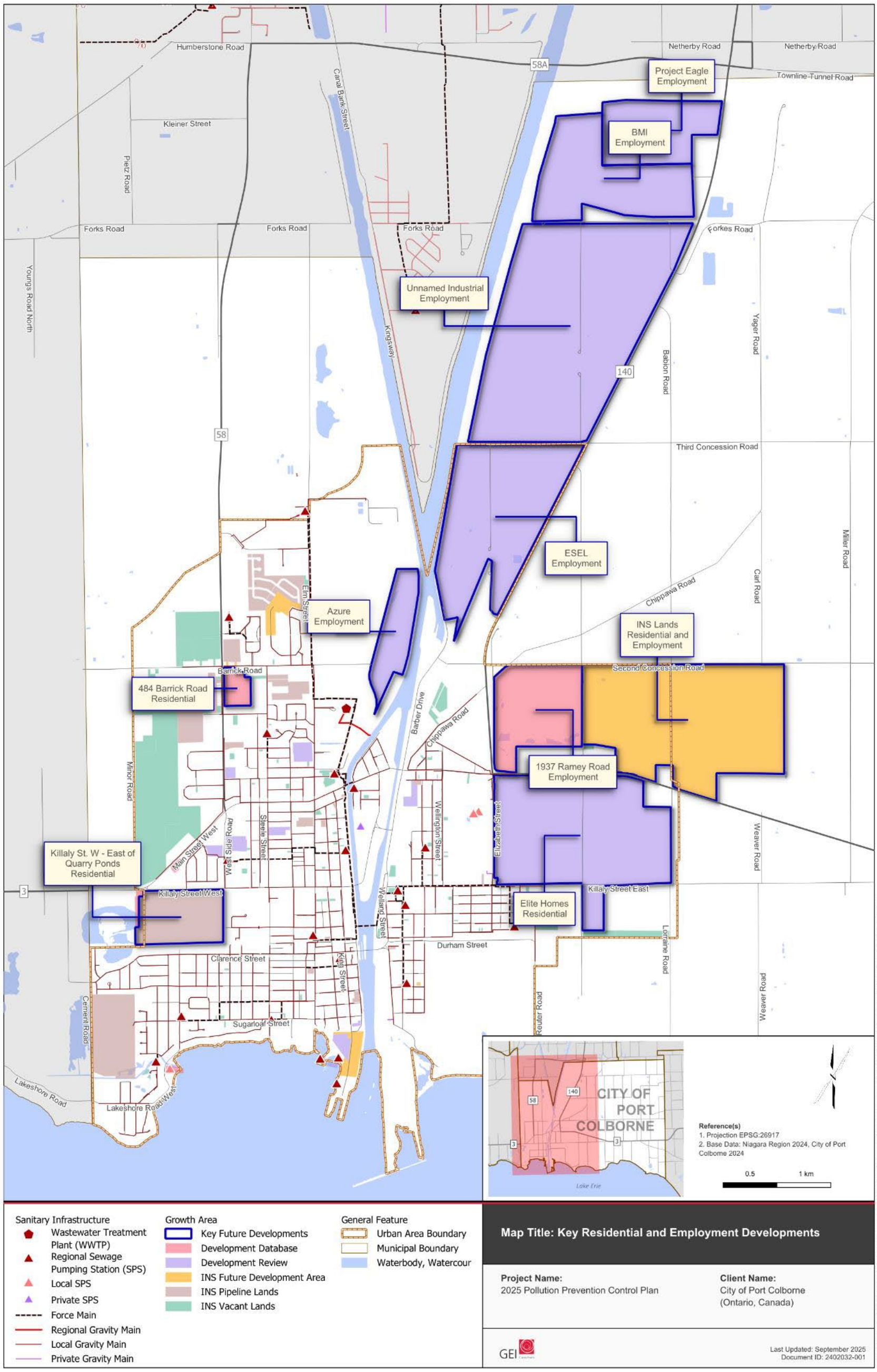


Figure 5-6: City Growth Locations with Key Residential and Employment Developments Highlighted

6. Wastewater System Performance Assessment

6.1. Sewer Network Performance and Constraints

The calibrated hydraulic model was first run under both the existing and future conditions using a 1-in-5-year design storm, in alignment with Niagara Region's MSPU process. However, the City proactively ran an additional, higher intensity 1-in-10-year design storm to test the system's sensitivity to a larger storm (i.e., whether the higher return period would trigger a significantly greater number of necessary upgrades).

Ultimately, it was noted that while the 1-in-10-year design storm model scenario exhibited moderately higher peak wet weather flows, the model showed that meeting a 1-in-10-year LOS would require a similar overall number of required infrastructure projects as would be required to meet a 1-in-5-year LOS. As a result, the City elected to use the 1-in-10-year design storm throughout the 2025 PPCP for the purposes of assessing existing and future system performance, identifying the locations and extents of infrastructure upgrades required to resolve existing issues and service growth, and estimating wet weather flow reduction rates to be targeted through the City's ongoing I&I reduction efforts.

It should be noted that the use of a 1 in 10-year design storm in the 2025 PPCP is a long-term infrastructure planning-level decision and has no impact on the City's standard practice of designing and sizing new wastewater infrastructure to a 1 in 5-year design storm (consistent with Niagara Region).

Figure 6-1 and **Figure 6-2** highlight the existing and future opportunities and constraints for the City's sewer network.

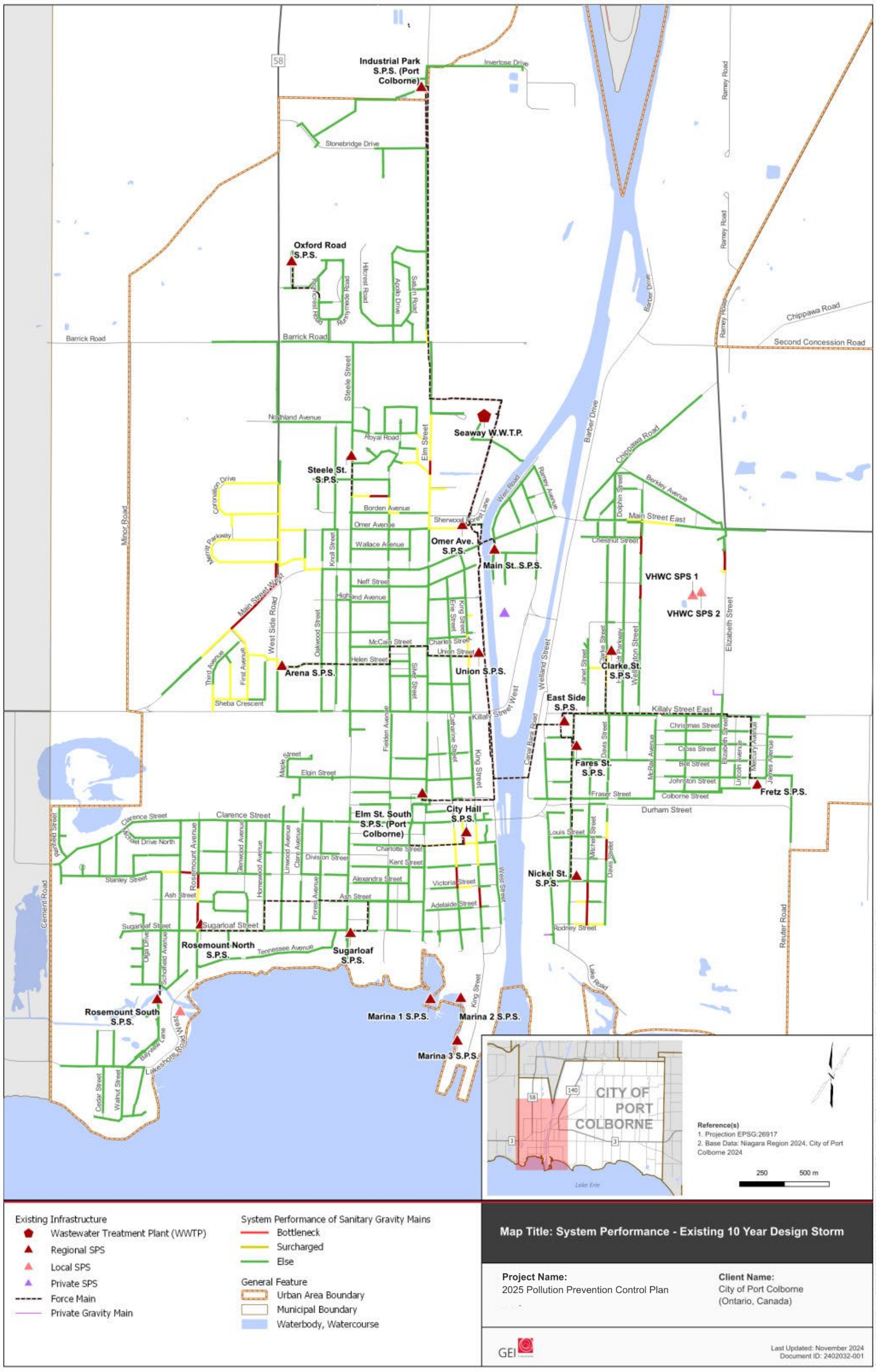


Figure 6-1: Sewer Network Performance - Existing 10 Year Design Storm

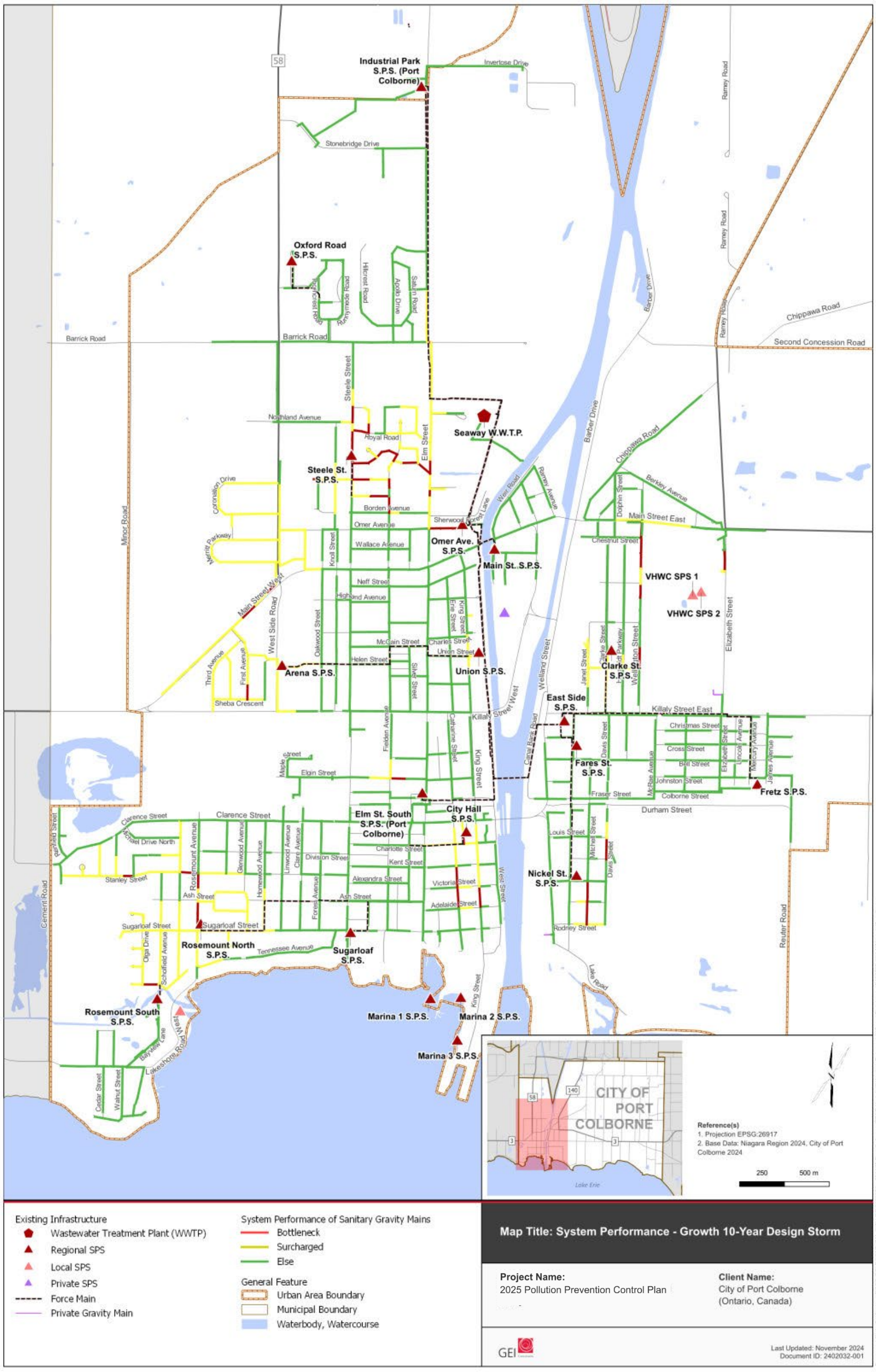


Figure 6-2: Sewer Network Performance - Growth 10 Year Design Storm

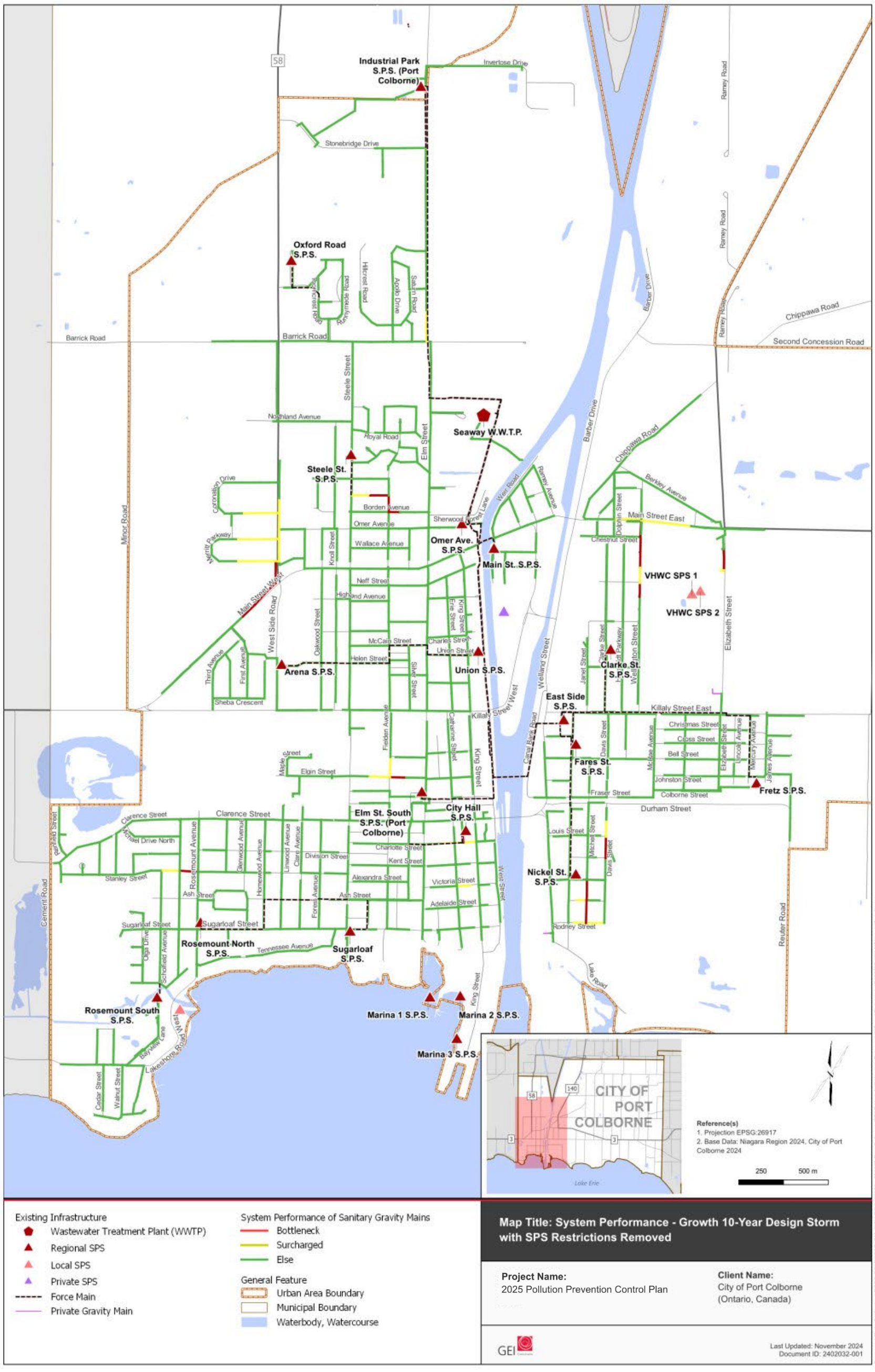


Figure 6-3: Sewer Network Performance - Growth 10 Year Design Storm with SPS Restrictions Removed

6.2. Sewage Pumping Stations Performance and Constraints

The topography of the City within the extents of the wastewater collection system is generally flat, with shallow depth to bedrock. These factors limit servicing options and thus a significant portion of the City's wastewater flows are lifted through a series of pumping stations. The Niagara Region is the owner and operator of all the non-private sewage pumping stations within the City's sanitary system. Any planned upgrades for these facilities are the responsibility of the Region and considered in greater detail as part of the Region's Master Servicing Plan.

Flow capacity issues were identified in the City's hydraulic model at several stations in the existing and future growth scenarios, as summarized in **Table 6-1**.

Table 6-1: Sewage Pumping Station Performance

Sewage Pumping Station	Operational Firm Capacity (L/s)	Existing 5 Year Design Storm Peak Inflow (L/s)	Growth 5 Year Design Storm Peak Inflow (L/s)	Existing 10 Year Design Storm Peak Inflow (L/s)	Growth 10 Year Design Storm Peak Inflow (L/s)
Industrial SPS	67	15.5	15.5	17.7	17.7
Main St SPS	17.9	10.6	10.6	12.1	12.1
Omer Avenue SPS	108.4	120.7	144.8	127.8	187.2
Steele SPS	25.2	26.4	48.7[1]	61.1	83.4[1]
Oxford SPS	6.4	3.2	3.2	3.6	3.6
Eastside SPS	201.9	269.7	269.7	269.7	300.1
Nickel St SPS	93.8	95.0	95.6	129.3	129.9[2]
Fares SPS	60.7	34.1	34.1	39.3	39.3
Fretz SPS	83.2	62.6	63.5	71.9	72.0
Clarke St SPS	62.3	89.9	90.2	95.4	121
Union SPS	100.9	129.1	135.0	138.3	144.6
Arena SPS	75.9	83.5	90.4	85.4	91.7
Elm SPS	298	229.8	263.8	235.6	270.5
City Hall SPS	67.7	75.9	80.1	76.2	80.4[1]
Sugarloaf SPS	37	21.1	22.2[1]	22.7	23.8
Rosemount North SPS	86.9	100.8	108.4	110.3	112.9
Rosemount South SPS	19.2	16.1	18.5	18.4	32.2

Notes:

1. The value reported in the table is the existing peak inflow plus the total upstream design criteria flow, due to significant noise present in the 2051 growth scenario at the sewage pumping station inlet.
2. Nickel St SPS showed flow backing up under the 2051 growth scenario which resulted in a reduction in future peak flow. The value reported in the table is the existing 10-year peak inflow plus the total upstream design criteria flow.

The results from the Region's MSP model and results from the City's PPCP model are not directly comparable for two key reasons:

1. The City's model is an all-pipe model and was calibrated to a greater number of flow monitors during a more recent monitoring period (2023).
2. The City's model is assessed using a 1-in-10-year design storm, whereas the Region's model is assessed using a 1-in-5-year design storm.

6.3. Seaway Wastewater Treatment Plant

Following the completion of the Region's 2021 MSPU, the City became aware of significant development growth projected within the 2051 planning horizon, the majority of which is located east of the Welland Canal and will be pumped directly to the Seaway WWTP through a new sewage pumping station. This growth includes several major employment developments as well as a significant (>5,000 population) residential development.

These developments will be serviced via a new dedicated sewage pumping station and forcemains crossing under the canal directly to the WWTP, as outlined in Section 5.4. It should be noted that the City plans to have a third forcemain crossing to the Seaway WWTP for redundancy.

Because the Pollution Prevention Control Plan focuses primarily on overflow control and wet weather flow management issues within the existing wastewater collection system, a detailed assessment of existing and future inflows at Seaway WWTP was considered outside the scope for this project. However, a high-level review of the Niagara Region 2021 MSPU indicated that the existing inflows are and future projected inflows could be accommodated within the existing rated capacity of the treatment plant. It should be noted that the growth projections used to size sewer upgrades and quantity I&I reduction needs in the City's PPCP are significantly greater than those used in the Region's 2021 MSPU, and as a result the existing rated capacity at Seaway WWTP may not be sufficient to treat the volume of future flows predicted in the City's current model.

It is recommended that the City of Port Colborne and Niagara Region coordinate closely through the Region's current 2026 Master Servicing Plan Update to review recent development interest since the previous 2021 MSPU, consolidate and reconcile the City's and Region's population growth projections, and collectively determine the long-term upgrade needs at Seaway WWTP using the best available population projection information.

7. Servicing Evaluation and Preferred Strategy

The proposed Capital Program for the City's infrastructure projects, including the capital costs and estimated phasing year (year when the preliminary design should commence) are listed in **Table 7-1** and shown in **Figure 7-1**.

It should be noted that the City is currently undertaking significant I&I reduction work and the currently calibrated model does not represent the potential I&I reductions to the system.

The City has recently completed and is currently undergoing I&I reduction work which includes:

- Flow monitoring, including isolation (bracket) monitoring to further characterize I&I sources at individual block level
- Drainage Inspections
    - Omer SPS Catchment Completed in 2024
    - Clake SPS Catchment Completed in 2024
    - Nickel SPS Catchment Completed in 2024
    - Rosemount SPS Catchment currently under investigation
    - City's downtown currently under investigation
- Smoke Testing
    - Omer SPS Catchment Completed in 2024
    - Clake SPS Catchment Completed in 2024
    - Nickel SPS Catchment Completed in 2024
    - Rosemount SPS Catchment currently under investigation
    - City's downtown currently under investigation
- CCTV Inspection
- Sewer Rehabilitation/Trenchless Lining

See **Appendix B** for more details on the 2025 PPCP's preferred servicing strategy and the City's I&I reduction program.

It is recommended that before implementing the capital program projects, all the I&I reduction work be completed and post-flow monitoring conducted to quantify the I&I reduction. The model can then be re-calibrated based on the post-flow monitoring data to confirm if the capital program projects are still required based on the 1-in-5-year and 1-in-10-year design storm scenarios.

Table 7-1: Proposed Capital Program

Sewer Section ID	Road Section(s)	US Manhole to DS Manhole	Existing Pipe Diameter (mm)	Proposed Pipe Diameter (mm)	Capital Cost (2025$)	Estimated Phasing Period
POCO_1[3]	Rosemount Ave & Stanley Street	220001421 to 220001457	200	250	$213,000	2045 - 2050
POCO_2	Wellington Street	220001900 to 220002094	300	375	$1,177,000	2030 - 2035
POCO_3	Elizabeth Street	220003303 to 220001695	200	250	$361,000	2030 - 2035
POCO_4	Elgin Street	220001231 to 220001825	200	300	$379,000	2035 - 2040
POCO_5	Main Street West & West Side Road	220001508 to 220001477	250	300	$815,000	2030 - 2035
POCO_6	Ost Avenue, Fielden Avenue & Borden Avenue	10001283 to 220001916	250	300	$904,000	2030 - 2035
POCO_7	City Hall SPS inlet to Charlotte Street	220001135 to 220001188	300	375	$150,000	2030 - 2035
	City Hall SPS Inlet[1]	220001188 to 14000114	300	375	-	
POCO_8[2]	Johnston Street	220001996 to 14000040	300	450	$568,700	<10 years
POCO_9[2]	Johnston Street	New sewer section discharging to 220001996	N/A	450	$1,651,700	10-20 years
POCO_10[2]	Killaly Street East	New sewer section discharging to POCO_14	N/A	600	$2,480,800	<10 years
POCO_11[2]	Snider Road	New sewer section discharging to POCO_10	N/A	450	$2,287,600	10-20 years
POCO_12[2]	Ramey Road	New sewer section discharging to POCO_13	N/A	450	$1,852,400	<10 years
POCO_13[2]	Barrick Road	New forcemain discharging to Seaway WWTP	N/A	300	$7,917,800	<10 years
POCO_14[2]	Elizabeth Street	New forcemain discharging to Seaway WWTP	N/A	450	$10,558,200	<10 years
				Total Capital Cost (2025$):	**$ 31,316,200**	

Notes:

1. This section of sewer is Regionally owned.
2. These projects came directly from the INS and have not been modified as part of the current 2025 PPCP
3. City has plans to include Stanley Street sewer upgrade as part of a future project in the Sugarloaf area.

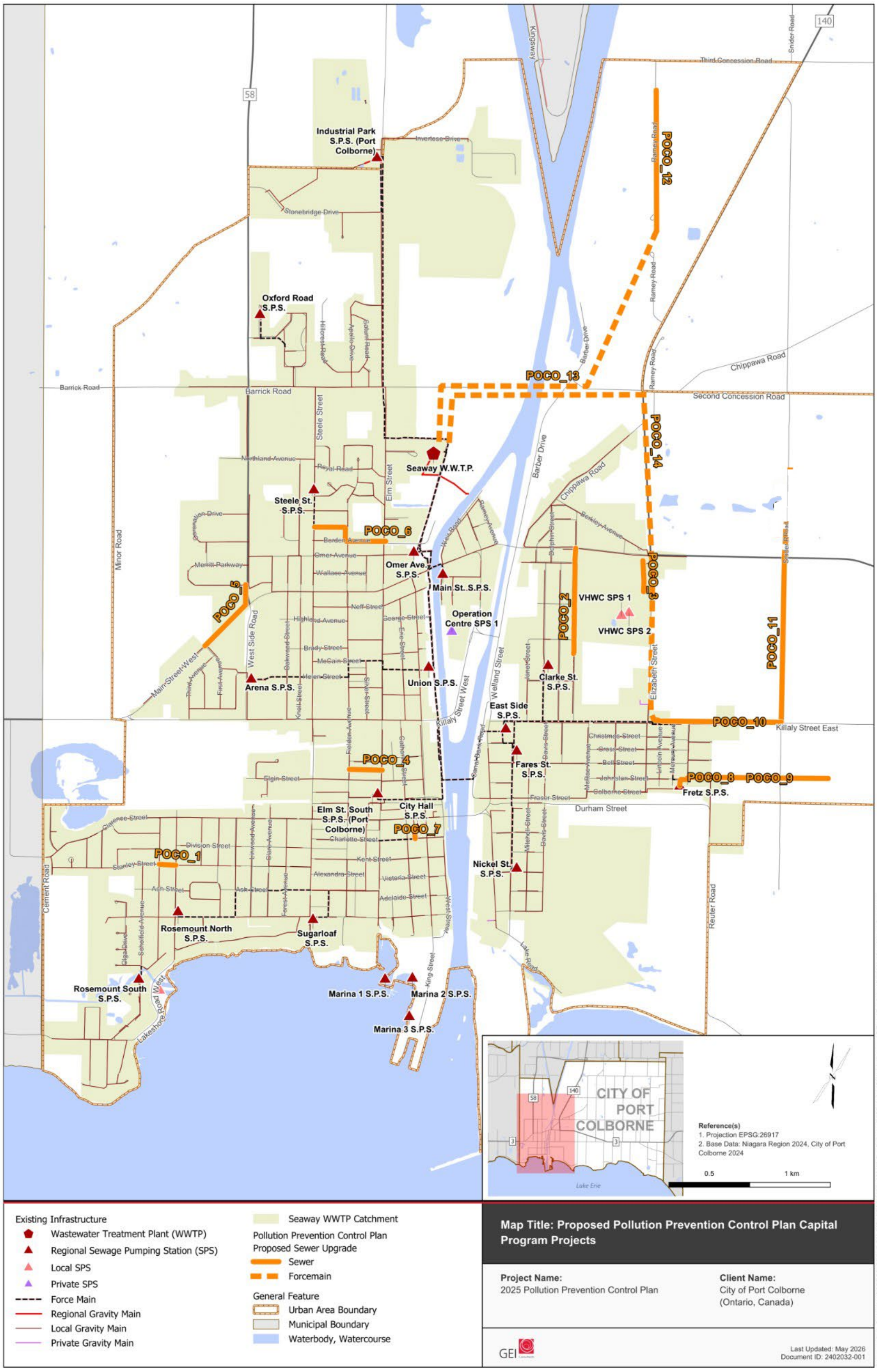


Figure 7-1: Proposed Pollution Prevention Control Plan Capital Program Projects

7.1. Summary of Recommendations

A summary of the 2025 PPCP recommendations to be completed over the next 5 to 10 years is shown in **Table 7-2**.

Table 7-2: Summary of the 2025 PPCP Recommendations

Location	Recommendation
Omer PS Catchment	1. Finish the ongoing lateral launch program for this catchment.
	2. Develop and complete lateral lining based on the results from the lateral launches.
	3. After completing the WWF reduction activities stated in points 1-2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_6 is still necessary.
Clarke PS Catchment	1. Finish the ongoing lateral launch program for this catchment.
	2. Develop and complete lateral lining based on the results from the lateral launches.
	3. After completing the WWF reduction activities stated in points 1-2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital projects POCO_2 and POCO_3 are still necessary.
Arena PS Catchment	1. Complete the remaining main line sewer rehabilitation works.
	2. Develop and complete a lateral launch program for this catchment.
	3. Develop and complete lateral lining based on the results from the lateral launches.
	4. After completing the WWF reduction activities stated in points 1-3, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_5 is still necessary.
Rosemount N PS Catchment	1. Complete the remaining main line sewer rehabilitation works.
	2. Develop and complete a lateral launch program for this catchment.
	3. Develop and complete lateral lining based on the results from the lateral launches.
	4. After completing the WWF reduction activities stated in points 1-3, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital project POCO_1 is still necessary.
Downtown Core	1. Investigate the wastewater and stormwater systems through drainage surveys, smoke testing, plumbing inspections, and any other activities that would help identify potential cross-connections between the 2 systems.
	2. Develop and complete WWF reduction activities based on the investigation work completed in point 1.
	3. After completing the WWF reduction activities stated in point 2, complete additional flow monitoring and localized model re-calibration to confirm if the proposed capital projects POCO_4 and POCO_7 are still necessary.
Nickel PS Catchment	1. Complete WWF reduction activities based on the previously completed investigation activities.

City of Port Colborne Water and Stormwater Master Servicing Plan

Volume 1 – Executive Summary

June 10, 2026



Agile INFRASTRUCTURE

Submission Details and Version Control

City of Port Colborne
Water and Stormwater Master Servicing Plan
Volume 1 – Executive Summary
June 10, 2026

Agile Project No. P01.002.01

Version	Date Submitted	Author	Reviewer
Draft	April 16, 2026	Michelle Klaver	Julien Bell
Final	June 10, 2026	Michelle Klaver	Lindsay Currie, Julien Bell

Prepared By:

Michelle Klaver, P.Eng.
Senior Infrastructure Planning Engineer

Reviewed By:

Julien Bell, P.Eng.
Vice President

Lindsay Currie, M.Sc., P.Eng.
Senior Infrastructure Planning Engineer

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Introduction 5
1.1 Background 5
1.2 Master Servicing Plan 5
1.3 Master Servicing Plan Objectives 6
1.4 Master Servicing Plan Documentation Layout 7
2 Master Planning Process 9
2.1 Master Planning Process 9
2.2 Problem and Opportunity Statement 9
2.3 Study Area 9
2.4 Public Consultation 12
2.5 Planning Context 12
2.6 Water Demand Projections 12
2.7 Stormwater Servicing Needs 13
3 Planning and Growth Projections 14
4 Servicing Principles and Criteria 17
4.1 Level of Service and Performance Criteria 17
4.2 Basis of Water System Analysis 17
4.3 Stormwater Design Criteria and Level of Service Summary 18
5 Water Servicing Strategy 20
5.1 Opportunities and Constraints 20
5.2 Preferred Water Servicing Strategy Overview 21
5.3 Water Capital Program Summary 24
6 Stormwater Servicing Strategy 31
6.1 Opportunities and Constraints 31
6.2 Preferred Stormwater Servicing Strategy 32
6.3 Stormwater Capital Program Summary 33

List of Tables

Table 2-1: Water Demand Projections 13
Table 3-1: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 15
Table 3-2: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 15
Table 4-1: Water System Servicing Criteria 17
Table 4-2: Summary of City's Stormwater System Design Manual Criteria 18
Table 4-3: Summary of City's Stormwater System Design Manual – Prescribed Flooding Levels 19
Table 5-1: Capital Program Summary by Project Type 24
Table 5-2: Benefit to Existing Summary 24
Table 5-3: Watermain Rehabilitation Capital Program Summary 25
Table 5-4: Watermain Capital Program Summary 27
Table 6-1: Capital Program Summary by Project Type 34
Table 6-2: Benefit to Existing Summary 34
Table 6-3: Stormwater Capital Program Summary 35
Table 6-4: Stormwater Pond and Low Impact Development Capital Program Summary 36
Table 6-5: Local Stormwater Network Sewer Lengths and Costs 37

List of Figures

Figure 2-1 Existing Water System 10
Figure 2-2 Existing Stormwater System 11
Figure 3-1 Anticipated Development 16
Figure 5-1 Capital Program 23

1 Introduction

1.1 Background

The City of Port Colborne (City) is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. It is part of the Niagara Region (Region) and is adjacent to the Town of Wainfleet, Town of Fort Erie, and City of Welland.

Water servicing within the City operates under a two-tier system. The Region is responsible for water treatment, storage facilities, pumping stations, and major trunk infrastructure, while the City owns and operates the local water distribution system, including trunk and distribution watermains. The system is supplied by the Port Colborne Water Treatment Plant (WTP), which is a conventional surface water treatment facility that draws raw water from Lake Erie via the Welland Canal. Treated water is distributed through a network of watermains and storage facilities within a single pressure zone.

The City owns, maintains and operates the majority of the stormwater collection and management infrastructure, including catch basins, storm sewers, ditches, culverts, stormwater management facilities, and other related structures. Stormwater runoff is conveyed through a combination of minor and major systems and ultimately discharges to local receiving watercourses and Lake Erie.

Reliable and accessible public infrastructure is critical to supporting existing and future communities. Coordinated infrastructure planning, land use planning, and investment are required to deliver efficient, safe, and cost-effective water and stormwater services.

The Master Servicing Plan (MSP) provides a comprehensive review of existing systems and identifies growth-related servicing strategies, with consideration for long-term sustainability and optimization of existing infrastructure.

1.2 Master Servicing Plan

The City is undertaking a Water and Stormwater Master Servicing Plan to develop a comprehensive strategy and vision for the City's short- and long-term water and stormwater infrastructure needs. The MSP reviews existing system conditions and performance, considers the impacts of growth, and identifies strategies to meet current and future servicing requirements.

The Study establishes a long-term management strategy to guide water and stormwater infrastructure planning through 2051 and beyond and includes an actionable Capital Program and Implementation Plan to support the strategy. The MSP will provide the framework for system capacity allocations, infrastructure upgrades, and financial planning, supporting the City's continued growth and sustainable management of its water and stormwater systems.

1.3 Master Servicing Plan Objectives

The MSP is designed to deliver a strategic, integrated framework for the management, enhancement, and expansion of the City's water distribution and stormwater management systems through 2051 and beyond. This MSP addresses the needs of both systems to ensure reliable service delivery, environmental protection, and support for the City's growth aspirations. The key objectives of the MSP are as follows:

- **Provide Safe and Reliable Services**: Ensure a consistent supply of potable water that complies with the Safe Drinking Water Act, 2002, and effective stormwater management to safeguard public health, property, and infrastructure under current and future conditions.
- **Accommodate Growth**: Evaluate and plan infrastructure capacity to support projected population increases, seasonal tourism demands, and potential industrial development, particularly along the Welland Canal, in accordance with the City's Official Plan.
- **Enhance System Resilience**: Develop adaptive strategies to mitigate the impacts of climate change, including increased storm intensity and fluctuations in Lake Erie water levels, ensuring the longevity and reliability of water and stormwater systems.
- **Meet Regulatory Standards**: Adhere to provincial legislation, Ministry of the Environment, Conservation and Parks (MECP) guidelines, Niagara Region policies, and Niagara Peninsula Conservation Authority (NPCA) requirements, while fulfilling the Municipal Class Environmental Assessment (EA) process.
- **Optimize Infrastructure Performance**: Identify opportunities to reduce non-revenue water losses, improve stormwater conveyance efficiency, and leverage existing assets to deliver cost-effective, sustainable solutions.
- **Protect Environmental Quality**: Minimize impacts on Lake Erie and local watercourses by enhancing stormwater quality, controlling runoff volumes, and incorporating low-impact development (LID) practices where feasible.
- **Foster Collaboration**: Engage residents, businesses, Niagara Region, NPCA, and other stakeholders to align the MSP with community needs, regional priorities, and environmental goals.

These objectives underpin a holistic servicing strategy that ensures Port Colborne's water and stormwater systems are robust, sustainable, and capable of supporting the community's long-term prosperity.

1.4 Master Servicing Plan Documentation Layout

The MSP Report, including all supporting volumes, is the documentation placed on public record for the prescribed minimum 30-day review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The MSP Report is organized into 5 volumes as described below.

1.4.1 Volume 1 - Executive Summary

Volume 1 provides a brief overview of the MSP. It summarizes the information contained in Volume 2, 3, 4 and 5, including the problem statement, purpose of the study, significant planning, environmental and technical considerations, and description of the preferred water and stormwater servicing strategies including depiction of the projects and documentation of the capital programs.

1.4.2 Volume 2 – Plan & Policy

Volume 2 details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and stormwater servicing performance objectives, population, and employment growth forecasts, existing environmental and servicing conditions, and future considerations.

1.4.3 Volume 3 – Water Master Plan

Volume 3 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred water servicing strategy. This volume contains baseline water system data and performance information. This volume also documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy and implementation plan.

1.4.4 Volume 4 – Stormwater Master Plan

Volume 4 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred stormwater servicing strategy. This volume contains baseline stormwater system data and performance information. This volume also documents the stormwater servicing strategy development with detailed information on the projects and capital program associated with the preferred stormwater servicing strategy and implementation plan.

1.4.5 Volume 5 – Indigenous, Public, and Agency Consultation

Volume 5 contains all relevant documentation of the public consultation process including notifications, comments and responses, and distribution information. Presentation material from the Public Information Centre (PIC) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2 Master Planning Process

2.1 Master Planning Process

Municipalities value comprehensive, long-range planning to address infrastructure needs. The MCEA (February 2024) defines master plans as "*long-range plans that integrate infrastructure requirements for existing and future land use with environmental assessment planning principles, examining systems or groups of related projects to outline a framework for subsequent projects.*"

Master plans are broad, system-focused, and geographically distributed, with implementation phased over time.
This study follows Approach 1, completing Phases 1 and 2, integrating the five key EA principles: consultation, alternative consideration, environmental impact assessment, alternative evaluation, and traceable documentation.

The MSP allows Exempt projects to proceed immediately, supports Schedule B projects with additional evaluation and agency commitments, and identifies Schedule C projects for separate studies to complete Phases 3 and 4, including an Environmental Study Report.

2.2 Problem and Opportunity Statement

The problem and opportunity statement defines the principal starting point for undertaking this Class EA and assists in defining the project's scope. The problem and opportunity statement for the 2026 Water and Stormwater Master Servicing Plan is as follows:

> *The 2026 Water and Stormwater Master Plan will identify and develop a long-term water and stormwater servicing strategy and capital forecast to achieve the desired infrastructure performance objectives for existing and future residents and businesses, with consideration for expanding services to support critical employment opportunities. This will support projected future growth in the community to 2051 and consider potential impacts beyond 2051.*

2.3 Study Area

The City of Port Colborne is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. The City is part of the Regional Municipality of Niagara and is in close proximity to the City of Welland and the City of Niagara Falls. The City is strategically connected to surrounding municipalities via Highway 3 and regional road networks, providing access to the industrial and commercial areas of the Niagara Region.

The City of Port Colborne has a total area of approximately 122 km^2, with a 2021 Statistics Canada population of 20,033 residents and 5,120 employees. The study area for the Master Servicing Plan encompasses the water and stormwater systems within the municipal boundaries. The water and stormwater study areas, including the limits of existing infrastructure, are shown in **Figure 2-1** and **Figure 2-2**, respectively.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

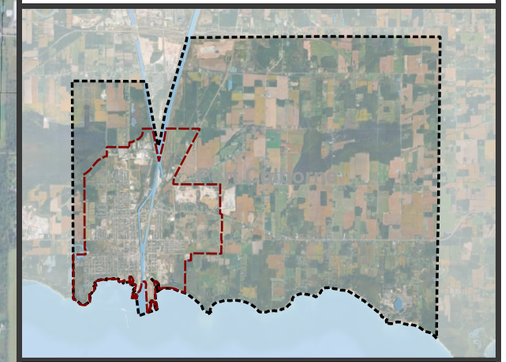


Figure 2-1
Existing Water System

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Stormwater System

- ≥ 450 mm
- <450 mm
- Culvert
- Ditch

Existing Facilities

- Storm Facility
- Outfalls
- Storm Outlet

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

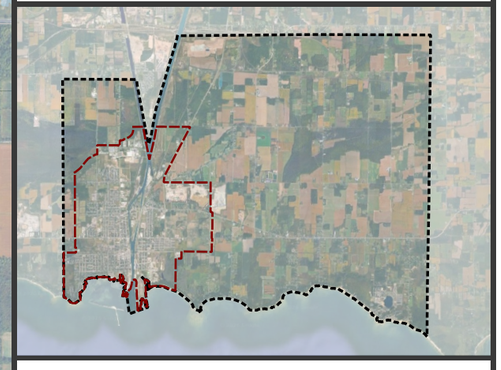


Figure 2-2
Existing Stormwater System

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

2.4 Public Consultation

Public and agency consultation is a key component of the Class EA planning process. It provides an important opportunity to inform and engage potentially interested and affected stakeholders throughout the study. A complete record of the Public Consultation process, including all comments received, is provided in **Volume 5**.

2.5 Planning Context

Section 7 in **Volume 2** summarizes the various historical and current growth forecasts that have been prepared over the past decade, providing context for the growth assumptions adopted in this MSP. These forecasts inform the future system modelling and the development of infrastructure improvement strategies intended to address the long-term servicing needs of the City. Key background documents reviewed include the 2013 Official Plan (growth to 2031), the 2023 Growth Analysis Review (Dillon Consulting), the 2024 Development Charges Background Study (Watson & Associates), the 2024 East Side Employment Lands Servicing Review (GEI), and the ongoing Pollution Prevention Control Plan project.

2.6 Water Demand Projections

As part of this Master Servicing Plan, water demand criteria were reviewed and updated to reflect current system conditions, historical usage trends, and anticipated future growth.

The water demand criteria have been used to project future demands, assess system capacity, and support the development of the water capital program. The following water design criteria were applied:

- Residential Average Day Demand: 240 Lpcd
- Employment Average Day Demand: 270 Lpcd
- Maximum Day Peaking Factor: 1.57

The review of water use and system performance also considered non-revenue water (NRW) to ensure that demand projections are representative of actual system conditions, while recognizing opportunities for reduction through ongoing operational improvements.

A summary of existing water demands and projected water demands based on the criteria is provided in **Table 2-1**.

Table 2-1: Water Demand Projections

		2025	Buildout
ADD (L/s)	Residential	26.1	79.4
	Employment	25.5	198
	NRW	34.8	34.8
	Total	**86.4**	**312.1**
MDD (L/s)	Residential	41.0	124.6
	Employment	40.0	310.9
	NRW	34.8	34.8
	Total	**115.8**	**470.2**

2.7 Stormwater Servicing Needs

The stormwater servicing concepts and strategies presented in the following sections consider both improvements within the City's existing infrastructure system, as well as new infrastructure and upgrades required to support the expansion areas.

An increase in stormwater runoff volume, peak flow rates, and a potential reduction in water quality are expected due to the conversion of previously pervious areas. Future development will be required to manage runoff volume, peak flows, and water quality to meet pre-development conditions or better. Stormwater controls within the expansion areas will be determined on a site-specific basis. As such, in most instances, new development areas that incorporate the onside management requirements are anticipated to have a negligible increase to existing system peak flows and are not anticipated to trigger system upgrades, with the following exceptions:

- Outlets with existing deficiencies in the downstream conveyance systems.
- Development discharging to system outlets not requiring detention control, where there is sufficient downstream conveyance capacity to support the increase in system runoff.

3 Planning and Growth Projections

For the purposes of this MSP, we have developed two (2) planning scenarios consisting of:

- **Buildout Scenario:** This represents the full buildout of the City's current urban boundary and additional development of the employment lands along the Welland Canal. This scenario is being used to identify potential long-term servicing needs and used to appropriately size infrastructure upgrades:
- **2051 Growth Scenario:** This represents the most likely 2051 growth scenario, as identified by the City. The MSP 2051 capital program will be based on the upgrades triggered by the infrastructure needed to service the development parcels and total residential and employment growth by 2051.

These forecasts inform the future system modelling and the development of infrastructure improvement strategies intended to address the long-term servicing needs of the City. Key background documents reviewed include the 2013 Official Plan (growth to 2031), the 2023 Growth Analysis Review (Dillon Consulting), the 2024 Development Charges Background Study (Watson & Associates), the 2024 East Side Employment Lands Servicing Review (GEI), and the ongoing Pollution Prevention Control Plan project.

The Buildout Scenario establishes the City's ultimate servicing envelope, while the 2051 Growth Scenario defines the infrastructure upgrades required within the planning horizon. Detailed assumptions and summarized results for each scenario are provided in **Table 3-1** and **Table 3-2**, with corresponding mapping included in **Figure 3-1**.

3.1.1 2051 Growth Scenario

The 2051 Growth Scenario reflects the appropriate development scenario for the purposes of establishing the capital program to meet a target servicing need. The 2051 Growth Scenario has been estimated based on prioritizing the development likely to occur based on their Development Status. The priority order is as follows:

- Development Review and Development Database parcels
- Future Development Area parcels
- Pipeline Lands parcels
- Vacant Lands parcels

For the purposes of forecasting realistic 2051 servicing needs, an estimated percent completed is applied to each development status category.

Table 3-1: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Development Status	Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)[1]	Total Average Day Demand (L/s)	Area (ha)
Development Database	1,043	3			3	11
Development Review	6,132	17	10,271	173	190	526
INS Future Development Area	787	2			2	11
INS Pipeline Lands	4,149	12			12	112
INS Vacant Lands	7,057	20			20	114
Total	**19,167**	**53**	**10,271**	**173**	**226**	**774**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors in Volume 3

Table 3-2: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Status	% Complete by 2051	2051 Forecasted Values					
		Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)[1]	Total Average Day Demand (L/s)	Area (ha)
Development Database	100%	1,043	3	0	0	3	11
Development Review	100%	6,132	17	10,271	173	190	526
INS Future Development Area	100%	787	2	0	0	2	11
INS Pipeline Lands	50%	2,075	6	0	0	6	56
INS Vacant Lands	20%	1,411	4	0	0	4	23
Total		**11,447**	**32**	**10,271**	**173**	**204**	**627**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors in Volume 3

City of Port Colborne

Water and Stormwater Master Plan

Growth Areas
- Development Database
- Development Review
- INS Future Development Area
- INS Pipeline Lands
- INS Vacant Lands

Zoning
- Commercial
- Farm
- Government
- Industrial
- Institutional
- Land
- Residential
- Special Purpose

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Parks
- NPCA Approximate Regulation Lands
- Waterbody

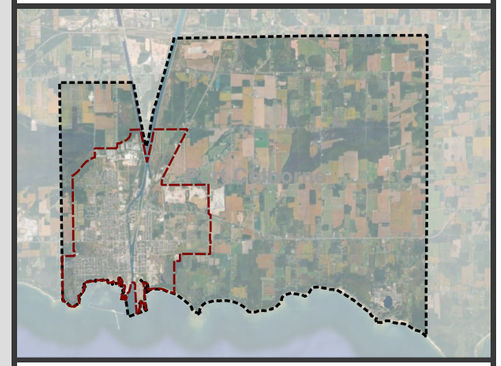


Figure 3-1
Anticipated Development

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

4 Servicing Principles and Criteria

To ensure the City's water and stormwater systems operate efficiently and that performance can meet existing and future needs of the system's users, clear system performance criteria must be established. As part of this MSP, the design criteria and hydraulic performance criteria were reviewed to confirm that system performance objectives appropriately inform the sizing and timing of future infrastructure, such as watermains, while also supporting the identification and planning of upgrades required to address system deficiencies.

4.1 Level of Service and Performance Criteria

The recommended performance objectives and design criteria are based on a review of the City's Design and Development Manual, the Regional Municipality of Niagara 2021 Water and Wastewater Master Servicing Plan Update (MSPU), applicable Ministry and agency requirements, available background studies, and existing system performance.

The design criteria were reviewed as part of this MSP to confirm that they are accurate and to support the sizing and timing of future infrastructure. The water design criteria are outlined in **Volume 3**, and the stormwater design criteria are provided in **Volume 4**.

4.2 Basis of Water System Analysis

Table 4-1 summarizes the servicing criteria used to assess system performance, determine upgrade requirements, and assess the effectiveness of system upgrades.

Table 4-1: Water System Servicing Criteria

Description			Criteria
Water Demand	Per Capita Rate	Residential	240 LPCD
		Employment	270 LPCD
	Peaking Factor	Max Day	1.57
		Peak Hour	1.5 – 2.0 times Max Day Demand
Fire Flow	Flow Target	Dead End Residential	50 L/s
		Single/Semi	100 L/s
		Townhouse/Row House	150 L/s
		Multi Family	200 L/s
		Commercial	175 L/s
		Institutional	200 L/s
		Industrial	250 L/s
System Performance	Pressure	Max Day Demand	Preferred 345 – 480 kPa (50 – 70 psi) Allowable 275 – 550 Kpa (40 – 80 psi) Max allowable 700kPa (100psi)
		Peak Hour Demand	
		Average Day Demand	
		Min Hour Demand	
		Max Day + Fire	>140 kPa (20 psi)

4.3 Stormwater Design Criteria and Level of Service Summary

The stormwater technical criteria used as part of this MSP are summarized in **Table 4-2** and **Table 4-3**.

Table 4-2: Summary of City's Stormwater System Design Manual Criteria

Category		Criteria
Flood Control (Development)	Discharge to a Watercourse	Post-development to pre-development peak flow control 2 through a 100-year design storm.
	Discharge to Storm Sewer – Known Capacity	100-year post-development controlled to storm sewer capacity.
	Discharge to a Storm Sewer – Unknown Capacity	100-year post-development to 5-year pre-development peak flow.
	Road Right of Way	Demonstrate no Negative Impact Meets Permissible Depth of Flooding as listed in **Table 4-3**.
	Municipal Drain	100-year post-development to 2-year pre-development peak flow.
Erosion Control	• Provide controls for receivers sensitive to erosion. • Target retention of 90th percentile storm (Runoff Volume Control Target).	
Water Budget	• Maintain pre-development infiltration/evapotranspiration - Where Feasible • Minimum Requirement - Retain/reuse/infiltrate the first 5 mm of rainfall	
Water Quality	Achieve 80% TSS removal ("Enhanced" level). Use oil-grit separators, inserts, filtration tech, or equivalent.	
Minor System	Capacity	• Sized to Convey 5-Year Design Storm • Minimum 300 mm size
	Slope / Velocity	• 300 mm @ 0.3% • Minimum Velocity 0.75 m/s • Maximum Velocity 6.0 m/s
Major System	Capacity	• Size to Convey 100-Year Design Storm • Where the Roadway provides the Major System Function. Ensure Design Meets Permissible Depth of Flooding as listed in **Table 4-3**.

Table 4-3: Summary of City's Stormwater System Design Manual – Prescribed Flooding Levels

Location	Design Storm		
	5-Year	25-Year	100-Year
Walkways	Minor surface	As required	As required
Open Spaces	flow up to 25 mm on walkways	For overland flow outlets	For overland flow outlets
Local	No ponding	0.05m above the crown	0.15m above the crown
Collector	1.0 m wide in the gutter or 0.10m deep at the low point catchbasins	Up to crown	0.10 m above the crown, maximum depth of flooding of 0.3 m
Private Property	Minor ponding in swales	No structural damage, ponding in yard areas below building openings - no basement flooding	No structural damage from overland flow
Public Property	Minor ponding in swales or ditches	No structural damage, ponding in flat areas, no erosion	No structural damage, ponding in flat areas, some erosion

5 Water Servicing Strategy

The following steps outline the approach used to develop, screen, and select the preferred servicing strategy:

- Review baseline system conditions, opportunities, and constraints;
- Develop high-level servicing concepts, including potential infrastructure and management approaches;
- Screen concepts based on technical feasibility, potential impacts, and implementation challenges;
- Eliminate concepts with significant constraints and carry forward viable alternatives;
- Develop and evaluate servicing alternatives using technical, environmental, social/cultural, and financial criteria;
- Apply a reasoned argument approach to identify the preferred alternative, considering advantages, disadvantages, and trade-offs; and,
- Develop conceptual cost estimates to support the evaluation and selection process.

5.1 Opportunities and Constraints

Existing and future water opportunities and constraints were identified through discussions with City staff and through hydraulic analyses. Error! Reference source not found. highlights the e xisting opportunities and constraints.

System Supply and Capacity

- Water system supplied by the Region, with system performance largely influenced by Regional operations.
- Regional treatment, storage, and pumping capacity are assumed to expand as required to support future growth.
- The system is currently operated as a single pressure zone, which is expected to be maintained.

Based on a review of existing system conditions and projected demands, the following key constraints and opportunities were identified.

Constraints

- Aging cast-iron and asbestos cement watermains.
- Areas with lower available fire flow.
- High water loss.

- Localized lower pressures at higher elevations (generally still above minimum targets).

Opportunities

- Improve system looping and fire flow capacity in future growth areas.
- Coordinate water system improvements with planned Regional wastewater projects.
- Continue watermain lining in areas with a history of breaks and higher leakage.
- Planned Regional projects (e.g. new canal crossing, new ET, Fielden reservoir decommissioning) to support system reliability and expansion.

5.2 Preferred Water Servicing Strategy Overview

The City's preferred water servicing strategy to address system growth and hydraulic performance requirements is Concept C+B: Sub-Trunk Loops & Targeted Upgrades. However, in acknowledgement that the City still needed to address rehabilitation and/or replacement of all its cast iron watermain to address ongoing watermain break and water loss issues, the final capital program also includes the full replacement/lining of all remaining cast iron watermains.

Figure 5-1, presents final watermain upgrade and rehabilitation program consisting of a combined approach that integrates new system looping with targeted replacement of undersized watermains. Building on the City's Capital Program, this concept focuses on improving system reliability and reducing fire flow deficiencies, while aligning upgrades with areas of cast iron watermains and historical watermain breaks. While the recommended program largely addresses the identified system deficiencies, some limitations remain, including the presence of dead-end watermains in areas with higher fire flow requirements.

Key elements of the preferred servicing strategy include:

- **Balanced Approach:** Provides a mix of system resiliency through sub-trunk looping while addressing fire flow deficiencies across the system.
- **Targeted Investment:** Focuses on both deficient areas and loop connectivity to maximize effectiveness of upgrades.
- **Flexibility in Implementation:** Supports a phased approach, allowing Capital Program upgrades to proceed first, followed by looping and localized upgrades as needed.
- **Meets Requirements:** Achieves fire flow criteria for more than 95% of the system.
- **Optimized System Performance:** Enhances system reliability and redundancy while mitigating localized deficiencies.
- **Cost Efficiency:** Targeted upgrades reduce overall watermain replacement compared to full cast iron replacement, helping to manage long-term lifecycle costs.

The preferred servicing strategy is based on the following key assumptions and design considerations:

- **Watermain Sizing Basis & Replacement vs. Lining**
    - Watermains with a documented history of breaks are assumed to be replaced as part of the planning analysis; however, these segments should be further inspected to confirm their condition and determine whether lining may be viable as an alternative to full replacement.
    - Lining is considered for watermains with acceptable hydraulic capacity and no performance related issues.
- **Fire Flow Requirements**
    - Fire flow demands are based on City criteria and validated through hydraulic analysis.
    - Sub-trunk looping improves redundancy while mitigating localized deficiencies.
- **Break History and Condition**
    - Replacement priorities are guided by historical break frequency, known cast iron segments, and critical service areas such as schools, hospitals, and high fire flow zones.
- **Future Flexibility**
    - The combined looping and targeted upgrades approach allows incremental improvements as future development proceeds, helping defer major capital costs.
- **System Coordination**
    - Aligns with the City's Capital Program to coordinate upgrades with planned municipal construction, including stormwater and wastewater infrastructure, where possible.

Figure 5-1 shows the preferred servicing strategy for Sub-Trunk Loops and Target Upgrades.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Capital Program Projects
- Lining/Replacement Program
- Looping Program
- Growth Program
- Looping and Growth

Buildout Infrastructure
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains
- Storage
- WTP

Growth Areas
- Growth Areas

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

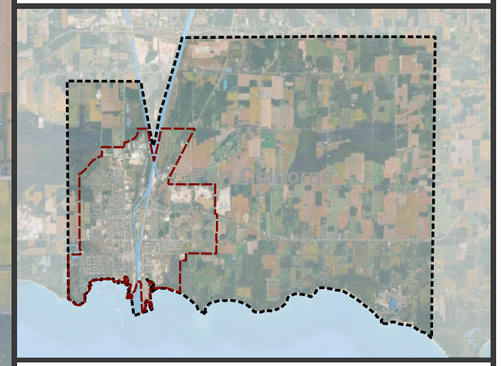


Figure 5-1
Capital Program

0 0.75 1.5 km

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

5.3 Water Capital Program Summary

The preferred water servicing strategy has been developed to support the servicing needs of the existing and future growth areas within the City of Port Colborne. The capital costs for each project of the Preferred Strategy were estimated according to the costing methodology within **Volume 2**. A detailed listing of all projects, including individual project numbers, is provided in **Table 5-3** and **Table 5-4**. **Table 5-1** summarizes the projects by type (i.e. new watermains, lining of existing watermains, upsizing of existing watermains, and watermain replacement/potential lining). **Table 5-2** further summarizes the capital program by Benefit to Existing classification, distinguishing projects that primarily address existing system needs from those required to support growth-related servicing requirements.

Table 5-1: Capital Program Summary by Project Type

	Length (m)	Estimated Cost ($)
New Watermains including Growth Areas	19,224	$ 80,019,000
Line Existing Watermains	21,865	$ 46,649,000
Upsize Existing Watermains	11,665	$ 39,273,000
Watermain Replacements (potential lining)	4,936	$ 17,187,000
Total	**57,690**	**$ 183,128,000**

Table 5-2: Benefit to Existing Summary

	% DC Eligible Cost	Length (m)	Estimated Cost ($)
BE-1	100	8,095	$ 37,731,000
BE-2	90	6,721	$ 26,530,000
BE-3	70	1,494	$ 5,608,000
BE-4	50	7,869	$ 28,482,000
BE-5	20	5,788	$ 14,951,000
BE-6	0	23,889	$ 56,002,000
Dev	0	3,834	$ 13,824,000
Total		**57,690**	**$ 183,128,000**

5.3.1 Collaboration with Region

Acknowledging that the water system is jointly owned and operated by the Region and the City of Port Colborne, the continued operation and expansion of the water system to support existing users and accommodate projected growth relies upon the cooperation of the upper and lower tier municipalities.

Table 5-3: Watermain Rehabilitation Capital Program Summary

Description			Scope			Total Cost Summary		Cost Allocation		
Project	Project Letter	Project Description	Project Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
W-M-01	A	Lining of 137 m of 150 mm watermain along Cedar Street.	Watermain CIPP Rehab	137	150	$256,000	Low	$256,000	$0	$0
W-M-01	C	Lining of 153 m of 150 mm watermain along Orchard Drive.	Watermain CIPP Rehab	153	150	$285,000	Low	$285,000	$0	$0
W-M-01	D	Lining of 125 m of 200 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	125	200	$251,000	Low	$251,000	$0	$0
W-M-01	F	Lining of 28 m of 200 mm watermain along Walnut Street.	Watermain CIPP Rehab	28	200	$57,000	Low	$57,000	$0	$0
W-M-01	G	Lining of 45 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	45	150	$86,000	Low	$86,000	$0	$0
W-M-01	H	Lining of 79 m of 150 mm watermain along Lakewood Crescent.	Watermain CIPP Rehab	79	150	$149,000	Low	$149,000	$0	$0
W-M-01	I	Lining of 120 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	120	150	$224,000	Low	$224,000	$0	$0
W-M-01	K	Lining of 20 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	20	150	$38,000	Low	$38,000	$0	$0
W-M-01	L	Lining of 249 m of 150 mm watermain along Rose Avenue.	Watermain CIPP Rehab	249	150	$462,000	Low	$462,000	$0	$0
W-M-01	M	Lining of 212 m of 150 mm watermain along Gaspare Drive.	Watermain CIPP Rehab	212	150	$394,000	Low	$394,000	$0	$0
W-M-04	A	Lining of 326 m of 150 mm watermain along Clarence Street.	Watermain CIPP Rehab	326	150	$604,000	High	$604,000	$0	$0
W-M-04	B	Lining of 76 m of 150 mm watermain along Linwood Avenue.	Watermain CIPP Rehab	76	150	$142,000	Low	$142,000	$0	$0
W-M-04	C	Lining of 83 m of 150 mm watermain along Clare Avenue.	Watermain CIPP Rehab	83	150	$155,000	Low	$155,000	$0	$0
W-M-06	A	Lining of 32 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	32	200	$65,000	High	$32,500	$32,500	$0
W-M-06	C	Lining of 23 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	23	200	$48,000	High	$24,000	$24,000	$0
W-M-06	E	Lining of 401 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	401	200	$805,000	High	$402,500	$402,500	$0
W-M-06	F	Lining of 97 m of 150 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	97	150	$181,000	Medium	$181,000	$0	$0
W-M-06	G	Lining of 3 m of 200 mm watermain along Park Street.	Watermain CIPP Rehab	3	200	$7,000	Low	$7,000	$0	$0
W-M-06	H	Lining of 199 m of 150 mm watermain along Ash Street.	Watermain CIPP Rehab	199	150	$370,000	Medium	$296,000	$74,000	$0
W-M-06	I	Lining of 126 m of 200 mm watermain along Elm Street.	Watermain CIPP Rehab	126	200	$255,000	Medium	$204,000	$51,000	$0
W-M-06	J	Lining of 114 m of 150 mm watermain along Elm Street.	Watermain CIPP Rehab	114	150	$212,000	Medium	$169,600	$42,400	$0
W-M-06	K	Lining of 15 m of 150 mm watermain along Kent Street.	Watermain CIPP Rehab	15	150	$29,000	Medium	$29,000	$0	$0
W-M-06	O	Lining of 103 m of 150 mm watermain along Kent Street.	Watermain CIPP Rehab	103	150	$193,000	Medium	$193,000	$0	$0
W-M-06	P	Lining of 65 m of 150 mm watermain along Park Street.	Watermain CIPP Rehab	65	150	$121,000	Medium	$121,000	$0	$0
W-M-06	Q	Lining of 35 m of 150 mm watermain along Elm Street.	Watermain CIPP Rehab	35	150	$66,000	Medium	$66,000	$0	$0
W-M-07	A	Lining of 271 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	271	150	$502,000	Low	$502,000	$0	$0
W-M-07	R	Lining of 11 m of 150 mm watermain along Brady Street.	Watermain CIPP Rehab	11	150	$22,000	Low	$22,000	$0	$0
W-M-07	T	Lining of 17 m of 150 mm watermain along Brady Street.	Watermain CIPP Rehab	17	150	$33,000	Low	$33,000	$0	$0
W-M-07	W	Lining of 99 m of 150 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	99	150	$184,000	Medium	$147,200	$36,800	$0
W-M-07	X	Lining of 202 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	202	150	$375,000	Medium	$375,000	$0	$0
W-M-07	Z	Lining of 87 m of 150 mm watermain along Charles Street.	Watermain CIPP Rehab	87	150	$163,000	Medium	$130,400	$32,600	$0
W-M-07	AA	Lining of 7 m of 150 mm watermain along First Avenue.	Watermain CIPP Rehab	7	150	$14,000	Medium	$14,000	$0	$0
W-M-07	B	Lining of 63 m of 150 mm watermain along Brock Street.	Watermain CIPP Rehab	63	150	$118,000	Medium	$118,000	$0	$0
W-M-07	E	Lining of 187 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	187	150	$348,000	High	$348,000	$0	$0
W-M-07	G	Lining of 7 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	7	150	$14,000	High	$11,200	$2,800	$0
W-M-07	H	Lining of 6 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	6	150	$13,000	High	$13,000	$0	$0
W-M-07	J	Lining of 81 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	81	150	$151,000	High	$151,000	$0	$0
W-M-07	L	Lining of 12 m of 150 mm watermain along Helen Street.	Watermain CIPP Rehab	12	150	$23,000	Medium	$23,000	$0	$0
W-M-07	N	Lining of 116 m of 150 mm watermain along Helen Street.	Watermain CIPP Rehab	116	150	$217,000	Medium	$217,000	$0	$0

Description			Scope			Total Cost Summary		Cost Allocation		
Project	Project Letter	Project Description	Project Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
W-M-07	O	Lining of 116 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	116	150	$217,000	Medium	$217,000	$0	$0
W-M-07	Q	Lining of 14 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	14	150	$28,000	Medium	$28,000	$0	$0
W-M-09	A	Lining of 96 m of 150 mm watermain along Main Street West.	Watermain CIPP Rehab	96	150	$179,000	High	$179,000	$0	$0
W-M-09	C	Lining of 499 m of 150 mm watermain along Main Street West.	Watermain CIPP Rehab	499	150	$924,000	High	$739,200	$184,800	$0
W-M-09	D	Lining of 62 m of 300 mm watermain along Main Street West.	Watermain CIPP Rehab	62	300	$144,000	High	$115,200	$28,800	$0
W-M-09	F	Lining of 727 m of 300 mm watermain along Main Street West.	Watermain CIPP Rehab	727	300	$5,133,000	High	$2,566,500	$2,566,500	$0
W-M-10	X	Lining of 205 m of 150 mm watermain along Donlea Drive.	Watermain CIPP Rehab	205	150	$380,000	Low	$380,000	$0	$0
W-M-10	B	Lining of 249 m of 150 mm watermain along Coronation Drive.	Watermain CIPP Rehab	249	150	$462,000	Low	$462,000	$0	$0
W-M-10	C	Lining of 7 m of 150 mm watermain along Coronation Drive.	Watermain CIPP Rehab	7	150	$14,000	Low	$14,000	$0	$0
W-M-10	D	Lining of 7 m of 150 mm watermain along Omer Avenue.	Watermain CIPP Rehab	7	150	$14,000	Low	$7,000	$7,000	$0
W-M-10	E	Lining of 6 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	6	150	$13,000	High	$13,000	$0	$0
W-M-10	G	Lining of 3 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	3	150	$7,000	High	$7,000	$0	$0
W-M-10	I	Lining of 12 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	12	150	$23,000	High	$23,000	$0	$0
W-M-10	L	Lining of 9 m of 150 mm watermain along Borden Avenue.	Watermain CIPP Rehab	9	150	$19,000	High	$19,000	$0	$0
W-M-10	N	Lining of 93 m of 150 mm watermain along Borden Avenue.	Watermain CIPP Rehab	93	150	$174,000	High	$87,000	$87,000	$0
W-M-10	P	Lining of 141 m of 200 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	141	200	$283,000	Low	$141,500	$141,500	$0
W-M-10	Q	Lining of 51 m of 150 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	51	150	$96,000	Low	$48,000	$48,000	$0
W-M-10	S	Lining of 11 m of 150 mm watermain along Franklin Avenue.	Watermain CIPP Rehab	11	150	$22,000	Low	$11,000	$11,000	$0
W-M-10	T	Lining of 5 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	5	150	$11,000	High	$8,800	$2,200	$0
W-M-10	V	Lining of 15 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	15	150	$29,000	High	$23,200	$5,800	$0
W-M-10	W	Lining of 2 m of 400 mm watermain along Royal Road.	Watermain CIPP Rehab	2	400	$6,000	Low	$4,800	$1,200	$0
W-M-11	A	Lining of 120 m of 200 mm watermain along Hawthorne Boulevard.	Watermain CIPP Rehab	120	200	$242,000	Low	$242,000	$0	$0
W-M-11	C	Lining of 18 m of 150 mm watermain along Runnymede Road.	Watermain CIPP Rehab	18	150	$35,000	Low	$35,000	$0	$0
W-M-11	E	Lining of 160 m of 150 mm watermain along Runnymede Road.	Watermain CIPP Rehab	160	150	$297,000	Low	$297,000	$0	$0
W-M-11	G	Lining of 260 m of 150 mm watermain along Thorncrest Road.	Watermain CIPP Rehab	260	150	$482,000	Low	$482,000	$0	$0
W-M-12	F	Lining of 271 m of 150 mm watermain along Ramey Avenue.	Watermain CIPP Rehab	271	150	$502,000	Low	$502,000	$0	$0
W-M-13	B	Lining of 158 m of 150 mm watermain along Berkley Avenue.	Watermain CIPP Rehab	158	150	$295,000	Low	$295,000	$0	$0
W-M-14	A	Lining of 16 m of 150 mm watermain along Crescent Avenue.	Watermain CIPP Rehab	16	150	$32,000	Low	$32,000	$0	$0
W-M-24	A	Lining of 1533 m of 150 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	Watermain CIPP Rehab	1,533	150	$2,836,000	High	$2,836,000	$0	$0
W-M-24	B	Lining of 158 m of 200 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	Watermain CIPP Rehab	158	200	$319,000	High	$319,000	$0	$0
W-M-25	A	Lining of 1325 m of 150 mm watermain along Omer Avenue and Oakwood Street.	Watermain CIPP Rehab	1,325	150	$2,452,000	High	$1,961,600	$490,400	$0
W-M-26	A	Lining of 5494 m of 150 mm cast iron watermain.	Watermain CIPP Rehab	5,494	150	$10,161,000	Low	$10,161,000	$0	$0
W-M-26	B	Lining of 1466 m of 200 mm cast iron watermain.	Watermain CIPP Rehab	1,466	200	$2,939,000	Low	$2,939,000	$0	$0
W-M-26	C	Lining of 1510 m of 250 mm cast iron watermain.	Watermain CIPP Rehab	1,510	250	$3,260,000	Low	$3,260,000	$0	$0
W-M-26	D	Lining of 2909 m of 300 mm cast iron watermain.	Watermain CIPP Rehab	2,909	300	$6,727,000	Low	$6,727,000	$0	$0
W-M-26	E	Lining of 105 m of 350 mm cast iron watermain.	Watermain CIPP Rehab	105	350	$260,000	Low	$260,000	$0	$0

Table 5-4: Watermain Capital Program Summary

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-01	B	Replacement of 132 m of 150 mm watermain along Cedar Street.	Watermain	Replacement	132	150	$397,000	Low	$397,000	$0	$0	Replacement
W-M-01	E	Replacement of 123 m of 200 mm watermain along Walnut Street.	Watermain	Replacement	123	200	$371,000	Low	$371,000	$0	$0	Replacement
W-M-01	J	Replacement of 124 m of 150 mm watermain along Oakridge Crescent.	Watermain	Replacement	124	150	$389,000	Low	$389,000	$0	$0	Replacement
W-M-02	A	Upsizing of 1225 m of 300 mm watermain along Sugarloaf Street.	Watermain	Upsizing	1,225	300	$4,982,000	High	$2,491,000	$2,491,000	$0	Looping
W-M-03	A	Upsizing of 1125 m of 300 mm watermain along Stanley Street.	Watermain	Upsizing	1,125	300	$3,824,000	Low	$1,912,000	$1,912,000	$0	Looping
W-M-05	A	Upsizing of 1076 m of 300 mm watermain along Marina Drive.	Watermain	Upsizing	1,076	300	$3,971,000	High	$1,191,300	$2,779,700	$0	Growth
W-M-06	B	Replacement of 77 m of 200 mm watermain along Sugarloaf Street.	Watermain	Replacement	77	200	$247,000	High	$123,500	$123,500	$0	Growth
W-M-06	D	Upsizing of 111 m of 200 mm watermain along Sugarloaf Street.	Watermain	Upsizing	111	200	$355,000	High	$177,500	$177,500	$0	Growth
W-M-06	L	Replacement of 208 m of 150 mm watermain along Kent Street.	Watermain	Replacement	208	150	$663,000	Medium	$663,000	$0	$0	Replacement
W-M-06	M	Replacement of 109 m of 300 mm watermain along Clarence Street.	Watermain	Replacement	109	300	$382,000	Medium	$382,000	$0	$0	Replacement
W-M-06	N	Upsizing of 450 m of 200 mm watermain along Charlotte Street.	Watermain	Upsizing	450	200	$1,430,000	Medium	$1,144,000	$286,000	$0	Looping
W-M-07	C	Replacement of 64 m of 150 mm watermain along Steele Street.	Watermain	Replacement	64	150	$205,000	Low	$205,000	$0	$0	Replacement
W-M-07	D	Replacement of 234 m of 150 mm watermain along Steele Street.	Watermain	Replacement	234	150	$745,000	Low	$745,000	$0	$0	Replacement
W-M-07	F	Replacement of 150 m of 150 mm watermain along Steele Street.	Watermain	Replacement	150	150	$478,000	Low	$382,400	$95,600	$0	Replacement
W-M-07	I	Upsizing of 65 m of 150 mm watermain along Steele Street.	Watermain	Upsizing	65	150	$207,000	Low	$207,000	$0	$0	Replacement
W-M-07	K	Replacement of 27 m of 150 mm watermain along Steele Street.	Watermain	Replacement	27	150	$88,000	Low	$88,000	$0	$0	Replacement
W-M-07	M	Replacement of 103 m of 150 mm watermain along Helen Street.	Watermain	Replacement	103	150	$311,000	Low	$311,000	$0	$0	Replacement
W-M-07	P	Replacement of 99 m of 150 mm watermain along McCain Street.	Watermain	Replacement	99	150	$298,000	Low	$298,000	$0	$0	Growth
W-M-07	S	Replacement of 200 m of 150 mm watermain along Brady Street.	Watermain	Replacement	200	150	$601,000	Low	$601,000	$0	$0	Replacement
W-M-07	U	Replacement of 199 m of 150 mm watermain along Neff Street.	Watermain	Replacement	199	150	$598,000	Low	$598,000	$0	$0	Replacement
W-M-07	V	Replacement of 170 m of 150 mm watermain along Fielden Avenue.	Watermain	Replacement	170	150	$541,000	Low	$541,000	$0	$0	Replacement

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-07	Y	Replacement of 65 m of 200 mm watermain along Union Street.	Watermain	Replacement	65	200	$197,000	Low	$197,000	$0	$0	Replacement
W-M-08	A	Upsizing of 1935 m of 200 mm watermain along Knoll Street.	Watermain	Upsizing	1,935	200	$5,977,000	Low	$4,781,600	$1,195,400	$0	Looping
W-M-09	B	Replacement of 67 m of 150 mm watermain along Main Street West.	Watermain	Replacement	67	150	$214,000	High	$214,000	$0	$0	Replacement
W-M-09	E	Replacement of 118 m of 300 mm watermain along Main Street West.	Watermain	Replacement	118	300	$414,000	Low	$207,000	$207,000	$0	Looping
W-M-10	A	Replacement of 256 m of 150 mm watermain along Coronation Drive.	Watermain	Replacement	256	150	$770,000	Low	$770,000	$0	$0	Replacement
W-M-10	F	Replacement of 103 m of 150 mm watermain along Steele Street.	Watermain	Replacement	103	150	$329,000	Low	$329,000	$0	$0	Replacement
W-M-10	H	Replacement of 98 m of 150 mm watermain along Steele Street.	Watermain	Replacement	98	150	$313,000	Low	$313,000	$0	$0	Replacement
W-M-10	J	Upsizing of 107 m of 200 mm watermain along Wallace Avenue.	Watermain	Upsizing	107	200	$322,000	Low	$322,000	$0	$0	Replacement
W-M-10	K	Upsizing of 113 m of 200 mm watermain along Oak Street.	Watermain	Upsizing	113	200	$341,000	Low	$341,000	$0	$0	Replacement
W-M-10	M	Replacement of 215 m of 150 mm watermain along Borden Avenue.	Watermain	Replacement	215	150	$665,000	Low	$665,000	$0	$0	Replacement
W-M-10	O	Replacement of 103 m of 150 mm watermain along Borden Avenue.	Watermain	Replacement	103	150	$320,000	Low	$160,000	$160,000	$0	Growth
W-M-10	R	Replacement of 192 m of 150 mm watermain along Franklin Avenue.	Watermain	Replacement	192	150	$578,000	Low	$289,000	$289,000	$0	Replacement
W-M-10	U	Replacement of 257 m of 150 mm watermain along Steele Street.	Watermain	Replacement	257	150	$817,000	Low	$653,600	$163,400	$0	Growth
W-M-11	B	Replacement of 144 m of 150 mm watermain along Runnymede Road.	Watermain	Replacement	144	150	$433,000	Low	$433,000	$0	$0	Replacement
W-M-11	D	Replacement of 110 m of 150 mm watermain along Runnymede Road.	Watermain	Replacement	110	150	$332,000	Low	$332,000	$0	$0	Replacement
W-M-11	F	Replacement of 161 m of 150 mm watermain along Thorncrest Road.	Watermain	Replacement	161	150	$486,000	Low	$486,000	$0	$0	Replacement
W-M-11	H	Upsizing of 199 m of 200 mm watermain along Saturn Road.	Watermain	Upsizing	199	200	$598,000	Low	$598,000	$0	$0	Replacement
W-M-12	A	Upsizing of 230 m of 250 mm watermain along Canal Bank Road.	Watermain	Upsizing	230	250	$756,000	Low	$604,800	$151,200	$0	Growth
W-M-12	B	Upsizing of 72 m of 250 mm watermain along Amelia Street.	Watermain	Upsizing	72	250	$239,000	Low	$191,200	$47,800	$0	Growth
W-M-12	C	Upsizing of 112 m of 250 mm watermain along Port Colborne Drive.	Watermain	Upsizing	112	250	$370,000	Low	$185,000	$185,000	$0	Growth
W-M-12	D	Upsizing of 565 m of 200 mm watermain along Mellanby Avenue.	Watermain	Upsizing	565	200	$1,796,000	Low	$1,796,000	$0	$0	Replacement
W-M-12	E	Upsizing of 162 m of 200 mm watermain along Church Street.	Watermain	Upsizing	162	200	$488,000	Low	$488,000	$0	$0	Replacement

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-12	G	Upsizing of 32 m of 150 mm watermain along Christian Stoner Str.	Watermain	Upsizing	32	150	$97,000	Low	$97,000	$0	$0	Replacement
W-M-13	A	Upsizing of 539 m of 200 mm watermain along Chippawa Road.	Watermain	Upsizing	539	200	$1,666,000	Low	$833,000	$833,000	$0	Growth
W-M-13	C	Upsizing of 212 m of 250 mm watermain along Ramey Road.	Watermain	Upsizing	212	250	$697,000	Low	$697,000	$0	$0	Replacement
W-M-14	B	Upsizing of 270 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	270	200	$858,000	Medium	$429,000	$429,000	$0	Growth
W-M-14	C	Upsizing of 221 m of 200 mm watermain along Killaly Street East.	Watermain	Upsizing	221	200	$703,000	Medium	$351,500	$351,500	$0	Growth
W-M-14	D	Upsizing of 1265 m of 250 mm watermain along Clarke Street.	Watermain	Upsizing	1,265	250	$4,039,000	High	$2,019,500	$2,019,500	$0	Looping
W-M-15	A	Upsizing of 154 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	154	200	$490,000	Low	$392,000	$98,000	$0	Replacement
W-M-15	B	Upsizing of 89 m of 250 mm watermain along Fraser Street.	Watermain	Upsizing	89	250	$278,000	Low	$139,000	$139,000	$0	Growth
W-M-15	C	Upsizing of 108 m of 200 mm watermain along Fraser Street.	Watermain	Upsizing	108	200	$325,000	Low	$325,000	$0	$0	Replacement
W-M-15	D	Upsizing of 93 m of 200 mm watermain along Fraser Street.	Watermain	Upsizing	93	200	$297,000	Low	$297,000	$0	$0	Replacement
W-M-15	E	Upsizing of 134 m of 250 mm watermain along Fares Street.	Watermain	Upsizing	134	250	$441,000	Low	$220,500	$220,500	$0	Growth
W-M-15	F	Upsizing of 280 m of 250 mm watermain along Rodney Street.	Watermain	Upsizing	280	250	$996,000	Low	$996,000	$0	$0	Replacement
W-M-15	G	Upsizing of 75 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	75	200	$260,000	Medium	$260,000	$0	$0	Replacement
W-M-16	A	626 m of new 300 mm watermain along Sugarloaf Street and Lancaster Drive.	Watermain	Growth	626	300	$2,473,000	Low	$0	$0	$2,473,000	Looping
W-M-16	B	430 m of new 200 mm watermain along south of Sugarloaf Street.	Watermain	Growth	430	200	$1,544,000	Low	$0	$0	$1,544,000	Growth
W-M-17	A	608 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street and Killaly Street West.	Watermain	Growth	608	300	$3,154,000	Low	$315,400	$2,838,600	$0	Looping
W-M-17	B	488 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street and Killaly Street West.	Watermain - Open Cut	Growth	488	300	$1,928,000	Low	$192,800	$1,735,200	$0	Looping
W-M-18	A	Upsizing of 36 m of 300 mm watermain along Killaly Street West.	Watermain	Upsizing	36	300	$128,000	Low	$38,400	$89,600	$0	Looping
W-M-18	B	382 m of new 300 mm watermain along Killaly Street West and Main Street West.	Watermain	Growth	382	300	$1,509,000	Low	$452,700	$1,056,300	$0	Looping
W-M-19	A	2344 m of new 300 mm watermain along Main Street West to Barrick Road.	Watermain	Growth	2,344	300	$9,255,000	Low	$925,500	$8,329,500	$0	Looping
W-M-19	B	1607 m of new 200 mm watermain along Main Street West to Barrick Road.	Watermain	Growth	1,607	200	$5,763,000	Low	$576,300	$5,186,700	$0	Growth

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-20	A	727 m of new 300 mm watermain along Barrick Road to West Side Road.	Watermain	Growth	727	300	$2,871,000	Low	$0	$0	$2,871,000	Growth
W-M-21	A	802 m of new 200 mm watermain along Oxford Boulevard to Parkside Drive.	Watermain	Growth	802	200	$2,767,000	Low	$1,383,500	$1,383,500	$0	Growth
W-M-21	B	733 m of new 300 mm watermain along Parkside Drive and Meadowlark Drive.	Watermain	Growth	733	300	$2,631,000	Low	$0	$0	$2,631,000	Growth
W-M-21	C	61 m of new 150 mm watermain along Westfield Place.	Watermain	Growth	61	150	$201,000	Low	$0	$0	$201,000	Growth
W-M-21	D	66 m of new 150 mm watermain along Aintree Place.	Watermain	Growth	66	150	$217,000	Low	$0	$0	$217,000	Growth
W-M-21	E	578 m of new 200 mm watermain along Sherwood Drive and Springside Drive.	Watermain	Growth	578	200	$1,886,000	Low	$0	$0	$1,886,000	Growth
W-M-21	F	321 m of new 150 mm watermain along Springside Drive.	Watermain	Growth	321	150	$1,048,000	Low	$0	$0	$1,048,000	Growth
W-M-21	G	292 m of new 150 mm watermain along Parkside Drive.	Watermain	Growth	292	150	$953,000	Low	$0	$0	$953,000	Growth
W-M-22	A	1443 m of new 300 mm watermain along Main Street East.	Watermain	Growth	1,443	300	$5,698,000	Low	$0	$5,698,000	$0	Growth
W-M-22	B	892 m of new 300 mm watermain along Lorraine Road.	Watermain	Growth	892	300	$3,327,000	Low	$0	$3,327,000	$0	Growth
W-M-22	C	507 m of new 200 mm watermain along Lorraine Road.	Watermain	Growth	507	200	$1,654,000	Low	$0	$1,654,000	$0	Growth
W-M-22	D	1036 m of new 300 mm watermain along Killaly Street East.	Watermain	Growth	1,036	300	$3,978,000	Low	$397,800	$3,580,200	$0	Growth
W-M-22	E	Upsizing of 610 m of 300 mm watermain along Killaly Street East.	Watermain	Upsizing	610	300	$2,342,000	Low	$234,200	$2,107,800	$0	Growth
W-M-22	F	28 m of new 300 mm watermain connecting existing Elizabeth Street Region watermain to East growth lands.	Watermain	Growth	28	300	$110,000	Low	$11,000	$99,000	$0	Growth
W-M-23	A	5253 m of new 500 mm watermain along ESEL Lands.	Watermain	Growth	5,253	500	$27,052,000	Low	$0	$27,052,000	$0	Growth
W-M-27	B	Replacement of 588 m of 200 mm watermain along for watermain breaks.	Watermain	Replacement	588	200	$2,522,000	Low	$2,522,000	$0	$0	Growth
W-M-27	C	Replacement of 232 m of 250 mm watermain along for watermain breaks.	Watermain	Replacement	232	250	$1,262,000	Low	$1,262,000	$0	$0	Growth
W-M-27	D	Replacement of 208 m of 300 mm watermain along for watermain breaks.	Watermain	Replacement	208	300	$1,221,000	Low	$1,221,000	$0	$0	Growth

6 Stormwater Servicing Strategy

6.1 Opportunities and Constraints

Existing and future stormwater opportunities and constraints were identified through discussions with City staff, review of available GIS and infrastructure data, and preliminary hydraulic analyses. Error! Reference source not found. highlights the opportunities and c onstraints within the system.

System Understanding and Capacity

- The stormwater system is primarily managed by the City, with designed portions generally conveying flows effectively to outlets.
- Non-designed and semi-designed systems, particularly in older neighbourhoods, contribute to localized flooding during higher-intensity rainfall events.
- System configuration and condition are uncertain in some areas, with a mix of design standards and incomplete documentation.
- Outlet capacity is influenced by downstream water levels in Lake Erie and the Welland Canal, particularly in low-lying areas (<177 m).

Constraints

- Non-designed systems with limited formal overland flow routes.
- Constrained outlet capacity due to lake and canal water levels.
- Localized flooding in older neighbourhoods with inadequate conveyance.
- Uncertainty in system configuration and condition across much of the network.
- High cost and complexity associated with system upgrades, making full system replacement infeasible.
- Prioritization required based on risk and history of flooding issues.

Opportunities

- Targeted upgrades in older and non-designed areas to improve conveyance and reduce reliance on overland flow.
- Focus on trunk conveyance improvements to outlets, where practical, to maximize system performance.
- Develop a long-term rehabilitation and replacement strategy to manage improvements over time.
- Coordinate stormwater improvements with broader City infrastructure initiatives to optimize investment.

- Apply consistent design criteria and performance standards in new development and infill areas to maintain or improve current service levels.

6.2 Preferred Stormwater Servicing Strategy

The preliminary preferred stormwater servicing strategy is organized into major drainage areas and local servicing areas, with both system-wide and localized upgrades identified. The strategy has been developed to address existing deficiencies, while ensuring that future growth, expansion, and intensification are accommodated in a manner that maintains or improves post-development conditions relative to existing conditions. The preferred stormwater servicing strategy is presented in Error! Reference source not found..

A summary of the preliminary preferred stormwater servicing strategy is as follows:

Major Drainage Areas:

- **Clark Street Drainage Area:** Implement trunk sewer realignment along Russell Avenue, full reconstruction of the local sewer network north of Killaly Street to improve reliability.
- **Clark Street Outlet:** Undertake capacity upgrades, implement flood protection and storage improvements, and integrate real-time control measures to optimize system performance.
- **Elm Street & King Street North:** Implement outlet flood protection measures and targeted local sewer upgrades, including new trunk sewers along Neff Street and Fielden Avenue, and local improvements along Charles, Minto, and Erie Streets.
- **Elm Street & King Street South:** Inspect and rehabilitate outlets to maintain structural integrity and implement flow protection measures to enhance reliability.
- **Sugarloaf Area**: Implement outlet flood protection and improve conveyance to existing outlets, including construction of new trunk sewers along Rosemount Avenue, Sugarloaf Street, and Stanley Street, upgrades on Steele Street and Ash Street, and partial flow diversion to reduce trunk demand.

Local Servicing Areas:

- **Chippawa Road Area:** Address existing capacity limitations and improve overall system reliability by redirecting flows to the Wellington Street trunk sewer, upgrading the Wellington Street sewer to provide adequate conveyance, and implementing localized drainage improvements along Chippawa Road and Berkey Avenue.
- **Third Avenue Area:** Improve local conveyance and reduce flooding risk through targeted upgrades to sewers and roadside ditches along Killaly Street and West Side

Road, drainage improvements along Third Avenue and Sheba Crescent, and coordination with planned growth.

- **Omer Avenue Area:** Enhance system capacity and performance through construction of new sub-trunk sewers along Fielden Avenue and Omer Avenue/Steele Street, partial flow re-direction along Main Street, and coordinated timing with planned wastewater upgrades.
- **Lakeshore Road Area:** Maintain overall system performance by relying on available outlet capacity, while recognizing potential impacts from elevated lake levels. Improvements to Lakeshore Road West have addressed previous conveyance constraints, and no major upgrades are currently recommended beyond monitoring and minor localized improvements as needed.

Outlet Upgrades

- **Capacity Upgrades:** Implement capacity upgrades to the Bell Street and Rosemount Avenue outfalls to accommodate increased peak flows due to the upgrading of the existing non-designed and semi-designed systems.
- **Flooding Protection:** For existing outlets discharging to Lake Erie and the Welland Canal south of Lock 8, rehabilitate and install new backflow protection to protect against high lake level conditions
- **New Outlet:** Explore potential overflow option for the Quary Ponds.

The strategies summarized above will require additional, subcatchment-specific investigations and fieldwork to refine design details, confirm infrastructure requirements, and finalize implementation priorities.

6.3 Stormwater Capital Program Summary

The preferred stormwater servicing strategy has been developed to support the servicing needs of the existing and future growth areas within the City of Port Colborne. The capital costs for each project of the Preferred Strategy were estimated according to the costing methodology within **Volume 2**. A detailed listing of all projects, including individual project numbers, is provided in **Table 6-3** and **Table 6-4**. **Table 6-1** summarizes the projects by Area. **Table 6-2** further summarizes the capital program by Benefit to Existing classification, distinguishing projects that primarily address existing system needs from those required to support growth-related servicing requirements.

Table 6-1: Capital Program Summary by Project Type

	Length	Estimated Cost ($)
Omer	1,155	$ 5,659,000
King Street	1,520	$ 6,679,000
Sugarloaf	2,766	$ 24,241,000
Clarke	4,887	$ 25,304,000
Chippawa	784	$ 2,832,000
Third Ave	634	$ 2,823,000
Lakeshore	359	$ 1,206,000
Corvette	158	$ 484,000
Total	**12,262**	**$ 69,228,000**
Outlet Improvements		**$ 10,594,000**

Table 6-2: Benefit to Existing Summary

	% DC Eligible Cost	Estimated Cost ($)
BE-1	100	$ -
BE-2	90	$ 16,927,000.00
BE-3	70	$ 4,388,000.00
BE-4	50	$ 4,623,000.00
BE-5	20	$ 45,608,000.00
BE-6	0	$ 8,276,000.00
Total		**$ 79,822,000.00**

Table 6-3: Stormwater Capital Program Summary

Description					Infrastructure Details					Cost Summary		
Project	Project Letter	Project Description	Area	Type	Pipe Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-06	A	Local Servicing Study - Clarke	Clarke	Study				$150,000	High	$45,000	$105,000	$0
S-W-28	A	Local Sewer Upgrade Allowance - Clarke Area	Clarke	Sewer	Storm Sewer	200	600	$933,000	Low	$933,000	$0	$0
S-W-29	A	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	264	1,200	$1,839,000	High	$1,471,200	$367,800	$0
S-W-29	B	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	241	1,500	$2,920,000	High	$2,336,000	$584,000	$0
S-W-29	C	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	177	1,850	$2,655,000	High	$2,124,000	$531,000	$0
S-W-30	A	Culvert Replacement - Clarke Area	Clarke	Trunk	Storm Sewer	60	2,100	$1,517,000	High	$1,213,600	$303,400	$0
S-W-30	B	Culvert Replacement - Clarke Area	Clarke	Trunk	Storm Sewer	100	2,100	$1,244,000	High	$995,200	$248,800	$0
S-W-30	C	Outlet Upgrade and Flood Protection - Clarke	Clarke	Outlet	Storm Sewer	75	2,100	$1,350,000	High	$1,080,000	$270,000	$0
S-W-31	A	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	199		$183,000	High	$146,400	$36,600	$0
S-W-31	B	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	254		$234,000	High	$187,200	$46,800	$0
S-W-31	C	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	149		$138,000	High	$110,400	$27,600	$0
S-W-31	D	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	118		$110,000	High	$88,000	$22,000	$0
S-W-32	A	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	237	300	$937,000	Low	$749,600	$187,400	$0
S-W-32	B	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	229	300	$904,000	Low	$723,200	$180,800	$0
S-W-32	C	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	235	300	$929,000	Low	$743,200	$185,800	$0
S-W-32	D	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	238	450	$995,000	Low	$796,000	$199,000	$0
S-W-32	E	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	220	600	$1,063,000	Low	$850,400	$212,600	$0
S-W-32	F	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	230	600	$1,111,000	Low	$888,800	$222,200	$0
S-W-32	G	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	258	450	$1,077,000	Low	$861,600	$215,400	$0
S-W-32	H	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	251	450	$1,048,000	Low	$838,400	$209,600	$0
S-W-32	I	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	258	300	$1,019,000	Low	$1,019,000	$0	$0
S-W-32	J	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	244	300	$966,000	Low	$772,800	$193,200	$0
S-W-33	A	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	269	600	$1,263,000	High	$378,900	$884,100	$0
S-W-33	B	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	196	525	$885,000	High	$265,500	$619,500	$0
S-W-33	C	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	261	425	$1,058,000	High	$317,400	$740,600	$0
S-W-49	A	Johnston Street Pump Station - RTC	Clarke	Storage		1		$126,000	Low	$63,000	$63,000	$0

Table 6-4: Stormwater Pond and Low Impact Development Capital Program Summary

Description		Scope		Total Cost Summary		Cost Allocation		
Project	Project Description	Project Type	Quantity (m3)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-M-01	655 m3 SWM pond.	SW Pond	655	$1,174,000	Triggered By Local Developer	$0	$0	$1,174,000
S-W-M-02	1725 m3 SWM pond.	SW Pond	1,725	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-03	4499 m3 SWM pond.	SW Pond	4,499	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-04	15367 m3 SWM pond.	SW Pond	15,367	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-05	11907 m3 SWM pond.	SW Pond	11,907	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-06	2993 m3 SWM pond.	SW Pond	2,993	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-07	10107 m3 SWM pond.	SW Pond	10,107	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-08	6352 m3 SWM pond.	SW Pond	6,352	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-09	509 m3 SWM pond.	SW Pond	509	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-10	694 m3 SWM pond.	SW Pond	694	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-11	1417 m3 SWM pond.	SW Pond	1,417	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-12	1675 m3 SWM pond.	SW Pond	1,675	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-13	774 m3 SWM pond.	SW Pond	774	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-14	68126 m3 SWM pond.	SW Pond	68,126	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-15	68126 m3 SWM pond.	SW Pond	68,126	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-16	70721 m3 SWM pond.	SW Pond	70,721	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-17	20101 m3 SWM pond.	SW Pond	20,101	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-18	127812 m3 SWM pond.	SW Pond	127,812	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-19	48674 m3 SWM pond.	SW Pond	48,674	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-20	111610 m3 SWM pond.	SW Pond	111,610	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-21	36212 m3 SWM pond.	SW Pond	36,212	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-22	36212 m3 SWM pond.	SW Pond	36,212	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-23	4166 m3 SWM pond.	SW Pond	4,166	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-24	12156 m3 SWM pond.	SW Pond	12,156	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-25	8642 m3 SWM pond.	SW Pond	8,642	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000

6.3.1 Local Stormwater Network

The Capital Program identifies approximately 8 km of trunk storm system upgrades within the existing undesigned and semi-designed system, which can support future upgrades to the local stormwater system to improve the level of service provided. Approximately 17 km of additional local stormwater system upgrades, representing a potential additional $54M investment requirement to replace, rehabilitate, and upgrade the local stormwater collection system, are estimated to be required to improve the level of service within the existing undesigned and semi-designed system. A summary of potential additional local sewer lengths by neighbourhood and associated high-level costs is provided in **Table 6-5**.

Table 6-5: Local Stormwater Network Sewer Lengths and Costs

Neighbourhood	Sewer Length[1] (m)	Estimated Cost ($M)
Clarke	*Captured in Capital Program Project S-W-32 and S-W-33*	*($13.3 M)*
Elm & King North	6,500	$22.1M
Elm and King South	4,000	$13.6M
Sugarloaf	4,000	$11.7M
Omer	1,500	$3.7M
Chippawa	400	$1.1M
The Island	700	$1.9M

1- Lengths are approximate for the purposes of high-level budgetary estimation.

6.3.2 Outfall Flood Control

The Capital Program identifies the installation of flood control measures at multiple major outlets discharging to Lake Erie and the Welland Canal. These flood control structures would consist of flap gates (or other similar structures) that would prevent high levels from backing up into the system. The City will need to undertake appropriate inspection and assessment work to confirm the presence and condition of existing flood control structures and identify the most appropriate construction and/or rehabilitation measures to achieve the desired objectives.

City of Port Colborne Water and Stormwater Master Servicing Plan

Volume 2 – Plan and Policy

June 10, 2026



Agile INFRASTRUCTURE

Submission Details and Version Control

City of Port Colborne
Water and Stormwater Master Servicing Plan
Volume 2 – Plan and Policy
June 10, 2026

Agile Project No. P01.002.01

Version	Date Submitted	Author	Reviewer
Draft	April 16, 2026	Michelle Klaver	Julien Bell
Final	June 10, 2026	Michelle Klaver	Lindsay Currie, Julien Bell

Prepared By:

Michelle Klaver, P.Eng.
Senior Infrastructure Planning Engineer

Reviewed By:

Julien Bell, P.Eng.
Vice President

Lindsay Currie, M.Sc., P.Eng.
Senior Infrastructure Planning Engineer

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Introduction 1
1.1 Background 1
1.2 Master Servicing Plan 1
1.3 Master Servicing Plan Objectives 2
1.4 Master Servicing Plan Documentation Layout 3
2 Master Planning Process 5
2.1 Environmental Assessment Act 5
2.2 Principles of Environmental Planning 6
2.3 Class Environmental Assessments 7
2.4 Master Planning Process 8
2.5 Indigenous Community and Public Consultation 9
3 Related Studies and Background Information 11
3.1 Niagara Region Water and Wastewater Master Plan Update 11
3.2 2023 Infrastructure Needs Study 11
3.3 2025 Pollution Prevention Control Plan 11
3.4 2023 Growth Analysis Review 12
3.5 2024 Development Charges Background Study 12
3.6 East Side Employment Lands Servicing Review 13
3.7 City of Port Colborne – Design and Development Manual 13
3.8 City Infrastructure Information 13
3.9 Field Investigation 14
3.10 Regional Data 14
4 Problem and Opportunity Statement 15
4.1 Planning and Opportunity Context 15
4.2 Planning and Opportunity Statement 16
5 Study Area 17
6 Planning Context 19
6.1 Provincial and Federal Legislation and Policy Context 19
6.2 Conservation Authority Regulation and Policy Context 22

6.3 Niagara Region 23
6.4 City of Port Colborne Official Plan 24
7 Planning and Growth Projections 26
7.1 Past and Current Growth Forecasts 26
7.2 Growth Forecast Scenario 34
8 Servicing Principles and Design Criteria 37
8.1 Level of Service and Performance Criteria 37
9 Natural Environment Existing Conditions 38
9.1 Policy Context 38
9.2 Ecological Features and Function 41
9.3 Natural Environment 45
9.4 Lakes and Waterways 46
9.5 Geological and Hydrogeological Conditions 47
10 Existing Water and Stormwater Systems 48
10.1 Existing Water System 48
10.2 Existing Stormwater System 48
11 Evaluation Methodology 51
11.1 Development and Evaluation of Servicing Concepts 51
12 Project Costing 53
12.1 Project Uncertainty and Cost Estimate Confidence 53
12.2 Cost Estimating Strategy 53
12.3 Cost Estimating Methodology Overview 53
12.4 Cost Estimate Classification 54
12.5 Sources of Cost Estimating Information 55
12.6 Uncertainty of Cost Estimates 56
12.7 Development Charges Contribution 56

List of Tables

Table 6-1: Provincial Legislation and Policy Context 20
Table 6-2: Federal Legislation and Policy Context 21

Table 7-1: 2013 Official Plan Population Forecasts 26
Table 7-2: Growth Analysis Review Summary 27
Table 7-3: Development Charges Population Forecasts 27
Table 7-4: Growth Forecast 28
Table 7-5: PPCP Population and Employment Forecasts (Build-Out Scenario) 31
Table 7-6: Updated East Side Employment Lands Growth Forecast 32
Table 7-7: Population Forecast Summary 33
Table 7-8: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 36
Table 7-9: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 36
Table 11-1: Evaluation Scoring Approach 51
Table 11-2: Evaluation Criterion 52
Table 12-1: AACE Cost Estimate Classes 54
Table 12-2: Development Charges Benefit to Existing Classifications. 56
Table 12-3: Development Charges Out of Period Classification 57

List of Figures

Figure 2-1: MCEA Project Classification and Exemption Screening (Municipal Engineers Association, 2022) 8
Figure 3-1: Identified Water System Projects in Port Colborne to Accommodate Growth (Watson, 2024) 13
Figure 5-1 Study Area 18
Figure 7-1 Anticipated Development 29
Figure 9-1 Port Colborne Natural Heritage System 43
Figure 10-1 Existing Water System 49
Figure 10-2 Existing Stormwater System 50

List of Appendices

Appendix A – Costing Methodology 58

1 Introduction

1.1 Background

The City of Port Colborne (City) is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. It is part of the Niagara Region (Region) and is adjacent to the Town of Wainfleet, Town of Fort Erie, and City of Welland.

Water servicing within the City operates under a two-tier system. The Region is responsible for water treatment, storage facilities, pumping stations, and major trunk infrastructure, while the City owns and operates the local water distribution system, including trunk and distribution watermains. The system is supplied by the Port Colborne Water Treatment Plant (WTP), which is a conventional surface water treatment facility that draws raw water from Lake Erie via the Welland Canal. Treated water is distributed through a network of watermains and storage facilities within a single pressure zone.

The City owns, maintains and operates the majority of the stormwater collection and management infrastructure, including catch basins, storm sewers, ditches, culverts, stormwater management facilities, and other related structures. Stormwater runoff is conveyed through a combination of minor and major systems and ultimately discharges to local receiving watercourses and Lake Erie.

Reliable and accessible public infrastructure is critical to supporting existing and future communities. Coordinated infrastructure planning, land use planning, and investment are required to deliver efficient, safe, and cost-effective water and stormwater services.

The Master Servicing Plan (MSP) provides a comprehensive review of existing systems and identifies growth-related servicing strategies, with consideration for long-term sustainability and optimization of existing infrastructure.

1.2 Master Servicing Plan

The City is undertaking a Water and Stormwater Master Servicing Plan to develop a comprehensive strategy and vision for the City's short- and long-term water and stormwater infrastructure needs. The MSP reviews existing system conditions and performance, considers the impacts of growth, and identifies strategies to meet current and future servicing requirements.

The Study establishes a long-term management strategy to guide water and stormwater infrastructure planning through 2051 and beyond and includes an actionable Capital Program and Implementation Plan to support the strategy. The MSP will provide the framework for system capacity allocations, infrastructure upgrades, and financial planning, supporting the City's continued growth and sustainable management of its water and stormwater systems.

1.3 Master Servicing Plan Objectives

The MSP is designed to deliver a strategic, integrated framework for the management, enhancement, and expansion of the City's water distribution and stormwater management systems through 2051 and beyond. This MSP addresses the needs of both systems to ensure reliable service delivery, environmental protection, and support for the City's growth aspirations. The key objectives of the MSP are as follows:

- **Provide Safe and Reliable Services**: Ensure a consistent supply of potable water that complies with the Safe Drinking Water Act, 2002, and effective stormwater management to safeguard public health, property, and infrastructure under current and future conditions.
- **Accommodate Growth**: Evaluate and plan infrastructure capacity to support projected population increases, seasonal tourism demands, and potential industrial development, particularly along the Welland Canal, in accordance with the City's Official Plan.
- **Enhance System Resilience**: Develop adaptive strategies to mitigate the impacts of climate change, including increased storm intensity and fluctuations in Lake Erie water levels, ensuring the longevity and reliability of water and stormwater systems.
- **Meet Regulatory Standards**: Adhere to provincial legislation, Ministry of the Environment, Conservation and Parks (MECP) guidelines, Niagara Region policies, and Niagara Peninsula Conservation Authority (NPCA) requirements, while fulfilling the Municipal Class Environmental Assessment (EA) process.
- **Optimize Infrastructure Performance**: Identify opportunities to reduce non-revenue water losses, improve stormwater conveyance efficiency, and leverage existing assets to deliver cost-effective, sustainable solutions.
- **Protect Environmental Quality**: Minimize impacts on Lake Erie and local watercourses by enhancing stormwater quality, controlling runoff volumes, and incorporating low-impact development (LID) practices where feasible.
- **Foster Collaboration**: Engage residents, businesses, Niagara Region, NPCA, and other stakeholders to align the MSP with community needs, regional priorities, and environmental goals.

These objectives underpin a holistic servicing strategy that ensures Port Colborne's water and stormwater systems are robust, sustainable, and capable of supporting the community's long-term prosperity.

1.4 Master Servicing Plan Documentation Layout

The MSP Report, including all supporting volumes, is the documentation placed on public record for the prescribed minimum 30-day review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The MSP Report is organized into 5 volumes as described below.

1.4.1 Volume 1 - Executive Summary

Volume 1 provides a brief overview of the MSP. It summarizes the information contained in Volume 2, 3, 4 and 5, including the problem statement, purpose of the study, significant planning, environmental and technical considerations, and description of the preferred water and stormwater servicing strategies including depiction of the projects and documentation of the capital programs.

1.4.2 Volume 2 – Plan & Policy

Volume 2 details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and stormwater servicing performance objectives, population, and employment growth forecasts, existing environmental and servicing conditions, and future considerations.

1.4.3 Volume 3 – Water Master Plan

Volume 3 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred water servicing strategy. This volume contains baseline water system data and performance information. This volume also documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy and implementation plan.

1.4.4 Volume 4 – Stormwater Master Plan

Volume 4 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred stormwater servicing strategy. This volume contains baseline stormwater system data and performance information. This volume also documents the stormwater servicing strategy development with detailed information on the projects and capital program associated with the preferred stormwater servicing strategy and implementation plan.

1.4.5 Volume 5 – Indigenous, Public, and Agency Consultation

Volume 5 contains all relevant documentation of the public consultation process including notifications, comments and responses, and distribution information. Presentation material from the Public Information Centre (PIC) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2 Master Planning Process

The Municipal Class EA process clearly defines approaches for completing Master Plans within the Class EA context. This MSP is based on Approach 1 of the Class EA process, as outlined in the Municipal Class Environmental Assessment (MCEA) (February 2024), which involves preparing a master plan document at the conclusion of Phases 1 and 2. This MSP provides an overall framework and supporting information for infrastructure planning. This section describes the environmental assessment process and the specific requirements for preparing master plans, reflecting updates from the MCEA approved in February 2024, including alignment with the Environmental Assessment Act and its regulations.

2.1 Environmental Assessment Act

Ontario's Environmental Assessment Act (EAA) was passed in 1975 and came into force in 1976. The EAA requires proponents to examine and document the potential environmental effects of major projects or activities, as well as their alternatives. Municipal undertakings became subject to the EAA in 1981.

The EAA's comprehensive definition of the environment is:

- Air, land, or water;
- Plant and animal life, including human life;
- The social, economic, and cultural conditions that influence the life of humans or a community;
- Any building, structure, machine, or other device or thing made by humans;
- Any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from human activities; and,
- Any part of a combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.

The purpose of the EAA is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation, and wise management of the environment in Ontario (RSO1990, c.18, s.2). It is the objective of EAA proponents to ensure that decisions result from a rational, objective, transparent, replicable, and impartial planning process.

As set out in Section 17.6(2) of the EAA, an EA document must consist of:

- A description of the purpose of the project,
- A description of and a statement of the rationale for:
    - The project
    - The alternative methods of carrying out the project, and

    - Alternatives to the project.
- The EA document must also include a description of:
    - The environment that will be affected or that might reasonably be expected to be affected, directly or indirectly
    - The effects that will be caused or that might reasonably be expected to be caused to the environment, and
    - The actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment, by the project, the alternative methods of carrying out the project and the alternatives to the project.
- An evaluation of the advantages and disadvantages to the environment of the project, the alternative methods of carrying out the Part II.3 project and the alternatives to the project; and
- A description of any consultation about the project by the proponent and the results of the consultation.

2.2 Principles of Environmental Planning

The EAA sets a framework for a systematic, rational, and replicable environmental planning process that is based on five key principles, as follows:

- Consultation with affected parties → Consultation with the public and government review agencies is an integral part of the planning process. Consultation allows the proponent to identify and address concerns cooperatively before final decisions are made. Consultation should begin as early as possible in the planning process.
- Consideration of a reasonable range of alternatives → Alternatives include functionally different solutions, "alternatives to" the proposed undertaking, and "alternative methods" of implementing the preferred solution. The "Do Nothing" alternative must also be considered.
- Identification and consideration of the effects of each alternative on all aspects of the environment → This includes the natural, social, cultural, technical, and economic environments.
- Evaluation of alternatives in terms of their advantages and disadvantages to determine their net environmental effects → The evaluation shall increase in the level of detail as

the study moves from the evaluation of "alternatives to" to the evaluation of "alternative methods".

- Provision of clean and complete documentation of the planning process followed to allow "traceability" of decision-making with respect to the project → The planning process must be documented in a way that allows it to be repeated with similar results.

2.3 Class Environmental Assessments

Class Environmental Assessments (Class EAs) were approved in 1987 for municipal projects with predictable, mitigable impacts. The Municipal Class EA, prepared by the Municipal Engineers Association (MEA), was updated in 2000, 2007, 2011, 2015, 2023, and most recently in February 2024. This process applies to recurring, similar, and limited-scale projects with predictable impacts that are responsive to mitigation, covering water, wastewater, stormwater management, and road projects. It includes five phases:

- **Phase 1:** Identify the problem or opportunity.
- **Phase 2:** Identify and evaluate alternative solutions, selecting a preferred solution with public and stakeholder input.
- **Phase 3:** Examine alternative methods for the preferred solution, taking into account existing conditions, environmental impacts, and stakeholder input.
- **Phase 4:** Document the process in a Project File Report (Schedule B) or Environmental Study Report (Schedule C) for public review.
- **Phase 5:** Implement and monitor the project.

Projects are classified as Exempt, Eligible for Screening to Exempt, Schedule B, or Schedule C based on impact severity, as shown in **Figure 2-1**. Exempt projects (formerly Schedule A/A+) are minor or emergency activities approved without further assessment. Eligible for Screening to Exempt projects may be exempted via screening of archaeological potential. Schedule B projects require Phases 1 and 2, with consultation and a Project File Report. Schedule C projects complete all five phases, including an Environmental Study Report (ESR). Consultation with the public, agencies, and Indigenous Communities is mandatory across applicable phases.

For both Schedule B and C projects, the planning process and results are documented in a Project Report (i.e., Project File or an ESR) which is filed for a 30-day public review. If there are still outstanding issues after the public review period, requests may be made to the Minister of the Environment Conservation and Parks (MECP) for a Section 16 Order. A Section 16 Order is also known as bumping-up the project to a Schedule C Class EA or an Individual EA. Provided

that no significant impacts are identified and no requests for a Section 16 Order are received, a Schedule B or C project is approved, and work may proceed directly to implementation.

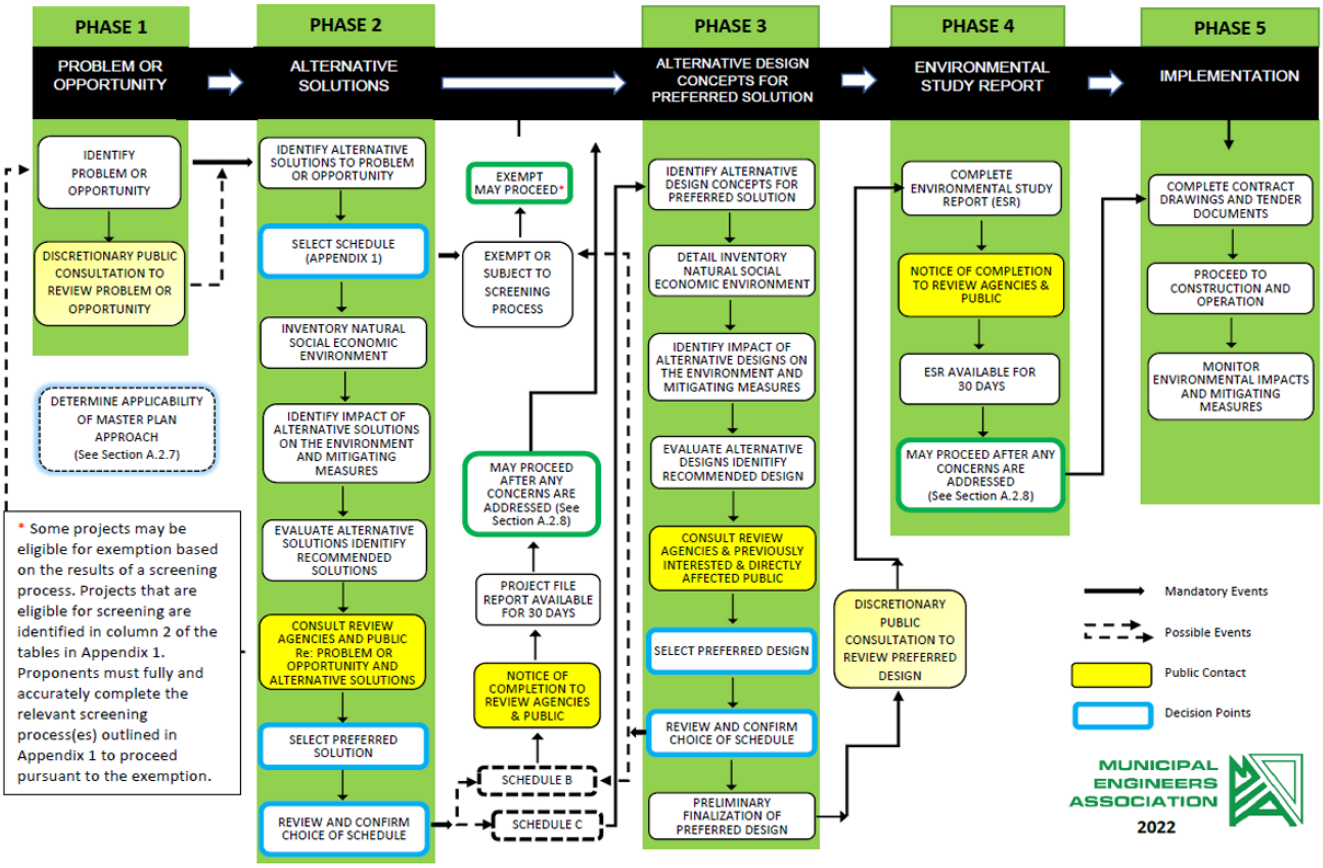


Figure 2-1: MCEA Project Classification and Exemption Screening (Municipal Engineers Association, 2022)

2.4 Master Planning Process

Municipalities value comprehensive, long-range planning to address infrastructure needs. The MCEA (February 2024) defines master plans as "*long-range plans that integrate infrastructure requirements for existing and future land use with environmental assessment planning principles, examining systems or groups of related projects to outline a framework for subsequent projects.*"

Master plans are broad, system-focused, and geographically distributed, with implementation phased over time.

This study follows Approach 1, completing Phases 1 and 2, integrating the five key EA principles: consultation, alternative consideration, environmental impact assessment, alternative evaluation, and traceable documentation.

The MSP allows Exempt projects to proceed immediately, supports Schedule B projects with additional evaluation and agency commitments, and identifies Schedule C projects for separate

studies to complete Phases 3 and 4, including an ESR. A Section 16 Order may only be requested for an individual project(s) (i.e. Schedule B or C projects) identified in the Master Plan.

2.5 Indigenous Community and Public Consultation

The public consultation process is essential for informing and obtaining input from potentially interested and affected parties during the study process. These include the local community, the public, government agencies, special interest groups and other stakeholders. Indigenous communities must also be consulted with regarding Treaty and Aboriginal rights through early, meaningful engagement. This process fosters reconciliation, protects cultural heritage and traditional knowledge, and addresses potential adverse impacts to the environment.

The objectives of Phase 1 of the MEA Municipal Class EA process with respect to public consultation are as follows:

- Present clear and concise information to the public and other stakeholders and to Indigenous Communities at key stages of the study process;
- Solicit community, regulatory, Indigenous Community, and local area municipality (LAM) staff input;
- Meet MCEA consultation requirements; and,
- To fulfill the consultation requirements of the MCEA document:
    - Build on past communication protocols and consultation plans from previous Class EA and municipal planning initiatives to ensure consistency and continuity;
    - Meet Indigenous Community, public and agency notification and consultation requirements for Phases 1 and 2 of the MEA Municipal Class EA (October 2000, as amended in 2015; and,
    - Complete additional tasks to enhance the proposed consultation program and overall Class EA process.

As part of this MSP, a communication and consultation plan has been developed. The main objective of the plan is to proactively engage the community, regulatory agencies, regional staff, and Indigenous Communities. More specifically, the plan is designed to:

- Ensure Indigenous Communities, the general public, regional and municipal councillors, stakeholders, external agencies (including federal and provincial), and special interest groups have an opportunity to participate in the study process;

- Ensure that factual information is provided to interested and affected Indigenous Communities, and stakeholders early and often throughout the study process; and,
- Contact external agencies to obtain legislative approvals or regulatory approvals, or to collect pertinent technical information.

The full Public Consultation process is detailed in **Volume 5 – Indigenous, Public, and Agency Consultation.**

3 Related Studies and Background Information

The following completed studies were reviewed and considered throughout the master planning process in the development of the preferred servicing strategies.

3.1 Niagara Region Water and Wastewater Master Plan Update

The 2021 Regional Master Plan Update (2021 MSPU) culminated in approximately $3 billion of recommended water and wastewater infrastructure projects to support long-term growth in the Region. Relevant to this Study, the Region's 2021 MSPU recommended the following for the Port Colborne water system:

- Elimination of the Felden Avenue Reservoir and Pumping Stations,
- Construction of a second Elevated Tank on the east side of the Welland Canal, and
- Construction of new large diameter regional watermains on Second Concession Road from Highway 140 to the Barrick Road Elevated tank, and on Highway 140 Street from Chippawa Road to Second Concession Road.

The Region of Niagara is currently updating this Master Plan (2026) to reflect current conditions and update Provincial growth plans. This study will build on the 2021 Water and Wastewater Master Servicing Plan.

It is noted that the growth forecast used in the Region's 2021 MSPU are now considered out of date for Port Colborne due to the recently announced development projects.

3.2 2023 Infrastructure Needs Study

In 2023, the City prepared an Infrastructure Needs Study (GM BluePlan, 2023). For the stormwater system, the project recommended an allowance of $10 million for storm sewer rehabilitation activities and $32 million for sewer upsizing. A total of $14 million of the upsizing recommendations were attributed to growth. The projects were recommended after a comprehensive review of the available data. However, it was recognized that additional data is necessary to build and calibrate a hydraulic model of the stormwater system to have confidence in the capital program.

For the water system, the project recommended a total of $60 million over 15 years to replace the majority of the cast-iron watermain in the system to improve fire flows. The report highlights that this MSP is necessary to understand growth-related water distribution system needs.

3.3 2025 Pollution Prevention Control Plan

The 2025 Pollution Prevention Control Plan (GEI, 2025) is an update to the City 2027 Pollution Prevention Control Plan. The 2025 PPCP involved the development of an infrastructure plan

servicing strategy to manage the wastewater system in anticipation of future growth expected in the City by 2051 and beyond. The final capital program recommends $33 million in sewer upgrades.

3.4 2023 Growth Analysis Review

In 2023, the City completed a Growth Analysis Review (Dillon, 2023). The report provides the City with an estimate of capacity for residential and employment growth, which directly impacts water distribution and stormwater management needs. The following points summarize the relevance to this Water and Stormwater MSP:

1. **Policy and Regulatory Context**:
    - The report outlines the Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe, which includes directives for efficient land use and infrastructure planning, including water and stormwater systems.
2. **Existing Conditions**:
    - The report assesses the current built-up areas, designated greenfield areas, and employment areas, all of which require adequate water distribution and stormwater management systems.
3. **Growth Management Implications**:
    - Recommendations for future growth are made to ensure that infrastructure plans, such as water distribution and stormwater management, align with the anticipated residential and employment growth.
4. **Recommendations and Next Steps**:
    - The report recommends updating the City's Development Charges By-law to reflect the infrastructure needs, including water distribution and stormwater systems, to support the projected growth.

By addressing these aspects, the document provides a framework for understanding and planning the necessary water distribution and stormwater management infrastructure to accommodate future growth in Port Colborne.

3.5 2024 Development Charges Background Study

The City completed a Development Charges Background Study in 2024, conducted by Watson & Associates. The Study identified a total of 12 projects for the City's water system, as shown in **Figure 3-1**. It is noted that Stormwater infrastructure is not a category in the Background Study, and therefore, no projects are identified.

Table 5-7
Infrastructure Cost Included in the Development Charges Calculation
Water Services

Prj.No	Increased Service Needs Attributable to Anticipated Development 2024 to 2036	Timing (year)	Gross Capital Cost Estimate (2024$)	Post Period Benefit	Other Deductions	Net Capital Cost	Less:		Potential D.C. Recoverable Cost		
							Benefit to Existing Development	Grants, Subsidies and Other Contributions Attributable to New Development	Total	Residential Share 78%	Non-Residential Share 22%
1	East Side Lands Water Infrastructure	2026-2030	23,100,000	-		23,100,000	-		23,100,000	18,018,000	5,082,000
2	W-3 - Main Street 300mm (1065m)	2030-2035	5,705,200	-		5,705,200	5,134,700		570,500	444,990	125,510
3	W-4 - Main Street East 300mm (675m)	2030-2035	1,865,100	-		1,865,100	1,193,700		671,400	523,692	147,708
4	W-5 - Highway 3 300mm (1640m - New Watermain)	2030-2035	4,182,600	-		4,182,600	-		4,182,600	3,262,428	920,172
5	W-7 - Lorraine Road 300mm (885m - New Watermain)	2035-2040	2,257,200	-		2,257,200	-		2,257,200	1,760,616	496,584
6	W-8 - Killaly Street East 300mm (1670m - New Watermain)	2030-2035	4,259,200	-		4,259,200	-		4,259,200	3,322,176	937,024
7	W-9 - Clarke Street 250mm (1320m - New Watermain)	2037	3,343,100	-		3,343,100	2,674,500		668,600	521,508	147,092
8	W-10 - King Street 250mm (845m)	2030	2,469,500	-		2,469,500	1,086,600		1,382,900	1,078,662	304,238
9	W-11 - Elm Street 250mm (710m)	2030	2,075,100	-		2,075,100	1,058,300		1,016,800	793,104	223,696
10	W-12 - Sugarloaf Street 250mm (1225m)	2030	3,102,800	-		3,102,800	2,234,000		868,800	677,664	191,136
11	W-13 - Elgin Street 300mm (440m - New Watermain)	2035-2040	1,122,300	-		1,122,300	-		1,122,300	875,394	246,906
12	W-14 - Rosemount Ave 300mm (770m - New Watermain)	2035-2040	1,636,600	-		1,636,600	-		1,636,600	1,276,548	360,052
	Post Period Adjustment			30,050,568		(30,050,568)	-		(30,050,568)	(23,439,443)	(6,611,125)
	Reserve Fund Adjustment					-	95,763		(95,763)	(74,695)	(21,068)
	Total		**55,118,700**	**30,050,568**	**-**	**25,068,132**	**13,477,563**	**-**	**11,590,569**	**9,040,644**	**2,549,925**

Figure 3-1: Identified Water System Projects in Port Colborne to Accommodate Growth (Watson, 2024)

3.6 East Side Employment Lands Servicing Review

In 2024, the City completed the East Side Employment Lands Servicing Review (GEI, 2024). The report developed water demand projections for the large parcels planned for development on the north-east side of the City. These estimates are used in this MSP because they represent the most current development plans in the City.

3.7 City of Port Colborne – Design and Development Manual

In 2024, the City developed the Design and Development Manual. The manual is intended as a guideline to:

- Establish a uniform criterion of expected standards.
- Promote consistency in the quality and consistency of design and construction for development and capital/operating projects.
- Provide a sound engineering basis for subdivision and site plan design.
- Improve processing of development applications.

The Design and Development Manual are used to help inform the system performance criteria.

3.8 City Infrastructure Information

3.8.1 GIS

The City maintains all water and stormwater infrastructure in a geographic information system (GIS). This information is utilized throughout the MSP to facilitate the analysis and present the results.

3.8.2 Water Billing

Water billing is a crucial piece of data for understanding future water demands. The water billing data were analyzed to understand consumption levels and trends in water demand.

3.8.3 Drinking Water Licence Permit

The Drinking Water Licence Permit (DWLP) for the Port Colborne water system is a foundational document that outlines the key elements and management requirements of the City's water system. The DWLP document is used to inform the system of its existing conditions and the system's performance criteria.

3.8.4 Stormwater System CLI ECA

The City stormwater system consolidated linear infrastructure environmental certificate of approval (CLI ECA) is a foundational document that outlines the key elements and management requirements of the City's stormwater system. The CLI ECA document is used to inform the system of existing conditions and the system performance criteria.

3.9 Field Investigation

3.9.1 Stormwater Flow Monitoring

30 flow monitors were installed from June to October 2024 throughout the storm sewer network. The data is used to calibrate the hydraulic model of the stormwater system.

3.9.2 Hydrant Testing Program

Hydrant pressure and flow tests were completed at 47 locations throughout the water distribution system. The data is used to calibrate the hydraulic model of the water distribution system.

3.10 Regional Data

3.10.1 Water Model

The Region updated their water model as part of the 2021 MSPU. This model served as the baseline for this MSP, with appropriate updates made to reflect infrastructure changes since 2021.

3.10.2 SCADA Data

The Region's water system SCADA data was provided for the years 2022 to 2024. The data is used to confirm water system demands and peaking factors and to calibrate the hydraulic model of the water distribution system.

4 Problem and Opportunity Statement

4.1 Planning and Opportunity Context

The City of Port Colborne is at a critical point in its water and stormwater management, facing pressures from aging infrastructure, increasing environmental pressure, and emerging growth opportunities. Positioned along Lake Erie and bisected by the Welland Canal, the City must address challenges such as deteriorating watermains, localized flooding, and stormwater quality concerns, while seizing opportunities to modernize systems and support sustainable development.

Key planning considerations include:

- **Aging Infrastructure**: Much of the City's water distribution and stormwater conveyance network consists of older materials (e.g., cast iron pipes, pre-1970s sewers), contributing to leaks, breaks, and capacity constraints.
- **Climate and Environmental Factors**: Intensifying storms and fluctuating Lake Erie levels increase flood risks, particularly in low-lying areas near the lakefront and canal, necessitating resilient infrastructure solutions.
- **Growth and Economic Potential**: Planned residential growth, seasonal tourism, and industrial prospects along the Welland Canal require a dependable water supply and stormwater management to enable development without compromising service levels.

Opportunities to advance the City's servicing vision include:

- **System Upgrades**: Replacing aging pipes and sewers can reduce maintenance costs, improve water efficiency, and enhance stormwater conveyance, ensuring long-term reliability.
- **Sustainable Practices**: Implementing low impact development (LID) techniques (e.g., rain gardens, permeable surfaces) and modern stormwater management facilities can effectively manage runoff, improve water quality discharged into Lake Erie, and complement Niagara Peninsula Conservation Authority's (NPCA) watershed management efforts.
- **Regional Integration**: Collaboration with Niagara Region on water supply enhancements and NPCA on floodplain strategies can optimize resources and align with broader servicing goals.

- **Community Resilience**: Enhanced water and stormwater systems can protect public safety, bolster property values, and reinforce Port Colborne's appeal as a lakeside community and economic hub.

This MSP capitalizes on these opportunities to develop a servicing strategy that ensures safe, efficient, and environmentally sound water and stormwater management, supporting Port Colborne's growth and resilience through 2051 and beyond.

4.2 Planning and Opportunity Statement

The problem and opportunity statement defines the principal starting point for undertaking this Class EA and assists in defining the project's scope. The problem and opportunity statement for the 2026 Water and Stormwater Master Servicing Plan is as follows:

The 2026 Water and Stormwater Master Servicing Plan will identify and develop a long-term water and stormwater servicing strategy and capital forecast to achieve the desired infrastructure performance objectives for existing and future residents and businesses, with consideration for expanding services to support critical employment opportunities. This will support projected future growth in the community to 2051 and consider potential impacts beyond 2051.

5 Study Area

The City of Port Colborne is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. The City is part of the Regional Municipality of Niagara and is in close proximity to the City of Welland and the City of Niagara Falls.

The City is strategically connected to surrounding municipalities via Highway 3 and regional road networks, providing access to the industrial and commercial areas of the Niagara Region.

The City of Port Colborne has a total area of approximately 122 km^2, with a 2021 Statistics Canada population of 20,033 residents and 5,120 employees. The study area for the Master Servicing Plan encompasses the water and stormwater systems within the municipal boundaries. The study area is shown in **Figure 5-1**.

Pelham

Niagara Falls

Welland

Wainfleet

Port Colborne

Fort Erie

Forkes Road

Third Concession Road

Second Concession Road

Main Street East

Killaly Street West

Killaly Street East

Main Street West

Highway 140

Chippawa Road

Miller Road

White Road

Brookfield Road

Neff Road

Wilhelm Road

West Side Road

Elm Street

Steele Street

Welland Street

Lorraine Road

Pinecrest Road

Highway 3

Sherkston Road

Holloway Bay Road North

Pleasant Beach Road

0 1 2 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

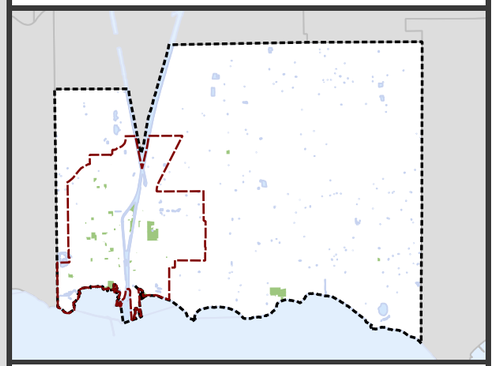


Figure 5-1
Study Area

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

6 Planning Context

6.1 Provincial and Federal Legislation and Policy Context

Port Colborne, like all municipalities in Ontario, must operate within the administrative, legislative, and financial framework established by senior levels of government. **Table 6-1** and **Table 6-2** summarize the key provincial and national initiatives that provide directives or require consideration in this MSP process.

Table 6-1: Provincial Legislation and Policy Context

Initiative Name	When Established, What It Does, Other Relevant Info	Why It's Relevant to the Water and Stormwater Master Plan
Provincial Policy Statement (PPS) 2024	Established 2024 (effective Oct 20, 2024); Consolidates PPS 2020 and A Place to Grow, promotes housing and infrastructure planning; Aligns with Bill 185.	Ensures coordinated, climate-resilient stormwater infrastructure and encourages green infrastructure and hazard avoidance near Lake Erie (Policies 2.8.1.1-3, 2.6.1.1).
Planning Act	Established 1946, amended 2006, updated 2024 (Bill 185); Governs land use planning, mandates plan updates; Enhances municipal authority and public input.	Provides a legal framework for integrating stormwater strategies with development, ensuring community input and flexibility.
Water Opportunities and Water Conservation Act, 2010	Established 2010; Promotes innovative water/stormwater technologies, sustainability plans; Sets conservation targets; Has had legislative amendments and a consolidation period up to Dec 2021	Encourages cutting-edge stormwater solutions and efficiency, directly enhancing the MSP's sustainability focus.
Safe Drinking Water Act, 2002	Established 2002; Regulates drinking water systems for safety, sets standards and enforcement; Ongoing amendments but core unchanged.	Indirectly supports stormwater by protecting drinking water sources from runoff contamination, aligning with water quality goals.
Clean Water Act, 2006	Established 2006; Protects drinking water sources via community plans and science-based actions; Ongoing amendments to update technical rules, threat tables, and keep plans current.	Addresses runoff threats to water sources, supporting stormwater management to prevent pollution in Port Colborne.
Ministry of Environment, Conservation and Parks (MECP) Procedures F-5-1 and F-5-5	Established pre-2000s, unchanged; Sets sewage treatment and CSO standards; Pollution Control Plans completed in Niagara Region.	Governs stormwater in combined sewers, ensuring treatment and overflow controls protect water quality and public health.
Bill 23: More Homes Built Faster Act, 2022	Established 2022 (effective Nov 28, 2022); Speeds housing via planning reforms; Amends Planning Act, aligns with PPS 2024.	Drives growth, necessitating robust stormwater systems to manage increased runoff from new development in Port Colborne.
Environmental Assessment Act	Established in 1975, amended over time; Requires environmental impact assessments for infrastructure; Aligns with the Planning Act and PPS 2024.	Ensures stormwater projects assess ecological and climate impacts, reducing risks and enhancing MSP credibility. The MSP will meet Ontario EA Act requirements.
Ontario Water Resources Act	Established 1990; Regulates water supply, sewage, pollution; Sets discharge standards; Complements Clean Water Act.	Governs stormwater outfalls and quality, ensuring compliance and protecting Lake Erie from pollution in the MSP.
Drainage Act	Established in the 19th century, manages rural drainage systems, cost-sharing, and Aligns with the Conservation Authorities Act.	Integrates stormwater with municipal drains, supporting flood prevention in Port Colborne's urban-rural mix.
Conservation Authorities Act	Established 1946, amended 2021; Empowers NPCA for watershed management, flood control; Supports green infrastructure per PPS 2024.	Regulates stormwater near water bodies, ensuring MSP aligns with local watershed standards and flood protection.
Great Lakes Protection Act	Established 2015; Protects Great Lakes ecosystems, reduces runoff pollutants; Encourages collaboration with the Clean Water Act.	Enhances MSP's focus on Lake Erie water quality, aligning stormwater strategies with regional ecological goals.
Migratory Birds Convention Act	Established in 1917, updated periodically; Protects migratory birds from harm; Bans harmful runoff in bird habitats.	Requires MSP to protect Lake Erie bird habitats, necessitating the implementation of runoff controls and timing adjustments to ensure ecological harmony.
Ontario Heritage Act	Established in 1990, updated periodically; Allows municipalities and Province to identify, protect, and conserve properties, archaeological sites, built heritage resources, and cultural heritage landscapes of cultural heritage value or interest	Requires the MSP to consider archaeological sites, built heritage resources, and cultural heritage landscapes in the final recommendations and implementation.

Table 6-2: Federal Legislation and Policy Context

Initiative Name	When Established, What It Does, Other Relevant Info	Why It's Relevant to the Water and Stormwater Master Plan
Fisheries Act	Established 1868, amended 2019 (effective Jun 21, 2019); Protects fish habitats, bans harmful discharges; Overseen by Fisheries and Oceans Canada.	Requires stormwater practices to safeguard Lake Erie fish habitats, ensuring compliance with habitat protection (Sections 35, 36).
Canada-wide Strategy for the Management of Municipal Wastewater Effluent	Established 2009, regulations 2012; Sets wastewater treatment standards, controls CSOs; Updated in 2024 to streamline approvals. (Administered under Fisheries Act)	Mandates CSO management in combined systems, aligning with F-5-5 to minimize stormwater/wastewater impacts on local waterways.
CCME Strategic Vision for Water	Established 2009; Guides water management with sustainability goals; Strategic updates as needed.	Indirectly supports stormwater through ecosystem protection and adaptive strategies, enhancing MSP's sustainability focus.
Canadian Environmental Protection Act - Inorganic Chloramines and Chlorinated Wastewater Effluents	Established pre-2009, chlorine rules 2009; Reduces Total Residual Chlorine (TRC) in wastewater to <0.02 mg/L; Requires Pollution Prevention (P2) plans.	Influences stormwater treatment to protect aquatic life, ensuring effluents meet federal quality standards for Lake Erie.
Impact Assessment Act	Established 2019; Assesses projects with federal impact; Requires Indigenous consultation, climate focus; Replaces 2012 act.	Ensures large stormwater projects comply with federal oversight, enhancing climate resilience and Indigenous engagement in the MSP.
Canadian Navigable Waters Act	Established in the 1800s, updated in 2019; Protects navigation, regulates works in waterways; Tiered review process.	Requires stormwater structures to preserve Lake Erie navigability, ensuring MSP avoids conflicts with shipping and boating.
Species at Risk Act	Established 2002; Protects endangered species/habitats; Requires permits for disruptions; Covers aquatic and bird species.	Ensures MSP avoids harming Port Colborne's biodiversity, supporting ecological compliance near wetlands and shorelines.
Migratory Birds Convention Act	Established in 1917, updated periodically; Protects migratory birds from harm; Bans harmful runoff in bird habitats.	Requires MSP to protect Lake Erie bird habitats, necessitating the implementation of runoff controls and timing adjustments to ensure ecological harmony.

6.2 Conservation Authority Regulation and Policy Context

The Conservation Authorities Act (1946, amended 2021) provides the legislative foundation for Ontario's Conservation Authorities (CAs). Section 20 mandates them to "establish and undertake programs designed to further the conservation, restoration, development, and management of natural resources," with a focus on watershed-level stewardship. For Port Colborne's MSP, this authority is pivotal, as CAs regulate water resources, natural hazards, and ecological health, directly influencing stormwater management strategies.

The study area lies within the NPCA watersheds. As a local agency, the NPCA manage water, natural heritage, and hazardous lands, offering technical expertise to municipalities under Planning Act agreements. They review development applications, providing comments based on provincially approved regulations and board policies, ensuring stormwater aligns with watershed goals.

The NPCA holds delegated authority from the Ontario Ministry of Natural Resources (MNR) and Ministry of Municipal Affairs and Housing to implement Section 3.1 (Natural Hazards) of the Provincial Planning Statement, 2024 (PPS 2024), reflecting Ontario's one-window planning approach. This role ensures that development avoids floodplains and erosion-prone areas—critical for Port Colborne, located near Lake Erie—enhancing MSP resilience.

Under Section 28 of the Conservation Authorities Act, NPCA administers Ontario Regulation 155/06. This prohibits altering watercourses, wetlands, or shorelines, and restricts development in river/stream valleys, hazardous lands, or adjacent zones without prior CA permits. For the MSP, this means stormwater projects (e.g., outfalls or drainage systems) require NPCA approval, ensuring minimal ecological disruption.

Additionally, NPCA maintains a Level II agreement with Fisheries and Oceans Canada (DFO) to review projects under Section 35 of the Fisheries Act, which protects fish habitats and their habitats. Their responsibilities include:

- Assessing fish habitat presence and potential project impacts;
- Collaborating with proponents to mitigate harm to fish and fish habitat;
- Issuing letters of advice for projects unlikely to cause harmful alteration, disruption, or destruction (HADD) of fish habitat;
- Referring unmitigated proposals to DFO for Fisheries Act authorization.

This oversight ensures that the MSP integrates fish habitat protection, aligning with federal and provincial water quality objectives and reinforcing sustainable stormwater management in Port Colborne.

6.3 Niagara Region

The key regional initiatives that provide directives and are considered under the Master Servicing Plan process are summarized below.

2023 – 2026 Regional Council Strategic Priorities

In 2023, the Regional Council established "Growing Better Together: Council Strategic Priorities 2023–2026" to guide the Region's development and sustainability efforts. These priorities include:

- **Green and Resilient Region:** Focusing on environmental sustainability, climate change adaptation, and resilient infrastructure, with specific projects like the Water and Wastewater Master Servicing Plan and Combined Sewer Overflow Control Program.
- **Connected and Accessible Region:** Enhancing transportation and connectivity, thereby indirectly supporting the integration of stormwater infrastructure.
- **Vibrant and Inclusive Communities:** Promoting inclusive growth and community well-being, ensuring public input on water-related projects.
- **Economic Prosperity and Innovation:** Supporting economic development, which may influence funding for stormwater initiatives.
- **Efficient and Effective Government:** Ensuring efficient governance and service delivery is crucial for implementing MSP strategies.

These priorities underscore the Region’s commitment to managing growth while protecting natural resources and adapting to climate change, which is directly relevant for this MSP, as they emphasize resilient infrastructure and water management.

Regional Climate Change Strategy

Niagara Region has declared a climate change emergency and is actively developing a Climate Action Plan to reduce greenhouse gas emissions and enhance climate resilience. The Region follows the Partners for Climate Protection Five-Step Milestone Framework, which includes:

- Creating a baseline emissions inventory and forecast.
- Setting an emissions reduction target.
- Developing a local action plan, currently in progress.

- Implementing the local action plan.
- Monitoring and reporting progress.

Recent actions include upgrades to the Niagara Falls Wastewater Treatment Plant boiler, which are expected to reduce carbon emissions by approximately 350 tonnes, and the formation of a corporate Climate Change Working Group to develop projects and policies.

This strategy is particularly relevant for this MSP, as it addresses climate resilience, adaptation to increased rainfall, and emission reductions from water treatment processes, all of which have a direct impact on stormwater management.

Niagara Official Plan

The New Niagara Official Plan, adopted in 2022, integrates climate change policies, including objectives to reduce greenhouse gas emissions and increase resiliency. It provides a framework for land use planning that accounts for climate change impacts and adaptation strategies, with specific policies on natural heritage and water resource systems.

This is relevant for this MSP by aligning stormwater strategies with regional land-use planning, ensuring climate-resilient infrastructure and protecting water quality.

Niagara Watershed Plan

The Niagara Watershed Plan, finalized in May 2022, supports the protection, enhancement, and restoration of natural resources within the watersheds, with a particular emphasis on water resources. It provides goals and policies for maintaining water quality and quantity, informed by stakeholder engagement and scientific analysis.

This is important for this MSP, as it informs stormwater management strategies at the watershed scale, ensuring alignment with regional water quality and ecological goals.

Stormwater Management Design Guidelines

Niagara Region finalized the Stormwater Management Design Guidelines in 2022, encouraging an ecosystem-first approach for planning, design, and review of stormwater management in new land development, redevelopment, and infrastructure renewal projects. These guidelines promote balanced and sustainable communities while protecting the natural environment, complementing Provincial and local legislation.

This is important for this MSP as it provides consistent, science-based standards for stormwater management, ensuring effective runoff control and environmental protection in Port Colborne.

6.4 City of Port Colborne Official Plan

The City of Port Colborne Official Plan was completed in 2013 and consolidated in 2017 and again in 2020. It outlines various policies and guidelines for the City's development, including sections on natural heritage, land use, community improvement, and other relevant topics.

Specifically, the document relates to water distribution and stormwater management in the following ways:

1. **Section 8: Servicing and Stormwater Management**
    - **Water and Sanitary Servicing (8.1)**: This section outlines the requirements for new developments to be connected to full municipal water services and municipal sanitary services within the urban area. It also outlines the policies for servicing areas outside urban areas, emphasizing the use of individual on-site sanitation services and water services.
    - **Stormwater Management (8.2)**: This section details the requirements for managing stormwater on-site to prevent adverse impacts on neighboring properties and the surrounding area. It includes the need for stormwater management plans and sediment and erosion control plans for new developments.
2. **Design Guidelines for Stormwater Management (8.2.1)**
    - This subsection provides guidelines for designing stormwater management facilities that serve as visual features within the community, integrating them into subdivision and neighborhood designs, and ensuring they are naturalized with native plants.
3. **Source Water Protection (8.3)**
    - This section identifies intake protection zones (IPZ-1 and IPZ-2) that are susceptible to contamination and outlines policies to protect these areas from significant threats to municipal drinking water.

These sections collectively ensure that water distribution and stormwater management are effectively planned and managed to support sustainable development and protect public health and the environment in Port Colborne.

In 2024, the City of Port Colborne initiated the process for its new Official Plan. The new Official Plan will guide the City's planning and development initiatives through the year 2056 and is being developed to align with the Provincial Policy Statement (2024).

7 Planning and Growth Projections

7.1 Past and Current Growth Forecasts

This section summarizes the various past and current growth forecasts produced for Port Colborne.

For the purposes of this Master Servicing Plan, future growth projections will utilize 2021 as the current baseline year. The 2021 date is used as it aligns with the Census year, allowing for accurate accounting of populations.

7.1.1 Official Plan

The City completed an official plan in 2013 (updated in 2017 and 2020) with growth forecasts to 2031. Those forecasts are summarized below.

Table 7-1: 2013 Official Plan Population Forecasts

Year	Absolute Growth		Growth Relative to 2021	
	Population	Jobs	Population	Jobs
2006	19,300	6,800	-3,300	-1,550
2011	20,000	7,730	-2,600	-620
2016	21,200	7,860	-1,400	-490
2021	22,600	8,350	0	0
2026	23,500	8,770	900	420
2031	24,100	9,070	1,500	720

7.1.2 2023 Growth Analysis Review

In 2023, the City prepared a Growth Analysis Review (Dillon Consulting; 2023). One of the project goals was to provide the City with an estimate of the capacity for residential and employment growth. The process involved identifying all vacant lands in the City, and categorizing each one based on its development status or long-term development opportunity. The study then looked at forecasted residential unit construction rates to identify the number of units expected to be occupied by 2051 and to estimate the 'years of supply' remaining of residential housing.

To convert the Growth Analysis Review outcome residential units into equivalent population using the population per unit values as listed in **Table 7-2**. For perspective, Table 3-1 of the 2024 Development Charges Background Study includes the following population per unit information:

- Historical city-wide actual persons per unit of approximately 2.3
- Forecasted persons per unit of 2.2 in 2036

Table 7-2: Growth Analysis Review Summary

	Policy Area		Total
	Built Up Area (units)	Designated Greenfield (units)	
Development Pipeline[1]	865	3,284	4,149
Vacant Lands	427	1,362	1,789
Intensification/ Redevelopment	510	0	510
Total Units	1,802	4,646	6,448
Number of Units Expected by 2051	690	1610	2,300
# Low Density Units	513	2505	3,018
# Medium Density Units	381	1737	2,118
# High Density Units	918	394	1,312
Total Units	1,812	4,636	6,448
People Per Unit - Low Density	3.0	3.0	
People Per Unit - Medium Density	2.5	2.5	
People Per Unit - High Density	2.0	2.0	
Total Population - Build Out	**4,328**	**12,646**	**16,973**
Total Population - 2051	**1,657**	**4,382**	**6,039**
Average People Per Unit	**2.39**	**2.73**	**2.63**

7.1.3 2024 Development Charges Background Study

The City completed a Development Charges Background Study in 2024, conducted by Watson & Associates. The population and employment forecasts are summarized in **Table 7-3** below.

Table 7-3: Development Charges Population Forecasts

	Absolute Growth		Growth Relative to 2021	
Year	Population	Jobs[1]	Population	Jobs
2011	18,424	5,035	-1,609	-200
2016	18,306	4,870	-1,727	-365
2021[2]	20,033	5,235	0	0
2024	20,397	5,312	364	77
2036	24,255	6,478	4,222	1,243

1 – Excluding Work from Home and No Fixed Place of Work employees

2 – 2021 Jobs number not provided in report. Value has been estimated based on population values.

7.1.4 East Side Employment Lands Servicing Review

In 2024, the City completed the East Side Employment Lands Servicing Review (GEI; 2024). The report developed water demand projections for six large parcels with significant development plans on the north-east side of the City, including the major residential development area (refer to **Figure 7-1**).

These parcels have unique water demands due to the nature of the industrial development planned for the sites. Therefore, the estimates in **Table 7-4** will be used in this MSP, because they represent the most current development plans in the City and tailored to these planned significant developments.

Table 7-4: Growth Forecast

Development Name	Land use	Units	Area (ha)	Density	Population (Jobs / Person)	Average Day Demand (L/s)[2]	Maximum Day Demand (L/s)[3]
East Side Employment Lands (ESEL)	Industrial	-	130.0	40 people per hectare	5,200	16.25	25.5
Site 1[4]	Industrial	-	92.0	-	-	27.8	50.3
Site 2[4]	Industrial	-	58.0	-	-	78.3	87.5
Unnamed Industrial Development	Industrial	-	100.0	40 people per hectare	4,000	12.5	19.6
Site 3[4]	Industrial	-	31.0	-	-	15.6	31.3
Elite Homes	Residential - Singles	1,027	44.7	2.929 People Per Unit[1]	3,008	8.4	13.1
Elite Homes	Residential - Towns	1,215	52.5	2.093 People Per Unit[1]	2,543	7.1	11.1
Elite Homes	Commercial	-	3.0	40 people per hectare	100	0.3	0.5
Total			**511.2**			**166.2**	**238.9**

1 – From Niagara Region Development Charges Background Study (2022)
2 – 270 L/capita/day for Jobs and 240 L/capita/day for Residential per Niagara Region Master Servicing Plan.
3 – Maximum Day Peaking Factor of 1.57 from ESEL Servicing Review.
4 – Average and Maximum Day Demand previously calculated by developer based on anticipated processes – values do not use criteria from Notes 2 and 3.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Growth Areas
- Development Database
- Development Review
- INS Future Development Area
- INS Pipeline Lands
- INS Vacant Lands

Zoning
- Commercial
- Farm
- Government
- Industrial
- Institutional
- Land
- Residential
- Special Purpose

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Parks
- NPCA Approximate Regulation Lands
- Waterbody

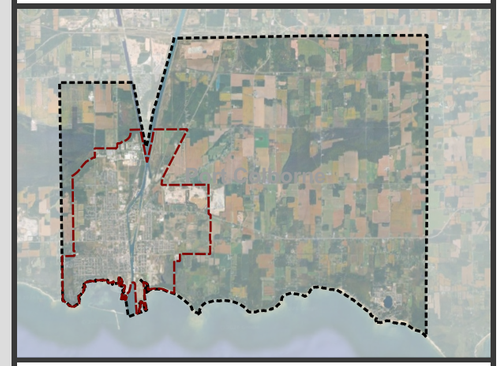


Figure 7-1
Anticipated Development

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

7.1.5 Pollution Prevention Control Plan Project

The City is completing this Water and Stormwater MSP in sync with the Pollution Prevention Control Plan (PPCP) project. The information presented below is from Q3 of 2024 and is considered the most accurate based on the most recent development plans related to the East Side Employment Lands and other important large-scale planned developments.

The following points summarize the latest planning information:

1. There are 16 parcels in the 'Development Review Process' category. This means that owners have submitted their development plans and are waiting on City approval to begin the process of constructing properties.
2. There are 6 parcels in the 'Development Database' category. This means that owners have had preliminary discussions with the City regarding developing the land, and have submitted preliminary plans for what they want to construct.
3. There are 20 parcels in the 'Development Pipeline' category. This means that owners have had preliminary discussion with the City regarding developing the land, but have not submitted any information to the City.
4. There are 8 parcels in the 'Future Development' category. These parcels have longer timelines but are designated for greenfield residential and are considered more favourable for development.
    - Through consultation with the City, the Development Pipeline Parcels South of Second Concession Road and East of Highway 140, currently comprising the Port Colborn Quarries, should be excluded from the future growth planning considerations.
5. There are 92 'Vacant Lands' category. This means that the parcels are vacant and designated for residential development.

The PPCP report contained a Residential and Employment population forecast for parcel, as well as the area. **Table 7-5** summarizes the information. It is apparent that the estimated residential growth of 18,435 is indicative of a 'greater than build-out' scenario when compared against the information in **Table 7-2** which suggests an ultimate build-out growth of approximately 17,000 people using an average density of 2.63 people per unit. The PPCP forecasts exceed this estimate and also do not include any growth on the Vacant Lands parcels.

7.1.6 Additional Growth Information

Additional information has recently become available for the ESEL parcel. These updates are summarized in **Table 7-6**.

Table 7-5: PPCP Population and Employment Forecasts (Build-Out Scenario)

Status	Number of Properties	Residential Population per PPCP	Employment Population per PPCP	Area (ha)
Development Review	16	6,023	23,142	526
Development Database	6	1,876	0	77
Development Pipeline	21	4,149	0	112
Future Development[1]	8	6,387	6,570	201
Vacant Land	92	0	0	114
Total	**144**	**18,435**	**29,712**	**1,030**

1 – Through consultation with the City, the Development Pipeline Parcels South of Second Concession Road and East of Highway 140, currently comprising the Port Colborn Quarries, should be excluded from the future growth planning considerations. Resulting in a 5,825 reduction in residential growth (reduced to 787) and a 6,570 reduction in employment growth (reduced to 0).

7.1.7 Summary of Population Growth Forecasts

Table 7-7 summarizes population forecasts and timelines from each of the individual data sources. Due to the unique nature of the East Side Employment Lands development, a comparison of jobs forecasts is not presented.

Table 7-6: Updated East Side Employment Lands Growth Forecast

Development Name	Land use	Units	Area (ha)	Density	Population (Jobs / Person)	Average Day Demand (L/s)[2]	Maximum Day Demand (L/s)[3]
ESEL Excl. Site 4	Industrial	-	135	40 people per hectare	5,200	16.875	26.5
Site 4[4]	Industrial	-	10	Process-Based	-	18.1	29.7
Site 1[4]	Industrial	-	92.0	Process-Based	-	27.8	50.3
Site 2[4]	Industrial	-	58.0	Process-Based	-	78.3	87.5
Unnamed Industrial Development	Industrial	-	100.0	40 people per hectare	4,000	12.5	19.6
Site 3[4]	Industrial	-	31.0	Process-Based	-	15.6	31.3
Elite Homes	Residential - Singles	1,027	44.7	2.929 People Per Unit[1]	3,008	8.4	13.1
Elite Homes	Residential - Towns	1,215	52.5	2.093 People Per Unit[1]	2,543	7.1	11.1
Elite Homes	Commercial	-	3.0	40 people per hectare	100	0.3	0.5
Total			**526.2**			**184.9**	**269.6**

1 – From Niagara Region Development Charges Background Study (2022)
2 – 270 L/capita/day for Jobs and 240 L/capita/day for Residential per Niagara Region Master Servicing Plan.
3 – Maximum Day Peaking Factor of 1.57 from ESEL Servicing Review.
4 – Average and Maximum Day Demand previously calculated by developer based on anticipated processes – values do not use criteria from Notes 2 and 3.

Table 7-7: Population Forecast Summary

Information Source	2021 Population	2031		2031		2051		Build-Out	
		Population	Growth Relative to 2021	Population	Growth Relative to 2021	Population	Growth Relative to 2021	Population	Growth Relative to 2021
2013 Official Plan	22,600	24,100	1,500						
2024 Development Charges Background Study	20,033			24,255	4,222				
2023 Growth Report	20,033					26,072	6,039	36,826	16,793
Ongoing PPCP	20,033							38,468	18,435

7.2 Growth Forecast Scenario

For the purposes of this MSP, we have developed two (2) planning scenarios consisting of:

- **Buildout Scenario:** This represents the full buildout of the City's current urban boundary and additional development of the employment lands along the Welland Canal. This scenario is being used to identify potential long-term servicing needs and used to appropriately size infrastructure upgrades:
- **2051 Growth Scenario:** This represents the most likely 2051 growth scenario, as identified by the City. The MSP 2051 capital program will be based on the upgrades triggered by the infrastructure needed to service the development parcels and total residential and employment growth by 2051.

7.2.1 Buildout Scenario

The Buildout scenario is based on the following assumptions for each development status category:

- INS Pipelines Lands (21 parcels)
    - Population density and growth forecasts originally from the 2023 Growth Planning Report (Dillon; 2023. Table 3, Page 20).
    - Some updates completed as part of the ongoing PPCP project (GEI; 2025).
    - Highest density of 700 people per hectare, under 20 people per hectare for the three largest parcels.
- INS Future development (7 parcels)
    - Density of 70 people per hectare as 7 Residential parcels
- Develop Database (5 parcels)
    - Residential population of 4 parcels based on PPCP information (ranging from 70 to 399 people per hectare).
    - Density of 70 people per hectare for 1 parcel since the PPCP information indicated a value of 0.
- Development Review (16 parcels)
- 4 large industrial parcels are based on process flow information provided by the developer
    - 2 large industrial parcels are based on 40 jobs per hectare (Unnamed Industrial, ESEL)

    - 1 large mixed-use parcel is based on information provided by the developer (Elite Homes)
    - Residential or Employment of 10 parcels based on PPCP information (ranging from 90 to 441 people per hectare).
- Vacant lands (92 parcels)
    - Density of 70 people per hectare for 86 Residential parcels under 5 hectares
    - Density of 60 people per hectare for 6 Residential parcels over 5 hectares

Table 7-8 summarizes the total buildout growth scenario by population, water demands, and impervious area. Meanwhile, **Figure 7-1** highlights the individual development blocks.

7.2.2 2051 Growth Scenario

The 2051 Growth Scenario reflects the appropriate development scenario for the purposes of establishing the capital program to meet a target servicing need. The 2051 Growth Scenario has been estimated based on prioritizing the development likely to occur based on their Development Status. The priority order is as follows:

- Development Review and Development Database parcels
- Future Development Area parcels
- Pipeline Lands parcels
- Vacant Lands parcels

For the purposes of forecasting realistic 2051 servicing needs, an estimated percent completed is applied to each development status category.

Table 7-8: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Development Status	Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)[1]	Total Average Day Demand (L/s)	Area (ha)
Development Database	1,043	3			3	11
Development Review	6,132	17	10,271	173	190	526
INS Future Development Area	787	2			2	11
INS Pipeline Lands	4,149	12			12	112
INS Vacant Lands	7,057	20			20	114
Total	**19,167**	**53**	**10,271**	**173**	**226**	**774**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors in Volume 3

Table 7-9: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Status	% Complete by 2051	2051 Forecasted Values					
		Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)[1]	Total Average Day Demand (L/s)	Area (ha)
Development Database	100%	1,043	3	0	0	3	11
Development Review	100%	6,132	17	10,271	173	190	526
INS Future Development Area	100%	787	2	0	0	2	11
INS Pipeline Lands	50%	2,075	6	0	0	6	56
INS Vacant Lands	20%	1,411	4	0	0	4	23
Total		**11,447**	**32**	**10,271**	**173**	**204**	**627**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors in Volume 3

8 Servicing Principles and Design Criteria

To ensure the City's water and stormwater system operates efficiently and that it's performance can meet existing and future needs of the system's users, clear system performance criteria must be established. As part of this MSP, the design criteria and hydraulic performance criteria were reviewed to confirm that system performance objectives appropriately inform the sizing and timing of future infrastructure, such as watermains, while also supporting the identification and planning of upgrades required to address system deficiencies.

8.1 Level of Service and Performance Criteria

The recommended LOS objectives and performance criteria are based on a review of the City's Design and Development Manual, the Regional Municipality of Niagara 2021 Water and Wastewater Master Servicing Plan Update (MSPU), applicable Ministry and agency requirements, available background studies, and existing system performance.

The design criteria were reviewed as part of this MSP to confirm that they are accurate and to support the sizing and timing of future infrastructure. The water design criteria are outlines in Volume 3, and the stormwater design criteria are provided in Volume 4.

9 Natural Environment Existing Conditions

9.1 Policy Context

9.1.1 Provincial Policy Statement

The Provincial Policy Statement (PPS), issued under Section 3 of the Planning Act, came into effect on April 10, 2024, replacing the PPS issued May 1, 2020 (note that Port Colborne falls within Ecoregion 7E).

The natural heritage policies of the PPS (MMAH 2024) state that:

- 4.1.1 Natural features and areas shall be protected for the long-term;
- 4.1.2 The diversity and connectivity of natural features, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored, or, where possible, enhanced, recognizing linkages among natural heritage features, surface water, and groundwater features;
- 4.1.3 Natural heritage systems shall be identified in southern Ontario, including Ecoregion 7E, varying in size and form across settlement, rural, and agricultural areas;
- 4.1.4 Development and site alteration shall not be permitted in:
    - Significant wetlands, or
    - Significant coastal wetlands;
- 4.1.5 Unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:
    - Significant woodlands,
    - Significant valleylands,
    - Significant wildlife habitat,
    - Significant areas of natural and scientific interest, and/or
    - Other coastal wetlands not covered by policy 4.1.4(b);
- 4.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements;
- 4.1.7 Development and site alteration shall not be permitted in the habitat of endangered and threatened species except in accordance with provincial and federal requirements;
- 4.1.8 Development and site alteration shall not be permitted on lands adjacent to the natural heritage features and areas identified in policies 4.1.3, 4.1.4, and 4.1.5 unless

the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

9.1.2 Species at Risk Act

At a federal level, species at risk designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment, species are added to the federal List of Wildlife Species at Risk (Government of Canada 2002). Species that are included on Schedule 1 as endangered or threatened are afforded protection of critical habitat on federal lands under the Species at Risk Act (SARA). On private or provincially owned lands, only aquatic species listed as endangered, threatened, or extirpated and migratory birds are protected under SARA, unless ordered by the Governor in Council.

9.1.3 Endangered Species Act

Species at risk designation for species in Ontario are initially determined by the Committee on the Status of Species at Risk in Ontario (COSSARO), and if approved by the provincial Minister of Natural Resources and Forestry, species are added to the provincial Endangered Species Act (ESA), which came into effect June 30, 2008 (Ontario 2007). The legislation prohibits the killing or harming of species identified as endangered or threatened in the various schedules to the Act. The ESA also provides habitat protection to all species listed as threatened or endangered. As of June 30, 2008, the Species at Risk in Ontario (SARO) List is contained in O. Reg. 230/08.

9.1.4 Fisheries Act

The purpose of the Fisheries Act is to maintain healthy, sustainable, and productive Canadian fisheries through the prevention of pollution and the protection of fish and their habitat. In 2012, changes were made to the Fisheries Act to enhance Fisheries and Oceans Canada (DFO) ability to manage threats to Canada's commercial, recreational, and Aboriginal (CRA) fisheries. The Fisheries Act received royal assent and became law as of June 21, 2019.

Projects affecting waterbodies supporting Canada's CRA fisheries must comply with the provisions of the Fisheries Act. The proponent is responsible for determining whether the project is likely to cause impacts to CRA fish and, if so, whether these impacts can be avoided or mitigated.

9.1.5 Migratory Birds Convention Act

The Migratory Birds Convention Act (MBCA) was established in 1917 and amended in 1994 and 2005, to protect migratory birds, their eggs, and their nests. The MBCA was created to implement the Migratory Birds Convention between Canada and the United States. The Act

lists protected families and subfamilies of migratory birds and lays out legislation surrounding activities that may impact migratory birds or nests, including when and where activities may occur.

9.1.6 Niagara Region Official Plan

The Niagara Official Plan, adopted in 2022, embeds climate change policies to cut greenhouse gas emissions and boost resiliency. It guides land use planning with adaptation strategies, prioritizing natural heritage and water resource systems. The plan aligns stormwater management with regional goals, promoting climate-resilient infrastructure and water quality protection.

Section 7, "Natural Environment," outlines the Core Natural Heritage System, updated in 2022. Section 7. A applies region-wide, allowing development in Earth Science Areas of Natural and Scientific Interest (ANSIs) if no significant negative impacts occur (Policy 7.A.4.1) and permitting linear utilities if alternatives are absent and impacts minimized (Policy 7.A.4.3). Section 7. B details the Core Natural Heritage System (Policy 7.B.1.1), comprising:

- Core Natural Areas (Environmental Protection Areas and Environmental Conservation Areas)
- Potential Natural Heritage Corridors
- Greenbelt Natural Heritage and Water Resources Systems;
- Fish Habitat.

Environmental Protection Areas (Policy 7.B.1.3) include provincially significant wetlands, Life Science ANSIs, and habitats of threatened and endangered species. Additionally, within the Greenbelt, these areas encompass wetlands, significant valleylands, woodlands, wildlife habitats, and rare ecosystems, such as savannahs. Environmental Conservation Areas (Policy 7.B.1.4) cover significant woodlands, wildlife habitats, regionally significant ANSIs, and other natural features. Threatened and endangered species habitats, although part of the system, are unmapped and identified through planning reviews (Policy 7.B.1.3), with development subject to strict protection.

Policy 7.B.1.14 permits essential linear utilities (e.g., transportation, communication) within the system, provided they are approved by provincial or federal Environmental Assessments, thereby balancing infrastructure needs with conservation. The 2022 plan enhances these policies by incorporating climate-focused objectives, integrating resilience and sustainable land use across Niagara's framework.

9.2 Ecological Features and Function

This section provides a detailed description of the existing environmental conditions within the study area, organized by ecological feature or function.

9.2.1 Wetlands

The designation of wetlands as either regionally or provincially significant is completed through a standardized assessment process developed by the MNR, the Ontario Wetland Evaluation System (OWES). Provincially significant wetlands are protected under Section 2.1 of the Provincial Policy Statement (2024), which prohibits development and site alteration in provincially significant wetlands and coastal wetlands. In addition, development and site alteration on adjacent lands is permitted only if the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or ecological functions. Wetlands are also included in the Natural Areas System of the Niagara Escarpment Plan (2017), the Core Natural Heritage System of Niagara Region's Official Plan, and the City of Port Colborne Official Plan.

9.2.2 Niagara Region Core Natural Heritage System

The Niagara Region's Core Natural Heritage System consists of:

- Core Natural Areas, classified as either Environmental Protection Areas or Environmental Conservation Areas;
- Potential Natural Heritage Corridors connecting the Core Natural Areas;
- The Greenbelt Natural Heritage and Water Resources Systems; and,
- Fish Habitat.

As defined in the Region's Official Plan, Environmental Protection Areas include provincially significant wetlands, provincially significant Life Science Areas of Natural and Scientific Interest (ANSIs), and significant habitat of threatened and endangered species. In addition, within the Greenbelt Natural Heritage System, Environmental Protection Areas also include wetlands, significant valley lands, significant woodlands, significant wildlife habitat, significant habitat of species of concern, publicly owned conservation lands, savannahs, tallgrass prairies, and alvars. Environmental Conservation Areas include significant woodlands, significant wildlife habitat, significant habitat of species of concern, regionally significant Life Science ANSIs, other evaluated (e.g., regionally significant) wetlands, significant valley lands, savannahs, tallgrass prairies, alvars, and publicly owned conservation lands.

Although included within the Core Natural Heritage System, significant habitats of threatened and endangered species are not included in the Core Natural Heritage Areas. Rather, the

Region's Official Plan states that these habitats are identified through the Planning and Development review process. **Figure 9-1** shows the natural heritage system in Port Colborne.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

- NPCA Approximate Regulation Lands
- Groundwater Protection Areas
- Intake Protection Zone
- Parks

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

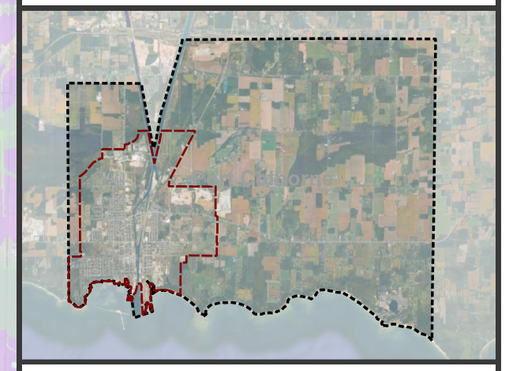


Figure 9-1
Natural Heritage System

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 1 2 km

9.2.3 Life Sciences ANSIs

ANSIs are defined in the Provincial Policy Statement (2024) as:

"Areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study, or education."

The MNR evaluates ANSIs to determine whether they are provincially or regionally (locally) significant. This evaluation takes into consideration the value of the area for conservation, scientific study, and education. Both provincially and regionally significant ANSIs are included in the Escarpment Natural Areas under the Niagara Escarpment Plan. ANSIs are designated as Earth Science or Life Science depending on whether they contain significant geological features (e.g., rock, fossil, and landform features) or biological features (e.g., natural landscapes, ecological communities, plant, and animal species), respectively. Provincially and regionally significant Life Science ANSIs are included in Niagara Region's Core Natural Heritage System.

9.2.4 Provincial Parks

Short Hills Provincial Park (660 ha) is in the centre of the Niagara Peninsula bordering the City of St. Catharines, City of Thorold, and the Town of Pelham. Located at the southern edge of the Niagara Escarpment, the park contains small, but steep hills ("short hills"). Located in the Carolinian Zone, the park is home to many rare plant species, including Sassafras and Black gum trees. Wildlife recorded in the park includes mammals such as Brush wolves and White-tailed deer, as well as bird species which include Great horned owl, Indigo bunting, Bobolink, and Scarlet Tanager. Amphibians and Reptiles found in the park include Eastern milksnake, Butler snake, Leopard frog, American toad, Red-backed salamander, and the Brown snake (Friends of Short Hills Park, 2010).

9.2.5 Conservation Areas

The Study Area falls within the boundaries of the NPCA watershed. The NPCA owns conservation lands across the study area. There are two Conservation Areas, Mud Lake and Humberstone Marsh.

9.2.6 Fish and Fish Habitat

Fish communities are generally classified according to the thermal preference of the dominant species of the fish community found within the waterbody or watercourse. Watercourses classified as cold water have a mean summer surface water temperature of less than 19°C or contain characteristic cold-water fish (e.g., salmon, trout, or sculpin species) or invertebrate species. Watercourses classified as cool water have a mean summer surface water temperature between 19°C and 25°C or contain characteristic fish (e.g., Walleye or Northern Pike) or

invertebrate species. Warmwater watercourses have a mean summer surface water temperature greater than 25°C and contain a fish community often characterized by Largemouth bass, Bluegill, carp, bullheads, or Bowfin, as well as characteristic invertebrate species. A watercourse is classified as "unknown" if there is no temperature information or data are not sufficient to classify as either cold, cool, or warm.

Within Niagara Region, watercourses have also been classified into three fish habitat categories (critical, important, marginal), based on the sensitivity and significance of the existing and potential fish habitats, to assist with resource management decisions (MNR, 2000). The MNR's database contains records of 97 fish species that occur within the Niagara Region. The study area encompasses portions of the Lake Ontario Watershed, Niagara River Watershed, and Lake Erie Watershed.

9.3 Natural Environment

9.3.1 Physiography

The study area falls predominantly in the Haldimand Clay Plain, with small amounts of limestone plain and Peat and Muck. There is a small area of sand plain on the shore of Lake Erie, with an esker running south easterly.

9.3.2 Haldimand Clay Plain

The Haldimand Clay Plain extends south from the Niagara Escarpment to Lake Erie. The region is composed of a series of parallel belts or terraces, with the highest elevation adjacent to the Escarpment. The overburden material increases in depth towards the south and consists of lacustrine clays, which were deposited during the period of inundation by pro-glacial Lakes Warren and Lundy. Higher relief and ridges in the west generally direct drainage to the east, including Twenty Mile Creek and the Welland River. Some watercourses, such as Twenty Mile Creek, have carved deep valleys through the Escarpment and drain into Lake Ontario.

9.3.3 Carolinian Forest Ecoregion

The study area lies within Ecoregion 7E, the Carolinian Forest Ecoregion, as defined by the MNR as a region characterized by consistent vegetation patterns shaped by climate and flat, sediment-rich landforms. Covering less than 2% wetlands, it boasts Canada's highest biodiversity, with ~2,200 plant species, 70 trees, and 400 birds (MNR, 2007). The Niagara Escarpment, a globally significant landform, traverses the northern study area, encompassing diverse habitats, such as wooded slopes, cliffs, and forests, that support over 1,500 plant species, 325 bird species, 55 mammal species, and 34 reptile and amphibian species (Niagara Escarpment Commission, 2010b). It includes key sites, such as Short Hills Provincial Park, and significant ANSIs. Part of the Deciduous Forest Region, the Carolinian Zone features a warm, moist climate and fertile soils, characterized by oaks, hickories, and rare species such as

Sassafras. Despite its small size (less than 1% of Canada), it holds a third of Canada's endangered species, including the Grey Fox, Massasauga Rattlesnake, and Red-bellied Woodpecker (Carolinian Canada, 2010).

9.3.4 Aquatic Environment

The study area encompasses portions of two watersheds: the Niagara River Watershed and the Lake Erie Watershed.

Lands in the central portion of the study area drain into the Niagara River, a channel or isthmus approximately 58 km in length that flows from Lake Erie to Lake Ontario. Near the midpoint of the Niagara River, an abrupt elevation drop of 51 m at Niagara Falls separates the Lower and Upper segments of the River. In 1987, the Niagara River was designated as an Area of Concern by the International Joint Commission due to degraded water quality resulting from nutrient pollution and rural runoff, sedimentation, contaminants from industrial and municipal sources, and combined sewer overflows (Environment Canada, 2010). The Niagara River Watershed contains four drainage basins.

Lands in the southern portion of the watershed drain into Lake Erie. This drainage occurs primarily through small streams and tile drains created to drain the Haldimand Clay Plain, generally flowing south from the Onondaga Escarpment to Lake Erie. The entire Lake Erie Watershed covers less than 20 km2. Within the study area, this watershed contains two drainage basins.

9.4 Lakes and Waterways

Port Colborne is shaped by a network of lakes and rivers that define its aquatic environment. The most prominent water body is Lake Erie, which borders Port Colborne to the south. This shallow, warm-water lake supports a diverse fish population, including largemouth bass and bluegill species, and serves as a critical drainage endpoint for the region's southern watershed. As noted in regional ecological studies, small streams and tile drains from the Haldimand Clay Plain flow south into Lake Erie, covering a watershed area of less than 20 km^2 near Port Colborne.

The Welland Canal is another defining feature, not a natural river, but a vital engineered waterway that bisects Port Colborne. Connecting Lake Erie to Lake Ontario, it facilitates shipping and influences local hydrology by managing water flow across the Niagara Peninsula. The canal's southern entrance at Port Colborne integrates it into the broader Niagara River Watershed, which drains central Niagara lands and includes four basins. While the Niagara River lies east of Port Colborne, its watershed's influence extends via the canal, indirectly linking the city to this 58 km river that drops 51 m at Niagara Falls.

Nearby, the Welland River, which flows east through the Niagara Region, does not directly enter Port Colborne but contributes to the Niagara River Watershed, thereby impacting regional water dynamics. Smaller tributaries, such as Twenty Mile Creek, located further north, carve through the Niagara Escarpment into Lake Ontario, outside Port Colborne's immediate vicinity, but are part of the interconnected system. Together, Lake Erie, the Welland Canal, and the Niagara River Watershed form a rich aquatic landscape, striking a balance between natural drainage and human engineering, while supporting biodiversity and underpinning Port Colborne's identity as a waterfront community.

9.5 Geological and Hydrogeological Conditions

Port Colborne exhibits distinct geological and hydrogeological conditions shaped by its position within the Haldimand Clay Plain and proximity to the Welland Canal and Niagara Escarpment. Geologically, the area lies on the Haldimand Clay Plain, characterized by lacustrine clays deposited by pro-glacial Lakes Warren and Lundy. These fine-grained sediments overlay sedimentary bedrock, forming a flat, low-relief landscape with terraces that slope southward toward Lake Erie. The nearby Onondaga Escarpment, a limestone feature south of the city, influences local topography and drainage patterns. The region's geological history is tied to glacial retreat, leaving a clay-rich overburden that affects groundwater movement and soil stability.

Hydrogeologically, Port Colborne is part of the Lake Erie Watershed, with small streams and tile drains facilitating drainage into the lake. Groundwater flow is slow due to the low permeability of the clay plain, though sand and gravel lenses within the Quaternary sediments may act as localized aquifers. The Welland Canal, which terminates at Port Colborne, artificially connects Lake Erie to Lake Ontario, altering the natural hydrology by channelling water and potentially influencing shallow groundwater levels along its path. The Niagara River Watershed, linked via the canal, extends its hydrogeological influence, though direct groundwater interaction with the river is limited.

Industrial activities, such as quarrying by Port Colborne Quarries Inc., highlight the area's aggregate potential, with operations targeting deposits located below the water table. Hydrogeological studies for such projects assess the impacts on groundwater, noting the clay's role in limiting vertical flow; however, fractures or coarser layers may enable localized movement. The region's water table is shallow, which supports the Port Colborne Water Treatment Plant's efforts to secure its supply. Overall, Port Colborne's geology and hydrogeology reflect a clay-dominated, low-permeability system, which is modulated by glacial deposits and human engineering, thereby sustaining both natural and industrial functions.

10 Existing Water and Stormwater Systems

10.1 Existing Water System

The City's water system comprises of a two-tier management, with Niagara Region responsible for supply, treatment, storage, pumping, and transmissions, and the City responsible for local distributions. Due to the two-tier management, the system performance and capacity are highly influenced by the operation of the Region's infrastructure.

Figure 10-1 highlights the City's water system. The Region-owned Port Colborne Water Treatment Plant (WTP) supplies the City's water system. The water system operates under a single pressure zone, with floating storage provided by a single elevated tank (the Barric Road ET) that generally manages the system pressures. The Fielden Avenue Reservoir and Pump Station provides additional peak and emergency storage needs.

While the system is generally well looped within the local distribution system, the major constraint is the Welland Canal, which bisects the system in two. There are only two (2) Welland Canal crossings, one Region and one City, interconnecting the treatment and storage on the west side to the east side (and significant growth areas to the east). The Region is currently adding a second canal crossing, completing a transmission loop, which is anticipated to be completed by Q3 2027. While the water system primarily services the existing urban boundary, there is currently one extension that services major employment property (Pinty's) outside the urban boundary along Second Concession Road.

10.2 Existing Stormwater System

The City's stormwater system is owned, operated, and maintained by the City of Port Colborne and consists of a combination of minor and major drainage infrastructure, including storm sewers, catch basins, ditches, culverts, and stormwater management facilities. System performance is influenced by local drainage patterns, receiving watercourse capacity, and lake levels within Lake Erie and the Welland Canal.

Figure 10-2 highlights the City's stormwater system. Runoff is conveyed through a combination of piped systems and overland flow routes and ultimately discharged to Lake Erie, the Welland Canal, and associated local watercourses. The system services the existing urban area, with some infrastructure extending into rural and industrial areas.

A key constraint to the stormwater system is the Welland Canal, which bisects the City and limits hydraulic connectivity between east and west drainage areas. As a result, stormwater systems generally operate as independent drainage catchments with limited opportunities for interconnection. In addition, portions of the system are influenced by flat topography and high lake levels, which can reduce drainage capacity and increase the potential for localized ponding during significant storm events.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

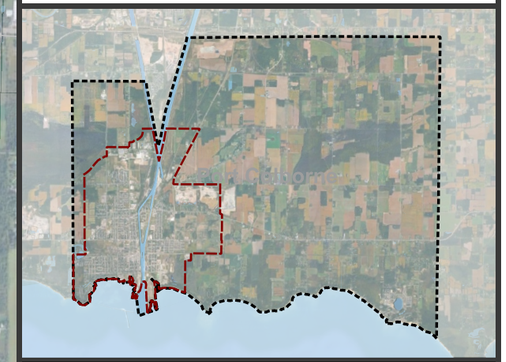


Figure 10-1
Existing Water System

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Stormwater System

- ≥ 450 mm
- <450 mm
- Culvert
- Ditch

Existing Facilities

- Storm Facility
- Outfalls
- Storm Outlet

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

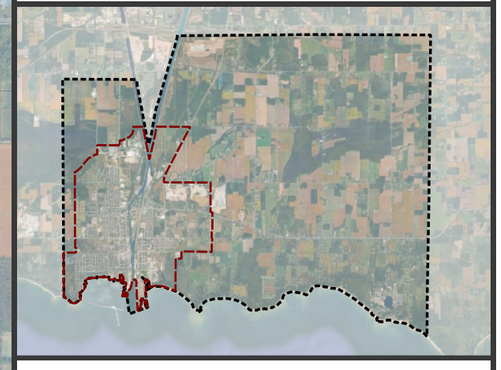


Figure 10-2
Existing Stormwater System

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km



Figure 10-1 Existing Water System



Figure 10-2 Existing Stormwater System

11 Evaluation Methodology

11.1 Development and Evaluation of Servicing Concepts

Servicing concepts were identified based on a combination of potential infrastructure and management strategies, alignments, locations and/or approaches that could be implemented to achieve the desired servicing objectives.

Each servicing concept was evaluated based on the following general criteria:

- **Technical Feasibility / Implementation Challenges:**
    - Does the servicing concept partially or fully achieve the desired objectives, and can it be implemented within reasonable financial and schedule constraints?
    - Are there potential technical, regulatory, and/or stakeholder issues that could delay or prevent implementation of the concept?
- **Potential Impacts (Environmental and Social Cultural):** Does the servicing concept pose a risk of significant adverse effects on the community, the environment, or cultural heritage resources?

Each concept was reviewed against the above criteria to identify favourable and unfavourable factors. The servicing alternatives may incorporate parts of one or multiple servicing concepts with the goal of fully addressing the desired servicing objectives.

Each servicing alternative was evaluated relative to others, using the scoring approach highlighted in **Table 11-1** and the criteria outlined in **Table 11-2**.

Table 11-1: Evaluation Scoring Approach

	Potential Impacts	Servicing or Implementation Challenges
High	Generates a beneficial impact	No substantial technical or implementation challenges and/or no substantial requirements for mitigation measures
Medium	Limited /no negative impacts.	Potential for moderate technical or implementation challenges and/or potential need for moderate mitigation measures
Low	Generates a negative impact	Substantial technical or implementation challenges and/or substantial needs for mitigation measures

The "Reasoned Argument Approach" was applied to identify the preferred servicing alternative. This approach determines the preferred alternative through a clear, logic-based rationale, outlining the advantages, disadvantages, and trade-offs among the alternatives.

Table 11-2: Evaluation Criterion

Category	Criteria	Description
Technical	Meets existing and future servicing objectives	How well does the alternative meet the desired technical performance objectives and/or address the study's problem and opportunity statement, including the ability to support future growth needs?
	Supports growth servicing, phasing, and alignment with the existing system	How effectively does the alternative maximize the use and capacity of the existing infrastructure while minimizing the need for new construction or upgrades? Includes consideration of flexibility in servicing growth areas and avoiding the need for significant upfront upgrades.
	Minimizes operational complexity and phasing constraints	Does the alternative maintain or decrease the system's operational and maintenance needs and complexity?
	Provides system operational reliability, and resilience to climate change	Does the alternative improve the system's operational flexibility, system redundancy, impacts of single-element failures, effects of power failures, or impacts of significant climate events? Includes resilience to accommodate the impact of climate change.
	Minimizes implementation risk	How effectively does the alternative avoid potential implementation and construction delays and/or cost escalations due to constructability issues, complex infrastructure, site and utility constraints or /conflicts, mitigation and offset requirements, traffic and public control requirements, and other uncertainties? Includes considerations related to land acquisition, permitting and approvals.
Environmental	Minimizes impacts to natural heritage systems	Does the alternative minimize potential impacts on existing natural heritage systems and required mitigation, and/or compensation measures?
	Minimizes impacts to wildlife and species at risk	Does the alternative minimize potential impacts on wildlife and species at risk, and the required mitigation and/or compensation measures?
	Minimize contributions to climate change.	Does the alternative minimize life-cycle potential contributions to climate change, including greenhouse gas contributions related to construction, operations, and maintenance activities?
Social and Cultural	Minimizes long-term impacts on residents, businesses, and the community	Does the alternative minimize long-term effects on residents, businesses, and the community, including impacts on property/amenity use, traffic, noise, odour, and aesthetic considerations?
	Minimizes construction impacts on residents, businesses, and the community	Does the alternative minimize construction impacts on residents, businesses, and the broader community, including effects on property or amenity use, traffic, noise, odour, dust, and aesthetics?
	Minimizes impacts to local cultural heritage and archeological features	Does the alternative minimize impacts to existing cultural heritage and archeological features, and the required mitigation and/or compensation measures?
Financial	Capital Cost	Does the alternative minimize the total capital cost? Including potential cost ranges resulting from project scope, implementation, and market uncertainty/volatility.
	Operational and maintenance costs	Does the alternative minimize the total expected annual operation and maintenance cost as a percentage of capital cost? Including potential cost ranges due to project scope and/or market uncertainty/volatility.

12 Project Costing

12.1 Project Uncertainty and Cost Estimate Confidence

Cost estimates used for the MSP have been developed using a classification system based on the procedures established in the Guide to Costing developed by the Treasury Board of Canada Secretariat (May 2023) and the classification system of the Association for the Advancement of Cost Engineering (AACE). These classes represent various phases of planning and design, which are associated with appropriate cost estimation methods and accuracy levels. The classifications are utilized to ensure that all stakeholders involved with preparing, evaluating, and using project cost estimates understand the accuracy level expected from the estimates, and the level of risk associated with these estimates.

It is assumed for the purposes of the MSP that estimates will follow a Class 4 estimate, as described in **Section 12.4** while establishing the level of accuracy that can be expected as the plans mature through planning to design.

12.2 Cost Estimating Strategy

The cost estimating strategy used in this MSP is to:

1. Establish a cost estimating methodology that can efficiently produce reliable cost estimates for each recommended project.
2. Benchmark actual project costs against the estimates to provide perspective on the accuracy of cost estimating methodology.

12.3 Cost Estimating Methodology Overview

The cost estimating methodology consists of four steps, summarized below. Section 3 provides detailed descriptions.

Step 1 – Baseline Construction Costs

Establish baseline costs for infrastructure supply and installation:

- **Linear assets (watermains, storm sewers):** First-principles analysis of quantities and costs, including excavation, bedding, pipe, backfill, restoration, and appurtenances, normalized to unit costs. Total baseline cost is calculated by multiplying unit costs by project quantities.
- **Stormwater ponds:** Lump-sum estimates based on pond size.
- **Low Impact Development (LID) infrastructure:** Volumetric unit costs based on storage capacity and treatment level.

Step 2 – Adjustment for Scope and Complexity
Baseline costs are adjusted to reflect project-specific factors and market trends in Port Colborne and Southern Ontario, including: road restoration, general construction overhead, site complexity, special conditions (e.g., contaminated soils, environmental considerations), market/inflation adjustments, and significant project-specific items (e.g., river crossings, Regional connections).

Step 3 – Non-Construction Soft Costs
Soft costs are added for items such as land acquisition, preliminary engineering and studies, design, contract administration, inspection, and City-related project management, permitting, consultation, or legal costs.

Step 4 – Project Contingency
An overall project contingency is applied to account for unknowns and potential scope changes.

12.4 Cost Estimate Classification

The AACE classifies cost estimates by project maturity, based on typical evaluation, authorization, and execution phases. **Table 12-1** summarizes the characteristics of the five estimate classes.

A Class 4 estimate is appropriate for this MSP, as recommendations are based on limited information and desktop analyses rather than detailed site investigations. This corresponds to 1% to 15% project definition (**Table 12-1**). Class 4 estimates have a higher level of uncertainty, rely on historical data and analogous projects, and carry an accuracy range of -30% to +50%, suitable for initial budgeting and feasibility assessments.

Table 12-1: AACE Cost Estimate Classes

Class	Project Definition	Typical Usage	Methodology	Expected Accuracy Range
Class 5	0% to 2%	Screening or feasibility	Stochastic (factors and/or models or judgement)	-50% / +100%
Class 4	1% to 15%	Concept study or feasibility	Primarily stochastic	-30% / +50%
Class 3	10% to 40%	Budget authorization or control	Mixed but primarily stochastic	-20% / +30%
Class 2	30% to 75%	Control or bid/tender	Primarily deterministic	-15% / +20%
Class 1	65% to 100%	Check estimate or bid/tender	Deterministic	-10% / +15%

12.5 Sources of Cost Estimating Information

The values presented in this section are derived from a continuously updated costing database, reflecting current market conditions and common construction and rehabilitation practices. Key components include:

Baseline Open-Cut Construction Costs

- **Linear assets:** Trench widths for each pipe diameter are used to calculate excavation, granular bedding, backfill, and restoration quantities. Appurtenance quantities (e.g., maintenance holes, hydrants) are based on typical spacing and normalized per meter. Recent market unit costs are applied to derive baseline construction costs.
- **Discrete stormwater infrastructure:** Costs are based on recent market conditions for new stormwater facilities.

Scope and Complexity Uplifts

Adjustments are applied to reflect project-specific factors, informed by tender analyses across Southern Ontario:

- **Road Restoration:** Additional roadworks beyond trench restoration.
- **General Construction Overhead:** Mobilization, demobilization, site cleanup, traffic control, temporary utilities.
- **Site Complexity:** Local site constraints, including existing utilities, traffic, and surrounding environment.
- **Special Conditions:** Contaminated soils, environmental or archaeological considerations.
- **Market Conditions:** Year-over-year material and labour cost trends, supplemented by construction cost indices.
- **Special Construction Items:** Lump-sum allowances for unique project needs, such as highway or river crossings and large valve chambers.

Non-Construction Soft Costs

Additional allowances include:

- **Land Acquisition:** Purchase, easements, staging areas based on local real estate trends.
- **Preliminary Engineering and Studies:** Surveys, geotechnical, hydraulic, and other assessments.

- **Design, Contract Administration, and Inspection:** Preliminary/detailed design, tendering, and inspection services.
- **City-Related Internal Costs and Project Contingency:** Based on internal budgeting processes.

The baseline open-cut construction costs, scope and complexity uplifts, and non-construction soft cost factors outlines above are documented in detail in the Costing Memo provided in **Appendix A**.

12.6 Uncertainty of Cost Estimates

Construction costing with limited project definition, as in this MSP, is inherently challenging. The estimated costs are based on supplier prices, tender analyses, and historic projects from municipalities across Central and Southern Ontario, with adjustments for varying local conditions. As projects advance from conceptual to detailed design, additional factors may arise. Therefore, these cost estimates should be reviewed and updated as design and construction budgets are developed.

12.7 Development Charges Contribution

12.7.1 Benefit to Existing

For each project, the estimated growth vs. benefit to existing related contributions will be identified using the relative categorizations in **Table 12-2**. The classification will allow the City's future Development Charges study to appropriately classify projects and assign appropriate Development Charges Contribution Ratios.

Table 12-2: Development Charges Benefit to Existing Classifications.

Development Charges Category	Description	Development Charge Contribution (%)
BE-1	Project that solely services growth.	100
BE-2	Project needed to service growth but also benefits existing users.	90
BE-3	Project needed to support growth while also providing operational improvements.	70
BE-4	Project that supports growth and existing users equally.	50
BE-5	Project that primarily addresses existing system issues but also supports growth.	20
BE-6	Project that benefits existing users or addresses an existing system issue.	0
Dev	Project entirely within a new development area. Cost to be Developer's responsibility	Part of local servicing costs.

12.7.2 Out-of-Period Benefit

For each project, the estimated in-period vs. out-of-period contributions will be identified using the relative categorizations in **Table 12-3**. The classification will allow the City's future Development Charges study to appropriately classify projects and assign appropriate Development Charges Contribution Ratios.

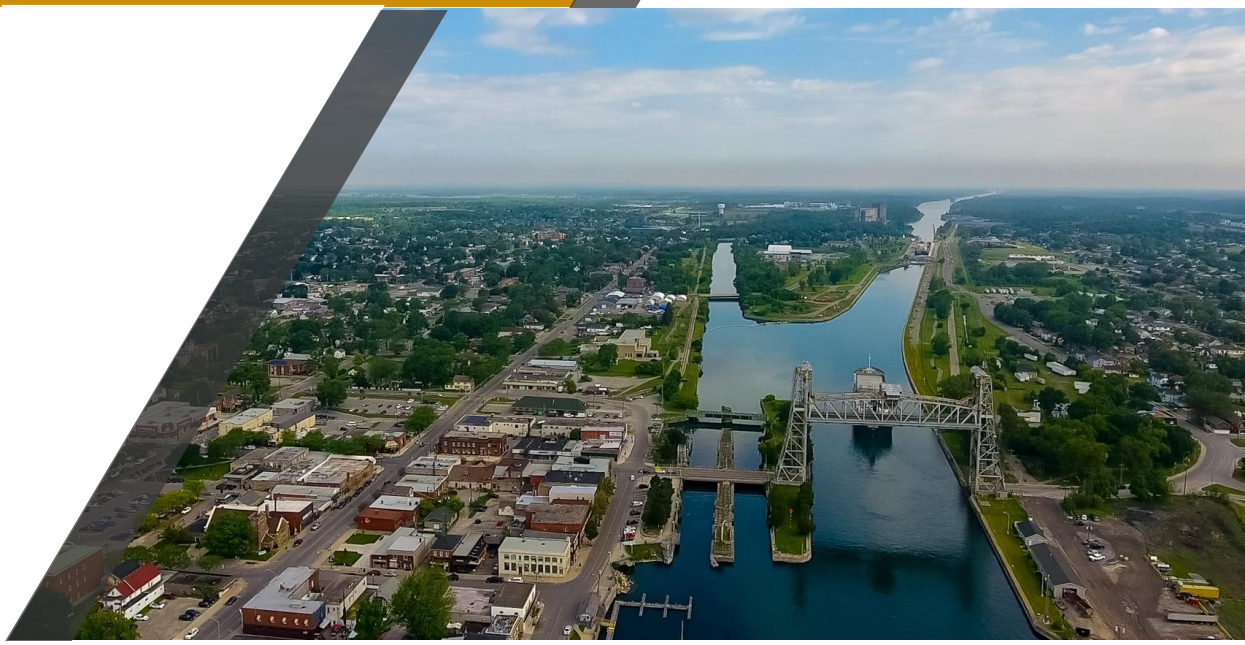
Table 12-3: Development Charges Out of Period Classification

Development Charges Category	Description	Out of Bylaw Split (%)
OB-1	No Change in project sizing based on growth horizon.	0
OB-2	No Change in project sizing based on growth horizon – Buildout growth is more than 50% greater than in-period growth.	20
OB-3	Sizing changes based on the growth horizon.	Upsizing Cost

Appendix A – Costing Methodology

City of Port Colborne
Water and Stormwater Master Servicing Plan

Costing Methodology – Final



Agile
INFRASTRUCTURE

City of Port Colborne – Water and Stormwater Master Servicing Plan

Costing Methodology – Final

PROJECT NO. P01-002-01

Prepared For:

City of Port Colborne

Prepared By:



Nick Larson, P.Eng.
President

Reviewed By:



Julien Bell
Vice President

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Purpose and Objectives 1
1.1 Project Context 1
1.2 Memo Objective 1
2 Costing Methodology Overview 2
2.1 Project Uncertainty and Cost Estimate Confidence 2
2.2 Cost Estimating Strategy 2
2.3 Cost Estimating Methodology Overview 2
3 Costing Methodology 5
3.1 Cost Estimate Classification 5
3.2 Sources of Cost Estimating Information 6
3.3 Uncertainty of Cost Estimates 7
3.4 Baseline Unit Construction Costs – Open-Cut Watermains and Storm Sewers 7
3.5 Baseline Unit Construction Costs – Watermains and Storm Sewers CIPP Rehabilitation 10
3.6 Baseline Construction Costs – Stormwater Infrastructure 11
3.7 Scope and Complexity Adjustments 12
4 **Application** of Cost Estimating Methodology 17
4.1 Cost Estimating Methodology Flow Chart 17
4.2 Costing Example 18
5 Port Colborne Benchmarking 22
6 Development Charges Contribution 1
6.1 Benefit to Existing 1
6.2 Benefit to Existing 1

1 PURPOSE AND OBJECTIVES

1.1 Project Context

The City of Port Colborne (City) is undertaking a Water and Stormwater Master Servicing Plan Study (MSP) to develop an overall management strategy and vision for the City's short- and long-term water and stormwater upgrade needs. The Study will:

- Review existing conditions and performance of the current water and stormwater systems.
- Consider the impacts that growth will have on the water and stormwater systems.
- Identify and assess strategies for meeting existing and future water and stormwater servicing needs.
- Establish an overall management strategy and vision for meeting short- and long-term water and stormwater infrastructure needs through to the year 2051 and beyond.
- Develop an executable Capital Program and Action Plan to drive the vision forward.

The City will use the Water and Stormwater Master Servicing Plans to inform future water and stormwater system capacity allocations, infrastructure upgrades, and financial planning decisions.

1.2 Memo Objective

The purpose of this memo is to outline the costing methodology used for the financial assessment of the recommended projects based on the results of the technical analysis completed for the MSP, providing stakeholders with an early view of relative potential costs for various options.

2 Costing Methodology Overview

2.1 Project Uncertainty and Cost Estimate Confidence

Cost estimates used for the MSP have been developed using a classification system based on the procedures established in the Guide to Costing developed by the Treasury Board of Canada Secretariat (May 2023) and the classification system of the Association for the Advancement of Cost Engineering (AACE). These classes represent various phases of planning and design, which are associated with appropriate cost estimation methods and accuracy levels. The classifications are utilized to ensure that all stakeholders involved with preparing, evaluating, and using project cost estimates understand the accuracy level expected from the estimates, and the level of risk associated with these estimates.

It is assumed for the purposes of the MSP that estimates will follow a Class 4 estimate, as described in Section 3.1, while establishing the level of accuracy that can be expected as the plans mature through planning to design.

2.2 Cost Estimating Strategy

The cost estimating strategy used in this MSP is to:

1. Establish a cost estimating methodology that can efficiently produce reliable cost estimates for each recommended project.
2. Benchmark actual project costs against the estimates to provide perspective on the accuracy of cost estimating methodology.

2.3 Cost Estimating Methodology Overview

The cost estimating methodology has four steps, as summarized below. Section 0 contains the details of each step.

- ***Step 1 - Baseline Construction Costs***

  The first step is to establish baseline costs for the supply and installation of the infrastructure and related appurtenances:

  - For linear assets (watermains and storm sewers), this is done through a first-principles analysis considering quantities and costs associated with excavation (i.e. trench width and depth), granular bedding, the pipe itself, backfill, and restoration. Appurtenances (hydrants, valves services for watermains or maintenance holes, catchbasins, and catchbasin leads for storm sewers) are first estimated on a per-piece basis and then normalized to an additional linear unit cost by assuming a typical density (i.e. hydrants every 100 m, services assuming 40 ft lots and on both sides of the street). The result is an 'all-in' baseline unit construction cost that is appropriate for a stand-alone construction project. Unit

costs are then multiplied by the total infrastructure quantity in the particular planned project to establish baseline construction costs.
    - For stormwater ponds, this is done through a lump sum estimate by pond size
    - For Low Impact Development (LID) infrastructure, this is done using a volumetric unit cost based on storage capacity and treatment level required.

- ***Step 2 – Adjusting for Scope and Complexity***

  The second step is to adjust the baseline construction costs to account for factors that will impact the baseline estimates. The objective is to obtain a final appropriate 'total construction cost' that reflects the as-tendered recent market trends in Port Colborne and the surrounding areas in Southern Ontario. The following construction cost factors are included to adjust the baseline construction costs to the total construction costs:
    - **Road Restoration:** For additional road works beyond trench restoration that are not included in the baseline costs.
    - **General Construction Overhead:** Mobilization, demobilization, site cleanup, traffic control, temporary utilities.
    - **Site Complexity:** Existing utilities, traffic constraints, site constraints.
    - **Special Conditions:** Contaminated soils, archaeological, environmental issues.
    - **Market and Inflation Adjustment:** Material, labour cost fluctuations.
    - **Special Items:** Project-specific items such as Regional connections, river crossings, or other activities that have significant individual cost and therefore are costed separately.
- ***Step 3 – Including Non-Construction Soft Costs***

  The third step is to include allowances for soft costs, such as studies, engineering, or other non-construction costs that add to the total project costs. The factors included are as follows:
    - **Land Acquisition Needs:** Land purchase, easements, staging areas.
    - **Preceding Engineering and Study Costs:** Survey, geotechnical, hydrogeological, hydraulic, or other assessments that support the project.
    - **Design, Contract Administration and Inspection Services:** Preliminary and detailed design, tendering support, contract administration, inspection.
    - **City-Related Costs:** Project management, permitting, consultation, legal.

- ***Stage 4 Overall Project Contingency***

The fourth and final step is to apply an overall project contingency to add a buffer for unknowns and scope changes.

3 Costing Methodology

3.1 Cost Estimate Classification

The AACE categorizes cost estimate types by project maturity level. The classification system is based on the typical phases and gates of evaluation, authorization, and execution used by project stakeholders during a project life cycle. **Table 1** provides a summary of the characteristics of the five estimate classes.

A Class 4 estimate is appropriate for the MSP, since recommendations for improvements will be based on limited information on broad characteristics and desktop analysis as opposed to site specific data collected via detailed in-situ investigations. This aligns with the description 1% to 15% project definition as described in **Table 1** for Class 4 estimates.

A Class 4 estimate is characterized by its relatively high level of uncertainty and generally based on historical data and analogous project comparisons. It carries a cost estimate accuracy range of ***-30% to +50%*** typical for initial budgeting and feasibility assessments.

Table 1 AACE Cost Estimate Classes

Class	Project Definition	Typical Usage	Methodology	Expected Accuracy Range
Class 5	0% to 2%	Screening or feasibility	Stochastic (factors and/or models or judgement)	-50% / +100%
Class 4	1% to 15%	Concept study or feasibility	Primarily stochastic	-30% / +50%
Class 3	10% to 40%	Budget authorization or control	Mixed but primarily stochastic	-20% / +30%
Class 2	30% to 75%	Control or bid/tender	Primarily deterministic	-15% / +20%
Class 1	65% to 100%	Check estimate or bid/tender	Deterministic	-10% / +15%

3.2 Sources of Cost Estimating Information

The values presented in this section are derived from Agile's in-house costing database. Our costing database is continually updated to reflect real-world market changes with respect to both costs and common rehabilitation or construction practices. There is a wide range of information that is used to support our costing database, as described below.

- Baseline open-cut construction costs:
    - Linear asset construction costs are based on typical trench widths for each respective pipe diameter, used to derive excavation, granular, backfill and trench restoration quantities. Appurtenance quantities (i.e. maintenance holes, hydrants) are based on typical spacing normalized to a per-meter value. Recent market unit costs for each item are applied to the quantities to derive the baseline open-cut construction costs.
    - Discrete stormwater management construction costs are based on recent market conditions of new stormwater management infrastructure.
- Scope and Complexity Uplifts are derived from a range of information:
    - Road Restoration uplifts are based on ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario with a particular focus on the 'Part B – Roadworks' (or similar) section of the list of quantities and prices.
    - General Construction Overhead uplifts are based ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario with a particular focus on the 'Part A – General' (or similar) section of the list of quantities and prices.
    - Site Complexity uplifts are based ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario with a particular focus on the total costs of the project relative to its local community context (i.e. where is the project, what is the surrounding environment).
    - Special Condition uplifts are based ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario with a particular focus on the 'Part A – General' and 'Provisional' (or similar) section of the list of quantities and prices.
    - Market Condition uplifts are based ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario with a particular focus on the change in year-over-year construction costs in various

jurisdictions. An ongoing review of various construction cost indices also helps to derive the uplifts.

- Special Construction Items are lump-sum additions to projects where there are larger known and specific construction needs, such as highway crossings, river crossings, or large valve chambers. The costs are based on ongoing tender analysis of integrated underground and road construction projects throughout Southern Ontario.

- Non-Construction Soft Cost Factors:
  - Land Acquisition costs are based on ongoing tracking of projects across Southern Ontario and local real estate values.
  - Preceding Engineering and Studies are based on monitoring consulting engineering project awards across Southern Ontario.
  - Design, Contract Administration and Inspection Costs are based on monitoring consulting engineering project awards across Southern Ontario.
  - City-Related Internal Costs are based on discussions with staff and align with the internal capital budget processes where appropriate.
  - Project Contingency are based on discussions with staff and align with the internal capital budget processes where appropriate.

3.3 Uncertainty of Cost Estimates

Construction costing with limited project definition, as in the case of this MSP, is a challenging process in the engineering industry. The suggested costs summarized in this report are based on supplier material costs, tender analysis, and historic project costs from multiple municipalities across Central and Southern Ontario. Many other factors have been considered to account for different conditions or configurations within the City. However, as projects progress from conceptual to preliminary to detailed design, additional factors not considered will likely be identified. As a result, the costs derived using the cost estimating methodology in this report should be continuously reviewed as budgets for design and construction are being established.

3.4 Baseline Unit Construction Costs – Open-Cut Watermains and Storm Sewers

The baseline unit construction costs for watermains and sewers constructed via open-cut include the costs for excavation, granular bedding, pipe installation, backfill, restoration, and allowances for appurtenances (hydrants, valves and services for watermains, maintenance holes, catchbasins and catchbasin leads for storm sewers). Refer to **Figure 1**, Table 2, and Table 3 for baseline unit construction costs.

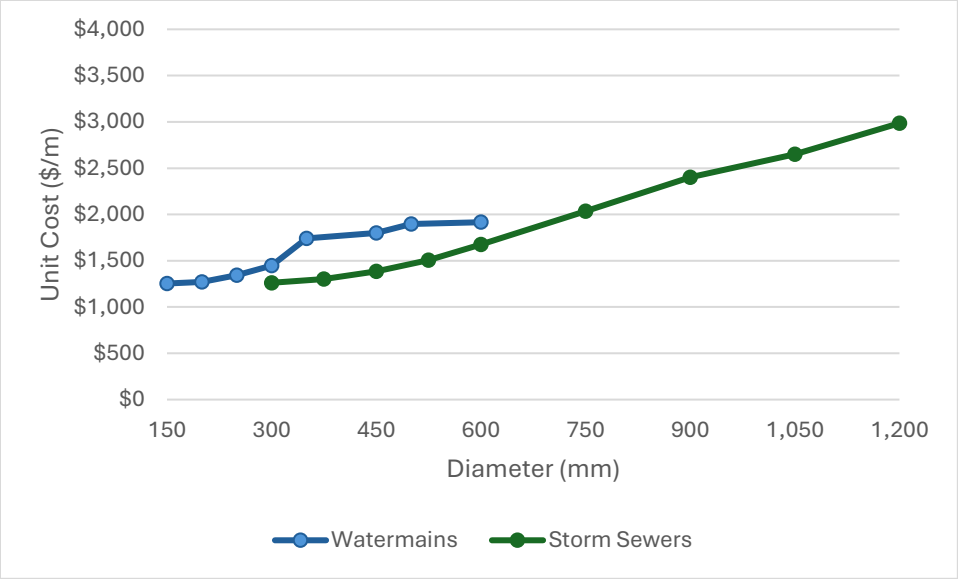


Figure 1 Open-Cut Watermain and Storm Sewer Baseline Unit Construction Costs

Table 2 Open-Cut Watermain Baseline Unit Construction Costs

Diameter (mm)	Watermain ($/m)[1]
150	$1,300
200	$1,300
250	$1,350
300	$1,450
350	$1,750
450	$1,850
500	$1,900
600	$1,950

1- Cost rounded up to closest $50/m

Table 3 Open-Cut Storm Sewer Baseline Unit Construction Costs

Diameter (mm)	Storm Sewer ($/m)[1]
300	$1,300
375	$1,350
450	$1,400
525	$1,550
600	$1,700
750	$2,050

900	$2,450
1050	$2,700
1200	$3,000
1350	$3,650
1500	$4,500
1850	$5,700
2100	$7,700

1- Cost rounded up to closest $50/m

3.5 Baseline Unit Construction Costs – Watermains and Storm Sewers CIPP Rehabilitation

The baseline unit construction costs for the rehabilitation of watermains and storm sewers using the cure-in-place-pipe (CIPP) method include the following costs:

- For watermains, these projects typically include installation of the main pipe liner, new valves and hydrants, appropriate reinstatement of service connections, and restoration of access pits.
- For storm sewers, they include the costs in a typical urban environment to install the main pipe liner. The costs do not include lateral connection seals (a.k.a. 'top-hats'), since controlling infiltration is not necessary in storm sewers.

Table 4 Watermain CIPP Rehabilitation Baseline Unit Construction Costs

Diameter (mm)	Unit Cost ($/m)
150	$1,200
200	$1,300
250	$1,400
300	$1,500
350	$1,600
400	$1,700
450	$1,800
500	$2,200
600	$2,400

Table 5 Storm Sewer CIPP Rehabilitation Baseline Unit Construction Costs

Diameter (mm)	Main-Line CIPP ($/m)
200	$300
250	$320
300	$350
375	$400
450	$450
525	$500
600	$550

750	$650
900	$750
1050	$850
1200	$950

3.6 Baseline Construction Costs – Stormwater Infrastructure

3.6.1 Low Impact Development Infrastructure

For the MSP, LID infrastructure could include bioswales, infiltration chambers, or other stormwater management assets as outlined in the Low Impact Development Stormwater Management Planning and Design Guide Version 1.0 and updated at *wiki.sustainabletechnologies.ca*.

Costs are based on the calculated LID storage volume needed to meet performance objectives. Pretreatment, using oil grit separators or catchbasin inserts, results in additional costs. Refer to **Table 6** for LID construction unit costs.

Table 6 LID Baseline Unit Construction Costs

Pre-Treatment Condition	Cost ($/m^3)
No Pretreatment	$400
Pre-Treatment Required	$700

3.6.2 Stormwater Management (SWM) Pond Infrastructure

For the purposes of the MSP, SWM pond construction costs are estimated as a lump sum covering excavation, grading, access roads, and standard inlet/outlet structures, based on the pond's required storage volume to meet performance objectives. Refer to Table 7 Table 6for SWM Pond baseline construction unit costs.

Table 7 SWM Pond Baseline Construction Costs

Pond Size	Description	Lump Sum Cost
Small	Up to 10,000 m^3	$600,000
Medium	From 10,000 to 50,000 m^3	$1,000,000
Large	Over 50,000 m^3	$1,500,000

3.7 Scope and Complexity Adjustments

As summarized in Section 0, the baseline construction costs from Section 3.2 require adjustments to account for factors that will impact the baseline estimates. The objective is to obtain a final, appropriate total construction cost that reflects the recent, as-tendered market trends for a similar community in Southern Ontario. The section describes the factors that are included to adjust the baseline construction cost.

3.7.1 Construction Factors

3.7.1.1 Road Restoration

Summary: Covers additional road restoration beyond that included in the Baseline costs.

Table 8 Road Restoration Unit Cost

Level	Description	Uplift Unit Cost ($/m)
Minimal	Basic road restoration above trench, included with Base Unit Costs	$0
Moderate	Restoration of the full road surface	$300
Full	Granular base, sub-base, asphalt, curb, gutter, sidewalk	$800

Note: Road restoration factor does not apply to stormwater management infrastructure or linear rehabilitation.

3.7.1.2 General Construction Overhead

Summary: Covers mobilization, demobilization, site cleanup, traffic control, and temporary utilities for project setup and management.

Table 9 Generation Construction Overhead

Level	Description	Cost Factor %
Low	Routine needs in simple, open sites with low traffic	15%
Medium	Moderate constraints requiring heightened controls	20%
High	Dense areas demanding extensive traffic management and utilities	25%

3.7.1.3 Site Complexity

Summary: Adjusts for existing utilities, rock excavation, traffic constraints, and site limitations impacting construction efficiency.

Table 10 Site Complexity Cost Escalation

Level	Description	Cost Factor %
Low	Greenfield with no utilities or traffic	0%
Medium	Suburban with some interferences	10%
High	Urban with dense utilities and heavy traffic, rock excavation	25%

3.7.1.4 Special Conditions

Summary: Accounts for contaminated soils, archaeological sites, or environmental restrictions requiring specialized handling.

Table 11 Special Conditions Cost Escalation

Level	Description	Cost Factor %
Low	No issues in clean sites	0%
Medium	Some soil contamination of heritage concerns	10%
High	High soil contamination, brownfield sites, and protected areas	25%

3.7.1.5 Market and Inflation Adjustment

Summary: Adjusts for fluctuations in material and labour costs specific to Southern Ontario.

Table 12 Market and Inflation Adjustment

Level	Description	Cost Factor %
Low	Stable markets	0%
Medium	Moderate inflation	5%
High	Volatile periods with supply chain issues	10%

3.7.1.6 Construction Allowance – Special Items

The Construction Allowance provides for site-specific conditions that result in additional costs associated with specific protocols and handling requirements in specialized situations. The following items have been included under this factor with appropriate costs anticipated as shown in **Table 13**.

Table 13 Special Construction Items Cost

Special Item	Item Cost
Large Watermain Connection (>450 mm)	$250,000
New Control Valve Chamber (No SCADA)	$250,000
New Control Valve Chamber (With SCADA)	$350,000
Large River Crossing	$3,000,000
Highway Crossing <=300mm	$800,000
Highway Crossing >300mm, <= 600 mm	$1,200,000
Highway Crossing > 600 mm	$1,700,000
Railway Crossing	$500,000
New Outlet	$1,200,000

3.7.2 Non-Construction 'Soft' Cost Factors

The non-construction related 'soft' cost factors are applied to the adjusted total construction cost to account for additional costs related to studies, engineering design services and internal City overhead that would not be captured in the final as-tendered total construction cost.

3.7.2.1 Land Acquisition Needs

Summary: Covers purchasing land, easements, or temporary staging areas for infrastructure placement.

Table 14 Land Acquisition Allowance

Level	Description	Cost Factor %
Low	No new land required in existing rights-of-way	0%
Medium	Minor easements	5%
High	Significant acquisitions in developed areas	10%

3.7.2.2 Preceding Engineering and Study Costs

Summary: Include survey, geotechnical, hydrogeological, hydraulic, or other assessments that support the project and are procured before the design process begins.

Table 15 Preceding Engineering and Study Cost

Level	Description	Cost Factor %
Low	Routine survey and geotechnical investigations	3%
Medium	Additional studies to size infrastructure	5%
High	Significant studies to size infrastructure and prepare for project	10%

3.7.2.3 Design, Contract Administration and Inspection

Summary: Preliminary and detailed design, tendering support, contract administration, inspection services.

Table 16 Design, Contract Administration and Inspection Costs

Level	Description	Cost Factor %
Low	Routine for straight-forward linear projects	8%
Medium	Moderate additional effort for more complex linear projects or straight-forward vertical projects	12%
High	Extensive additional effort for complex vertical projects	15%

3.7.2.4 City-Related Internal Costs

Summary: Includes internal project management, permitting, public consultation, and legal fees.

Table 17 City-Related Internal Costs

Level	Description	Cost Factor %
Low	Minimal bureaucracy in rural areas	3%
Medium	Routine permits	5%
High	Extensive consultations and fees in cities	8%

3.7.3 Project Contingency

Summary: Provides buffer for unknown issues, scope changes, or risks in project execution.

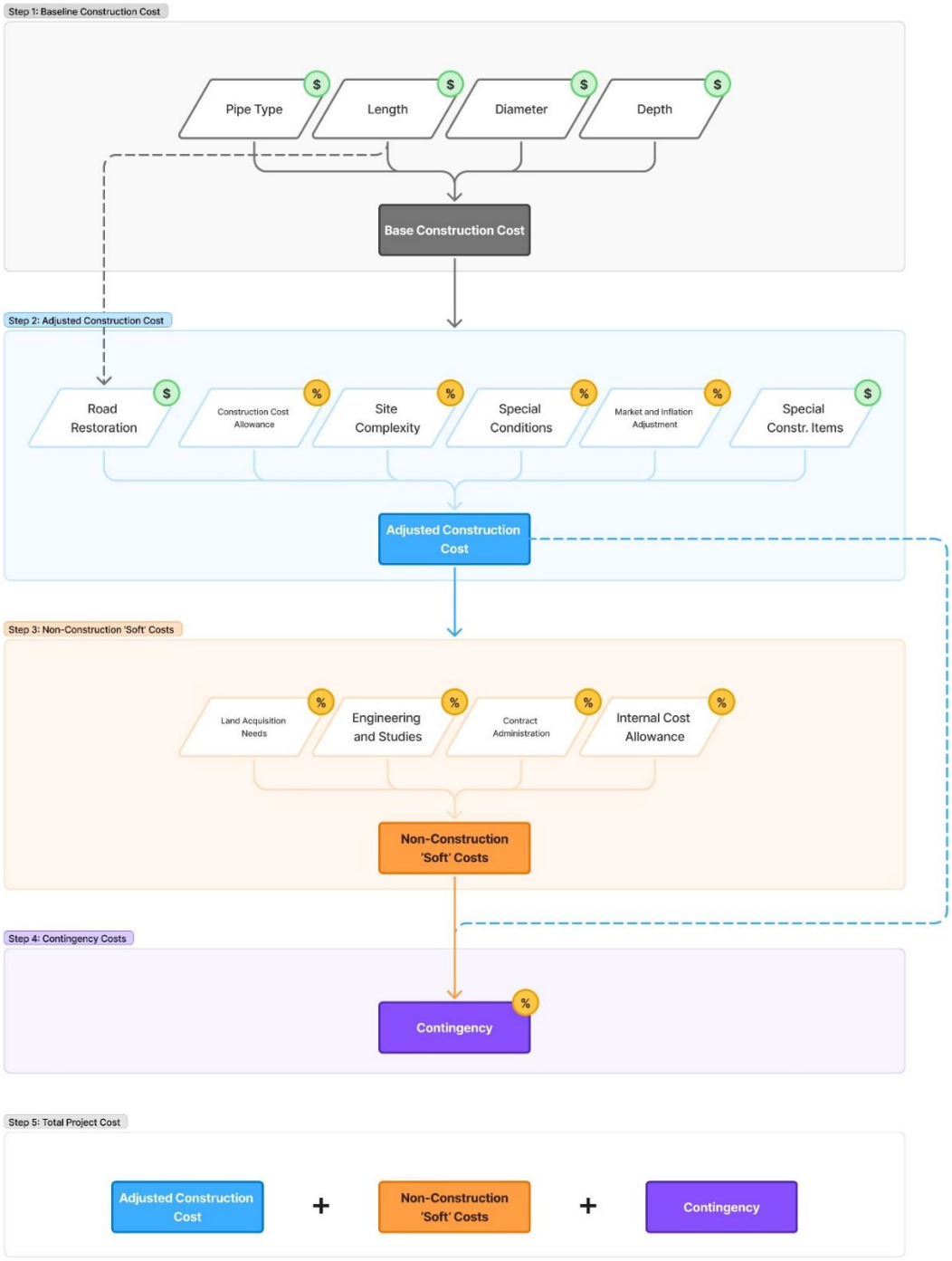
Table 18 Project Contingency Allowance

Level	Description	Cost Factor %
Low	Low-risk, well-defined projects	10%
Medium	Typical uncertainties	15%
High	High-risk with unknowns like utilities. Project in area of public concern	20%

4 Application of Cost Estimating Methodology

This section provides a flow chart of the cost estimating methodology described in Section 3 and an example application of the methodology to a conceptual project.

4.1 Cost Estimating Methodology Flow Chart



4.2 Costing Example

The following example demonstrates the cost calculation process for the construction of 500 m of 600 mm diameter storm sewer under rural roads and includes a railway crossing.

Step 1: Baseline Construction Cost

a) Pipe Type = Storm Sewer
b) Length = 1500 m
c) Diameter = 600 mm

From **Table 2**:

Base Unit Cost for 600 mm dia. storm sewer = $1,650/m

$$Baseline\ Construction\ Cost = Unit\ Cost \times Length$$
$$= \$1{,}600/m \times 500m$$
$$\boldsymbol{Baseline\ Construction\ Cost} = \boldsymbol{\$825{,}000}$$

Step 2: Adjusted Construction Cost

a) **Road Restoration:** Minimal – does not apply to stormwater infrastructure

$$Road\ Restoration\ Uplift = Uplift\ Unit\ Cost \times Length$$
$$= \$0 \times 500m$$
$$= \$0$$

b) **Construction Cost Allowance:** Low – rural roads with low traffic

$$Construction\ Cost\ Allowance = Uplift\ \% \times Baseline\ Construction\ Cost$$
$$= 15\% \times \$825{,}000$$
$$= \$123{,}750$$

c) **Site Complexity:** Low – greenfield with minimal traffic

$$Site\ Complexity = Uplift\ \% \times Baseline\ Construction\ Cost$$
$$= 0\% \times \$825{,}000$$
$$= \$0$$

d) **Special Conditions:** Low – no anticipated contamination concerns

$$\begin{aligned} Special\ Conditions &= Uplift\ \% \times Baseline\ Construction\ Cost \\ &= 0\% \times \$825{,}000 \\ &= \$0 \end{aligned}$$

e) **Market & Inflation Adjustment:** Medium – moderate inflation

$$\begin{aligned} Market\ \&\ Inflation\ Adjustment &= Uplift\ \% \times Baseline\ Construction\ Cost \\ &= 5\% \times \$825{,}000 \\ &= \$41{,}250 \end{aligned}$$

f) **Special Construction Items:** Railway crossing

$$Special\ Contruction\ Items = \$500{,}000$$

$$\begin{aligned} &Adjusted\ Construction\ Cost \\ &= Baseline + Road\ Restoration\ Uplift + Construction\ Cost\ Allowance \\ &+ Site\ Complexity + Special\ Conditions + Market\ \&\ Inflation\ Adjustment \\ &+ Special\ Construction\ Items \\ &= \$825{,}000 + \$0 + \$123{,}750 + \$0 + \$0 + \$41{,}250 + \$500{,}000 \end{aligned}$$

$$\boldsymbol{Adjusted\ Construction\ Cost} = \$\mathbf{1{,}490{,}000}$$

Step 3: Non-Construction Soft Costs

a) **Land Acquisition Needs:** none – municipal right-of-way

$$\begin{aligned} Land\ Acquisition\ needs &= Uplift\ \% \times Adjusted\ Construction\ Cost \\ &= 0\% \times \$1{,}490{,}000 \\ &= \$0 \end{aligned}$$

b) **Engineering and Study Costs:** Medium – standard studies needed

$$\begin{aligned} Engineering\ and\ Study\ Costs &= Uplift\ \% \times Adjusted\ Construction\ Cost \\ &= 12\% \times \$1{,}490{,}000 \\ &= \$178{,}800 \end{aligned}$$

c) **Contract Administration:** Medium – standard monitoring needed

$$\begin{aligned} Contraction\ Administration &= Uplift\ \% \times Adjusted\ Construction\ Cost \\ &= 6\% \times \$1{,}490{,}000 \\ &= \$89{,}400 \end{aligned}$$

d) **Internal Cost Allowance:** Medium – routine permits

$$\begin{aligned} Internal\ Cost\ Allowance &= Uplift\ \% \times Adjusted\ Construction\ Cost \\ &= 5\% \times \$1{,}490{,}000 \\ &= \$74{,}500 \end{aligned}$$

$$\begin{aligned} &Total\ soft\ costs \\ &= Land\ Acquisitions\ Needs + Engineering\ \&\ Study\ Costs \\ &+ Contract\ Administration + Internal\ Cost\ Allowance \\ &= \$0 + \$178{,}800 + \$89{,}400 + \$74{,}500 \end{aligned}$$

$$\boldsymbol{Total\ soft\ costs} = \$\mathbf{343{,}000}$$

Step 4: Project Contingency

a) **Project Contingency:** Medium – typical uncertainties

$$Contingency = Uplift\ \% \times (Adjusted\ Construction\ Cost + Total\ Soft\ Costs)$$
$$= 20\% \times (\$1{,}490{,}000 + \$343{,}000)$$

$$\boldsymbol{Contingency} = \$\mathbf{367{,}000}$$

Step 5: Total Project Cost

$$Total\ Project\ Cost = Adjusted\ Constructon\ Cost + Total\ Soft\ Costs + Contingency$$
$$= \$1{,}490{,}000 + \$343{,}000 + \$367{,}000$$

$$\boldsymbol{Total\ Project\ Cost} = \$\mathbf{2{,}200{,}000}$$

5 Port Colborne Benchmarking

Figure 5-1 shows:

- The cost estimate methodology applied on fictitious projects with both the maximum and minimum uplifts of all of the Site and Complexity uplift factors from Section 3.7; and
- The median unit watermain construction costs as derived from quotes received by the City and in other local markets from projects tendered in 2024 and 2025. The diameter indicated reflects the largest quantity pipe diameter in each project, since all project involved a range of watermain diameters 300mm and under.

It is noted that the City did not proceed with the quotation to replace the watermain due to the high cost, choosing to renew the watermains via CIPP rehabilitation.

It is apparent that the lower and upper envelopes of the open-cut watermain total construction costs are appropriately reflecting the actual as-tendered project costs in recent local watermain projects.

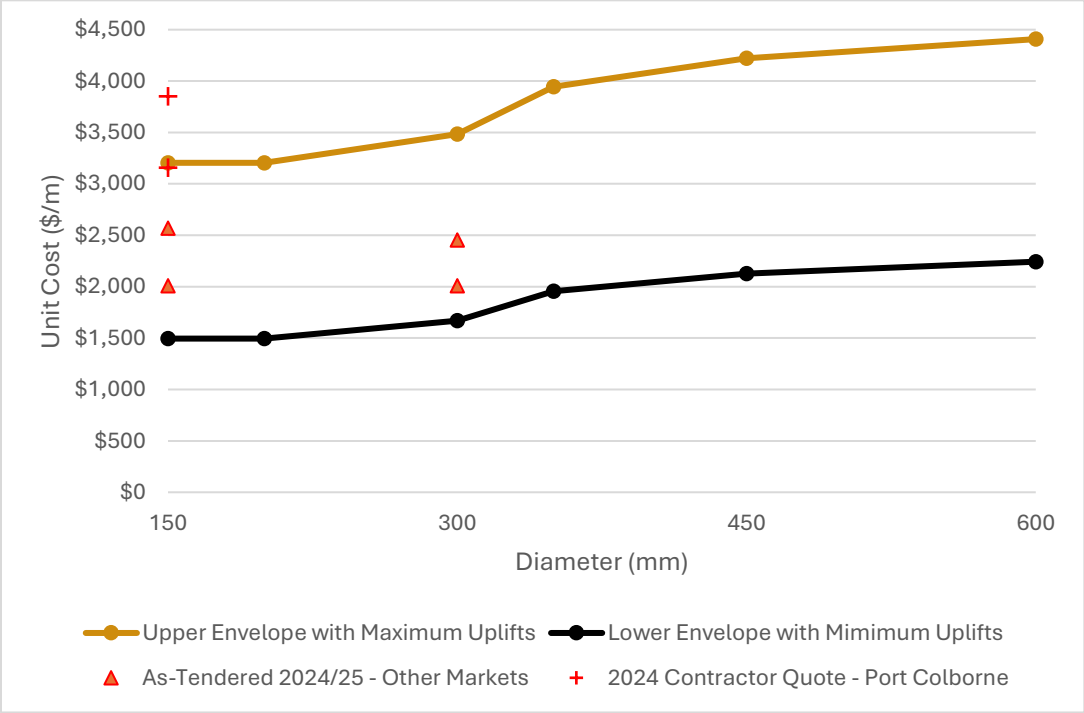


Figure 5-1: Open-Cut Watermains Cost Benchmarking

The City also tendered a CIPP watermain project in 2025 that enable a recent benchmark. The following points summarize bid results relative to the cost estimate methodology:

- The City received 2 bids on the project, with a low bid of $1,441 per m and a high of with a medium unit cost of $1,926 per m.
- The construction unit costs derived from the methodology results in a unit cost of $1,380 with minimum uplifts applied and $2,220 with the maximum uplifts applied.
- The costing methodology accurately reflects the recent markets conditions for CIPP in Port Colborne.

6 Development Charges Contribution

6.1 Benefit to Existing

For each project, the estimated growth vs. benefit to existing related contributions will be identified using the relative categorizations in **Table 6-1**. The classification will allow the City's future Development Charges study to appropriately classify projects and assign appropriate Development Charges Contribution Ratios.

Table 6-1: Development Charges Benefit to Existing Classifications.

Development Charges Category	Description	Development Charge Contribution (%)
BE-1	Project that solely services growth.	100
BE-2	Project needed to service growth but also benefits existing users.	90
BE-3	Project needed to support growth while also providing operational improvements.	70
BE-4	Project that supports growth and existing users equally.	50
BE-5	Project that primarily addresses existing system issues but also supports growth.	20
BE-6	Project that benefits existing users or addresses an existing system issue.	0
Dev	Project entirely within a new development area. Cost to be Developer's responsibility	Part of local servicing costs.

6.2 Out-of-Period Benefit

For each project, the estimated in-period vs. out-of-period contributions will be identified using the relative categorizations in **Table 6-2**. The classification will allow the City's future Development Charges study to appropriately classify projects and assign appropriate Development Charges Contribution Ratios.

Table 6-2: Development Charges Out of Period Classification

Development Charges Category	Description	Out of Bylaw Split (%)
OB-1	No Change in project sizing based on growth horizon.	0
OB-2	No Change in project sizing based on growth horizon – Buildout growth is more than 50% greater than in-period growth.	20
OB-3	Sizing changes based on the growth horizon.	Upsizing Cost

City of Port Colborne Water and Stormwater Master Servicing Plan

Volume 3 – Water

June 10, 2026



Agile INFRASTRUCTURE

Submission Details and Version Control

City of Port Colborne
Water and Stormwater Master Servicing Plan
Volume 3 – Water
June 10, 2026

Agile Project No. P01.002.01

Version	Date Submitted	Author	Reviewer
Draft	April 16, 2026	Michelle Klaver	Julien Bell
Final	June 10, 2026	Michelle Klaver	Lindsay Currie, Julien Bell

Prepared By:

Michelle Klaver, P.Eng.
Senior Infrastructure Planning Engineer

Reviewed By:

Julien Bell, P.Eng.
Vice President

Lindsay Currie, M.Sc., P.Eng.
Senior Infrastructure Planning Engineer

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Introduction 6
1.1 Background 6
1.2 Master Servicing Plan 6
1.3 Master Servicing Plan Objectives 7
1.4 Master Servicing Plan Documentation Layout 8
2 Water System Performance Objectives 10
2.1 Water Use Design Criteria 10
2.2 Hydraulic Performance Criteria 13
2.3 Water Use Design Criteria and Level of Service Summary 15
2.4 Capital Cost Projections 15
3 Planning and Growth Projections 17
4 Existing Water System 20
4.1 Existing Water Infrastructure 20
4.2 System Demands 29
4.3 Hydraulic Water Model 29
4.4 Facility Details, System Control Narrative, and SCADA Validation 31
5 Assessment of Existing Water Infrastructure 32
5.1 Facility Capacity 32
5.2 System Performance 32
5.3 Opportunities and Constraints 36
6 Water Servicing Alternatives and Evaluation 38
6.1 Servicing Strategy Development 38
6.2 Existing System Upgrades 38
6.3 Alternatives Evaluation 43
7 Preferred Water Servicing Strategy 45
7.1 Preferred Water Servicing Strategy Overview 45
7.2 Future System Performance 48
7.3 Capital Program 52
8 Implementation Plan 59

8.1 Project Timing and Triggers 60
8.2 Growth Area Servicing Plans 60
8.3 Local Servicing Upgrades 68
8.4 Operation and Condition Program 71

List of Tables

Table 2-1: Port Colborne Historic Water Billing Review 10
Table 2-2 Port Colborne WTP - Historic Water Production 11
Table 2-3 Port Colborne Non-Revenue Water Review 12
Table 2-4 Historic Water System Per Capita Demands 12
Table 2-5 Master Servicing Plan Fire Flow Criteria 14
Table 2-6: Water Design Criteria and Level of Service 15
Table 3-1: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 18
Table 3-2: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing 18
Table 4-1: City-Owned Watermain Diameter 22
Table 4-2: City-Owned Watermain Material 22
Table 4-3: City-Owned Watermain Age 23
Table 4-4: Port Colborne Water Treatment Plant Overview 25
Table 4-5: Region Pumping Stations Overview 25
Table 4-6: Region Storage Facilities Overview 26
Table 4-7: 2021 Regional MSP Update Project for City of Port Colborne 27
Table 4-8: System Demands 29
Table 6-1: Alternatives Evaluation 44
Table 7-1: Minimum System Pressures 48
Table 7-2: Fire Flow Deficiencies 49
Table 7-3: Capital Program Summary by Project Type 52
Table 7-4: Benefit to Existing Summary 52
Table 7-5: Watermain Rehabilitation Capital Program Summary 53
Table 7-6: Watermain Capital Program Summary 55
Table 8-1: East Employment Lands Projects 62
Table 8-2: South Residential Lands Projects 63
Table 8-3: Southwest Residential Lands Projects 64
Table 8-4: West Residential Lands Projects 66
Table 8-5: Northwest Residential Lands Projects 67

Table 8-6: Northeast Side Employment Lands Projects 68
Table 8-7: Cast Iron Rehabilitation Projects 69
Table 8-8: Water Capital Program Costing Details 74
Table 8-9: Watermain Rehabilitation Capital Program Costing Details 78

List of Figures

Figure 3-1 Anticipated Development 19
Figure 4-1 City's Existing Water System 21
Figure 4-2 City's Existing Capital Program 24
Figure 4-3 Region Capital Program 28
Figure 4-4: Updated Diurnal Curve Compared to Previously Modelled Diurnal Curves 31
Figure 5-1 Existing System Pressures 34
Figure 5-2 Existing Fire Flow Deficiencies 35
Figure 5-3 Opportunities and Constraints 37
Figure 6-1: Buildout Capital Program 39
Figure 6-2: Cast Iron Replacement 40
Figure 6-3: Sub-Trunk Loops 41
Figure 6-4: Sub-Trunk Loops & Target Upgrades 42
Figure 7-1 Capital Program 47
Figure 7-2 Buildout System Pressures 50
Figure 7-3 Buildout Fire Flow Deficiencies 51
Figure 8-1: East Employment Lands Growth Area 62
Figure 8-2: South Residential Lands Growth Area 63
Figure 8-3: Southwest Residential Lands Growth Area 64
Figure 8-4: West Residential Lands Growth Area 65
Figure 8-5: Northwest Residential Lands Growth Area 66
Figure 8-6: Northeast Side Employment Lands Growth Area 68

List of Appendices

Appendix A – Fire Flow Review 72
Appendix B – Capital Program 73

1 Introduction

1.1 Background

The City of Port Colborne (City) is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. It is part of the Niagara Region (Region) and is adjacent to the Town of Wainfleet, Town of Fort Erie, and City of Welland.

Water servicing within the City operates under a two-tier system. The Region is responsible for water treatment, storage facilities, pumping stations, and major trunk infrastructure, while the City owns and operates the local water distribution system, including trunk and distribution watermains. The system is supplied by the Port Colborne Water Treatment Plant (WTP), which is a conventional surface water treatment facility that draws raw water from Lake Erie via the Welland Canal. Treated water is distributed through a network of watermains and storage facilities within a single pressure zone.

The City owns, maintains and operates the majority of the stormwater collection and management infrastructure, including catch basins, storm sewers, ditches, culverts, stormwater management facilities, and other related structures. Stormwater runoff is conveyed through a combination of minor and major systems and ultimately discharges to local receiving watercourses and Lake Erie.

Reliable and accessible public infrastructure is critical to supporting existing and future communities. Coordinated infrastructure planning, land use planning, and investment are required to deliver efficient, safe, and cost-effective water and stormwater services.

The Master Servicing Plan (MSP) provides a comprehensive review of existing systems and identifies growth-related servicing strategies, with consideration for long-term sustainability and optimization of existing infrastructure.

1.2 Master Servicing Plan

The City is undertaking a Water and Stormwater Master Servicing Plan to develop a comprehensive strategy and vision for the City's short- and long-term water and stormwater infrastructure needs. The MSP reviews existing system conditions and performance, considers the impacts of growth, and identifies strategies to meet current and future servicing requirements.

The Study establishes a long-term management strategy to guide water and stormwater infrastructure planning through 2051 and beyond and includes an actionable Capital Program and Implementation Plan to support the strategy. The MSP will provide the framework for system capacity allocations, infrastructure upgrades, and financial planning, supporting the City's continued growth and sustainable management of its water and stormwater systems.

1.3 Master Servicing Plan Objectives

The MSP is designed to deliver a strategic, integrated framework for the management, enhancement, and expansion of the City's water distribution and stormwater management systems through 2051 and beyond. This MSP addresses the needs of both systems to ensure reliable service delivery, environmental protection, and support for the City's growth aspirations. The key objectives of the MSP are as follows:

- **Provide Safe and Reliable Services**: Ensure a consistent supply of potable water that complies with the Safe Drinking Water Act, 2002, and effective stormwater management to safeguard public health, property, and infrastructure under current and future conditions.
- **Accommodate Growth**: Evaluate and plan infrastructure capacity to support projected population increases, seasonal tourism demands, and potential industrial development, particularly along the Welland Canal, in accordance with the City's Official Plan.
- **Enhance System Resilience**: Develop adaptive strategies to mitigate the impacts of climate change, including increased storm intensity and fluctuations in Lake Erie water levels, ensuring the longevity and reliability of water and stormwater systems.
- **Meet Regulatory Standards**: Adhere to provincial legislation, Ministry of the Environment, Conservation and Parks (MECP) guidelines, Niagara Region policies, and Niagara Peninsula Conservation Authority (NPCA) requirements, while fulfilling the Municipal Class Environmental Assessment (EA) process.
- **Optimize Infrastructure Performance**: Identify opportunities to reduce non-revenue water losses, improve stormwater conveyance efficiency, and leverage existing assets to deliver cost-effective, sustainable solutions.
- **Protect Environmental Quality**: Minimize impacts on Lake Erie and local watercourses by enhancing stormwater quality, controlling runoff volumes, and incorporating low-impact development (LID) practices where feasible.
- **Foster Collaboration**: Engage residents, businesses, Niagara Region, NPCA, and other stakeholders to align the MSP with community needs, regional priorities, and environmental goals.

These objectives underpin a holistic servicing strategy that ensures Port Colborne's water and stormwater systems are robust, sustainable, and capable of supporting the community's long-term prosperity.

1.4 Master Servicing Plan Documentation Layout

The MSP Report, including all supporting volumes, is the documentation placed on public record for the prescribed minimum 30-day review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The MSP Report is organized into 5 volumes as described below.

1.4.1 Volume 1 - Executive Summary

Volume 1 provides a brief overview of the MSP. It summarizes the information contained in Volume 2, 3, 4 and 5, including the problem statement, purpose of the study, significant planning, environmental and technical considerations, and description of the preferred water and stormwater servicing strategies including depiction of the projects and documentation of the capital programs.

1.4.2 Volume 2 – Plan & Policy

Volume 2 details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and stormwater servicing performance objectives, population, and employment growth forecasts, existing environmental and servicing conditions, and future considerations.

1.4.3 Volume 3 – Water Master Plan

Volume 3 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred water servicing strategy. This volume contains baseline water system data and performance information. This volume also documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy and implementation plan.

1.4.4 Volume 4 – Stormwater Master Plan

Volume 4 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred stormwater servicing strategy. This volume contains baseline stormwater system data and performance information. This volume also documents the stormwater servicing strategy development with detailed information on the projects and capital program associated with the preferred stormwater servicing strategy and implementation plan.

1.4.5 Volume 5 – Indigenous, Public, and Agency Consultation

Volume 5 contains all relevant documentation of the public consultation process including notifications, comments and responses, and distribution information. Presentation material from the Public Information Centre (PIC) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2 Water System Performance Objectives

To ensure the City's water system operates efficiently and that it's performance can meet existing and future needs of the system's users, clear system performance criteria must be established. As part of this MSP, the design criteria and hydraulic performance criteria were reviewed to confirm that system performance objectives appropriately inform the sizing and timing of future infrastructure, such as watermains, while also supporting the identification and planning of upgrades required to address system deficiencies.

This MSP's Level of Service and Performance Criteria recommendations are based on the following:

- The City's Design and Development Manual;
- Niagara Region's 2021 Water and Wastewater Master Servicing Plan Update (MSPU);
- Review of Ministry and other agency requirements;
- Review of available historic reports; and,
- Assessment of existing system performance.

2.1 Water Use Design Criteria

The existing water distribution system demands were determined through a review of the City's water billing records, SCADA data from the Region, and Non-Revenue Water (NRW) estimation.

2.1.1 Billing Data Review

Table 2-1 summarizes the City's average annual water billing records from 2022 to 2024.

Table 2-1: Port Colborne Historic Water Billing Review

Year	Water Billing (m^3)			Water Billing (MLD)			%	
	Total	Res	Emp	Total	Res	Emp	Res	Emp
2022	1,659,507	825,113	834,394	4.55	2.26	2.29	50%	50%
2023	1,590,847	819,448	771,399	4.36	2.25	2.11	52%	48%
2024	1,632,993	901,930	731,063	4.47	2.47	2.00	55%	45%
Average	**1,627,782**	**848,830**	**778,952**	**4.46**	**2.33**	**2.13**	**52%**	**48%**

The 2022 - 2024 water billing records demonstrate a generally consistent consumption trend of 4.5 MLD, which is generally split between 52% residential demand and 48% employment demand.

2.1.2 Water Treatment Plant Review

Table 2-2 summarizes the treated water supplied to the Port Colborne system. The 2011 to 2020 values are from the Region's 2021 Master Servicing Plan Update Report. The 2022 to 2024 period was calculated using the Region's SCADA records.

Table 2-2 Port Colborne WTP - Historic Water Production

Year	Average Day Demand (MLD)	Max Day Demand (MLD)	Peaking Factor
2011	8.2	11.8	1.45
2012	7.9	12.3	1.55
2013	7.9	12.0	1.52
2014	8.6	14.0	1.64
2015	9.0	14.9	1.65
2016	7.7	11.4	1.47
2017	8.7	14.2	1.62
2018	8.8	14.2	1.60
5-Year Average	**8.6**	**13.7**	**1.60**
5-Year Peak	**9.0**	**14.9**	**1.65**
2019	7.3	12.4	1.71
2020	6.8	10.5	1.53
2022[1]	7.0	16.1/9.5	2.31/1.36
2023	7.5	10.7	1.42
2024	8.0	11.2	1.40
5-Year Average	**7.3**	**12.2/10.8**	**1.67/1.48**
5-Year Peak	**8.0**	**16.1/12.4**	**2.31/1.71**

1 – Peak Day demand in 2022 occurred on January 23, likely due to a watermain break and/or operational issue. Summer Max Day demand was 9.5 MLD.

The Port Colborne system has experienced a moderate decrease in system demands compared to the Region's 2021 MSPU baseline. For the purposes of the City's MSP, the 5-year average demand of 7.3 MLD will be used.

The highest system MDD peaking factor was observed in 2022, where the MDD occurred in January and where the peaking factor was 2.31, which was 35% higher than the next highest peaking factor observed since 2011. The 5-year average peaking factor is 1.67, including the 2022 MDD, and 1.48 when using the summer MDD for 2022. The City's design manual recommended a peaking factor 1.57, which is approximately the midpoint between the two calculated 5-year averages. The MSP proposes using the City's design manual MDD peaking factor of 1.57.

2.1.3 Non-Revenue Water Demands

Table 2-3 summarizes the total water supplied by the Port Colborne Water Treatment Plant (WTP) compared to billed water consumption from 2022 to 2024.

Table 2-3 Port Colborne Non-Revenue Water Review

Year	Demand (MLD)		Non-Revenue Water %
	Billed	Production	
2022	4.55	6.95	35%
2023	4.36	7.51	42%
2024	4.47	8.02	44%
Average	**4.46**	**7.49**	**40%**

The City's non-revenue water has been calculated at 40%, which aligns with the Region's 2021 MSPU estimate of 41%.

2.1.4 Per Capita Demand

Table 2-4 shows the estimated residential and employment per capita demand, with and without non-revenue water.

Table 2-4 Historic Water System Per Capita Demands

Year	Estimated Population		L/cap/d (365 day) Billing (non NRW)		L/cap/d (365 day) Production (with NRW)		L/cap/d (365 day) Billing + 25% NRW	
	Res	Non-Res	Res	Non-Res	Res	Non-Res	Res	Non-Res
2022	18,271	4,800	124	476	189	728	165	635
2023	18,381	4,823	122	438	210	755	163	584
2024	18,491	4,847	134	413	240	743	178	551
Average			**127**	**443**	**213**	**742**	**169**	**590**

The system's average per capita demands using billing data are substantially lower than the Region's and City's 240 L/cap/day for residential use, however, they are substantially higher than 270 L/cap/day for employment use. This is a function of the types of industry that are active within the City and which represent a high percentage of the overall water usage. Further, due to the system's high non-revenue water, the system's total production demands are substantially higher than the Region's and City's demand criteria.

Growth related per capita rates of 240 L/cap/day for residential and 270 L/cap/day for employment were recommended for the following reasons:

- The recommended per capita rates are in line with the Region's and City's established design criteria, maintaining consistency with broader planning assumptions and provides a conservative yet defensible benchmark that reflects long-term average conditions.

- The recommended residential per capita rate remains above the observed historic per capita rates outlined in **Table 2-4**; providing reasonable flexibility within the criteria to accommodate potential changes in future usage patterns, recognizing that current lower residential demands may reflect temporary conservation trends or short-term system conditions.
- The recommended employment per capita rate is lower than the observed historic per capita rates; however, employment demands within the City are influenced by water-intensive industrial activity. The use of the established employment rate provides a stable basis for long-term forecasting.

2.1.4.1 Demand Projection Methodology

For the purposes of this Master Servicing Plan, the following methodology was used for estimating existing and future demands:

- Existing Demands: The Starting Point Methodology was used. Existing system demands and maximum day peaking factor for the Port Colborne distribution system were calculated using customer billing records and historic SCADA production data.
    - Average system demands and peaking factors were estimated using three years of SCADA records (2022 to 2024).
    - Local allocation of system demands and non-revenue water was based on three years of billing records (2022 to 2024).
- Future Demands: Future demands will be added to existing demands using the estimated growth and applying per capita criteria.

2.2 Hydraulic Performance Criteria

2.2.1 Regional Facilities

Niagara Region is responsible for system treatment, pumping, and storage; accordingly, in the servicing analysis, it was assumed that there is sufficient Regional treatment, pumping, and storage capacity to meet the assessed growth scenarios. Further, it is assumed that the City and Region will coordinate to ensure key Region treatment, pumping, and storage capacity upgrades are implemented in line with growth.

2.2.2 System Pressures

System pressure objectives are consistent with the City's Design manual, Region MSPU criteria and MECP guidelines as follows:

- Maintain system pressures between 40-100 psi under average day demand (ADD), maximum day demand (MDD), and peak hour demand (PHD) scenarios
- Preferred system pressures are 50-70 psi
- Maintain system pressures above 20 psi under MDD + fire flow conditions

2.2.3 Fire Flow

The recommended process of defining fire flow targets is as follows:

- FUS and land use-based approach; and,
- Fire flow at a hydrant is governed by land use with the highest fire flow target.

The City's design guidelines outline the following minimum fire flow requirements for new developments:

- Residential Detached – 100 L/s
- Residential Townhouse – 150 L/s
- Employment, high-rise and stacked townhouse – to be determined in accordance with FUS and/or AWWA requirements.

A desktop review of various city neighbourhoods was conducted to estimate appropriate Fire Underwriters Survey (FUS) fire flows. A representative construction type was selected for analysis, and fire flow requirements were calculated based on FUS criteria. **Appendix A** provides a detailed calculation for each assessed property and the corresponding results.

Table 2-5 summarizes the fire flow criteria that will be used after reviewing the local FUS calculations and local municipal criteria.

Table 2-5 Master Servicing Plan Fire Flow Criteria

Land Use	City Criteria	FUS Review	Recommendation
Dead End Residential	100	50	50
Single/Semi	100	109	100
Townhouse/Row House	150	134	150
Multi Family	FUS Review	214	200
Commercial		150	175
Institutional		201	200
Industrial		414	250

The recommended land use base fire flow criteria generally align with the estimated FUS for various existing properties and are consistent with the approach used by other neighbouring communities. It is noted that the City has several larger industrial properties that have very high estimated FUS fire flow requirements. For the purposes of this MSP, fire flow requirements

will be limited to 250 L/s, consistent with the City's recent approach with other large industrial developments and with the Region's trunk watermain sizing philosophy.

2.3 Water Use Design Criteria and Level of Service Summary

As presented in the above sections, the water demand criteria updated as part of the MSP are summarized in **Table 2-6**.

Table 2-6: Water Design Criteria and Level of Service

Description			Criteria
Water Demand	Per Capita Rate	Residential	240 LPCD
		Employment	270 LPCD
	Peaking Factor	Max Day	1.57
		Peak Hour	1.5 – 2.0 times Max Day Demand
System Performance	Fire Flow		Land use/FUS-lite approach
	Pressure	Max Day Demand	Preferred 345 – 480 kPa (50 – 70 psi) Allowable 275 – 550 Kpa (40 – 80 psi) Max allowable 700kPa (100psi)
		Peak Hour Demand	
		Average Day Demand	
		Min Hour Demand	
		Max Day + Fire	>140 kPa (20 psi)

2.4 Capital Cost Projections

Cost estimates for all projects identified in this MSP have been developed in accordance with the cost classification framework outlined in the *Guide to Costing* (Treasury Board of Canada Secretariat, May 2023) and the classification system of the Association for the Advancement of Cost Engineering (AACE). These classification systems define the appropriate estimating methodology, expected level of accuracy, and associated risk at various stages of project planning and design. For the purposes of this MSP, the estimates have been prepared consistent with a Class 4 level estimate, reflecting the current stage of planning and establishing the range of accuracy that can be expected as projects advance toward detailed design.

The cost estimating strategy was developed to provide a consistent, transparent, and reliable basis for project budgeting and prioritization. The approach includes the development of a standardized estimating algorithm and benchmarking against recent project costs to provide perspective on estimate accuracy.

The cost estimating methodology consists of four key steps:

- **Step 1 – Unit Costs and Baseline Construction Costs:** Establishment of unit costs for linear infrastructure (watermains and storm sewers) using a first-principles analysis, lump sum costing for stormwater management ponds based on size, and volumetric unit costs for LID infrastructure. Baseline construction costs are derived by applying these unit costs to the planned infrastructure quantities.
- **Step 2 – Adjustments for Scope and Complexity:** Modification of baseline construction costs to reflect project-specific factors and current market conditions, including road restoration, construction overhead, site complexity, special conditions, market and inflation adjustments, and unique project elements.
- **Step 3 – Inclusion of Non-Construction (Soft) Costs:** Addition of allowances for land acquisition, supporting studies and investigations, design and contract administration services, and City-related project management and permitting costs.
- **Step 4 – Overall Project Contingency:** Application of a contingency allowance to account for uncertainty, scope refinement, and unforeseen conditions at this stage of planning.

Detailed costing sheets were developed to support the financial analysis and provide transparency with respect to quantities, assumptions, and adjustment factors applied to each project. **Appendix A** in **Volume 2** provides a memo outlining the detailed costing methodology and associated assumptions.

3 Planning and Growth Projections

Section 7 in **Volume 2** summarizes the various historical and current growth forecasts that have been prepared over the past decade, providing context for the growth assumptions adopted in this MSP. These forecasts inform the future system modelling and the development of infrastructure improvement strategies intended to address the long-term servicing needs of the City. Key background documents reviewed include the 2013 Official Plan (growth to 2031), the 2023 Growth Analysis Review (Dillon Consulting), the 2024 Development Charges Background Study (Watson & Associates), the 2024 East Side Employment Lands Servicing Review (GEI), and the ongoing Pollution Prevention Control Plan project.

For the purposes of this MSP, two planning scenarios were developed to evaluate future servicing requirements:

- **Buildout Scenario:** Represents full development within the existing urban boundary, including additional employment lands along the Welland Canal. This scenario is used to identify ultimate long-term servicing needs and to appropriately size major infrastructure upgrades. Growth assumptions are based on parcel-level development status, incorporating densities and servicing information from the Growth Analysis Review and the PPCP, as well as proponent-specific information for industrial and mixed-use lands.
- **2051 Growth Scenario:** Represents the City's most likely development outlook to 2051 and forms the basis of the recommended capital program. This scenario prioritizes development based on status (Development Review and Development Database parcels, Future Development Areas, Pipeline Lands, and Vacant Lands) and applies reasonable completion factors to establish a realistic estimate of population, employment, water demand, and impervious area growth by 2051.

The Buildout Scenario establishes the City's ultimate servicing envelope, while the 2051 Growth Scenario defines the infrastructure upgrades required within the planning horizon. Detailed assumptions and summarized results for each scenario are provided in **Table 3-1** and **Table 3-2**, with corresponding mapping included in **Figure 3-1**.

Table 3-1: Buildout Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Development Status	Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)[1]	Total Average Day Demand (L/s)	Area (ha)
Development Database	1,043	3			3	11
Development Review	6,132	17	10,271	173	190	526
INS Future Development Area	787	2			2	11
INS Pipeline Lands	4,149	12			12	112
INS Vacant Lands	7,057	20			20	114
Total	**19,167**	**53**	**10,271**	**173**	**226**	**774**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors

Table 3-2: 2051 Scenario of Growth in Water Demand and Area Requiring Stormwater Servicing

Status	% Complete by 2051	2051 Forecasted Values					
		Residential Growth	Residential Average Day Demand Growth (L/s)	Employment Growth	Employment Average Day Demand Growth (L/s)	Total Average Day Demand (L/s)	Area (ha)
Development Database	100%	1,043	3	0	0	3	11
Development Review	100%	6,132	17	10,271	173	190	526
INS Future Development Area	100%	787	2	0	0	2	11
INS Pipeline Lands	50%	2,075	6	0	0	6	56
INS Vacant Lands	20%	1,411	4	0	0	4	23
Total		**11,447**	**32**	**10,271**	**173**	**204**	**627**

1 - Includes Process-Based Flows for 4 industrial parcels.
MDD for process flows, non-process flows based on Peaking Factors

City of Port Colborne

Water and Stormwater Master Plan

Growth Areas
- Development Database
- Development Review
- INS Future Development Area
- INS Pipeline Lands
- INS Vacant Lands

Zoning
- Commercial
- Farm
- Government
- Industrial
- Institutional
- Land
- Residential
- Special Purpose

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Parks
- NPCA Approximate Regulation Lands
- Waterbody

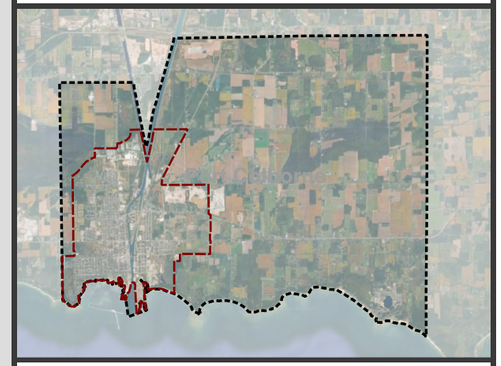


Figure 3-1
Anticipated Development

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

4 Existing Water System

4.1 Existing Water Infrastructure

The City's water system comprises of a two-tier management, with Niagara Region responsible for supply, treatment, storage, pumping, and transmissions, and the City responsible for local distributions. Due to the two-tier management, the system performance and capacity are highly influenced by the operation of the Region's infrastructure.

Figure 4-1 highlights the City's water system. The Region-owned Port Colborne WTP supplies the City's water system. The water system operates under a single pressure zone, with floating storage provided by a single elevated tank (ET), the Barrick Road ET, that generally manages the system pressures. The Fielden Avenue Reservoir and Pump Station provides additional peak and emergency storage needs.

While the system is generally well looped within the local distribution system, the major constraint is the Welland Canal, which bisects the system in two. There are only two (2) Welland Canal crossings, one Region and one City, interconnecting the treatment and storage on the west side to the east side (and significant growth areas to the east). The Region is currently constructing a second canal crossing, completing a transmission loop, which is anticipated to be constructed by Q3 2027. While the water system primarily services the existing urban boundary, there are extensions that service properties and businesses outside the urban boundary.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

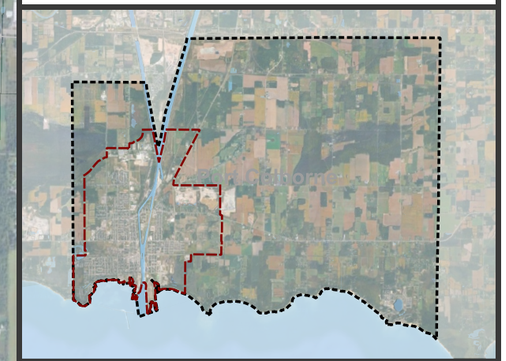


Figure 4-1
Existing Water System

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

4.1.1 City Water Infrastructure

The City owns and operates approximately 112 kilometres of watermain. **Table 4-1** to **Table 4-3** summarize the materials, diameters, and age of the existing City-owned water distribution system.

Table 4-1: City-Owned Watermain Diameter

Diameter (mm)	Length (m)	Percent by Length (%)
< 50	813	0.73
100	349	0.31
150	55,309	49.5
200	23,551	21
250	7,315	6.5
300	15,326	13.7
350	105	0.1
400	7,402	6.6
450	51	0.1
500	737	0.6
600	278	0.2

Table 4-2: City-Owned Watermain Material

Material	Length (m)	Percent by Length (%)
Asbestos Cement	4,681	4.2
Cast Iron	34,734	31.1
Ductile Iron	3,754	3.4
Copper	93	0.1
High Density Polyethylene	136	0.1
Polyethylene	469	0.4
Polyvinyl Chloride	64,814	58.0
Concrete/Cement	279	0.2
Steel	2,675	2.4
Unknown	93	0.1

Table 4-3: City-Owned Watermain Age

Install Year	Length (m)	Percent by Length (%)
> 1950	11,192	10.0
1950 - 1960	16,525	14.8
1960 - 1970	7,744	6.9
1970 - 1980	12,676	11.3
1980 - 1990	24,504	21.9
1990 - 2000	20,809	18.6
2000 - 2010	7,655	6.9
2010 - 2020	9,716	8.7
2020 - 2023	859	0.8
Unknown	49	0.0

4.1.1.1 City's Capital Program and Watermain Lining Program

The City's existing Capital Program is primarily focused on the rehabilitation of aging watermains through a watermain lining program targeting cast iron (CI) and asbestos cement (AC) pipes. Projects are prioritized based on condition, including historical break data and observed deterioration. The program, as illustrated in **Figure 4-2**, includes works completed in 2024 and 2025, as well as planned projects for 2026 to 2028.

For the purposes of this implementation plan, we have assumed that the City will continue with the rehabilitation of the City's remaining cast iron watermains, with completion by 2041. The implementation plan includes recommendations to prioritize the lining/replacement of watermains that support growth areas and/or have a history of breaks. Ultimately, the City will continue to review and prioritize the watermain replacement/lining based on a review of corridor needs and other infrastructure and community priorities. This phased approach supports the continued renewal of aging infrastructure, improving system reliability and reducing the risk of future watermain failures.

City of Port Colborne

Water and Stormwater Master Plan

City Watermain Lining Projects
- Completed (2024-2025)
- Proposed (2026-2028)

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

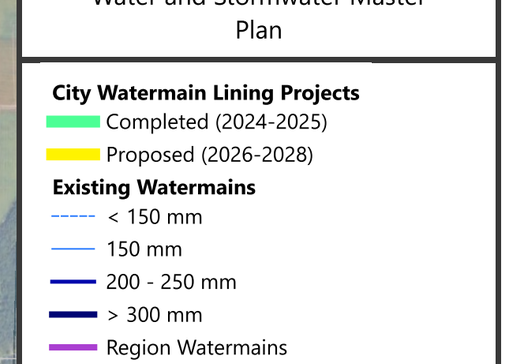


Figure 4-2
City's Watermain Rehabilitation Program

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

4.1.1.2 Watermain Breaks

The City maintains records of watermain breaks dating from 1974 to present, which has been used to assess system performance and inform infrastructure planning. This data indicates that breaks are generally concentrated in older cast iron and asbestos cement watermains.

Break history has been a factor in prioritizing projects within the City's existing watermain lining Capital Program. As outlined in **Section 4.1.1.1**,The City continues to use watermain break records to support ongoing decision-making to manage the operation and maintenance of the water distribution system.

For the purposes of this Master Plan, watermain break data has been incorporated into the analysis and used as a key factor in determining project costing. While it is understood that it is the City's preference to line cast iron watermains if feasible, for the purposes of the Implementation Plan, watermains with break history have been assumed to require full replacement, while watermains without a break history are assumed to be candidates for lining. Prior to construction/or lining, the City will ultimately need to review and assess the condition of the existing watermain and confirm its suitability for lining.

4.1.2 Regional Water Infrastructure

Table 4-4 to **Table 4-6** summarize the Region-owned trunk infrastructure capacity supporting the City of Port Colborne.

Table 4-4: Port Colborne Water Treatment Plant Overview

Facility Name	Port Colborne Water Treatment Plant
Permit	Drinking Water Works Permit No. 007-201 (Issue 6, August 2, 2019)
Source Water	Lake Erie via Welland Canal
Rated Capacity	36.0 MLD (Maximum Day Demand)
Key Treatment Processes	Zebra mussel control, travelling screens, coagulation, flocculation, sedimentation, filtration, disinfection

Table 4-5: Region Pumping Stations Overview

Station Name	No. of Pumps (Firm)	Installed Capacity (MLD)	Firm Capacity (MLD)	Total Dynamic Head (m)
Port Colborne WTP High Lift Station	5 (4 firm)	51.2	36.1	48.8
Fielden Avenue BPS	2 (1 firm)	9.0	4.5	61.0

Table 4-6: Region Storage Facilities Overview

Facility Name	Type	Volume (ML)	Usable Volume (ML)	Top Water Level (m)
Port Colborne WTP	Pumped Reservoir	3.8	3.1[1]	178.6
Fielden Avenue Reservoir	Pumped Reservoir	4.6	4.6	179.5
Barrick Road Elevated Tank	Elevated Tank	6.0	6.1	223.0

1 – Usable volume limited by MECP contact time – Region's 2021 MSPU estimated 0.7 MLD of contact volume is required at a system MDD of 12.1 MLD

4.1.2.1 Trunk Watermain

The Region owns and operates approximately eight kilometres of transmission watermains within the City of Port Colborne, varying from 300 mm to 750 mm, to convey water from the WTP to the City's distribution system. There are 22 interconnections between the City and Region watermains.

4.1.2.2 Region Water Servicing Strategy and Upgrade Plans

The Region's 2021 MSPU identifies the preferred water servicing strategy for the City of Port Colborne to accommodate projected growth beyond 2051 while optimizing system performance and reducing long-term lifecycle costs.

The MSP system findings are as follows:

- The Port Colborne Water Treatment Plant has sufficient capacity to support growth beyond 2051;
- The components of the Port Colborne water strategy are focused on providing additional storage for the growth in the area while optimizing the storage/pumping relationship to reduce long-term lifecycle costs;
- The Fielden Reservoir and Pumping Station will be investigated for potential decommissioning to address existing operational issues, reduce long-term life cycle costs, and maximize the use of surplus pumping and treatment capacity at the WTP;
- An additional trunk watermain crossing the Canal to support growth on the East and West sides of Port Colborne; and,
- New, or additional elevated storage post-2051 is recommended to support long-term growth needs – preferred location to be determined in a separate study. For the purposes of this MSP analysis, the new elevated storage was assumed to be next to the existing Barrick Road ET.

Table 4-7 and **Figure 4-3** summarize the MSPU's long-term strategy, which includes system upgrades, potential facility decommissioning, and strategic planning for future storage and supply reliability. Note that the Region's upgrades were based on the 2051 growth projection at the time of the MSPU and may not reflect the City's latest 2051 growth projections.

Table 4-7: 2021 Regional MSP Update Project for City of Port Colborne

Project ID	Type	Description
W-S-012	Storage	Construction of a new 9.0 ML elevated tank after 2051 to meet long-term storage needs. Proposed at the Barrick Road Elevated Tank site as a twin ET, but final location to be determined through a dedicated Environmental Assessment (EA).
W-D-007	Decommissioning	Decommission the Fielden Avenue Reservoir and Pumping Station to streamline system operations, reduce energy consumption, and rely on existing surplus capacity at the WTP.
W-M-002	Regional Watermains	Construct a 450 mm watermain across the Welland Canal to improve the redundancy and reliability of water supply to the eastern portion of the city.
Studies and Special Programs		• The elevated tank project is included in the Region's capital program to provide project visibility, allow for early planning, and address potential land acquisition requirements. • The City and Region should implement a non-revenue water reduction program targeting current inefficiencies. • A Region-wide reservoir volume study is recommended to evaluate compliance with Contact Time volume requirements and overall system storage adequacy.

It should be noted that the Region's 2021 MSPU recommendations were based on a net growth of 6,097 people and jobs by 2051. The City's current 2051 growth projections account for 21,718 equivalent people and jobs (when converting known high water use industrial developments into an equivalent number of jobs-based flow rate). As the City's new 2051 growth projections are substantially higher than those reviewed in the Region's 2021 MSPU, it is anticipated that additional Regional upgrades may be required to support the City's 2051 growth.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Region MSP Projects
- Decommission Fielden Ave Res and PS
- New ET
- New 450 mm Watermain

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

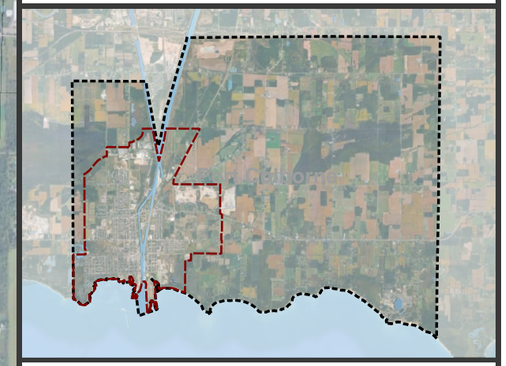


Figure 4-3
Region Capital Program

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

4.2 System Demands

The population and employment projections presented in **Table 3-1**, along with the Level of Service criteria presented in **Table 2-6**, were used to determine the growth average day demand (ADD) and the maximum day demand (MDD). Buildout system demands were calculated using the previously described starting point methodology. The total projected ADD and MDD are summarized in **Table 4-8**.

Table 4-8: System Demands

		2025	Buildout
ADD (L/s)	Residential	26.1	79.4
	Employment	25.5	198
	NRW[1]	34.8	34.8
	Total	**86.4**	**312.1**
MDD (L/s)	Residential	41.0	124.6
	Employment	40.0	310.9
	NRW[1]	34.8	34.8
	Total	**115.8**	**470.2**

1 - It is assumed that the City will continue to undertake activities to reduce system NRW rates with the goal of reducing total NRW below 25%. For the purposes of the MSP and infrastructure sizing, the conservative assumption of maintaining existing NRW was used.

4.3 Hydraulic Water Model

The City and Region provided a copy of the existing InfoWater model of the City's water system, which was used as the basis for the model update and master plan analysis. Based on previous updates completed as part of the Region's master plan studies, no fundamentally significant modifications to the model structure were required.

The model update was completed using the following approach:

- Review of the system based on available facilities drawings, SCADA and GIS data.
- Direct GIS to model link for pipes, valves, and hydrants.
- Demand analysis and allocation using billing data and plant production records.
- Extended Period Simulation (EPS) validation through SCADA.
- Development of model scenarios (ADD, MDD, MDD+FF).

4.3.1 Network Development

System updates, including watermains, were incorporated into the model using the City's GIS water infrastructure data. Prior to import, the GIS network and existing model were reviewed

for discrepancies in watermain diameter and material, with the appropriate data source confirmed in each case.

Junction elevations were assigned based on the City's ground surface contours.

4.3.2 Facility Development

The review confirmed that the hydraulic representation of each facility is consistent with the expected capacities outlined in **Section 4.1.2**. The scope of the facility updates included:

- Reviewing and refining the network configuration surrounding each facility.
- Updating system pumps and associated pump curves.
- Reviewing storage elements and defining storage geometry.

4.3.3 System Demand Analysis

The system water demands, summarized in **Table 2-2**, were evaluated using SCADA and billing data. This analysis supports:

- Determination of average system demands, including non-revenue water.
- Spatial allocation of demands across the network.
- Assessment of temporal variations and peaking factors.

4.3.3.1 Demand Allocation

Using billing data, the ADD was spatially allocated to model nodes by assigning each parcel's average demand to the nearest node. NRW from 2022–2024 billing data was similarly distributed across the nodes and remains constant for all scenarios.

4.3.3.2 Diurnal Demand

System demands on an hourly basis were calculated based on the flow rates from the Port Colborne WTP, Fielden Avenue Pumping Station, and the Barrick ET and Fielden Reservoir by converting the flow and storage levels to a change in volume per hour. A diurnal curve was created to reflect an average day's varied consumption in 1-hour intervals over a 24-hour period. **Figure 4-4** presents the updated diurnal curve (for the average and maximum weeks), compared with the previously modelled diurnal curves (2016 and 2021).

The 2021 modelled diurnal curves have similar peak factors compared to the updated curves based on 2020 – 2024 SCADA data.

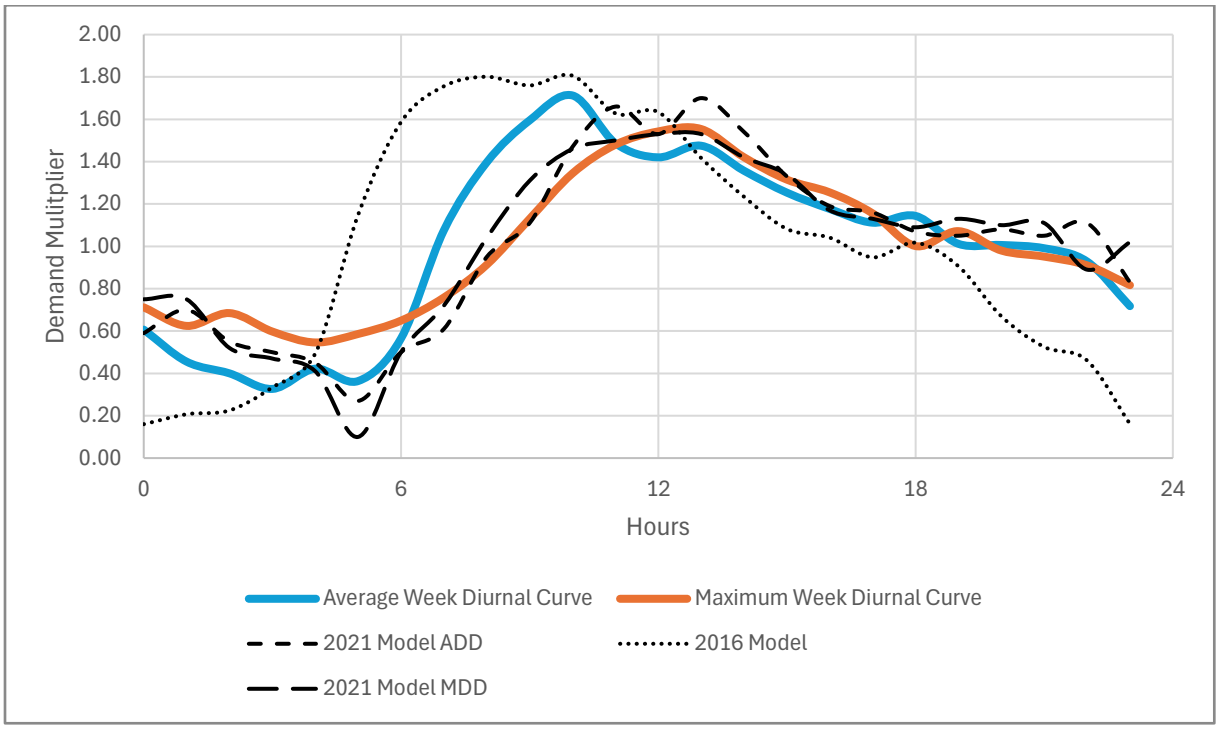


Figure 4-4: Updated Diurnal Curve Compared to Previously Modelled Diurnal Curves

4.4 Facility Details, System Control Narrative, and SCADA Validation

SCADA data was used to review the system control narrative and validate model controls. The model was calibrated by comparing SCADA measurements with model EPS over a seven-day period during an average week, considering operations and pump curves. This comparison ensured the model accurately represents WTP flow rates, storage levels and cycles, pump operation, and overall system performance.

Calibration is a necessary step before using the model for capital works analysis or other applications, including water quality, operations, or energy management studies. Benefits of calibration include identifying and correcting discrepancies in the model data and, in some cases, uncovering issues in the field.

5 Assessment of Existing Water Infrastructure

A key step in the master planning process is assessing the existing infrastructure to establish baseline system conditions, which form the basis for the MSP recommendations. Once the current conditions were determined through a detailed analysis, the impacts of future growth on the system were evaluated to inform recommended servicing strategies.

The following sections outline current opportunities and constraints within the water system and assess its ability to accommodate projected demands.

5.1 Facility Capacity

Regional infrastructure considered in this assessment includes the Water Treatment Plant, Fielden Reservoir and Pumping Station, and Barrick Elevated Tank.

The water system is supplied by Regional infrastructure, and overall system performance is largely governed by Regional facility operations. For the purposes of this Master Plan, Regional facility capacity is assumed to be sufficient to accommodate projected growth. Adequate capacity for treatment, storage, and pumping is assumed to be available. Existing Regional operations and control strategies are maintained under a single pressure zone.

5.2 System Performance

The City's hydraulic water model was used to support the assessment of the water system's watermains capacity.

5.2.1 Transmission (Trunk Watermains)

The Regional trunk watermain system provides the primary conveyance of treated water to the City system. For the purposes of this Master Plan, trunk watermain capacity is assumed to be sufficient to accommodate projected growth, including the construction of the proposed canal crossing.

Trunk system operation is assumed to remain consistent with existing Regional control strategies and system configuration.

5.2.2 System Pressures

Figure 5-1 presents the existing system performance, based on existing system configuration and capacities.

In general, minimum system pressures fall within the acceptable pressure range of 40 to 100 psi under maximum day demand, with most pressures between the preferred 50 to 70 psi. Most pressures fall between 50 and 60 psi, with some localized areas experiencing pressures below 50 psi, but above the required 40 psi which are concentrated in small diameter cast iron (CI) watermains and higher elevation dead-ends. Pressures less than 40 psi are experienced at

the far east extremity of the system on Second Concession Road due to the long dead-end watermain.

The City has an existing water service agreement with the Pinty's Factory which is serviced from a dedicated 3.6 km 200 mm watermain along Second Concession Road which requires:

- Peak flow of 18.41 L/s per day
- Sustain an operating pressure of 40 psi along Chippawa Road and service pressure of 23.5 psi at the Pinty's Site
- Peak pressures at Chippawa Road should not exceed 60 psi

Under existing and buildout conditions, the pressure meets the 23.5 psi.

5.2.3 System Fire Flows

Fire flow deficiencies were identified using a land-use based approach, where the governing land-use, at the closest fire hydrant, determined the fire flow target identified in **Section 2.2.3**. **Figure 5-2** presents the fire flow deficiencies under existing conditions.

There is a high concentration of fire flow deficiencies in CI watermains, and along dead-end watermains with high industrial fire flow targets. Some examples of these areas include:

- Cast iron watermains:
    - Southwest residential area, including along Sugarloaf Street and Clarence Street and the area in between;
    - The Island area, both north and south of Main Street West;
- Industrial dead-end watermains:
    - Invertose Drive (PVC watermain);
    - Lake Road (PVC watermain).

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Minimum System Pressures (psi)
- < 40
- 40 - 50
- 50 - 80
- 80 - 100
- > 100

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

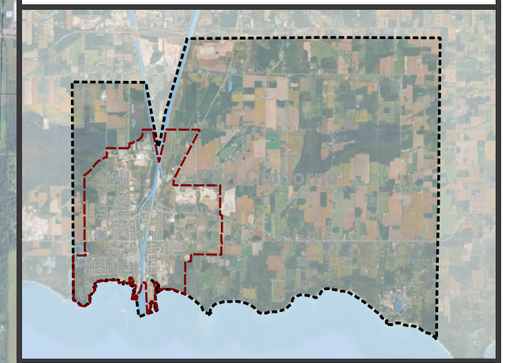


Figure 5-1
Existing System Pressures

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Fire Flow Deficiencies
- Does not meet land-use based fire flow target
- Meets land use based fire flow target

Existing Watermains
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities
- PS
- Storage
- WTP

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

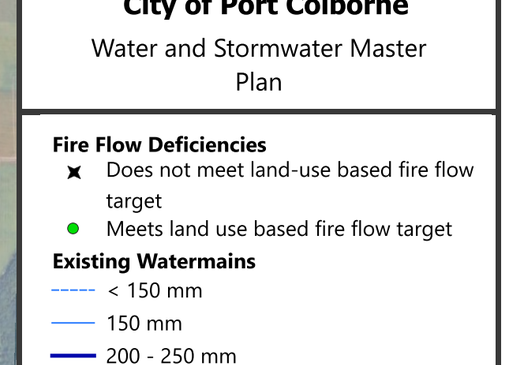


Figure 5-2
Existing Fire Flow Deficiencies

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

5.3 Opportunities and Constraints

Existing and future water opportunities and constraints were identified through discussions with City staff and through hydraulic analyses. **Figure 5-3** highlights the existing opportunities and constraints.

System Supply and Capacity

- Water system supplied by the Region, with system performance largely influenced by Regional operations.
- Regional treatment, storage, and pumping capacity are assumed to expand as required to support future growth.
- The system is currently operated as a single pressure zone, which is expected to be maintained.

Based on a review of existing system conditions and projected demands, the following key constraints and opportunities were identified.

Constraints

- Aging cast-iron and asbestos cement watermains.
- Areas with lower available fire flow.
- High water loss.
- Localized lower pressures at higher elevations (generally still above minimum targets).

Opportunities

- Improve system looping and fire flow capacity in future growth areas.
- Coordinate water system improvements with planned Regional wastewater projects.
- Continue watermain lining in areas with a history of breaks and higher leakage.
- Planned Regional projects (e.g. new canal crossing, new ET, Fielden reservoir decommissioning) to support system reliability and expansion.

System Characteristics:

- Supplied by Region; system pressure and flows impacted Regional operations
- Assumed Regional treatment, storage, and pumping will expand to meet growth
- Single pressure zone maintained

Watermain condition & material – signification aging cast-iron and asbestos cement watermains with a history of breaks

High concentration of lower fire flow in areas with cast-iron watermains

2021 Region MSP Projects:

- New canal crossing
- New Elevated Tank
- Fielden Reservoir decommissioning

Lower pressures in areas with higher elevation; pressures remain above minimum pressure targets.

Future growth areas provide opportunity for system looping, leading to improved fire flow capacity

Opportunity to coordinate with wastewater projects identified through the Pollution Prevention Control Plan (PPCP)

Barrick Rd ET

Fielden Ave Res and PS

Port Colborne WTP

Welland

Third Concession Road

Second Concession Road

Chippawa Road

Carl Road

Miller Road

White Road

Highway 140

Main Street West

Killaly Street West

Killaly Street East

Main Street East

Clarence Street

Durham Street

Sugarloaf Street

Lakeshore Road East

Reuter Road

Lorraine Road

Weaver Road

Pinecrest Road

Minor Road

Elm Street

Steele Street

King Street

Williams Street

0 0.75 1.5 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Watermains

- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains

Existing Facilities

- PS
- Storage
- WTP

Growth Areas

- Growth Areas

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody
- NPCA Approximate Regulation Lands
- Parks

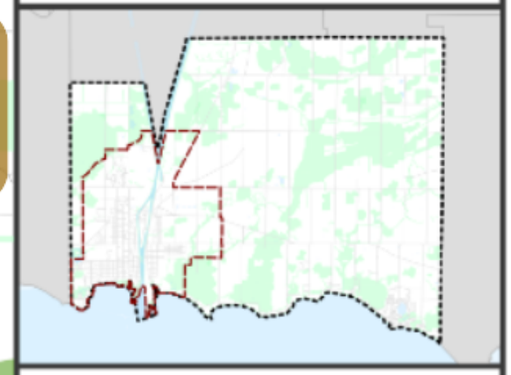


Figure 5-3

Opportunities and Constraints

Agile

April 2025
P01.002.01
EPSG:26917

6 Water Servicing Alternatives and Evaluation

Water servicing alternatives were developed in the context of identifying servicing alternatives to address both system-wide and local opportunities and constraints. These alternatives focus on the existing water system while still accommodating growth.

6.1 Servicing Strategy Development

As part of this MSP, water concepts were evaluated for existing and future growth areas to guide the selection of servicing strategies that:

- Incorporate the City's ongoing planned Capital Program and watermain lining program.
- Optimize the use of existing infrastructure to reduce the need for new construction where possible.
- Minimize costs associated with new infrastructure.
- Account for operation and maintenance costs to support long-term financial sustainability.
- Ensure the long-term reliability and security of the water system.
- Enhance system resilience to climate change.
- Avoid or minimize environmental disruptions, including watercourse and habitat crossings, wherever feasible.
- Limit impacts in areas where disturbances could pose a significant drinking water threat.

6.2 Existing System Upgrades

To address existing and growth-related fire flow and watermain condition needs, a variety of concepts were reviewed prior to determining four optimized system concepts. The following servicing concepts were evaluated:

- **A:** Buildout Capital Program
- **B:** Cast Iron Replacement
- **C:** Sub-Trunk Loops
- **C+B:** Sub-Trunk Loops and Target Upgrades (including Capital Program)

6.2.1 Concept A: Buildout Capital Program

Buildout Capital Program (Concept A) is highlighted in **Figure 6-1**, and represents the City's current short-term watermain rehabilitation and upgrade plan, which is focused on implementing the City's planned watermain replacement program. This concept prioritizes renewal of watermains with a history of frequent breaks or ongoing operational issues and aligns upgrades with planned municipal construction projects to improve efficiency.

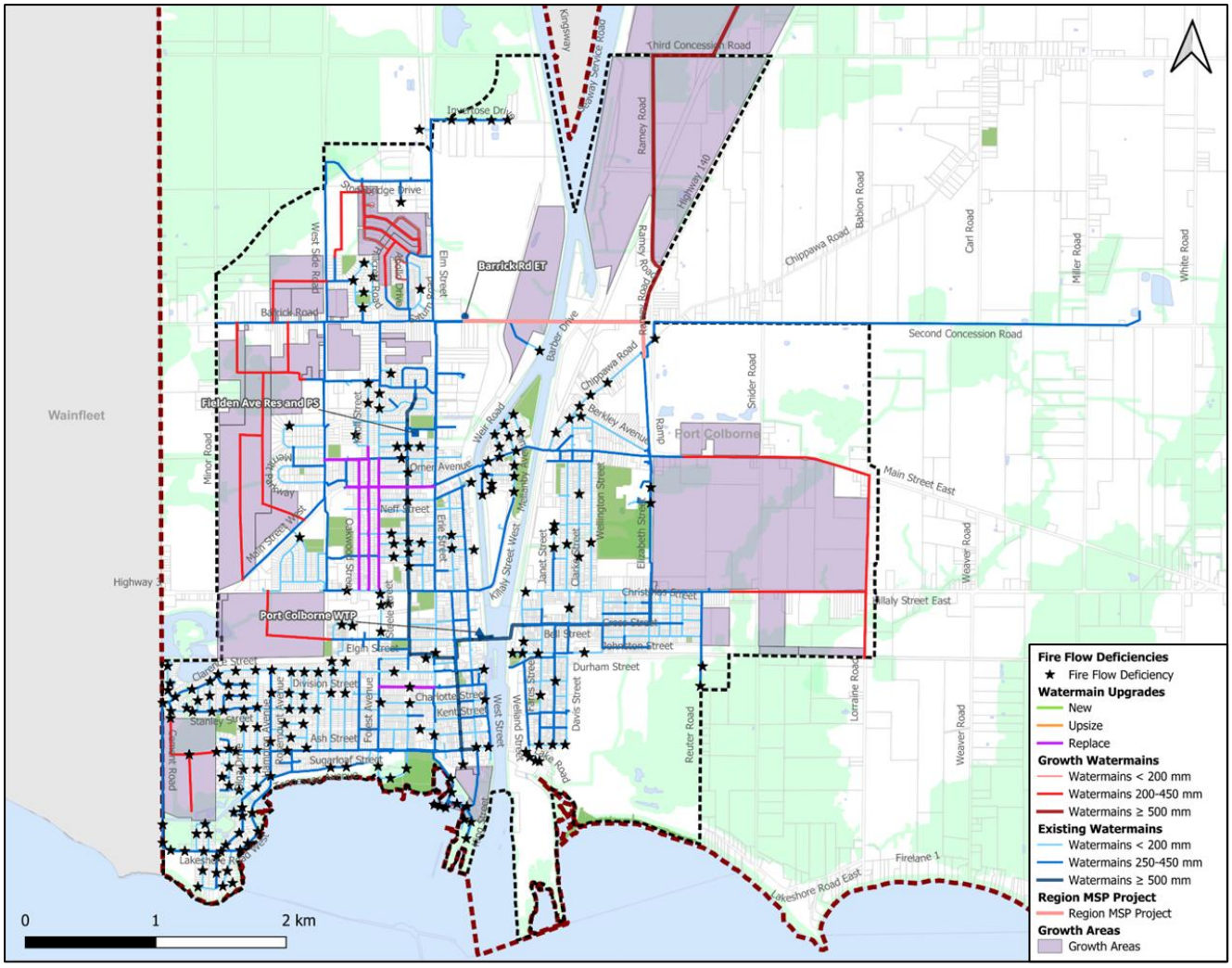


Figure 6-1: Buildout Capital Program

6.2.2 Concept B: Cast Iron Replacement

Cast Iron Replacement (Concept B), shown in **Figure 6-2**, represents an approach that builds on the City's Capital Program by replacing/lining all cast iron watermains across the system. This concept focuses on localized renewal in areas with frequent watermain breaks and aligns closely with historical break patterns. While it captures the majority of fire flow deficiencies, it has limited impact on overall system hydraulics.

This approach requires a significant extent of watermain replacement, and some limitations remain, including the presence of dead-end watermains in areas with higher fire flow requirements.

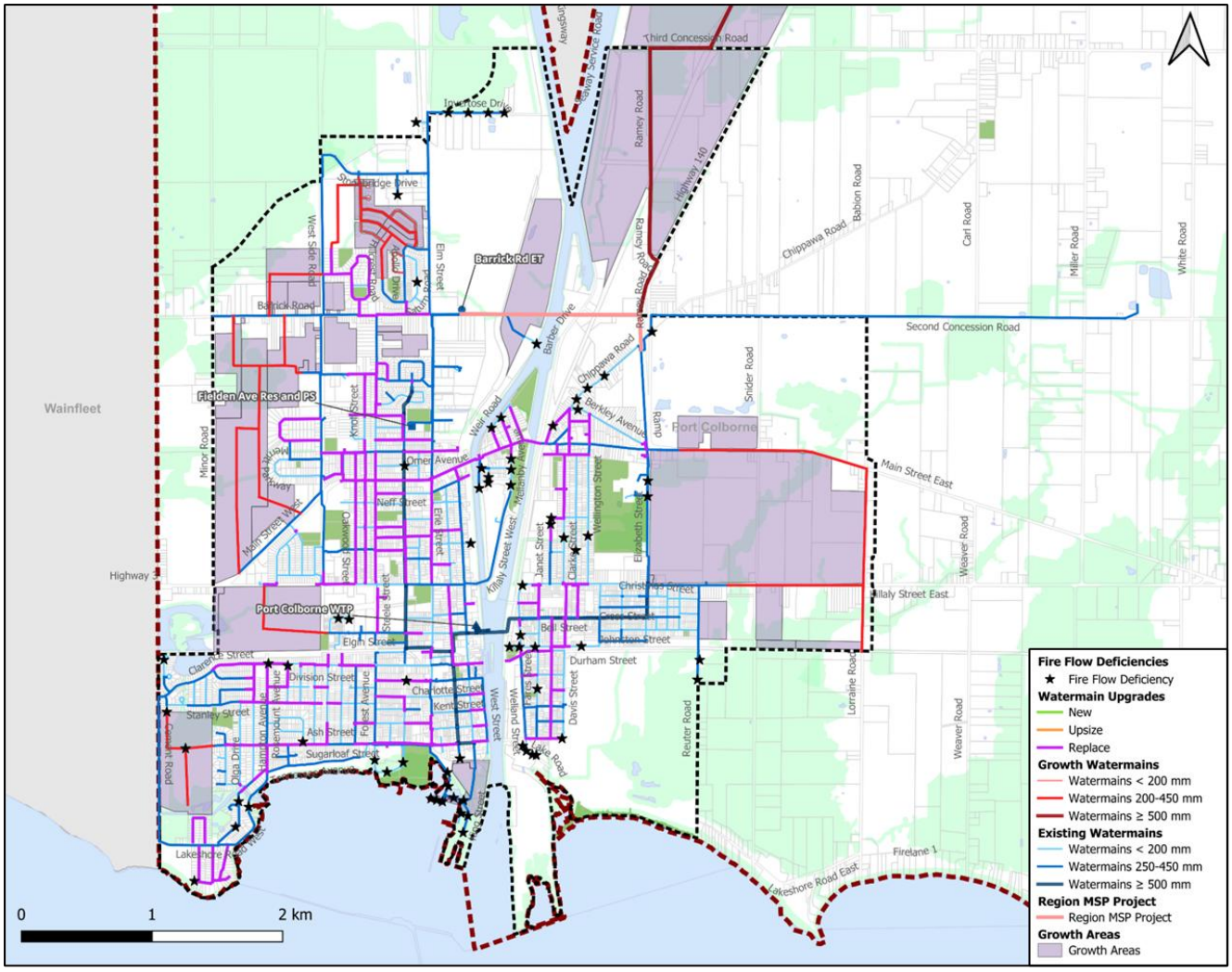


Figure 6-2: Cast Iron Replacement

6.2.3 Concept C: Sub-Trunk Loops

Sub-Trunk Loops (Concept C) is highlighted in **Figure 6-3** and represents an approach focused on improving system performance through the addition of new sub-trunk watermains, while minimizing the extent of watermain replacement. This concept enhances fire flow capacity and requires significantly less replacement compared to a full cast iron renewal program.

This approach captures approximately half of the existing fire flow deficiencies and does not specifically target cast iron watermains or known problem areas. As a result, a high concentration of deficiencies remains within cast iron pipes, and dead-end watermains with higher fire flow requirements. Increasing the size of sub-trunk loops was also found to provide minimal additional benefit from a fire flow perspective.

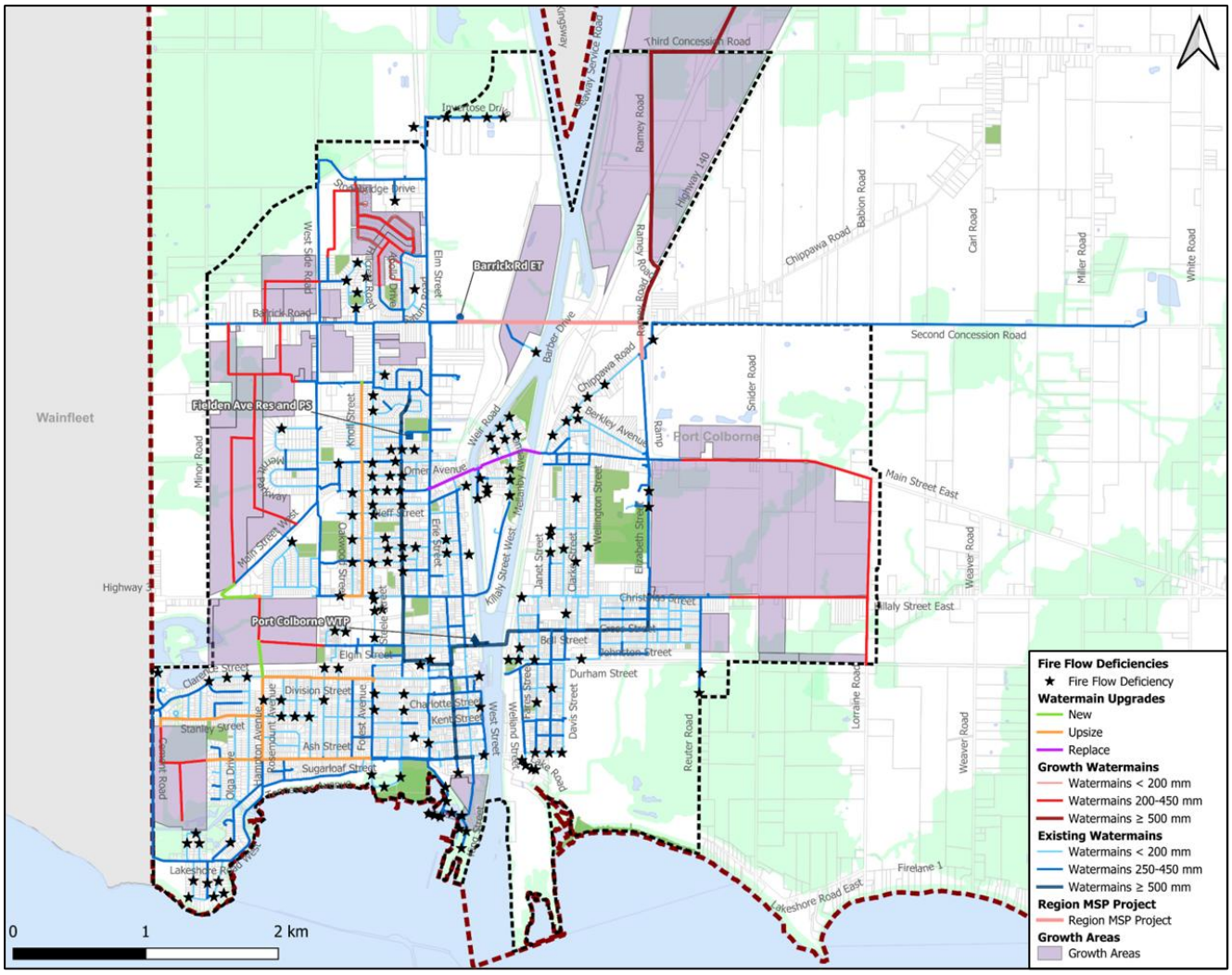


Figure 6-3: Sub-Trunk Loops

6.2.4 Concept C+B: Sub-Trunk Loops & Target Upgrades

Sub-Trunk Loops & Target Upgrades (Concept C+B), shown in **Figure 6-4**, represents a combined approach that integrates new system looping with targeted replacement of undersized watermains. Building on the City's Capital Program, this concept focuses on system reliability and the reduction of fire flow deficiencies, while aligning with areas of cast iron watermains and historical break patterns.

By targeting only the cast iron watermains associated with fire flow deficiencies, this approach reduces the overall length of replacement compared to a full system-wide renewal, while still capturing the majority of deficiencies. However, some limitations remain, including the presence of dead-end watermains in areas with higher fire flow requirements.

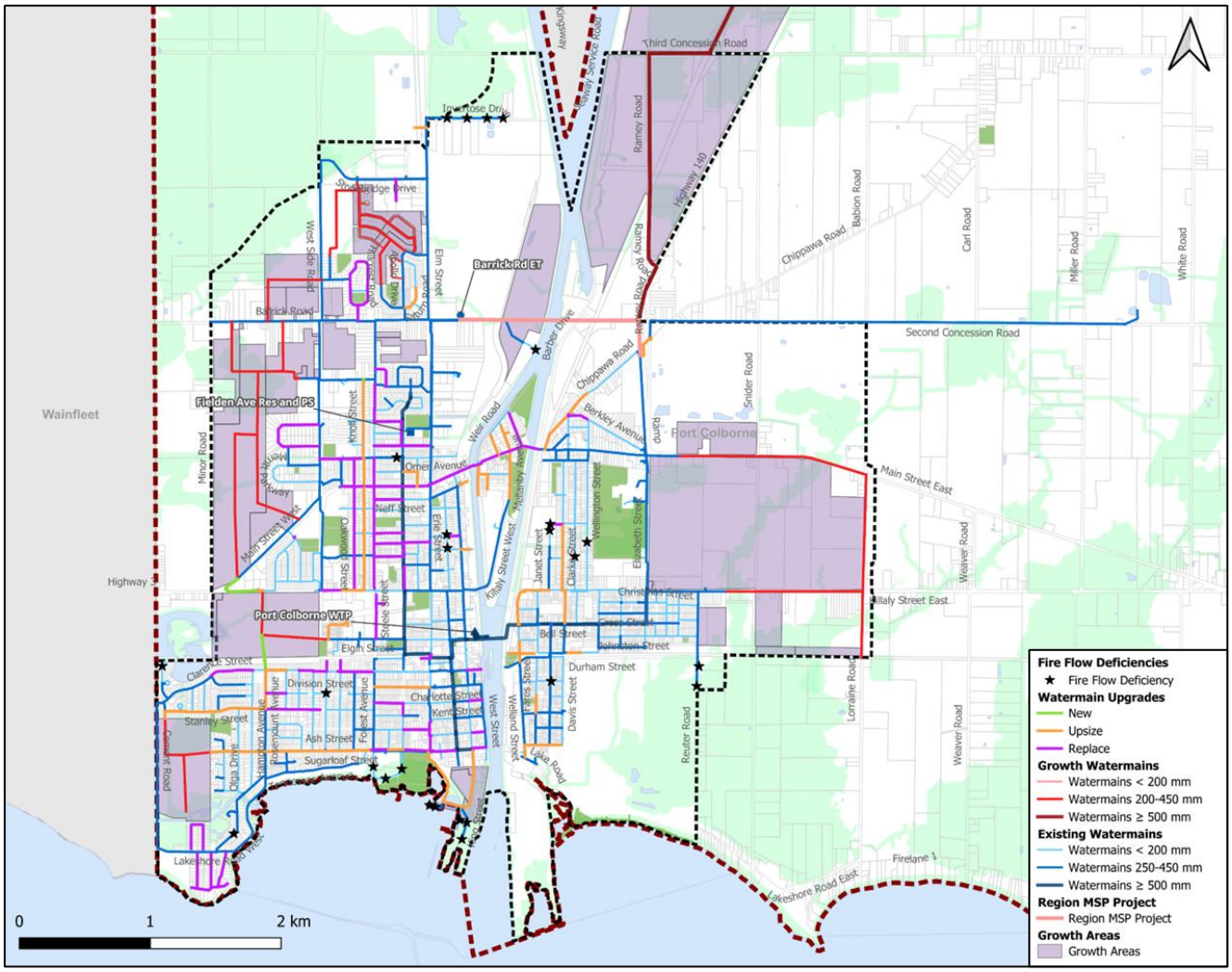


Figure 6-4: Sub-Trunk Loops & Target Upgrades

6.3 Alternatives Evaluation

Table 6-1 represents the four concepts along with their advantages and disadvantages.

Through discussion with City staff and based on the relative advantages and disadvantages of the alternatives, Concept C+B – Sub-Trunk Loops & Target Upgrades is the preferred servicing strategy as the looping provides additional system resiliency and target upgrades address watermain break issues and fire flow deficiencies.

Table 6-1: Alternatives Evaluation

		A: Buildout Capital Program			B: Cast Iron Replacement (including Capital Program)			C: Sub-Trunk Loops (no Capital Program)			C+B: Sub-Trunk Loops and Target Upgrades (including Capital Program)		
Advantage		• Significant fire flow improvement • Targets critical areas including high watermain break areas • Opportunity to include as first step in stepped approach • Coordinates upgrades with planned municipal construction			• Replaces old cast iron mains; reduces breaks, and enhances water quality • Includes City's Capital Program • Long-term reliability and reduced maintenance costs			• Adds new sub-trunk watermains to enhance fire flow capacity with minimal watermain replacement • Improves hydraulic looping and provides better system redundancy • Moderate capital cost compared to full replacement • Majority of trunk loop upgrades are Cast Iron			• Aligned with Cast Iron watermains and watermain breaks • Strong balance; combines new looping with replacement of undersized watermains • Opportunity for stepped approach, starting with capital program or looping, followed by targeted areas • Focuses on system reliability and addressing fire flow deficiencies • Strategic targeting provides highest benefit		
Disadvantage		• A lot of remaining cast iron watermains in system • Potential ongoing issues with cast iron watermains			• Large upfront costs due to full replacement program • Focused on localized renewal • Limited impact on overall system hydraulics • Requires significant capital planning and financing			• Still a lot of cast iron watermains in system (potential ongoing issues) • Potential land acquisition for new looping watermains in undeveloped lands			• Highest cost • Long time until complete implementation • Potential land acquisition for new looping watermains in undeveloped lands		
Watermain Length Replaced		4.5 km			30.9 km			6.9 km			26.1 km[1]		
Total System Fire Flow Deficiencies		31%			11%			23%			5%		
Financial	**Capital Cost ($M)**	$26 M			$92M			$30 M			$106 M		
	O&M Cost (%)	Medium			Low			Medium			Low		
Evaluation		**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**
		Medium	High	High	Low	High	Medium	Medium	High	Medium	High	High	Medium
Recommended Alternative		**Not Recommended:** Does not address large portion of fire flow deficiencies. To be included as part of overall upgrade plan (Sub-Trunk Loops and Target Upgrades)			**Not Recommended:** Provides no additional system resiliency and does not address all of the fire flow deficiencies.			**Not Recommended:** Does not address large portion of fire flow deficiencies or watermain break issues. To be included as part of overall upgrade plan (Sub-Trunk Loops and Target Upgrades)			**Recommended:** Looping provides additional system resiliency and target upgrades address watermain break issues and fire flow deficiencies.		

1 – The watermain length replaced differ from the Capital Program in **Section 7.3**, as they exclude new watermains associated with growth, as well as remaining cast iron and watermain break replacement projects included in the final Capital program

7 Preferred Water Servicing Strategy

7.1 Preferred Water Servicing Strategy Overview

The City's preferred water servicing strategy to address system growth and hydraulic performance requirements is Concept C+B: Sub-Trunk Loops & Targeted Upgrades. However, in acknowledgement that the City still needed to address rehabilitation and/or replacement of all its cast iron watermain to address ongoing watermain break and water loss issues, the final capital program also includes the full replacement/lining of all remaining cast iron watermains.

Figure 7-1, presents the final watermain upgrade and rehabilitation program consisting of a combined approach that integrates new system looping with targeted replacement of undersized watermains. Building on the City's Capital Program, this concept focuses on improving system reliability and reducing fire flow deficiencies, while aligning upgrades with areas of cast iron watermains and historical watermain breaks. While the recommended program largely addresses the identified system deficiencies, some limitations remain, including the presence of dead-end watermains in areas with higher fire flow requirements.

Key elements of the preferred servicing strategy include:

- **Balanced Approach:** Provides a mix of system resiliency through sub-trunk looping while addressing fire flow deficiencies across the system.
- **Targeted Investment:** Focuses on both deficient areas and loop connectivity to maximize effectiveness of upgrades.
- **Flexibility in Implementation:** Supports a phased approach, allowing Capital Program upgrades to proceed first, followed by looping and localized upgrades as needed.
- **Meets Requirements:** Achieves fire flow criteria for more than 95% of the system.
- **Optimized System Performance:** Enhances system reliability and redundancy while mitigating localized deficiencies.
- **Cost Efficiency:** Targeted upgrades reduce overall watermain replacement compared to full cast iron replacement, helping to manage long-term lifecycle costs.

The preferred servicing strategy is based on the following key assumptions and design considerations:

- **Watermain Sizing Basis & Replacement vs. Lining**
    - Watermains with a documented history of breaks are assumed to be replaced as part of the planning analysis; however, these segments should be further inspected to confirm their condition and determine whether lining may be viable as an alternative to full replacement.
    - Lining is considered for watermains with acceptable hydraulic capacity and no performance related issues.
- **Fire Flow Requirements**
    - Fire flow demands are based on City criteria and validated through hydraulic analysis.
    - Sub-trunk looping improves redundancy while mitigating localized deficiencies.
- **Break History and Condition**
    - Replacement priorities are guided by historical break frequency, known cast iron segments, and critical service areas such as schools, hospitals, and high fire flow zones.
- **Future Flexibility**
    - The combined looping and targeted upgrades approach allows incremental improvements as future development proceeds, helping defer major capital costs.
- **System Coordination**
    - Aligns with the City's Capital Program to coordinate upgrades with planned municipal construction, including stormwater and wastewater infrastructure, where possible.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Capital Program Projects

- W-M-01
- W-M-02
- W-M-03
- W-M-04
- W-M-05
- W-M-06
- W-M-07
- W-M-08
- W-M-09
- W-M-10
- W-M-11
- W-M-12
- W-M-13
- W-M-14
- W-M-15
- W-M-16
- W-M-17
- W-M-18
- W-M-19
- W-M-20
- W-M-21
- W-M-22
- W-M-23
- W-M-24
- W-M-25
- W-M-26
- W-M-27

Buildout Infrastructure

- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains
- Storage
- WTP

Growth Areas

- Growth Areas

General Features

- Municipal Boundary
- Area Urban Area Boundary
- Waterbody

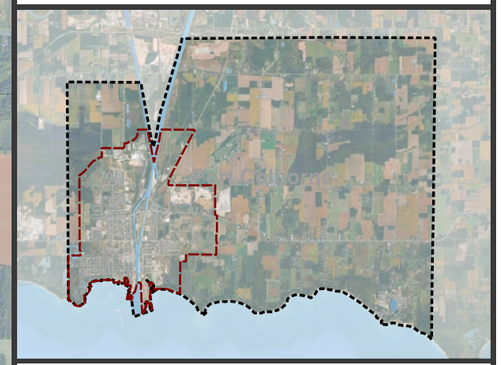


Figure 7-1
Water Capital Program

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

7.2 Future System Performance

Figure 7-2 presents the future system performance, based on the preferred servicing strategy upgrades. In general, minimum system pressures fall within the acceptable range of 40 to 100 psi under maximum day demand. Most pressures fall between 50 and 60 psi, with some localized areas experiencing pressures between 40 and 50 psi due to the ground elevation. Pressures less than 40 psi are experienced at the far east extremity of the system on Second Concession Road due to the long dead-end watermain.

Table 7-1 provides a summary comparing minimum system pressures under the 2025 existing conditions and buildout. Under 2025 conditions, a portion of the system operates marginally above 50 psi, resulting in a larger proportion of pressures within the 50 to 80 psi range. Under buildout conditions, with increased system demands resulting in an increase in distribution losses, a portion of pressures shift to marginally below 50 psi, resulting in more locations falling within the 40 to 50 psi range.

Table 7-1: Minimum System Pressures

Minimum Pressure	2025	Buildout[1]
<40 psi	<1%	2%
40 – 50 psi	3%	31%
50 – 80 psi	96%	68%
80 – 100 psi	0%	0%
>100 psi	0%	0%

1 – Buildout assumes proposed Capital Program upgrades have been implemented

Figure 7-3 presents the available fire flow under future conditions based on the preferred servicing strategy. In general, the majority of the system meets the City's fire flow requirements, with more than 95% of locations achieving the target criteria.

Remaining fire flow deficiencies are generally minor, with many locations achieving >90% of the required fire flow. In identified locations, upgrades were not recommended for one or more of the following reasons:

- Watermains are relatively new (e.g., PVC) and no history of watermain breaks.
- Adequate fire flow capacity is available from adjacent streets servicing the same properties. For example, Niagara Health requires has a target fire flow of 200 L/s. Along Sugarloaf Road, more than 300 L/s is available. Along Fielden Avenue/Northland Point Service Road, 150-175 L/s is available from the 150 mm PVC watermain, which provides partial coverage; however, this is still shown as a deficiency because the available fire flow does not fully meet the 200 L/s target for this site.

- Deficiencies occur on dead-end watermains with higher fire flow requirements, where looping is not currently provided.

These remaining deficiencies are typically limited in extent and may be addressed in the future as part of system expansion or redevelopment.

A summary table comparing fire flow performance under 2025 existing conditions and buildout is provided below, showing the percentage of the system meeting the fire flow criteria as well as the remaining system deficiencies.

Table 7-2: Fire Flow Deficiencies

	2025	Buildout[1]
<80% Fire Flow Criteria	27%	2%
80-90% Fire Flow Criteria	6%	1%
90-100% Fire Flow Criteria	6%	3%
Total System Deficiencies	**39%**	**5%**

1 – Buildout assumes proposed Capital Program upgrades have been implemented

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Minimum System Pressures (psi)
- < 40
- 40 - 50
- 50 - 80
- 80 - 100
- > 100

Buildout Infrastructure
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains
- Storage
- WTP

Growth Areas
- Growth Areas

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

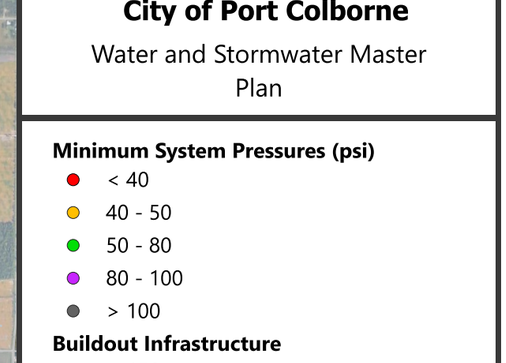


Figure 7-2
Buildout System Pressures

0 0.75 1.5 km

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Fire Flow Deficiencies
- Does not meet land-use based fire flow target
- Meets land use based fire flow target

Buildout Infrastructure
- < 150 mm
- 150 mm
- 200 - 250 mm
- > 300 mm
- Region Watermains
- Storage
- WTP

Growth Areas
- Growth Areas

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

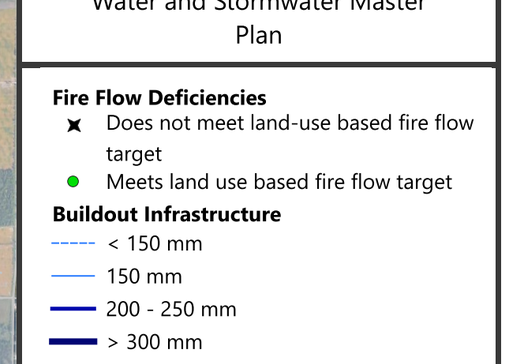


Figure 7-3
Buildout Fire Flow Deficiencies

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 0.75 1.5 km

7.3 Capital Program

The preferred water servicing strategy has been developed to support the servicing needs of the existing and future growth areas within the City of Port Colborne. The capital costs for each project of the Preferred Strategy were estimated according to the costing methodology within **Volume 2**. A detailed listing of all projects, including individual project numbers, is provided in **Table 7-5**. **Table 7-3** summarizes the projects by type (i.e. new watermains, lining of existing watermains, upsizing of existing watermains, and watermain replacement/potential lining). **Table 7-4** further summarizes the capital program by Benefit to Existing classification, distinguishing projects that primarily address existing system needs from those required to support growth-related servicing requirements.

Table 7-3: Capital Program Summary by Project Type

	Length (m)	Estimated Cost ($)
New Watermains including Growth Areas	19,224	$ 80,019,000
Line Existing Watermains	21,865	$ 46,649,000
Upsize Existing Watermains	11,665	$ 39,273,000
Watermain Replacements (potential lining)	4,936	$ 17,187,000
Total	**57,690**	**$ 183,128,000**

Table 7-4: Benefit to Existing Summary

	% DC Eligible Cost	Length (m)	Estimated Cost ($)
BE-1	100	8,095	$ 37,731,000
BE-2	90	6,721	$ 26,530,000
BE-3	70	1,494	$ 5,608,000
BE-4	50	7,869	$ 28,482,000
BE-5	20	5,788	$ 14,951,000
BE-6	0	23,889	$ 56,002,000
Dev	0	3,834	$ 13,824,000
Total		**57,690**	**$ 183,128,000**

7.3.1 Collaboration with Region

Acknowledging that the water system is jointly owned and operated by the Region and the City of Port Colborne, the continued operation and expansion of the water system to support existing users and accommodate projected growth relies upon the cooperation of the upper and lower tier municipalities.

Table 7-5: Watermain Rehabilitation Capital Program Summary

Description			Scope			Total Cost Summary		Cost Allocation		
Project	Project Letter	Project Description	Project Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
W-M-01	A	Lining of 137 m of 150 mm watermain along Cedar Street.	Watermain CIPP Rehab	137	150	$256,000	Low	$256,000	$0	$0
W-M-01	C	Lining of 153 m of 150 mm watermain along Orchard Drive.	Watermain CIPP Rehab	153	150	$285,000	Low	$285,000	$0	$0
W-M-01	D	Lining of 125 m of 200 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	125	200	$251,000	Low	$251,000	$0	$0
W-M-01	F	Lining of 28 m of 200 mm watermain along Walnut Street.	Watermain CIPP Rehab	28	200	$57,000	Low	$57,000	$0	$0
W-M-01	G	Lining of 45 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	45	150	$86,000	Low	$86,000	$0	$0
W-M-01	H	Lining of 79 m of 150 mm watermain along Lakewood Crescent.	Watermain CIPP Rehab	79	150	$149,000	Low	$149,000	$0	$0
W-M-01	I	Lining of 120 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	120	150	$224,000	Low	$224,000	$0	$0
W-M-01	K	Lining of 20 m of 150 mm watermain along Oakridge Crescent.	Watermain CIPP Rehab	20	150	$38,000	Low	$38,000	$0	$0
W-M-01	L	Lining of 249 m of 150 mm watermain along Rose Avenue.	Watermain CIPP Rehab	249	150	$462,000	Low	$462,000	$0	$0
W-M-01	M	Lining of 212 m of 150 mm watermain along Gaspare Drive.	Watermain CIPP Rehab	212	150	$394,000	Low	$394,000	$0	$0
W-M-04	A	Lining of 326 m of 150 mm watermain along Clarence Street.	Watermain CIPP Rehab	326	150	$604,000	High	$604,000	$0	$0
W-M-04	B	Lining of 76 m of 150 mm watermain along Linwood Avenue.	Watermain CIPP Rehab	76	150	$142,000	Low	$142,000	$0	$0
W-M-04	C	Lining of 83 m of 150 mm watermain along Clare Avenue.	Watermain CIPP Rehab	83	150	$155,000	Low	$155,000	$0	$0
W-M-06	A	Lining of 32 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	32	200	$65,000	High	$32,500	$32,500	$0
W-M-06	C	Lining of 23 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	23	200	$48,000	High	$24,000	$24,000	$0
W-M-06	E	Lining of 401 m of 200 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	401	200	$805,000	High	$402,500	$402,500	$0
W-M-06	F	Lining of 97 m of 150 mm watermain along Sugarloaf Street.	Watermain CIPP Rehab	97	150	$181,000	Medium	$181,000	$0	$0
W-M-06	G	Lining of 3 m of 200 mm watermain along Park Street.	Watermain CIPP Rehab	3	200	$7,000	Low	$7,000	$0	$0
W-M-06	H	Lining of 199 m of 150 mm watermain along Ash Street.	Watermain CIPP Rehab	199	150	$370,000	Medium	$296,000	$74,000	$0
W-M-06	I	Lining of 126 m of 200 mm watermain along Elm Street.	Watermain CIPP Rehab	126	200	$255,000	Medium	$204,000	$51,000	$0
W-M-06	J	Lining of 114 m of 150 mm watermain along Elm Street.	Watermain CIPP Rehab	114	150	$212,000	Medium	$169,600	$42,400	$0
W-M-06	K	Lining of 15 m of 150 mm watermain along Kent Street.	Watermain CIPP Rehab	15	150	$29,000	Medium	$29,000	$0	$0
W-M-06	O	Lining of 103 m of 150 mm watermain along Kent Street.	Watermain CIPP Rehab	103	150	$193,000	Medium	$193,000	$0	$0
W-M-06	P	Lining of 65 m of 150 mm watermain along Park Street.	Watermain CIPP Rehab	65	150	$121,000	Medium	$121,000	$0	$0
W-M-06	Q	Lining of 35 m of 150 mm watermain along Elm Street.	Watermain CIPP Rehab	35	150	$66,000	Medium	$66,000	$0	$0
W-M-07	A	Lining of 271 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	271	150	$502,000	Low	$502,000	$0	$0
W-M-07	R	Lining of 11 m of 150 mm watermain along Brady Street.	Watermain CIPP Rehab	11	150	$22,000	Low	$22,000	$0	$0
W-M-07	T	Lining of 17 m of 150 mm watermain along Brady Street.	Watermain CIPP Rehab	17	150	$33,000	Low	$33,000	$0	$0
W-M-07	W	Lining of 99 m of 150 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	99	150	$184,000	Medium	$147,200	$36,800	$0
W-M-07	X	Lining of 202 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	202	150	$375,000	Medium	$375,000	$0	$0
W-M-07	Z	Lining of 87 m of 150 mm watermain along Charles Street.	Watermain CIPP Rehab	87	150	$163,000	Medium	$130,400	$32,600	$0
W-M-07	AA	Lining of 7 m of 150 mm watermain along First Avenue.	Watermain CIPP Rehab	7	150	$14,000	Medium	$14,000	$0	$0
W-M-07	B	Lining of 63 m of 150 mm watermain along Brock Street.	Watermain CIPP Rehab	63	150	$118,000	Medium	$118,000	$0	$0
W-M-07	E	Lining of 187 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	187	150	$348,000	High	$348,000	$0	$0
W-M-07	G	Lining of 7 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	7	150	$14,000	High	$11,200	$2,800	$0
W-M-07	H	Lining of 6 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	6	150	$13,000	High	$13,000	$0	$0
W-M-07	J	Lining of 81 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	81	150	$151,000	High	$151,000	$0	$0
W-M-07	L	Lining of 12 m of 150 mm watermain along Helen Street.	Watermain CIPP Rehab	12	150	$23,000	Medium	$23,000	$0	$0

Description			Scope			Total Cost Summary		Cost Allocation		
Project	Project Letter	Project Description	Project Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
W-M-07	N	Lining of 116 m of 150 mm watermain along Helen Street.	Watermain CIPP Rehab	116	150	$217,000	Medium	$217,000	$0	$0
W-M-07	O	Lining of 116 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	116	150	$217,000	Medium	$217,000	$0	$0
W-M-07	Q	Lining of 14 m of 150 mm watermain along McCain Street.	Watermain CIPP Rehab	14	150	$28,000	Medium	$28,000	$0	$0
W-M-09	A	Lining of 96 m of 150 mm watermain along Main Street West.	Watermain CIPP Rehab	96	150	$179,000	High	$179,000	$0	$0
W-M-09	C	Lining of 499 m of 150 mm watermain along Main Street West.	Watermain CIPP Rehab	499	150	$924,000	High	$739,200	$184,800	$0
W-M-09	D	Lining of 62 m of 300 mm watermain along Main Street West.	Watermain CIPP Rehab	62	300	$144,000	High	$115,200	$28,800	$0
W-M-09	F	Lining of 727 m of 300 mm watermain along Main Street West.	Watermain CIPP Rehab	727	300	$5,133,000	High	$2,566,500	$2,566,500	$0
W-M-10	X	Lining of 205 m of 150 mm watermain along Donlea Drive.	Watermain CIPP Rehab	205	150	$380,000	Low	$380,000	$0	$0
W-M-10	B	Lining of 249 m of 150 mm watermain along Coronation Drive.	Watermain CIPP Rehab	249	150	$462,000	Low	$462,000	$0	$0
W-M-10	C	Lining of 7 m of 150 mm watermain along Coronation Drive.	Watermain CIPP Rehab	7	150	$14,000	Low	$14,000	$0	$0
W-M-10	D	Lining of 7 m of 150 mm watermain along Omer Avenue.	Watermain CIPP Rehab	7	150	$14,000	Low	$7,000	$7,000	$0
W-M-10	E	Lining of 6 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	6	150	$13,000	High	$13,000	$0	$0
W-M-10	G	Lining of 3 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	3	150	$7,000	High	$7,000	$0	$0
W-M-10	I	Lining of 12 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	12	150	$23,000	High	$23,000	$0	$0
W-M-10	L	Lining of 9 m of 150 mm watermain along Borden Avenue.	Watermain CIPP Rehab	9	150	$19,000	High	$19,000	$0	$0
W-M-10	N	Lining of 93 m of 150 mm watermain along Borden Avenue.	Watermain CIPP Rehab	93	150	$174,000	High	$87,000	$87,000	$0
W-M-10	P	Lining of 141 m of 200 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	141	200	$283,000	Low	$141,500	$141,500	$0
W-M-10	Q	Lining of 51 m of 150 mm watermain along Fielden Avenue.	Watermain CIPP Rehab	51	150	$96,000	Low	$48,000	$48,000	$0
W-M-10	S	Lining of 11 m of 150 mm watermain along Franklin Avenue.	Watermain CIPP Rehab	11	150	$22,000	Low	$11,000	$11,000	$0
W-M-10	T	Lining of 5 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	5	150	$11,000	High	$8,800	$2,200	$0
W-M-10	V	Lining of 15 m of 150 mm watermain along Steele Street.	Watermain CIPP Rehab	15	150	$29,000	High	$23,200	$5,800	$0
W-M-10	W	Lining of 2 m of 400 mm watermain along Royal Road.	Watermain CIPP Rehab	2	400	$6,000	Low	$4,800	$1,200	$0
W-M-11	A	Lining of 120 m of 200 mm watermain along Hawthorne Boulevard.	Watermain CIPP Rehab	120	200	$242,000	Low	$242,000	$0	$0
W-M-11	C	Lining of 18 m of 150 mm watermain along Runnymede Road.	Watermain CIPP Rehab	18	150	$35,000	Low	$35,000	$0	$0
W-M-11	E	Lining of 160 m of 150 mm watermain along Runnymede Road.	Watermain CIPP Rehab	160	150	$297,000	Low	$297,000	$0	$0
W-M-11	G	Lining of 260 m of 150 mm watermain along Thorncrest Road.	Watermain CIPP Rehab	260	150	$482,000	Low	$482,000	$0	$0
W-M-12	F	Lining of 271 m of 150 mm watermain along Ramey Avenue.	Watermain CIPP Rehab	271	150	$502,000	Low	$502,000	$0	$0
W-M-13	B	Lining of 158 m of 150 mm watermain along Berkley Avenue.	Watermain CIPP Rehab	158	150	$295,000	Low	$295,000	$0	$0
W-M-14	A	Lining of 16 m of 150 mm watermain along Crescent Avenue.	Watermain CIPP Rehab	16	150	$32,000	Low	$32,000	$0	$0
W-M-24	A	Lining of 1533 m of 150 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	Watermain CIPP Rehab	1,533	150	$2,836,000	High	$2,836,000	$0	$0
W-M-24	B	Lining of 158 m of 200 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	Watermain CIPP Rehab	158	200	$319,000	High	$319,000	$0	$0
W-M-25	A	Lining of 1325 m of 150 mm watermain along Omer Avenue and Oakwood Street.	Watermain CIPP Rehab	1,325	150	$2,452,000	High	$1,961,600	$490,400	$0
W-M-26	A	Lining of 5494 m of 150 mm cast iron watermain.	Watermain CIPP Rehab	5,494	150	$10,161,000	Low	$10,161,000	$0	$0
W-M-26	B	Lining of 1466 m of 200 mm cast iron watermain.	Watermain CIPP Rehab	1,466	200	$2,939,000	Low	$2,939,000	$0	$0
W-M-26	C	Lining of 1510 m of 250 mm cast iron watermain.	Watermain CIPP Rehab	1,510	250	$3,260,000	Low	$3,260,000	$0	$0
W-M-26	D	Lining of 2909 m of 300 mm cast iron watermain.	Watermain CIPP Rehab	2,909	300	$6,727,000	Low	$6,727,000	$0	$0
W-M-26	E	Lining of 105 m of 350 mm cast iron watermain.	Watermain CIPP Rehab	105	350	$260,000	Low	$260,000	$0	$0

Table 7-6: Watermain Capital Program Summary

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-01	B	Replacement of 132 m of 150 mm watermain along Cedar Street.	Watermain	Replacement	132	150	$397,000	Low	$397,000	$0	$0	Replacement
W-M-01	E	Replacement of 123 m of 200 mm watermain along Walnut Street.	Watermain	Replacement	123	200	$371,000	Low	$371,000	$0	$0	Replacement
W-M-01	J	Replacement of 124 m of 150 mm watermain along Oakridge Crescent.	Watermain	Replacement	124	150	$389,000	Low	$389,000	$0	$0	Replacement
W-M-02	A	Upsizing of 1225 m of 300 mm watermain along Sugarloaf Street.	Watermain	Upsizing	1,225	300	$4,982,000	High	$2,491,000	$2,491,000	$0	Looping
W-M-03	A	Upsizing of 1125 m of 300 mm watermain along Stanley Street.	Watermain	Upsizing	1,125	300	$3,824,000	Low	$1,912,000	$1,912,000	$0	Looping
W-M-05	A	Upsizing of 1076 m of 300 mm watermain along Marina Drive.	Watermain	Upsizing	1,076	300	$3,971,000	High	$1,191,300	$2,779,700	$0	Growth
W-M-06	B	Replacement of 77 m of 200 mm watermain along Sugarloaf Street.	Watermain	Replacement	77	200	$247,000	High	$123,500	$123,500	$0	Growth
W-M-06	D	Upsizing of 111 m of 200 mm watermain along Sugarloaf Street.	Watermain	Upsizing	111	200	$355,000	High	$177,500	$177,500	$0	Growth
W-M-06	L	Replacement of 208 m of 150 mm watermain along Kent Street.	Watermain	Replacement	208	150	$663,000	Medium	$663,000	$0	$0	Replacement
W-M-06	M	Replacement of 109 m of 300 mm watermain along Clarence Street.	Watermain	Replacement	109	300	$382,000	Medium	$382,000	$0	$0	Replacement
W-M-06	N	Upsizing of 450 m of 200 mm watermain along Charlotte Street.	Watermain	Upsizing	450	200	$1,430,000	Medium	$1,144,000	$286,000	$0	Looping
W-M-07	C	Replacement of 64 m of 150 mm watermain along Steele Street.	Watermain	Replacement	64	150	$205,000	Low	$205,000	$0	$0	Replacement
W-M-07	D	Replacement of 234 m of 150 mm watermain along Steele Street.	Watermain	Replacement	234	150	$745,000	Low	$745,000	$0	$0	Replacement
W-M-07	F	Replacement of 150 m of 150 mm watermain along Steele Street.	Watermain	Replacement	150	150	$478,000	Low	$382,400	$95,600	$0	Replacement
W-M-07	I	Upsizing of 65 m of 150 mm watermain along Steele Street.	Watermain	Upsizing	65	150	$207,000	Low	$207,000	$0	$0	Replacement
W-M-07	K	Replacement of 27 m of 150 mm watermain along Steele Street.	Watermain	Replacement	27	150	$88,000	Low	$88,000	$0	$0	Replacement
W-M-07	M	Replacement of 103 m of 150 mm watermain along Helen Street.	Watermain	Replacement	103	150	$311,000	Low	$311,000	$0	$0	Replacement
W-M-07	P	Replacement of 99 m of 150 mm watermain along McCain Street.	Watermain	Replacement	99	150	$298,000	Low	$298,000	$0	$0	Growth
W-M-07	S	Replacement of 200 m of 150 mm watermain along Brady Street.	Watermain	Replacement	200	150	$601,000	Low	$601,000	$0	$0	Replacement
W-M-07	U	Replacement of 199 m of 150 mm watermain along Neff Street.	Watermain	Replacement	199	150	$598,000	Low	$598,000	$0	$0	Replacement

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-07	V	Replacement of 170 m of 150 mm watermain along Fielden Avenue.	Watermain	Replacement	170	150	$541,000	Low	$541,000	$0	$0	Replacement
W-M-07	Y	Replacement of 65 m of 200 mm watermain along Union Street.	Watermain	Replacement	65	200	$197,000	Low	$197,000	$0	$0	Replacement
W-M-08	A	Upsizing of 1935 m of 200 mm watermain along Knoll Street.	Watermain	Upsizing	1,935	200	$5,977,000	Low	$4,781,600	$1,195,400	$0	Looping
W-M-09	B	Replacement of 67 m of 150 mm watermain along Main Street West.	Watermain	Replacement	67	150	$214,000	High	$214,000	$0	$0	Replacement
W-M-09	E	Replacement of 118 m of 300 mm watermain along Main Street West.	Watermain	Replacement	118	300	$414,000	Low	$207,000	$207,000	$0	Looping
W-M-10	A	Replacement of 256 m of 150 mm watermain along Coronation Drive.	Watermain	Replacement	256	150	$770,000	Low	$770,000	$0	$0	Replacement
W-M-10	F	Replacement of 103 m of 150 mm watermain along Steele Street.	Watermain	Replacement	103	150	$329,000	Low	$329,000	$0	$0	Replacement
W-M-10	H	Replacement of 98 m of 150 mm watermain along Steele Street.	Watermain	Replacement	98	150	$313,000	Low	$313,000	$0	$0	Replacement
W-M-10	J	Upsizing of 107 m of 200 mm watermain along Wallace Avenue.	Watermain	Upsizing	107	200	$322,000	Low	$322,000	$0	$0	Replacement
W-M-10	K	Upsizing of 113 m of 200 mm watermain along Oak Street.	Watermain	Upsizing	113	200	$341,000	Low	$341,000	$0	$0	Replacement
W-M-10	M	Replacement of 215 m of 150 mm watermain along Borden Avenue.	Watermain	Replacement	215	150	$665,000	Low	$665,000	$0	$0	Replacement
W-M-10	O	Replacement of 103 m of 150 mm watermain along Borden Avenue.	Watermain	Replacement	103	150	$320,000	Low	$160,000	$160,000	$0	Growth
W-M-10	R	Replacement of 192 m of 150 mm watermain along Franklin Avenue.	Watermain	Replacement	192	150	$578,000	Low	$289,000	$289,000	$0	Replacement
W-M-10	U	Replacement of 257 m of 150 mm watermain along Steele Street.	Watermain	Replacement	257	150	$817,000	Low	$653,600	$163,400	$0	Growth
W-M-11	B	Replacement of 144 m of 150 mm watermain along Runnymede Road.	Watermain	Replacement	144	150	$433,000	Low	$433,000	$0	$0	Replacement
W-M-11	D	Replacement of 110 m of 150 mm watermain along Runnymede Road.	Watermain	Replacement	110	150	$332,000	Low	$332,000	$0	$0	Replacement
W-M-11	F	Replacement of 161 m of 150 mm watermain along Thorncrest Road.	Watermain	Replacement	161	150	$486,000	Low	$486,000	$0	$0	Replacement
W-M-11	H	Upsizing of 199 m of 200 mm watermain along Saturn Road.	Watermain	Upsizing	199	200	$598,000	Low	$598,000	$0	$0	Replacement
W-M-12	A	Upsizing of 230 m of 250 mm watermain along Canal Bank Road.	Watermain	Upsizing	230	250	$756,000	Low	$604,800	$151,200	$0	Growth
W-M-12	B	Upsizing of 72 m of 250 mm watermain along Amelia Street.	Watermain	Upsizing	72	250	$239,000	Low	$191,200	$47,800	$0	Growth
W-M-12	C	Upsizing of 112 m of 250 mm watermain along Port Colborne Drive.	Watermain	Upsizing	112	250	$370,000	Low	$185,000	$185,000	$0	Growth

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-12	D	Upsizing of 565 m of 200 mm watermain along Mellanby Avenue.	Watermain	Upsizing	565	200	$1,796,000	Low	$1,796,000	$0	$0	Replacement
W-M-12	E	Upsizing of 162 m of 200 mm watermain along Church Street.	Watermain	Upsizing	162	200	$488,000	Low	$488,000	$0	$0	Replacement
W-M-12	G	Upsizing of 32 m of 150 mm watermain along Christian Stoner Str.	Watermain	Upsizing	32	150	$97,000	Low	$97,000	$0	$0	Replacement
W-M-13	A	Upsizing of 539 m of 200 mm watermain along Chippawa Road.	Watermain	Upsizing	539	200	$1,666,000	Low	$833,000	$833,000	$0	Growth
W-M-13	C	Upsizing of 212 m of 250 mm watermain along Ramey Road.	Watermain	Upsizing	212	250	$697,000	Low	$697,000	$0	$0	Replacement
W-M-14	B	Upsizing of 270 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	270	200	$858,000	Medium	$429,000	$429,000	$0	Growth
W-M-14	C	Upsizing of 221 m of 200 mm watermain along Killaly Street East.	Watermain	Upsizing	221	200	$703,000	Medium	$351,500	$351,500	$0	Growth
W-M-14	D	Upsizing of 1265 m of 250 mm watermain along Clarke Street.	Watermain	Upsizing	1,265	250	$4,039,000	High	$2,019,500	$2,019,500	$0	Looping
W-M-15	A	Upsizing of 154 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	154	200	$490,000	Low	$392,000	$98,000	$0	Replacement
W-M-15	B	Upsizing of 89 m of 250 mm watermain along Fraser Street.	Watermain	Upsizing	89	250	$278,000	Low	$139,000	$139,000	$0	Growth
W-M-15	C	Upsizing of 108 m of 200 mm watermain along Fraser Street.	Watermain	Upsizing	108	200	$325,000	Low	$325,000	$0	$0	Replacement
W-M-15	D	Upsizing of 93 m of 200 mm watermain along Fraser Street.	Watermain	Upsizing	93	200	$297,000	Low	$297,000	$0	$0	Replacement
W-M-15	E	Upsizing of 134 m of 250 mm watermain along Fares Street.	Watermain	Upsizing	134	250	$441,000	Low	$220,500	$220,500	$0	Growth
W-M-15	F	Upsizing of 280 m of 250 mm watermain along Rodney Street.	Watermain	Upsizing	280	250	$996,000	Low	$996,000	$0	$0	Replacement
W-M-15	G	Upsizing of 75 m of 200 mm watermain along Welland Street.	Watermain	Upsizing	75	200	$260,000	Medium	$260,000	$0	$0	Replacement
W-M-16	A	626 m of new 300 mm watermain along Sugarloaf Street and Lancaster Drive.	Watermain	Growth	626	300	$2,473,000	Low	$0	$0	$2,473,000	Looping
W-M-16	B	430 m of new 200 mm watermain along south of Sugarloaf Street.	Watermain	Growth	430	200	$1,544,000	Low	$0	$0	$1,544,000	Growth
W-M-17	A	608 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street and Killaly Street West.	Watermain	Growth	608	300	$3,154,000	Low	$315,400	$2,838,600	$0	Looping
W-M-17	B	488 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street and Killaly Street West.	Watermain - Open Cut	Growth	488	300	$1,928,000	Low	$192,800	$1,735,200	$0	Looping
W-M-18	A	Upsizing of 36 m of 300 mm watermain along Killaly Street West.	Watermain	Upsizing	36	300	$128,000	Low	$38,400	$89,600	$0	Looping

Description			Scope				Total Cost Summary		Cost Allocation			
Project	Project Letter	Project Description	Pipe Type	Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost	Council Project Type
W-M-18	B	382 m of new 300 mm watermain along Killaly Street West and Main Street West.	Watermain	Growth	382	300	$1,509,000	Low	$452,700	$1,056,300	$0	Looping
W-M-19	A	2344 m of new 300 mm watermain along Main Street West to Barrick Road.	Watermain	Growth	2,344	300	$9,255,000	Low	$925,500	$8,329,500	$0	Looping
W-M-19	B	1607 m of new 200 mm watermain along Main Street West to Barrick Road.	Watermain	Growth	1,607	200	$5,763,000	Low	$576,300	$5,186,700	$0	Growth
W-M-20	A	727 m of new 300 mm watermain along Barrick Road to West Side Road.	Watermain	Growth	727	300	$2,871,000	Low	$0	$0	$2,871,000	Growth
W-M-21	A	802 m of new 200 mm watermain along Oxford Boulevard to Parkside Drive.	Watermain	Growth	802	200	$2,767,000	Low	$1,383,500	$1,383,500	$0	Growth
W-M-21	B	733 m of new 300 mm watermain along Parkside Drive and Meadowlark Drive.	Watermain	Growth	733	300	$2,631,000	Low	$0	$0	$2,631,000	Growth
W-M-21	C	61 m of new 150 mm watermain along Westfield Place.	Watermain	Growth	61	150	$201,000	Low	$0	$0	$201,000	Growth
W-M-21	D	66 m of new 150 mm watermain along Aintree Place.	Watermain	Growth	66	150	$217,000	Low	$0	$0	$217,000	Growth
W-M-21	E	578 m of new 200 mm watermain along Sherwood Drive and Springside Drive.	Watermain	Growth	578	200	$1,886,000	Low	$0	$0	$1,886,000	Growth
W-M-21	F	321 m of new 150 mm watermain along Springside Drive.	Watermain	Growth	321	150	$1,048,000	Low	$0	$0	$1,048,000	Growth
W-M-21	G	292 m of new 150 mm watermain along Parkside Drive.	Watermain	Growth	292	150	$953,000	Low	$0	$0	$953,000	Growth
W-M-22	A	1443 m of new 300 mm watermain along Main Street East.	Watermain	Growth	1,443	300	$5,698,000	Low	$0	$5,698,000	$0	Growth
W-M-22	B	892 m of new 300 mm watermain along Lorraine Road.	Watermain	Growth	892	300	$3,327,000	Low	$0	$3,327,000	$0	Growth
W-M-22	C	507 m of new 200 mm watermain along Lorraine Road.	Watermain	Growth	507	200	$1,654,000	Low	$0	$1,654,000	$0	Growth
W-M-22	D	1036 m of new 300 mm watermain along Killaly Street East.	Watermain	Growth	1,036	300	$3,978,000	Low	$397,800	$3,580,200	$0	Growth
W-M-22	E	Upsizing of 610 m of 300 mm watermain along Killaly Street East.	Watermain	Upsizing	610	300	$2,342,000	Low	$234,200	$2,107,800	$0	Growth
W-M-22	F	28 m of new 300 mm watermain connecting existing Elizabeth Street Region watermain to East growth lands.	Watermain	Growth	28	300	$110,000	Low	$11,000	$99,000	$0	Growth
W-M-23	A	5253 m of new 500 mm watermain along ESEL Lands.	Watermain	Growth	5,253	500	$27,052,000	Low	$0	$27,052,000	$0	Growth
W-M-27	B	Replacement of 588 m of 200 mm watermain along for watermain breaks.	Watermain	Replacement	588	200	$2,522,000	Low	$2,522,000	$0	$0	Growth
W-M-27	C	Replacement of 232 m of 250 mm watermain along for watermain breaks.	Watermain	Replacement	232	250	$1,262,000	Low	$1,262,000	$0	$0	Growth
W-M-27	D	Replacement of 208 m of 300 mm watermain along for watermain breaks.	Watermain	Replacement	208	300	$1,221,000	Low	$1,221,000	$0	$0	Growth

8 Implementation Plan

As outlined in **Section 2** of **Volume 2**, the MSP fulfills the requirements of Approach 1 under the MEA Class EA process. The Preferred Water Servicing Strategy supports the City of Port Colborne's growth to 2051 and beyond and will be implemented in accordance with the applicable Class EA schedules.

Class EA requirements for each project are identified within the Capital Program. Schedule A and A+ projects may proceed directly to design and construction, with A+ projects requiring public notification prior to implementation in accordance with the MEA Class EA process. Schedule B (or equivalent) projects identified within the Preferred Water Servicing Strategy will be addressed through developer-led local servicing plans under the Planning Act municipal development review process, or through separate Class EA studies prior to design and construction. No Schedule C projects were identified as part of the preferred strategy.

All required supporting studies (e.g., environmental impact, cultural heritage, and archaeological) should be completed by qualified professionals as early as possible in the planning process for Schedule B projects.

During implementation, particularly at the detailed design stage, the following should be considered:

- Finalization of property and right-of-way requirements;
- Refinement of infrastructure alignments;
- Identification of preferred construction methodologies;
- Completion of additional supporting investigations (e.g., geotechnical, hydrogeological);
- Review and mitigation of potential construction-related impacts; and
- Fulfillment of all provincial, municipal, and conservation authority approval requirements.

For planning and budgeting purposes, the recommended capital program provides a high-level baseline for the City's capital budget. Project cost estimates will be further refined as individual projects advance and more detailed information becomes available.

Project timing should be aligned with projected population and employment growth within the City. The water program has also been coordinated with wastewater and stormwater programs to align projects where possible. Given the growth-related nature of the servicing strategies, the water capital program forms the basis for the water component of the City of Port Colborne's Development Charges By-law.

8.1 Project Timing and Triggers

The timing of the recommended water infrastructure projects has been developed to reflect system priorities, growth-related needs, and opportunities for coordination with other municipal works. The Capital Program is intended to provide a flexible, risk-based framework that supports both immediate system needs and long-term servicing objectives.

Project prioritization is guided by the following:

- Priority projects focus on system looping to improve overall system redundancy and reliability.
- Remaining projects are grouped by neighbourhood and categorized as either existing system improvements or growth-related system upgrades.
- Projects are sequenced to align with planned roadway, stormwater, and wastewater projects, where feasible, to optimize construction efficiency and minimize disruption.
- Watermain replacement is prioritized where it can be coordinated with other infrastructure projects.
- The City will continue to advance planned Capital Program watermain lining projects as currently proposed.
- Projects with identified needs but lower urgency may be deferred to coincide with future road reconstruction or corridor upgrades.

Project implementation may be influenced by the following key triggers:

- Upstream development and associated servicing requirements;
- Planned roadway reconstruction or corridor improvements; and,
- Opportunities identified through ongoing operational review and asset management planning.

The Capital Program is structured to provide flexibility, with a long-term servicing vision supported by periodic updates through the City's capital planning process.

It is recognized that project timing may be subject to change due to external factors such as coordination with Regional infrastructure, updates to growth projects and funding availability.

8.2 Growth Area Servicing Plans

The following sections outline the trunk servicing needs, triggers and overall servicing requirements for each "development area" with the objective of providing direction on the project timing and triggers in terms of municipal servicing. These improvements are growth-related and are anticipated to be triggered by development, with implementation aligned with the timing of build-out in the area. The watermain sizes presented reflect the requirements to

achieve the fire flow criteria noted for each growth area; if the actual type of development differs or fire flow requirements vary, the recommended watermain will need to be reassessed during detailed design.

8.2.1 2051 and Buildout Considerations

The servicing requirements presented within this section are generally based on the 2051 Growth Scenario, which reflects the City's anticipated development horizon and forms the basis of the Capital Program. It is assumed that all identified growth areas are included within the 2051 scenario, and the overall level of development and associated water demand is lower than that represented under the Buildout Scenario.

The Buildout Scenario represents a higher ultimate demand condition and is used to confirm that the proposed servicing strategy can accommodate long-term development. The 2051 Growth Scenario directs project timing and the Buildout Scenario defines the ultimate design condition for infrastructure sizing and ensures that recommended trunk upgrades are sufficient under full development conditions.

8.2.2 East Employment Lands

Water system upgrades are required to support development within the East Side Employment Lands and to meet applicable fire flow requirements. A new 300 mm loop along Main Street East, Lorraine Road, and Killaly Street East are required to achieve the Multi-Family Residential fire flow target of 200 L/s. In addition, a new 200 mm watermain is required along Lorraine Road south of Killaly Street East.

Figure 8-1 presents the proposed trunk watermain infrastructure and the associated growth area. The exact alignment of these watermains will be determined during detailed design; the MSP identifies the required size and looping configuration rather than final routing.

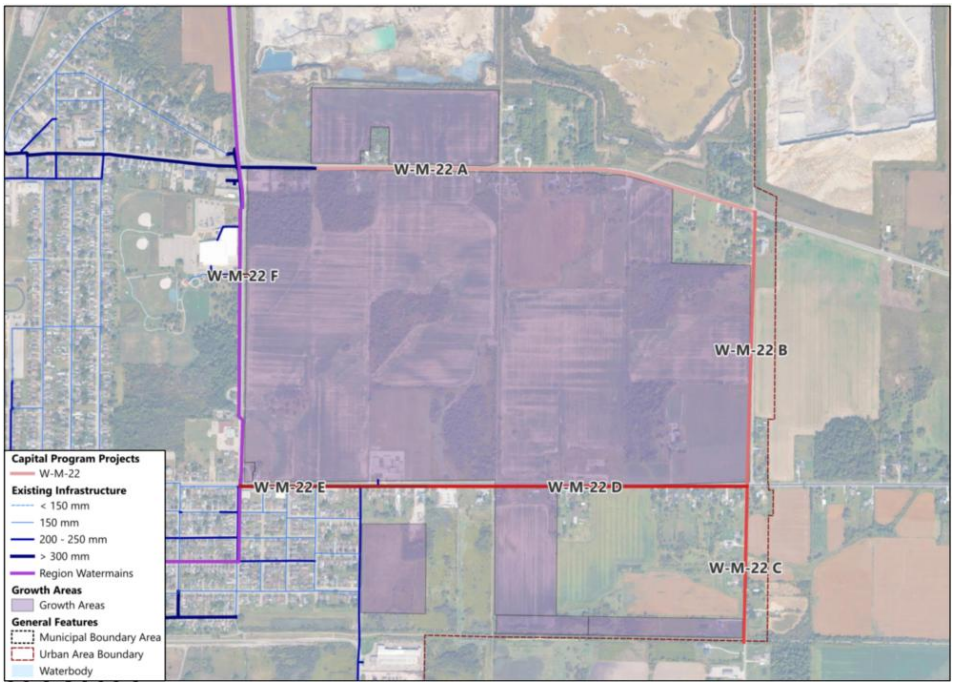


Figure 8-1: East Employment Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-1**.

Table 8-1: East Employment Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-22	A	1,443 m of new 300 mm watermain along Main Street East.	BE-1
	B	892 m of new 300 mm watermain along Lorraine Road.	BE-1
	C	507 m of new 200 mm watermain along Lorraine Road.	BE-1
	D	1,036 m of new 300 mm watermain along Killaly Street East.	BE-2
	E	Upsizing of 610 m of 300 mm watermain along Killaly Street East.	BE-2
	F	28 m of new 300 mm watermain connecting existing Elizabeth Street Region watermain to East growth lands.	BE-2

8.2.3 South Residential Lands

Water system upgrades are identified within the South Residential Lands to address existing fire flow deficiencies, which persist under both existing and buildout conditions and are not a result of growth. These deficiencies are associated with higher industrial fire flow requirements in the area. To improve available fire flow, upsizing of watermains along Marina Drive and King Street to 300 mm is required.

Localized deficiencies at dead-end watermains are expected to remain due to the high fire flow requirements; however, further upsizing is not recommended at this time given the limited benefit and extent of these areas.

Figure 8-2 presents the proposed trunk watermain infrastructure generally following the existing alignment; however, the exact alignment will be confirmed during detailed design.

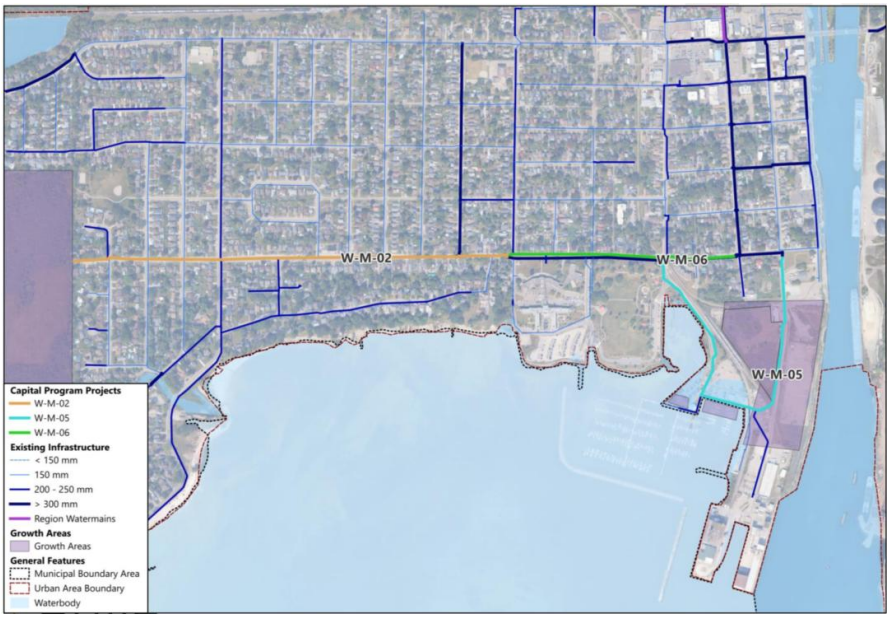


Figure 8-2: South Residential Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-2**.

Table 8-2: South Residential Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-05	A	Upsizing of 1,076 m of 300 mm watermain along Marina Drive.	BE-3
W-M-02	A	Upsizing of 1,225 m of 300 mm watermain along Sugarloaf Street.	BE-4
W-M-06	A	Lining of 32 m of 200 mm watermain along Sugarloaf Street.	BE-4
	B	Replacement of 77 m of 200 mm watermain along Sugarloaf Street.	BE-4
	C	Lining of 23 m of 200 mm watermain along Sugarloaf Street.	BE-4
	D	Upsizing of 111 m of 200 mm watermain along Sugarloaf Street.	BE-4
	E	Lining of 401 m of 200 mm watermain along Sugarloaf Street.	BE-4

8.2.4 Southwest Residential Lands

Servicing for the Southwest Residential lands will require watermain extensions. To achieve the Multi-Family Residential fire flow target of 200 L/s, a 300 mm watermain extension along

Sugarloaf Street to Lancaster Drive is recommended as an extension to the proposed upgrade loop. A 200 mm watermain extending south will be sufficient to meet servicing requirements.

Figure 8-3 presents the proposed trunk watermain infrastructure and the associated growth area. The exact alignment will be determined during detailed design.

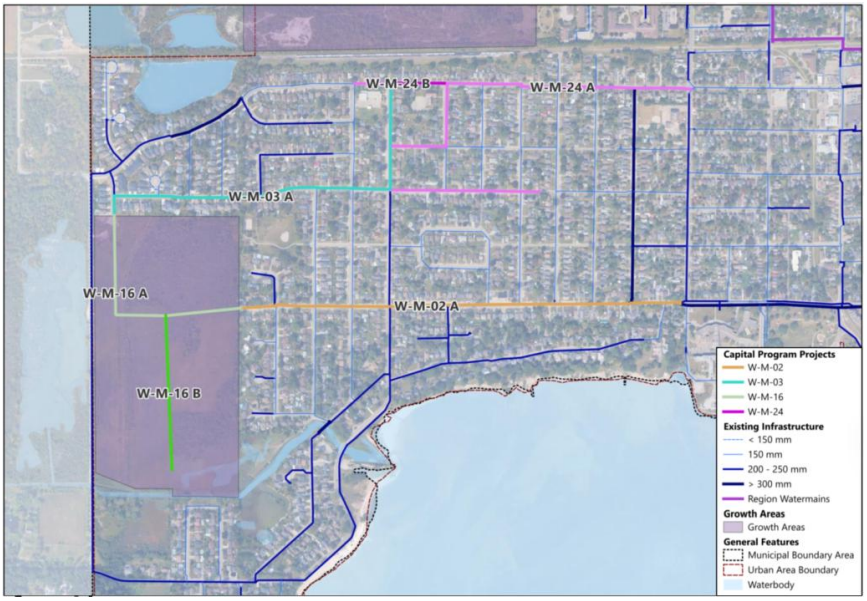


Figure 8-3: Southwest Residential Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-3**.

Table 8-3: Southwest Residential Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-16	A	626 m of new 300 mm watermain along Sugarloaf Street and Lancaster Drive.	BE-1
	B	430 m of new 200 mm watermain along south of Sugarloaf Street.	BE-1
W-M-02	A	Upsizing of 1,225 m of 300 mm watermain along Sugarloaf Street.	BE-4
W-M-03	A	Upsizing of 1,125 m of 300 mm watermain along Stanley Street.	BE-4
W-M-24	A	Lining of 1,533 m of 150 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6
	B	Lining of 158 m of 200 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6

8.2.5 West Residential Lands

Servicing for the West Residential Lands requires watermain extensions to meet Multi-Family Residential fire flow requirements. A 300 mm watermain is required from Main Street West to Barrick Road to achieve the target fire flow of 200 L/s, while 200 mm watermains are sufficient to service the remaining development. The new 300 mm watermain also completes a loop connection south to Clarence Street, improving system redundancy and reliability.

Figure 8-4 presents the proposed trunk watermain infrastructure and the associated growth area. The exact alignment will be determined during detailed design.

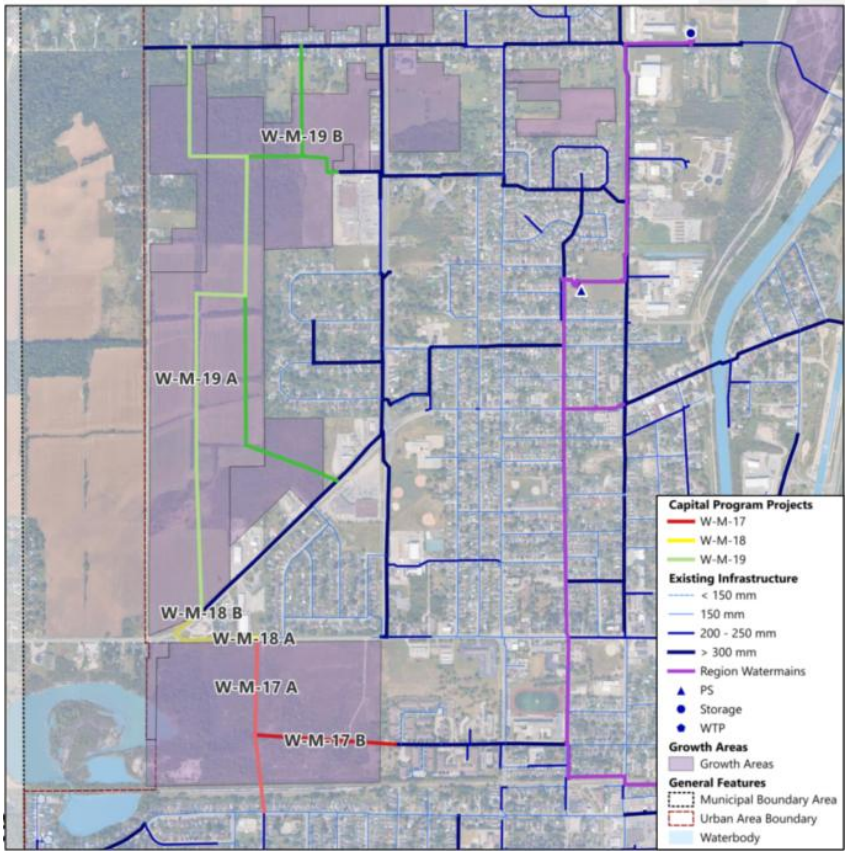


Figure 8-4: West Residential Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-4**.

Table 8-4: West Residential Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-17	A	608 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street West and Killaly Street West.	BE-2
	B	488 m of new 300 mm watermain along Extension of Rosemount Avenue, Elgin Street West and Killaly Street West.	BE-2
W-M-18	A	Upsizing of 36 m of 300 mm watermain along Killaly Street West.	BE-3
	B	382 m of new 300 mm watermain along Killaly Street West and Main Street West.	BE-3
W-M-19	A	2344 m of new 300 mm watermain along Main Street West to Barrick Road.	BE-2
	B	1607 m of new 200 mm watermain along Main Street West to Barrick Road.	BE-2

8.2.6 Northwest Residential Lands

Watermain extensions are required to service the Northwest Residential Lands. For the block northwest of Barrick Road and West Side Road, a 300 mm watermain is required to meet a 200 L/s fire flow target. For the residential block southwest of Stonebridge Drive and Elm Street, watermain sizes range from 150-300 mm to provide looping within the growth area, which is sufficient to meet the fire flow requirements.

Figure 8-5 presents the proposed watermains and the associated growth areas. The exact alignment will be determined during detailed design.

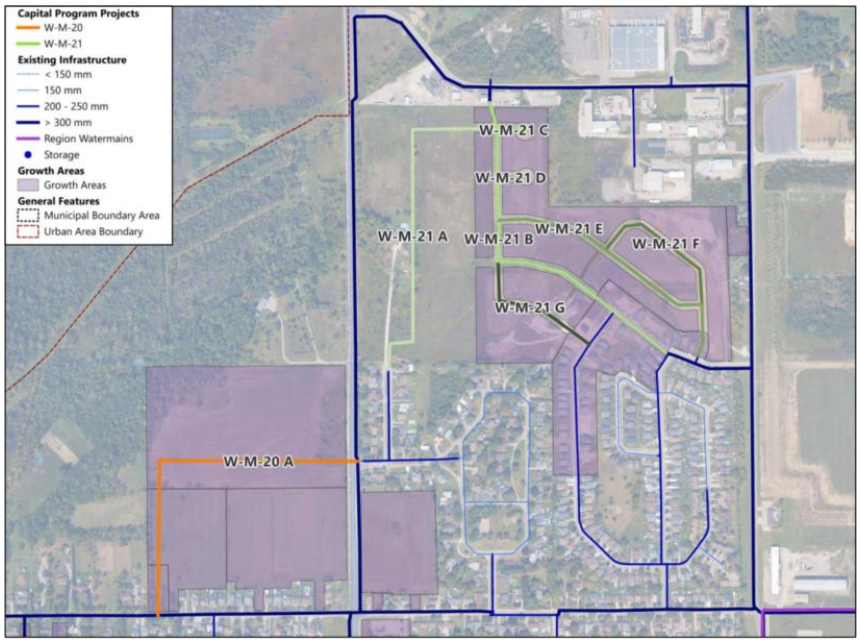


Figure 8-5: Northwest Residential Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-5**.

Table 8-5: Northwest Residential Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-20	A	727 m of new 300 mm watermain along Barrick Road to West Side Road.	BE-1
W-M-21	A	802 m of new 200 mm watermain along Oxford Boulevard to Parkside Drive.	BE-4
	B	733 m of new 300 mm watermain along Parkside Drive and Meadowlark Drive.	BE-1
	C	61 m of new 150 mm watermain along Westfield Place.	BE-1
	D	66 m of new 150 mm watermain along Aintree Place.	BE-1
	E	578 m of new 200 mm watermain along Sherwood Drive and Springside Drive.	BE-1
	F	321 m of new 150 mm watermain along Springside Drive.	BE-1
	G	292 m of new 150 mm watermain along Parkside Drive.	BE-1
	H	365 m of new 250 mm watermain along Hillcrest Road.	BE-1
	I	307 m of new 150 mm watermain along Oriole Crescent.	BE-1

8.2.7 Northeast Side Employment Lands

Watermain extensions are required to service the East Side Employment Lands. Previous reviews completed by GEI Consultants and Agile Infrastructure indicate that a 500 mm watermain through the industrial developments, extending from Second Concession Road and connecting to the new Regional 500 mm watermain, is sufficient to meet the applicable fire flow requirements.

Figure 8-6 presents the proposed watermain alignment and the associated growth areas. The exact routing and connections will be finalized during detailed design.

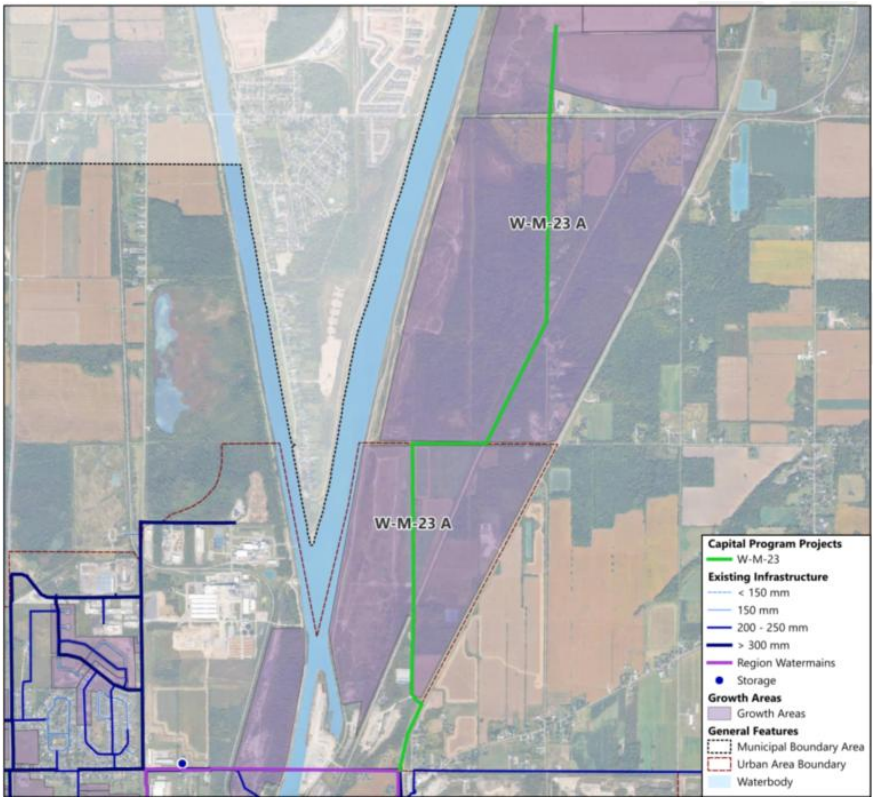


Figure 8-6: Northeast Side Employment Lands Growth Area

A summary of all projects supporting this development block, including local watermain upgrades as well as other system improvements required to support servicing of the area, are provided in **Table 8-6**.

Table 8-6: Northeast Side Employment Lands Projects

Project Number		Project Description	Benefit to Existing
W-M-23	A	5253 m of new 500 mm watermain along ESEL Lands.	BE-1

8.3 Local Servicing Upgrades

A number of local servicing projects have been identified to address system constraints, aging infrastructure, and localized servicing deficiencies. These projects generally consist of watermain upgrades within established areas and are intended to improve system performance, reliability, and hydraulic capacity. In several cases, these works also provide broader system benefits by supporting adjacent areas, improving network hydraulic capacity, or addressing known operational limitations.

For planning-level costing purposes, projects have been categorized as either watermain lining or replacement based on the available information. This is intended to provide a conservative estimate of capital costs; however, the preferred approach for each project should be confirmed at the time of design based on detailed condition assessments and local considerations.

The timing of these local servicing projects will be guided by coordination with other municipal programs and development activity. Key implementation triggers include:

- Road reconstruction projects;
- Sewer replacement or rehabilitation works;
- Neighbourhood-level watermain lining or renewal programs;
- Redevelopment or intensification within existing areas; and
- Asset condition or operational performance considerations identified through ongoing monitoring and asset management practices.

8.3.1 Cast Iron Replacement Program

In acknowledgement that the City still needs to address rehabilitation and/or replacement of all its cast iron watermains to address ongoing watermain break and water loss issues, the final capital program also includes the full replacement/lining of all remaining cast iron watermains. **Table 8-7** outlines the capital program projects that represent the remaining cast iron watermain program projects that do not directly support an identified growth area or address an existing system performance issue. While it is understood that it is the City's preference to line cast iron watermains if feasible, for the purposes of the Implementation Plan, watermains with break history have been assumed to require full replacement, while watermains without a break history are assumed to be candidates for lining. Prior to construction/or lining, the City will ultimately need to review and assess the condition of the existing watermain and confirm its suitability for lining.

Table 8-7: Cast Iron Rehabilitation Projects

Project Number		Project Description	Benefit to Existing
W-M-26	A	Lining of 5494 m of 150 mm cast iron watermain.	BE-6
W-M-26	B	Lining of 1466 m of 200 mm cast iron watermain.	BE-6
W-M-26	C	Lining of 1510 m of 250 mm cast iron watermain.	BE-6
W-M-26	D	Lining of 2909 m of 300 mm cast iron watermain.	BE-6
W-M-26	E	Lining of 105 m of 350 mm cast iron watermain.	BE-6
W-M-27	B	Replacement of 588 m of 200 mm watermain along for watermain breaks.	BE-6

W-M-27	C	Replacement of 232 m of 250 mm watermain along for watermain breaks.	BE-6
W-M-27	D	Replacement of 208 m of 300 mm watermain along for watermain breaks.	BE-6

For the purposes of this implementation plan, we have assumed that the City will continue with the rehabilitation of the City's remaining cast iron watermains, with completion by 2041. The implementation plan includes recommendations to prioritize the lining/replacement of watermains that support growth areas and/or have a history of breaks. Ultimately, the City will continue to review and prioritize the watermain replacement/lining based on a review of corridor needs and other infrastructure and community priorities. This phased approach supports the continued renewal of aging infrastructure, improving system reliability and reducing the risk of future watermain failures.

The projects are identified as a low priority project and should be coordinated with other infrastructure priorities.

8.4 Operation and Condition Program

8.4.1 Non-Revenue Water Reduction Program

The City should implement a targeted NRW reduction program to address existing high NRW rates. The NRW was calculated for the system and was presented in **Section 2.1.3**. Based on the existing NRW rate of 40%, NRW reduction should be completed across the entire system with the goal of minimizing NRW as much as possible. For the purpose of the MSP, the analysis assumed a NRW of 25%; however, the City should aim to reduce NRW as much as possible.

The program activities may include but are not limited to:

- Enhancement to the water metering program including:
    - Continue meter replacement program
    - Expand real-time monitoring of large water users
- Continue and expand on existing leak detection program for watermains,
- Continue with watermain lining and replacement program,
- Improve tracking of unbilled authorized users and development of demand reduction strategies:
    - Fire department
    - Watermain flushing
    - Facility usage,
- Development of bulk water user strategy and potential construction of additional bulk water station, and
- Improved monitoring and enforcement of new construction water users.

Appendix A – Fire Flow Review

Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	176 Charlotte Street
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						103.2	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							206.4	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							5,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	4,250
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	Direction	Exposure Distance	Exposed Length	Exposed Stories	h Height Fa	Building Class		
		N	Greater than 30 m	7	2	0-20	Type V-W	0%	
		E	3.1 m to 10 m	14.2	2	21-40	Type V-W	16%	
		S	0 m to 3 m	6.9	2	0-20	Type V-W	20%	
		W	3.1 m to 10 m	14.3	2	21-40	Type V-W	16%	
		Total Exposure Charge						52%	2,210
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							6,000
		Total Required Fire Flow (L/s)							100
		Required Fire Flow Duration (hrs)							2.0
		Required Fire Flow Volume (cu.m)							720





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	262 Mitchell Street
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						127.4	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							254.8	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							5,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	4,250
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	3.1 m to 10 m	15.4	2	21-40	Type V-W	16%	
		E	Greater than 30 m	8.7	2	0-20	Type V-W	0%	
		S	3.1 m to 10 m	14.7	2	21-40	Type V-W	16%	
		W	0 m to 3 m	10.1	2	21-40	Type V-W	21%	
		Total Exposure Charge						53%	2,253
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**7,000**
		Total Required Fire Flow (L/s)							**117**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**840**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	29 Catharine Street
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						160.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							321.6	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							6,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,100
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	15.4	2	21-40	Type V-W	0%	
		E	10.1 m to 20 m	10.3	2	21-40	Type V-W	11%	
		S	3.1 m to 10 m	15.4	2	21-40	Type V-W	16%	
		W	Greater than 30 m	10.6	2	21-40	Type V-W	0%	
		Total Exposure Charge						27%	1,377
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**6,000**
		Total Required Fire Flow (L/s)							**100**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**720**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	57 Elgin Street
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						121.3	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							242.6	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							5,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	4,250
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	10.1 m to 20 m	9.5	2	0-20	Type V-W	10%	
		E	3.1 m to 10 m	13.1	2	21-40	Type V-W	16%	
		S	Greater than 30 m	9.4	2	0-20	Type V-W	0%	
		W	10.1 m to 20 m	12.7	2	21-40	Type V-W	11%	
		Total Exposure Charge						37%	1,573
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**6,000**
		Total Required Fire Flow (L/s)							**100**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**720**

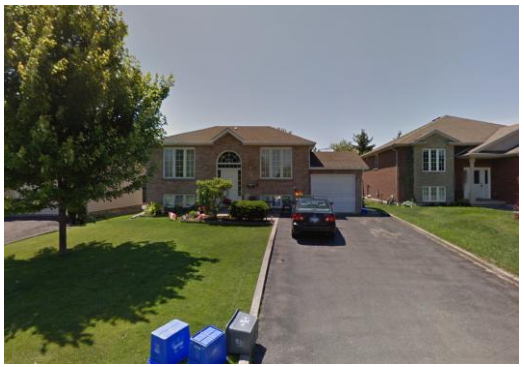




Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	6 Hillcrest Road
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						159.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							239.7	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							5,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	4,250
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	12.6	1.5	0-20	Type V-W	0%	
		E	0 m to 3 m	12.6	1.5	0-20	Type V-W	20%	
		S	Greater than 30 m	12.9	1.5	0-20	Type V-W	0%	
		W	0 m to 3 m	12.6	1	0-20	Type V-W	20%	
		Total Exposure Charge						40%	1,700
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**6,000**
		Total Required Fire Flow (L/s)							**100**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**720**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	708 Clarence Street
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						270.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							405.75	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							7,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,950
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	13	1.5	0-20	Type V-W	0%	
		E	0 m to 3 m	20.4	1.5	21-40	Type V-W	21%	
		S	Greater than 30 m	13.3	1.5	0-20	Type V-W	0%	
		W	0 m to 3 m	20.7	1.5	21-40	Type V-W	21%	
		Total Exposure Charge						42%	2,499
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**8,000**
		Total Required Fire Flow (L/s)							**134**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**960**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	21 Bartok Crescent
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						246.9	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							370.35	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							6,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,100
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	0 m to 3 m	18.3	1.5	21-40	Type V-W	21%	
		E	Greater than 30 m	13.6	1.5	21-40	Type V-W	0%	
		S	0 m to 3 m	18	1.5	21-40	Type V-W	21%	
		W	Greater than 30 m	13.7	1.5	21-40	Type V-W	0%	
		Total Exposure Charge						42%	2,142
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**7,000**
		Total Required Fire Flow (L/s)							**117**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**840**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	36 Bayview Lane
Notes:	Single Family House

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						195.3	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							292.95	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							6,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,100
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	14.4	1.5	21-40	Type V-W	0%	
		E	20.1 m to 30 m	13.3	1.5	0-20	Type V-W	0%	
		S	0 m to 3 m	15.4	1.5	21-40	Type V-W	21%	
		W	Greater than 30 m	13	1.5	0-20	Type V-W	0%	
		Total Exposure Charge						21%	1,071
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							6,000
		Total Required Fire Flow (L/s)							100
		Required Fire Flow Duration (hrs)							2.0
		Required Fire Flow Volume (cu.m)							720





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	266 Rosemount Avenue
Notes:	St. Patrick's Catholic Elementary School

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.8 Type II Nonconsbustible Construction						0.8	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1403.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							2807	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							9,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	7,650
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-10%	- 765
8	Determine Increase for Exposure	Direction	Exposure Distance	Exposed Length	Exposed Stories	Lenth Height Factor	Building Class		
		N	Greater than 30 m	63.1	2	Over 100	Type II-W	0%	
		E	Greater than 30 m	26	1	21-40	Type II-W	0%	
		S	10.1 m to 20 m	63.1	2	Over 100	Type II-W	8%	
		W	Greater than 30 m	26.6	2	41-60	Type II-W	0%	
		Total Exposure Charge						8%	612
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							7,000
		Total Required Fire Flow (L/s)							117
		Required Fire Flow Duration (hrs)							2.0
		Required Fire Flow Volume (cu.m)							840





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	211 Elgin Street
Notes:	Port Colborne High School

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.8 Type II Nonconsbustible Construction						0.8	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						8317.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						3	
4	Determine Effective Floor area							24953.4	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							28,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	23,800
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Yes	-30%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-40%	- 9,520
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	168.3	3	Over 100	Type II-W	0%	
		E	Greater than 30 m	84.1	3	Over 100	Type II-W	0%	
		S	Greater than 30 m	170.0	3	Over 100	Type II-W	0%	
		W	Greater than 30 m	37.5	3	Over 100	Type II-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							14,000
		Total Required Fire Flow (L/s)							234
		Required Fire Flow Duration (hrs)							3.0
		Required Fire Flow Volume (cu.m)							2,520





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	550 Elizabeth Street
Notes:	Vale Health & Wellness Centre

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.8 Type II Nonconsbustible Construction						0.8	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						11089.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						3	
4	Determine Effective Floor area							33269.4	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							32,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	27,200
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Yes	-30%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-40%	- 10,880
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	125.0	3	Over 100	Type II-W	0%	
		E	Greater than 30 m	125.3	3	Over 100	Type II-W	0%	
		S	Greater than 30 m	124.5	3	Over 100	Type II-W	0%	
		W	Greater than 30 m	71.1	3	Over 100	Type II-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							16,000
		Total Required Fire Flow (L/s)							267
		Required Fire Flow Duration (hrs)							3.5
		Required Fire Flow Volume (cu.m)							3,360





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	223 Bell Street
Notes:	Italian Canadian Cultural Centre

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1482.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							2223.75	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							10,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	8,500
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					Unknown	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	20.1 m to 30 m	40.2	1.5	61-80	Type III-W	3%	
		E	3.1 m to 10 m	37.1	1.5	41-60	Type III-W	12%	
		S	Greater than 30 m	40.9	1.5	61-80	Type III-W	0%	
		W	3.1 m to 10 m	36	1.5	41-60	Type III-W	12%	
		Total Exposure Charge						27%	2,295
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**11,000**
		Total Required Fire Flow (L/s)							**184**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,320**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	124 Clarence Street
Notes:	Food Basics

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.8 Type II Nonconsbustible Construction						0.8	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						2770.3	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							4155.45	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							11,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	9,350
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-10%	- 935
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	54.8	1.5	81-100	Type II-W	0%	
		E	Greater than 30 m	55.4	1.5	81-100	Type II-W	0%	
		S	20.1 m to 30 m	54.4	1.5	81-100	Type II-W	3%	
		W	10.1 m to 20 m	55.1	1.5	81-100	Type II-W	7%	
		Total Exposure Charge						10%	935
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**9,000**
		Total Required Fire Flow (L/s)							**150**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,080**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	182 West Street
Notes:	The Lockwood Fired Pizza

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.5 - Type V - Wood Frame Construction						1.5	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						239.9	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							479.8	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							7,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,950
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					No	0%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	3.1 m to 10 m	23.8	2	41-60	Type V-W	17%	
		E	Greater than 30 m	10.8	2	21-40	Type V-W	0%	
		S	3.1 m to 10 m	23.7	2	41-60	Type V-W	17%	
		W	10.1 m to 20 m	9.5	2	0-20	Type V-W	10%	
		Total Exposure Charge						44%	2,618
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**9,000**
		Total Required Fire Flow (L/s)							**150**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,080**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	77 Clarence Street
Notes:	Shoppers Drug Mart

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		Without Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1753.2	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							3506.4	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							13,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	11,050
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-10%	- 1,105
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	3.1 m to 10 m	38.8	2	61-80	Type III-WO	6%	
		E	20.1 m to 30 m	48.8	2	81-100	Type III-WO	2%	
		S	20.1 m to 30 m	38.8	2	61-80	Type III-WO	1%	
		W	0 m to 3 m	48.8	2	81-100	Type III-WO	9%	
		Total Exposure Charge						18%	1,989
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**12,000**
		Total Required Fire Flow (L/s)							**200**
		Required Fire Flow Duration (hrs)							**2.5**
		Required Fire Flow Volume (cu.m)							**1,800**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	344 King Street
Notes:	Backroad Barbecue Company

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						496	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1.5	
4	Determine Effective Floor area							744	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							6,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,100
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					No	0%	
		Total Sprinkler Coverage						-10%	- 510
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	3.1 m to 10 m	29.9	1.5	41-60	Type III-W	12%	
		E	Greater than 30 m	17	1.5	21-40	Type III-W	0%	
		S	10.1 m to 20 m	29.5	1.5	41-60	Type III-W	7%	
		W	20.1 m to 30 m	16.4	1.5	21-40	Type III-W	1%	
		Total Exposure Charge						20%	1,020
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**6,000**
		Total Required Fire Flow (L/s)							**100**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**720**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	287 West Side Road
Notes:	Commercial Box Stores (Canadian Tire, Sobeys, etc)

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.8 Type II Nonconsbustible Construction						0.8	
		Without Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						12081.2	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							12081.2	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							19,000
6	Determine Occupancy Charge	+15% Free Burning Contents						0.15	21,850
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Yes	-30%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-40%	- 8,740
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	10.1 m to 20 m	68	1	61-80	Type II-WO	1%	
		E	20.1 m to 30 m	199.5	1	Over 100	Type II-WO	0%	
		S	Greater than 30 m	53.2	1	41-60	Type II-WO	0%	
		W	Greater than 30 m	177.4	1	Over 100	Type II-WO	0%	
		Total Exposure Charge						1%	219
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**13,000**
		Total Required Fire Flow (L/s)							**217**
		Required Fire Flow Duration (hrs)							**2.5**
		Required Fire Flow Volume (cu.m)							**1,950**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	569 Main Street West
Notes:	McDonalds

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						541.7	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							541.7	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							5,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	4,250
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 425
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	16.1	1	0-20	Type III-W	0%	
		E	Greater than 30 m	33.1	1	21-40	Type III-W	0%	
		S	Greater than 30 m	17.1	1	0-20	Type III-W	0%	
		W	Greater than 30 m	32.1	1	21-40	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**4,000**
		Total Required Fire Flow (L/s)							**67**
		Required Fire Flow Duration (hrs)							**1.5**
		Required Fire Flow Volume (cu.m)							**360**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	197 Main Street East
Notes:	Tim Hortons

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						301.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							301.5	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							4,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	3,400
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 340
8	Determine Increase for Exposure	Direction	Exposure Distance	Exposed Length	Exposed Stories	Lenth Height Factor	Building Class		
		N	Greater than 30 m	18.8	1	0-20	Type III-W	0%	
		E	Greater than 30 m	15.2	1	0-20	Type III-W	0%	
		S	20.1 m to 30 m	19.1	1	0-20	Type III-W	0%	
		W	Greater than 30 m	15.5	1	0-20	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							3,000
		Total Required Fire Flow (L/s)							50
		Required Fire Flow Duration (hrs)							1.3
		Required Fire Flow Volume (cu.m)							225





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	73 Main Street East
Notes:	Dairy Queen

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						94.6	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							94.6	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							2,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	1,700
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Unknown	0%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	20.1 m to 30 m	7.5	1	0-20	Type III-W	0%	
		E	10.1 m to 20 m	12.4	1	0-20	Type III-W	5%	
		S	Greater than 30 m	7.7	1	0-20	Type III-W	0%	
		W	10.1 m to 20 m	12.5	1	0-20	Type III-W	5%	
		Total Exposure Charge						10%	170
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**2,000**
		Total Required Fire Flow (L/s)							**34**
		Required Fire Flow Duration (hrs)							**1.0**
		Required Fire Flow Volume (cu.m)							**120**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	313-327 Elgin Street West
Notes:	Townhouse Block

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						938	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							1876	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							10,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	8,500
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Unknown	0%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	20.1 m to 30 m	53	2	Over 100	Type III-W	5%	
		E	20.1 m to 30 m	17.2	2	21-40	Type III-W	1%	
		S	Greater than 30 m	53.6	2	Over 100	Type III-W	0%	
		W	3.1 m to 10 m	18	2	21-40	Type III-W	11%	
		Total Exposure Charge						17%	1,445
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**10,000**
		Total Required Fire Flow (L/s)							**167**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,200**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	41 Amelia Street
Notes:	Townhouses. Semi-Detached

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						272.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2.5	
4	Determine Effective Floor area							681.25	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							6,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	5,100
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Unknown	0%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						0%	-
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	29.4	2.5	61-80	Type III-W	0%	
		E	10.1 m to 20 m	9.3	2.5	21-40	Type III-W	6%	
		S	20.1 m to 30 m	29.4	2.5	61-80	Type III-W	3%	
		W	20.1 m to 30 m	9.3	2.5	21-40	Type III-W	1%	
		Total Exposure Charge						10%	510
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**6,000**
		Total Required Fire Flow (L/s)							**100**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**720**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	300-302 Elgin Street
Notes:	Portal Village Retirement Community

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.6 Type I Fire Resistive Construction						0.6	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						6302.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2.5	
4	Determine Effective Floor area							15757	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							17,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	14,450
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,445
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	138.6	2.5	Over 100	Type I-W	0%	
		E	Greater than 30 m	98.4	2.5	Over 100	Type I-W	0%	
		S	Greater than 30 m	141.4	2.5	Over 100	Type I-W	0%	
		W	10.1 m to 20 m	58.5	2.5	Over 100	Type I-W	8%	
		Total Exposure Charge						8%	1,156
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**14,000**
		Total Required Fire Flow (L/s)							**234**
		Required Fire Flow Duration (hrs)							**3.0**
		Required Fire Flow Volume (cu.m)							**2,520**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	176 Ash Street
Notes:	Princess Bay Apartments

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1186.6	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						5	
4	Determine Effective Floor area							5933	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							17,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	14,450
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,445
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	26.1	5	Over 100	Type III-W	0%	
		E	Greater than 30 m	58.6	5	Over 100	Type III-W	0%	
		S	20.1 m to 30 m	13.2	5	61-80	Type III-W	3%	
		W	10.1 m to 20 m	58.6	5	Over 100	Type III-W	10%	
		Total Exposure Charge						13%	1,879
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**15,000**
		Total Required Fire Flow (L/s)							**250**
		Required Fire Flow Duration (hrs)							**3.0**
		Required Fire Flow Volume (cu.m)							**2,700**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	340 Wellington Street
Notes:	Apartment Building. South Niagara Gateway Family

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1179.1	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						5	
4	Determine Effective Floor area							5895.5	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							17,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	14,450
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,445
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	54.5	5	Over 100	Type III-W	0%	
		E	Greater than 30 m	22.4	5	Over 100	Type III-W	0%	
		S	Greater than 30 m	54.5	5	Over 100	Type III-W	0%	
		W	Greater than 30 m	22.3	5	Over 100	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**13,000**
		Total Required Fire Flow (L/s)							**217**
		Required Fire Flow Duration (hrs)							**2.5**
		Required Fire Flow Volume (cu.m)							**1,950**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	303 Elgin Street
Notes:	Apartment Building. Gilead Manor

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1630.9	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						2	
4	Determine Effective Floor area							3261.8	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							13,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	11,050
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,105
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	57.1	2	Over 100	Type III-W	0%	
		E	Greater than 30 m	71.9	2	Over 100	Type III-W	0%	
		S	Greater than 30 m	20.5	2	41-60	Type III-W	0%	
		W	Greater than 30 m	42.3	2	81-100	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**10,000**
		Total Required Fire Flow (L/s)							**167**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,200**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	400 Steele Street
Notes:	Apartment Building. Portal Village

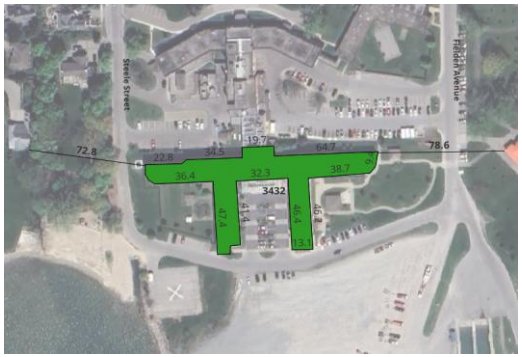
Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						1305.6	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						6	
4	Determine Effective Floor area							7833.6	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							19,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	16,150
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,615
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	19.1	6	Over 100	Type III-W	0%	
		E	Greater than 30 m	70.8	6	Over 100	Type III-W	0%	
		S	Greater than 30 m	20.1	6	Over 100	Type III-W	0%	
		W	Greater than 30 m	70.9	6	Over 100	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							15,000
		Total Required Fire Flow (L/s)							250
		Required Fire Flow Duration (hrs)							3.0
		Required Fire Flow Volume (cu.m)							2,700





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	2 Fielden Avenue
Notes:	Nursing Home. Northland Pointe

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	0.6 Type I Fire Resistive Construction						0.6	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						3432	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						3	
4	Determine Effective Floor area							10296	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							13,000
6	Determine Occupancy Charge	0% Combustible Contents						0	13,000
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Yes	-30%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-40%	- 5,200
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	0 m to 3 m	145.5	3	Over 100	Type I-W	15%	
		E	Greater than 30 m	61.9	3	Over 100	Type I-W	0%	
		S	Greater than 30 m	145.9	3	Over 100	Type I-W	0%	
		W	Greater than 30 m	62.4	3	Over 100	Type I-W	0%	
		Total Exposure Charge						15%	1,950
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**10,000**
		Total Required Fire Flow (L/s)							**167**
		Required Fire Flow Duration (hrs)							**2.0**
		Required Fire Flow Volume (cu.m)							**1,200**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	1555 Elm Street
Notes:	Biotechnology company. Jungbunzlauer Canada

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						9697.8	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							9697.8	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							22,000
6	Determine Occupancy Charge	+15% Free Burning Contents						0.15	25,300
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Yes	-30%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-40%	- 10,120
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	20.1 m to 30 m	133.6	1	Over 100	Type III-W	5%	
		E	Greater than 30 m	82.6	1	81-100	Type III-W	0%	
		S	Greater than 30 m	105.8	1	Over 100	Type III-W	0%	
		W	0 m to 3 m	88.7	1	81-100	Type III-W	19%	
		Total Exposure Charge						24%	6,072
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**21,000**
		Total Required Fire Flow (L/s)							**350**
		Required Fire Flow Duration (hrs)							**4.5**
		Required Fire Flow Volume (cu.m)							**5,670**



Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	33 Stonebridge Drive
Notes:	Claire's Delivery & Transporation

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						9739.5	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							9739.5	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							22,000
6	Determine Occupancy Charge	0% Combustible Contents						0	22,000
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					No	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 2,200
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	Greater than 30 m	110.6	1	Over 100	Type III-W	0%	
		E	Greater than 30 m	89.1	1	81-100	Type III-W	0%	
		S	Greater than 30 m	110.2	1	Over 100	Type III-W	0%	
		W	Greater than 30 m	87.3	1	81-100	Type III-W	0%	
		Total Exposure Charge						0%	-
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**20,000**
		Total Required Fire Flow (L/s)							**334**
		Required Fire Flow Duration (hrs)							**4.5**
		Required Fire Flow Volume (cu.m)							**5,400**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	1 Lake Road
Notes:	Harvest Supply Canada / Allied Marine and Industrial

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						3475.9	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							3475.9	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							13,000
6	Determine Occupancy Charge	0% Combustible Contents						0	13,000
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,300
8	Determine Increase for Exposure	Direction	Exposure Distance	Exposed Length	Exposed Stories	Lenth Height Factor	Building Class		
		N	Greater than 30 m	43.8	1	41-60	Type III-W	0%	
		E	10.1 m to 20 m	79.5	1	61-80	Type III-W	8%	
		S	Greater than 30 m	47.4	1	41-60	Type III-W	0%	
		W	Greater than 30 m	79.6	1	61-80	Type III-W	0%	
		Total Exposure Charge						8%	1,040
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**13,000**
		Total Required Fire Flow (L/s)							**217**
		Required Fire Flow Duration (hrs)							**2.5**
		Required Fire Flow Volume (cu.m)							**1,950**





Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	1 King Street
Notes:	Warehouse. ADM Milling

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						3450	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						8	
4	Determine Effective Floor area							27600	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							37,000
6	Determine Occupancy Charge	0% Combustible Contents						0	37,000
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 3,700
8	Determine Increase for Exposure	Direction	Exposure Distance	Exposed Length	Exposed Stories	Lenth Height Factor	Building Class		
		N	3.1 m to 10 m	18.8	8	Over 100	Type III-W	15%	
		E	Greater than 30 m	233.8	8	Over 100	Type III-W	0%	
		S	Greater than 30 m	55.5	8	Over 100	Type III-W	0%	
		W	Greater than 30 m	234.2	8	Over 100	Type III-W	0%	
		Total Exposure Charge						15%	5,550
9	Determined Final Required Fire Flow	Total Required Fire Flow (L/min) - Rounded to Nearest 100L							39,000
		Total Required Fire Flow (L/s)							650
		Required Fire Flow Duration (hrs)							9.0
		Required Fire Flow Volume (cu.m)							21,060



Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	2 Sherwood Forest Lane
Notes:	London Agricultural Commodities

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						2245	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						9	
4	Determine Effective Floor area							20205	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							31,000
6	Determine Occupancy Charge	0% Combustible Contents						0	31,000
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 3,100
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	0 m to 3 m	12	10	Over 100	Type III-W	20%	
		E	Greater than 30 m	264.1	10	Over 100	Type III-W	0%	
		S	Greater than 30 m	16.6	10	Over 100	Type III-W	0%	
		W	Greater than 30 m	264.1	10	Over 100	Type III-W	0%	
		Total Exposure Charge						20%	6,200
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**34,000**
		Total Required Fire Flow (L/s)							**567**
		Required Fire Flow Duration (hrs)							**8.0**
		Required Fire Flow Volume (cu.m)							**16,320**



Client:	City of Port Colborne
Project:	Port Colborne Master Plan Level of Service
Date:	01-Apr-25
Property Address:	187 Davis Street
Notes:	Vale Canada

Step	Task	Notes						Value	Required Fire Flow
1	Determined Type of Construction	1.0 Type III Ordinary Construction						1	
		With Unprotected Openings							
2	Determine Floor Area	Does not include Floors Below Grade or Open Attic Space For Construction Coefficient 1.0 to 1.5 - Use Total Floor Area For Construction Coefficient Below 1.0 - With Unprotected Vertical Openings - Use Two largest Floors + 50% of all floors above up to 8 - With protected vertical openings - Use Largest Floor + 25% of each of the two adjoin floors						9571.6	
3	Determine Number of Stories	Single Stories exceeding 3 m - Calculated equivalent stories if used for were housing						1	
4	Determine Effective Floor area							9571.6	
5	Determine Required Fire Flow	F = 220xCxA^1/2 - to Nearest 100 L/min							22,000
6	Determine Occupancy Charge	-15% Limited Combustible Contents						-0.15	18,700
7	Determine Sprinkler Reduction	30% Automatic Sprinkler Protection					Unknown	0%	
		10% Water Supply is Standard					Yes	-10%	
		10% Fully Supervised System					Unknown	0%	
		Total Sprinkler Coverage						-10%	- 1,870
8	Determine Increase for Exposure	**Direction**	**Exposure Distance**	**Exposed Length**	**Exposed Stories**	**Lenth Height Factor**	**Building Class**		
		N	10.1 m to 20 m	98.6	2	Over 100	Type III-W	10%	
		E	10.1 m to 20 m	174.8	2	Over 100	Type III-W	10%	
		S	Greater than 30 m	116.2	2	Over 100	Type III-W	0%	
		W	20.1 m to 30 m	97.5	2	Over 100	Type III-W	5%	
		Total Exposure Charge						25%	4,675
9	Determined Final Required Fire Flow	**Total Required Fire Flow (L/min) - Rounded to Nearest 100L**							**22,000**
		Total Required Fire Flow (L/s)							**367**
		Required Fire Flow Duration (hrs)							**5.0**
		Required Fire Flow Volume (cu.m)							**6,600**





Appendix B – Capital Program

Table 8-8: Water Capital Program Costing Details

Description					Scope						Hard Cost Allowances														Total Construction Cost
											General Construction Overhead			Site Complexity			Special Conditions			Market and Inflation Adjustment			Special Activities				
Project	Project Letter	Project Description	Benefit to Existing	Class EA Project	Project Type	Length (m)	Diameter (mm)	Street	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Activity 1	Cost	Activity 2	Cost	
W-M-01	A	Lining of 137 m of 150 mm watermain along Cedar Street.	BE-6	Schedule A	Watermain CIPP Rehab	137	150	Cedar Street	1,200	$164,400	Low	15%	$24,660	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$190,000
W-M-01	C	Lining of 153 m of 150 mm watermain along Orchard Drive.	BE-6	Schedule A	Watermain CIPP Rehab	153	150	Orchard Drive	1,200	$183,600	Low	15%	$27,540	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$212,000
W-M-01	D	Lining of 125 m of 200 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	125	200	Oakridge Crescent	1,300	$162,500	Low	15%	$24,375	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$187,000
W-M-01	F	Lining of 28 m of 200 mm watermain along Walnut Street.	BE-6	Schedule A	Watermain CIPP Rehab	28	200	Walnut Street	1,300	$36,400	Low	15%	$5,460	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$42,000
W-M-01	G	Lining of 45 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	45	150	Oakridge Crescent	1,200	$54,000	Low	15%	$8,100	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$63,000
W-M-01	H	Lining of 79 m of 150 mm watermain along Lakewood Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	79	150	Lakewood Crescent	1,200	$94,800	Low	15%	$14,220	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$110,000
W-M-01	I	Lining of 120 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	120	150	Oakridge Crescent	1,200	$144,000	Low	15%	$21,600	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$166,000
W-M-01	K	Lining of 20 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	20	150	Oakridge Crescent	1,200	$24,000	Low	15%	$3,600	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$28,000
W-M-01	L	Lining of 249 m of 150 mm watermain along Rose Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	249	150	Rose Avenue	1,200	$298,800	Low	15%	$44,820	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$344,000
W-M-01	M	Lining of 212 m of 150 mm watermain along Gaspare Drive.	BE-6	Schedule A	Watermain CIPP Rehab	212	150	Gaspare Drive	1,200	$254,400	Low	15%	$38,160	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$293,000
W-M-04	A	Lining of 326 m of 150 mm watermain along Clarence Street.	BE-6	Schedule A	Watermain CIPP Rehab	326	150	Clarence Street	1,200	$391,200	Low	15%	$58,680	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$450,000
W-M-04	B	Lining of 76 m of 150 mm watermain along Linwood Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	76	150	Linwood Avenue	1,200	$91,200	Low	15%	$13,680	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$105,000
W-M-04	C	Lining of 83 m of 150 mm watermain along Clare Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	83	150	Clare Avenue	1,200	$99,600	Low	15%	$14,940	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$115,000
W-M-06	A	Lining of 32 m of 200 mm watermain along Sugarloaf Street.	BE-4	Schedule A	Watermain CIPP Rehab	32	200	Sugarloaf Street	1,300	$41,600	Low	15%	$6,240	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$48,000
W-M-06	C	Lining of 23 m of 200 mm watermain along Sugarloaf Street.	BE-4	Schedule A	Watermain CIPP Rehab	23	200	Sugarloaf Street	1,300	$29,900	Low	15%	$4,485	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$35,000
W-M-06	E	Lining of 401 m of 200 mm watermain along Sugarloaf Street.	BE-4	Schedule A	Watermain CIPP Rehab	401	200	Sugarloaf Street	1,300	$521,300	Low	15%	$78,195	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$600,000
W-M-06	F	Lining of 97 m of 150 mm watermain along Sugarloaf Street.	BE-6	Schedule A	Watermain CIPP Rehab	97	150	Sugarloaf Street	1,200	$116,400	Low	15%	$17,460	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$134,000
W-M-06	G	Lining of 3 m of 200 mm watermain along Park Street.	BE-6	Schedule A	Watermain CIPP Rehab	3	200	Park Street	1,300	$3,900	Low	15%	$585	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$5,000
W-M-06	H	Lining of 199 m of 150 mm watermain along Ash Street.	BE-5	Schedule A	Watermain CIPP Rehab	199	150	Ash Street	1,200	$238,800	Low	15%	$35,820	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$275,000
W-M-06	I	Lining of 126 m of 200 mm watermain along Elm Street.	BE-5	Schedule A	Watermain CIPP Rehab	126	200	Elm Street	1,300	$163,800	Low	15%	$24,570	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$189,000
W-M-06	J	Lining of 114 m of 150 mm watermain along Elm Street.	BE-5	Schedule A	Watermain CIPP Rehab	114	150	Elm Street	1,200	$136,800	Low	15%	$20,520	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$158,000
W-M-06	K	Lining of 15 m of 150 mm watermain along Kent Street.	BE-6	Schedule A	Watermain CIPP Rehab	15	150	Kent Street	1,200	$18,000	Low	15%	$2,700	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$21,000

Description					Scope						Hard Cost Allowances														Total Construction Cost
											General Construction Overhead			Site Complexity			Special Conditions			Market and Inflation Adjustment			Special Activities				
Project	Project Letter	Project Description	Benefit to Existing	Class EA Project	Project Type	Length (m)	Diameter (mm)	Street	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Activity 1	Cost	Activity 2	Cost	
W-M-06	O	Lining of 103 m of 150 mm watermain along Kent Street.	BE-6	Schedule A	Watermain CIPP Rehab	103	150	Kent Street	1,200	$123,600	Low	15%	$18,540	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$143,000
W-M-06	P	Lining of 65 m of 150 mm watermain along Park Street.	BE-6	Schedule A	Watermain CIPP Rehab	65	150	Park Street	1,200	$78,000	Low	15%	$11,700	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$90,000
W-M-06	Q	Lining of 35 m of 150 mm watermain along Elm Street.	BE-6	Schedule A	Watermain CIPP Rehab	35	150	Elm Street	1,200	$42,000	Low	15%	$6,300	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$49,000
W-M-07	A	Lining of 271 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	271	150	Steele Street	1,200	$325,200	Low	15%	$48,780	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$374,000
W-M-07	R	Lining of 11 m of 150 mm watermain along Brady Street.	BE-6	Schedule A	Watermain CIPP Rehab	11	150	Brady Street	1,200	$13,200	Low	15%	$1,980	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$16,000
W-M-07	T	Lining of 17 m of 150 mm watermain along Brady Street.	BE-6	Schedule A	Watermain CIPP Rehab	17	150	Brady Street	1,200	$20,400	Low	15%	$3,060	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$24,000
W-M-07	W	Lining of 99 m of 150 mm watermain along Fielden Avenue.	BE-5	Schedule A	Watermain CIPP Rehab	99	150	Fielden Avenue	1,200	$118,800	Low	15%	$17,820	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$137,000
W-M-07	X	Lining of 202 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	202	150	McCain Street	1,200	$242,400	Low	15%	$36,360	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$279,000
W-M-07	Z	Lining of 87 m of 150 mm watermain along Charles Street.	BE-5	Schedule A	Watermain CIPP Rehab	87	150	Charles Street	1,200	$104,400	Low	15%	$15,660	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$121,000
W-M-07	AA	Lining of 7 m of 150 mm watermain along First Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	7	150	First Avenue	1,200	$8,400	Low	15%	$1,260	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$10,000
W-M-07	B	Lining of 63 m of 150 mm watermain along Brock Street.	BE-6	Schedule A	Watermain CIPP Rehab	63	150	Brock Street	1,200	$75,600	Low	15%	$11,340	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$87,000
W-M-07	E	Lining of 187 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	187	150	Steele Street	1,200	$224,400	Low	15%	$33,660	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$259,000
W-M-07	G	Lining of 7 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	7	150	Steele Street	1,200	$8,400	Low	15%	$1,260	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$10,000
W-M-07	H	Lining of 6 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	6	150	Steele Street	1,200	$7,200	Low	15%	$1,080	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$9,000
W-M-07	J	Lining of 81 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	81	150	Steele Street	1,200	$97,200	Low	15%	$14,580	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$112,000
W-M-07	L	Lining of 12 m of 150 mm watermain along Helen Street.	BE-6	Schedule A	Watermain CIPP Rehab	12	150	Helen Street	1,200	$14,400	Low	15%	$2,160	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$17,000
W-M-07	N	Lining of 116 m of 150 mm watermain along Helen Street.	BE-6	Schedule A	Watermain CIPP Rehab	116	150	Helen Street	1,200	$139,200	Low	15%	$20,880	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$161,000
W-M-07	O	Lining of 116 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	116	150	McCain Street	1,200	$139,200	Low	15%	$20,880	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$161,000
W-M-07	Q	Lining of 14 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	14	150	McCain Street	1,200	$16,800	Low	15%	$2,520	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$20,000
W-M-09	A	Lining of 96 m of 150 mm watermain along Main Street West.	BE-6	Schedule A	Watermain CIPP Rehab	96	150	Main Street West	1,200	$115,200	Low	15%	$17,280	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$133,000
W-M-09	C	Lining of 499 m of 150 mm watermain along Main Street West.	BE-5	Schedule A	Watermain CIPP Rehab	499	150	Main Street West	1,200	$598,800	Low	15%	$89,820	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$689,000
W-M-09	D	Lining of 62 m of 300 mm watermain along Main Street West.	BE-5	Schedule A	Watermain CIPP Rehab	62	300	Main Street West	1,500	$93,000	Low	15%	$13,950	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$107,000
W-M-09	F	Lining of 727 m of 300 mm watermain along Main Street West.	BE-4	Schedule A	Watermain CIPP Rehab	727	300	Main Street West	1,500	$1,090,500	Low	15%	$163,575	Low	0%	$0	Low	0%	$0	Low	0%	$0	Large River Crossing	$3,000,000		$0	$4,255,000

Description					Scope						Hard Cost Allowances														Total Construction Cost
											General Construction Overhead			Site Complexity			Special Conditions			Market and Inflation Adjustment			Special Activities				
Project	Project Letter	Project Description	Benefit to Existing	Class EA Project	Project Type	Length (m)	Diameter (mm)	Street	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Activity 1	Cost	Activity 2	Cost	
W-M-10	X	Lining of 205 m of 150 mm watermain along Donlea Drive.	BE-6	Schedule A	Watermain CIPP Rehab	205	150	Donlea Drive	1,200	$246,000	Low	15%	$36,900	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$283,000
W-M-10	B	Lining of 249 m of 150 mm watermain along Coronation Drive.	BE-6	Schedule A	Watermain CIPP Rehab	249	150	Coronation Drive	1,200	$298,800	Low	15%	$44,820	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$344,000
W-M-10	C	Lining of 7 m of 150 mm watermain along Coronation Drive.	BE-6	Schedule A	Watermain CIPP Rehab	7	150	Coronation Drive	1,200	$8,400	Low	15%	$1,260	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$10,000
W-M-10	D	Lining of 7 m of 150 mm watermain along Omer Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	7	150	Omer Avenue	1,200	$8,400	Low	15%	$1,260	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$10,000
W-M-10	E	Lining of 6 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	6	150	Steele Street	1,200	$7,200	Low	15%	$1,080	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$9,000
W-M-10	G	Lining of 3 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	3	150	Steele Street	1,200	$3,600	Low	15%	$540	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$5,000
W-M-10	I	Lining of 12 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	12	150	Steele Street	1,200	$14,400	Low	15%	$2,160	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$17,000
W-M-10	L	Lining of 9 m of 150 mm watermain along Borden Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	9	150	Borden Avenue	1,200	$10,800	Low	15%	$1,620	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$13,000
W-M-10	N	Lining of 93 m of 150 mm watermain along Borden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	93	150	Borden Avenue	1,200	$111,600	Low	15%	$16,740	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$129,000
W-M-10	P	Lining of 141 m of 200 mm watermain along Fielden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	141	200	Fielden Avenue	1,300	$183,300	Low	15%	$27,495	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$211,000
W-M-10	Q	Lining of 51 m of 150 mm watermain along Fielden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	51	150	Fielden Avenue	1,200	$61,200	Low	15%	$9,180	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$71,000
W-M-10	S	Lining of 11 m of 150 mm watermain along Franklin Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	11	150	Franklin Avenue	1,200	$13,200	Low	15%	$1,980	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$16,000
W-M-10	T	Lining of 5 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	5	150	Steele Street	1,200	$6,000	Low	15%	$900	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$7,000
W-M-10	V	Lining of 15 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	15	150	Steele Street	1,200	$18,000	Low	15%	$2,700	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$21,000
W-M-10	W	Lining of 2 m of 400 mm watermain along Royal Road.	BE-5	Schedule A	Watermain CIPP Rehab	2	400	Royal Road	1,700	$3,400	Low	15%	$510	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$4,000
W-M-11	A	Lining of 120 m of 200 mm watermain along Hawthorne Boulevard.	BE-6	Schedule A	Watermain CIPP Rehab	120	200	Hawthorne Boulevard	1,300	$156,000	Low	15%	$23,400	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$180,000
W-M-11	C	Lining of 18 m of 150 mm watermain along Runnymede Road.	BE-6	Schedule A	Watermain CIPP Rehab	18	150	Runnymede Road	1,200	$21,600	Low	15%	$3,240	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$25,000
W-M-11	E	Lining of 160 m of 150 mm watermain along Runnymede Road.	BE-6	Schedule A	Watermain CIPP Rehab	160	150	Runnymede Road	1,200	$192,000	Low	15%	$28,800	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$221,000
W-M-11	G	Lining of 260 m of 150 mm watermain along Thorncrest Road.	BE-6	Schedule A	Watermain CIPP Rehab	260	150	Thorncrest Road	1,200	$312,000	Low	15%	$46,800	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$359,000
W-M-12	F	Lining of 271 m of 150 mm watermain along Ramey Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	271	150	Ramey Avenue	1,200	$325,200	Low	15%	$48,780	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$374,000
W-M-13	B	Lining of 158 m of 150 mm watermain along Berkley Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	158	150	Berkley Avenue	1,200	$189,600	Low	15%	$28,440	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$219,000
W-M-14	A	Lining of 16 m of 150 mm watermain along Crescent Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	16	150	Crescent Avenue	1,200	$19,200	Low	15%	$2,880	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$23,000

Description					Scope						Hard Cost Allowances															Total Construction Cost
											General Construction Overhead			Site Complexity			Special Conditions			Market and Inflation Adjustment			Special Activities				
Project	Project Letter	Project Description	Benefit to Existing	Class EA Project	Project Type	Length (m)	Diameter (mm)	Street	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Activity 1	Cost	Activity 2	Cost	
W-M-24	A	Lining of 1533 m of 150 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6	Schedule A	Watermain CIPP Rehab	1,533	150	Clarence Street, Ridgewood Avenue, Division Street and Stanley Street	1,200	$1,839,600	Low	15%	$275,940	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$2,116,000
W-M-24	B	Lining of 158 m of 200 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6	Schedule A	Watermain CIPP Rehab	158	200	Clarence Street, Ridgewood Avenue, Division Street and Stanley Street	1,300	$205,400	Low	15%	$30,810	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$237,000
W-M-25	A	Lining of 1325 m of 150 mm watermain along Omer Avenue and Oakwood Street.	BE-5	Schedule A	Watermain CIPP Rehab	1,325	150	Omer Avenue and Oakwood Street	1,200	$1,590,000	Low	15%	$238,500	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$1,829,000
W-M-26	A	Lining of 5494 m of 150 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	5,494	150		1,200	$6,592,800	Low	15%	$988,920	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$7,582,000
W-M-26	B	Lining of 1466 m of 200 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	1,466	200		1,300	$1,905,800	Low	15%	$285,870	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$2,192,000
W-M-26	C	Lining of 1510 m of 250 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	1,510	250		1,400	$2,114,000	Low	15%	$317,100	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$2,432,000
W-M-26	D	Lining of 2909 m of 300 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	2,909	300		1,500	$4,363,500	Low	15%	$654,525	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$5,019,000
W-M-26	E	Lining of 105 m of 350 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	105	350		1,600	$168,000	Low	15%	$25,200	Low	0%	$0	Low	0%	$0	Low	0%	$0		$0		$0	$194,000

Table 8-9: Watermain Rehabilitation Capital Program Costing Details

Description					Scope						Soft Cost Allowances												Total Non-Construction 'Soft' Costs	Project Contingency Allowances			Total Cost Summary					Cost Allocation		
											Land Acquisition Needs			Preceding Engineering and Study Cost			Design, Contract Administration and Inspection			Internal Cost Allowance													
Project	Project Letter	Project Description	Benefit to Existing	Class EA Project	Project Type	Length (m)	Diameter (mm)	Street	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Land Acquisition Needs	Cost Factor	Uplift %	Engineering and Study Costs	Cost Factor	Uplift %	Contract Administration	Cost Factor	Uplift %	City-Related Costs		Cost Factor	Uplift %	Project Contingency	Total Project Cost	Growth	Deadend	Other Projects	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
W-M-01	A	Lining of 137 m of 150 mm watermain along Cedar Street.	BE-6	Schedule A	Watermain CIPP Rehab	137	150	Cedar Street	1,200	$164,400	Low	0%	$0	Low	3%	$4,932	Low	8%	$13,152	Low	8%	$13,152	$32,000	Medium	15%	$33,300	$256,000	Existing	Non Dead-end		Low	$256,000	$0	$0
W-M-01	C	Lining of 153 m of 150 mm watermain along Orchard Drive.	BE-6	Schedule A	Watermain CIPP Rehab	153	150	Orchard Drive	1,200	$183,600	Low	0%	$0	Low	3%	$5,508	Low	8%	$14,688	Low	8%	$14,688	$35,000	Medium	15%	$37,050	$285,000	Existing	Deadend		Low	$285,000	$0	$0
W-M-01	D	Lining of 125 m of 200 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	125	200	Oakridge Crescent	1,300	$162,500	Low	0%	$0	Low	3%	$4,875	Low	8%	$13,000	Low	8%	$13,000	$31,000	Medium	15%	$32,700	$251,000	Existing	Non Dead-end		Low	$251,000	$0	$0
W-M-01	F	Lining of 28 m of 200 mm watermain along Walnut Street.	BE-6	Schedule A	Watermain CIPP Rehab	28	200	Walnut Street	1,300	$36,400	Low	0%	$0	Low	3%	$1,092	Low	8%	$2,912	Low	8%	$2,912	$7,000	Medium	15%	$7,350	$57,000	Existing	Non Dead-end		Low	$57,000	$0	$0
W-M-01	G	Lining of 45 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	45	150	Oakridge Crescent	1,200	$54,000	Low	0%	$0	Low	3%	$1,620	Low	8%	$4,320	Low	8%	$4,320	$11,000	Medium	15%	$11,100	$86,000	Existing	Non Dead-end		Low	$86,000	$0	$0
W-M-01	H	Lining of 79 m of 150 mm watermain along Lakewood Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	79	150	Lakewood Crescent	1,200	$94,800	Low	0%	$0	Low	3%	$2,844	Low	8%	$7,584	Low	8%	$7,584	$19,000	Medium	15%	$19,350	$149,000	Existing	Deadend		Low	$149,000	$0	$0
W-M-01	I	Lining of 120 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	120	150	Oakridge Crescent	1,200	$144,000	Low	0%	$0	Low	3%	$4,320	Low	8%	$11,520	Low	8%	$11,520	$28,000	Medium	15%	$29,100	$224,000	Existing	Non Dead-end		Low	$224,000	$0	$0
W-M-01	K	Lining of 20 m of 150 mm watermain along Oakridge Crescent.	BE-6	Schedule A	Watermain CIPP Rehab	20	150	Oakridge Crescent	1,200	$24,000	Low	0%	$0	Low	3%	$720	Low	8%	$1,920	Low	8%	$1,920	$5,000	Medium	15%	$4,950	$38,000	Existing	Non Dead-end		Low	$38,000	$0	$0
W-M-01	L	Lining of 249 m of 150 mm watermain along Rose Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	249	150	Rose Avenue	1,200	$298,800	Low	0%	$0	Low	3%	$8,964	Low	8%	$23,904	Low	8%	$23,904	$57,000	Medium	15%	$60,150	$462,000	Existing	Non Dead-end		Low	$462,000	$0	$0
W-M-01	M	Lining of 212 m of 150 mm watermain along Gaspare Drive.	BE-6	Schedule A	Watermain CIPP Rehab	212	150	Gaspare Drive	1,200	$254,400	Low	0%	$0	Low	3%	$7,632	Low	8%	$20,352	Low	8%	$20,352	$49,000	Medium	15%	$51,300	$394,000	Existing	Non Dead-end		Low	$394,000	$0	$0
W-M-04	A	Lining of 326 m of 150 mm watermain along Clarence Street.	BE-6	Schedule A	Watermain CIPP Rehab	326	150	Clarence Street	1,200	$391,200	Low	0%	$0	Low	3%	$11,736	Low	8%	$31,296	Low	8%	$31,296	$75,000	Medium	15%	$78,750	$604,000	Existing	Non Dead-end		High	$604,000	$0	$0
W-M-04	B	Lining of 76 m of 150 mm watermain along Linwood Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	76	150	Linwood Avenue	1,200	$91,200	Low	0%	$0	Low	3%	$2,736	Low	8%	$7,296	Low	8%	$7,296	$18,000	Medium	15%	$18,450	$142,000	Existing	Deadend		Low	$142,000	$0	$0
W-M-04	C	Lining of 83 m of 150 mm watermain along Clare Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	83	150	Clare Avenue	1,200	$99,600	Low	0%	$0	Low	3%	$2,988	Low	8%	$7,968	Low	8%	$7,968	$19,000	Medium	15%	$20,100	$155,000	Existing	Deadend		Low	$155,000	$0	$0
W-M-06	A	Lining of 32 m of 200 mm watermain along	BE-4	Schedule A	Watermain CIPP Rehab	32	200	Sugarloaf Street	1,300	$41,600	Low	0%	$0	Low	3%	$1,248	Low	8%	$3,328	Low	8%	$3,328	$8,000	Medium	15%	$8,400	$65,000	Supports Growth	Non Dead-end	Partial SW (SW_45)	High	$32,500	$32,500	$0

		Sugarloaf Street.																														
W-M-06	C	Lining of 23 m of 200 mm watermain along Sugarloaf Street.	BE-4	Schedule A	Watermain CIPP Rehab	23	200	Sugarloaf Street	1,300	$29,900	Low	0%	$0	Low	3%	$897	Low	8%	$2,392	Low	8%	$2,392	$6,000	Medium	15%	$6,150	$48,000	Supports Growth	Non Dead-end		High	$24,000	$24,000	$0
W-M-06	E	Lining of 401 m of 200 mm watermain along Sugarloaf Street.	BE-4	Schedule A	Watermain CIPP Rehab	401	200	Sugarloaf Street	1,300	$521,300	Low	0%	$0	Low	3%	$15,639	Low	8%	$41,704	Low	8%	$41,704	$100,000	Medium	15%	$105,000	$805,000	Supports Growth	Non Dead-end		High	$402,500	$402,500	$0
W-M-06	F	Lining of 97 m of 150 mm watermain along Sugarloaf Street.	BE-6	Schedule A	Watermain CIPP Rehab	97	150	Sugarloaf Street	1,200	$116,400	Low	0%	$0	Low	3%	$3,492	Low	8%	$9,312	Low	8%	$9,312	$23,000	Medium	15%	$23,550	$181,000	Existing	Non Dead-end		Medium	$181,000	$0	$0
W-M-06	G	Lining of 3 m of 200 mm watermain along Park Street.	BE-6	Schedule A	Watermain CIPP Rehab	3	200	Park Street	1,300	$3,900	Low	0%	$0	Low	3%	$117	Low	8%	$312	Low	8%	$312	$1,000	Medium	15%	$900	$7,000	Existing	Deadend		Low	$7,000	$0	$0
W-M-06	H	Lining of 199 m of 150 mm watermain along Ash Street.	BE-5	Schedule A	Watermain CIPP Rehab	199	150	Ash Street	1,200	$238,800	Low	0%	$0	Low	3%	$7,164	Low	8%	$19,104	Low	8%	$19,104	$46,000	Medium	15%	$48,150	$370,000	Supports Growth	Non Dead-end	Full SW (SW_39)	Medium	$296,000	$74,000	$0
W-M-06	I	Lining of 126 m of 200 mm watermain along Elm Street.	BE-5	Schedule A	Watermain CIPP Rehab	126	200	Elm Street	1,300	$163,800	Low	0%	$0	Low	3%	$4,914	Low	8%	$13,104	Low	8%	$13,104	$32,000	Medium	15%	$33,150	$255,000	Existing	Non Dead-end		Medium	$204,000	$51,000	$0
W-M-06	J	Lining of 114 m of 150 mm watermain along Elm Street.	BE-5	Schedule A	Watermain CIPP Rehab	114	150	Elm Street	1,200	$136,800	Low	0%	$0	Low	3%	$4,104	Low	8%	$10,944	Low	8%	$10,944	$26,000	Medium	15%	$27,600	$212,000	Existing	Non Dead-end		Medium	$169,600	$42,400	$0
W-M-06	K	Lining of 15 m of 150 mm watermain along Kent Street.	BE-6	Schedule A	Watermain CIPP Rehab	15	150	Kent Street	1,200	$18,000	Low	0%	$0	Low	3%	$540	Low	8%	$1,440	Low	8%	$1,440	$4,000	Medium	15%	$3,750	$29,000	Existing	Non Dead-end		Medium	$29,000	$0	$0
W-M-06	O	Lining of 103 m of 150 mm watermain along Kent Street.	BE-6	Schedule A	Watermain CIPP Rehab	103	150	Kent Street	1,200	$123,600	Low	0%	$0	Low	3%	$3,708	Low	8%	$9,888	Low	8%	$9,888	$24,000	Medium	15%	$25,050	$193,000	Existing	Non Dead-end	Partial SW (SW_27)	Medium	$193,000	$0	$0
W-M-06	P	Lining of 65 m of 150 mm watermain along Park Street.	BE-6	Schedule A	Watermain CIPP Rehab	65	150	Park Street	1,200	$78,000	Low	0%	$0	Low	3%	$2,340	Low	8%	$6,240	Low	8%	$6,240	$15,000	Medium	15%	$15,750	$121,000	Existing	Deadend		Medium	$121,000	$0	$0
W-M-06	Q	Lining of 35 m of 150 mm watermain along Elm Street.	BE-6	Schedule A	Watermain CIPP Rehab	35	150	Elm Street	1,200	$42,000	Low	0%	$0	Low	3%	$1,260	Low	8%	$3,360	Low	8%	$3,360	$8,000	Medium	15%	$8,550	$66,000	Existing	Non Dead-end		Medium	$66,000	$0	$0
W-M-07	A	Lining of 271 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	271	150	Steele Street	1,200	$325,200	Low	0%	$0	Low	3%	$9,756	Low	8%	$26,016	Low	8%	$26,016	$62,000	Medium	15%	$65,400	$502,000	Existing	Non Dead-end		Low	$502,000	$0	$0
W-M-07	R	Lining of 11 m of 150 mm watermain along Brady Street.	BE-6	Schedule A	Watermain CIPP Rehab	11	150	Brady Street	1,200	$13,200	Low	0%	$0	Low	3%	$396	Low	8%	$1,056	Low	8%	$1,056	$3,000	Medium	15%	$2,850	$22,000	Existing	Non Dead-end		Low	$22,000	$0	$0
W-M-07	T	Lining of 17 m of 150 mm watermain along Brady Street.	BE-6	Schedule A	Watermain CIPP Rehab	17	150	Brady Street	1,200	$20,400	Low	0%	$0	Low	3%	$612	Low	8%	$1,632	Low	8%	$1,632	$4,000	Medium	15%	$4,200	$33,000	Existing	Non Dead-end		Low	$33,000	$0	$0
W-M-07	W	Lining of 99 m of 150 mm watermain along Fielden Avenue.	BE-5	Schedule A	Watermain CIPP Rehab	99	150	Fielden Avenue	1,200	$118,800	Low	0%	$0	Low	3%	$3,564	Low	8%	$9,504	Low	8%	$9,504	$23,000	Medium	15%	$24,000	$184,000	Supports Growth	Non Dead-end		Medium	$147,200	$36,800	$0
W-M-07	X	Lining of 202 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	202	150	McCain Street	1,200	$242,400	Low	0%	$0	Low	3%	$7,272	Low	8%	$19,392	Low	8%	$19,392	$47,000	Medium	15%	$48,900	$375,000	Existing	Non Dead-end		Medium	$375,000	$0	$0
W-M-07	Z	Lining of 87 m of 150 mm watermain	BE-5	Schedule A	Watermain CIPP Rehab	87	150	Charles Street	1,200	$104,400	Low	0%	$0	Low	3%	$3,132	Low	8%	$8,352	Low	8%	$8,352	$20,000	Medium	15%	$21,150	$163,000	Supports Growth	Non Dead-end	Full SW (SW_37)	Medium	$130,400	$32,600	$0

		along Charles Street.																															
W-M-07	AA	Lining of 7 m of 150 mm watermain along First Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	7	150	First Avenue	1,200	$8,400	Low	0%	$0	Low	3%	$252	Low	8%	$672	Low	8%	$672	$2,000	Medium	15%	$1,800	$14,000	Existing	Deadend		Medium	$14,000	$0	$0
W-M-07	B	Lining of 63 m of 150 mm watermain along Brock Street.	BE-6	Schedule A	Watermain CIPP Rehab	63	150	Brock Street	1,200	$75,600	Low	0%	$0	Low	3%	$2,268	Low	8%	$6,048	Low	8%	$6,048	$15,000	Medium	15%	$15,300	$118,000	Existing	Deadend		Medium	$118,000	$0	$0
W-M-07	E	Lining of 187 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	187	150	Steele Street	1,200	$224,400	Low	0%	$0	Low	3%	$6,732	Low	8%	$17,952	Low	8%	$17,952	$43,000	Medium	15%	$45,300	$348,000	Existing	Non Dead-end		High	$348,000	$0	$0
W-M-07	G	Lining of 7 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	7	150	Steele Street	1,200	$8,400	Low	0%	$0	Low	3%	$252	Low	8%	$672	Low	8%	$672	$2,000	Medium	15%	$1,800	$14,000	Supports Growth	Non Dead-end		High	$11,200	$2,800	$0
W-M-07	H	Lining of 6 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	6	150	Steele Street	1,200	$7,200	Low	0%	$0	Low	3%	$216	Low	8%	$576	Low	8%	$576	$2,000	Medium	15%	$1,650	$13,000	Existing	Non Dead-end		High	$13,000	$0	$0
W-M-07	J	Lining of 81 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	81	150	Steele Street	1,200	$97,200	Low	0%	$0	Low	3%	$2,916	Low	8%	$7,776	Low	8%	$7,776	$19,000	Medium	15%	$19,650	$151,000	Existing	Non Dead-end		High	$151,000	$0	$0
W-M-07	L	Lining of 12 m of 150 mm watermain along Helen Street.	BE-6	Schedule A	Watermain CIPP Rehab	12	150	Helen Street	1,200	$14,400	Low	0%	$0	Low	3%	$432	Low	8%	$1,152	Low	8%	$1,152	$3,000	Medium	15%	$3,000	$23,000	Existing	Non Dead-end		Medium	$23,000	$0	$0
W-M-07	N	Lining of 116 m of 150 mm watermain along Helen Street.	BE-6	Schedule A	Watermain CIPP Rehab	116	150	Helen Street	1,200	$139,200	Low	0%	$0	Low	3%	$4,176	Low	8%	$11,136	Low	8%	$11,136	$27,000	Medium	15%	$28,200	$217,000	Existing	Non Dead-end		Medium	$217,000	$0	$0
W-M-07	O	Lining of 116 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	116	150	McCain Street	1,200	$139,200	Low	0%	$0	Low	3%	$4,176	Low	8%	$11,136	Low	8%	$11,136	$27,000	Medium	15%	$28,200	$217,000	Existing	Non Dead-end		Medium	$217,000	$0	$0
W-M-07	Q	Lining of 14 m of 150 mm watermain along McCain Street.	BE-6	Schedule A	Watermain CIPP Rehab	14	150	McCain Street	1,200	$16,800	Low	0%	$0	Low	3%	$504	Low	8%	$1,344	Low	8%	$1,344	$4,000	Medium	15%	$3,600	$28,000	Existing	Non Dead-end		Medium	$28,000	$0	$0
W-M-09	A	Lining of 96 m of 150 mm watermain along Main Street West.	BE-6	Schedule A	Watermain CIPP Rehab	96	150	Main Street West	1,200	$115,200	Low	0%	$0	Low	3%	$3,456	Low	8%	$9,216	Low	8%	$9,216	$22,000	Medium	15%	$23,250	$179,000	Existing	Non Dead-end		High	$179,000	$0	$0
W-M-09	C	Lining of 499 m of 150 mm watermain along Main Street West.	BE-5	Schedule A	Watermain CIPP Rehab	499	150	Main Street West	1,200	$598,800	Low	0%	$0	Low	3%	$17,964	Low	8%	$47,904	Low	8%	$47,904	$114,000	Medium	15%	$120,450	$924,000	Supports Growth	Non Dead-end		High	$739,200	$184,800	$0
W-M-09	D	Lining of 62 m of 300 mm watermain along Main Street West.	BE-5	Schedule A	Watermain CIPP Rehab	62	300	Main Street West	1,500	$93,000	Low	0%	$0	Low	3%	$2,790	Low	8%	$7,440	Low	8%	$7,440	$18,000	Medium	15%	$18,750	$144,000	Supports Growth	Non Dead-end		High	$115,200	$28,800	$0
W-M-09	F	Lining of 727 m of 300 mm watermain along Main Street West.	BE-4	Schedule A	Watermain CIPP Rehab	727	300	Main Street West	1,500	$1,090,500	Low	0%	$0	Low	3%	$32,715	Low	8%	$87,240	Low	8%	$87,240	$208,000	Medium	15%	$669,450	$5,133,000	Supports Growth	Non Dead-end		High	$2,566,500	$2,566,500	$0
W-M-10	X	Lining of 205 m of 150 mm watermain along Donlea Drive.	BE-6	Schedule A	Watermain CIPP Rehab	205	150	Donlea Drive	1,200	$246,000	Low	0%	$0	Low	3%	$7,380	Low	8%	$19,680	Low	8%	$19,680	$47,000	Medium	15%	$49,500	$380,000	Existing	Non Dead-end		Low	$380,000	$0	$0
W-M-10	B	Lining of 249 m of 150 mm watermain along Coronation Drive.	BE-6	Schedule A	Watermain CIPP Rehab	249	150	Coronation Drive	1,200	$298,800	Low	0%	$0	Low	3%	$8,964	Low	8%	$23,904	Low	8%	$23,904	$57,000	Medium	15%	$60,150	$462,000	Existing	Non Dead-end		Low	$462,000	$0	$0
W-M-10	C	Lining of 7 m of 150 mm watermain along Coronation Drive.	BE-6	Schedule A	Watermain CIPP Rehab	7	150	Coronation Drive	1,200	$8,400	Low	0%	$0	Low	3%	$252	Low	8%	$672	Low	8%	$672	$2,000	Medium	15%	$1,800	$14,000	Existing	Non Dead-end		Low	$14,000	$0	$0

W-M-10	D	Lining of 7 m of 150 mm watermain along Omer Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	7	150	Omer Avenue	1,200	$8,400	Low	0%	$0	Low	3%	$252	Low	8%	$672	Low	8%	$672	$2,000	Medium	15%	$1,800	$14,000	Supports Growth	Non Dead-end	Full SW (SW_15)	Low	$7,000	$7,000	$0
W-M-10	E	Lining of 6 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	6	150	Steele Street	1,200	$7,200	Low	0%	$0	Low	3%	$216	Low	8%	$576	Low	8%	$576	$2,000	Medium	15%	$1,650	$13,000	Existing	Non Dead-end		High	$13,000	$0	$0
W-M-10	G	Lining of 3 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	3	150	Steele Street	1,200	$3,600	Low	0%	$0	Low	3%	$108	Low	8%	$288	Low	8%	$288	$1,000	Medium	15%	$900	$7,000	Existing	Non Dead-end		High	$7,000	$0	$0
W-M-10	I	Lining of 12 m of 150 mm watermain along Steele Street.	BE-6	Schedule A	Watermain CIPP Rehab	12	150	Steele Street	1,200	$14,400	Low	0%	$0	Low	3%	$432	Low	8%	$1,152	Low	8%	$1,152	$3,000	Medium	15%	$3,000	$23,000	Existing	Non Dead-end		High	$23,000	$0	$0
W-M-10	L	Lining of 9 m of 150 mm watermain along Borden Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	9	150	Borden Avenue	1,200	$10,800	Low	0%	$0	Low	3%	$324	Low	8%	$864	Low	8%	$864	$3,000	Medium	15%	$2,400	$19,000	Existing	Non Dead-end		High	$19,000	$0	$0
W-M-10	N	Lining of 93 m of 150 mm watermain along Borden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	93	150	Borden Avenue	1,200	$111,600	Low	0%	$0	Low	3%	$3,348	Low	8%	$8,928	Low	8%	$8,928	$22,000	Medium	15%	$22,650	$174,000	Supports Growth	Non Dead-end	Full WW (POCO_8)	High	$87,000	$87,000	$0
W-M-10	P	Lining of 141 m of 200 mm watermain along Fielden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	141	200	Fielden Avenue	1,300	$183,300	Low	0%	$0	Low	3%	$5,499	Low	8%	$14,664	Low	8%	$14,664	$35,000	Medium	15%	$36,900	$283,000	Supports Growth	Non Dead-end	Full - Some WW (POCO_8) and some SW (SW_18)	Low	$141,500	$141,500	$0
W-M-10	Q	Lining of 51 m of 150 mm watermain along Fielden Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	51	150	Fielden Avenue	1,200	$61,200	Low	0%	$0	Low	3%	$1,836	Low	8%	$4,896	Low	8%	$4,896	$12,000	Medium	15%	$12,450	$96,000	Supports Growth	Non Dead-end	Full SW (SW_18)	Low	$48,000	$48,000	$0
W-M-10	S	Lining of 11 m of 150 mm watermain along Franklin Avenue.	BE-4	Schedule A	Watermain CIPP Rehab	11	150	Franklin Avenue	1,200	$13,200	Low	0%	$0	Low	3%	$396	Low	8%	$1,056	Low	8%	$1,056	$3,000	Medium	15%	$2,850	$22,000	Existing	Non Dead-end		Low	$11,000	$11,000	$0
W-M-10	T	Lining of 5 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	5	150	Steele Street	1,200	$6,000	Low	0%	$0	Low	3%	$180	Low	8%	$480	Low	8%	$480	$2,000	Medium	15%	$1,350	$11,000	Supports Growth	Non Dead-end		High	$8,800	$2,200	$0
W-M-10	V	Lining of 15 m of 150 mm watermain along Steele Street.	BE-5	Schedule A	Watermain CIPP Rehab	15	150	Steele Street	1,200	$18,000	Low	0%	$0	Low	3%	$540	Low	8%	$1,440	Low	8%	$1,440	$4,000	Medium	15%	$3,750	$29,000	Supports Growth	Non Dead-end		High	$23,200	$5,800	$0
W-M-10	W	Lining of 2 m of 400 mm watermain along Royal Road.	BE-5	Schedule A	Watermain CIPP Rehab	2	400	Royal Road	1,700	$3,400	Low	0%	$0	Low	3%	$102	Low	8%	$272	Low	8%	$272	$1,000	Medium	15%	$750	$6,000	Supports Growth	Non Dead-end		Low	$4,800	$1,200	$0
W-M-11	A	Lining of 120 m of 200 mm watermain along Hawthorne Boulevard.	BE-6	Schedule A	Watermain CIPP Rehab	120	200	Hawthorne Boulevard	1,300	$156,000	Low	0%	$0	Low	3%	$4,680	Low	8%	$12,480	Low	8%	$12,480	$30,000	Medium	15%	$31,500	$242,000	Existing	Non Dead-end		Low	$242,000	$0	$0
W-M-11	C	Lining of 18 m of 150 mm watermain along Runnymede Road.	BE-6	Schedule A	Watermain CIPP Rehab	18	150	Runnymede Road	1,200	$21,600	Low	0%	$0	Low	3%	$648	Low	8%	$1,728	Low	8%	$1,728	$5,000	Medium	15%	$4,500	$35,000	Existing	Non Dead-end		Low	$35,000	$0	$0
W-M-11	E	Lining of 160 m of 150 mm watermain along Runnymede Road.	BE-6	Schedule A	Watermain CIPP Rehab	160	150	Runnymede Road	1,200	$192,000	Low	0%	$0	Low	3%	$5,760	Low	8%	$15,360	Low	8%	$15,360	$37,000	Medium	15%	$38,700	$297,000	Existing	Non Dead-end		Low	$297,000	$0	$0
W-M-11	G	Lining of 260 m of 150 mm watermain along Thorncrest Road.	BE-6	Schedule A	Watermain CIPP Rehab	260	150	Thorncrest Road	1,200	$312,000	Low	0%	$0	Low	3%	$9,360	Low	8%	$24,960	Low	8%	$24,960	$60,000	Medium	15%	$62,850	$482,000	Existing	Non Dead-end		Low	$482,000	$0	$0
W-M-12	F	Lining of 271 m of 150 mm watermain	BE-6	Schedule A	Watermain CIPP Rehab	271	150	Ramey Avenue	1,200	$325,200	Low	0%	$0	Low	3%	$9,756	Low	8%	$26,016	Low	8%	$26,016	$62,000	Medium	15%	$65,400	$502,000	Existing	Non Dead-end		Low	$502,000	$0	$0

		along Ramey Avenue.																															
W-M-13	B	Lining of 158 m of 150 mm watermain along Berkley Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	158	150	Berkley Avenue	1,200	$189,600	Low	0%	$0	Low	3%	$5,688	Low	8%	$15,168	Low	8%	$15,168	$37,000	Medium	15%	$38,400	$295,000	Existing	Non Dead-end	Partial SW (SW_7)	Low	$295,000	$0	$0
W-M-14	A	Lining of 16 m of 150 mm watermain along Crescent Avenue.	BE-6	Schedule A	Watermain CIPP Rehab	16	150	Crescent Avenue	1,200	$19,200	Low	0%	$0	Low	3%	$576	Low	8%	$1,536	Low	8%	$1,536	$4,000	Medium	15%	$4,050	$32,000	Existing	Non Dead-end		Low	$32,000	$0	$0
W-M-24	A	Lining of 1533 m of 150 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6	Schedule A	Watermain CIPP Rehab	1,533	150	Clarence Street, Ridgewood Avenue, Division Street and Stanley Street	1,200	$1,839,600	Low	0%	$0	Low	3%	$55,188	Low	8%	$147,168	Low	8%	$147,168	$350,000	Medium	15%	$369,900	$2,836,000	Existing	Non Dead-end		High	$2,836,000	$0	$0
W-M-24	B	Lining of 158 m of 200 mm watermain along Clarence Street, Ridgewood Avenue, Division Street and Stanley Street.	BE-6	Schedule A	Watermain CIPP Rehab	158	200	Clarence Street, Ridgewood Avenue, Division Street and Stanley Street	1,300	$205,400	Low	0%	$0	Low	3%	$6,162	Low	8%	$16,432	Low	8%	$16,432	$40,000	Medium	15%	$41,550	$319,000	Existing	Non Dead-end		High	$319,000	$0	$0
W-M-25	A	Lining of 1325 m of 150 mm watermain along Omer Avenue and Oakwood Street.	BE-5	Schedule A	Watermain CIPP Rehab	1,325	150	Omer Avenue and Oakwood Street	1,200	$1,590,000	Low	0%	$0	Low	3%	$47,700	Low	8%	$127,200	Low	8%	$127,200	$303,000	Medium	15%	$319,800	$2,452,000	Existing	Non Dead-end		High	$1,961,600	$490,400	$0
W-M-26	A	Lining of 5494 m of 150 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	5,494	150		1,200	$6,592,800	Low	0%	$0	Low	3%	$197,784	Low	8%	$527,424	Low	8%	$527,424	$1,253,000	Medium	15%	$1,325,250	$10,161,000	Existing	Non Dead-end		Low	$10,161,000	$0	$0
W-M-26	B	Lining of 1466 m of 200 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	1,466	200		1,300	$1,905,800	Low	0%	$0	Low	3%	$57,174	Low	8%	$152,464	Low	8%	$152,464	$363,000	Medium	15%	$383,250	$2,939,000	Existing	Non Dead-end		Low	$2,939,000	$0	$0
W-M-26	C	Lining of 1510 m of 250 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	1,510	250		1,400	$2,114,000	Low	0%	$0	Low	3%	$63,420	Low	8%	$169,120	Low	8%	$169,120	$402,000	Medium	15%	$425,100	$3,260,000	Existing	Non Dead-end		Low	$3,260,000	$0	$0
W-M-26	D	Lining of 2909 m of 300 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	2,909	300		1,500	$4,363,500	Low	0%	$0	Low	3%	$130,905	Low	8%	$349,080	Low	8%	$349,080	$830,000	Medium	15%	$877,350	$6,727,000	Existing	Non Dead-end		Low	$6,727,000	$0	$0
W-M-26	E	Lining of 105 m of 350 mm cast iron watermain.	BE-6	Schedule A	Watermain CIPP Rehab	105	350		1,600	$168,000	Low	0%	$0	Low	3%	$5,040	Low	8%	$13,440	Low	8%	$13,440	$32,000	Medium	15%	$33,900	$260,000	Existing	Non Dead-end		Low	$260,000	$0	$0

City of Port Colborne Water and Stormwater Master Servicing Plan

Volume 4 – Stormwater

June 10, 2026



Agile INFRASTRUCTURE

Submission Details and Version Control

City of Port Colborne
Water and Stormwater Master Servicing Plan
Volume 4 – Stormwater
June 10, 2026

Agile Project No. P01.002.01

Version	Date Submitted	Author	Reviewer
Draft	April 16, 2026	Michelle Klaver	Julien Bell
Final	June 10, 2026	Michelle Klaver	Lindsay Currie, Julien Bell

Prepared By:

Michelle Klaver, P.Eng.
Senior Infrastructure Planning Engineer

Reviewed By:

Julien Bell, P.Eng.
Vice President

Lindsay Currie, M.Sc., P.Eng.
Senior Infrastructure Planning Engineer

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Introduction 6
1.1 Background 6
1.2 Master Servicing Plan 6
1.3 Master Servicing Plan Objectives 7
1.4 Master Servicing Plan Documentation Layout 8
2 Stormwater System Policy and Criteria 10
2.1 Stormwater Design Criteria 10
2.2 Hydraulic Performance Criteria 15
2.3 Stormwater Design Criteria and Level of Service Summary 18
2.4 Capital Cost Projections 19
3 Planning, Land Use, & Growth Projections 21
3.1 Growth Stormwater Servicing 21
4 Existing Stormwater System 23
4.1 Existing Stormwater Infrastructure 23
4.2 Summary of Stormwater System Configurations 29
4.3 Hydraulic Stormwater Model 31
5 Assessment of Existing Stormwater Infrastructure 35
5.1 System Performance 36
5.2 Opportunities and Constraints 40
5.3 High-Level Servicing Concepts 42
6 Stormwater Servicing Alternatives and Evaluation 44
6.1 Servicing Strategy Development 44
6.2 Growth Servicing 44
6.3 Existing System 59
6.4 Local Servicing Needs 74
7 Preferred Stormwater Servicing Strategy 78
7.2 Preferred Stormwater Servicing Strategy Overview 79
7.3 Capital Program 82
8 Implementation Plan 86

8.1 Project Implementation and Coordination 87
8.2 Project Timing and Triggers 89
8.3 Stormwater Condition Assessment 90

List of Tables

Table 2-1 Port Colborne Existing IDF Curve Coefficients 11
Table 2-2: Projected Future IDF Curve Coefficients 12
Table 2-3: Lake Erie Water Level Statistics (1918 - 2023) 13
Table 2-4: Lake Erie Water Level Fluctuations 13
Table 2-5: Chart Datum Water Levels at Welland Canal 14
Table 2-6: Key Site Considerations for LID Design 14
Table 2-7: Summary of Master Servicing Plan Stormwater Minor System Performance Objectives 15
Table 2-8: Design Criteria Summary for Wet Ponds and Dry Ponds 16
Table 2-9: Water Quality Requirements – Niagara Region & City of Port Colborne 16
Table 2-10: Percentage Impervious Areas 17
Table 2-11: Summary of City's Stormwater System Design Manual Criteria 18
Table 2-12: Summary of City's Stormwater System Design Manual – Prescribed Flooding Levels 19
Table 4-1: Minor Stormwater Sewer Length 24
Table 4-2: System Outfalls 26
Table 4-3: Major Precipitation Events 32
Table 5-1 High Level Servicing Concepts 42
Table 6-1: Clark Street Drainage Alternatives Evaluation 61
Table 6-2: Clarke Area Outlet Alternatives Evaluation 64
Table 6-3: Elm Street and King Street North Alternatives Evaluation 67
Table 6-4: Elm Street and King Street South Alternatives Evaluation 70
Table 6-5: Sugarloaf Area Alternatives Evaluation 73
Table 7-1: Capital Program Summary by Project Type 82
Table 7-2: Benefit to Existing Summary 82
Table 7-3: Stormwater Capital Program Summary 83
Table 7-4: Stormwater Pond and Low Impact Development Capital Program Summary 84
Table 7-5: Local Stormwater Network Sewer Lengths and Costs 85
Table 1-1: Stormwater Capital Program Costing Details 92
Table 1-2: Stormwater Pond and LID Capital Program Costing Details 93

List of Figures

Figure 2-1: Increase in Rainfall Intensity – 2051 IDF vs. Existing IDF 12
Figure 3-1 Growth Land Use Type 22
Figure 4-1 Existing Stormwater System 25
Figure 4-2 Stormwater Outlets 27
Figure 4-3 Stormwater System Configuration 30
Figure 4-4 Flow Monitoring Locations 33
Figure 5-1: 2-Year Stormwater Sewer Capacity 37
Figure 5-2: 5-Year Stormwater Sewer Capacity 38
Figure 5-3 Lake Level Impact 39
Figure 5-4 Opportunities and Constraints 41
Figure 6-1: Eastern Growth Area 46
Figure 6-2: ESEL Growth Area 47
Figure 6-3: North Growth Area 48
Figure 6-4: Marina Growth Area 49
Figure 6-5: Southwest Growth Area 50
Figure 6-6: Western Growth Area 51
Figure 6-7: Northwestern Growth Area 52
Figure 6-8: Central Growth Area 53
Figure 6-9: Northwestern Growth Area 54
Figure 6-10: Northwestern Growth Area 55
Figure 6-11: Western Growth Area 57
Figure 6-12: North Central Growth Area 58
Figure 6-13: Chippawa Road Area 74
Figure 6-14: Third Avenue Area 75
Figure 6-15: Omer Avenue Area 76
Figure 6-16: Lakeshore Road Area 77
Figure 7-1 Preferred Servicing Strategy 81
Figure 8-1: Path to Implemenation 87

List of Appendices

Appendix A – Capital Program 91

1 Introduction

1.1 Background

The City of Port Colborne (City) is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. It is part of the Niagara Region (Region) and is adjacent to the Town of Wainfleet, Town of Fort Erie, and City of Welland.

Water servicing within the City operates under a two-tier system. The Region is responsible for water treatment, storage facilities, pumping stations, and major trunk infrastructure, while the City owns and operates the local water distribution system, including trunk and distribution watermains. The system is supplied by the Port Colborne Water Treatment Plant (WTP), which is a conventional surface water treatment facility that draws raw water from Lake Erie via the Welland Canal. Treated water is distributed through a network of watermains and storage facilities within a single pressure zone.

The City owns, maintains and operates the majority of the stormwater collection and management infrastructure, including catch basins, storm sewers, ditches, culverts, stormwater management facilities, and other related structures. Stormwater runoff is conveyed through a combination of minor and major systems and ultimately discharges to local receiving watercourses and Lake Erie.

Reliable and accessible public infrastructure is critical to supporting existing and future communities. Coordinated infrastructure planning, land use planning, and investment are required to deliver efficient, safe, and cost-effective water and stormwater services.

The Master Servicing Plan (MSP) provides a comprehensive review of existing systems and identifies growth-related servicing strategies, with consideration for long-term sustainability and optimization of existing infrastructure.

1.2 Master Servicing Plan

The City is undertaking a Water and Stormwater Master Servicing Plan to develop a comprehensive strategy and vision for the City's short- and long-term water and stormwater infrastructure needs. The MSP reviews existing system conditions and performance, considers the impacts of growth, and identifies strategies to meet current and future servicing requirements.

The Study establishes a long-term management strategy to guide water and stormwater infrastructure planning through 2051 and beyond and includes an actionable Capital Program and Implementation Plan to support the strategy. The MSP will provide the framework for system capacity allocations, infrastructure upgrades, and financial planning, supporting the City's continued growth and sustainable management of its water and stormwater systems.

1.3 Master Servicing Plan Objectives

The MSP is designed to deliver a strategic, integrated framework for the management, enhancement, and expansion of the City's water distribution and stormwater management systems through 2051 and beyond. This MSP addresses the needs of both systems to ensure reliable service delivery, environmental protection, and support for the City's growth aspirations. The key objectives of the MSP are as follows:

- **Provide Safe and Reliable Services**: Ensure a consistent supply of potable water that complies with the Safe Drinking Water Act, 2002, and effective stormwater management to safeguard public health, property, and infrastructure under current and future conditions.
- **Accommodate Growth**: Evaluate and plan infrastructure capacity to support projected population increases, seasonal tourism demands, and potential industrial development, particularly along the Welland Canal, in accordance with the City's Official Plan.
- **Enhance System Resilience**: Develop adaptive strategies to mitigate the impacts of climate change, including increased storm intensity and fluctuations in Lake Erie water levels, ensuring the longevity and reliability of water and stormwater systems.
- **Meet Regulatory Standards**: Adhere to provincial legislation, Ministry of the Environment, Conservation and Parks (MECP) guidelines, Niagara Region policies, and Niagara Peninsula Conservation Authority (NPCA) requirements, while fulfilling the Municipal Class Environmental Assessment (EA) process.
- **Optimize Infrastructure Performance**: Identify opportunities to reduce non-revenue water losses, improve stormwater conveyance efficiency, and leverage existing assets to deliver cost-effective, sustainable solutions.
- **Protect Environmental Quality**: Minimize impacts on Lake Erie and local watercourses by enhancing stormwater quality, controlling runoff volumes, and incorporating low-impact development (LID) practices where feasible.
- **Foster Collaboration**: Engage residents, businesses, Niagara Region, NPCA, and other stakeholders to align the MSP with community needs, regional priorities, and environmental goals.

These objectives underpin a holistic servicing strategy that ensures Port Colborne's water and stormwater systems are robust, sustainable, and capable of supporting the community's long-term prosperity.

1.4 Master Servicing Plan Documentation Layout

The MSP Report, including all supporting volumes, is the documentation placed on public record for the prescribed minimum 30-day review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The MSP Report is organized into 5 volumes as described below.

1.4.1 Volume 1 - Executive Summary

Volume 1 provides a brief overview of the MSP. It summarizes the information contained in Volume 2, 3, 4 and 5, including the problem statement, purpose of the study, significant planning, environmental and technical considerations, and description of the preferred water and stormwater servicing strategies including depiction of the projects and documentation of the capital programs.

1.4.2 Volume 2 – Plan & Policy

Volume 2 details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and stormwater servicing performance objectives, population, and employment growth forecasts, existing environmental and servicing conditions, and future considerations.

1.4.3 Volume 3 – Water Master Plan

Volume 3 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred water servicing strategy. This volume contains baseline water system data and performance information. This volume also documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy and implementation plan.

1.4.4 Volume 4 – Stormwater Master Plan

Volume 4 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred stormwater servicing strategy. This volume contains baseline stormwater system data and performance information. This volume also documents the stormwater servicing strategy development with detailed information on the projects and capital program associated with the preferred stormwater servicing strategy and implementation plan.

1.4.5 Volume 5 – Indigenous, Public, and Agency Consultation

Volume 5 contains all relevant documentation of the public consultation process including notifications, comments and responses, and distribution information. Presentation material from the Public Information Centre (PIC) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2 Stormwater System Policy and Criteria

To ensure the City's stormwater system operates effectively and that its performance can be assessed under existing and future conditions, clear system performance criteria were established. As part of this MSP, the relevant design guidelines and historic studies were reviewed to confirm that projected runoff, infrastructure capacity, and system performance are accurately represented, supporting the identification and timing of future stormwater infrastructure improvements and the planning of upgrades to address existing deficiencies.

This MSP's Level of Service and Performance Criteria recommendations are based on the following:

- Port Colborne Design and Development Manual 2024
- City of Welland Stormwater and Wastewater Infrastructure Assessment - Technical Report February 2012
- Niagara Region – Stormwater Management Guidelines December 2022
- Niagara Peninsula Conservation Authority Stormwater Management Guidelines 2010
- Stormwater Management Planning and Design Manual - Ministry of the Environment, 2003

Through this review, it was determined that the MSP's stormwater Level of Service objectives will largely rely on the City's Design and Development Manual and the Niagara Peninsula Conservation Authority (NPCA) Guidelines performance criteria.

2.1 Stormwater Design Criteria

2.1.1 Design Storms

The City's Design Guidelines do not specify a particular design storm distribution; however, the Niagara Peninsula Conservation Authority Stormwater Management Guidelines recommend that, at a minimum, the 3-hour Chicago, 12-hour AES, and 24-hour SCS storm events be evaluated to ensure a comprehensive assessment of potential storm impacts.

For the purposes of this Master Servicing Plan, the initial system assessment was completed using all three storm events. The future conditions and infrastructure upgrade analysis were subsequently based on the design storm that produced the highest average peak flows within the system.

2.1.2 IDF Curves

Rainfall intensity for stormwater management design is determined using Intensity-Duration-Frequency (IDF) curves, which are derived from historical rainfall data recorded at a nearby rain gauge.

2.1.2.1 Existing IDF Curve

Table 2-1 below summarizes the City's existing IDF Curve Coefficients, as identified in its Design Guidelines and NPCA Stormwater Management Manual.

Table 2-1 Port Colborne Existing IDF Curve Coefficients

Return Period (Years)	a	b	c
2	755	8	0.789
5	830	7.3	0.777
10	860	6.5	0.763
25	900	5.2	0.745
50	960	5.1	0.736
100	1020	4.7	0.731

The existing IDF curve was utilized to assess the performance of the existing stormwater infrastructure.

2.1.2.2 Future IDF Curve

To review the potential effects of climate change on system performance, the MSP will also consider a future IDF curve that considers how the changing climate may impact local precipitation and temperature patterns, the frequency and intensity of storm events (leading to larger design storms), the impacts on lake levels, and the potential and magnitude of seiche events.

The neighbouring City of Welland had previously reviewed its IDF curve and the projected future changes due to climate change impact through two reports that were part of the National Engineering Vulnerability Assessment of Public Infrastructure to Climate Change program. The City's review is based on the City of Port Colborne's historic climate data, as such, the resulting data is directly applicable to the City. Two reports were prepared:

- The first report, ***Development of Projected Intensity-Duration-Frequency Curves for Welland, Ontario, Canada (AMEC 2011),*** developed potential future 2020 and 2050 IDF curves based on 16 different climate models, resulting in mean, 90th percentile, and maximum IDF curves for the Future 2020 and 2050 climate conditions. The future IDF curve projections were based on an existing Environment Canada IDF curve for the City of Port Colborne, which was developed using precipitation data from 1965 to 2000.
- The second report, ***Cost Benefit Assessment of an Updated Storm Drainage Standard (AMEC 2014),*** reviewed the projected IDF curves based on the updated 2012 Environment Canada IDF curve, completed a review of the rate of change of the

IDF curves, and undertook a cost-benefit assessment of changing the City's stormwater design standards. The report recommended that the city use the projected Mean 2050 IDF curve for the stormwater system design.

Table 2-2 summarizes the future IDF curve coefficients used as a part of this study, based on previous climate change assessments, while **Figure 2-1** presents the City's existing and future IDF curves. The future IDF curves account for projected changes in precipitation intensity and storm frequency due to climate change and were utilized to evaluate system performance under future conditions.

Table 2-2: Projected Future IDF Curve Coefficients

Return Period (Years)	a	b	c
2	696.1	0.79	6.134
5	848	0.771	7.249
10	975.4	0.768	7.956
25	1187.5	0.772	9.072
50	1345.3	0.775	9.709
100	1536	0.781	10.503

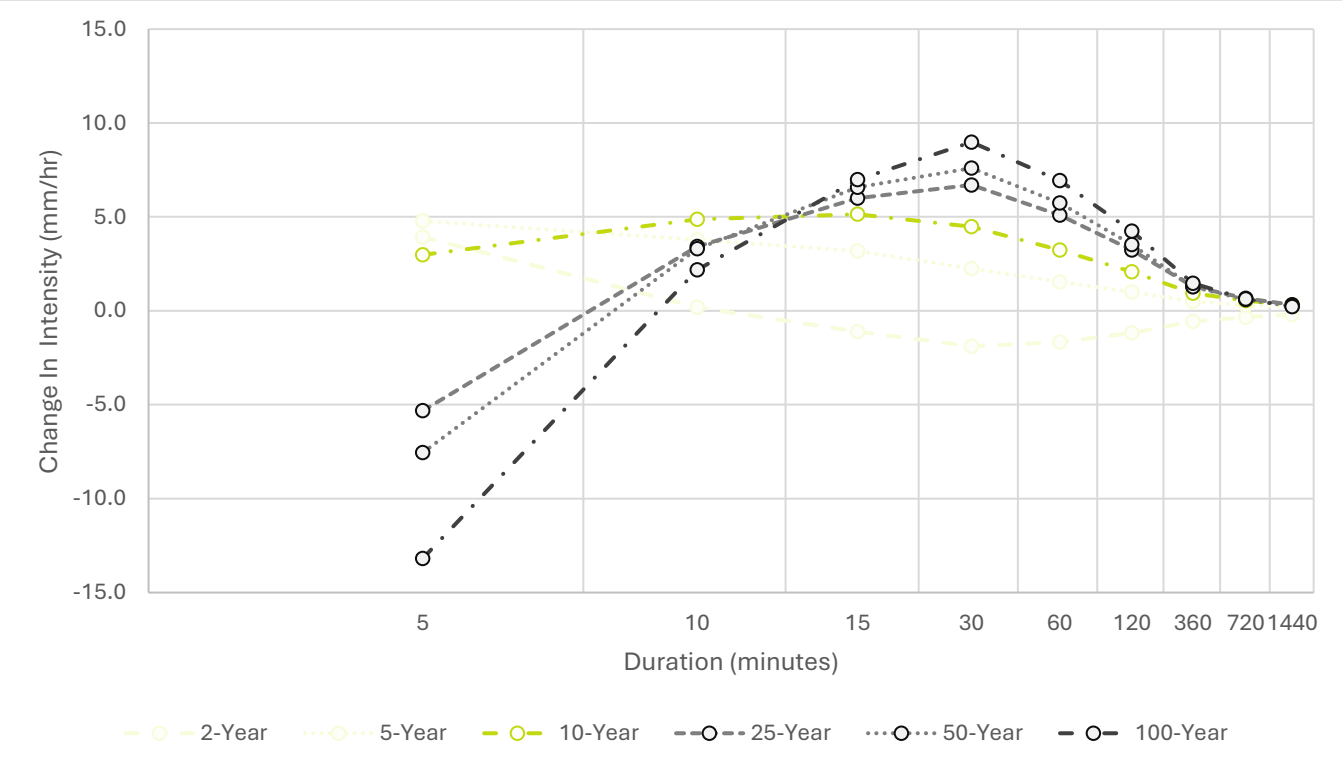


Figure 2-1: Increase in Rainfall Intensity – 2051 IDF vs. Existing IDF

2.1.3 Lake Erie Water Levels

The following data sources were reviewed to obtain historical water level data for Lake Erie.

- The U.S. Army Corps of Engineers – Great Lakes and Ohio River Division
- The NOAA Great Lakes Environmental Research Laboratory

Table 2-3 summarizes the Lake Erie levels at Port Colborne based on the 1918 to 2023 data set.

Table 2-3: Lake Erie Water Level Statistics (1918 - 2023)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	174.0	174.0	174.1	174.2	174.3	174.3	174.3	174.2	174.2	174.1	174.0	174.0	174.02
Max	174.8	174.9	174.9	175.0	175.0	175.1	175.1	175.0	174.8	174.9	174.8	174.8	174.89
Min	173.2	173.1	173.2	173.3	173.4	173.4	173.4	173.	173.3	173.3	173.2	173.1	173.19

As per Fisheries and Oceans Canada, Lake Erie exhibits both seasonal and short-period water level fluctuations. Seasonally, average water levels typically peak in June and reach their lowest in February. The average seasonal fluctuation is approximately 0.5 metres, with historical variations ranging from less than 0.3 to over 0.8 metres in a single season. Water level fluctuations in Lake Erie are summarized in **Table 2-4**.

Table 2-4: Lake Erie Water Level Fluctuations

Fluctuation Type	Characteristic	Details
Seasonal	Maximum Level	Typically occurs in June
	Minimum Level	Typically occurs in February
	Average Seasonal Range	Approximately 0.5 metres
	Observed Range	<0.3 metres to >0.8 metres in a single season
Short-Period	Duration	Ranges from <1 hour to several days
	Cause	Meteorological conditions (e.g., wind, barometric pressure differences)
	Observed Difference	Up to 5 metres across the lake due to the wind setup
	Impact on Volume	Minimal change in total lake volume despite large fluctuations

As a longer-term seasonal trend generally governs Lake Erie's water levels, there is not a strong correlation between peak lake levels coinciding with major precipitation events. However, the Port Colborne area is subject to seiche events, where high winds can raise lake levels. Furthermore, seiche events are more strongly correlated with major precipitation events.

Given the wide variability in potential climate conditions, the stormwater infrastructure will be reviewed under both average annual lake levels of 174.0 m and the peak monthly lake level of 175.1 m.

2.1.4 Welland Canal Water Levels

The Great Lakes-St. Lawrence Seaway System controls and manages water levels within the Welland Canal between Lock 1 and Lock 8. **Table 2-5** summarizes the Welland Canal chart datum levels within the Municipal boundaries as provided on the Great Lakes-St. Lawrence Seaway System website.

Table 2-5: Chart Datum Water Levels at Welland Canal

Chart Datum at Water Level Stations - Welland Canal		
Gauge	**Location**	**Chart Datum (m)[1]**
L7NE	NORTHEAST WALL LOCK 7	158.36
L7SE	SOUTHEAST WALL LOCK 7	173.33
L8NE	NORTHEAST WALL LOCK 8	173.33
L8SE	SOUTHEAST WALL LOCK 8	173.50

1 – Chart datums are IGLD85.

2.1.5 Low Impact Development Best Management Practices (LID BMPs)

Port Colborne encourages the use of Low Impact Development Best Management Practices (LID BMPs) to meet stormwater quality, water balance, and erosion control objectives. As per the Port Colborne Design & Development Manual, potential LID BMPs include:

- Bioretention areas, bioswales;
- Vegetated filter strips, enhanced grassed swales;
- Inline or inground storage;
- Asphalt, concrete, paving stones;
- Prefabricated modules, soil retention cells, and tree pits; and,
- Green roofs.

Table 2-6 details the key site considerations for LID design as per the City's LID BMPs.

Table 2-6: Key Site Considerations for LID Design

Site Characteristic	Design Consideration
Subsurface soil type and permeability	MECP recommends **≥ 15 mm/hr** infiltration rate
Groundwater table (seasonal maximum) and depth to bedrock	1m separation from the bottom of the LID BMP to the seasonally high groundwater table or the top of the bedrock elevation.
Storage Volume	5mm

2.2 Hydraulic Performance Criteria

2.2.1 Minor (Storm Sewers)

Prior studies have identified broad area deficiencies within the City's stormwater sewer, as such, applying the City's design standards for new sewers may not be financially or technically feasible. **Table 2-7** summarizes the storm sewer design criteria for the Master Servicing Plan.

Table 2-7: Summary of Master Servicing Plan Stormwater Minor System Performance Objectives

Infrastructure		Capacity Requirements
New Sewers		5-Year Design Storm
Existing Sewer	Submerged Outlet - With Clear Major Flow Path	2-Year Design Storm – Under submerged conditions 5-Year Design Strom – Under Free Outlet
	Submerged Outlet - Without Major Flow Path	5-Year Design Storm – Under submerged conditions
	With Clear Major Flow Path	2-Year Design Storm
	Without Major Flow Path	5-Year Design Storm
Culverts	Driveway	5-Year Design Storm
	Road crossing	10-Year
Ditch	Local Road	10-Year
	Collector/Arterial	100-Year

Further, any sewers that do not meet the diameter or velocity requirements in the City's Design Guidelines were flagged.

2.2.2 Detention and Retention Requirements

The City of Port Colborne standards for wet and dry ponds are based on Ministry of Environment, Conservation and Parks (MECP) criteria. These characteristics are summarized in **Table 2-8**. The MSP assessed existing conditions relative to the minimum criteria, and new facilities will be designed to meet the preferred criteria.

Table 2-8: Design Criteria Summary for Wet Ponds and Dry Ponds

Design Element	Minimum Criteria	Preferred Criteria
Wet Pond		
Drainage Area	5 hectares (minimum, unless supplemented by groundwater or other water source)	≥ 10 hectares
Active Storage Detention Time	24 hours (12 hours if constrained by minimum orifice size)	24 hours
Forebay (Pre-treatment)	Minimum Depth: 1.0 m	Minimum Depth: 1.5 m
Permanent Pool – Maximum Depth	3.0 m	2.5 m
Permanent Pool – Mean Depth	1.0 – 2.0 m	1.0 – 2.0 m
Active Storage – Max Depth (incl. Quantity Control)	2.0 m	2.0 m
Active Storage – Max Depth (Water Quality / Erosion Control)	1.5 m	1.5 m
Freeboard Above High-Water Level	0.3 m	0.3 m
Dry Pond		
Drainage Area	5 hectares	10 hectares
Active Storage Detention Time	24 hours (12 hrs if constrained by minimum orifice size)	48 hours
Forebay (Pre-treatment)	Minimum Depth: 1.0 m	Minimum Depth: 1.5 m
Pond Depth – Maximum	3.0 m	2.0 m
Pond Depth – Mean	1.0 – 2.0 m	1.0 – 2.0 m

Retention targets will align with the City's Design Criteria as outlined in **Table 2-11**.

2.2.3 Water Quality

The water quality requirements for existing facilities and the design of new facilities will be based on the standards from Niagara Region and the City of Port Colborne, as summarized in **Table 2-9**.

Table 2-9: Water Quality Requirements – Niagara Region & City of Port Colborne

Design Element	Design Criteria / Requirements
Water Quality Target	80% average annual removal of Total Suspended Solids (TSS).
Quality Control Volume (New Facilities)	Based on the required permanent pool volume + retention of the first 25 mm of runoff over 48 hours.
Design Storm for Retention	Based on the 2-year or 5-year event, as governed by the storm sewer evaluation.

2.2.4 Growth and Land Use Assumptions

A review of the runoff Coefficient recommended by the City, NPCA, and Niagara Region was undertaken to identify typical coefficients to be applied to assess future growth areas. Typical C-values were converted to an equivalent impervious coverage based on an approximation of the formula:

$$I_a = \frac{(C - 0.15)}{0.9}$$

Impervious levels for existing conditions were established based on a review of aerial photography. The estimated impervious areas were used for future development. The estimated impervious coverages associated with each land type are summarized in **Table 2-10.**

Table 2-10: Percentage Impervious Areas

Surface Type / Land Use	Runoff Coefficient (C)	% Impervious Area (Estimated)
Parks	0.35	25%
Commercial/Industrial	0.9	85%
Institutional	0.75	67%
New Single Family Residential	0.65	55%
New Semi-Detached	0.7	62%
Townhouses	0.75	67%
Apartment/Condominium	0.85	78%

2.3 Stormwater Design Criteria and Level of Service Summary

The stormwater technical criteria used as part of this MSP are summarized in **Table 2-11** and **Table 2-12**.

Table 2-11: Summary of City's Stormwater System Design Manual Criteria

Category		Criteria
Flood Control (Development)	Discharge to a Watercourse	Post-development to pre-development peak flow control 2 through a 100-year design storm.
	Discharge to Storm Sewer – Known Capacity	100-year post-development controlled to storm sewer capacity.
	Discharge to a Storm Sewer – Unknown Capacity	100-year post-development to 5-year pre-development peak flow.
	Road Right of Way	Demonstrate no Negative Impact Meets Permissible Depth of Flooding as listed in **Table 2-12.**
	Municipal Drain	100-year post-development to 2-year pre-development peak flow.
Erosion Control	• Provide controls for receivers sensitive to erosion. • Target retention of 90th percentile storm (Runoff Volume Control Target).	
Water Budget	• Maintain pre-development infiltration/evapotranspiration - Where Feasible • Minimum Requirement - Retain/reuse/infiltrate the first 5 mm of rainfall	
Water Quality	Achieve 80% TSS removal ("Enhanced" level). Use oil-grit separators, inserts, filtration tech, or equivalent.	
Minor System	Capacity	• Sized to Convey 5-Year Design Storm • Minimum 300 mm size
	Slope / Velocity	• 300 mm @ 0.3% • Minimum Velocity 0.75 m/s • Maximum Velocity 6.0 m/s
Major System	Capacity	• Size to Convey 100-Year Design Storm • Where the Roadway provides the Major System Function. Ensure Design Meets Permissible Depth of Flooding as listed in **Table 2-12**

Table 2-12: Summary of City's Stormwater System Design Manual – Prescribed Flooding Levels

Location	Design Storm		
	5-Year	25-Year	100-Year
Walkways	Minor surface	As required	As required
Open Spaces	flow up to 25 mm on walkways	For overland flow outlets	For overland flow outlets
Local	No ponding	0.05m above the crown	0.15m above the crown
Collector	1.0 m wide in the gutter or 0.10m deep at the low point catchbasins	Up to crown	0.10 m above the crown, maximum depth of flooding of 0.3 m
Private Property	Minor ponding in swales	No structural damage, ponding in yard areas below building openings - no basement flooding	No structural damage from overland flow
Public Property	Minor ponding in swales or ditches	No structural damage, ponding in flat areas, no erosion	No structural damage, ponding in flat areas, some erosion

2.4 Capital Cost Projections

Cost estimates for all projects identified in this MSP have been developed in accordance with the cost classification framework outlined in the *Guide to Costing* (Treasury Board of Canada Secretariat, May 2023) and the classification system of the Association for the Advancement of Cost Engineering (AACE). These classification systems define the appropriate estimating methodology, expected level of accuracy, and associated risk at various stages of project planning and design. For the purposes of this MSP, the estimates have been prepared consistent with a Class 4 level estimate, reflecting the current stage of planning and establishing the range of accuracy that can be expected as projects advance toward detailed design.

The cost estimating strategy was developed to provide a consistent, transparent, and reliable basis for project budgeting and prioritization. The approach includes the development of a standardized estimating algorithm and benchmarking against recent project costs to provide perspective on estimate accuracy.

The cost estimating methodology consists of four key steps:

- **Step 1 – Unit Costs and Baseline Construction Costs:** Establishment of unit costs for linear infrastructure (watermains and storm sewers) using a first-principles analysis, lump sum costing for stormwater management ponds based on size, and volumetric unit costs for LID infrastructure. Baseline construction costs are derived by applying these unit costs to the planned infrastructure quantities.
- **Step 2 – Adjustments for Scope and Complexity:** Modification of baseline construction costs to reflect project-specific factors and current market conditions, including road restoration, construction overhead, site complexity, special conditions, market and inflation adjustments, and unique project elements.
- **Step 3 – Inclusion of Non-Construction (Soft) Costs:** Addition of allowances for land acquisition, supporting studies and investigations, design and contract administration services, and City-related project management and permitting costs.
- **Step 4 – Overall Project Contingency:** Application of a contingency allowance to account for uncertainty, scope refinement, and unforeseen conditions at this stage of planning.

Detailed costing sheets were developed to support the financial analysis and provide transparency with respect to quantities, assumptions, and adjustment factors applied to each project. **Appendix A** in **Volume 2** provides a memo outlining the detailed costing methodology and associated assumptions.

3 Planning, Land Use, & Growth Projections

Section 7 in **Volume 2** summarizes the various historical and current growth forecasts that have been prepared over the past decade, providing context for the growth assumptions adopted in this MSP. These forecasts inform the future system modelling and the development of infrastructure improvement strategies intended to address the long-term servicing needs of the City. Key background documents reviewed include the 2013 Official Plan (growth to 2031), the 2023 Growth Analysis Review (Dillon Consulting), the 2024 Development Charges Background Study (Watson & Associates), the 2024 East Side Employment Lands Servicing Review (GEI), and the ongoing Pollution Prevention Control Plan project.

3.1 Growth Stormwater Servicing

The stormwater servicing concepts and strategies presented in the following sections consider both improvements within the City's existing infrastructure system, as well as new infrastructure and upgrades required to support the expansion areas. **Figure 3-1** presents the proposed growth land use type.

An increase in stormwater runoff volume, peak flow rates, and a potential reduction in water quality are expected due to the conversion of previously pervious areas. Future development will be required to manage runoff volume, peak flows, and water quality to meet pre-development conditions or better. Stormwater controls within the expansion areas will be determined on a site-specific basis. As such, in most instances, new development areas that incorporate the onside management requirements are anticipated to have a negligible increase to existing system peak flows and are not anticipated to trigger system upgrades, with the following exceptions:

- Outlets with existing deficiencies in the downstream conveyance systems.
- Development discharging to system outlets not requiring detention control, where there is sufficient downstream conveyance capacity to support the increase in system runoff.

City of Port Colborne

Water and Stormwater Master Plan

Growth Areas
- Development Database
- Development Review
- INS Future Development Area
- INS Pipeline Lands
- INS Vacant Lands

Zoning
- Commercial
- Farm
- Government
- Industrial
- Institutional
- Land
- Residential
- Special Purpose

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Parks
- NPCA Approximate Regulation Lands
- Waterbody

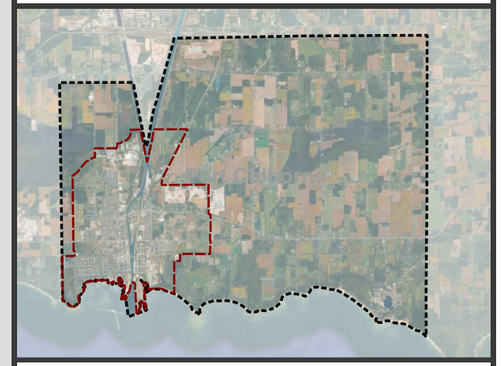


Figure 3-1
Growth Land Use Type

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

4 Existing Stormwater System

4.1 Existing Stormwater Infrastructure

The City's stormwater system is primarily managed by the City of Port Colborne, with responsibility for the operation and maintenance of stormwater conveyance systems and associated infrastructure. Unlike the water system, there is no regional oversight of stormwater servicing; however, system performance is influenced by downstream receiving systems, including the Welland Canal and Lake Erie.

Figure 4-1 illustrates the City's stormwater system. The system includes a combination of urban storm sewer infrastructure and rural drainage systems that convey runoff to local watercourses and receiving bodies.

In newer areas of development (post 1980s), stormwater infrastructure has generally been designed in accordance with modern standards, including provisions for attenuation and water quality treatment. However, due to the City's historic development patterns, a significant portion of the system was constructed prior to current design requirements. As a result, many areas do not meet current levels of service and would require upgrades to meet the City's desired levels of service for new stormwater infrastructure. Additionally, there are neighbourhoods where stormwater infrastructure evolved through incremental infilling of roadside ditches, resulting in non-standard system configurations.

A key focus of this Master Servicing Plan is to identify and prioritize improvements to address the configuration, condition, and performance limitations of these legacy stormwater systems.

4.1.1 Minor Stormwater System

Within the urban boundary, the stormwater system is predominantly comprised of a conventional storm sewer network; the City's CLI-ECA lists the system length as 108 km of sewers and 40 km of ditches and swales. However, subsequent sewer investigation and inventory updates have identified additional sewer elements. The MSP assessment is based on the inventory as of January 2025, as well as a number of assumed sewers incorporated to address system connectivity issues present in the January 2025 inventory, comprising approximately 121 km of storm sewers and 4 km of culverts, ranging in diameter from 100 mm to 2,200 mm. Since January 2025, the City has undertaken additional investigation to further confirm the system inventory, geometry, and condition. It is anticipated that as the City continues to complete storm sewer investigations and system improvements the actual system length will be further updated.

These sewers convey runoff from streets, catchments, and local drainage areas to downstream outlets and detention facilities. Some areas continue to rely on roadside drainage systems or a combination of storm sewers and ditches.

Outside the urban boundary, stormwater is primarily conveyed through roadside ditches and culverts to nearby creeks and rivers prior to discharging to receiving water bodies.

Due to the age and evolution of the system, portions of the storm sewer network reflect legacy design approaches, including direct conveyance to outlets and non-standard configurations resulting from historic ditch infilling.

Table 4-1 summarizes the total length of the Minor System, located within the City's existing urban boundary as listed within the City's CLI-ECA.

Table 4-1: Minor Stormwater Sewer Length

Diameter	Length (km)
<=250 mm	26
>250 mm - <=500 mm	58
>500 mm - <=1050 mm	19
>1050 mm	5

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Existing Stormwater System
- ≥ 450 mm
- <450 mm
- Culvert
- Ditch

Existing Facilities
- Storm Facility
- Outfalls
- Storm Outlet

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

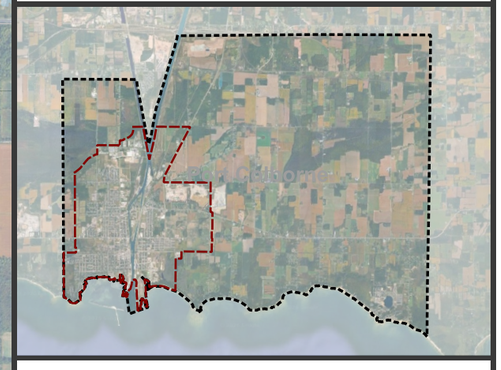


Figure 4-1
Existing Stormwater System

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 1 2 km

4.1.2 Outfalls

Stormwater is discharged through a network of outfalls to local watercourses and receiving bodies, including Lake Erie, the Welland Canal, Quarry Ponds, and their local tributaries. **Figure 4-2** highlights the outlet locations, while **Table 4-2** summarizes the system outfalls by outlet system.

Table 4-2: System Outfalls

Outfall Location	Number of Outfalls
Welland Canal	31*
Lake Erie	26
Quary Pond	2
Eagle Marsh	10
Local tributaries	8

*Includes Johnston Street Stormwater Management Facility with pumped discharge

The performance of these outlets is influenced by downstream water levels and available hydraulic capacity.

Key constraints affecting outlet performance include:

- Lake Erie Water Level:
    - Influenced by long-term seasonal trends
    - Additional impacts from seiche (storm) events
- Welland Canal Levels:
    - Downstream of Lock 8
        - Water levels regulated by the Seaway
        - Analysis based on reported operational levels
    - Upstream of Lock 8
        - Governed by Lake Erie Water Levels
- Limited formal overland flow routes in some areas
- Outlet capacity restrictions during elevated lake or canal water levels
- Quarry Ponds: No natural outlet, subject to seasonal variability and is dependent on evaporation and infiltration to manage water levels.
- Eagle Marsh: Area drains to Lake Erie, high water levels are managed through a flood control structure at Lakeshore Road West.

These conditions can reduce discharge capacity during peak events and contribute to localized flooding or system surcharging.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Outfall Locations
- Eagle Marsh Drain
- Local Tributaries
- Lake Erie
- Quarry Ponds
- Welland Canal

Existing Facilities
- Storm Facility

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

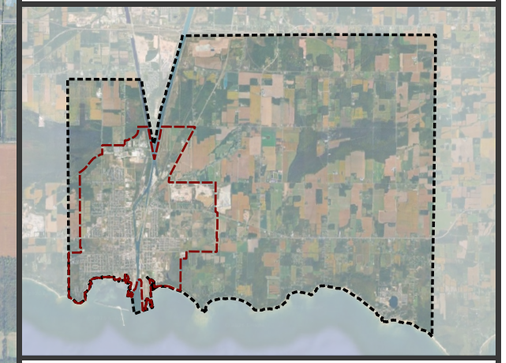


Figure 4-2
Stormwater Outlets

0 1 2 km

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

4.1.3 Detention Facilities

The City CLI-ECA lists a single detention facility, the Johnston Street Stormwater Management Facility (SWMF), which is designed to capture and retain system runoff. The Johnston Street SWMF includes a pumping station that can, if the storage capacity is exceeded, pump flows, via forcemain, to the Canal Bank Road ditch, which ultimately discharges to the Welland Canal via the Bell Street Outfall.

Across much of the existing urban area, stormwater management infrastructure does not include consistent detention or treatment, reflecting historic design practices. As a result, there are opportunities to enhance system performance by implementing additional storage, detention, and treatment measures.

It is noted that the City has several large ditches, such as the Canal Bank Road ditch, that serve as informal detention facilities, attenuating peak flows and reducing downstream impacts.

It is noted that recent development applications for new greenfield developments include on-site stormwater management and retention facilities to reduce post-development runoff rates to pre-development conditions.

Future improvements identified through this Master Servicing Plan will consider system capacity, risk, cost, and interactions between the stormwater and wastewater systems, particularly regarding wet-weather flow management.

4.1.4 Water Quality Management Facilities

The City's CLI-ECA lists 2 oil/grit separators to support the Westwood Estates development but lists no other dedicated stormwater quality management facilities. The City's Johnston Street SWMF and future greenfield detention facilities are assumed to provide standard stormwater quality treatment. However, all remaining areas are assumed to receive no stormwater quality treatment.

4.2 Summary of Stormwater System Configurations

Due to the age and evolution of the City's stormwater system, including resident-led enclosures of drainage networks, significant portions of the City's stormwater conveyance system were not officially designed. These non-design systems were not constructed to a specific standard in terms of sewer geometry, sewer depth, minimum sewer slope, inlet locations and capacity, or size to convey a specific design storm.

As such, the stormwater collection system has been categorized into the following grouping, and as highlighted in **Figure 4-3**:

- **Designed System:** These represent newer portions of the stormwater sewer systems where the City has clear documentation of the system design, and/or systems where the sizing and configuration of the existing stormwater system generally meet existing City design standards. Areas where a new stormwater sewer system has been retrofitted to capture and convey stormwater runoff, but where portions of the historic non-design stormwater system remain to support local drainage and inlet capacity, are, for the purposes of the MSP, considered Designed Systems.
- **Semi-Designed and Non-Designed System:** These represent older portions of the stormwater system where the City does not have clear documentation of the system design and where the system configuration and capacity do not meet the City's existing design standards. These areas are legacy design approaches, including direct conveyance to outlets and non-standard configurations resulting from historic ditch infilling and are generally characterized by undersized sewers, shallow sewers, the presence of parallel sewers, the use of corrugated steel sewers, the absence of manholes, the absence of a curb and gutter system, and inconsistent catch basin placement.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Design Category
- Designed
- Semi-Designed
- Non-Designed
- Ditch Network

Stormwater Infrastructure
- Storm Facility
- Outfalls
- Storm Outlet
- Storm Forcemain

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

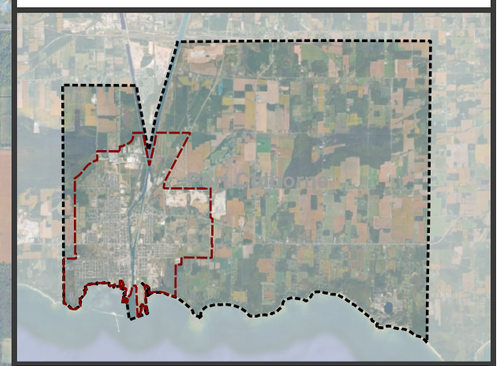


Figure 4-3
Stormwater System Configuration

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 1 2 km

4.3 Hydraulic Stormwater Model

A hydraulic stormwater model was developed as part of this Master Servicing Plan, as no existing comprehensive stormwater model was available for the City. Based on a review of available modelling platforms and the City's long-term needs, PCSWMM was selected for stormwater modelling.

The model provides a representation of the City's primary stormwater conveyance system and supports the evaluation of system performance under existing and future conditions. The goals of the stormwater modelling under this Master Servicing Plan include:

- Quantifying system performance under various existing and future design storm scenarios.
- Identifying areas of deficiency and distinguishing whether issues are existing, growth-related, or exacerbated by growth.
- Assessing outfall capacity, major flow system performance, and stormwater management facility coverage, including detention and treatment.
- Evaluating system sensitivity to climate change, lake levels, and seiche events.
- Reviewing non-standard or legacy systems to determine current levels of service and the need for upgrades or reconfiguration.
- Identifying servicing requirements for greenfield areas, including drainage boundaries, outlet locations, and preliminary storage and treatment needs.
- Evaluating the effectiveness of proposed system upgrades and supporting infrastructure sizing.

The model development was completed using the following approach:

- Review of available GIS data, record drawings, and background studies.
- Development of an all-pipe network including storm sewers, culverts, and key drainage channels.
- Completion of network topology checks to identify inconsistencies (e.g., orphan pipes, negative slopes, and non-standard configurations).
- Delineation of drainage catchments using topography, road and drainage features, and available GIS data.
- Assignment of hydrologic parameters based on land use, soil conditions, and available mapping.
- Development of model scenarios representing existing and future (buildout) conditions.

4.3.1 Network Development

The stormwater model was developed based on the City's available (January 2025) GIS stormwater infrastructure data, including storm sewers, culverts, and select drainage channels.

A review of the available GIS data identified gaps and inconsistencies in the stormwater dataset, including missing attributes (e.g., pipe size, material, and invert elevations) and instances where available information did not align with expected system configurations. As a result, additional interpretation and assumptions were required to develop a hydraulically functional model.

Standard network topology checks were completed to identify and address inconsistencies within the dataset, including disconnected elements, overlapping pipes, negative slopes, and other non-standard conditions. Where discrepancies could not be resolved using available data, they were flagged for review and confirmation by the City.

4.3.2 Subcatchment Delineation

Lidar-derived classified point could (available through Ontario GeoHub) were used to develop a 2D surface model covering the City extents. The combination of surface model, building footprints, ditch and channel lines, and sewer network inlet points was utilized to develop the model surface drainage and catchment delineations.

4.3.3 Model Validation

The City commissioned a stormwater system flow monitoring program. The flow monitoring program consisted of 31 flow monitors covering a 5 month period from June 2024 to October 2024. **Figure 4-4** highlights the Flow Monitoring locations and their respective upstream stormwater collection network.

Table 4-3 summarizes the 3 major precipitation events that were used to help validate the model's performance.

Table 4-3: Major Precipitation Events

Date	Peak 1 Hour Intensity (mm/hr)	Total Depth (mm)
June 29, 2024	10.2	36.6
July 10, 2024	5.4	35.8
August 16, 2024	13.0	21.9

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Flow Monitoring
- 2024 Flow Monitors
- Flow Monitor Sewers
- Rain Gauge

Existing Stormwater System
- ≥ 450 mm
- <450 mm
- Culvert
- Ditch

Existing Facilities
- Storm Facility
- Outfalls
- Storm Outlet

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

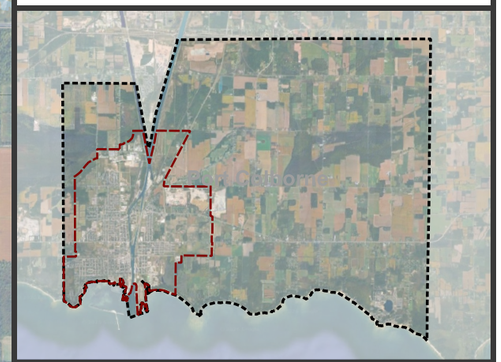


Figure 4-4
Flow Monitoring Locations

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

0 1 2 km

4.3.4 System Evaluation and Model Scenarios

The developed hydraulic model was used to evaluate the performance of the stormwater system under existing and buildout conditions.

The assessment included:

- Identification of system deficiencies and their relationship to existing conditions and future growth.
- Evaluation of outfall capacity, major flow conveyance systems, and downstream outlet constraints.
- Assessment of detention, storage, and treatment facility capacity and coverage.
- Review of system sensitivity to climate change, lake levels, and seiche events.
- Evaluation of non-standard or legacy systems and their ability to meet current levels of service.
- Identification of servicing requirements for greenfield development areas.
- Assessment of stormwater system interaction with the wastewater system, including wet weather flow impacts and opportunities for mitigation.

4.3.5 Model Limitations and Future Enhancements

The model drainage network developed extensive topology connectivity assumptions and interpolation of geometry. It is recommended that, prior to undertaking major analysis and or design activities, localized network geometry verification and model updates be undertaken.

5 Assessment of Existing Stormwater Infrastructure

A key step in the Master Servicing Plan process is assessing the existing stormwater infrastructure to establish baseline system conditions, which form the foundation for the MSP recommendations. This assessment was completed through a detailed review of both designed and semi- or non-designed portions of the system, including minor and major conveyance elements. Once baseline conditions were determined, the potential impacts of future growth, expansion, and intensification were evaluated to inform recommended stormwater servicing strategies.

The analysis approach included:

- Reviewing designed systems and applying established performance criteria.
- Focusing on localized upgrades and investigations where required.
- Assessing semi-designed and non-designed systems to identify gaps and deficiencies.
- Undertaking a modelled capacity review to support infrastructure planning.
- Completing "desktop" trunk sewer design, with emphasis on conveyance to downstream outlets.
- Categorizing system performance:
    - Major deficiencies – requiring rebuild or redesign, often with limited existing system information.
    - Moderate deficiencies – targeted trunk upgrades and identification of key investigation areas.

Per the City's stormwater management policy and design criteria, all infill and future development areas are required to maintain or improve pre-development stormwater peak flowrates. Stormwater servicing concepts focus on addressing existing deficiencies, supporting growth areas, and maintaining or enhancing overall system performance.

The following sections outline current opportunities and constraints within the stormwater system and assess its ability to accommodate projected runoff and drainage demands through the 2051 planning horizon and beyond.

5.1 System Performance

The City's stormwater model was used to support the assessment of the stormwater system's capacity and performance under existing and projected conditions.

5.1.1 Stormwater System Capacity

Figure 5-1 and **Figure 5-2** present the sewer surcharging levels under the 2-year and 5-year design storm, assuming typical outlet conditions.

The performance of the stormwater system varies depending on the level of design and location within the City:

- **Designed Systems:** Most of the modern stormwater infrastructure meets the City's 5-year level of service.
- **Semi-Designed and Non-Designed Systems:** Legacy and ad hoc systems generally do not meet the 2-year level of service, with localized deficiencies observed throughout older neighbourhoods.

5.1.2 Impact of Lake Levels

System performance is influenced by downstream water levels in Lake Erie and the Welland Canal. Areas with ground elevations below 177 m are sensitive:

- Average lake level (174.0 m) generally allows for adequate drainage.
- Peak monthly levels (175.1 m) can reduce outlet capacity, causing localized surcharging or ponding.

Figure 5-3 showcases the lake level impact boundary on the stormwater system.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Stormwater System Capacity
- Surplus Capacity
- At Capacity
- Flooding Risk

Existing Stormwater Infrastructure
- Culvert
- Ditch
- Storm Forcemain
- Storm Facility
- Outfalls

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

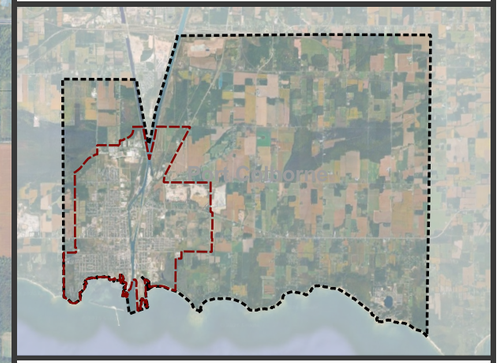


Figure 5-1
2-Year Stormwater Sewer Capacity

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Stormwater System Capacity
- Surplus Capacity
- At Capacity
- Flooding Risk

Existing Stormwater Infrastructure
- Culvert
- Ditch
- Storm Forcemain
- Storm Facility
- Outfalls

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

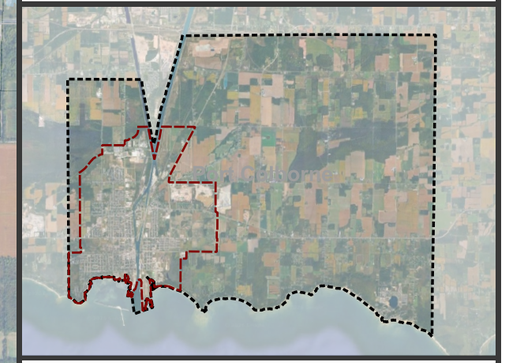


Figure 5-2
5-Year Stormwater Sewer Capacity

Agile INFRASTRUCTURE

June 2026
P01.002.01
EPSG:26917

0 1 2 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

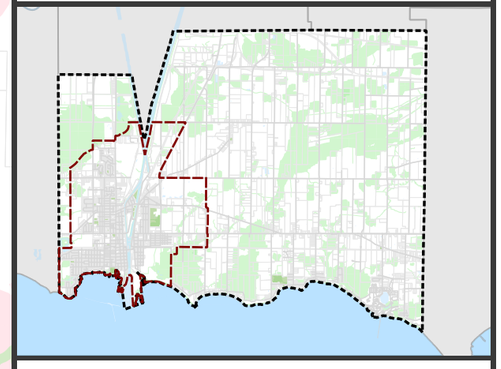
Lake Level Impacts
- Sewers with No Change in HGL
- Sewers with Increase in HGL
- Outlets Impacted by Lake Level
- Outlets Not Impacted by Lake Level

Stormwater Infrastructure
- Culvert
- Ditch
- Storm Forcemain

Elevations
- <178 masl
- Lake Level Impact Boundary

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Parcels
- Waterbody

Natural Heritage
- NPCA Approximate Regulation Lands
- Parks



0 1 2 km

Figure 5-3
Lake Level Impact

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

5.2 Opportunities and Constraints

Existing and future stormwater opportunities and constraints were identified through discussions with City staff, review of available GIS and infrastructure data, and preliminary hydraulic analyses. **Figure 5-4** highlights the opportunities and constraints within the system.

System Understanding and Capacity

- The stormwater system is primarily managed by the City, with designed portions generally conveying flows effectively to outlets.
- Non-designed and semi-designed systems, particularly in older neighbourhoods, contribute to localized flooding during higher-intensity rainfall events.
- System configuration and condition are uncertain in some areas, with a mix of design standards and incomplete documentation.
- Outlet capacity is influenced by downstream water levels in Lake Erie and the Welland Canal, particularly in low-lying areas (<177 m).

Constraints

- Non-designed systems with limited formal overland flow routes.
- Constrained outlet capacity due to lake and canal water levels.
- Localized flooding in older neighbourhoods with inadequate conveyance.
- Uncertainty in system configuration and condition across much of the network.
- High cost and complexity associated with system upgrades, making full system replacement infeasible.
- Prioritization required based on risk and history of flooding issues.

Opportunities

- Targeted upgrades in older and non-designed areas to improve conveyance and reduce reliance on overland flow.
- Focus on trunk conveyance improvements to outlets, where practical, to maximize system performance.
- Develop a long-term rehabilitation and replacement strategy to manage improvements over time.
- Coordinate stormwater improvements with broader City infrastructure initiatives to optimize investment.
- Apply consistent design criteria and performance standards in new development and infill areas to maintain or improve current service levels.

System Understanding:

- Uncertainty in system configuration and condition
- Mix of different design standards across the network
- Many neighbourhoods lack a formal design basis

Overland & Hydraulic Constraints

- Limited formal overland flow routes
- Outlet capacity restrictions due to lake and canal water levels

Construction & Cost Considerations

- High cost and complexity of upgrades
- Need to balance investment with priorities

Prioritize solutions in areas with known history of flooding issues

Cost to implement full system upgrades not feasible – will need to prioritize upgrades based on system risk

Need to develop a long-term rehab and replacement strategy to manage system improvements over time

0 1 2 km

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Design Category
- Designed
- Semi-Designed
- Non-Designed
- Ditch Network

Stormwater Infrastructure
- Storm Facility
- Outfalls
- Storm Forcemain

Growth Areas
- Growth Areas

General Features
- Municipal Boundary Area
- Urban Area Boundary
- Waterbody
- NPCA Approximate Regulation Lands
- Parks
- Parcels

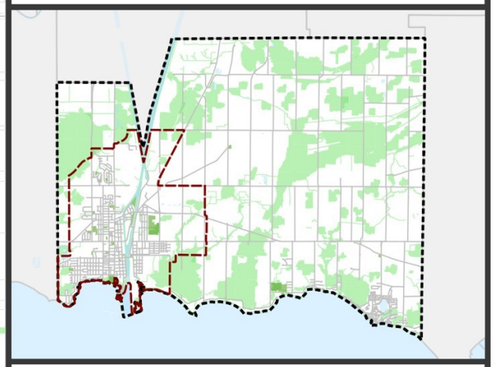


Figure 5-4
Opportunities and Constraints

Agile INFRASTRUCTURE

April 2026
P01.002.01
EPSG:26917

5.3 High-Level Servicing Concepts

The stormwater servicing concepts presented in **Error! Reference source not found.** were evaluated at a high level to determine their ability to address the City of Port Colborne's stormwater management objectives. Each concept was assessed for its potential to meet key system performance criteria, considering factors such as conveyance, quantity control, and localized improvements.

Given the variety of strategies included—ranging from status quo operations and localized sewer upgrades to LID measures, major system improvements, outlet upgrades, pumping, and full system reconstruction—the effectiveness of each concept in addressing specific objectives may vary depending on the technologies and strategies ultimately selected.

Table 5-1 also identifies which concepts were recommended to be carried forward for further consideration.

Table 5-1 High Level Servicing Concepts

	Description	Carried Forward
Status Quo	• Keep the existing system as is • Address small issues gradually as part of system rehab and renewal	**Carried forward**: • Designed system with no major deficiencies
Localized Sewer Upgrades	• Targeted improvements to address local problem areas or bottlenecks	**Carried forward**: • Designed system with minor deficiencies • Semi-designed system with sufficient outlet capacities
Quantity Control	• Storage system to manage peak stormwater flows	**Carried forward**: • Greenfield growth areas • Larger site plan developments
Low Impact Development (LID)	• Decentralized stormwater solutions to help manage peak flows and reduce runoff	**Not carried forward** due to groundwater levels and soil conditions **To be considered** on site-by-site case during design stage
Major System Improvements	• Increase the system's capacity to handle runoff that exceeds current sewer system • Improve surface drainage pathways	**Carried forward:** • All system • To be incorporated into design standard practices
Outlet Upgrades	• Upgrade outlet capacity	**Carried forward:** • All system

	• Protect outlets from high water levels	• To be incorporated into design standard practices
Pumping	• Pumping conveyance to move water and manage risk from high water levels	**Carried forward:** • Areas impacted by high lake levels
Major System Reconstruction	• Significant redesign and upgrading of the local drainage network	**Carried forward:** • Semi-designed system with major system deficiencies • Non-designed system with major system deficiencies

6 Stormwater Servicing Alternatives and Evaluation

Stormwater servicing alternatives were developed under the context of identifying servicing alternatives to address both broader drainage areas and local opportunities and constraints. These alternatives focus on the existing stormwater system while still accommodating growth.

6.1 Servicing Strategy Development

As part of this MSP, stormwater concepts were evaluated for existing and future growth areas to guide the selection of servicing strategies that:

- Optimize the use of existing infrastructure to reduce the need for new construction where possible.
- Minimize costs associated with new infrastructure.
- Account for operation and maintenance costs to support long-term financial sustainability.
- Ensure the long-term reliability and security of the water system.
- Enhance system resilience to climate change.
- Avoid or minimize environmental disruptions, including watercourse and habitat crossings, wherever feasible.
- Reduce the production of greenhouse gas emissions.
- Limit impacts in areas where disturbances could pose a significant drinking water threat.
- The following sections summarize the development and evaluation of alternative servicing strategies for the City's stormwater system.

6.2 Growth Servicing

Provisional planning for stormwater upgrades identifies general system needs, potential improvement areas, and suitable outlets to connect new developments to the existing stormwater network. These preliminary plans provide guidance for future growth but require refinement through more detailed studies. Key considerations include:

- **Provisional Planning for Upgrades:** Growth planning identifies general system needs, potential improvement areas, and suitable outlets to tie into the existing stormwater network.
- **Need for Site-Specific Designs:** Individual developments must complete detailed stormwater management (SWM) studies to confirm appropriate solutions and ensure compatibility with the local system.

- **Increase in Impervious Area:** New growth introduces additional hard surfaces such as roads, rooftops, and driveways, increasing stormwater runoff and reducing natural infiltration.
- **On-Site Stormwater Management:** Developments are generally required to manage runoff on-site so post-development peak flows match pre-development conditions.
- **Existing Built-Up Areas:** In established neighbourhoods, future growth is assumed not to increase peak flows but may still require targeted improvements or controls.

The following sections present the preliminary servicing strategy and stormwater management requirements for greenfield growth areas, including flow direction, initial drainage boundaries, proposed new SWM ponds, and new outlets. The strategy is based on existing topology, drainage boundaries, and the phased buildout of areas based on existing property boundaries. It is anticipated that detailed functional servicing and stormwater management plans will be completed for each new greenfield development, and that individual proponents may adjust the final servicing approach provided the overall management requirements are achieved.

6.2.1 Roadway Urbanization

The servicing of new growth areas may also trigger improvements and urbanization of existing stormwater drainage along rural cross-section roadways. These improvements and their costs are assumed to be captured within the development's and/or City's roadway improvement projects and have not been identified as specific stormwater upgrade projects.

Further, it is assumed that any additional runoff resulting from roadway urbanization will be incorporated into the onsite stormwater management requirements and strategies for the fronting development, and will not contribute additional peak runoff to the existing stormwater collection and conveyance system.

6.2.2 Eastern Growth Area

The Eastern Growth Area includes a combination of infill development and greenfield expansion. The stormwater servicing approach varies depending on the location and available outlet options, as shown on **Figure 6-1**. In general, the existing collection system in this area has limited capacity, and future development will require a combination of new outlets, local detention, and on-site stormwater management controls. All developments will require, at a minimum, water quality treatment prior to discharge.

- 1 – Outlet Unclear for Infill Development: On-site detention is not required to address downstream outlet control to the canal. However, the existing system in this area has no available capacity to support additional peak flows from the development. However, the proximity to the canal presents an opportunity for a potential new outlet, which would need to be confirmed through further detailed study.
- 2 – Greenfield Development to Existing Trunk Sewer: Discharge to the existing trunk system is possible; however, the trunk is currently at capacity. As a result, a local onside flow control is required to control peak flows prior to discharge.
- 3 – Greenfield to Existing Municipal Drain: Existing lands drain to an existing Municipal Drain. Development to maintain existing drainage patterns. The development will require full on-site stormwater management to manage post-development flows to pre-development levels. Area does not impact the City's existing stormwater collection system.

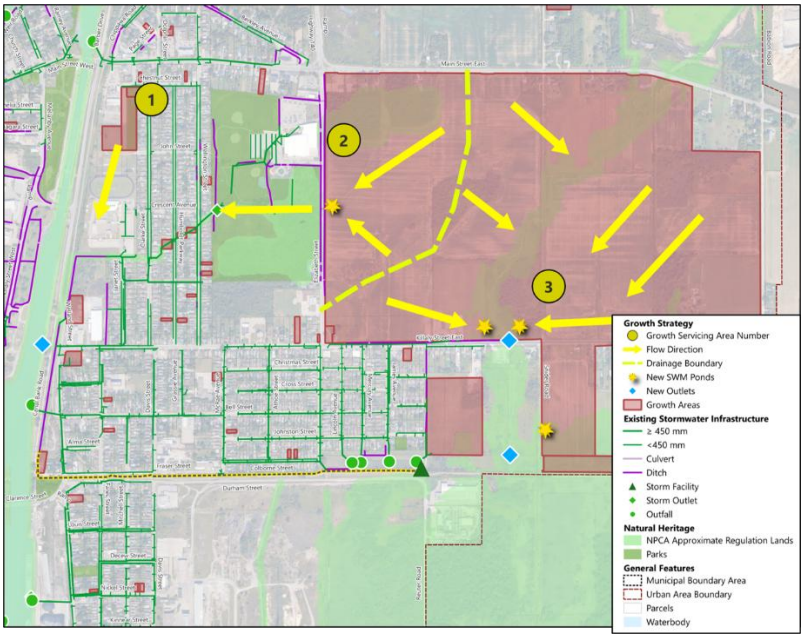


Figure 6-1: Eastern Growth Area

6.2.3 ESEL Growth Area

The ESEL Growth Area consists of lands currently identified for excess soil placement or removal, where future drainage patterns will be largely dependent on final site grading. At this stage, development within this area is not expected to impact the existing stormwater network. The preliminary servicing concepts are shown on **Figure 6-2** and focus on available downstream outlets and associated detention requirements. Individual development applications will be required to confirm the existing capacity of the downstream drainage network to accommodate the proposed development and identify any requirements for on-site stormwater management. All developments will require, at a minimum, water quality treatment prior to discharge.

- 1 – Discharge to Ditch and Existing Outlet: Drainage would be directed to an existing ditch system and downstream outlet. On-site detention is not required to address downstream outlet control to the canal. Detention requirements would be governed by the available capacity of both the ditch and the receiving outlet, and may be required to manage peak flows.
- 2 – Discharge to Existing Outlet: Drainage would connect directly to an existing outlet. On-site detention is not required to address downstream outlet control to the canal. An upgrade to the outlet may be required to reduce or minimize the need for on-site detention and improve overall conveyance capacity.

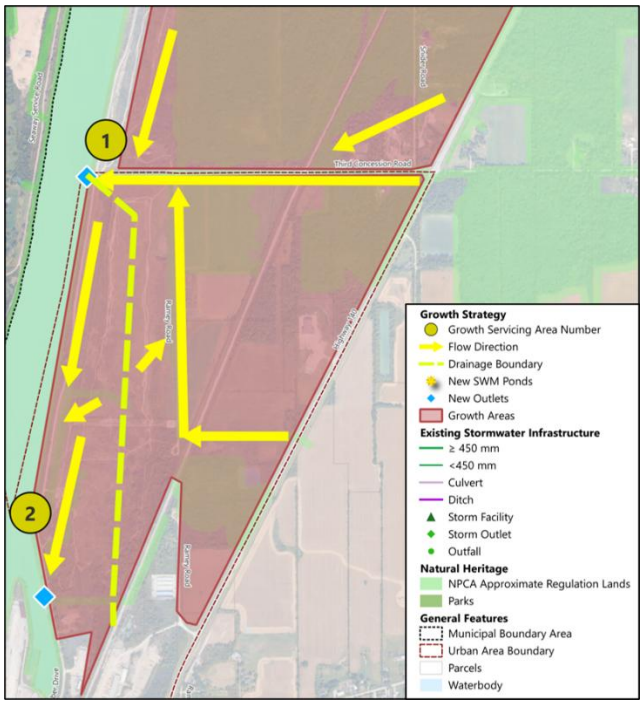


Figure 6-2: ESEL Growth Area

6.2.4 North Growth Area

The North Growth Area is predominantly a greenfield development area and is not expected to have any impact on the existing stormwater network. The preliminary servicing approach, shown on **Figure 6-3**, considers a combination of existing ditch outlets and direct discharge to the creek, with varying levels of stormwater management required depending on the selected outlet. All developments will require, at a minimum, water quality treatment prior to discharge.

- 1 – Discharge to Ditch and Existing Outlet: Drainage would be directed to an existing ditch system and downstream outlet. On-site detention is not required to address downstream outlet control to the canal. Detention requirements would be based on the available capacity of both the ditch and the receiving outlet.
- 2 – Discharge to Creek (Greenfield): Direct discharge to the creek and would require full stormwater management controls to be implemented.
- 3 – Discharge to Ditch and Existing Outlet: Similar to 1, drainage would be directed to an existing ditch system and downstream outlet. On-site detention is not required to address downstream outlet control to the canal. Detention requirements would be based on the available capacity of both the ditch and the receiving outlet.

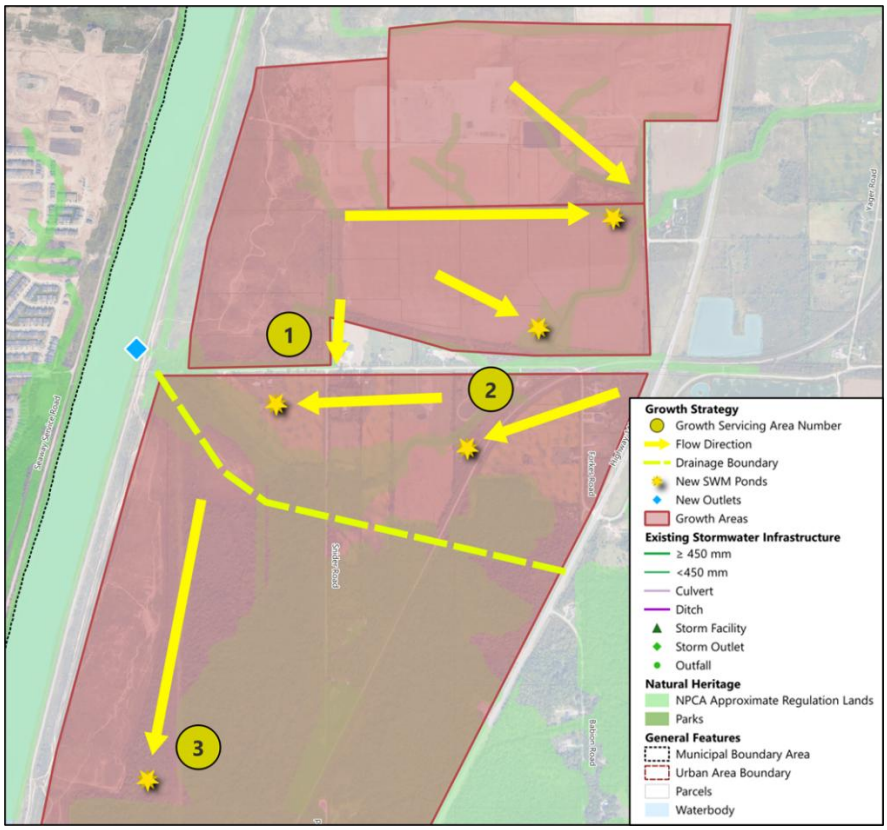


Figure 6-3: North Growth Area

6.2.5 Marina Growth Area

The Marina Growth Area is currently not serviced by stormwater sewers and is not expected to impact the existing stormwater network. As shown on **Figure 6-4,** a new outlet will be required to support future development in this area.

- 1 – New Outfall to Required Lake Erie (Marina): Development would require a new outfall to the canal Lake Erie (within the existing Marina area). Stormwater management in this area would focus primarily on water quality treatment prior to discharge, with appropriate measures to meet regulatory requirements.

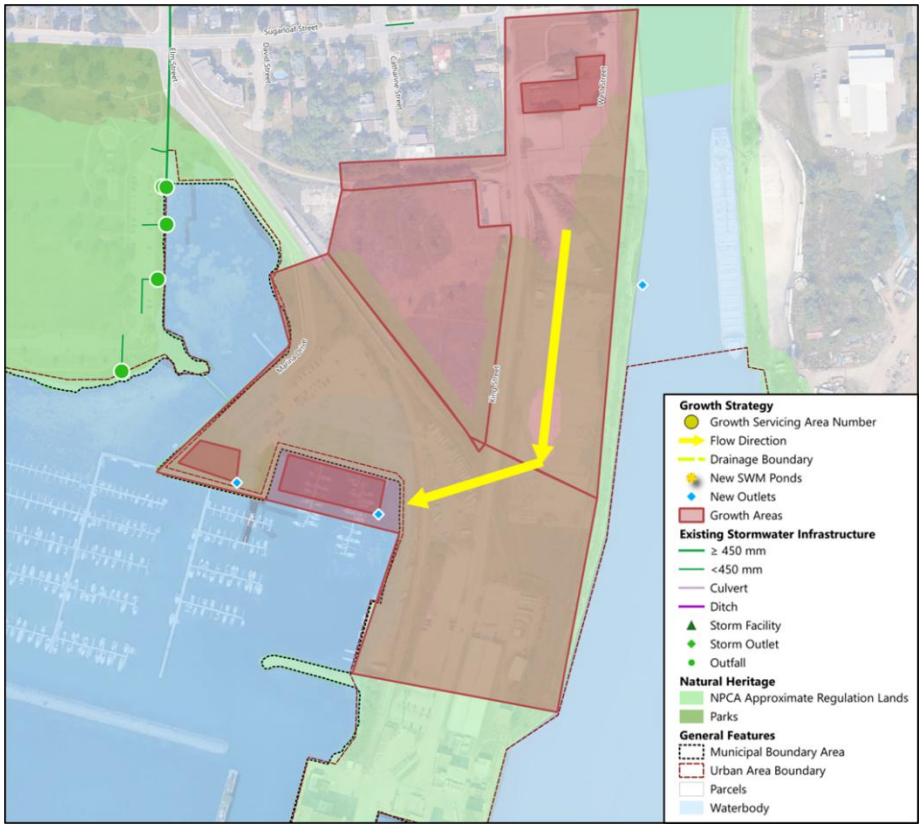


Figure 6-4: Marina Growth Area

6.2.6 Southwest Growth Area

The Southwest Growth Area is a new greenfield development area and is not expected to impact the existing stormwater network. As shown on **Figure 6-5**, there is an opportunity to establish a new outlet that could also intercept flows from the Sugarloaf area, supporting a more integrated drainage approach.

- Discharge to Existing Ditch and to Eagle Marsh: Drainage would be directed to the existing ditch system and downstream Eagle Marsh. Detention requirements would be based on the available capacity of the ditch, with controls implemented as needed to manage peak flows prior to discharge, at a minimum, the developments will require water quality treatment prior to discharge.

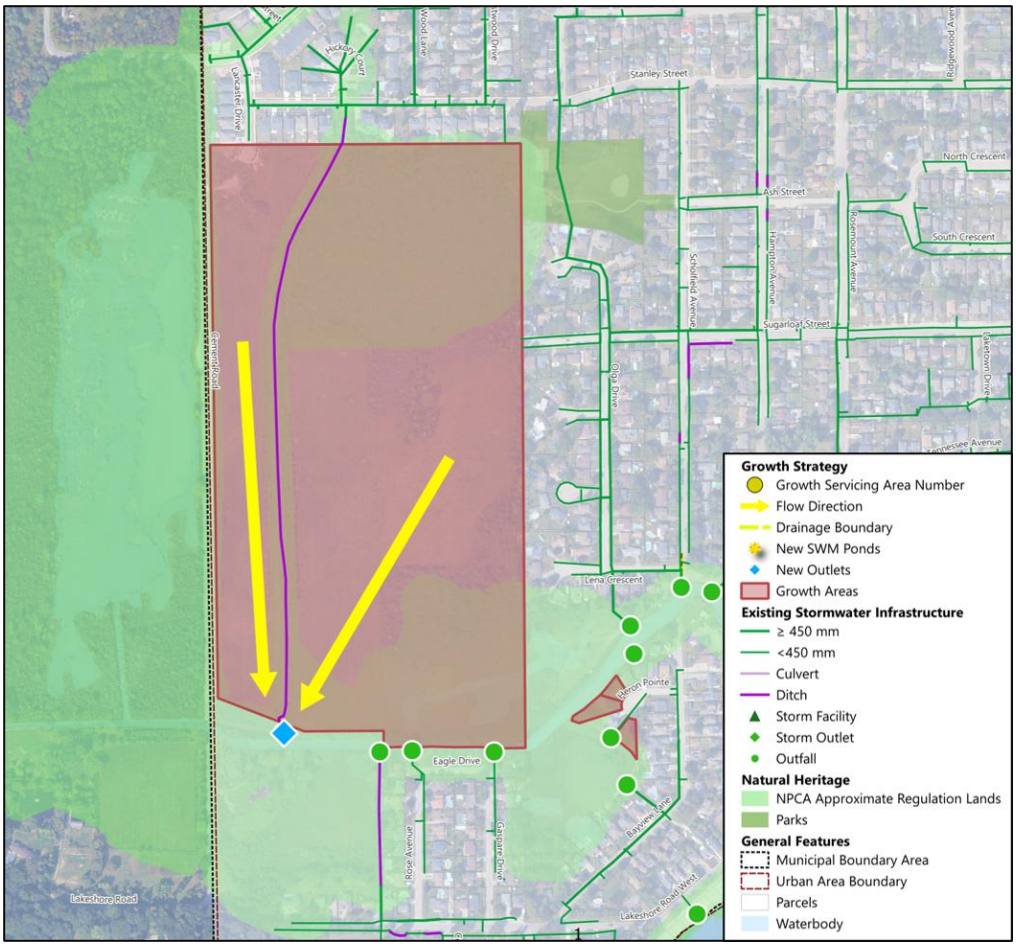


Figure 6-5: Southwest Growth Area

6.2.7 Western Growth Area

The Western Growth Area is a new greenfield development area and is not expected to impact the existing stormwater network. The preliminary servicing strategy, as shown on **Figure 6-6**, considers various discharge pathways to the existing ditch network, with varying levels of system constraints and required on-site controls.

- 1 – New Greenfield to Existing Ditch: Drainage would be directed to the existing ditch system, with potential ditch improvements required to support increased flows. SWM subject to available capacity within the Quarry Pond. The Quarry Pond does not have an existing outlet; the proposed development application will be required to demonstrate that there is sufficient detention and retention capacity to support the increased runoff volumes without causing flooding or overflows at the Quary pond. Provisions for an overflow from the Quarry Pond to the Rosemount Avenue sewer and outfall upgrades should be made if upgrades to the Sugarloaf are made prior to confirmation of the development and Quarry Pond stormwater management strategy.
- 2 – Greenfield to Existing Ditch Network: The existing downstream system has no available capacity to accommodate additional flows. Full on-site SWM would be required, likely along with downstream system upgrades.
- 3 – Greenfield to Existing Ditch Network: The existing ditch network does not have available capacity. Full on-site SWM would be required to control peak flows prior to discharge.

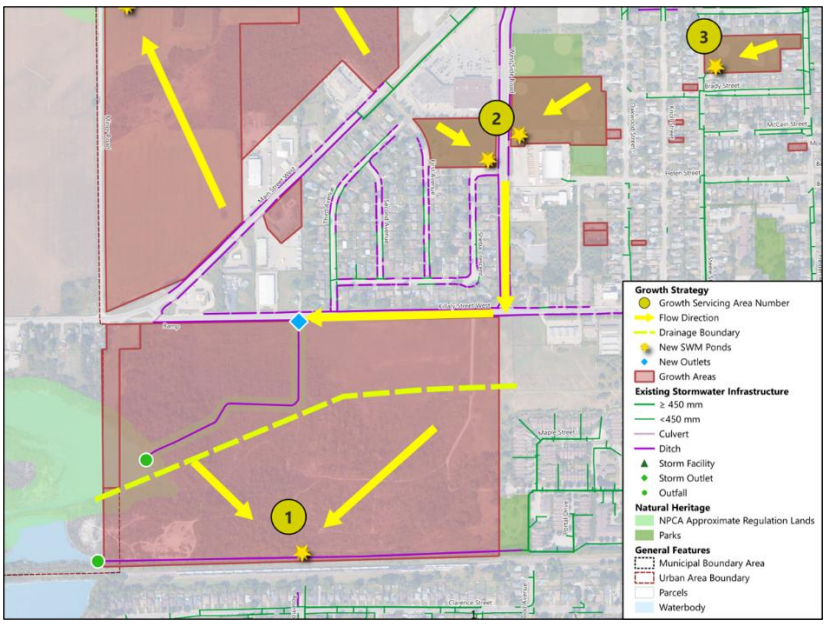


Figure 6-6: Western Growth Area

6.2.8 Northwestern Growth Area

The Northwestern Growth Area is a new greenfield development area with no existing local storm sewer infrastructure and is not expected to impact the existing local stormwater network. As shown on **Figure 6-7**, development will require establishment of appropriate outlets and conveyance routes to support future drainage.

- 1 – New Greenfield: A suitable outlet and drainage channel will need to be established to support future development. Full on-site stormwater management will be required to control both quantity and quality of runoff prior to discharge.
- 2 – Greenfield with No Local Storm Network: The area currently has no local storm sewer network. Full on-site SWM will be required, along with construction of a new storm sewer connection to the trunk network along Westside Road.

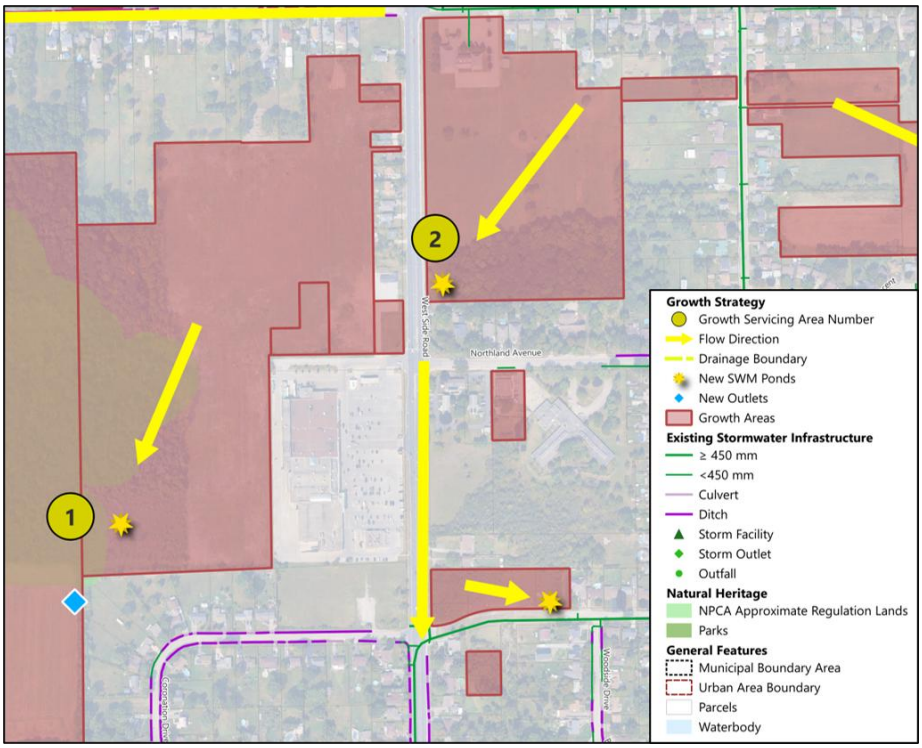


Figure 6-7: Northwestern Growth Area

6.2.9 Central Growth Area

The Central Growth Area consists of greenfield development that would connect into the existing storm sewer network. The existing system is generally performing to the desired criteria and is expected to accommodate controlled inflows from future development, subject to appropriate on-site stormwater management controls, and is shown in **Figure 6-8**.

- 1 – Greenfield Growth to Existing Storm Sewer: Development would discharge to the existing storm sewer system. The system is currently performing to the desired criteria; however, full on-site SWM will be required to control post-development flows prior to connection.
- 2 – Greenfield Growth to Existing Storm Sewer: Development would connect to the existing storm sewer network. The system is currently performing to the desired criteria; however, full on-site SWM will be required to control post-development flows prior to connection.

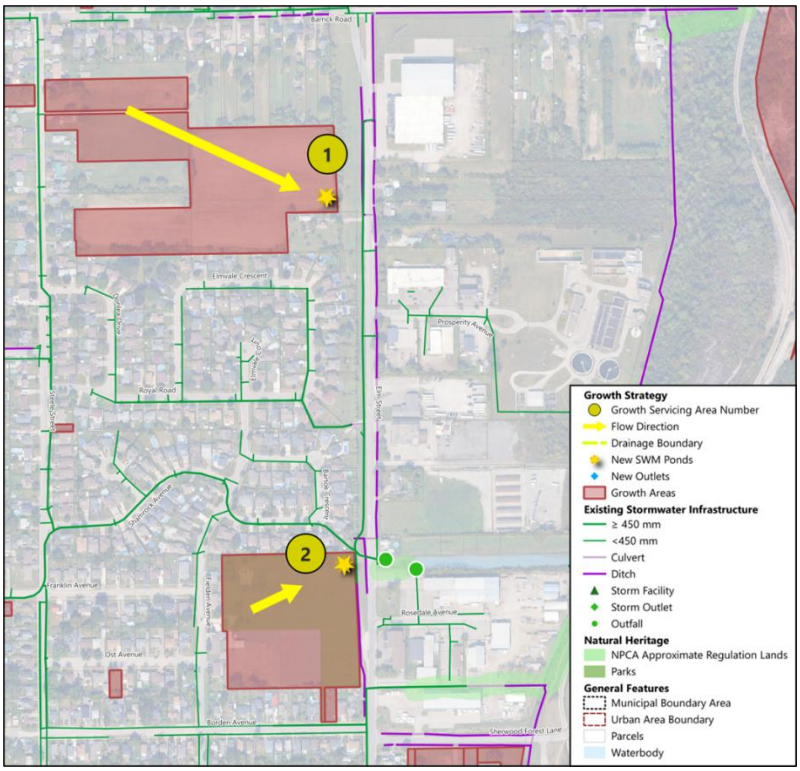


Figure 6-8: Central Growth Area

6.2.10 Northwestern Growth Area

The Northwestern Growth Area consists of greenfield development that will ultimately discharge to the existing ditch network, shown on **Figure 6-9**. The existing system is generally performing to the desired criteria. Full on-site stormwater management will be required for the growth.

- 1 – Greenfield Growth to Existing Ditch Network: Development would discharge to the existing ditch network; however, the system is currently at capacity. Full on-site SWM will be required to control post-development flows prior to connection.
- 2 – Greenfield Growth with Alternate Outlets Feasible: Alternate outlet options are feasible, with a recommendation to continue discharging to the existing ditch network. Full on-site SWM will be required to control post-development flows prior to connection.

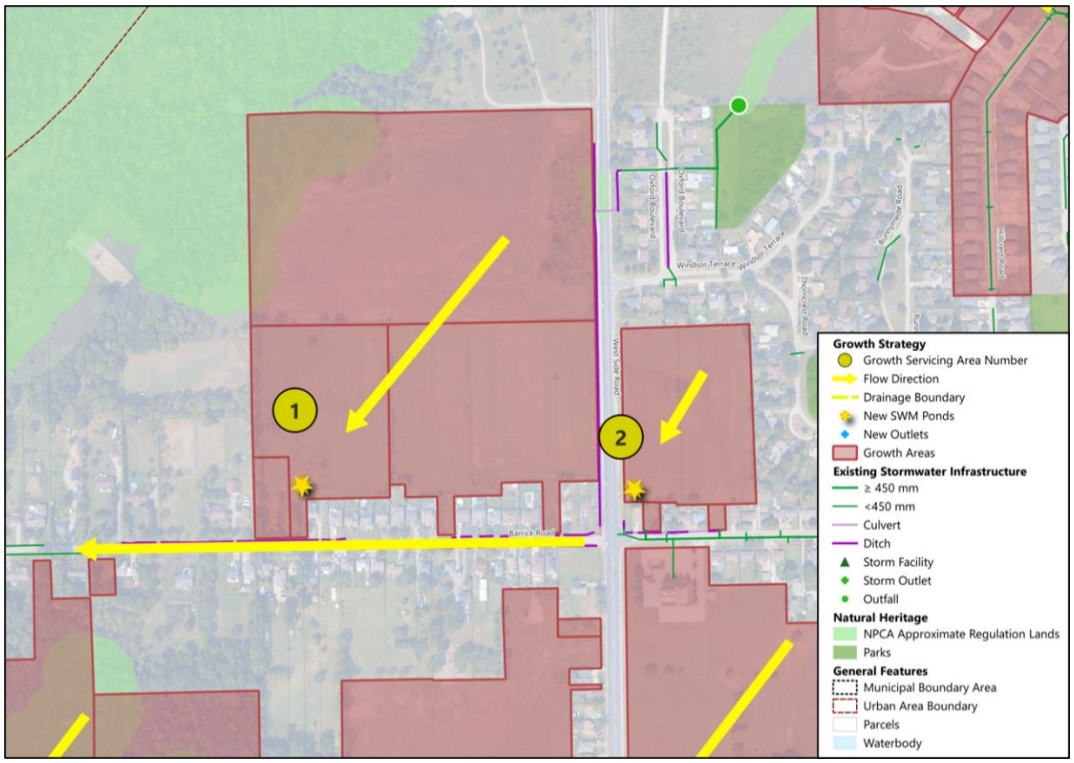


Figure 6-9: Northwestern Growth Area

6.2.11 Northwestern Growth Area

This portion of growth is located downstream of the existing storm sewer system. As such, future development is expected to integrate with the existing drainage patterns and infrastructure, as shown on **Figure 6-10**.

- Growth Downstream of Existing Storm System: Development in this area will be required to be designed in accordance with City standards. Appropriate stormwater management measures will be implemented to ensure flows are adequately controlled and downstream system performance is maintained.

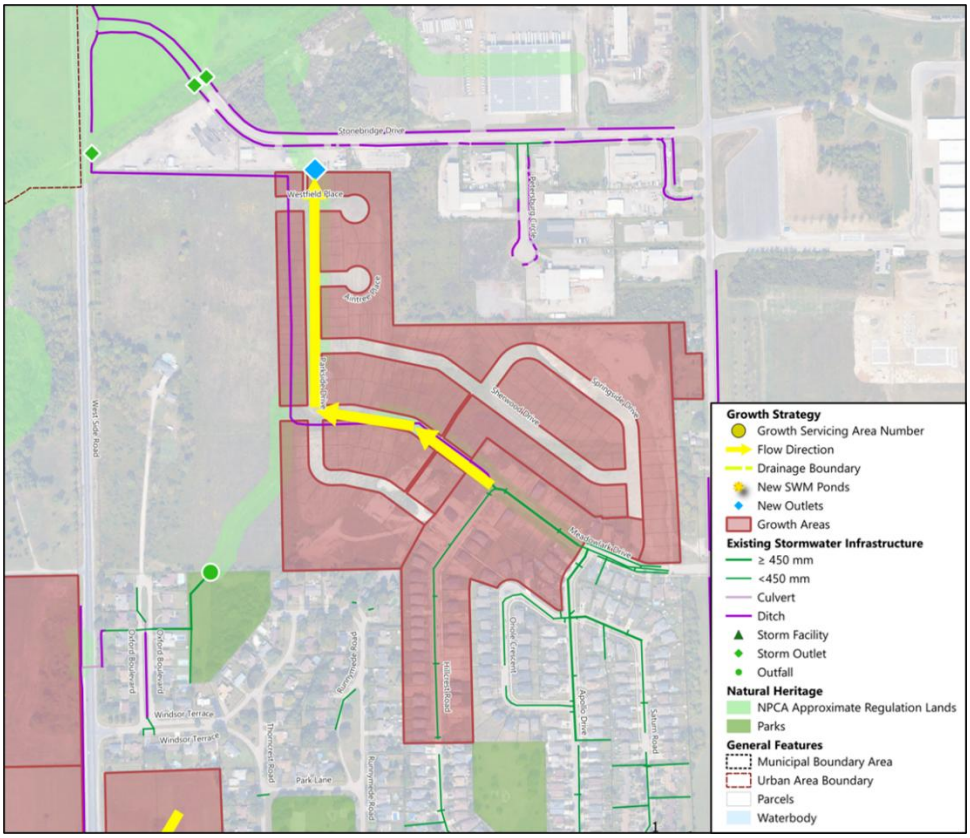


Figure 6-10: Northwestern Growth Area

6.2.12 Western Growth Area

The Western Growth Area is a new greenfield development area with no existing local storm sewer infrastructure and is not expected to impact the existing stormwater collection system. As shown on **Figure 6-11**, development will require the establishment of appropriate drainage outlets, conveyance routes, and stormwater management controls to support future growth.

- 1 – Greenfield to Municipal Drain: Existing lands generally drain toward an adjacent Municipal Drain. Development should maintain the overall drainage patterns, with runoff directed to the receiving ditch and Municipal Drain. Full on-site SWM will be required to control both quantity and quality of runoff, ensuring post-development flows do not exceed pre-development conditions. The area is not anticipated to impact the existing municipal stormwater system.
- 2 – Greenfield to Municipal Drain with New Shared Outlet: Development within this area will require routing flows toward a new shared outlet to the Municipal Drain. This outlet will also receive flows from Area 3. Full on-site SWM will be required to manage runoff quantity and quality prior to discharge.
- 3 – Similar to Area 2, development will direct flows toward the same new outlet to the receiving creek, approaching from a different drainage direction. Coordinated design of conveyance infrastructure and outlet capacity will be required to accommodate combined flows. Full on-site SWM will be required to control runoff and maintain pre-development flow conditions.
- 4 – Greenfield to Municipal Drain with New Outlet: This area is located closer to the existing stormwater system and may present opportunities to coordinate outlet works with nearby infrastructure. Development will require a separate new outlet to the receiving creek, along with supporting conveyance infrastructure. Design should consider integration with adjacent systems, overland flow routing, and potential downstream constraints to consolidate outlet and stormwater management facilities. Full on-site SWM will be required to control runoff quantity and quality prior to discharge.

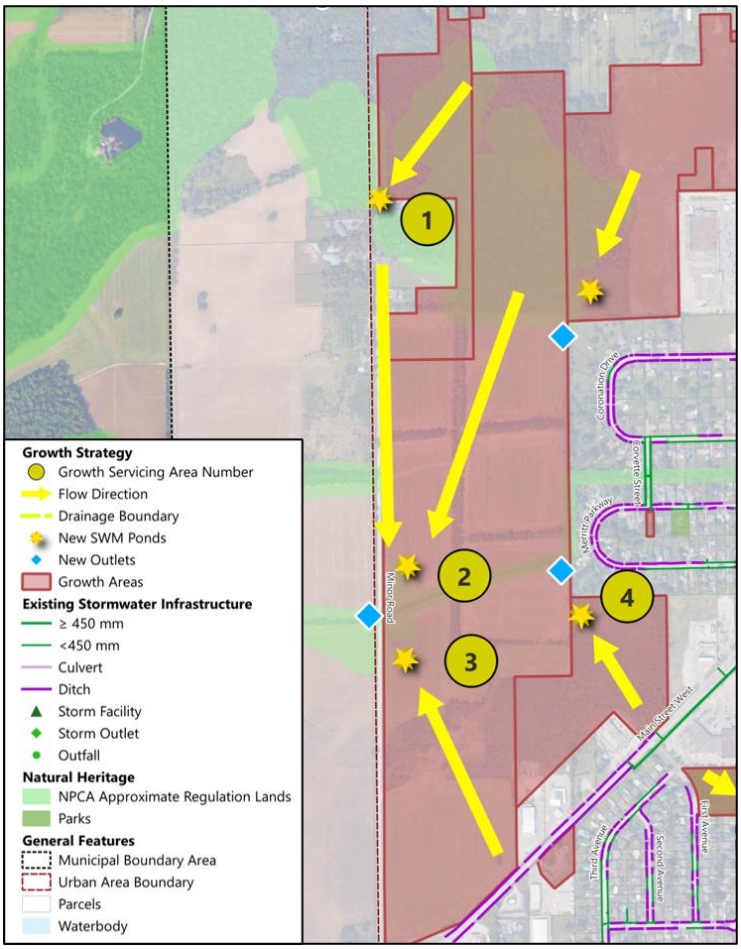


Figure 6-11: Western Growth Area

6.2.13 North Central Growth Area

The North Central Growth Area is a greenfield development area and is not expected to impact the existing stormwater network. As shown on **Figure 6-12**, a new outlet to the canal will be required to support future development.

- New Outlet to the Canal: Development will require a new discharge outlet to the canal. Appropriate SWM controls will be implemented to manage and water quality prior to discharge.

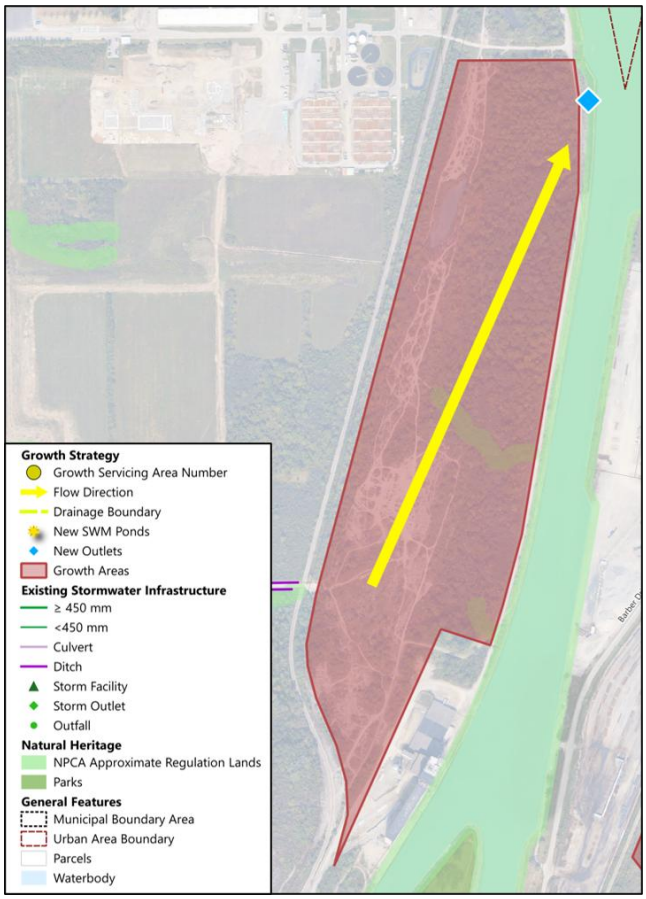


Figure 6-12: North Central Growth Area

6.3 Existing System

6.3.1 Clark Street Drainage

The Clark Street Drainage area experiences existing capacity limitations, including undersized local sewers and trunk sewer constraints. The trunk sewer is at capacity and passes through private properties, creating access and maintenance challenges. Local sewers are prone to flooding due to their size and the limited capacity of the trunk sewer, and some segments are suspected to be small-diameter infrastructure. While the Bell Street trunk sewer has adequate capacity, the overall system must accommodate multiple growth areas discharging to this network, increasing future demand.

A range of alternatives were evaluated to address both existing and future system needs:

- **Sewer Upgrades – Existing Alignment:** Utilizes the current sewer network to address capacity issues. Local sewers remain undersized for future development, and the trunk sewer still requires rehabilitation or replacement. Access and encroachment challenges limit feasibility.
- **Trunk Sewer Realignment:** Shifts the trunk sewer into road rights-of-way for improved access, maintenance, and system optimization. Enables flow diversion opportunities but requires reconstruction of local sewers and may involve routing through parklands.
- **Diversion to New Outfalls:** Reduces upstream upgrading needs and relieves downstream capacity constraints. Outfall options are constrained by canal and lock infrastructure, may require land acquisition, and additional EA processes, and does not eliminate the need for trunk sewer rehabilitation.
- **Localized Sewer Upgrades:** Targets specific areas with known flooding issues at a lower cost. While effective locally, this alternative does not address the broader system-wide deficiencies.

Table 6-1 presents the alternatives evaluated for the Clark Street Drainage Area, along with their advantages and disadvantages.

Through discussions with City staff and based on the advantages and limitations of the alternatives, a combined approach consisting of **Trunk Sewer Realignment and System Reconstruction**, along with **Localized Sewer Upgrades**, is identified as the preferred servicing strategy, as:

- The existing system does not adequately support current performance requirements or future growth.

- The preferred strategy allows for:
    - Realignment of the trunk sewer along Russell Avenue to improve access, capacity, and long-term maintainability;
    - Full reconstruction of the local sewer network north of Killaly Street to support future growth and improve system reliability;
    - Implement targeted local sewer upgrades to resolve localized capacity bottlenecks; and
    - Completion of detailed sewer investigation and inspection to confirm existing conditions, identify rehabilitation needs, and validate design assumptions for implementation.

Table 6-1: Clark Street Drainage Alternatives Evaluation

		Sewer Upgrades – Existing Alignment			Trunk Sewer Re-alignment and System Reconstruction			Diversion to New Outfalls			Localized Sewer Upgrades		
													
Advantage		• Leverage existing network			• Shifts the trunk sewer into road right-of-way for better access and long-term maintenance • Allows system optimization and flow diversions to address other system issues • Addresses trunk sewer rehabilitation/replacement needs			• Potential to minimize total sewer upgrade needs • Potential to address downstream capacity issues			• Addresses localized capacity issues • Minimizes implementation costs		
Disadvantage		• Existing trunk sewer alignment has access and encroachment issues • Local network is deficient and does not support potential developments • Trunk sewer still requires rehabilitation or replacement			• Requires reconstruction of local storm sewer network • Requires diversion through parklands			• Outfall location may be limited due to canal locks • New outfall likely to require land acquisition and additional EA investigation • Trunk sewer needs rehabilitation/replacement			• Does not address broader system-wide issues		
Financial	**Capital Cost**	Medium			High			Medium			Low		
	O&M Cost	Medium			Low			Medium			Low		
Evaluation		**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**
		Medium	High	Medium	High	High	High	Low	Medium	Medium	Low	High	High
Recommended Alternative		**Not Recommended:** Does not address long-term operation and maintenance issues in the existing trunk sewer and provides limited opportunity to address local system deficiencies.			**Recommended:** Addresses long-term operation and maintenance issues in the existing trunk sewer and provides opportunities to reconfigure local system.			**Not Recommended:** Due to technical challenges related to securing and constructing a new outlet, it does not address long-term operation and maintenance issues of the existing trunk sewer.			**Recommended:** To address localized issues.		

6.3.2 Clark Street Outlet

The Clark Street outlet is constrained by downstream water levels and limited discharge capacity, particularly during periods of high lake levels. Outlet performance is currently insufficient to fully convey peak flows from the drainage area, and high lake levels further reduce system effectiveness. A range of alternatives was evaluated to improve outlet performance, reduce flooding risk, and better manage flows during elevated lake levels:

- **Status Quo:** Maintains the existing system with minimal disruption and relies on current storage to manage peak flows. This approach does not provide protection against elevated lake levels.
- **Capacity Upgrades:** Increases outlet conveyance capacity to reduce flooding risk. This alternative does not address high lake level conditions and requires coordination of works within the canal.
- **Flood Protection and Storage Improvements:** Provides protection against high lake levels while increasing storage to manage peak flows and flows during elevated lake conditions. Implementation may involve environmental considerations related to canal bank or ditch works and requires coordinated construction within the canal.
- **Real-Time Control:** Utilizes operational controls to optimize existing infrastructure at relatively low cost. This approach provides system-wide benefits but may result in a minor increase in flooding risk in the Elizabeth Street area.

Table 6-2 presents the concepts along with their advantages and disadvantages. A hybrid approach incorporating **Capacity Upgrades, Flood Protection and Storage Improvements,** and **Real-Time Control** is identified as the preferred servicing strategy, as:

- No single alternative fully addresses the range of outlet constraints, particularly under varying lake level conditions.
- The preferred strategy allows for:
- Implement targeted sewer upgrades in the Bell Street Area to resolve localized capacity bottlenecks;
    - Increase outlet capacity to better manage system flows;
    - Integrate flood-protection measures to guard against high lake levels;
    - Rehabilitate and strengthen the drainage channel along Canal Bank Road;
    - Where feasible, expand storage capacity through in-ditch improvements or retention features; and

- Install real-time control mechanisms at Johnston Pump Station to delay pumping when canal storage is in use.

Table 6-2: Clarke Area Outlet Alternatives Evaluation

		Status Quo			Capacity Upgrades			Flood Protection and Storage Improvements			Real-time Control		
													
Advantage		• Maintains the existing system with minimal disruption • Utilizes current storage to manage peak flows			• Increases conveyance to reduce flooding risk			• Protects against high lake levels • Increases storage capacity to manage peak flows and/or flows during high lake levels			• Limited implementation cost; operation controls • Optimizes use of existing infrastructure		
Disadvantage		• Does not protect against high lake levels			• Does not protect against high lake levels • Requires coordination of works in the canal			• Potential environmental issues with the canal bank ditch improvements • Requires coordination of work in the canal			• Minor increase in flooding risk to Elizabeth Street Area		
Financial	**Capital Cost**	Low			Medium			Medium			Low		
	O&M Cost	Low			Low			Medium			Medium		
Evaluation		**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**
		Low	High	Low	Medium	Medium	Medium	High	Low	High	Medium	High	High
Recommended Alternative		**Not Recommended:** Does not address flooding issues			**Recommended as Part of Hybrid Solution:** Minimizes risk of flooding, and ensures storage is available during high lake levels.			**Recommended as Part of Hybrid Solution:** Best protection against high lake levels.			**Recommended as Part of Hybrid Solution:** Low-cost solution and provides additional benefit.		

6.3.3 Elm Street & King Street North

The Elm Street and King Street North area system, generally consisting of west of the canal draining directly to the Canal via eight (8) primary outlets and several smaller outlets, is constrained by limited outlet capacity and is sensitive to elevated lake levels, resulting in localized flooding and reduced system performance. An assessment of system capacity indicates that outlet performance is generally adequate under typical conditions but becomes restricted during high lake levels. Portions of the system that were not formally designed are limited in their conveyance capacity, further contributing to localized flooding and operational constraints.

A range of alternatives were evaluated to address both existing deficiencies and future servicing needs:

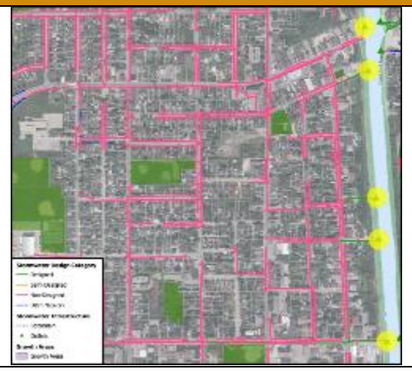
- **Outlet Flood Protection:** Focuses on inspection and rehabilitation of existing outlets to reduce backwater effects and provide partial protection from elevated lake levels. This approach does not increase overall system capacity and remains vulnerable during extreme lake conditions. Implementation requires construction within the canal corridor.
- **Localized Sewer Upgrades:** Improves conveyance within the existing network by addressing undersized sewers and localized capacity constraints. This approach leverages existing outlet capacity but is limited by downstream restrictions and does not provide protection from high lake levels.
- **Outlet Capacity Upgrades:** Increases outlet conveyance capacity, typically in combination with local network improvements. This approach can provide additional storage benefits when paired with flood protection measures; however, outlet options are constrained by canal lock locations and remain susceptible to elevated lake levels. Implementation requires coordinated work within the canal.
- **Diversion and Pumping:** Introduces a new trunk sewer and pump station to convey flows during high lake level conditions. This approach provides protection from elevated lake levels and significantly improves overall system performance. However, it requires substantial new infrastructure and results in higher long-term operating costs associated with pumping.

Table 6-3 presents the alternatives along with the advantages and disadvantages. Through discussions with City staff and based on the relative advantages and limitations of the

alternatives, a hybrid approach incorporating **Outlet Flood Protection** and **Localized Sewer Upgrades** is identified as the preferred servicing strategy.

- The preferred strategy consists of:
    - Construct a new trunk sewer along Neff Street to enhance system capacity and connectivity;
    - Build a new trunk sewer along Field Avenue to support future growth and reliability;
    - Implement local sewer improvements on Charles Street to address existing deficiencies;
    - Upgrade local sewers on Minto and Erie Streets to improve flow and service reliability; and
    - Enhance outlet performance through inspection, rehabilitation, and flow protection measures.

Table 6-3: Elm Street and King Street North Alternatives Evaluation

		Outlet Flood Protection			Localized Sewer Upgrades			Outlet Capacity Upgrades			Diversion and Pumping		
													
Advantage		• Partial protection from high lake levels			• Addresses localized capacity issues • Leverages existing outlets and capacity • Improves conveyance and capacity			• Provides additional capacity to improve local system performance • Can provide additional storage when paired with outlet flood protection			• Protects against high lake levels with pump operating • Can provide substantial improvement in system performance		
Disadvantage		• No increase in system capacity • Still vulnerable during extreme lake conditions • Requires canal-side construction			• Limited by existing outlet capacity • Does not protect against high lake levels			• Outlet options constrained by canal lock locations • Still susceptible to high lake levels • Requires coordinated work in the canal			• Requires substantial infrastructure investment • Higher long-term operating costs due to pumping		
Financial	**Capital Cost**	Low			Low			Medium			High		
	O&M Cost	Low			Low			Low			High		
Evaluation		**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**
		High	Medium	High	High	High	High	Medium	Medium	Medium	Low	Low	Low
Recommended Alternative		**Recommended as Part of Hybrid Solution:** Provides partial protection against high lake levels			**Recommended as Part of Hybrid Solution:** Targeted upgrades to address highest flood risk areas			**Not Recommended:** Outlets sufficiently sized to support existing design objectives. Upsizing provides marginal benefit.			**Not Recommended:** High implementation and operational cost.		

6.3.4 Elm Street & King Street South

The Elm Street and King Street South systems experience capacity limitations and are sensitive to downstream constraints, particularly during periods of elevated lake levels. An assessment of system capacity indicates that outlet performance is significantly influenced by lake levels, with generally adequate capacity under typical conditions and restricted capacity during high lake levels. Much of the existing, undesigned system performs adequately under normal conditions; however, there remains potential to service areas draining to the south, subject to outlet capacity constraints. A range of alternatives were evaluated to improve system performance and address existing and future servicing needs:

- **Outlet Flood Protection:** Focuses on inspection and rehabilitation of existing outlets to reduce backwater effects and provide partial protection from elevated lake levels. This approach does not increase system capacity and remains vulnerable during extreme lake conditions. Implementation requires construction within the canal corridor.
- **Redirection of Drainage Areas:** Redirects flows to leverage available capacity within adjacent systems and existing outlets. This approach can improve conveyance and address localized capacity issues; however, it is constrained by downstream outlet capacity and does not provide protection from high lake levels.
- **Outlet Capacity Upgrades:** Increases outlet conveyance capacity, typically in combination with local network improvements. This approach can provide additional storage benefits when paired with flood protection measures; however, outlet options are constrained by canal lock locations and remain susceptible to elevated lake levels. Implementation requires coordinated work within the canal.
- **Diversion and Pumping:** Introduces a new trunk sewer and pump station to convey flows during high lake level conditions. This approach provides protection from elevated lake levels and significantly improves overall system performance. However, it requires substantial new infrastructure and results in higher long-term operating costs associated with pumping.

Table 6-4 presents the four concepts along with their advantages and disadvantages. **Outlet Flood Protection** is identified as the preferred servicing strategy, as:

- The primary system constraint is related to outlet performance and sensitivity to elevated lake levels.
- The preferred strategy allows for:

- Inspect and rehabilitate outlets to maintain structural integrity and hydraulic performance; and
- Implement flow protection measures to reduce erosion and enhance system reliability.

Table 6-4: Elm Street and King Street South Alternatives Evaluation

		Outlet Flood Protection			Redirection of Drainage Areas			Outlet Capacity Upgrades			Diversion and Pumping		
													
Advantage		• Partial protection from high lake levels • Reduces backwater effects at the outlet			• Leverages existing outlets and capacity • Improves conveyance and capacity • Addressed localized capacity issues			• Provides additional capacity to improve local system performance • Can provide additional storage when paired with outlet flood protection			• Protection from high lake levels • Can provide substantial improvement in system performance		
Disadvantage		• No increase in system capacity • Still vulnerable during extreme lake conditions • Requires canal-side construction			• Limited by existing outlet capacity • No protection from high lake levels			• Outlet options constrained by canal lock locations • Still susceptible to high lake levels • Required coordinated work in the canal			• Requires significant new infrastructure • Higher long-term operating costs due to pumping		
Financial	**Capital Cost**	Low			Medium			Medium			High		
	O&M Cost	Low			Low			Low			High		
Evaluation		**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**	**Technical**	**Environ-mental**	**Social Cultural**
		High	Medium	High	Medium	High	High	Medium	Medium	Medium	Low	Low	Low
Recommended Alternative		**Recommended:** Provides partial protection against high lake levels			**Not Recommended:** Limited by capacity of existing drainage network			**Not Recommended:** Outlets sufficiently sized to support existing design objectives. Upsizing provides marginal benefit.			**Not Recommended:** High implementation and operational cost.		

6.3.5 Sugarloaf Area

The Sugarloaf area is constrained by outlet capacity and system configuration uncertainties, with performance significantly influenced by downstream lake levels. An assessment of system capacity indicates that outlet performance is generally adequate under typical conditions but becomes restricted during periods of elevated lake levels. Portions of the undesigned system are also limited in their conveyance capacity, contributing to localized constraints.

Improvements to the local system are likely to increase flows to the outlet, which may further exacerbate downstream capacity limitations. Additional pressures on the system are anticipated from upstream development along Rosemount Avenue. There is also a high degree of uncertainty in the local system configuration and outlet conditions, which affects the identification and prioritization of improvements. Opportunities exist to divert flows to adjacent catchments to the east or west to help reduce system demand.

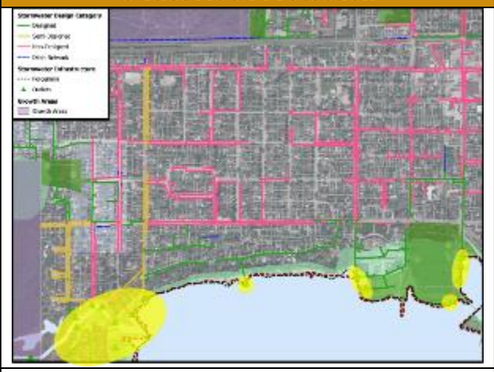
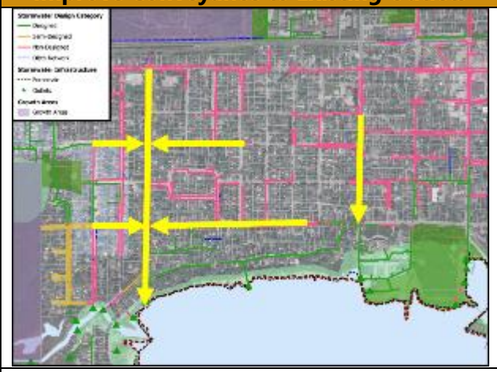
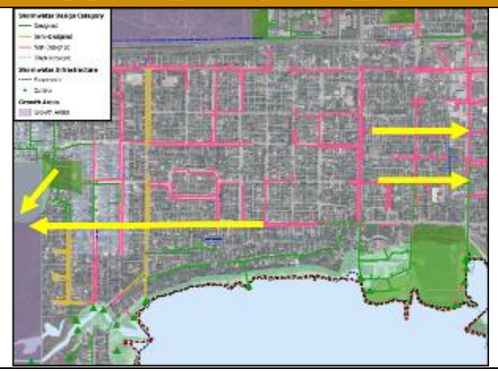
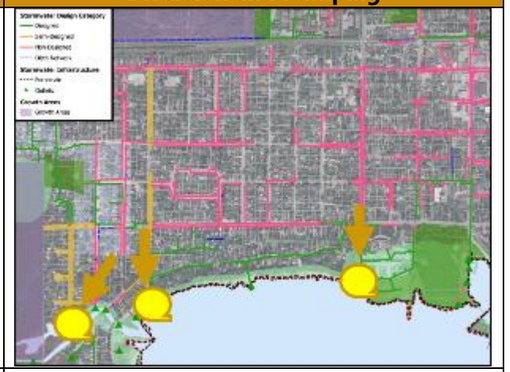
A range of alternatives were evaluated to address both existing deficiencies and future servicing needs:

- **Outlet Flood Protection:** Provides flood protection at outlets to reduce the impacts of elevated lake levels and includes inspection and rehabilitation of existing infrastructure to maintain performance. This approach requires lakeshore work and does not increase system capacity for future growth.
- **Improve Conveyance to Existing Outlets:** Involves construction of new trunk sewers and improvements to existing outfalls to increase system capacity. This approach addresses existing system condition issues and can be coordinated with planned road improvements while supporting future growth areas. Implementation may require substantial upgrades and lakeshore construction.
- **Divert Flows to Other Catchments:** Enhances capacity within undesigned systems to better serve local areas and diverts minor flows to adjacent east and west catchments to reduce demand on the trunk system. This approach has limited impact on overall system capacity and may be constrained by timing and downstream development.
- **Diversion and Pumping:** Intercepts and diverts flows along Sugarloaf to the west into new development areas and incorporates pump stations at outfalls to operate during elevated lake levels. This approach can be combined with conveyance upgrades to improve overall system performance but requires significant infrastructure investment and results in increased long-term operating costs.

Table 6-5 presents the four concepts along with their advantages and disadvantages. Through discussions with City staff and based on the relative benefits of the alternatives, a hybrid strategy combining **Outlet Flood Protection** and **Improved Conveyance to Existing Outlets** is recommended, as:

- The area is constrained by outlet capacity, high lake levels, and an undesigned local system with uncertain configuration.
- The preferred strategy allows for:
    - Provide an outlet to the development area north of Clarence Street;
    - Provide capacity to allow partial diversion of flow away from Quarry Ponds;
    - Construct new trunk sewers along Rosemount Avenue, Sugarloaf Street, and Stanley Street to improve system capacity and reliability;
    - Provide upgraded outlets to support existing and future drainage areas;
    - Upgrade local trunk sewers on Steele Street and Ash Street to address current deficiencies and improve flow performance;
    - Inspect and rehabilitate existing outlets to maintain structural integrity; and
    - Implement flow protection measures to reduce erosion and improve system reliability.

Table 6-5: Sugarloaf Area Alternatives Evaluation

<table>
<tr><th colspan="2"></th><th>Outlet Flood Protection</th><th>Improve Conveyance to Existing Outlets</th><th>Divert Flows to Other Catchments</th><th>Diversion and Pumping</th></tr>
<tr><td colspan="2"></td><td>  </td><td>  </td><td>  </td><td>  </td></tr>
<tr><td colspan="2">Advantage</td><td>• Partial protection against high lake levels</td><td>• New trunk sewer and outlets provide the required system capacity
• Addresses existing system condition and aligns with planned Sugarloaf Road rehabilitation
• Supports future growth areas</td><td>• Divert minor flows to east and west catchments to reduce trunk demand</td><td>• Protects against high lake levels
• Can provide substantial improvement in system performance</td></tr>
<tr><td colspan="2">Disadvantage</td><td>• Does not increase system capacity
• Still susceptible to high lake levels
• Requires work along the lake shore
• Existing system conditions and rehabilitation requirements remain
• Does not provide capacity for growth areas</td><td>• Substantial upgrades required
• Does not protect against high lake levels
• Requires work along the lakeshore</td><td>• Diversions are insufficient to address capacity issues
• May not provide capacity for growth areas
• Triggers additional downstream upgrades
• Timing and downstream development may constrain effectiveness
• Still susceptible to high lake levels</td><td>• Requires substantial infrastructure investment
• Increased operational cost due to pumping</td></tr>
<tr><td rowspan="2">Financial</td><td>Capital Cost</td><td>Low</td><td>Medium</td><td>Low</td><td>High</td></tr>
<tr><td>O&M Cost</td><td>Low</td><td>Low</td><td>Low</td><td>High</td></tr>
<tr><td colspan="2" rowspan="2">Evaluation</td><td>Technical</td><td>Environ-mental</td><td>Social Cultural</td><td>Technical</td><td>Environ-mental</td><td>Social Cultural</td><td>Technical</td><td>Environ-mental</td><td>Social Cultural</td><td>Technical</td><td>Environ-mental</td><td>Social Cultural</td></tr>
<tr><td>Medium</td><td>Medium</td><td>High</td><td>High</td><td>Medium</td><td>Medium</td><td>Medium</td><td>Medium</td><td>Medium</td><td>Low</td><td>Low</td><td>Low</td></tr>
<tr><td colspan="2">Recommended Alternative</td><td colspan="3">Recommended as Part of Hybrid Solution: Provides partial protection against high lake levels</td><td colspan="3">Recommended as Part of Hybrid Solution: Addresses existing system capacity issues and provides capacity for growth areas.</td><td colspan="3">Not Recommended: Trunk upgrades still required and triggers additional downstream upgrades. Limited by the timing of development.</td><td colspan="3">Not Recommended: High implementation and operational cost.</td></tr>
</table>

6.4 Local Servicing Needs

The following sections outline the local stormwater servicing needs and requirements for each local drainage area, with the objective of providing guidance on the recommended improvements for stormwater infrastructure.

6.4.1 Chippawa Road Area

The proposed stormwater improvements for the Chippawa Road area are focused on addressing existing capacity limitations and improving overall system reliability (**Figure 6-13**). Key components of the plan include:

- Redirecting flows from Chippawa Road to the Wellington Street trunk sewer.
- Upgrading the Wellington Street sewer to provide adequate conveyance for current and future flows.
- Implementing localized drainage improvements along Chippawa Road and Berkley Avenue to reduce flooding risk.

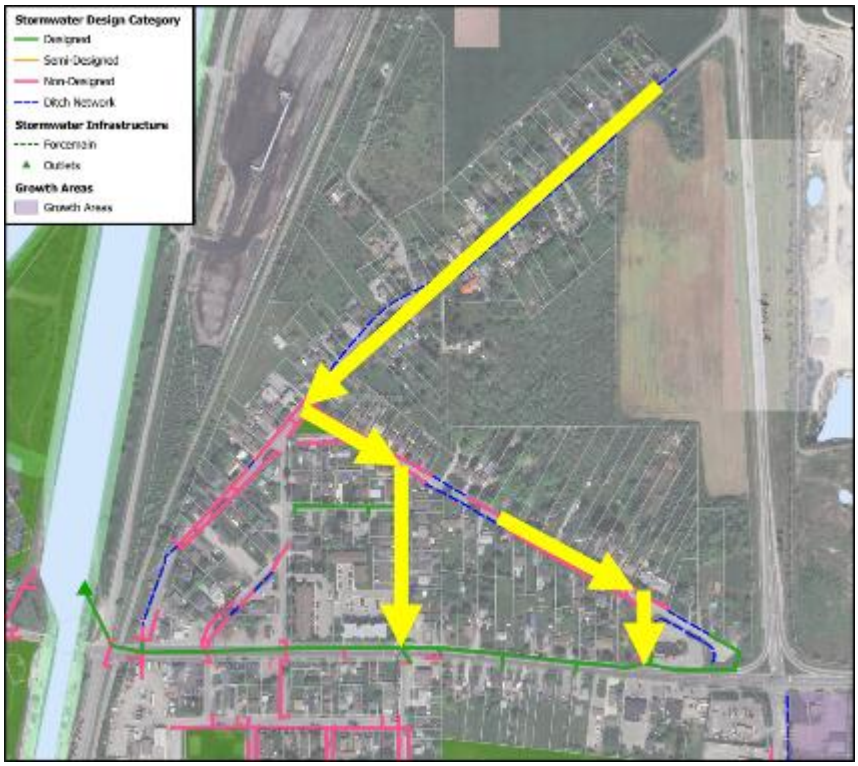


Figure 6-13: Chippawa Road Area

6.4.2 Third Avenue Area

The proposed stormwater improvements for the Third Avenue area are designed to address localized capacity constraints and support future growth (**Figure 6-14**). Key elements include:

- Investigating and confirming sizing requirements for local culverts and roadside ditches.
- Upgrading sewers and ditch drainage along Killaly Street and West Side Road to improve conveyance.
- Implementing targeted drainage improvements on Third Avenue and Sheba Crescent to reduce flooding risk.
- Coordinating all upgrades with planned growth to ensure long-term system performance.

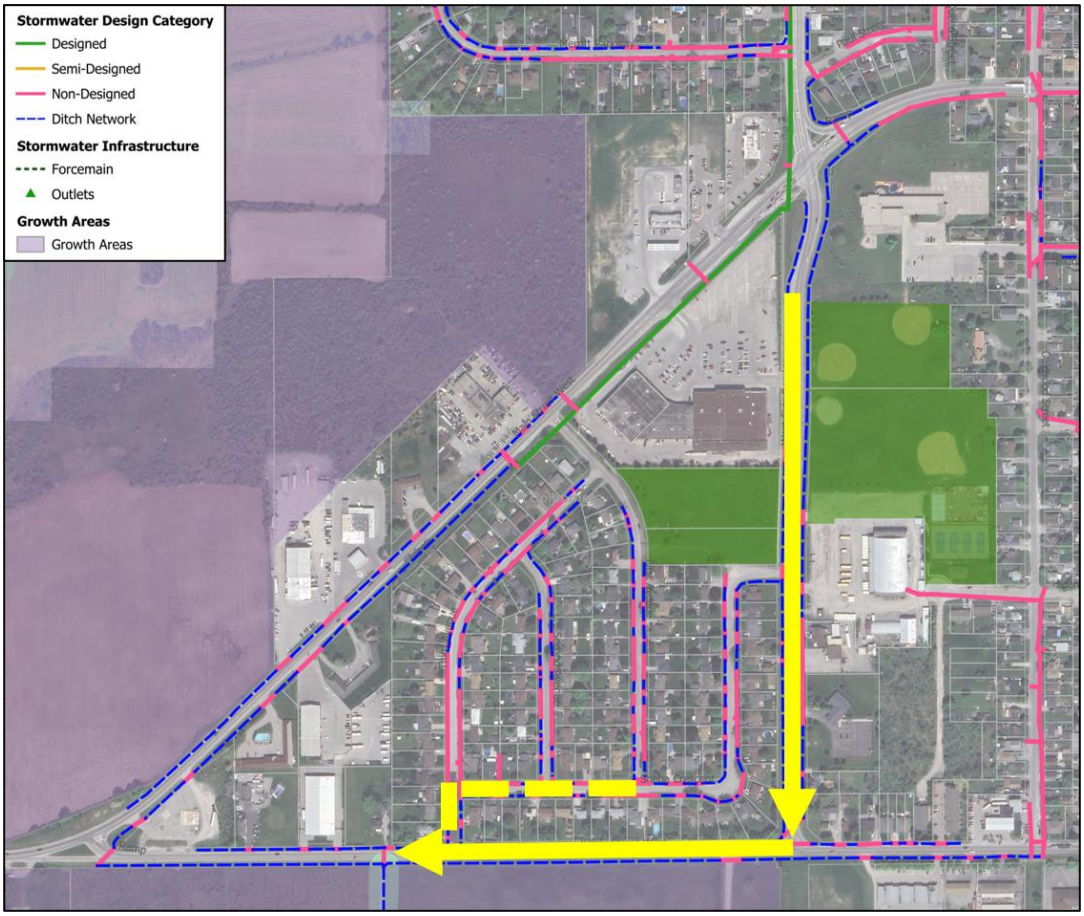


Figure 6-14: Third Avenue Area

6.4.3 Omer Avenue Area

The proposed stormwater improvements for the Omer Avenue area are intended to enhance system capacity and support coordinated infrastructure planning (**Figure 6-15**). Key elements include:

- Constructing new sub-trunk sewers along Fielden Avenue and Omer Avenue/Steele Street to expand conveyance capacity.
- Implementing partial flow re-direction to relieve constraints and improve performance along Main Street.
- Coordinating timing with planned wastewater upgrades to maximize corridor efficiency.

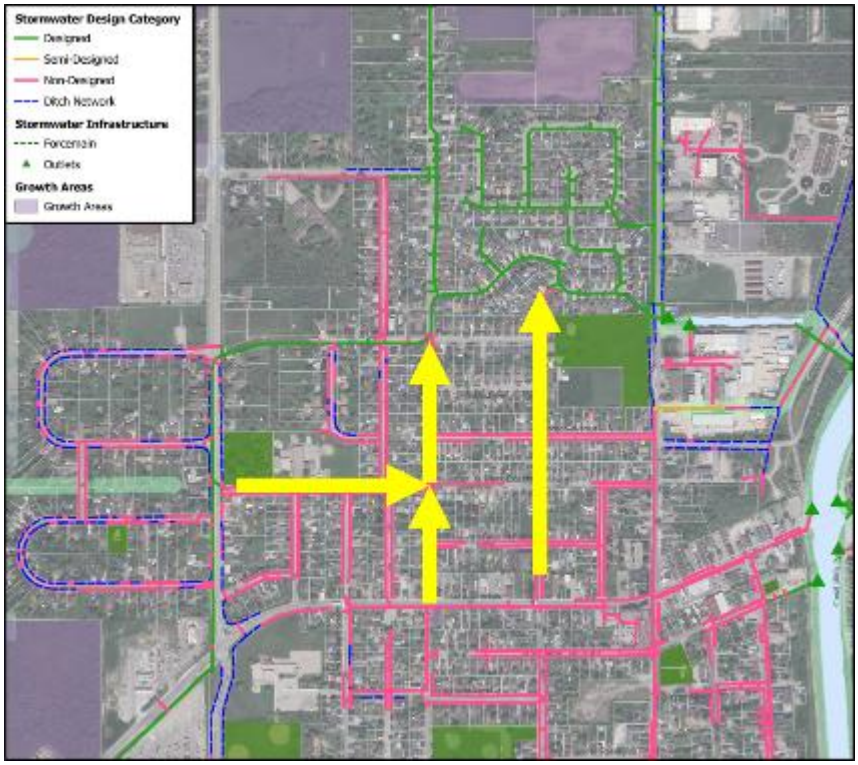


Figure 6-15: Omer Avenue Area

6.4.4 Lakeshore Road Area

The proposed stormwater considerations for the Lakeshore Road Area are focused on maintaining system performance and addressing localized constraints (**Figure 6-16**). Key elements include:

- Confirming that existing outlets and drainage ditches have sufficient capacity to accommodate flows under typical conditions.
- Recognizing that elevated lake levels can negatively impact system performance and drainage in the area.
- Identifying capacity constraints associated with the undersized Lakeshore Road West infrastructure.
- Assigning a low priority to further upgrades based on current system performance and available outlet capacity.

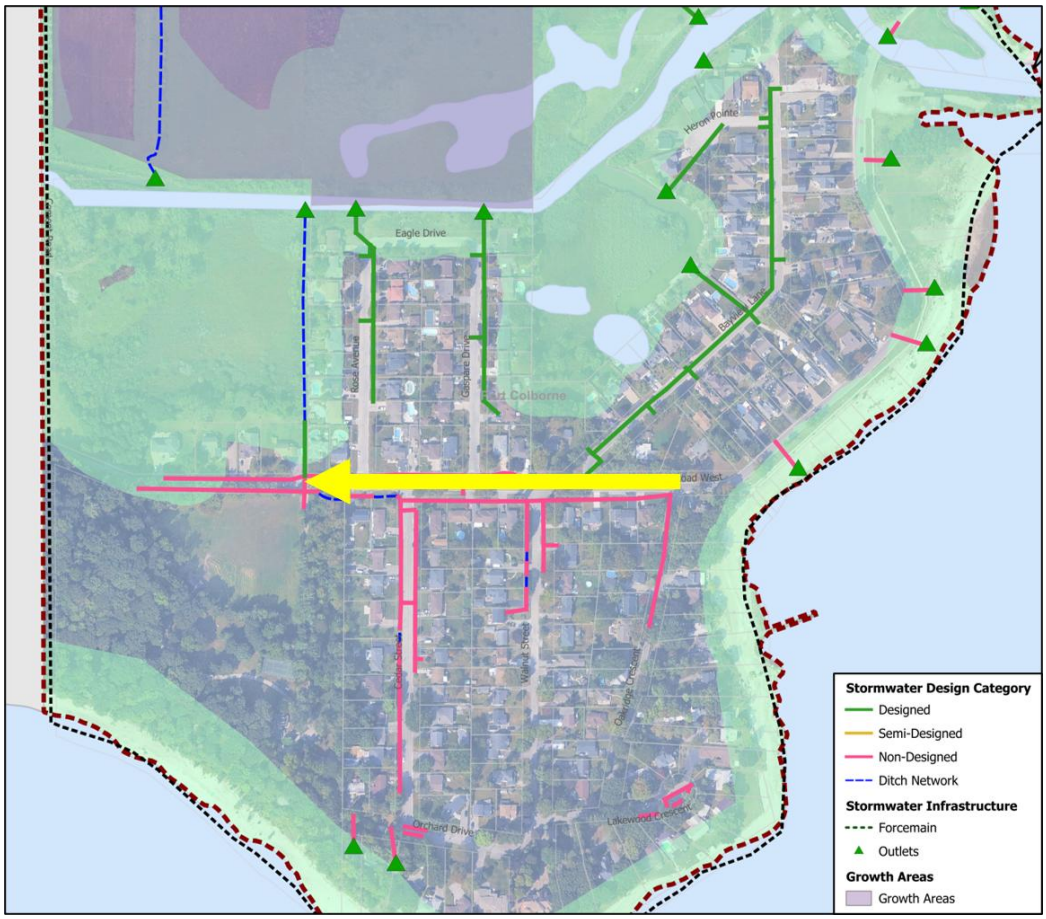


Figure 6-16: Lakeshore Road Area

7 Preferred Stormwater Servicing Strategy

The City of Port Colborne's understanding of the existing stormwater system, including its condition and performance, continues to develop. The City is continuously working to build and improve the stormwater datasets to remove uncertainties.

Throughout the development of this MSP, the approach to stormwater infrastructure focused on a high-level assessment of the existing system, local servicing needs, and potential growth servicing strategies. The goal was to establish an overall vision and framework for the management of the stormwater system, while recognizing that detailed timing, phasing, and site-specific designs remain to be determined.

This assessment and evaluation inform preliminary servicing strategies, including:

- **Existing System Servicing Strategies:** Review and evaluation of current system performance and recommended improvements for key drainage areas.
- **Trunk Servicing Needs:** Identification of trunk and neighbourhood capacity constraints, outlet limitations, and potential targeted upgrades.
- **Growth Servicing Recommendations:** Provisional plans for new development, including general system needs and potential connections to the existing system.

The strategies identified in this MSP provide guidance for future detailed studies and capital planning. Subsequent investigations, fieldwork, and site-specific SWM studies will refine the understanding of system condition and performance, confirm servicing objectives, and finalize specific upgrade needs.

7.1.1 Upgrade of Local Stormwater Network within Undesigned Areas

The MSP does not identify the detailed local stormwater system upgrades needed to fully address stormwater servicing needs within the existing undesigned areas. The recommended MSP capital program identifies areas with undersized trunk and local conveyance capacity constraints and recommends preliminary preferred trunk network upgrades needed to support upgrading the local stormwater collection system to current City standards.

The timing and trigger for the local stormwater system upgrades will vary based on local conditions, including replacement of failing infrastructure, roadway improvements, replacement/upgrading of other underground infrastructure, local infill development, etc. The MSP establishment of the trunk stormwater system upgrades will allow the City to appropriately plan, coordinate, and design the local sewer upgrades in an overall coordinated manner.

7.2 Preferred Stormwater Servicing Strategy Overview

The preliminary preferred stormwater servicing strategy is organized into major drainage areas and local servicing areas, with both system-wide and localized upgrades identified. The strategy has been developed to address existing deficiencies, while ensuring that future growth, expansion, and intensification are accommodated in a manner that maintains or improves post-development conditions relative to existing conditions. The preferred stormwater servicing strategy is presented in **Figure 7-1**.

A summary of the preliminary preferred stormwater servicing strategy is as follows:

Major Drainage Areas:

- **Clark Street Drainage Area:** Implement trunk sewer realignment along Russell Avenue, full reconstruction of the local sewer network north of Killaly Street to improve reliability.
- **Clark Street Outlet:** Undertake capacity upgrades, implement flood protection and storage improvements, and integrate real-time control measures to optimize system performance.
- **Elm Street & King Street North:** Implement outlet flood protection measures and targeted local sewer upgrades, including new trunk sewers along Neff Street and Fielden Avenue, and local improvements along Charles, Minto, and Erie Streets.
- **Elm Street & King Street South:** Inspect and rehabilitate outlets to maintain structural integrity and implement flow protection measures to enhance reliability.
- **Sugarloaf Area**: Implement outlet flood protection and improve conveyance to existing outlets, including construction of new trunk sewers along Rosemount Avenue, Sugarloaf Street, and Stanley Street, upgrades on Steele Street and Ash Street, and partial flow diversion to reduce trunk demand.

Local Servicing Areas:

- **Chippawa Road Area:** Address existing capacity limitations and improve overall system reliability by redirecting flows to the Wellington Street trunk sewer, upgrading the Wellington Street sewer to provide adequate conveyance, and implementing localized drainage improvements along Chippawa Road and Berkey Avenue.
- **Third Avenue Area:** Improve local conveyance and reduce flooding risk through targeted upgrades to sewers and roadside ditches along Killaly Street and West Side Road, drainage improvements along Third Avenue and Sheba Crescent, and coordination with planned growth.

- **Omer Avenue Area:** Enhance system capacity and performance through construction of new sub-trunk sewers along Fielden Avenue and Omer Avenue/Steele Street, partial flow re-direction along Main Street, and coordinated timing with planned wastewater upgrades.
- **Lakeshore Road Area:** Maintain overall system performance by relying on available outlet capacity, while recognizing potential impacts from elevated lake levels. Improvements to Lakeshore Road West have addressed previous conveyance constraints, and no major upgrades are currently recommended beyond monitoring and minor localized improvements as needed.

Outlet Upgrades

- **Capacity Upgrades:** Implement capacity upgrades to the Bell Street and Rosemount Avenue outfalls to accommodate increased peak flows due to the upgrading of the existing non-designed and semi-designed systems.
- **Flooding Protection:** For existing outlets discharging to Lake Erie and the Welland Canal south of Lock 8, rehabilitate and install new backflow protection to protect against high lake level conditions
- **New Outlet:** Explore potential overflow option for the Quary Ponds.

The strategies summarized above will require additional, subcatchment-specific investigations and fieldwork to refine design details, confirm infrastructure requirements, and finalize implementation priorities.

PORT COLBORNE

City of Port Colborne

Water and Stormwater Master Plan

Stormwater Capital Program

- S-W-01
- S-W-02
- S-W-07
- S-W-08
- S-W-09
- S-W-10
- S-W-11
- S-W-12
- S-W-13
- S-W-14
- S-W-15
- S-W-16
- S-W-17
- S-W-18
- S-W-19
- S-W-20
- S-W-21
- S-W-22
- S-W-23
- S-W-24
- S-W-25
- S-W-26
- S-W-27
- S-W-28
- S-W-29
- S-W-30
- S-W-31
- S-W-32
- S-W-33
- S-W-34
- S-W-35
- S-W-36
- S-W-37
- S-W-38
- S-W-39
- S-W-40
- S-W-41
- S-W-42
- S-W-43
- S-W-44
- S-W-45
- S-W-46
- S-W-47
- S-W-48
- SWM Ponds
- Outlets

Existing Infrastructure

- ≥ 450 mm
- <450 mm
- Culvert
- Ditch
- Forcemain
- Storm Facility
- Outlets

General Features

- Municipal Boundary Area
- Urban Area Boundary
- Waterbody

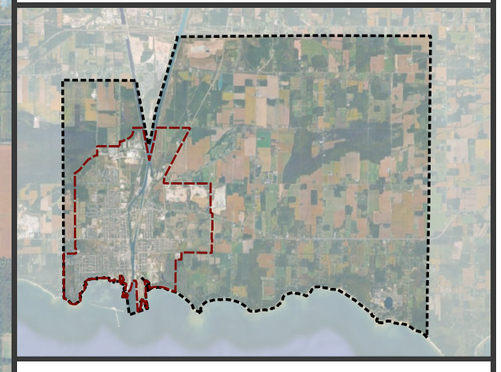


Figure 7-1
Preferred Servicing Strategy

0 1 2 km

Agile INFRASTRUCTURE

May 2026
P01.002.01
EPSG:26917

7.3 Capital Program

The preferred stormwater servicing strategy has been developed to support the servicing needs of the existing and future growth areas within the City of Port Colborne. The capital costs for each project of the Preferred Strategy were estimated according to the costing methodology within **Volume 2**. A detailed listing of all projects, including individual project numbers, is provided in **Table 7-3**. **Table 7-1** summarizes the projects by Area. **Table 7-2** further summarizes the capital program by Benefit to Existing classification, distinguishing projects that primarily address existing system needs from those required to support growth-related servicing requirements.

Table 7-1: Capital Program Summary by Project Type

	Length	Estimated Cost ($)
Omer	1,155	$ 5,659,000
King Street	1,520	$ 6,679,000
Sugarloaf	2,766	$ 24,241,000
Clarke	4,887	$ 25,304,000
Chippawa	784	$ 2,832,000
Third Ave	634	$ 2,823,000
Lakeshore	359	$ 1,206,000
Corvette	158	$ 484,000
Total	**12,262**	**$ 69,228,000**
Outlet Improvements		**$ 10,594,000**

Table 7-2: Benefit to Existing Summary

	% DC Eligible Cost	Estimated Cost ($)
BE-1	100	$ -
BE-2	90	$ 16,927,000.00
BE-3	70	$ 4,388,000.00
BE-4	50	$ 4,623,000.00
BE-5	20	$ 45,608,000.00
BE-6	0	$ 8,276,000.00
Total		**$ 79,822,000.00**

Table 7-3: Stormwater Capital Program Summary

Description					Infrastructure Details					Cost Summary		
Project	Project Letter	Project Description	Area	Type	Pipe Type	Length (m)	Diameter (mm)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-06	A	Local Servicing Study - Clarke	Clarke	Study				$150,000	High	$45,000	$105,000	$0
S-W-28	A	Local Sewer Upgrade Allowance - Clarke Area	Clarke	Sewer	Storm Sewer	200	600	$933,000	Low	$933,000	$0	$0
S-W-29	A	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	264	1,200	$1,839,000	High	$1,471,200	$367,800	$0
S-W-29	B	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	241	1,500	$2,920,000	High	$2,336,000	$584,000	$0
S-W-29	C	Trunk Sewer Re-Alignment - Clarke Area	Clarke	Trunk	Storm Sewer	177	1,850	$2,655,000	High	$2,124,000	$531,000	$0
S-W-30	A	Culvert Replacement - Clarke Area	Clarke	Trunk	Storm Sewer	60	2,100	$1,517,000	High	$1,213,600	$303,400	$0
S-W-30	B	Culvert Replacement - Clarke Area	Clarke	Trunk	Storm Sewer	100	2,100	$1,244,000	High	$995,200	$248,800	$0
S-W-30	C	Outlet Upgrade and Flood Protection - Clarke	Clarke	Outlet	Storm Sewer	75	2,100	$1,350,000	High	$1,080,000	$270,000	$0
S-W-31	A	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	199		$183,000	High	$146,400	$36,600	$0
S-W-31	B	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	254		$234,000	High	$187,200	$46,800	$0
S-W-31	C	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	149		$138,000	High	$110,400	$27,600	$0
S-W-31	D	Ditch - Rehab and Excavation	Clarke	Storage	Storm Sewer	118		$110,000	High	$88,000	$22,000	$0
S-W-32	A	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	237	300	$937,000	Low	$749,600	$187,400	$0
S-W-32	B	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	229	300	$904,000	Low	$723,200	$180,800	$0
S-W-32	C	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	235	300	$929,000	Low	$743,200	$185,800	$0
S-W-32	D	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	238	450	$995,000	Low	$796,000	$199,000	$0
S-W-32	E	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	220	600	$1,063,000	Low	$850,400	$212,600	$0
S-W-32	F	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	230	600	$1,111,000	Low	$888,800	$222,200	$0
S-W-32	G	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	258	450	$1,077,000	Low	$861,600	$215,400	$0
S-W-32	H	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	251	450	$1,048,000	Low	$838,400	$209,600	$0
S-W-32	I	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	258	300	$1,019,000	Low	$1,019,000	$0	$0
S-W-32	J	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	244	300	$966,000	Low	$772,800	$193,200	$0
S-W-33	A	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	269	600	$1,263,000	High	$378,900	$884,100	$0
S-W-33	B	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	196	525	$885,000	High	$265,500	$619,500	$0
S-W-33	C	Local Sewer Reconstruction - Clarke Area	Clarke	Sewer	Storm Sewer	261	425	$1,058,000	High	$317,400	$740,600	$0
S-W-49	A	Johnston Street Pump Station - RTC	Clarke	Storage		1		$126,000	Low	$63,000	$63,000	$0

Table 7-4: Stormwater Pond and Low Impact Development Capital Program Summary

Description		Scope		Total Cost Summary		Cost Allocation		
Project	Project Description	Project Type	Quantity (m3)	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-M-01	655 m3 SWM pond.	SW Pond	655	$1,174,000	Triggered By Local Developer	$0	$0	$1,174,000
S-W-M-02	1725 m3 SWM pond.	SW Pond	1,725	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-03	4499 m3 SWM pond.	SW Pond	4,499	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-04	15367 m3 SWM pond.	SW Pond	15,367	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-05	11907 m3 SWM pond.	SW Pond	11,907	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-06	2993 m3 SWM pond.	SW Pond	2,993	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-07	10107 m3 SWM pond.	SW Pond	10,107	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-08	6352 m3 SWM pond.	SW Pond	6,352	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-09	509 m3 SWM pond.	SW Pond	509	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-10	694 m3 SWM pond.	SW Pond	694	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-11	1417 m3 SWM pond.	SW Pond	1,417	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-12	1675 m3 SWM pond.	SW Pond	1,675	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-13	774 m3 SWM pond.	SW Pond	774	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-14	68126 m3 SWM pond.	SW Pond	68,126	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-15	68126 m3 SWM pond.	SW Pond	68,126	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-16	70721 m3 SWM pond.	SW Pond	70,721	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-17	20101 m3 SWM pond.	SW Pond	20,101	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-18	127812 m3 SWM pond.	SW Pond	127,812	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-19	48674 m3 SWM pond.	SW Pond	48,674	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-20	111610 m3 SWM pond.	SW Pond	111,610	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-21	36212 m3 SWM pond.	SW Pond	36,212	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-22	36212 m3 SWM pond.	SW Pond	36,212	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-23	4166 m3 SWM pond.	SW Pond	4,166	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-24	12156 m3 SWM pond.	SW Pond	12,156	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-25	8642 m3 SWM pond.	SW Pond	8,642	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000

7.3.1 Local Stormwater Network

The Capital Program identifies approximately 8 km of trunk storm system upgrades within the existing undesigned and semi-designed system, which can support future upgrades to the local stormwater system to improve the level of service provided. Approximately 17 km of additional local stormwater system upgrades, representing a potential additional $54M investment requirement to replace, rehabilitate, and upgrade the local stormwater collection system, are estimated to be required to improve the level of service within the existing undesigned and semi-designed system. A summary of potential additional local sewer lengths by neighbourhood and associated high-level costs is provided in **Table 7-5**.

Table 7-5: Local Stormwater Network Sewer Lengths and Costs

Neighbourhood	Sewer Length[1] (m)	Estimated Cost ($M)
Clarke	*Captured in Capital Program Project S-W-32 and S-W-33*	*($13.3 M)*
Elm & King North	6,500	$22.1M
Elm and King South	4,000	$13.6M
Sugarloaf	4,000	$11.7M
Omer	1,500	$3.7M
Chippawa	400	$1.1M
The Island	700	$1.9M

1- Lengths are approximate for the purposes of high-level budgetary estimation.

7.3.2 Outfall Flood Control

The Capital Program identifies the installation of flood control measures at multiple major outlets discharging to Lake Erie and the Welland Canal. These flood control structures would consist of flap gates (or other similar structures) that would prevent high levels from backing up into the system. The City will need to undertake appropriate inspection and assessment work to confirm the presence and condition of existing flood control structures and identify the most appropriate construction and/or rehabilitation measures to achieve the desired objectives.

The City has conducted an initial outfall condition assessment (May 2025 by Aquafor Beach), which did not identify flap gaps or flood control structures at the majority of the outlets discharging to Lake Erie. The status of the majority of the Welland Canal outfalls are unknown, as the outlets were not accessible at the time of this assessment.

8 Implementation Plan

As outlined in **Section 2** of **Volume 2**, the MSP fulfills the requirements of Approach 1 under the MEA Class EA process. The Preferred Water Servicing Strategy supports the City of Port Colborne's growth to 2051 and beyond and will be implemented in accordance with the applicable Class EA schedules.

Class EA requirements for each project are identified within the Capital Program. Schedule A and A+ projects may proceed directly to design and construction, with A+ projects requiring public notification prior to implementation in accordance with the MEA Class EA process. Schedule B (or equivalent) projects identified within the Preferred Water Servicing Strategy will be addressed through developer-led local servicing plans under the Planning Act municipal development review process, or through separate Class EA studies prior to design and construction. No Schedule C projects were identified as part of the preferred strategy.

All required supporting studies (e.g., environmental impact, cultural heritage, and archaeological) should be completed by qualified professionals as early as possible in the planning process for Schedule B projects.

During implementation, particularly at the detailed design stage, the following should be considered:

- Finalization of property and right-of-way requirements;
- Refinement of infrastructure alignments;
- Identification of preferred construction methodologies;
- Completion of additional supporting investigations (e.g., geotechnical, hydrogeological);
- Review and mitigation of potential construction-related impacts; and
- Fulfillment of all provincial, municipal, and conservation authority approval requirements.

For planning and budgeting purposes, the recommended capital program provides a high-level baseline for the City's capital budget. Project cost estimates will be further refined as individual projects advance and more detailed information becomes available.

Project timing should be aligned with projected population and employment growth within the City. The water program has also been coordinated with wastewater and stormwater programs to align projects where possible. Given the growth-related nature of the servicing strategies, the water capital program forms the basis for the water component of the City of Port Colborne's Development Charges By-law.

8.1 Project Implementation and Coordination

The City's stormwater system carries greater uncertainty than the water system due to undesigned local networks, infrastructure data gaps, and the influence of lake levels. As such, the stormwater strategy focuses predominantly on addressing areas with undersized trunk and local conveyance capacity constraints and recommends preliminary preferred trunk network upgrades needed to support upgrading the local stormwater collection system to current City standards. A coordinated, risk-based approach integrates system understanding, corridor coordination, and capital planning to guide both immediate and long-term stormwater improvements.

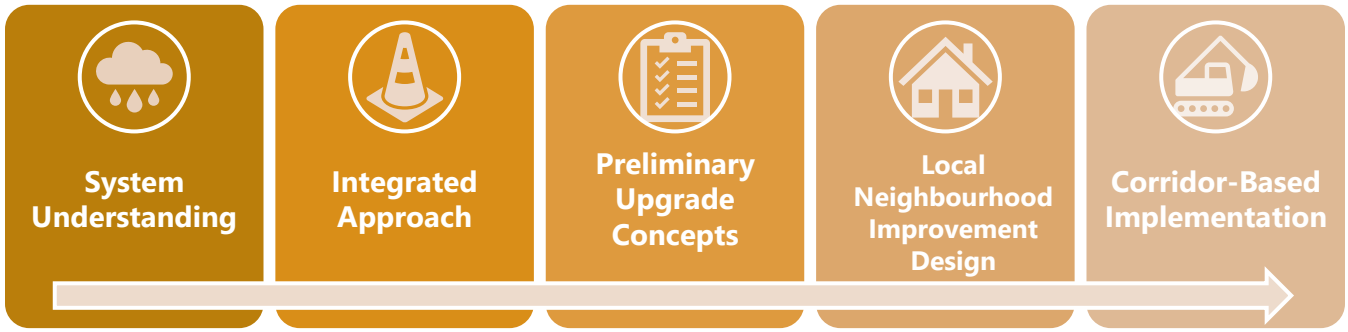


Figure 8-1: Path to Implemenation

Key Principles:

- **System Understanding:** Ongoing assessment of system capacity, outlet performance, and flow paths informs project selection. The City has recently undertaken field investigations to address significant gaps in historical data. However, due to field investigation constraints, such as a collapsed sewer, an underwater sewer, and the field identification of infrastructure not previously recorded in the City's database, additional field investigations are required prior to implementation of major upgrades.
- **Integrated Approach:** Stormwater projects are coordinated with water and wastewater infrastructure in shared corridors to reduce construction disruption and improve efficiency.
- **Preliminary Upgrade Concepts:** High-level concepts, such as outlet flood protection, trunk sewer upgrades, and localized system improvements, guide long-term planning, with refinements informed by modelling, inspections, and targeted studies.
- **Local Neighbourhood Improvement Design:** Undertake local conceptual and detailed design studies to confirm the design of the trunk sewer upgrades and alignments, and develop a conceptual design of local stormwater systems. Conceptual

design basis will allow for the implementation of appropriate local system improvement in advance of trunk sewer upgrades if local stormwater improvements are triggered due to condition and/or coordination with other infrastructure upgrade needs.

- **Corridor-Based Implementation:** A coordinated approach manages growth, reduces risk, and ensures efficient planning across the City's stormwater system.

Implementation Framework:

1. **Assessment & Data Review**
   - Compile and validate stormwater system data.
   - Conduct targeted investigations to confirm capacity, outlet performance, and structural condition.
   - Verify flow paths, particularly in undesigned or constrained systems influenced by high lake levels.
2. **Neighbourhood Design Studies:**
   - Undertake Class EA Study or other local servicing study to confirm the preferred trunk sewer and outlet alignment and capacity.
   - Undertake design of trunk sewer upgrades and outlet upgrades.
   - Undertake conceptual design of local stormwater system upgrades.
   - Develop an upgrade and construction implementation plan, identifying phasing of system upgrades.
3. **Corridor Coordination & Design Integration**
   - Align stormwater upgrades with water and wastewater projects in shared corridors.
   - Advance detailed designs in priority subcatchments and growth areas.
   - Incorporate area-specific studies and MSP guidance.
4. **Implementation (Capital Program)**
   - Prioritize short and long-term stormwater capital needs, including outlet flood protection, trunk sewer upgrades, conveyance improvements, and localized system enhancements.
   - Schedule projects to optimize corridor construction and reduce community disruption.
5. **Financial Analysis**
   - Identify project costs and provide guidance on Development Charges and operational impacts.

- Ensure financial planning supports long-term stormwater management and growth servicing.

This framework supports a flexible, long-term approach for the stormwater system, balancing immediate operational needs, high lake-level challenges, and anticipated growth while improving system reliability.

8.2 Project Timing and Triggers

The timing of the recommended stormwater infrastructure projects have been developed to reflect system priorities, growth-related needs, and opportunities for coordination with other municipal works. The Capital Program is intended to provide a flexible, risk-based framework that supports both immediate system needs and long-term servicing objectives.

Project prioritization is guided by the following:

- Priority projects address known operational issues, such as collapsed pipes, and are advanced to maintain system reliability and protect against localized flooding.
- Remaining projects are grouped by neighbourhood and categorized as either growth-related stormwater upgrades or lower-priority system improvements. Lower-priority projects may be advanced when coordinated with planned road reconstruction.
- Projects triggered by upstream development or roadway reconstruction are categorized to help guide prioritization and scheduling.
- The City maintains separate lists for development-related projects and operational work to ensure urgent issues, such as collapsed pipes, are addressed promptly.
- Some designs are already included in the Capital Program budget; ongoing operational review may trigger spot repairs, redesigns to match trunk system capacity, or full replacement as needed.
- Projects are not limited to pipe replacements but aim to improve the overall storm trunk network to better support long-term system performance.
- Projects in areas with high sewer inflow and infiltration to assist in diverting stormwater away from the existing wastewater system.

Project implementation may be influenced by the following key triggers:

- Upstream development and associated servicing requirements;
- Planned roadway reconstruction or corridor improvements; and
- Results from ongoing operational review, condition assessments, and asset management planning.

Stormwater outfalls and ponding facilities are also prioritized to optimize long-term system performance:

- Outfall projects are grouped to reduce costs and may be implemented alongside an expanded annual maintenance program, including flap gate installations.
- Stormwater ponds are planned to meet updated standards. For new subdivisions, it is assumed that some stormwater structures or ponds will be built by developers and later maintained by the City. A small pond concept is used for planning purposes, with multiple locations identified and a future stormwater management plan to consolidate as appropriate.

The Capital Program is structured to provide flexibility, with a long-term vision supported by medium-term adjustments and annual refinements. Condition assessment results will inform updates, helping to flag neighbourhoods for risk-based prioritization, design, spot repairs, or full replacement. It is recognized that project timing may change due to coordination with regional infrastructure, updates to growth projections, and funding availability.

8.3 Stormwater Condition Assessment

The City has completed a comprehensive stormwater condition assessment to evaluate the current state of pipes, outfalls, and ponding facilities. The assessment highlights areas of concern, including locations with collapsed or deteriorated pipes, while also identifying gaps in system knowledge where further investigation may be required. These findings support a flexible approach to planning, allowing the City to refine project timing, scope, and design as more information becomes available.

Condition assessment outcomes should be used to re-prioritize the local sewer upgrade based on:

- Flag high-risk neighbourhoods for immediate review or targeted upgrades;
- Prioritize implementation of the identified trunk system upgrades;
- Coordinate with other corridor upgrade priorities; and
- Coordinate with growth-related triggers.

This approach ensures that MSP recommendations and the Capital Program remain adaptive, reflecting both existing system conditions and anticipated future needs.

Appendix A – Capital Program

Table 8-1: Stormwater Capital Program Costing Details

Description					Scope				Hard Cost Allowances														Total Construction Cost
									General Construction Overhead			Site Complexity			Special Conditions			Market and Inflation Adjustment			Special Activities				
Project	Project Description	Benefit to Existing	Contributing Area (ha)	Class EA Project	Project Type	Quantity (m3)	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Cost Factor	Uplift %	Uplift Cost	Activity 1	Cost	Activity 2	Cost	
S-W-M-01	655 m3 SWM pond.	Dev	1.235	Schedule A	SW Pond	655	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-02	1725 m3 SWM pond.	Dev	3.254	Schedule A	SW Pond	1,725	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-03	4499 m3 SWM pond.	Dev	8.488	Schedule A	SW Pond	4,499	N/A	$600,000	Medium	20%	$120,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$840,000
S-W-M-04	15367 m3 SWM pond.	Dev	28.993	Schedule A	SW Pond	15,367	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-05	11907 m3 SWM pond.	Dev	22.466	Schedule A	SW Pond	11,907	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-06	2993 m3 SWM pond.	Dev	5.647	Schedule A	SW Pond	2,993	N/A	$600,000	Medium	20%	$120,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$840,000
S-W-M-07	10107 m3 SWM pond.	Dev	19.069	Schedule A	SW Pond	10,107	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-08	6352 m3 SWM pond.	Dev	11.984	Schedule A	SW Pond	6,352	N/A	$600,000	Medium	20%	$120,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$840,000
S-W-M-09	509 m3 SWM pond.	Dev	0.959	Schedule A	SW Pond	509	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-10	694 m3 SWM pond.	Dev	1.309	Schedule A	SW Pond	694	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-11	1417 m3 SWM pond.	Dev	2.673	Schedule A	SW Pond	1,417	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-12	1675 m3 SWM pond.	Dev	3.16	Schedule A	SW Pond	1,675	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-13	774 m3 SWM pond.	Dev	1.459	Schedule A	SW Pond	774	N/A	$600,000	High	25%	$150,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$870,000
S-W-M-14	68126 m3 SWM pond.	Dev	128.538	Schedule A	SW Pond	68,126	N/A	$1,500,000	Low	15%	$225,000	Medium	10%	$150,000	Medium	10%	$150,000	Low	0%	$0					$2,025,000
S-W-M-15	68126 m3 SWM pond.	Dev	128.538	Schedule A	SW Pond	68,126	N/A	$1,500,000	Low	15%	$225,000	Medium	10%	$150,000	Medium	10%	$150,000	Low	0%	$0					$2,025,000
S-W-M-16	70721 m3 SWM pond.	Dev	133.435	Schedule A	SW Pond	70,721	N/A	$1,500,000	Low	15%	$225,000	Medium	10%	$150,000	Medium	10%	$150,000	Low	0%	$0					$2,025,000
S-W-M-17	20101 m3 SWM pond.	Dev	37.926	Schedule A	SW Pond	20,101	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-18	127812 m3 SWM pond.	Dev	241.154	Schedule A	SW Pond	127,812	N/A	$1,500,000	Low	15%	$225,000	Medium	10%	$150,000	Medium	10%	$150,000	Low	0%	$0					$2,025,000
S-W-M-19	48674 m3 SWM pond.	Dev	91.837	Schedule A	SW Pond	48,674	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-20	111610 m3 SWM pond.	Dev	210.584	Schedule A	SW Pond	111,610	N/A	$1,500,000	Low	15%	$225,000	Medium	10%	$150,000	Medium	10%	$150,000	Low	0%	$0					$2,025,000
S-W-M-21	36212 m3 SWM pond.	Dev	68.323	Schedule A	SW Pond	36,212	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-22	36212 m3 SWM pond.	Dev	68.323	Schedule A	SW Pond	36,212	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-23	4166 m3 SWM pond.	Dev	7.86	Schedule A	SW Pond	4,166	N/A	$600,000	Medium	20%	$120,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$840,000
S-W-M-24	12156 m3 SWM pond.	Dev	22.935	Schedule A	SW Pond	12,156	N/A	$1,000,000	Medium	20%	$200,000	Medium	10%	$100,000	Medium	10%	$100,000	Low	0%	$0					$1,400,000
S-W-M-25	8642 m3 SWM pond.	Dev	16.304	Schedule A	SW Pond	8,642	N/A	$600,000	Medium	20%	$120,000	Medium	10%	$60,000	Medium	10%	$60,000	Low	0%	$0					$840,000

Table 1-2: Stormwater Pond and LID Capital Program Costing Details

Description					Scope				Soft Cost Allowances										Total Non-Construction 'Soft' Costs	Project Contingency Allowances			Total Cost Summary		Cost Allocation		
									Land Acquisition Needs			Preceding Engineering and Study Cost			Design, Contract Administration and Inspection			Internal Cost Allowance											
Project	Project Description	Benefit to Existing	Contributing Area (ha)	Class EA Project	Project Type	Quantity (m3)	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Land Acquisition Needs	Cost Factor	Uplift %	Engineering and Study Costs	Cost Factor	Uplift %	Contract Administration	Cost Factor	Uplift %	City-Related Costs		Cost Factor	Uplift %	Project Contingency	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-M-01	655 m3 SWM pond.	Dev	1.235	Schedule A	SW Pond	655	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Low	10%	$106,650	$1,174,000	Triggered By Local Developer	$0	$0	$1,174,000
S-W-M-02	1725 m3 SWM pond.	Dev	3.254	Schedule A	SW Pond	1,725	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-03	4499 m3 SWM pond.	Dev	8.488	Schedule A	SW Pond	4,499	N/A	$600,000	Medium	5%	$42,000	Medium	5%	$42,000	Low	8%	$48,000	Low	3%	$18,000	$150,000	Medium	15%	$148,500	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-04	15367 m3 SWM pond.	Dev	28.993	Schedule A	SW Pond	15,367	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-05	11907 m3 SWM pond.	Dev	22.466	Schedule A	SW Pond	11,907	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-06	2993 m3 SWM pond.	Dev	5.647	Schedule A	SW Pond	2,993	N/A	$600,000	Medium	5%	$42,000	Medium	5%	$42,000	Low	8%	$48,000	Low	3%	$18,000	$150,000	Medium	15%	$148,500	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-07	10107 m3 SWM pond.	Dev	19.069	Schedule A	SW Pond	10,107	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-08	6352 m3 SWM pond.	Dev	11.984	Schedule A	SW Pond	6,352	N/A	$600,000	Medium	5%	$42,000	Medium	5%	$42,000	Low	8%	$48,000	Low	3%	$18,000	$150,000	Medium	15%	$148,500	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-09	509 m3 SWM pond.	Dev	0.959	Schedule A	SW Pond	509	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-10	694 m3 SWM pond.	Dev	1.309	Schedule A	SW Pond	694	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-11	1417 m3 SWM pond.	Dev	2.673	Schedule A	SW Pond	1,417	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-12	1675 m3 SWM pond.	Dev	3.16	Schedule A	SW Pond	1,675	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-13	774 m3 SWM pond.	Dev	1.459	Schedule A	SW Pond	774	N/A	$600,000	Medium	5%	$43,500	High	10%	$87,000	Low	8%	$48,000	Low	3%	$18,000	$196,500	Medium	15%	$159,975	$1,227,000	Triggered By Local Developer	$0	$0	$1,227,000
S-W-M-14	68126 m3 SWM pond.	Dev	128.538	Schedule A	SW Pond	68,126	N/A	$1,500,000	Medium	5%	$101,250	Low	3%	$60,750	Low	8%	$120,000	Low	3%	$45,000	$327,000	Medium	15%	$352,800	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-15	68126 m3 SWM pond.	Dev	128.538	Schedule A	SW Pond	68,126	N/A	$1,500,000	Medium	5%	$101,250	Low	3%	$60,750	Low	8%	$120,000	Low	3%	$45,000	$327,000	Medium	15%	$352,800	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-16	70721 m3 SWM pond.	Dev	133.435	Schedule A	SW Pond	70,721	N/A	$1,500,000	Medium	5%	$101,250	Low	3%	$60,750	Low	8%	$120,000	Low	3%	$45,000	$327,000	Medium	15%	$352,800	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-17	20101 m3 SWM pond.	Dev	37.926	Schedule A	SW Pond	20,101	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-18	127812 m3 SWM pond.	Dev	241.154	Schedule A	SW Pond	127,812	N/A	$1,500,000	Medium	5%	$101,250	Low	3%	$60,750	Low	8%	$120,000	Low	3%	$45,000	$327,000	Medium	15%	$352,800	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000

Description					Scope				Soft Cost Allowances										Total Non-Construction 'Soft' Costs	Project Contingency Allowances			Total Cost Summary		Cost Allocation		
									Land Acquisition Needs			Preceding Engineering and Study Cost			Design, Contract Administration and Inspection			Internal Cost Allowance										
Project	Project Description	Benefit to Existing	Contributing Area (ha)	Class EA Project	Project Type	Quantity (m3)	Base Unit Cost	Base Construction Cost	Cost Factor	Uplift %	Land Acquisition Needs	Cost Factor	Uplift %	Engineering and Study Costs	Cost Factor	Uplift %	Contract Administration	Cost Factor	Uplift %	City-Related Costs		Cost Factor	Uplift %	Project Contingency	Total Project Cost	Priority	Total BTE Cost	Total DC Cost	Total Developer Cost
S-W-M-19	48674 m3 SWM pond.	Dev	91.837	Schedule A	SW Pond	48,674	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-20	111610 m3 SWM pond.	Dev	210.584	Schedule A	SW Pond	111,610	N/A	$1,500,000	Medium	5%	$101,250	Low	3%	$60,750	Low	8%	$120,000	Low	3%	$45,000	$327,000	Medium	15%	$352,800	$2,705,000	Triggered By Local Developer	$0	$0	$2,705,000
S-W-M-21	36212 m3 SWM pond.	Dev	68.323	Schedule A	SW Pond	36,212	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-22	36212 m3 SWM pond.	Dev	68.323	Schedule A	SW Pond	36,212	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-23	4166 m3 SWM pond.	Dev	7.86	Schedule A	SW Pond	4,166	N/A	$600,000	Medium	5%	$42,000	Medium	5%	$42,000	Low	8%	$48,000	Low	3%	$18,000	$150,000	Medium	15%	$148,500	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000
S-W-M-24	12156 m3 SWM pond.	Dev	22.935	Schedule A	SW Pond	12,156	N/A	$1,000,000	Medium	5%	$70,000	Medium	5%	$70,000	Low	8%	$80,000	Low	3%	$30,000	$250,000	Medium	15%	$247,500	$1,898,000	Triggered By Local Developer	$0	$0	$1,898,000
S-W-M-25	8642 m3 SWM pond.	Dev	16.304	Schedule A	SW Pond	8,642	N/A	$600,000	Medium	5%	$42,000	Medium	5%	$42,000	Low	8%	$48,000	Low	3%	$18,000	$150,000	Medium	15%	$148,500	$1,139,000	Triggered By Local Developer	$0	$0	$1,139,000

City of Port Colborne Water and Stormwater Master Servicing Plan

Volume 5 – Indigenous, Public, and Agency Consultation

June 10, 2026



Agile INFRASTRUCTURE

Submission Details and Version Control

City of Port Colborne
Water and Stormwater Master Servicing Plan

Volume 5 – Indigenous, Public, and Agency Consultation

June 10, 2026

Agile Project No. P01.002.01

Version	Date Submitted	Author	Reviewer
Draft	April 16, 2026	Michelle Klaver	Julien Bell
Final	June 10, 2026	Michelle Klaver	Lindsay Currie, Julien Bell

Prepared By:

Michelle Klaver, P.Eng.
Senior Infrastructure Planning Engineer

Reviewed By:

Julien Bell, P.Eng.
Vice President

Lindsay Currie, M.Sc., P.Eng.
Senior Infrastructure Planning Engineer

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Introduction 4
1.1 Background 4
1.2 Master Servicing Plan 4
1.3 Master Servicing Plan Objectives 5
1.4 Master Servicing Plan Documentation Layout 6
2 Agency and Public Consultation 8
2.1 Communication and Consultation Summary 8
2.2 Stakeholder List 9
2.3 Notice of Commencement 9
2.4 Public Information Centre 9
2.5 Indigenous Communities 10
2.6 Council Involvement 10
2.7 Public and Agency Consultation 10
2.8 Notice of Completion 10
2.9 30-Day Public Review Consultation 11

List of Tables

Table 2-1: Public Information Centre Details 9

List of Appendices

Appendix A – Communications Plan 12
Appendix B – Stakeholder List 13
Appendix C – Notice of Study Commencement 14
Appendix D – PIC Materials 15
Appendix E – Consultation Records 16
Appendix F – Notice of Completion 17
Appendix G – 30-Day Public Review 18

1 Introduction

1.1 Background

The City of Port Colborne (City) is located in southern Ontario along the north shore of Lake Erie and is bisected by the Welland Canal. It is part of the Niagara Region (Region) and is adjacent to the Town of Wainfleet, Town of Fort Erie, and City of Welland.

Water servicing within the City operates under a two-tier system. The Region is responsible for water treatment, storage facilities, pumping stations, and major trunk infrastructure, while the City owns and operates the local water distribution system, including trunk and distribution watermains. The system is supplied by the Port Colborne Water Treatment Plant (WTP), which is a conventional surface water treatment facility that draws raw water from Lake Erie via the Welland Canal. Treated water is distributed through a network of watermains and storage facilities within a single pressure zone.

The City owns, maintains and operates the majority of the stormwater collection and management infrastructure, including catch basins, storm sewers, ditches, culverts, stormwater management facilities, and other related structures. Stormwater runoff is conveyed through a combination of minor and major systems and ultimately discharges to local receiving watercourses and Lake Erie.

Reliable and accessible public infrastructure is critical to supporting existing and future communities. Coordinated infrastructure planning, land use planning, and investment are required to deliver efficient, safe, and cost-effective water and stormwater services.

The Master Servicing Plan (MSP) provides a comprehensive review of existing systems and identifies growth-related servicing strategies, with consideration for long-term sustainability and optimization of existing infrastructure.

1.2 Master Servicing Plan

The City is undertaking a Water and Stormwater Master Servicing Plan to develop a comprehensive strategy and vision for the City's short- and long-term water and stormwater infrastructure needs. The MSP reviews existing system conditions and performance, considers the impacts of growth, and identifies strategies to meet current and future servicing requirements.

The Study establishes a long-term management strategy to guide water and stormwater infrastructure planning through 2051 and beyond and includes an actionable Capital Program and Implementation Plan to support the strategy. The MSP will provide the framework for system capacity allocations, infrastructure upgrades, and financial planning, supporting the City's continued growth and sustainable management of its water and stormwater systems.

1.3 Master Servicing Plan Objectives

The MSP is designed to deliver a strategic, integrated framework for the management, enhancement, and expansion of the City's water distribution and stormwater management systems through 2051 and beyond. This MSP addresses the needs of both systems to ensure reliable service delivery, environmental protection, and support for the City's growth aspirations. The key objectives of the MSP are as follows:

- **Provide Safe and Reliable Services**: Ensure a consistent supply of potable water that complies with the Safe Drinking Water Act, 2002, and effective stormwater management to safeguard public health, property, and infrastructure under current and future conditions.
- **Accommodate Growth**: Evaluate and plan infrastructure capacity to support projected population increases, seasonal tourism demands, and potential industrial development, particularly along the Welland Canal, in accordance with the City's Official Plan.
- **Enhance System Resilience**: Develop adaptive strategies to mitigate the impacts of climate change, including increased storm intensity and fluctuations in Lake Erie water levels, ensuring the longevity and reliability of water and stormwater systems.
- **Meet Regulatory Standards**: Adhere to provincial legislation, Ministry of the Environment, Conservation and Parks (MECP) guidelines, Niagara Region policies, and Niagara Peninsula Conservation Authority (NPCA) requirements, while fulfilling the Municipal Class Environmental Assessment (EA) process.
- **Optimize Infrastructure Performance**: Identify opportunities to reduce non-revenue water losses, improve stormwater conveyance efficiency, and leverage existing assets to deliver cost-effective, sustainable solutions.
- **Protect Environmental Quality**: Minimize impacts on Lake Erie and local watercourses by enhancing stormwater quality, controlling runoff volumes, and incorporating low-impact development (LID) practices where feasible.
- **Foster Collaboration**: Engage residents, businesses, Niagara Region, NPCA, and other stakeholders to align the MSP with community needs, regional priorities, and environmental goals.

These objectives underpin a holistic servicing strategy that ensures Port Colborne's water and stormwater systems are robust, sustainable, and capable of supporting the community's long-term prosperity.

1.4 Master Servicing Plan Documentation Layout

The MSP Report, including all supporting volumes, is the documentation placed on public record for the prescribed minimum 30-day review period. The documentation, in its entirety, describes all required phases of the planning process and incorporates the procedure considered essential for compliance with the Environmental Assessment Act.

The MSP Report is organized into 5 volumes as described below.

1.4.1 Volume 1 - Executive Summary

Volume 1 provides a brief overview of the MSP. It summarizes the information contained in Volume 2, 3, 4 and 5, including the problem statement, purpose of the study, significant planning, environmental and technical considerations, and description of the preferred water and stormwater servicing strategies including depiction of the projects and documentation of the capital programs.

1.4.2 Volume 2 – Plan & Policy

Volume 2 details the master planning process including the Master Plan Class EA process, related studies, legislative and policy planning context, water and stormwater servicing performance objectives, population, and employment growth forecasts, existing environmental and servicing conditions, and future considerations.

1.4.3 Volume 3 – Water Master Plan

Volume 3 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred water servicing strategy. This volume contains baseline water system data and performance information. This volume also documents the water servicing strategy development with detailed information on the projects and capital program associated with the preferred water servicing strategy and implementation plan.

1.4.4 Volume 4 – Stormwater Master Plan

Volume 4 consists of the principal document summarizing the study objectives, approach, methodologies, technical analyses, evaluation, and selection of the preferred stormwater servicing strategy. This volume contains baseline stormwater system data and performance information. This volume also documents the stormwater servicing strategy development with detailed information on the projects and capital program associated with the preferred stormwater servicing strategy and implementation plan.

1.4.5 Volume 5 – Indigenous, Public, and Agency Consultation

Volume 5 contains all relevant documentation of the public consultation process including notifications, comments and responses, and distribution information. Presentation material from the Public Information Centre (PIC) held during the process is included. Other presentation material and discussion information from workshops held with relevant agencies, approval bodies and other stakeholders are also included.

2 Agency and Public Consultation

This Volume, the Public and Agency Consultation, compiles the materials and documentation associated with engagement activities undertaken with the public, stakeholders, and regulatory agencies. It also provides supporting information to demonstrate that consultation requirements under the MEA Class Environmental Assessment process have been fulfilled.

The following sections outline the key elements of the Public Consultation and Communication Strategy, with additional details provided in the appendices.

2.1 Communication and Consultation Summary

Consultation is a key component of the Municipal Class Environmental Assessment (Class EA) process and was integral to the completion of this Master Servicing Plan. The consultation program was designed to facilitate effective, two-way communication with the public, Indigenous communities, regulatory agencies, stakeholders, and municipal staff throughout the study. This approach ensured that interested and affected parties were informed of the study, while also providing opportunities to share input and feedback at key stages.

The communication and engagement approach was guided by the objective of providing clear, consistent, and timely information, while encouraging meaningful participation in the planning process. Engagement activities were undertaken to support collaboration with approval agencies, and obtain relevant technical input, as well as to engage Indigenous rights holders.

Key objectives of the consultation program included:

- Providing clear and accessible information at key milestones in the study;
- Meeting the consultation requirements of the MEA Municipal Class EA process;
- Encouraging participation from interested and affected stakeholders;
- Engaging regulatory agencies early to support approvals and inform the study;
- Documenting feedback received and demonstrating how it was considered in the decision-making process.

The consultation approach was guided by the following principles:

- Respect for all participants involved in the process;
- Clear, consistent, and understandable communication tailored to the audience;
- Transparency in communicating the EA process and study outcomes;
- Flexibility to adapt engagement methods as the study progressed; and,
- Consideration of all feedback received, with responses incorporated where appropriate.

A range of consultation methods were implemented to provide opportunities for engagement, including stakeholder meetings, agency coordination, and public consultation activities. The consultation program was developed at the outset of the study and refined as needed, with the Communications Plan included in **Appendix A**.

Complete documentation of the consultation and communication process is summarized in the following sections, with supporting materials provided in the appendices.

2.2 Stakeholder List

A list of stakeholders, review agencies, and other interested parties was established early in the study to support participation. The contact list was updated periodically as additional individuals became aware of the study or provided input. Stakeholders were able to request inclusion on the contact list at any time to receive project updates, public notices, and information regarding upcoming engagement opportunities. The study contact list is included in **Appendix B**.

2.3 Notice of Commencement

The Notice of Commencement was issued on January 25, 2025, and is provided in **Appendix C**. The notice was circulated through the following methods:

- Distributed by mail and email to stakeholders included on the stakeholder list; and.
- Posted on the City's website.

2.4 Public Information Centre

The study's Public Information Centre (PIC) was organized to gather input on the Class EA process, system constraints and opportunities, alternative servicing concepts, and technically feasible solutions. One PIC was conducted as part of the study.

The notification for the PIC was issued on November 13, 2025. The notice was made available through the following methods:

- Distributed by mail and email to stakeholders on the project contact list; and,
- Posted on the City's website.

The PIC took place during Phase 2 of the Class EA process to present the system opportunities and constraints, introduce preliminary preferred servicing strategies, and obtain public feedback. Details on the date and location of the PIC are provided in **Table 2-1**.

Table 2-1: Public Information Centre Details

Date	Location
December 3, 2025 3:00 pm to 7:00 pm	Vale Health & Wellness Centre 550 Elizabeth Street, Port Colborne

Information on attendance, comments received, and the display panels presented during the PIC is provided in **Appendix D**.

2.5 Indigenous Communities

As rights holders and stewards of the land, Indigenous Communities offer important insights and traditional knowledge about our lands and waters. It was important to engage these communities throughout the study to receive their input and address any concerns.

For this project, the following Indigenous Communities were identified as having an interest in the study:

- Six Nations of the Grand River (SNGR)
- Mississaugas of the Credit First Nations (MCFN)
- Haudenosaunee Confederacy Chief Council and/or Haudenosaunee Development Institute (HDI)
- Métis Nation of Ontario, and the Niagara Region Métis Council

The City led engagement with Indigenous Communities, with Agile preparing supporting information as required. All correspondence and notifications to the communities were issued by the City.

Although no workshops were held for this study, Indigenous Communities were provided opportunities to receive study updates, including notification of Study Commencement, Public Information Centres, and Study Completion. Any input received from these communities throughout the project was documented and considered in the study process. Records of engagement are provided in **Appendix E**.

2.6 Council Involvement

Council members were provided with study updates throughout the project, details and records of engagement are provided in **Appendix E**.

2.7 Public and Agency Consultation

Residents, Provincial and Federal agencies, and other interested parties were provided with study updates throughout the project. Records of consultation and supporting materials are provided in **Appendix E**.

2.8 Notice of Completion

The Notice of Study Completion was issued in summer 2026. The notice will be made public by the following means:

- Mailed and emailed stakeholders included on the project contact list; and,
- Posted on the City's website.

A copy of the Notice of Study Completion is provided in **Appendix F**.

2.9 30-Day Public Review Consultation

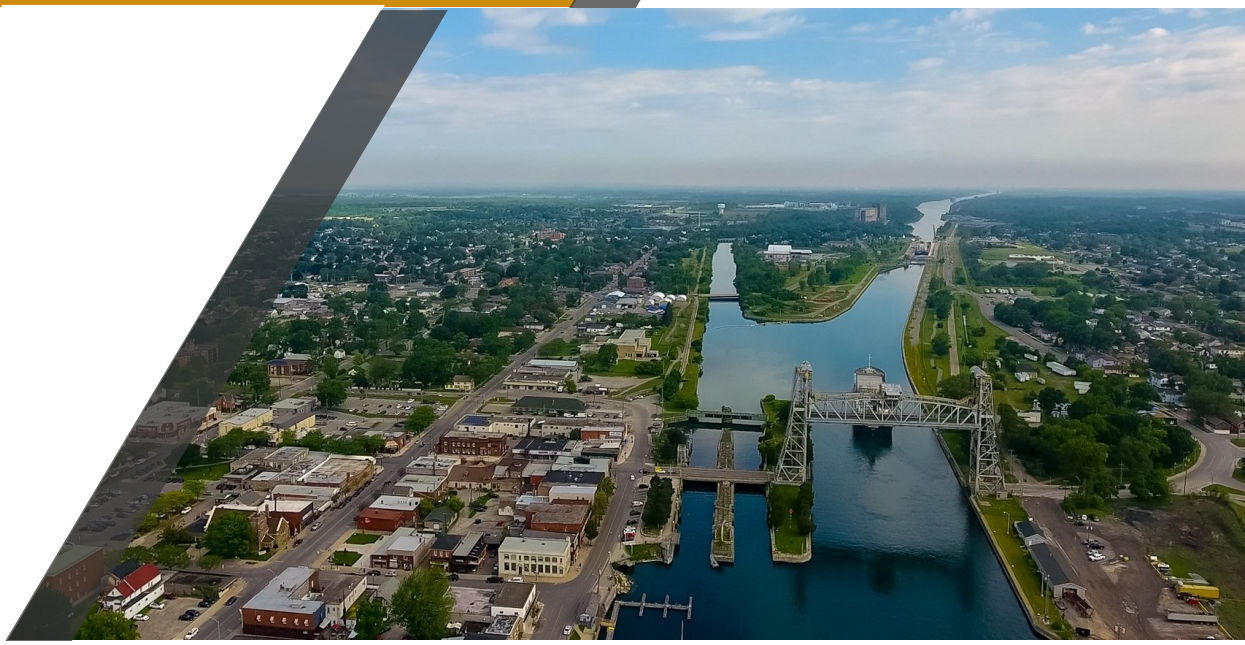
Following the Notice of Study Completion, the MSP report was made available on the project website for a 30-day public review and comment period.

Comments received during the review period, along with responses, will be documented and included in **Appendix G**.

Appendix A – Communications Plan

City of Port Colborne Water and Stormwater Master Servicing Plan

Public and Stakeholder Consultation and Indigenous Community Engagement Plan – Final



Agile INFRASTRUCTURE

City of Port Colborne – Water and Stormwater Master Servicing Plan

Public and Stakeholder Consultation and Indigenous Community Engagement Plan – Draft

PROJECT NO. P01-002-01

Prepared For:

City of Port Colborne

Prepared By:

Laurie Boyce
L3 ESP Ltd.
President

Reviewed By:

Julien Bell
Vice President

Agile Infrastructure Limited
215 Queen St W, Unit B215
Cambridge ON, N3C 1G6

Table of Contents

1 Purpose and Objectives 1
2 Key Principles 2
3 Project Messaging 2
4 Public/Stakeholders and Sensitivities 3
4.1 City of Port Colborne 3
4.2 External Agencies 3
4.3 Public and Other Stakeholders 4
4.4 Indigenous Communities 5
4.5 Stakeholder and Indigenous Community Sensitivities 5
5 Methods of Communication and Engagement 6
5.1 Overview of Methods 6
5.2 Schedule and Milestones for Communications 6
5.3 Roles and Responsibilities 7
6 Consultation and Engagement Documentation 7
6.1 Issues Management and Tracking 7
6.2 Consultation Reports 8
6.3 Master Plan Documentation 8
6.4 AODA Compliance 8

1 Purpose and Objectives

The purpose of this document is to summarize the communications plan for residents, businesses, agencies and other public members identified as stakeholders in the Port Colborne Water and Stormwater Master Servicing Plan (WSMSP) Environmental Assessment (EA) process. It also describes the plan for communication and engagement with Indigenous Communities in the project study area.

The major goal of the plan is to describe the approach for providing effective communication and engagement of local residents, interest groups, agencies and other stakeholders, as well as Indigenous Communities through the EA process. The plan identifies stakeholders and Indigenous Communities and their sensitivities, and describes tactics for:

- Encouraging interested and affected stakeholders' participation throughout the Master Plan process, including PICs, workshops, and other events.
- Engaging approvals agencies to secure early buy-in and identify agency permitting requirements for subsequent stages in project implementation.
- Engaging with Indigenous Communities to receive input on traditional knowledge, interests and concerns.
- Addressing comments received and demonstrating how they are considered in the Master Plan process.
- Documenting the consultation process and its results.
- Building the foundation for future steps in the process including implementation of the individual projects.

This Communications Plan has been developed to meet the consultation requirements for Master Plans as described in the Municipal Engineers Class EA document (2023), and to reduce the risks of receiving Section 16 Orders under Ontario's EA Act.

2 Key Principles

The Public and Stakeholder Consultation and Indigenous Community Engagement Plan is based on these five key principles:

- ✓ **Respect:** for all parties engaged in the process.
- ✓ **Clear, consistent and understandable communication**: the level of communication reflecting the stakeholder and their interests.
- ✓ **Transparency**: communicate the EA process openly.
- ✓ **Flexibility:** communication plan will be adapted and changed to reflect issues and opportunities that may arise through the EA process.
- ✓ **Consideration:** all comments received will be responded to and considered in the assessment and final recommendations, where appropriate.

3 Project Messaging

Key messages that will be conveyed through the course of the WSMSP are:

- The Port Colborne WSMSP is being undertaken to provide an overall management strategy for meeting the City's existing and future water supply and stormwater control needs to the year 2051, with a vision for the long-term (beyond 25 years).
- The Master Servicing Plan will be undertaken as an Approach 1 Municipal Class Master Plan Environmental Assessment, satisfying Phases 1 and 2 Class Environmental Assessment (EA) process. Projects identified in the MSMSP will require subsequent site-specific assessments and consultations.
- The overall management strategy will:
    - Support growth, intensification, land use change, and system expansion.
    - Address existing system issues and deficiencies (e.g. fire flow requirements).
    - Consider public, stakeholder and Indigenous Community input.
    - Be cost effective, while protecting the environment and communities.
    - Respond to changing conditions, such as regulatory requirements, public expectations and climate change.

4 Public/Stakeholders and Sensitivities

4.1 City of Port Colborne

4.1.1 Project Management Team

The project management team includes:

- Joe Colasurdo, Project Manager – City of Port Colborne
- Bryan Bortolon, Project Advisor for the City – 3BP
- Julien Bell (JB) Project Manager– Agile Infrastructure

Meetings will be held regularly with the project team to steer and direct the project.

4.1.2 Other City Staff

Representatives of relevant departments will be invited to participate in project meetings, as required by the City project manager, these include staff representations from planning and development, corporate communications, and operations. To ensure City operations has input into the process, two (2) half-day workshops will be held.

4.1.3 Senior Management and Council

The City project manager will ensure that senior management and Council are kept up to date on major milestones, recommendations and decisions, with the support of Agile.

4.2 External Agencies

4.2.1 Technical Steering Committee

Although several agencies must be consulted with through the Master Plan process, the two agencies that will be most involved are the Regional Municipality of Niagara and the MECP Niagara District office. A Technical Steering Committee (TSC) will be formed at the onset of the study to facilitate decision making, which consists of Niagara Region, MECP Niagara District Office, and City Staff. Four (4) TSC meetings will be held throughout the duration of the project. Four (4) additional meetings with the Regional and City Project Managers are also planned.

4.2.2 Other Agencies

In addition, to the MECP other Provincial and Federal Ministries will receive notifications related to this study throughout the process, as required. Some of the Ministries include:

- Niagara Region Conservation Authority
- Ontario Ministry of Indigenous Relations and Reconciliation
- Ontario Ministry of Transportation
- Ontario Ministry of Natural Resources and Forestry
- Ontario Ministry of Agriculture, Food and Rural Affairs
- Ontario Ministry of Tourism, Culture and Sport
- Ministry of Citizenship and Multiculturalism
- Ontario Ministry of Children, Community and Social Services
- Ontario Ministry of Health and Long-term Care
- Ontario Ministry of Economic Development, Job Creation and Trade
- Indigenous and Northern Affairs Canada
- Environment Canada
- Fisheries and Oceans Canada Infrastructure Ontario

4.3 Public and Other Stakeholders

The communication plan will be aimed at providing the opportunity for all stakeholders to participate in the study. These include, but not limited to:

- Residents and businesses
- Special Interest Groups, such as business associations
- Welland Recreational Canal Corporation (WRCC) and St Lawrence Seaway Management Corporation
- Developers
- Utilities

The media will also be interested in the study. Agile will support City Communications in getting the right messages to the media.

4.4 Indigenous Communities

As rights holders and stewards of the land, Indigenous Communities offer important insights and traditional knowledge about our lands and waters. It is therefore important to engage Indigenous Communities through the process to receive their input and address their concerns. For this project, the following communities are expected to be interested in the study:

- Six Nations of the Grand River (SNGR)
- Mississaugas of the Credit First Nations (MCFN)
- Haudenosaunee Confederacy Chief Council and/or Haudenosaunee Development Institute (HDI)
- Métis Nation of Ontario, and the Niagara Region Métis Council

It is assumed that Agile will prepare the required information for engaging the Indigenous Communities, but that the City will be the lead (i.e. all correspondence to Indigenous Communities will come from the City).

4.5 Stakeholder and Indigenous Community Sensitivities

Agile will work with the City to gear the level of communications to the stakeholder/Indigenous Community and their concerns, by utilizing a sensitivity analysis (**Error! Reference source not found.**) to outline contact points for each group along with key follow-ups for specific stakeholders. Those in the "Keep Engaged" category will require more in-depth communications. (It is recognized that the level of interest will be more fully identified as the project proceeds, and that the level of communications may require adjustment).

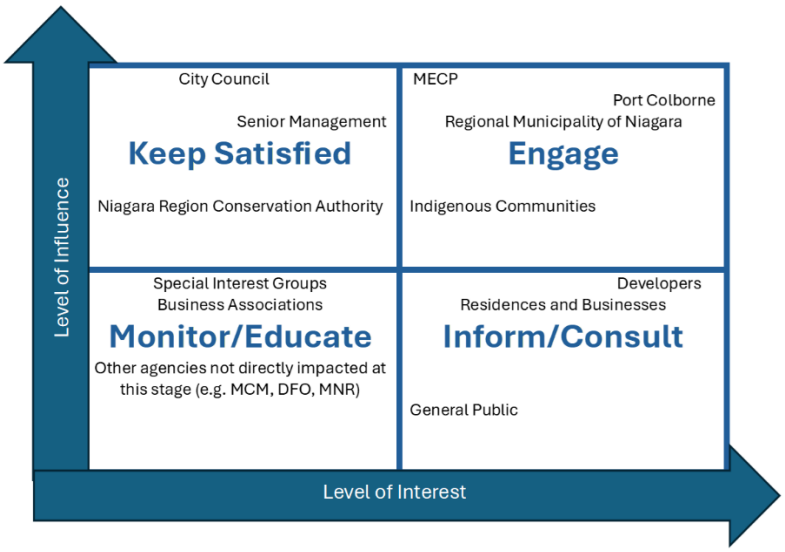


Figure 4.1: Preliminary Stakeholder Identification and Sensitivity Analysis

5 Methods of Communication and Engagement

5.1 Overview of Methods

Multiple methods of communication and engagement will be used including:

- Notices of Commencement, PICs and completion.
- Meetings with TAC, and other stakeholders.
- One virtual PIC and the second PIC in person.
- Distribution of contact information and comment sheets to receive comments from interested and affected parties.
- Response and/or implementation of comments received from open communication, coordination meetings and PICs.
- Online publication of project documents, PIC materials and all associated notices.
- Project website that is continually updated.
- Use of social media to provide notices and updates.
- Follow up emails and phone calls to ensure input is received from key stakeholders and Indigenous Communities.

5.2 Schedule and Milestones for Communications

The milestones in our consultation strategy are described in the following sections.

5.2.1 Communications Plan and Mailing List

As a first step, Agile has prepared this communications plan and a draft mailing list based on the PPCP mailing list and our knowledge of provincial ministries, municipal departments and Indigenous communities that must be consulted with. When registering the Notice of Commencement with the MECP, Agile will confirm the required agencies and Indigenous Communities to be consulted with and update the list accordingly.

The mailing list will be revised, as appropriate, to reflect those agencies or parties who wish no further involvement in the study as well as those new agencies/parties who wish to be added to the mailing list.

5.2.2 Notice of Study Commencement

This will be placed in the local newspapers and mailed to agencies, community associations, interest groups, and Indigenous Communities on the mailing list. It will also be placed on the project website. Personalized letters will be sent to agencies and Indigenous Communities along with the notices. The Notice will identify the study, the approach and EA process, and opportunities for public input.

The Notice of Commencement will be sent in early January 2025.

5.2.3 Public Information Centres

Two Public Information Centres (PICs) are planned. The First PIC will be a virtual PIC and will occur midway through the project and will present the study purpose, existing conditions throughout the study area, constraints and opportunities, and evaluation criteria. Alternatives will also be presented at the PIC. This PIC is currently planned for April 2025.

The Second PIC will be an in-person PIC and will occur at the end of the project. It will walk the public through the alternative development and evaluation process and present the recommended alternative. This PIC is currently planned for August 2025.

The PIC will be advertised in newspaper, on the City's website and on City social media platforms. In preparation for each PIC, Agile will:

- Prepare the Draft Notice of PIC for the City to advertise in local newspapers, and place on the website and other social media platforms.
- Prepare all coloured displays, sign-in sheets and comment forms.
- Provide final displays in PDF format to the City for posting on the project's website.
- Provide professional staff and facilitate the PIC events.

5.2.4 Notice of Completion

The notice will include a description of the study and consultation process, the recommended solution, Master Servicing Plan viewing locations, and public comment options. The goal is to publish the notice of completion in September 2025.

5.3 Roles and Responsibilities

The City will be response for leading the following:

- Publication of notices on the website, in the papers and on social media.
- Media Communications
- Indigenous Community Consultations
- Communications to Senior Staff and Council

Agile will support the above by preparing relevant consultation materials. Agile will also be responsible for maintaining the mailing list, PIC preparation and attendance, responding to comments, preparing notices and all documentation.

6 Consultation and Engagement Documentation

6.1 Issues Management and Tracking

All contact information will be contained in a database such that all comments received can be and stored easily and efficiently. All comments will be responded to, and a comment and

responses log will be prepared, and updated after each PIC. All communication with external parties will be tracked, with exception of confidential information (including name and address of public members) to become part of the Master Plan.

6.2 Consultation Reports

All activities will be documented in the following reports:

- Interim Consultation Report #1 – to be prepared following PIC #1.
- Interim Consultation Report #2 – to be prepared following PIC #2; and include all consultation activities since the commencement of the project.
- Final Consultation Report.

6.3 Master Plan Documentation

The final Master Plan will summarize all public and agency consultation documentation, with the exception of confidential information, notifications, meetings, workshops, PICs, comments and responses will be included.

The Master Plan will be made available for public review as part of the filing at the conclusion of the studies. A Notice of Study Completion will be prepared. The purpose of these notices is to announce the studies' completion and begin the minimum 30-day public review periods. Hard copies of the final ESRs will be filed at agreed public facilities. Electronic copies and supporting appendices will also be made available on the project website.

As with all the notices, the Notices of Study Completion will be advertised on the website and in local newspapers.

6.4 AODA Compliance

All public documents will be compliant with the Accessibility for Ontarians with Disabilities Act (AODA) where possible. Upon request, alternate formats of reports will be made available.

Appendix B – Stakeholder List

Project Name:	Water and Stormwater Master Servicing Plan
Client:	City of Port Colborne
Version Date:	November 12, 2025 (Version 3)

Organization	Role/Title	Stakeholder Category
3BP	Project Manager	Project Team
City of Port Colborne	Manager of Infrastructure	Project Team
Niagara Region	Manager Water Wastewater Infrastructure Planning	Technical Steering Committee
City of Port Colborne	City Clerk, Port Colborne	Proponent Municipality
City of Port Colborne	Director of Public Works	Proponent Municipality
City of Port Colborne	Chief Planner	Proponent Municipality
City of Port Colborne	Environmental Compliance Manager	Proponent Municipality
Niagara Region	Director	Municipality - Regional
Township of Wainfleet	Director of Operations (Manager of Operations)	Municipality - Neighbouring
City of Welland	Director of Engineering and Public Works	Municipality - Neighbouring
Town of Fort Erie	Director of Infrastructure Services/Public Works	Municipality - Neighbouring
City of Port Colborne	Mayor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Councillor	Proponent Municipality - Council
City of Port Colborne	Regional Councillor	Proponent Municipality - Council
Six Nations of the Grand River	**Consultation Supervisor**	**Indigenous Communities**
Haudenosaunee Development Institute	**Environmental Monitor**	**Indigenous Community**
Mississaugas of the Credit First Nation	**Acting Consultation Coordinator**	**Indigenous Community**
Mississaugas of the Credit First Nation	**Environment Sustainability Councillor**	**Indigenous Community**
Mississaugas of the Credit First Nation	**Director of Consultation and Accommodation**	**Indigenous Community**
Mississaugas of the Credit First Nation	**Chief**	**Indigenous Community**
Assembly of First Nations	Regional Chief, Ontario	Indigenous Community
Association of Iroquois and Allied Indians	Office Manager	Indigenous Community
Metis Nation of Ontario		Indigenous Community

City of Port Colborne
Water and Stormwater Master Servicing Plan
Stakeholder Registry

Project Name:	Water and Stormwater Master Servicing Plan
Client:	City of Port Colborne
Version Date:	November 12, 2025 (Version 3)

Organization	Role/Title	Stakeholder Category
Metis Nation of Ontario	Manager, Environmental Assessments and Regulatory Issues	Indigenous Community
Metis Nation of Ontario		Indigenous Community
Niagara Region Metis Council	President	Indigenous Community
Niagara Regional Native Centre		Indigenous Community
Canadian Section, International Niagara Board of Control	Secretary	Ministry - Federal
Canadian Environmental Assessment Agency	Regional Director	Ministry - Federal
Impact Assessment Agency of Canada	Regional Director	Ministry - Federal
Department of Fisheries and Oceans Canada		Ministry - Federal
Department of Environment and Climate Change Canada	Manager Environmental Assessment Section	Ministry - Federal
Department of Indigenous and Northern Affairs Canada	Environmental Assessment Coordinator	Ministry - Federal
Federal Economic Development Agency for Southern Ontario	Manager of Program Delivery, Infrastructure Operations	Ministry - Federal
Federal Economic Development Agency for Southern Ontario	Program Policy Advisor	Ministry - Federal
Health Canada	Ontario Regional Manager	Ministry - Federal
Transport Canada	Regional Manager, Environment and Engineering	Ministry - Federal
Transport Canada	Regional Manager, Navigable Water Protection Program	Ministry - Federal
Transport Canada		Ministry - Federal
Ministry of the Environment, Conservation and Parks	Project Information Form - Online Submission	Ministry - Provincial
Ministry of the Environment, Conservation and Parks	EA & Planning Coordinator, West Central Region	Ministry - Provincial
Ministry of Solicitor General	Manager Capital Planning Facilities and Capital Planning Branch	Ministry - Provincial
Ministry of Solicitor General	Manager Delivery and Operations Facilities and Captial Planning Branch	Ministry - Provincial
Infrastructure Ontario	Environmental Management Director	Ministry - Provincial
Infrastructure Ontario	Vice President Portfolio Planning and Development	Ministry - Provincial
Infrastructure Ontario	Planning Analyst	Ministry - Provincial
Ministry of Agriculture, Food and Rural Affairs		Ministry - Provincial
Ministry of Citizenship and Multiculturalism	Team Lead Heritage	Ministry - Provincial
Ministry of Citizenship and Multiculturalism	Heritage Planner	Ministry - Provincial
Ministry of Economic Development , Employment and Infrastructure	Assistant Deputy Minister, Infrastructure Policy Division	Ministry - Provincial
Ministry of Infrastructure	Director, Infrastructure Policy Division	Ministry - Provincial
Ministry of Municipal Affairs and Housing	Senior Housing Advisor	Ministry - Provincial
Ministry of Tourism, Culture and Sports	Coordinator Resource-Based Tourism	Ministry - Provincial
Ministry of Tourism, Culture and Sports	Senior Policy Advisor	Ministry - Provincial
Ministry of Transportation	Manager Environmental Policy Office	Ministry - Provincial
Ministry of Transportation	Manager Engineering Program Devliery Central	Ministry - Provincial

City of Port Colborne
Water and Stormwater Master Servicing Plan
Stakeholder Registry

Project Name:	Water and Stormwater Master Servicing Plan
Client:	City of Port Colborne
Version Date:	November 12, 2025 (Version 3)

Organization	Role/Title	Stakeholder Category
Ministry of Indigenous Affairs and First Nations Economic Reconciliation		Ministry - Provincial
Ontario Provincial Police	Facilities Envrionmental Consultant	Ministry - Provincial
Ontario Provincial Police	Facilites Coordinator	Ministry - Provincial
Peace Bridge Authority	General Manager	Ministry - Provincial
Ministry of the Attorney General, Aboriginal Justice Division	Director	Ministry - Provincial
Ministry of Indigenous Affairs		Ministry - Provincial
Ministry of Economic Development, Employment and Infrastructure	Assistant Deputy Minister, Infrastructure Policy	Ministry - Provincial
Ministry of Municipal Affairs and Housing	Manager Community Planning and Development	Ministry - Provincial
Niagara Escarpment Commission	Senior Strategic Advisor, South Region	Escarpment Commission
Niagara Peninsula Conservation Authority	Ecology Technician - Planning & Regulations	Conservation Authority
Niagara Peninsula Conservation Authority	Senior Manager, Water Resources	Conservation Authority
Niagara Peninsula Conservation Authority	Water Quality Specialist	Conservation Authority
Niagara Peninsula Conservation Authority	Project Manager, Niagara River Remedial Action Plan	Conservation Authority
CN Rail	Public Works	Rail/Transit
CP Rail	Director Project and Public Works	Rail/Transit
CP Rail		Rail/Transit
CP Rail		Rail/Transit
Metrolinx	Director Environmental Programs and Assessment	Rail/Transit
TransCanada Pipelines	Project Manager, Eastern Region	Rail/Transit
TransCanada Pipelines	Canada Pipeline Operations, Eastern Region	Rail/Transit
TransCanada Pipelines	Community Relations Liaison, Eastern Region	Rail/Transit
TransCanada Pipelines	Maintenance Manager Maple/Niagara Facilities, Eastern Region	Rail/Transit
Trans Canada Pipelines	Supervisor, Right-of-Way	Rail/Transit
Great Lakes St. Lawrence Seaway		Rail/Transit
Ontario Power Generation	Senior Manager EH&S	Utillities
Infrastructure Ontario	Landuse Planning Analyst	Ministry - Provincial
Infrastructure Ontario	Notice Review Email	Ministry - Provincial
Upper Canada Planning & Engineering Ltd.		Developer/Engineer

Appendix C – Notice of Study Commencement

City of Port Colborne

Notice of Study Commencement

Water and Stormwater Master Servicing Plan

About the Study

The City of Port Colborne has initiated the Water and Stormwater Master Servicing Plan Study. The Study will:

- Review the existing condition and performance of the current water and stormwater systems.
- Consider the impacts of population growth on the water and stormwater systems.
- Identify and assess strategies for meeting existing and future water and stormwater servicing needs.
- Establish an overall management strategy and vision for meeting short- and long-term water and stormwater infrastructure needs through to the year 2051 and beyond.

The City will use the Water and Stormwater Master Servicing Plan's resultant Capital Program and Action Plan to inform future water and stormwater system capacity allocations, infrastructure upgrades, and financial planning decisions.

The Process

The Master Servicing Plan Study will be completed in accordance with the requirements of the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process for Master Planning, satisfying Phases 1 and 2 of the Class EA process.

Get Involved

Key audience input is a critical part of the Master Planning Process. The City of Port Colborne encourages its residents, businesses, and other interested parties to participate in the development of the Water and Stormwater Master Servicing Plan.

You may provide comments, questions, and concerns to the project team at any time during the study. Two Public Information Centres will be held throughout the study.

How to Participate

The City of Port Colborne will be posting information about the Water and Stormwater Master Servicing Plan on a project website at portcolborne.ca/waterandstormwater. Additional project notices will be advertised on the City's website, in the Welland Tribune newspaper, and mailed (or emailed) to potentially impacted residents, businesses, Indigenous Communities and other key audiences. When the study is completed, a copy of the Water and Stormwater Master Servicing Plan report documenting the study process and recommendations will be available for public review and comments.

You can also contact the project team with any questions related to this study or to be added to the project contact list:

Joe Colasurdo
Manager of Strategic Projects
City of Port Colborne
1 Killaly Street West
Port Colborne, ON L3K 6H1
905-228-8135
Joe.Colasurdo@portcolborne.ca

Julien Bell, P.Eng.
Project Manager
Agile Infrastructure
16 Welsh Drive
Ayr, ON N0B 1E0
416-254-6247
Julien.Bell@agileinfrastructure.ca

This notice was first issued on Saturday, January 25, 2025

With the exception of personal information, all comments will become part of the study's public record.

If you require this information in an accessible format, please contact 905-835-2900.

Appendix D – PIC Materials

PORT COLBORNE

November 13, 2025

RE: Project Status Update – 2025 Pollution Prevention Control Plan
Project Status Update – Water and Stormwater Master Servicing Plan

Greetings,

The City of Port Colborne would like to begin by respectfully acknowledging that the Niagara Region is situated on treaty land, steeped in the rich history of the First Nations, including the Hatiwendaronk, the Haudenosaunee, and the Anishinaabe peoples, as well as the Mississaugas of the Credit First Nation. Today, many First Nations, Métis, and Inuit peoples from across Turtle Island continue to live and work throughout the Niagara Region. The City of Port Colborne stands with all Indigenous peoples, past and present, in promoting the wise stewardship of the lands and waters on which we live.

The City also acknowledges that Indigenous peoples are the enduring stewards and caretakers of these lands and waters, continuing to uphold their responsibilities to ensure their health, integrity, and sustainability for generations to come.

Background and Scope:

The City of Port Colborne is undertaking two Master Plan studies:

- 2025 Pollution Prevention Control Plan (2025 PPCP) (with GEI Consultations Canada) - The purpose of the 2025 PPCP is to develop an action plan that outlines and prioritizes long-term strategies to manage the wastewater system and future growth in the City.
- Water and Stormwater Master Servicing Plan (WSMSP) Update (with Agile Infrastructure) – The purpose of this study is to establish an overall management strategy and vision for meeting short- and long-term water and stormwater infrastructure needs in the City of Port Colborne through to the year 2051 and beyond

The purpose of this letter is to:

1. Update you on the progress on the 2025 PPCP and WSMSP Update studies, and their preliminary recommendations.
2. Provide notification of the upcoming Joint Public Information Centre (PIC).

PORT COLBORNE

3. Invite you to provide input into the studies in a manner you prefer, such as meetings to discuss recommendations or providing comments on information presented herein.

While the 2025 PPCP and the WSMSP Update studies are being undertaken independently, there are comment elements to each study. As such, we are providing information on both studies in this letter. In additional, the City is planning a Joint Public Information Centre (PIC) to present information on the Master Plan studies. The objectives of the PIC are to present preliminary evaluation results and receive input and feedback on the each of the proposed strategies.

The 2025 PPCP and the WSMSP Update are being undertaken as Approach 1 Master Planning studies, satisfying Phases 1 and 2 of the Municipal Engineers Association Class Environmental Assessment process (October 2000, as amended in 2007, 2011, 2015, 2023, and 2024), which is an approved process under the *Ontario Environmental Assessment Act*. Each study will:

- Identify the problem to be solved through review of the existing conditions and performance of the current systems, and consideration of the impacts of population growth on these systems.
- Identify and assess strategies for meeting existing and future servicing needs.
- Establish overall management strategies to inform future policies, practices and capital planning decisions to support future servicing needs to 2051.

Profile of Proponent and Study Area:

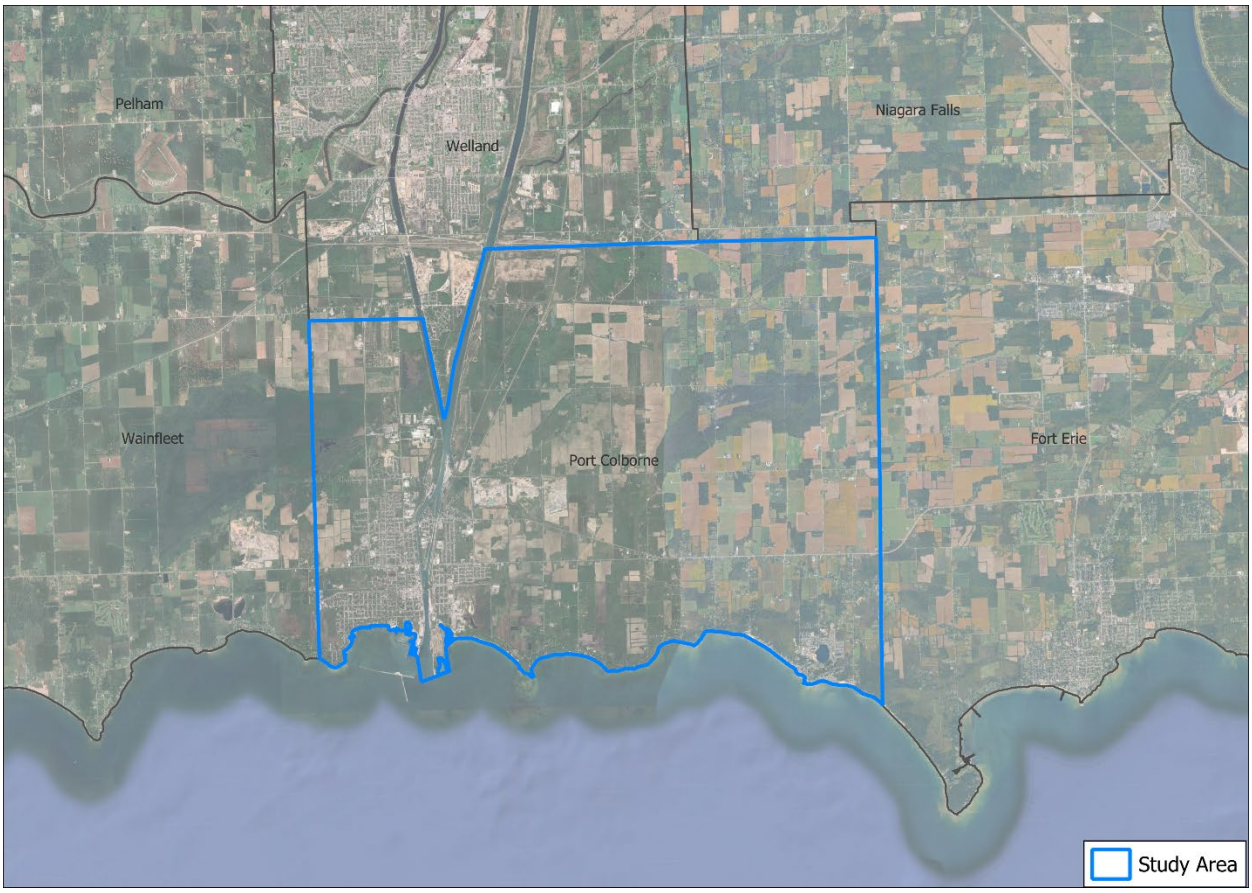
The City of Port Colborne is one of twelve local tier municipalities within the Regional Municipality of Niagara (Region). The City of Port Colborne is situated on the north shore of Lake Erie, at the mouth of the Welland Canal. It is bounded by the Township of Wainfleet to the west, the Town of Fort Erie to the east and the Cities of Welland and Niagara Falls to the north. Additionally, the lands are within Treaty 3, Between the Lake Purchase.

The City of Port Colborne and the Regional Municipality of Niagara (Niagara Region) share responsibilities in providing water and wastewater services to the citizens of Port Colborne. The Region is responsible for wastewater treatment and conveyance, as well as water treatment and distribution, through its network of pumping stations, force

mains, storage facilities, and major trunk sewers and watermains. The City is responsible for the local wastewater collection and water distribution systems, which consist of City owned and operated local sewers and watermains, and smaller City-owned pumping stations, forcemains and storage facilities.

Unlike the water and wastewater systems, it is predominantly the City's responsibility to manage the stormwater conveyance systems and treatment facilities. Outside of the City's urban boundary, the stormwater system largely consists of roadside ditches and culverts collecting and conveying stormwater runoff to local creeks and rivers before discharging to the Welland Canal, Lake Erie, or to the Niagara River (via tributaries). While inside the City's urban boundary the stormwater system largely consists of a conventional sewer network, with limited areas serviced by roadside ditches.

The Study Area for both the 2025 PPCP and the WSMSP Update is the same and encompasses the City of Port Colborne, as shown on **Map 1**.



Evaluation Process of Alternatives:

As a first step in each study, the condition and performance of the existing systems were analyzed and capacity requirements to meet future population growth needs were identified. Alternative strategies to meet future servicing needs, while improving system operations where required were then identified.

To evaluate alternatives strategies, a multi-step evaluation process considering technical, natural environment, social-cultural heritage and financial criteria was used to select the best overall strategies, while minimizing and mitigating impacts on the environment and communities. The following principles were used to selecting preferred strategies:

- Avoid natural areas of significance as identified in the City of Port Colborne's Official Plan including significant valleylands, wildlife habitats, woodlots, and Areas of Natural and Scientific Interest (ANSIs).
- Avoid areas where archaeological and cultural heritage resources have been previously identified.
- Select routes or sites for wastewater, water and stormwater infrastructure with areas that have already been disturbed, such as existing Right of Ways.
- Utilize existing infrastructure versus building new infrastructure, where feasible.

It is noted that no new studies or investigations of natural heritage, archaeological resources, or cultural heritage resources were completed as part of the Master Planning processes. These studies will be undertaken when specific infrastructure projects identified in the Master Plan studies are to be implemented.

Recommended Pollution Prevention Control Plan Strategy:

The City is aware of the cultural importance and the community interests in the quality and safety of the water of Lake Erie as the downstream waterbody for any system overflows and bypasses. The strategy therefore is aimed at reducing the frequency and volume of wastewater overflows and bypasses from the system to the environment. To reduce the potential for untreated discharges into Lake Erie, the preferred strategy focuses on reducing the amount of wet weather flow that makes its way into the wastewater system during extreme rainfall events, which in turn, overwhelms the sewers and pumping stations. The wet weather flow reduction involves activities such as lateral lining, sewer rehabilitation works, and disconnections to the wastewater system. The City is currently undertaking this work.

PORT COLBORNE

Capital Projects are proposed at key locations, including sewer upsizing sections, new sewer sections, and new forcemains, which are adequately sized to handle larger storm events and improve the system's overall flood resiliency. However, the 2025 PPCP recommends additional flow monitoring and localized model recalibration after completing the wet weather flow reduction activities to confirm if upsizing Capital Projects are still required.

Recommended Water and Stormwater Master Servicing Strategy:

The recommended water servicing strategy is aimed at improving the existing system performance through reducing water loss and at providing sufficient capacity to meet existing and future community and fire flow needs. The projects involve upgrades and rehabilitation of existing watermains and construction of new watermains. These watermains are planned to be constructed in road right of ways. The review and recommendations for additional treatment, pumping or storage facilities are not included in the scope of this study.

The recommended stormwater management strategy involves upgrading and expanding the current stormwater system through sewer upgrades, new sewers, re-configuration and upgrades to local drainage networks and outlets, as well as existing outlet improvements. For new greenfield development, the strategy is a combination of Low Impact Development (LID**)** methods to manage stormwater at source, and construction of facilities such as detention pond, retention basin, to manage and treat stormwater prior to discharge to receiving waters. New infrastructure will be subject to additional studies and investigations prior to implementation.

Next Steps and Engagement Plan:

The City of Port Colborne recognizes the importance of the engagement and consultation process and values the input and feedback from your community. We invite you to provide your community's comments and perspectives on the studies, as well as attend the Joint PIC:

Date: **Wednesday, December 3, 2025**

Time: **3:00 pm to 7:00 pm**

Location: Vale Health & Wellness Centre, 550 Elizabeth Street, Port Colborne Golden Puck Room

PORT COLBORNE

The PIC will provide you with an opportunity to hear project updates, provide input, and ask questions. Representatives from the City, and their consultants will be available to discuss project information and respond to questions.

Based on comments received the recommended strategies will be finalized, and Master Plan reports prepared. It is anticipated that 2025 PPCP and the WSMSP Update reports will be complete in 2026 and made available for a 30-day public review at that time.

We look forward to your involvement in the 2025 PPCP and WSMSP Studies. Should you have any questions or would like to meet (in-person or virtual), please don't hesitate to contact the me.

Sincerely,



Joe Colasurdo C.E.T.
Manager of Strategic Projects
City of Port Colborne
1 Killaly Street West
Port Colborne, ON L3K 6H1
905-228-8135
Joe.Colasurdo@portcolborne.ca



Agile
INFRASTRUCTURE

CITY OF PORT COLBORNE

WATER AND STORMWATER MASTER PLAN

Public Information Centre

December 3, 2025 | 3 – 7 PM

Vale Health & Wellness Centre
550 Elizabeth Street, Port Colborne, ON

Welcome to the Public Information Centre

Public Information Centre Objectives

- Present the study objectives and Problem and Opportunity Statement
- Present the Master Plan Class Environmental Assessment (EA) process
- Present an overview of the City's existing water and stormwater systems
- Present planned future growth and the associated opportunities and challenges to the water and stormwater systems
- Present the proposed alternatives, water and stormwater evaluation, and preliminary preferred long-term management strategies.
- Receive feedback on all the presented materials and incorporate it into the project moving forward

- Please sign in and take a comment sheet
- Review the information on the display boards and talk to the Project Team
- Submit comments in person or online

Project Objectives

The 2025 Water and Stormwater Master Plan will identify and develop a **long-term water and stormwater servicing strategy** and capital forecast to achieve the desired infrastructure performance objectives for **existing and future residents and businesses**, with consideration for expanding services to support critical employment opportunities. This will support projected **future growth in the community to 2051** and consider **potential impacts beyond 2051**.

- Detailed Inventory and Characterization of Existing Systems
- Update and Calibrate the Water Hydraulic Model & Develop New Stormwater Hydraulic Model
- Confirm Desired Water and Stormwater System Performance Targets
- Quantify How the System is Performing Now and, in the Future, (with Growth)
- Identify the Long-Term Management Strategy
- Develop Capital Program (Budget) and Implementation Plan (Schedule)

Master Plan and Class EA Process

Through the Water and Stormwater Master Plan, we will complete Phases 1 and 2 of the Municipal Engineers Association (MEA) Class EA process.

Environmental Assessment Process – Phases 1 and 2

Problem and Opportunity

- What is the state of the existing infrastructure?
- How does the system work?
- Where is the system working well and where are there issues?
- Problem and opportunity statement

Identify Alternative Solutions

- How do we meet existing and future needs?
- What are potential concepts and strategies that would achieve our needs?
- What type of infrastructure upgrades and modifications are required for each potential solution?

Evaluate Alternative Solutions

- How well does each potential solution perform against various criteria?
- Are there opportunities to merge potential solutions to optimize outcomes?
- What is the best solution and why?
- **Public Information Centre**

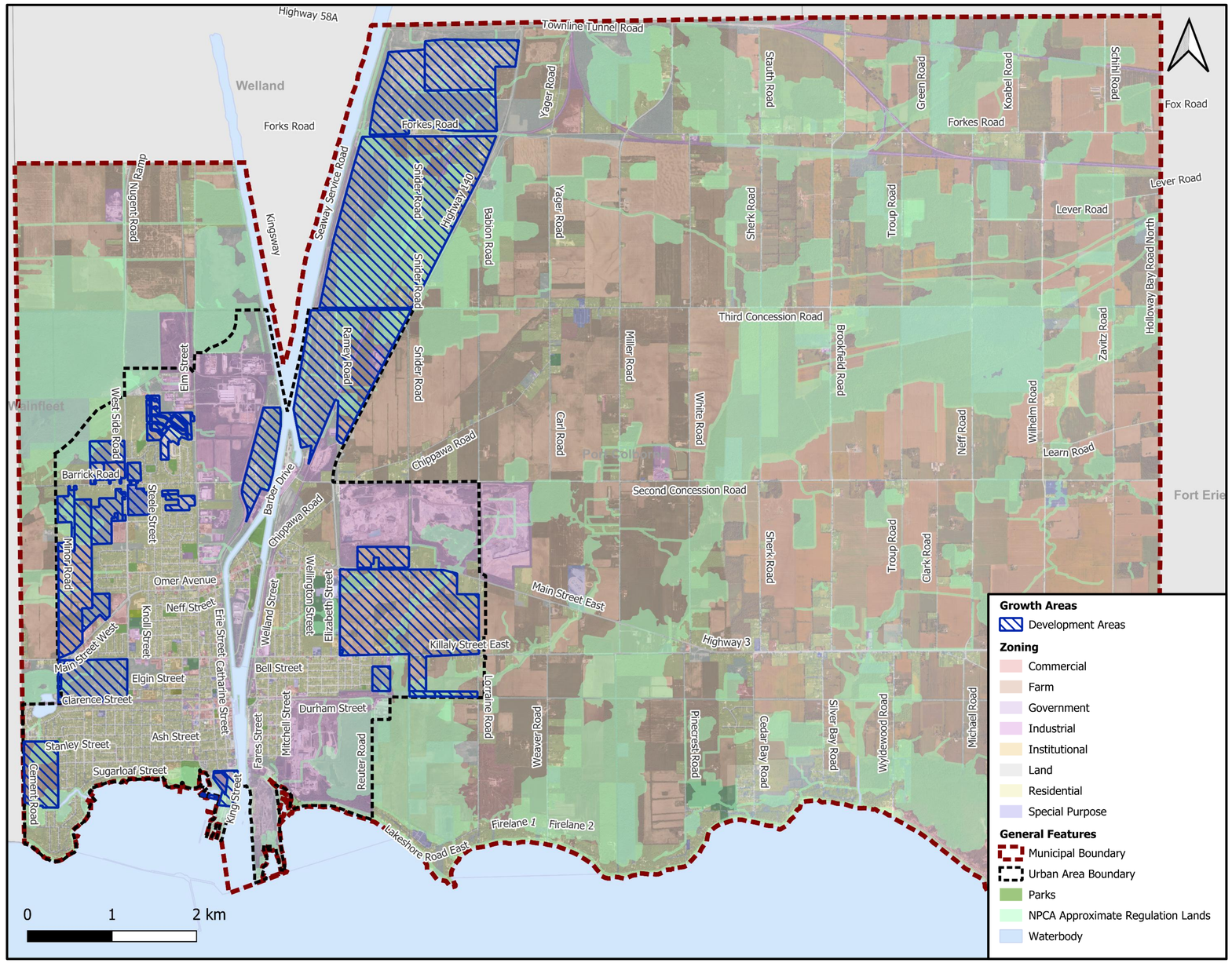
We are here

Select Preferred Solution

- What are the next steps required to implement the preferred solution?
- Project file reports – documentation of the Master Plan
- Project Notice of Completion
- 30-Day Public Review
- Finalization of Project File

The Master Plan process is outlined in Section A.2.7 of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (Oct 2000, as amended in 2007, 2011, 2015, 2023, 2024)

Growth Scenario



Growth Planning:

- **Water and Stormwater Infrastructure have 50 to 100 + year life span –** Need to build a resilient network that supports reliable service as the City grows
- **Plan for the long-term** using a 2051 planning horizon while considering full build-out
- Growth includes several larger water users to support industrial processes

	2051 Growth Scenario	Buildout Growth Scenario
Residential Growth (people)	11,447	19,167
Employment Growth (people)	10,271	10,271
Additional High Water Use Employment Area (ha)	191	191
Additional High Water Use Employment Area (MLD)	14.9	14.9

Alternatives Development and Evaluation Process

How do we know that we need to upgrade the water or stormwater infrastructure?

What thresholds do we use to identify infrastructure upgrades?

How do we balance minimizing project costs while maintaining a sufficient capacity buffer?

Identify Long List of Servicing Concepts

→

Screen Long List of Servicing Concepts based on their ability to meet the Problem/ Opportunity Statement

→

Evaluate Short List of Servicing Alternatives based on Detailed Evaluation Criteria

→

Identify Preferred Water and Stormwater Servicing Strategies

Detailed Evaluation Criteria

Technical

- Meets existing and future servicing objectives
- Supports growth servicing and phasing
- Minimizes operational complexity and implementation risk
- Provides system operational reliability and resilience to climate change

Environmental

- Minimizes impacts to natural heritage systems, wildlife and species at risk
- Minimize contributions to climate change.

Social and Cultural

- Minimizes short- and long-term impacts on residents, businesses, and the community
- Minimizes impacts to local cultural heritage and archeological features

Financial

- Capital cost
- Operational and maintenance cost

Water System Management Objectives

Two Tier System

Water servicing is operated under a two-tier system; Niagara Region and the City of Port Colborne

Niagara Region

- Responsible for water treatment, transmission mains, storage facilities, pumping stations
- Long-term planning is guided by the Region's Master Servicing Plan, which identifies system needs and future upgrades

City of Port Colborne

Manages the local water distribution system, including all distribution watermains

City Master Servicing Plan

- Focuses on local water distribution
- Ensures adequate pressures and fire protection
- Maintains high water quality

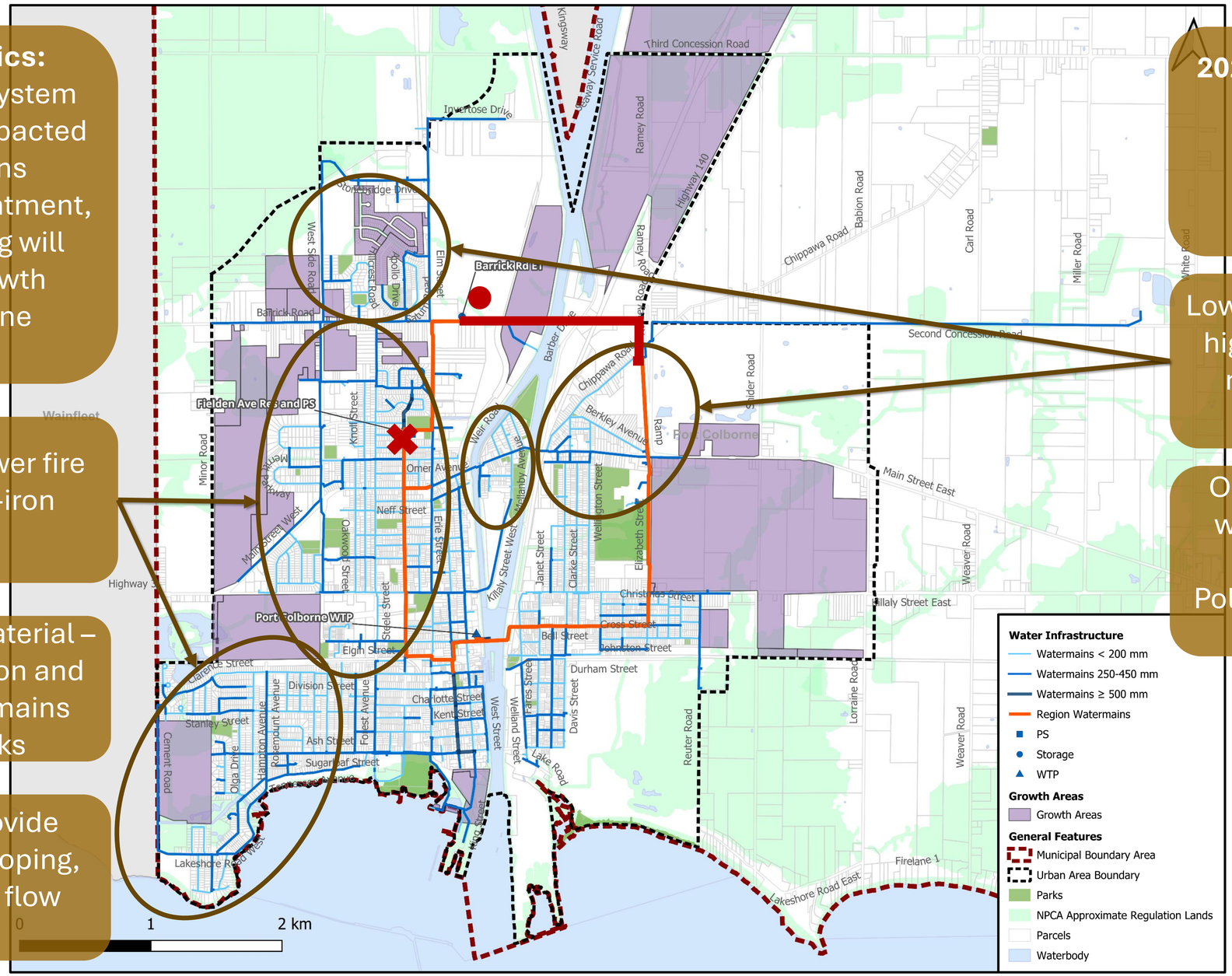
Water System Opportunities and Constraints

System Characteristics:
- Supplied by Region; system pressure and flows impacted Regional operations
- Assumed Regional treatment, storage, and pumping will expand to meet growth
- Single pressure zone maintained

High concentration of lower fire flow in areas with cast-iron watermains

Watermain condition & material – signification aging cast-iron and asbestos cement watermains with a history of breaks

Future growth areas provide opportunity for system looping, leading to improved fire flow capacity

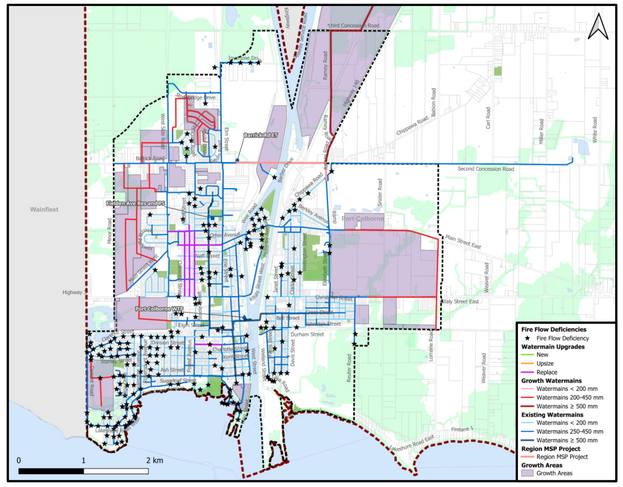


2021 Region MSP Projects:
- New canal crossing
- New Elevated Tank
- Fielden Reservoir decommissioning

Lower pressures in areas with higher elevation; pressures remain above minimum pressure targets.

Opportunity to coordinate with wastewater projects identified through the Pollution Prevention Control Plan (PPCP)

Water System Servicing Concepts & Evaluation

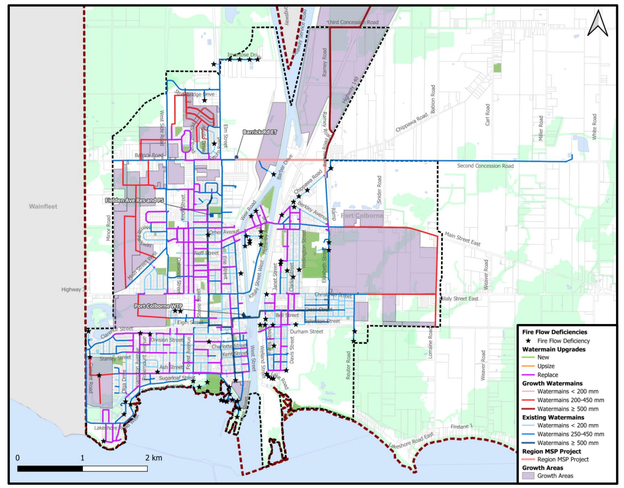


A: Buildout Capital Program

- City's planned watermain replacements
- Targets watermains with frequent breaks or ongoing issues
- Coordinates upgrades with planned municipal construction

Length Replaced**: 4.5 km**

Total System Deficiencies: **31%**

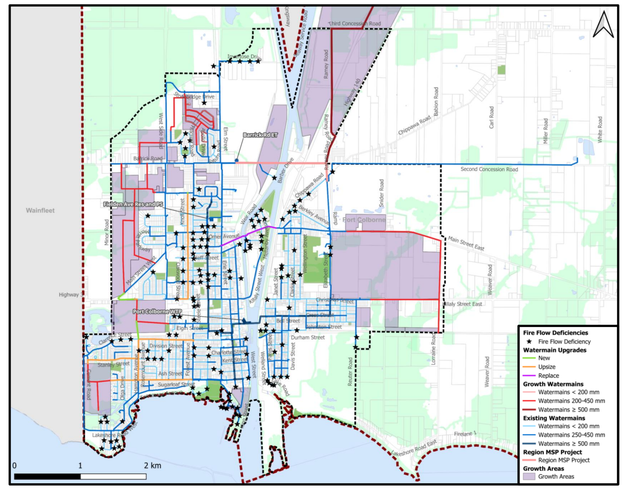


B: Cast Iron Replacement

- Including City's Capital Program
- Replaces all Cast Iron watermains in system
- Focused on localized renewal in areas with frequent watermain breaks
- Limited impact on overall system hydraulics

Length Replaced**: 30.9 km**

Total System Deficiencies: **11%**

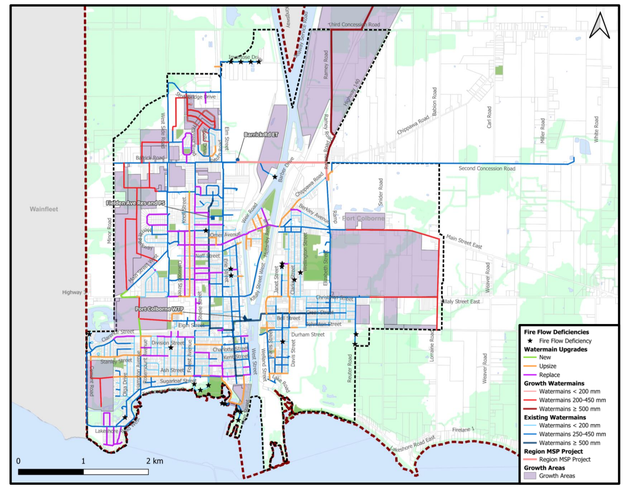


C: Sub-Trunk Loops

- Adds new sub-trunk watermains to enhance fire flow capacity with minimal watermain replacement
- Focused on system performance rather than watermain replacement
- Does not focus on Cast Iron watermains or City problem areas

Length Replaced**: 6.9 km**

Total System Deficiencies: **23%**



C+B: Sub-Trunk Loops & Target Upgrades

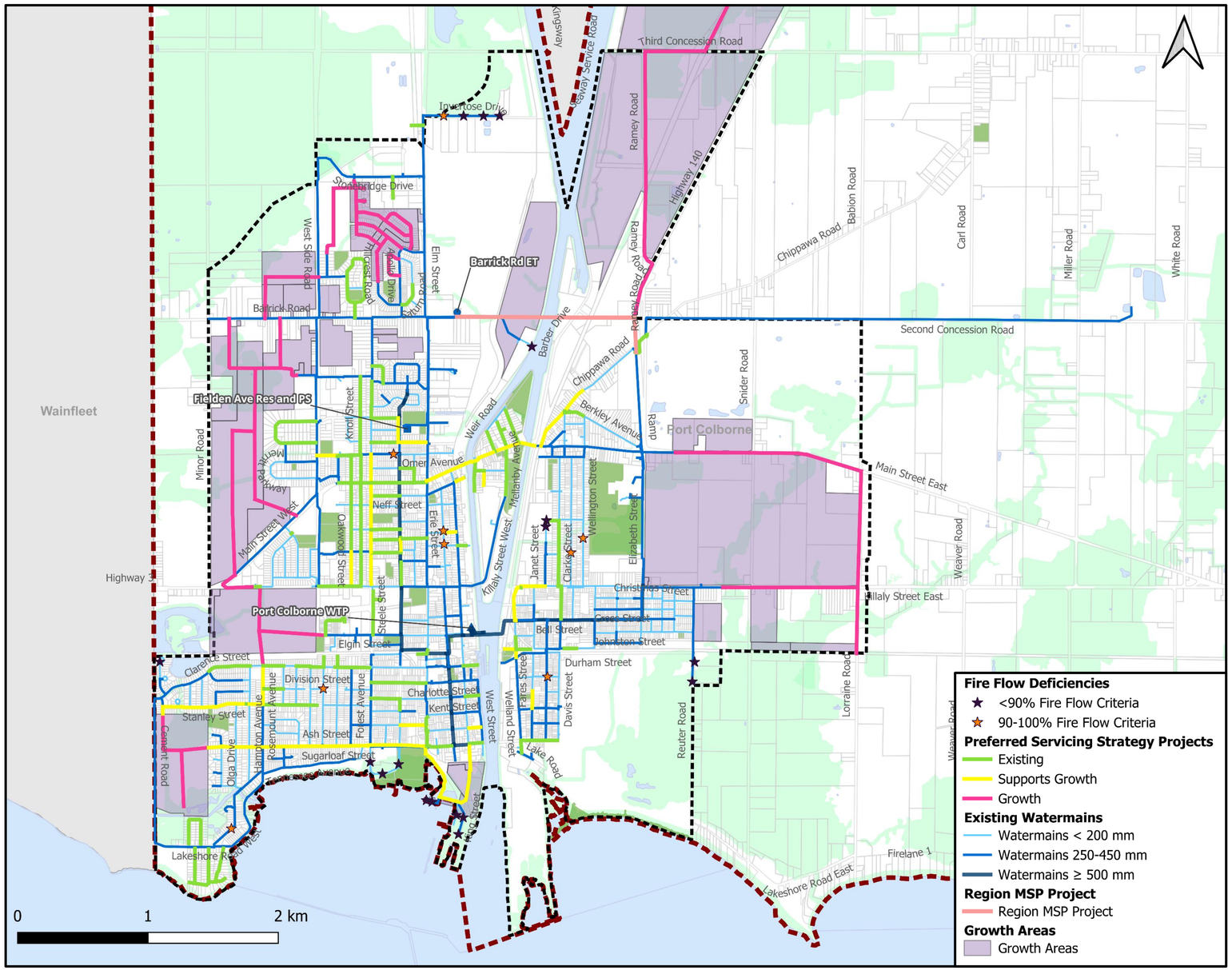
- Combines new looping with replacement of undersized watermains
- Aligned with Cast Iron watermains and watermain breaks
- Focuses on system reliability and addressing fire flow deficiencies

Length Replaced**: 26.1 km**

Total System Deficiencies: **4%**

	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
A: Buildout Capital Program	Medium	Medium	High	High	Not Recommended: Does not address large portion of fire flow deficiencies. To be included as part of overall upgrade plan.
B: Cast Iron Replacement	High	Low	High	Medium	Not Recommended: Provides no additional system resiliency and does not address all fire flow deficiencies
C: Sub-Trunk Loops	Medium	Medium	High	Medium	Not Recommended: Fails to address most fire flow deficiencies or watermain breaks; to be included as part of overall upgrade plan
C+B: Sub-Trunk Loops & Target Upgrades	High	High	High	Medium	**Recommended:** Looping provides additional system resiliency and target upgrades address watermain break issues and fire flow deficiencies

Preliminary Preferred Servicing Strategy



Balanced Approach

- **Alternative C+B (Sub-Trunk Loops and Target Upgrades)** provides the best mix of system resiliency with the looping and meeting fire flow requirements
- Trunk looping to support greenfield growth – 300 mm watermains to accommodate medium-density residential and industrial development

Targeted Investment

- Addressing both deficient areas and loop connectivity
- CI watermain lining and replacement to improve local fire flow
- Prioritize lining where feasible; replace where lining is not viable

Flexibility in Implementation

- Supports a phased approach – Capital Program upgrades can proceed first, followed by looping and local upgrades

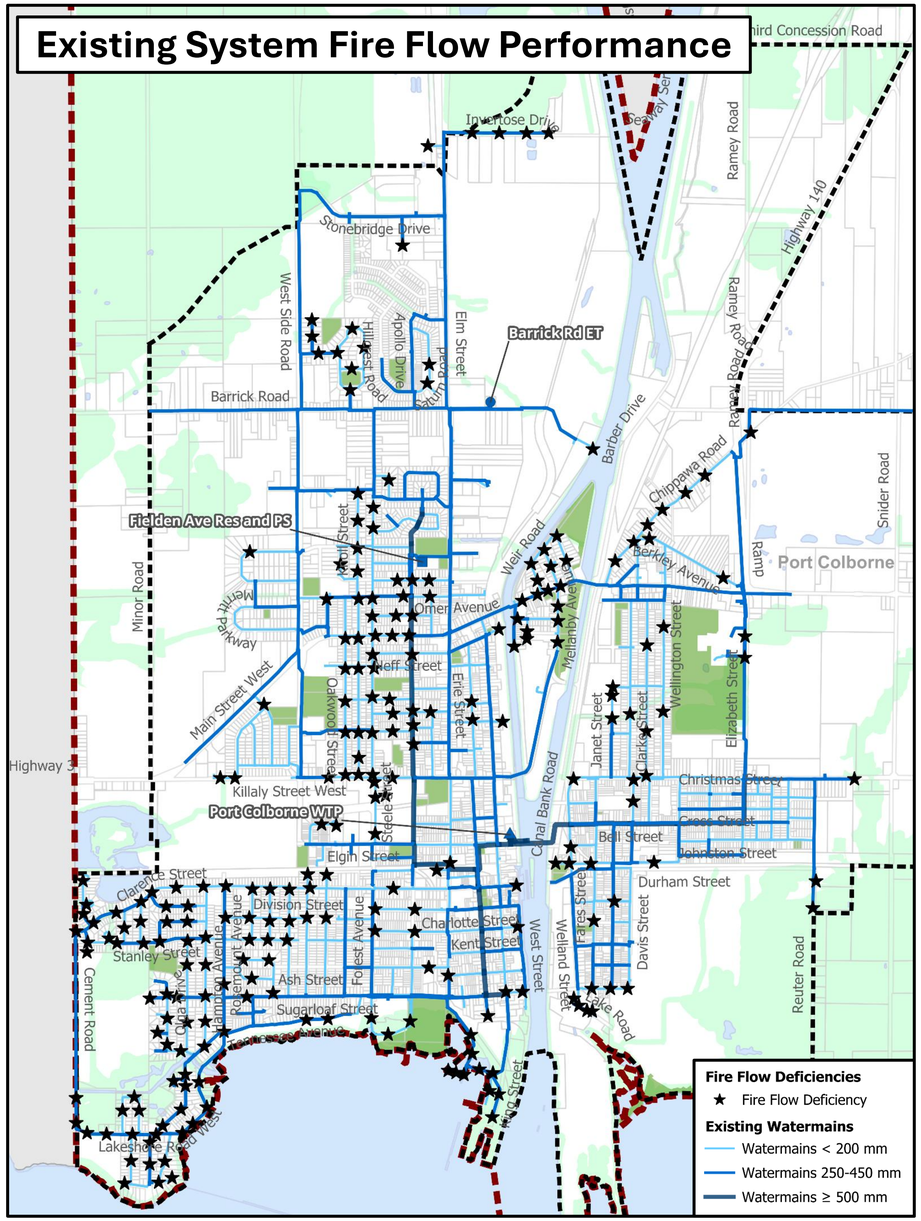
Meets Requirements

- Pressures within allowable range
- Meets fire flow requirements for >95% of system

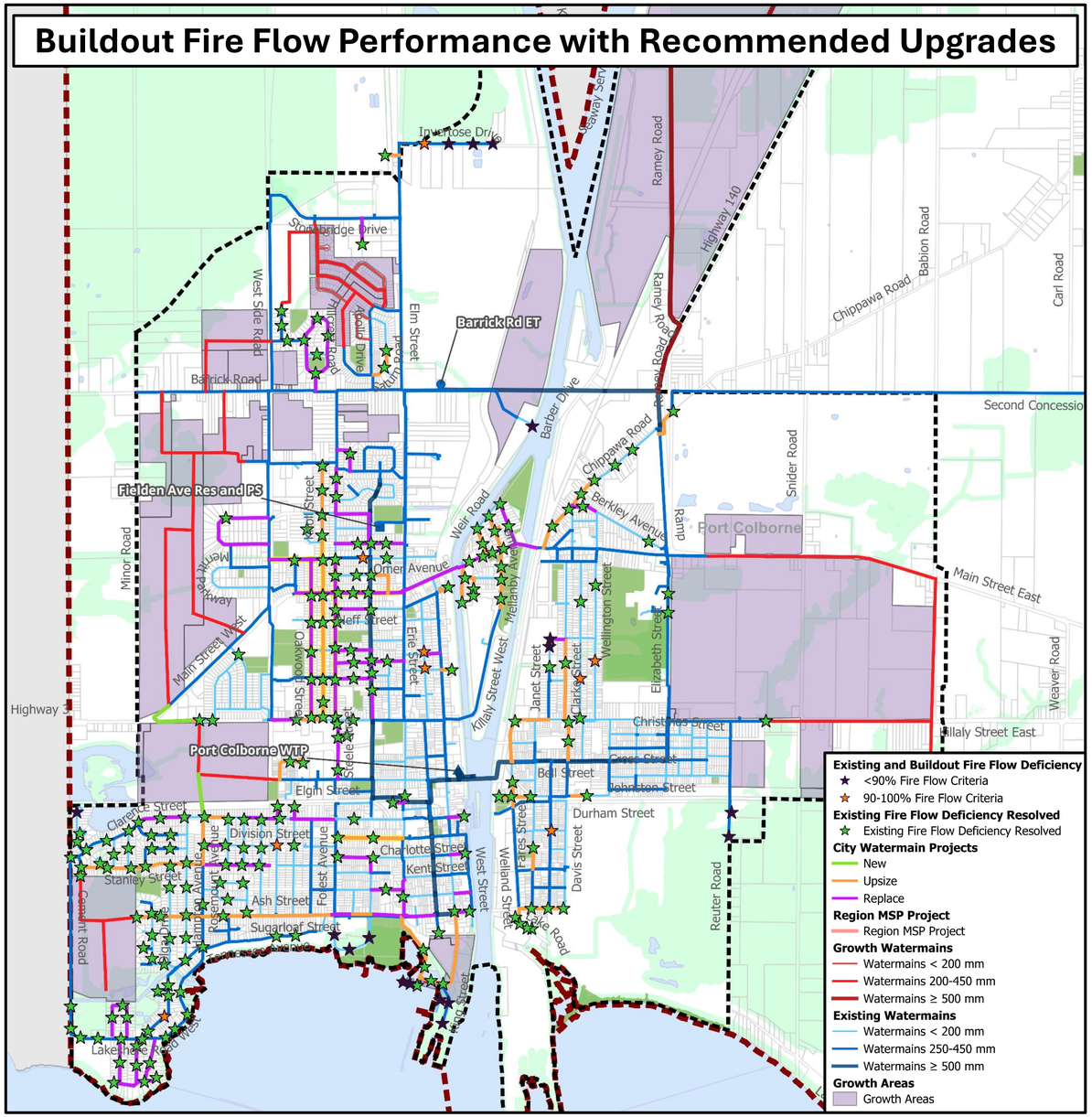
	Length (km)
New Watermains including Growth Areas	20.0
Line Existing Watermains	5.9
Upsize Existing Watermains	11.7
Watermain Replacements (potential lining based on condition)	8.5
Total	**46.1**

Water System Performance

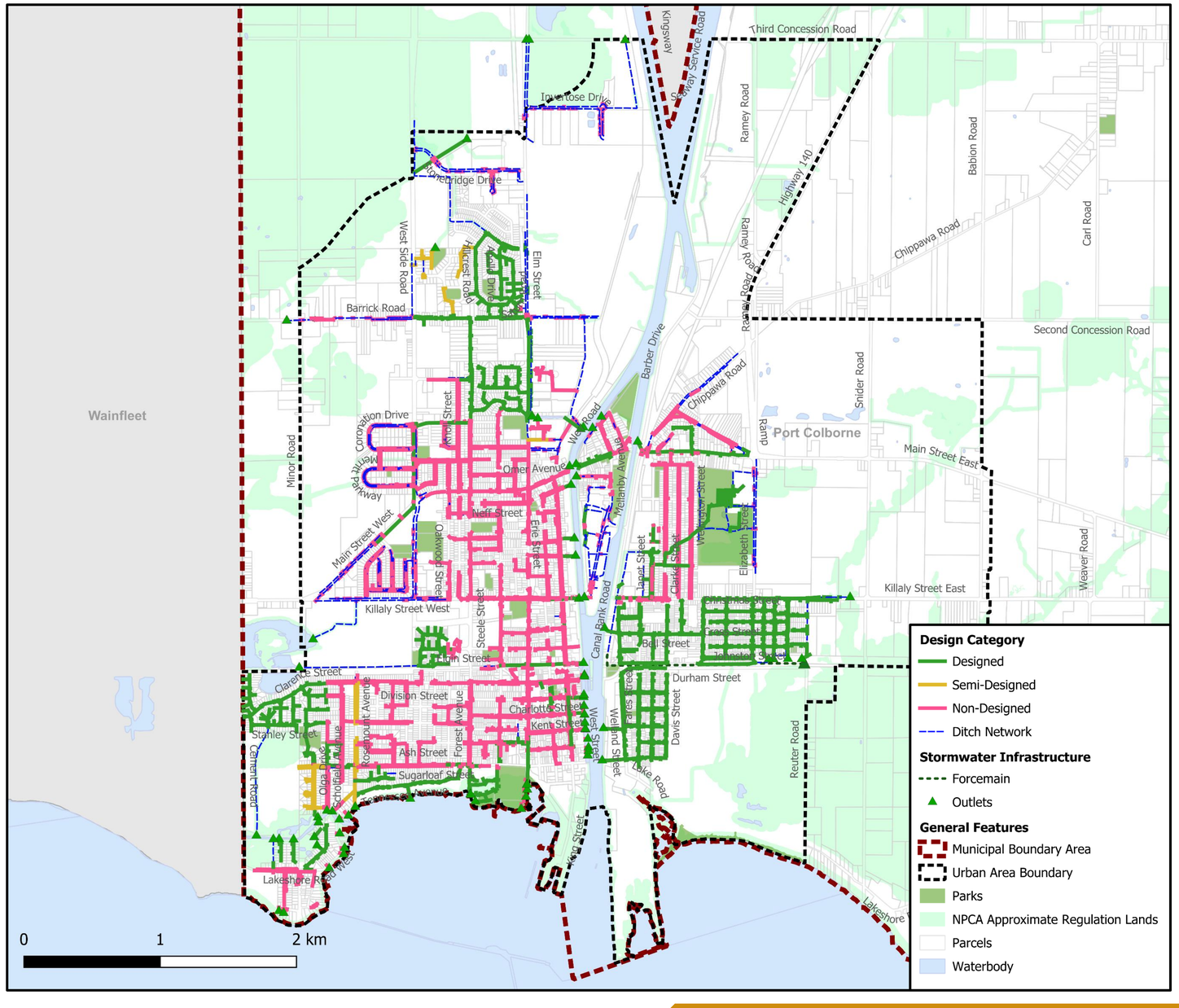
Existing System Fire Flow Performance



Buildout Fire Flow Performance with Recommended Upgrades



Stormwater System Overview



Designed Areas

- Newer stormwater system and trunk sewers
- Built to be consistent with engineering standards
- Generally meets intended design performance

Semi-Designed Areas

- Combination of designed and non-designed sections
- Portions added or modified over time
- Inconsistent design approaches across neighbourhoods

Non-Designed Areas

- System developed ad hoc over many years
- No clear underlying design standards
- Often characterized by parallel pipes and informal routing

Stormwater System Management Objectives

Designed Systems

- To meet the City's design criteria
- Identify localized upgrades and targeted investigations

Semi-Designed / Non-Designed Systems

- Risk and cost-based review
- Review both minor and major systems
- Identify areas needing major upgrades and develop a trunk servicing strategy

City Master Servicing Plan

Focuses on trunk conveyance to the outlets

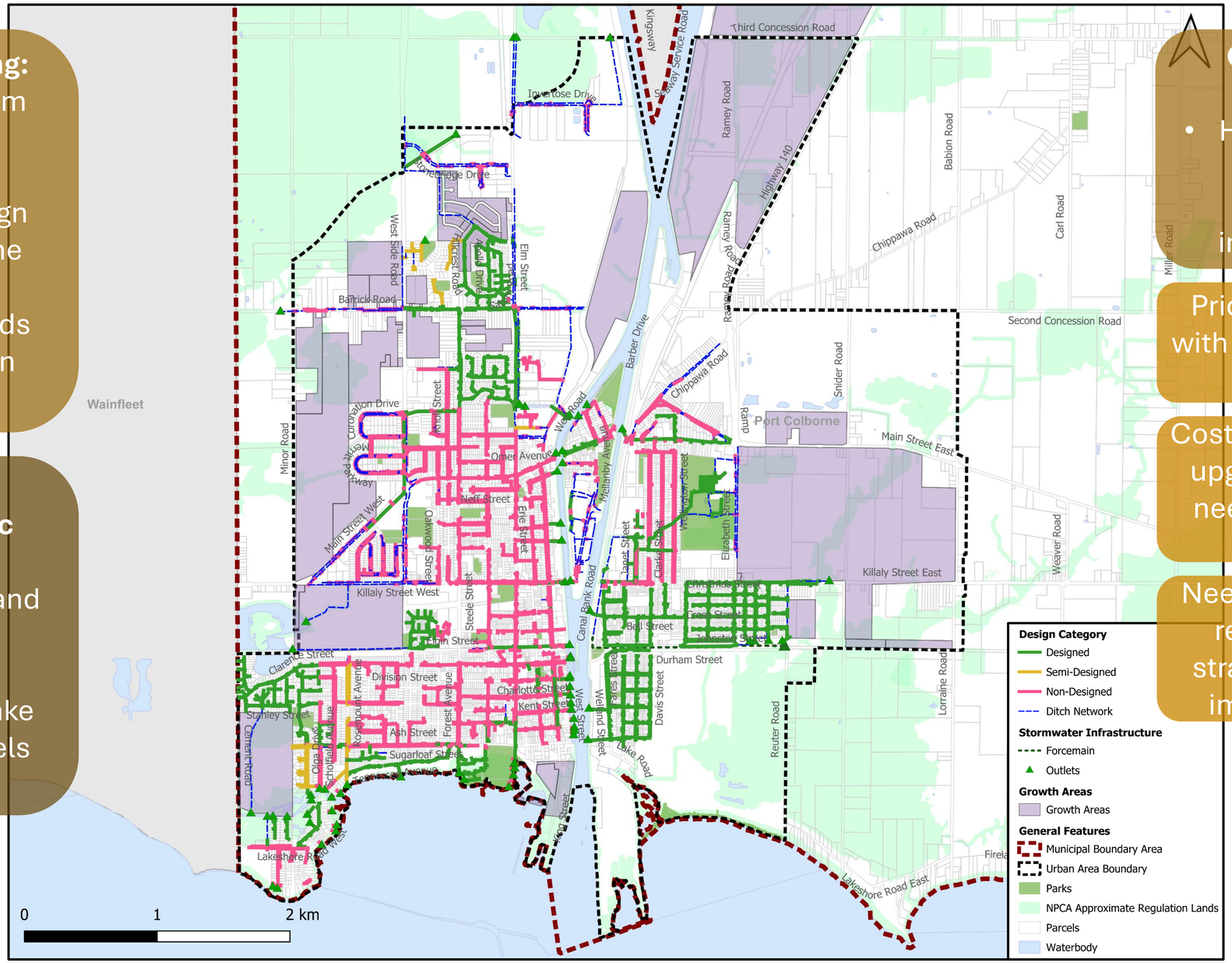
Major Deficiencies: Rebuild and redesign; requirement for major studies and investigation to confirm design

Moderate Deficiencies: Trunk upgrades prioritized; identify key investigation areas

Stormwater System Opportunities and Constraints

System Understanding:
- Uncertainty in system configuration and condition
- Mix of different design standards across the network
- Many neighbourhoods lack a formal design basis

Overland & Hydraulic Constraints
- Limited formal overland flow routes
- Outlet capacity restrictions due to lake and canal water levels



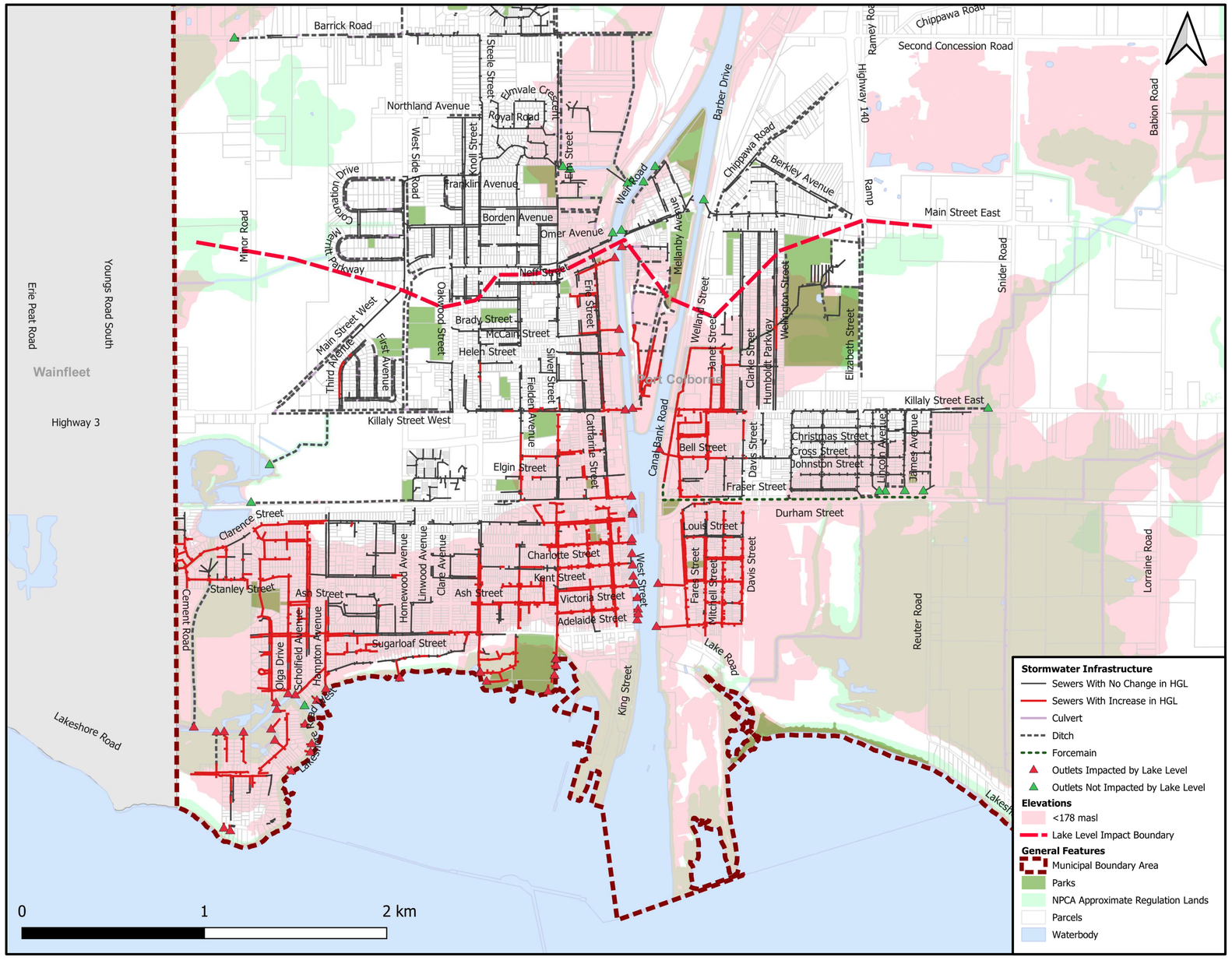
Construction & Cost Considerations
- High cost and complexity of upgrades
- Need to balance investment with priorities

Prioritize solutions in areas with known history of flooding issues

Cost to implement full system upgrades not feasible – will need to prioritize upgrades based on system risk

Need to develop a long-term rehab and replacement strategy to manage system improvements over time

Lake and Canal Level Impacts



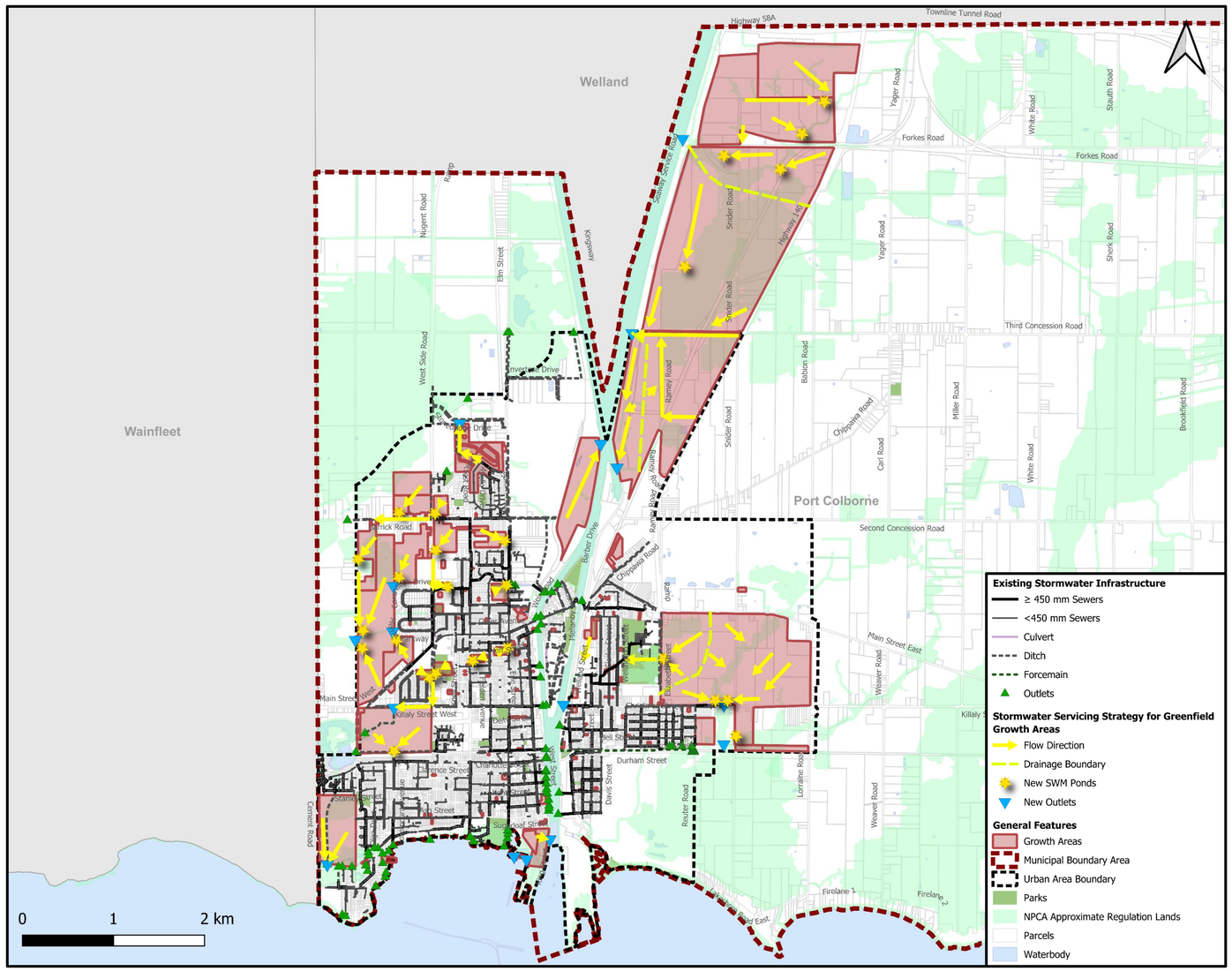
Lake Level Considerations

- Influenced by long-term seasonal trends
- Additional impacts from seiche (storm) events

Welland Canal Levels

- Water levels regulated by the Seaway
- Analysis based on reported operational levels

Growth Servicing Needs



Increasing Impervious Areas

- Growth adds more hard surfaces (roads, rooftops, driveways), which increases stormwater runoff and reduces natural infiltration

On-Site Stormwater Management

- New developments are generally required to manage runoff on-site so that post-development peak flows match pre-development conditions

Existing Built-Up Areas

- In established neighbourhoods, future growth is assumed not to increase peak flows, but may require targeted improvements or controls

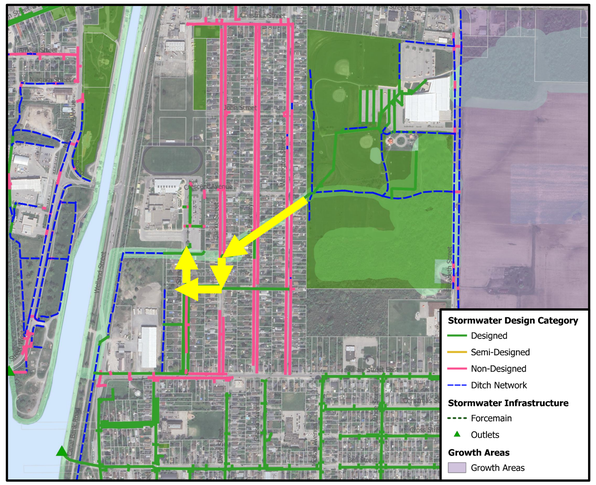
Provisional Planning for Upgrades

- Growth planning identifies:
  - General system needs
  - Potential improvement areas
  - Suitable outlets to tie into the existing stormwater network

Need for Site Specific Designs

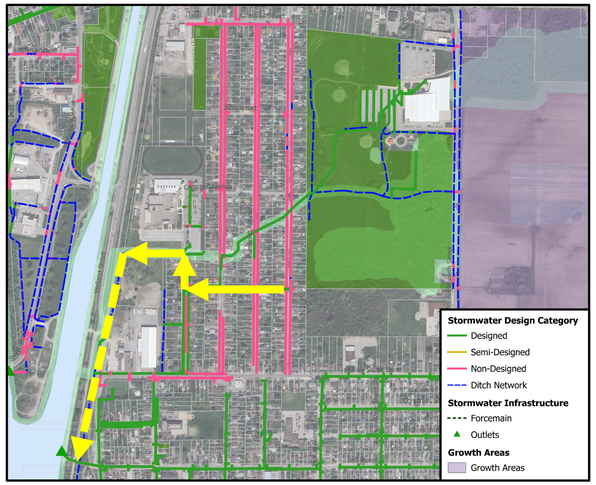
- Individual developments must complete detailed stormwater management (SWM) studies to confirm appropriate solutions to ensure compatibility with the local system

Clarke Street Drainage Servicing Concepts & Evaluation



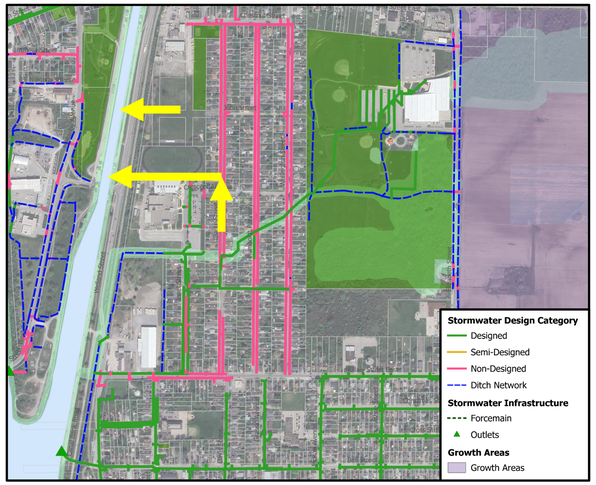
Sewer Upgrades Existing Alignment

- Utilizes the existing sewer network
- Faces access and encroachment issues
- Local sewers remain undersized for future development
- Trunk sewer still requires rehabilitation or replacement



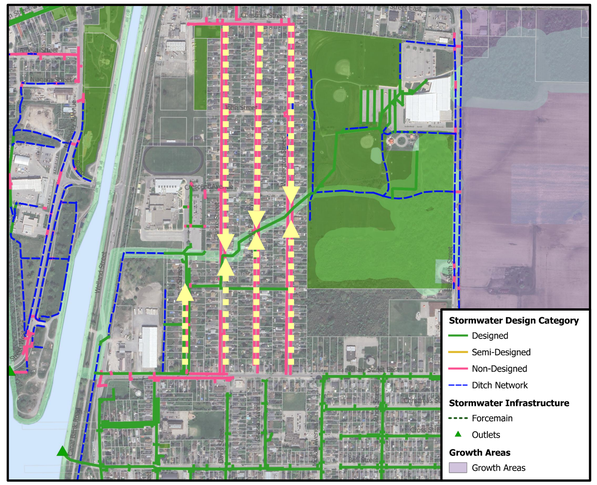
Trunk Sewer Realignment

- Shifts the trunk sewer into road rights-of-way for better access and long-term maintenance
- Enables system optimization and flow diversion opportunities
- Requires reconstruction of local sewers and may involve routing through parklands



Diversion to New Outfalls

- Potential to reduce the amount of upstream sewer upgrading and relieve downstream capacity issues
- Outfall placement options are limited by canal/lock infrastructure
- Would likely require land acquisition, further EA processes, and still does not address trunk sewer rehab needs

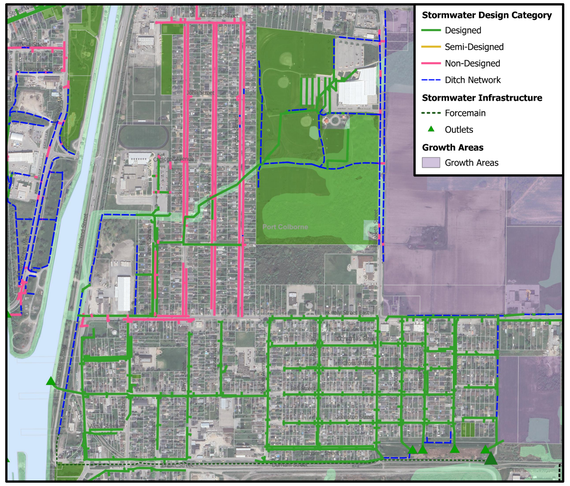


Localized Sewer Upgrades

- Addresses localized capacity issues at lower cost
- Does not address broader system wide issues

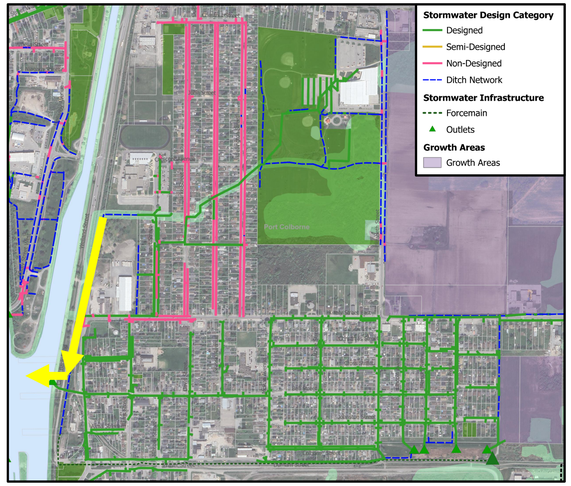
	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
Sewer Upgrades Existing Alignment	Medium	Medium	High	Medium	Not Recommended: Does not address long-term O&M issues of the existing trunk sewer and provides limited opportunity to address existing local system deficiencies
Trunk Sewer Realignment	High	High	High	High	**Recommended:** Addresses the long-term O&M issues for the existing trunk sewer and provides opportunity to reconfigure local system
Diversion to New Outfalls	Medium	Low	Medium	Medium	Not Recommended: Due to technical challenges related to securing and constructing a new outlet; does not address long-term O&M issues of existing trunk sewer
Localized Sewer Upgrades	Low	Low	High	High	**Recommended:** To address localized issues

Clarke Street Outlet Servicing Concepts & Evaluation



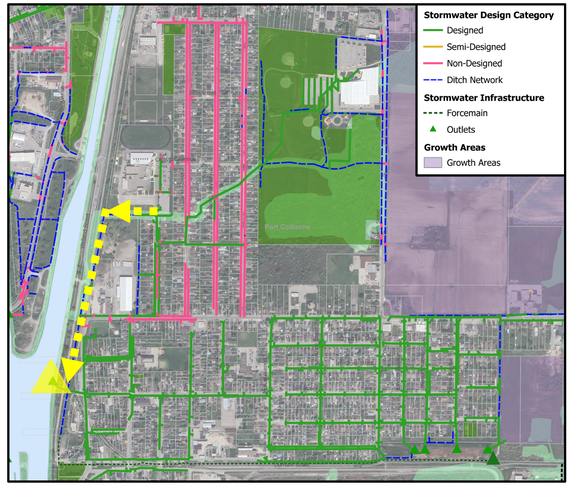
Status Quo

- Maintains the existing system with minimal disruption
- Relies on current storage to manage peak flows
- Does not provide protection against high lake levels



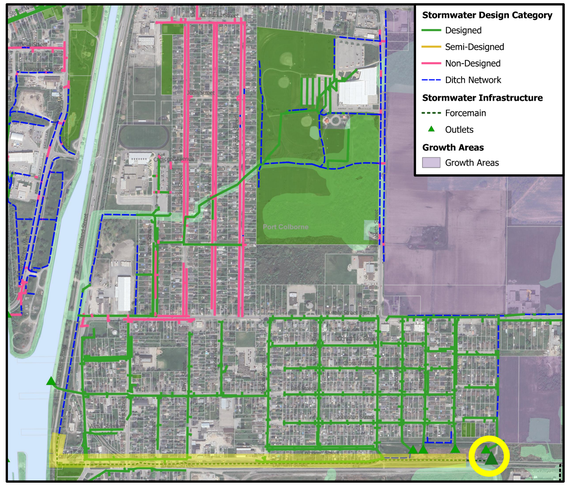
Capacity Upgrades

- Increases conveyance to reduce flooding risk
- Does not protect against high lake levels
- Requires coordination of works in the canal



Flood Protection & Storage Improvements

- Provides protection against high lake levels
- Increases storage to manage peak flows and/or flows during high lake levels
- May involve environmental impacts from canal bank/ditch work and requires coordinated construction in the canal

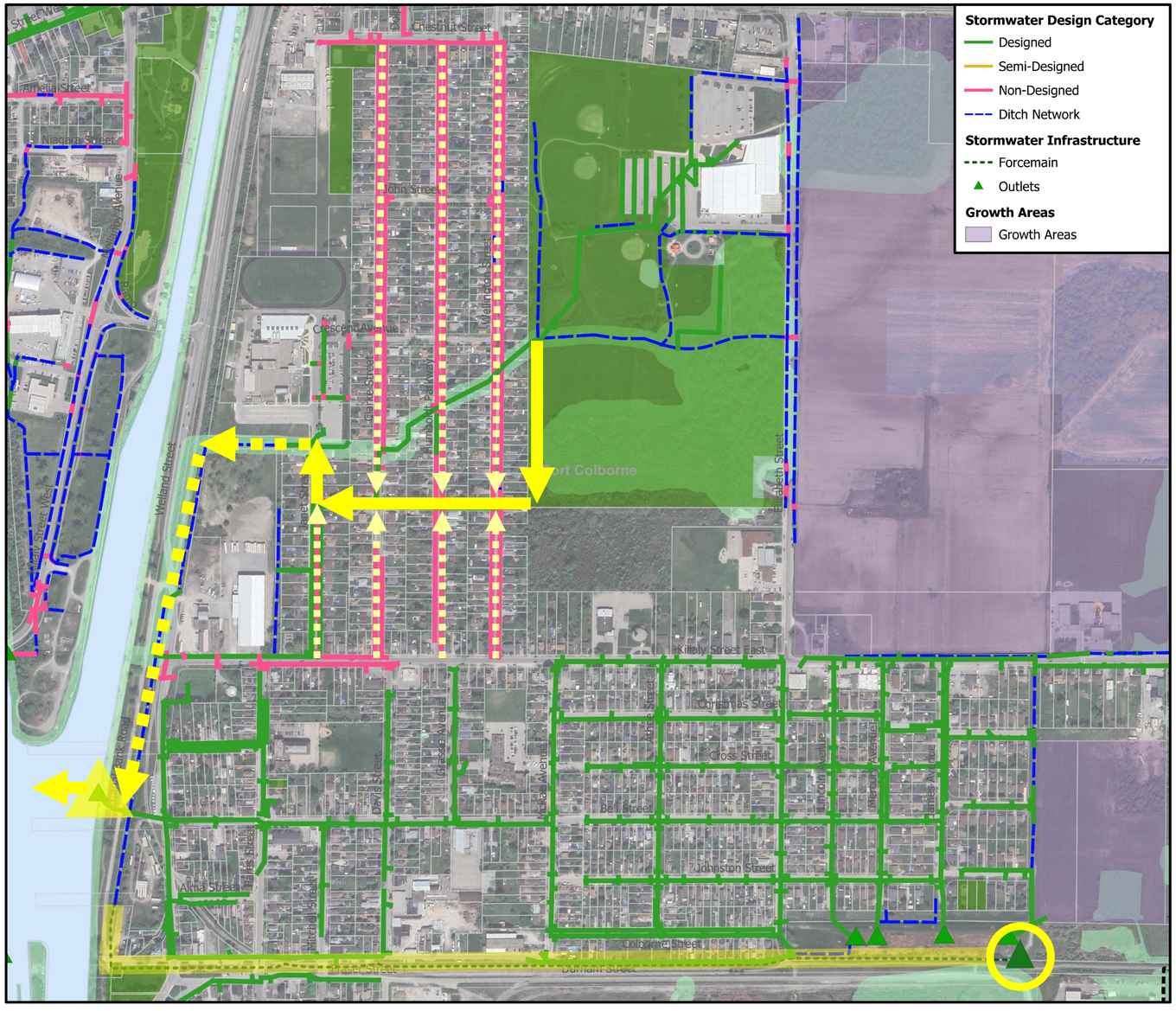


Real-time Control

- Uses operational controls to optimize existing infrastructure at relatively low cost
- Minor increase in flooding risk in the Elizabeth Street Area

	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
Status Quo	Low	Low	High	Low	Not Recommended: Does not address flooding issues
Capacity Upgrades	Medium	Medium	Medium	Medium	**Recommended as part of Hybrid Solution:** Minimizes risk of flooding, and ensures storage is available during high lake levels
Flood Protection & Storage Improvements	Medium	High	Low	High	**Recommended as part of Hybrid Solution:** Best protection against high lake levels
Real-time Control	Medium	Medium	High	High	**Recommended as part of Hybrid Solution:** Low-cost solution and provides additional benefit.

Clarke Street Preliminary Preferred Servicing Strategy



Trunk Sewer Realignment & System Reconstruction

- Realign the trunk sewer along **Russell Avenue**
- Fully reconstruct the local sewer network north of **Killaly Street** to support future growth and reliability.

Sewer Investigation & Inspection

- Conduct detailed inspection and condition assessments of existing sewer infrastructure to target rehabilitation needs and validate design assumptions

Localized Capacity Enhancements

- Implement targeted sewer upgrades in the **Bell Street Area** to resolve localized capacity bottlenecks

Hybrid Outlet Improvements

- Increase outlet capacity to better manage system flows
- Integrate flood-protection measures to guard against high lake levels

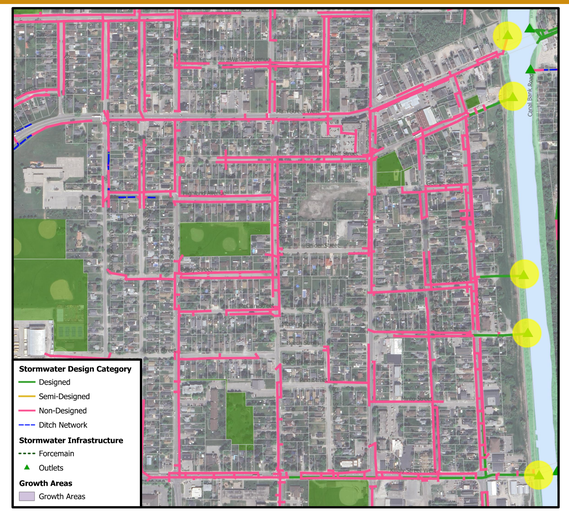
Canal Bank Channel Rehabilitation

- Rehabilitate and strengthen the drainage channel along **Canal Bank Road**
- Where feasible, expand storage capacity through in-ditch improvements or retention features

Real-Time Control Strategy

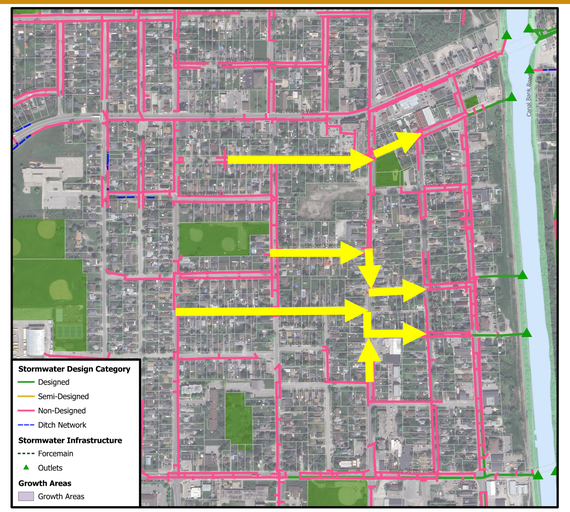
- Install real-time control mechanisms at **Johnston Pump Station** to delay pumping when canal storage in use

Elm Street & King Street North Servicing Concepts & Evaluation



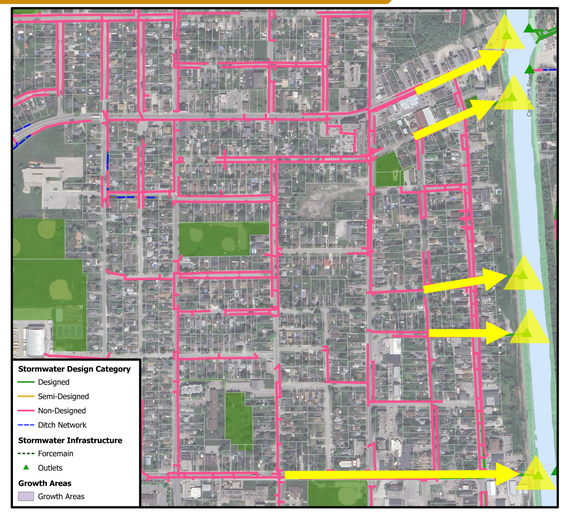
Outlet Flood Protection

- Inspect and rehab outlets
- Partial protection from high lake levels
- Reduces backwater effects at the outlet
- No increase in system capacity
- Still vulnerable during extreme lake conditions
- Requires canal-side construction



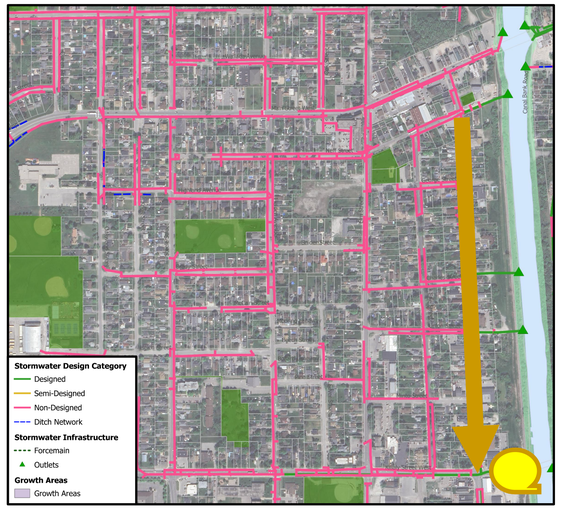
Localized Sewer Upgrades

- Leverage existing outlets and capacity
- Improve conveyance and capacity
- Addresses localized capacity issues
- Limited by existing outlet capacity
- No protection from high lake levels



Outlet Capacity Upgrades

- Increase outlet capacity
- Paired with local network improvements
- Can add storage benefits with flood protection measures
- Outlet options constrained by canal lock locations
- Still susceptible to high lake levels
- Requires coordinated work in the canal

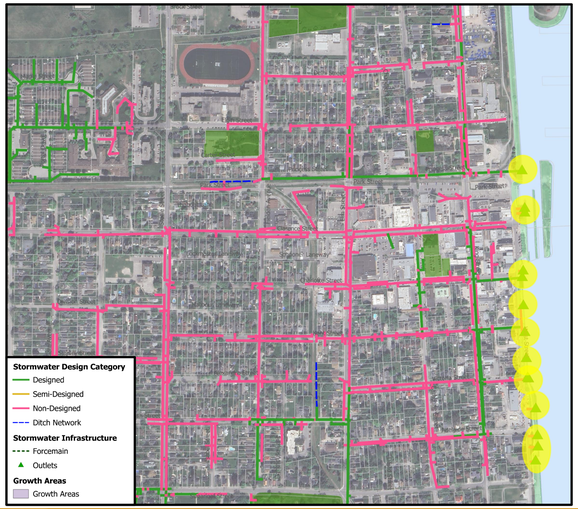


Diversion and Pumping

- New trunk sewer and pump station
- Pump operates during high lake levels
- Protection from high lake levels
- Substantial improvement to overall system performance
- Requires significant new infrastructure
- Higher long-term operating costs due to pumping

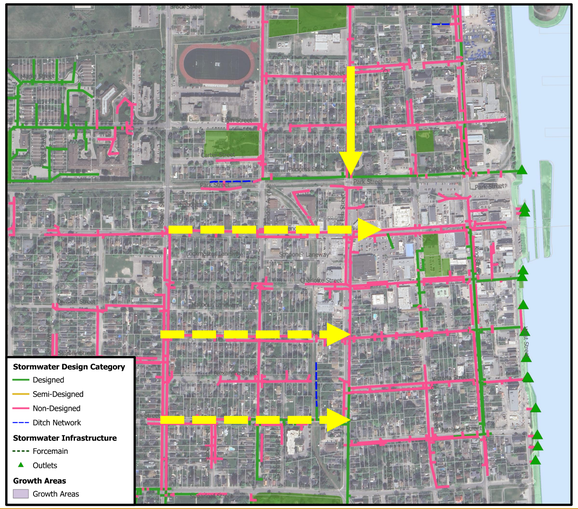
	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
Outlet Flood Protection	Low	High	Medium	High	**Recommended as part of Hybrid Solution:** Provides partial protection against high lake levels
Localized Sewer Upgrades	Low	High	High	High	**Recommended as part of Hybrid Solution:** Targeted upgrades to address highest flood risk areas
Outlet Capacity Upgrades	Medium	Medium	Medium	Medium	Not Recommended: Outlets sufficiently sized to support existing design objectives. Upsizing provides marginal benefit
Diversion and Pumping	High	Low	Low	Low	Not Recommended: High implementation and operational cost.

Elm Street & King Street South Servicing Concepts & Evaluation



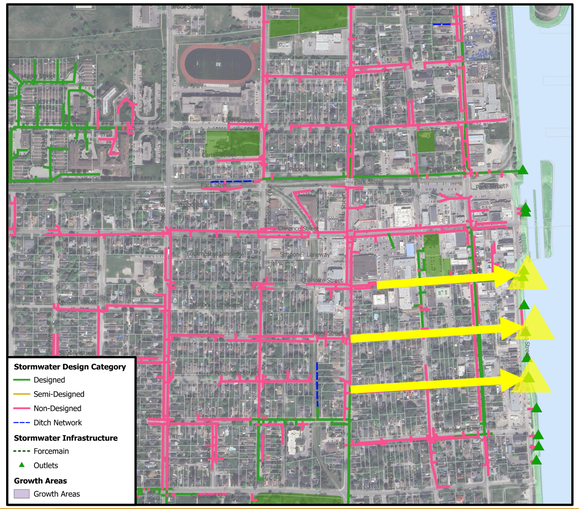
Outlet Flood Protection

- Inspect and rehab outlets
- Partial protection from high lake levels
- Reduces backwater effects at the outlet
- No increase in system capacity
- Still vulnerable during extreme lake conditions
- Requires canal-side construction



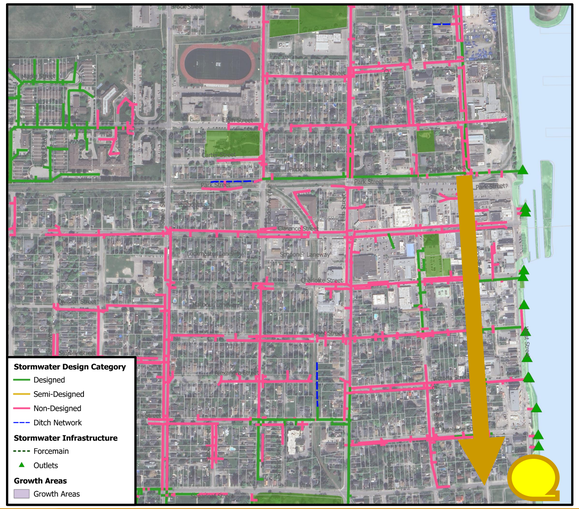
Redirection of Drainage Areas

- Leverage existing outlets and capacity
- Improve conveyance and capacity
- Addresses localized capacity issues
- Limited by existing outlet capacity
- No protection from high lake levels



Outlet Capacity Upgrades

- Increase outlet capacity
- Paired with local network improvements
- Can add storage benefits with flood protection measures
- Outlet options constrained by canal lock locations
- Still susceptible to high lake levels
- Requires coordinated work in the canal



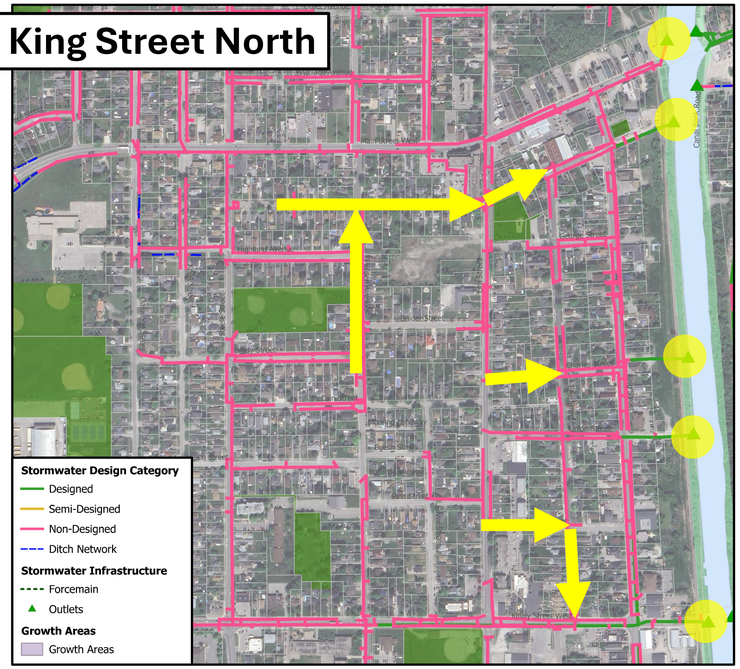
Diversion and Pumping

- New trunk sewer and pump station
- Pump operates during high lake levels
- Protection from high lake levels
- Substantial improvement to overall system performance
- Requires significant new infrastructure
- Higher long-term operating costs due to pumping

	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
Outlet Flood Protection	Low	High	Medium	High	**Recommended:** Provides partial protection against high lake levels
Redirection of Drainage Areas	Medium	Medium	High	High	Not Recommended: Limited by capacity of existing drainage network
Outlet Capacity Upgrades	Medium	Medium	Medium	Medium	Not Recommended: Outlets sufficiently sized to support existing design objectives. Upsizing provides marginal benefit
Diversion and Pumping	High	Low	Low	Low	Not Recommended: High implementation and operational cost.

Elm Street and King Street Preliminary Preferred Strategy

Elm Street & King Street North



Sub-Trunk Improvements

- Construct a new trunk sewer along **Neff Street** to enhance system capacity and connectivity
- Build a new trunk sewer along **Field Avenue** to support future growth and reliability

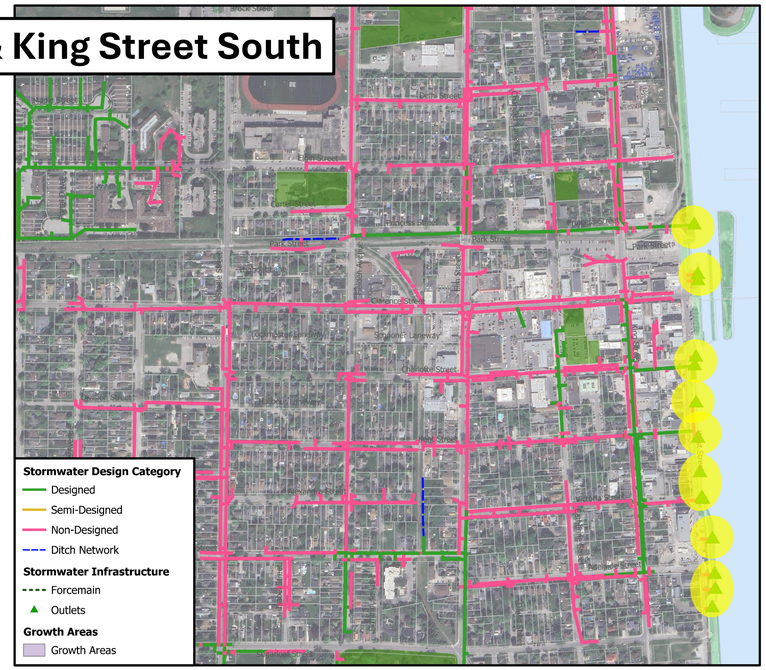
Local Sewer Improvements

- Implement local sewer improvements on **Charles Street** to address existing deficiencies
- Upgrade local sewers on **Minto** and **Erie Streets** to improve flow and service reliability

Outlet Improvements

- Enhance outlet performance through inspection, rehabilitation, and flow protection measures

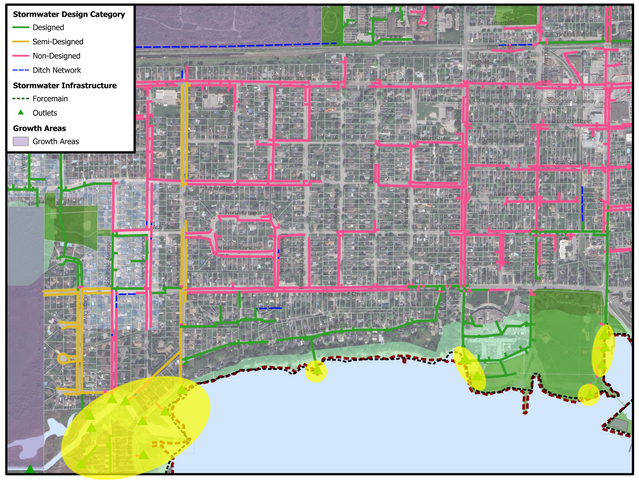
Elm Street & King Street South

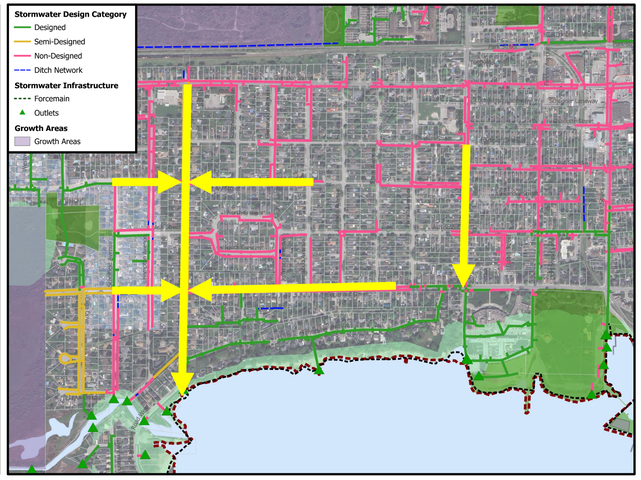


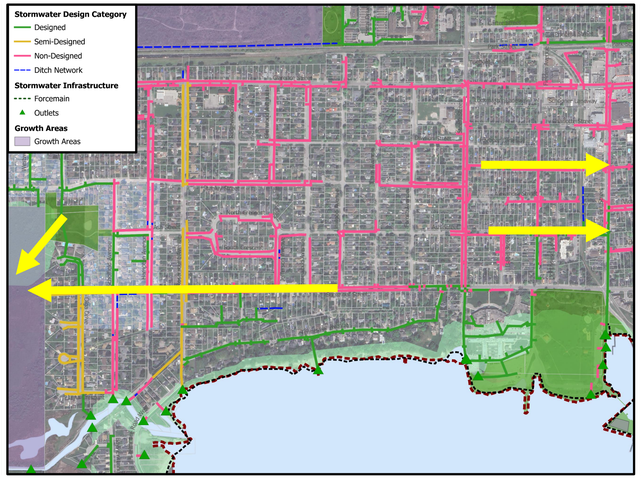
Outlet Improvements

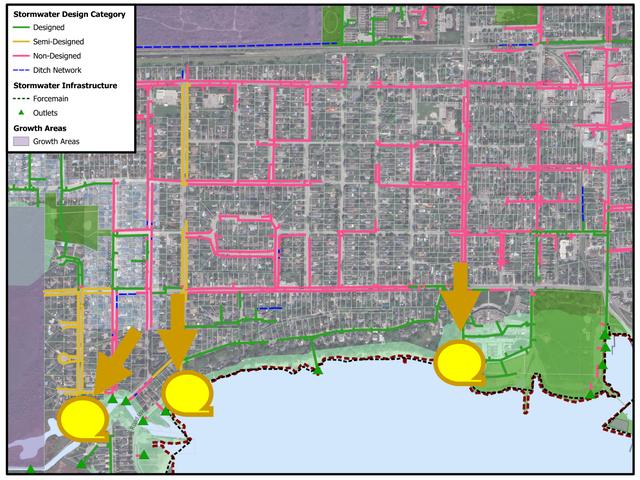
- Inspect and rehabilitate outlets to maintain structural integrity and hydraulic performance
- Implement flow protection measures to reduce erosion and enhance system reliability

Sugarloaf Area Servicing Concepts & Evaluation









Outlet Flood Protection

- Flood protection at outlets to reduce high lake level impacts
- Inspect and rehabilitate outlets to maintain performance
- Requires lakeshore work
- Does not increase system capacity for growth areas

Improve Conveyance to Existing Outlets

- Construct new trunk sewers and improve outfalls to increase capacity
- Address existing system condition and align with planned road improvements
- Supports future growth areas
- May require substantial upgrades and lakeshore work

Divert Flows to Other Catchments

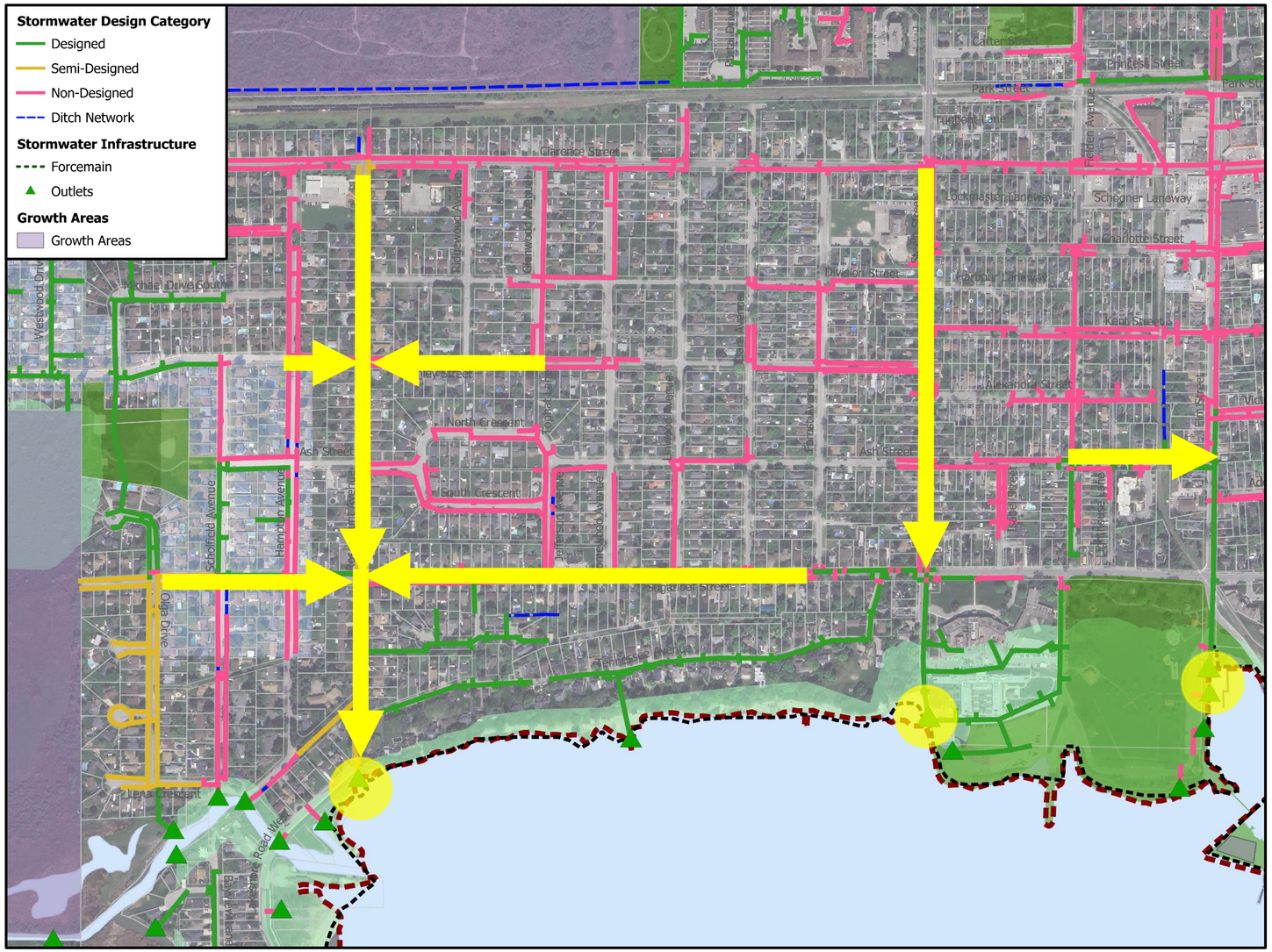
- Enhance capacity in undesigned systems to better serve local areas
- Divert minor flows to East and West catchments to reduce trunk demand
- Limited effect on overall system capacity
- Timing and downstream development may constrain effectiveness

Diversion and Pumping

- Intercept and divert flows along Sugarloaf to the west into new development areas
- Install pump stations to outfalls to operate during high lake levels
- Can be combined with conveyance upgrades to improve overall system performance
- Requires significant infrastructure investment and increases operational costs

	Financial	Technical	Environmental	Social & Cultural	Recommended Alternative
Outlet Flood Protection	Low	Medium	Medium	High	**Recommended as part of Hybrid Solution:** Provides partial protection against high lake levels
Improve Conveyance to Existing Outlets	Medium	High	Medium	Medium	**Recommended as part of Hybrid Solution:** Address existing system capacity issues and provides capacity for growth areas
Divert Flows to Other Catchments	Low	Medium	Medium	Medium	Not Recommended: Trunk upgrades still required and triggers additional downstream upgrades. Limited by the timing of the development
Diversion and Pumping	High	Low	Low	Low	Not Recommended: High implementation and operational cost

Sugarloaf Area Preliminary Preferred Servicing Strategy



Greenfield Growth Servicing

- Provide an outlet to the development area north of **Clarence Street**
- Provide capacity to allow partial diversion of flow away from Quarry Ponds

New Trunk Network and Outlets

- Construct new trunk sewers along **Rosemount Avenue**, **Sugarloaf Street**, and **Stanley Street** to improve system capacity and reliability
- Provide upgraded outlets to support existing and future drainage areas

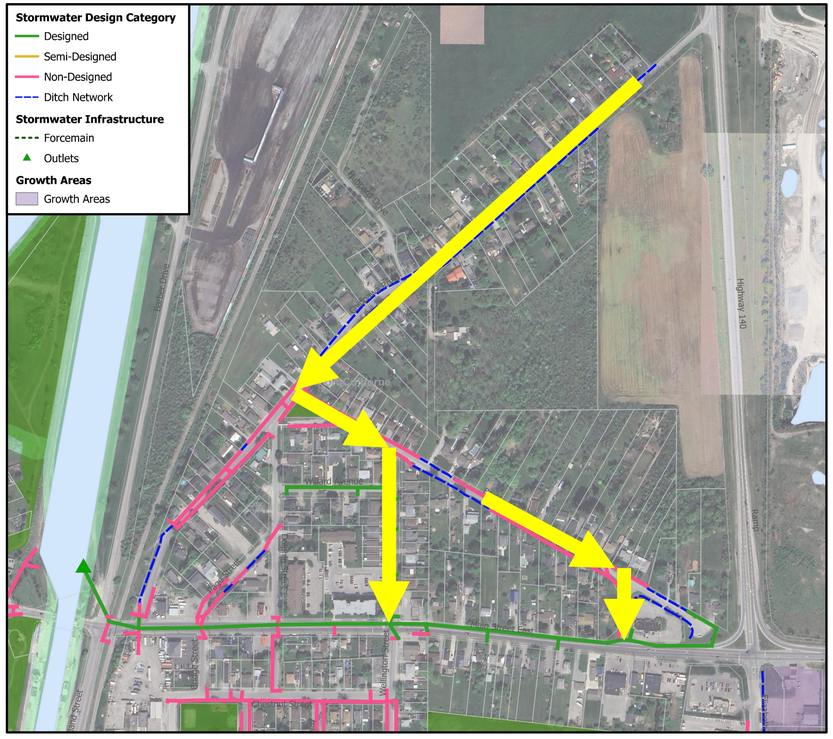
Local Trunk Upgrades

- Upgrade local trunk sewers on **Steele Street** and **Ash Street** to address current deficiencies and improve flow performance

Outlet Improvements

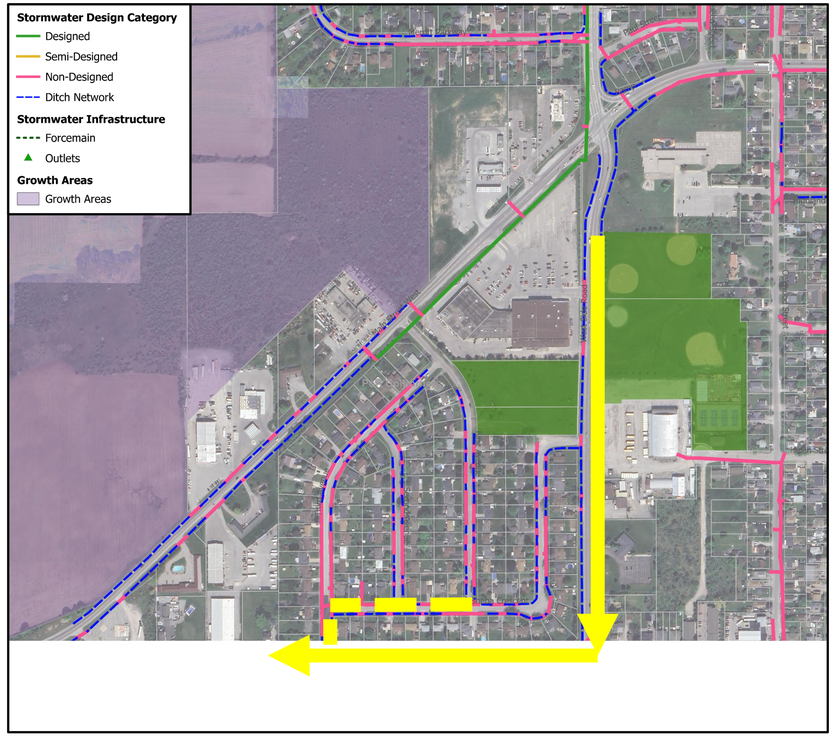
- Inspect and rehabilitate existing outlets to maintain structural integrity
- Implement flow protection measures to reduce erosion and improve system reliability

Local Stormwater System Upgrade Needs



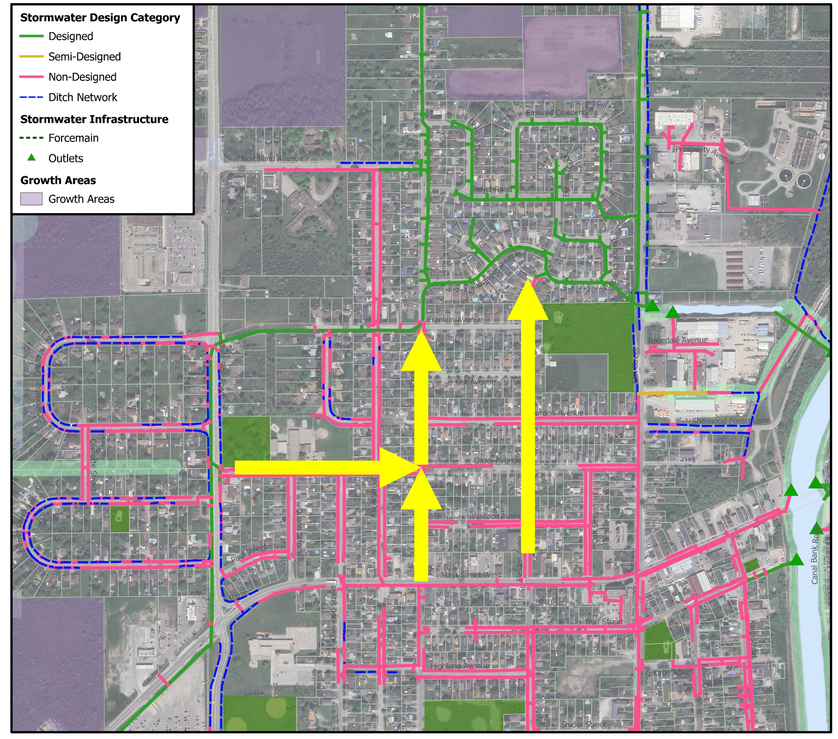
Chippawa Road Area

- Redirect flows from Chippawa Road to the Wellington Street trunk sewer
- Upgrade the Wellington Street sewer to provide adequate conveyance
- Implement drainage improvements along Chippawa Road and Berkley Avenue



Third Avenue Area

- Investigate and confirm sizing requirements for local culverts and roadside ditches
- Upgrade sewers and ditch drainage along Killaly Street and West Side Road to improve conveyance
- Implement targeted drainage improvements on Third Avenue and Sheba Crescent
- Coordinate upgrades with planned growth to ensure long-term system performance



Omer Avenue Area

- Construct new sub-trunk sewers on Fielden Avenue and Omer Avenue/Steele Street to expand conveyance capacity
- Implement partial flow re-direction to relieve constraints and improve performance along Main Street
- Coordinate timing with planned wastewater upgrades to maximize corridor efficiency

Thank you for your participation!

Project Next Steps

- Confirm Preferred Servicing Strategies
- Develop Capital Program and Costing
- Coordination of Water, Wastewater and Stormwater Programs
- Develop Project Implementation Plan
- Council Presentation
- Project Notice of Completion

If you have questions, comments, or want to hear more about this project, let us know!

Joe Colasurdo C.E.T
Manager of Strategic Projects
Project Lead, City of Port Colborne
(905) 228-8135
Joe.Colasurdo@portcolborne.ca

Julien Bell, P.Eng.
Consultant Project Manager
Project Lead, Agile Infrastructure
(416) 254-6247
Julien.Bell@agileinfrastructure.ca

Appendix E – Consultation Records

Appendix F – Notice of Completion

Appendix G – 30-Day Public Review

City of Port Colborne

Water Master Plan, Stormwater Master Plan & Wastewater Pollution Prevention and Control Plan

September 8, 2026

PORT COLBORNE

Agenda

1. Project Overview
2. Wastewater PPCP
3. I&I Reduction Work Completed
4. Water MSP
5. Stormwater MSP
6. Next Steps



PORT COLBORNE

Plan Overview

Pollution Prevention Control Plan (PPCP)

Action plan that prioritizes short- and long-term strategies to manage the City's wastewater system, accommodate future growth, and develop inflow and infiltration reduction strategies to limit overflows and bypass events.

Water and Stormwater Master Servicing Plan (WSMSP) Update

Long-term strategy to guide water and stormwater infrastructure planning, servicing needs, and growth through 2051.



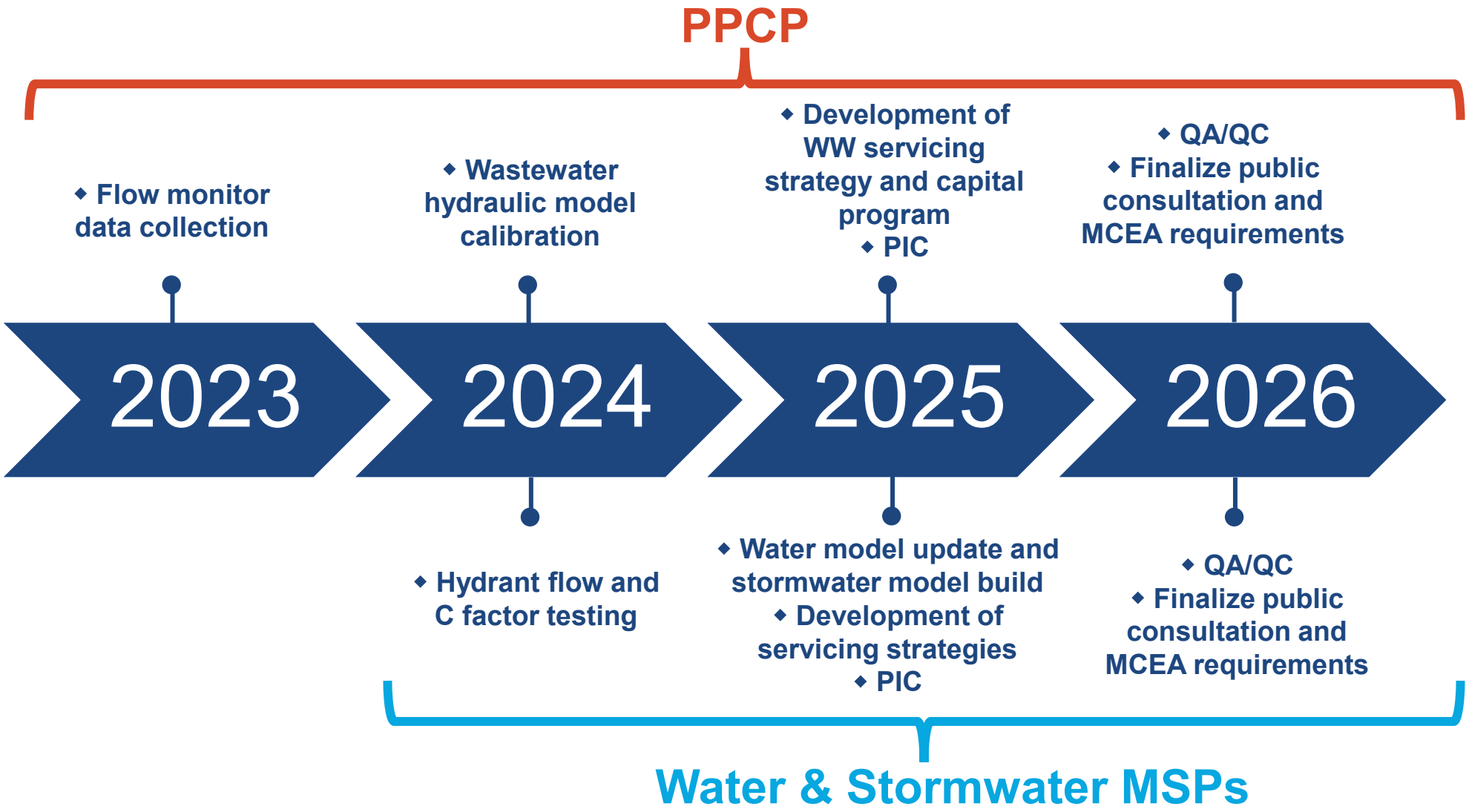
PORT COLBORNE

Project Objectives

Study Approach

- MSPs and PPCP studies are completed under the ***Municipal Engineers Association Class Environmental Assessment*** (MEA Class EA) process, satisfying Phases 1 and 2.
- Review the **condition and performance** of **existing** infrastructure.
- Assess the impacts of **future population growth** and development.
- Identify and evaluate strategies to meet current and future **servicing needs**.
- **Develop recommendations** to guide future infrastructure investments, capacity planning, financial planning, and capital projects.

Project Timelines



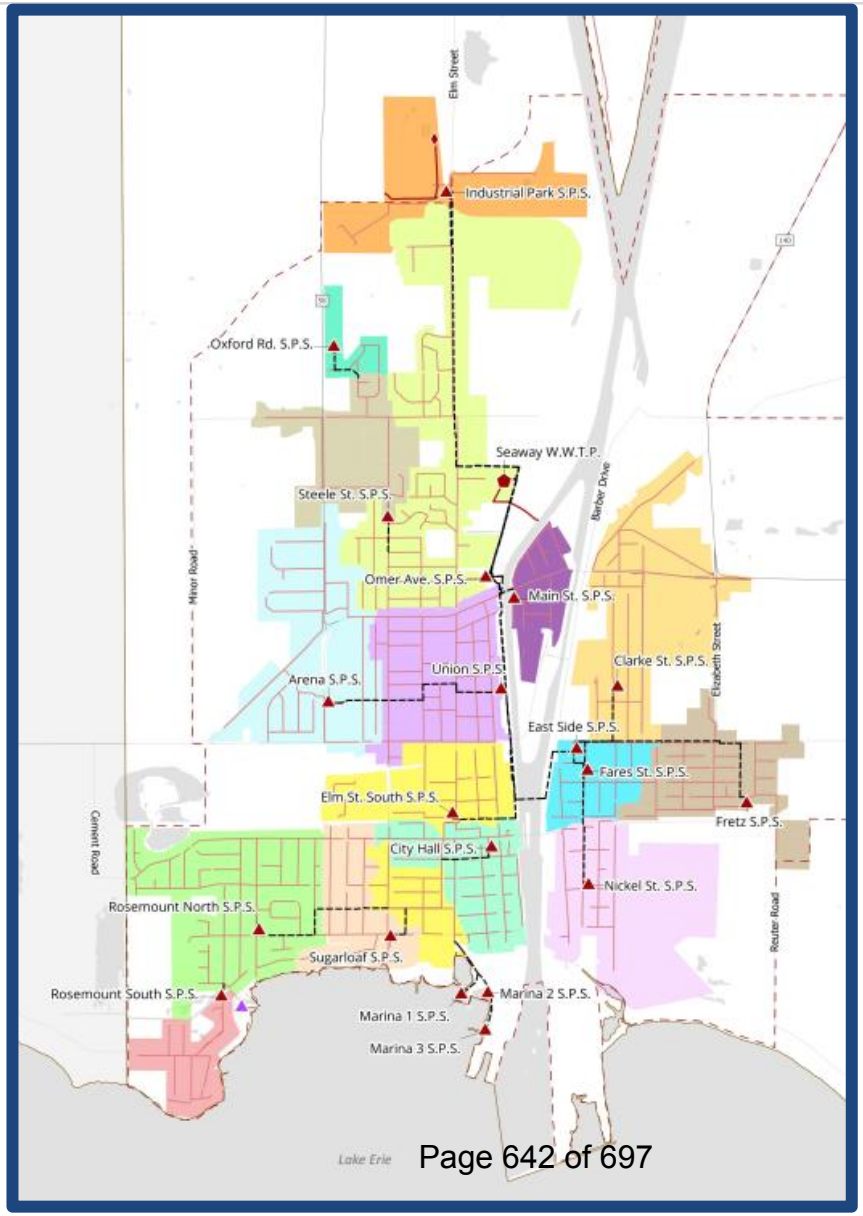
Wastewater

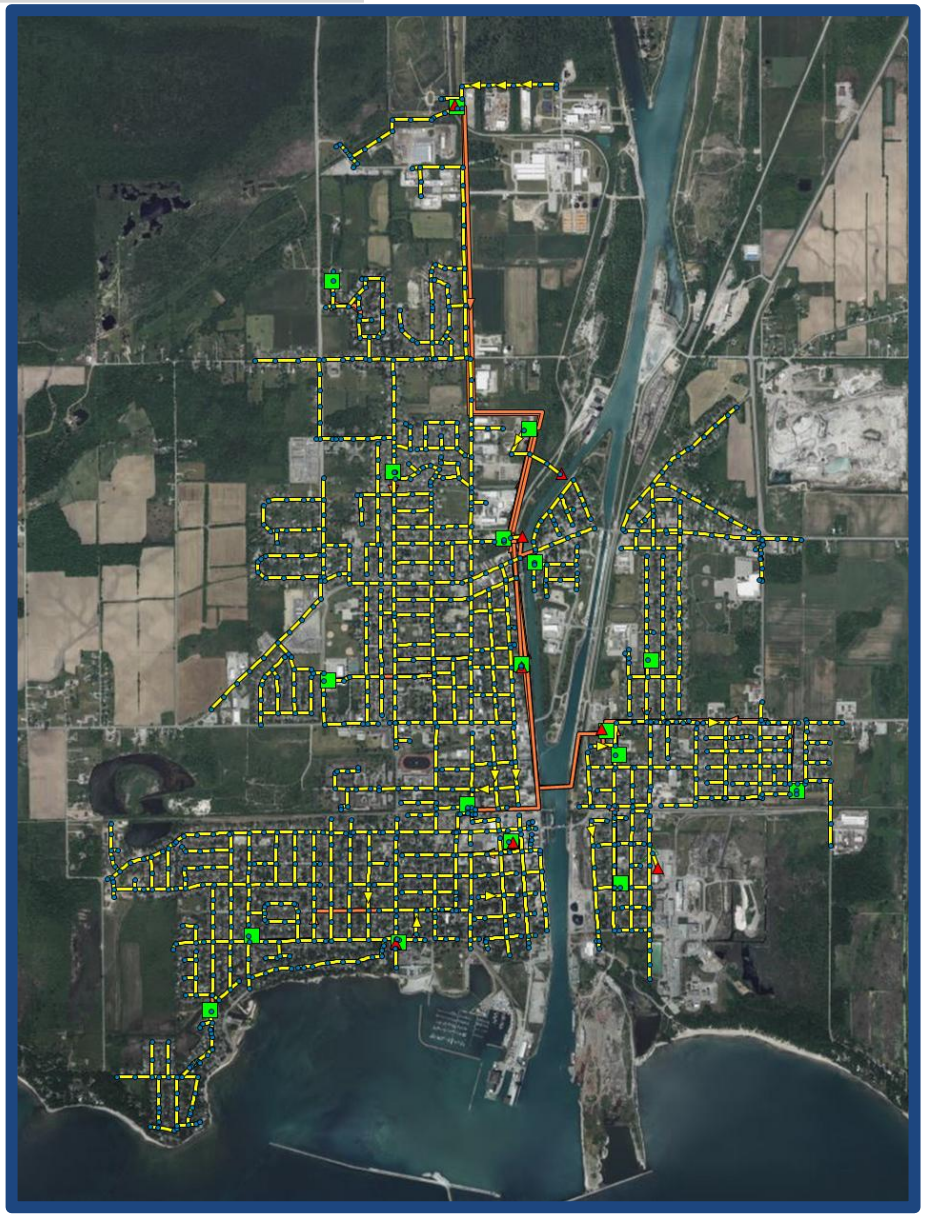
Pollution Prevention & Control Plan

PORT COLBORNE

Existing System and Model Calibration

- **28** flow monitors installed across the wastewater system
- Assess **dry and wet weather** flow patterns
- Calibrate the hydraulic model
- Identify **I&I hotspots**
- Accounts for Region-owned facilities (sewage pumping stations, Seaway Wastewater Treatment Plant)

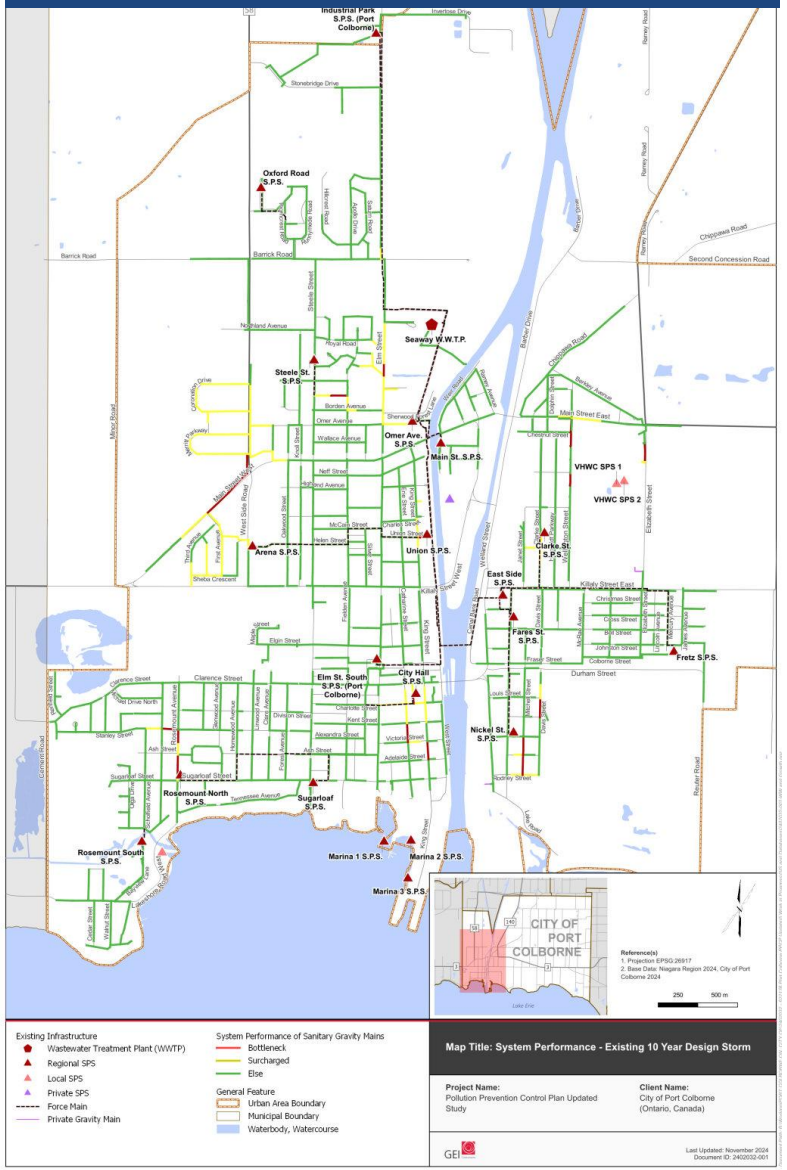




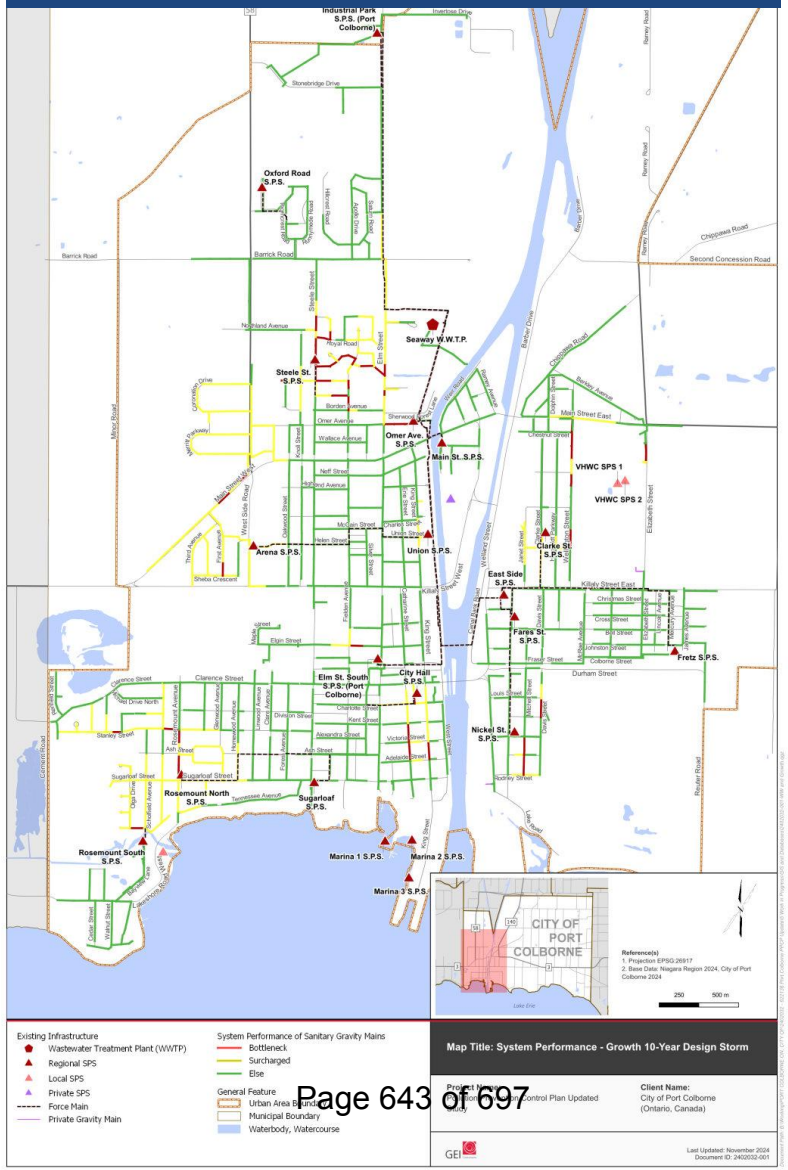
PORT COLBORNE

Model Outputs

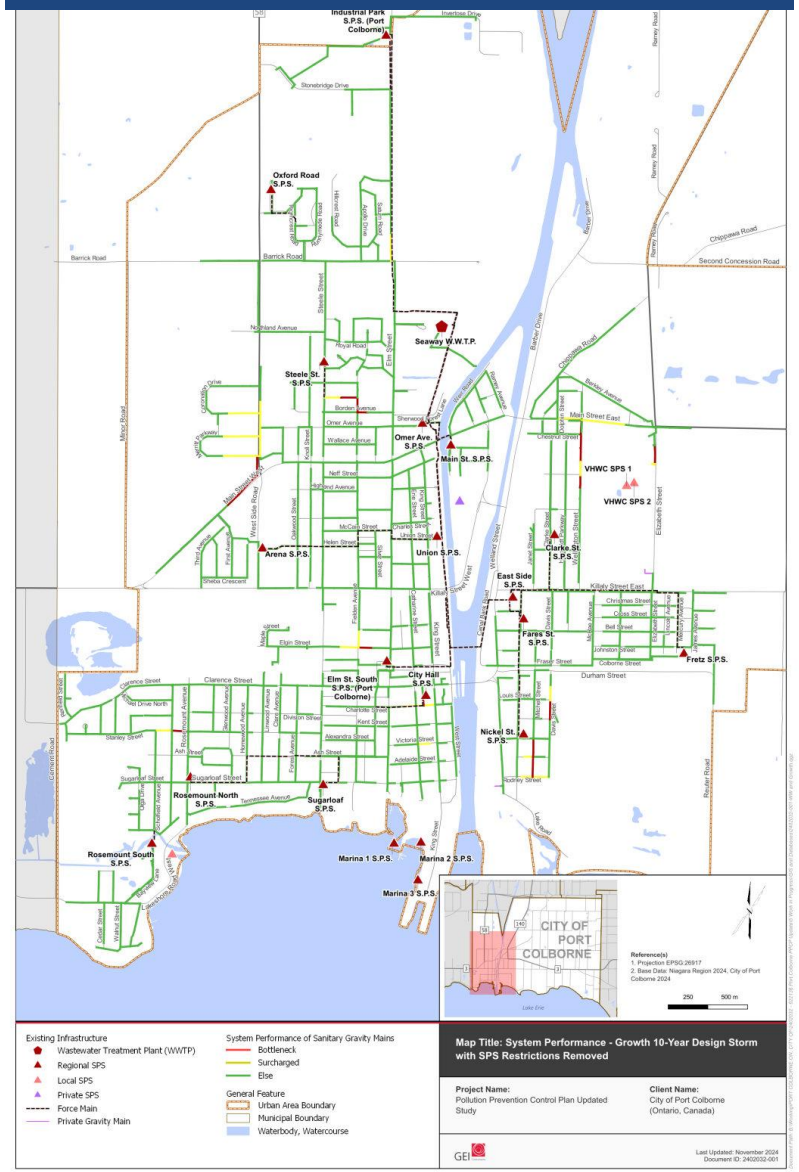
System Performance – Existing 10 Year Design Storm



System Performance – Growth 10-Year Design Storm



System Performance – Growth 10-Year Storm with SPS Restrictions Removed



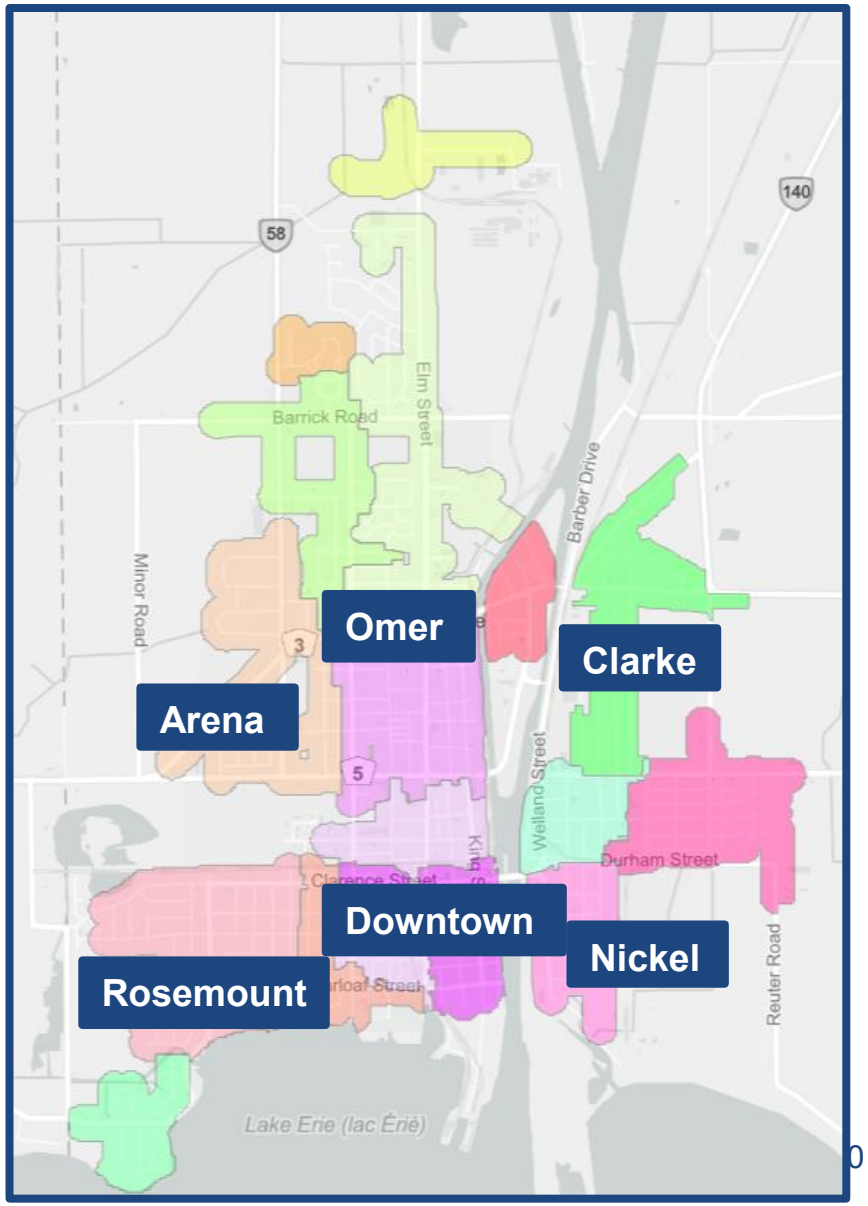
Recommendations

- Capital improvements were identified through **growth projections** and **hydraulic modelling**
- Capital project **recommendations validated** through field observations and operational experience
- Continue **reducing I&I** to increase capacity
- All capital project recommendations should be **re-evaluated** after I&I reduction projects



Recommendations: I&I Reduction in Priority Sewershed Areas

- **Data Collection**
  - ☑ Smoke Testing
  - ☑ Ongoing Flow Monitoring
- **Condition Assessments**
  - ☑ CCTV & Maintenance Hole Scans
  - ☑ Wastewater Service Investigations (Lateral launches)
- **Rehabilitation Programs**
  - ☑ Downspout disconnections
  - ☑ Cleanout Cap Repairs
  - ➔ Wastewater Sewer Lining Program (ongoing)
  - ➔ Wastewater Lateral Lining Program (ongoing)
- **Post-Remediation Work Review**
  - ☑ Downspout disconnections
  - ☑ Cleanout Cap Repairs
  - ➔ Complete post-rehab flow monitoring and analysis
  - ➔ Update and re-calibrate wastewater sewer pipe model
  - ➔ <u>Verify if capital upgrades are required</u>



Putting the Plan into Action: Inflow & Infiltration City-Wide Strategy



Flow Monitoring & Data Collection

Flow monitors, smoke tests, and drainage surveys



Condition Assessments

CCTV, maintenance hole scans, and lateral launches



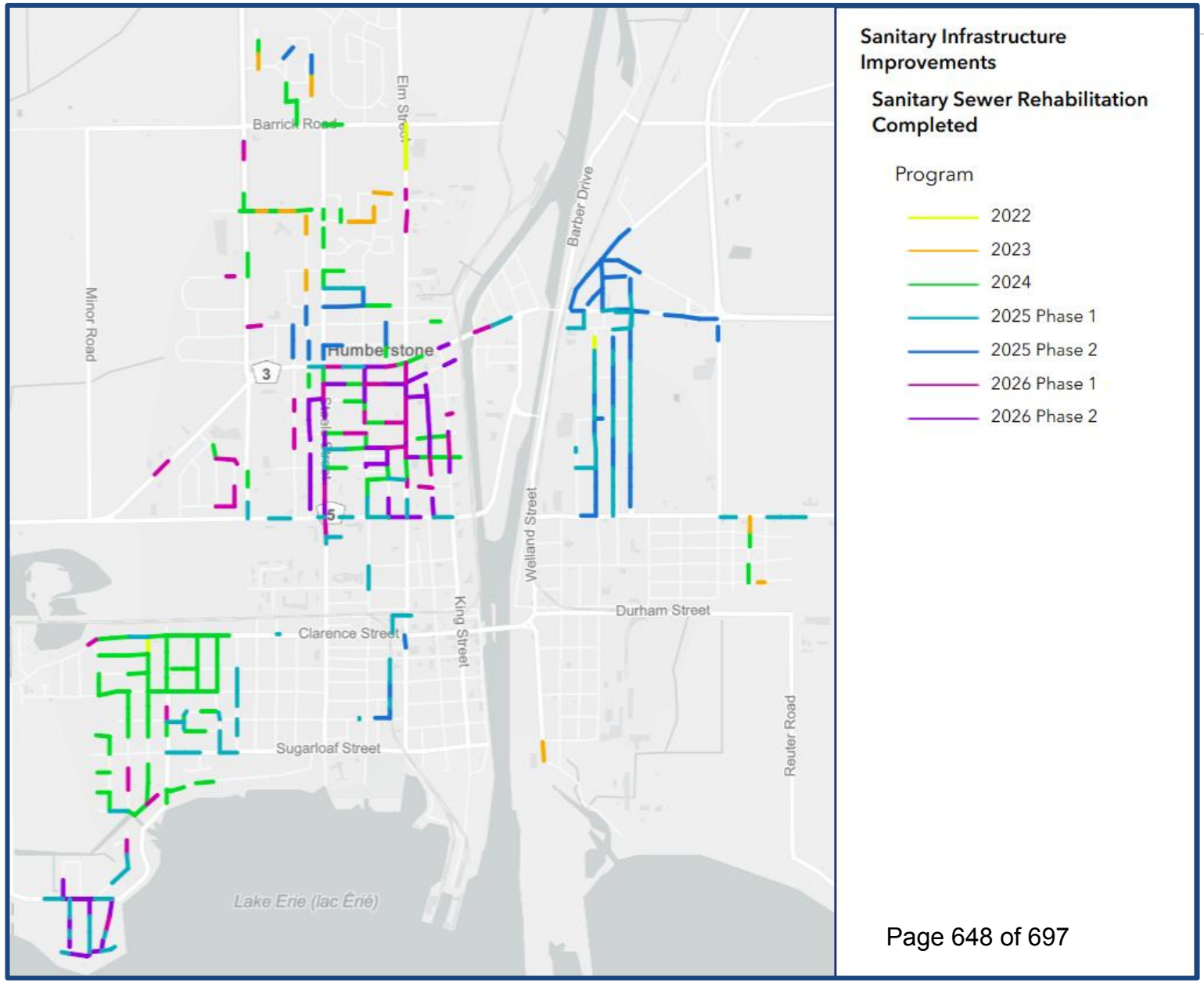
Rehabilitation Programs

CIPP sewer main lining, lateral lining, maintenance rehab, downspout disconnects, and cleanout repairs

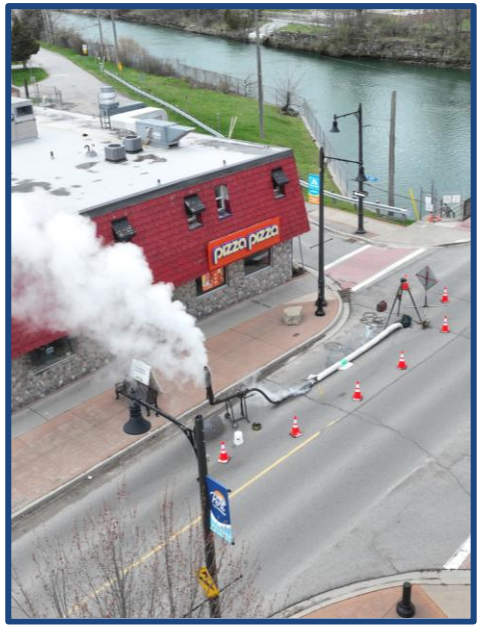
Putting the Plan into Action: Investment & Program Overview to Date

- **Flow Monitoring**
  - 18 permanent anchor monitors
- **Lateral Launches**
  - 2024 ➔ **650**
  - 2025 ➔ **1800**
  - 2026 ➔ **1400**
  - Budget: **$1.1 million**
- **Maintenance Hole Scans**
  - 2024 ➔ **1173**
- **Maintenance Hole Rehab**
  - 2026-2027 ➔ **150**
- **Wastewater Mainline CIPP Lining**
  - 2024 ➔ **9,751m**
  - 2025 ➔ **11,250m**
  - 2026 ➔ **4,664m**
  - Budget: **$10 million**
- **Wastewater Lateral Lining**
  - 2025 ➔ **210 laterals**
  - 2026 ➔ **480 laterals**
  - Budget: **$5.4 million**
- **I&I Programs**
  - ☑ Downspout disconnections ➔ 32
  - ☑ Cleanout Cap Repairs ➔ 205
  - ☑ Smoke Testing ➔ 85km

Wastewater Mainline CIPP Lining

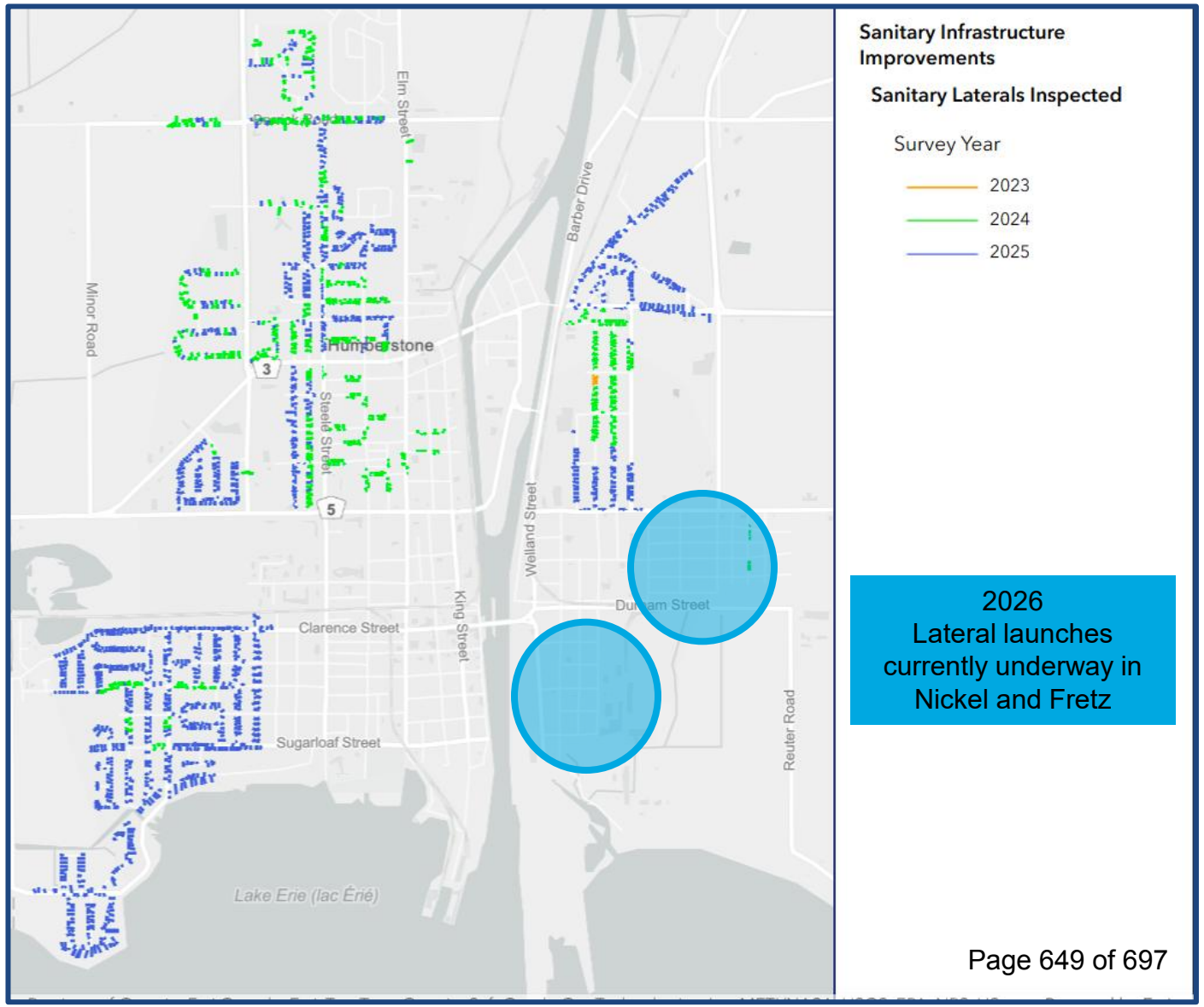




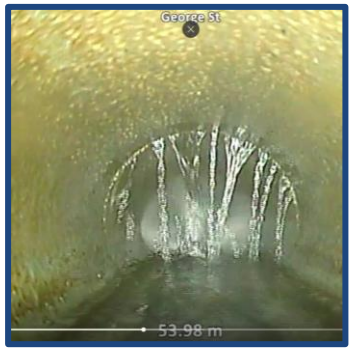




Wastewater Service Investigations (Lateral Launches)



2026
Lateral launches currently underway in Nickel and Fretz

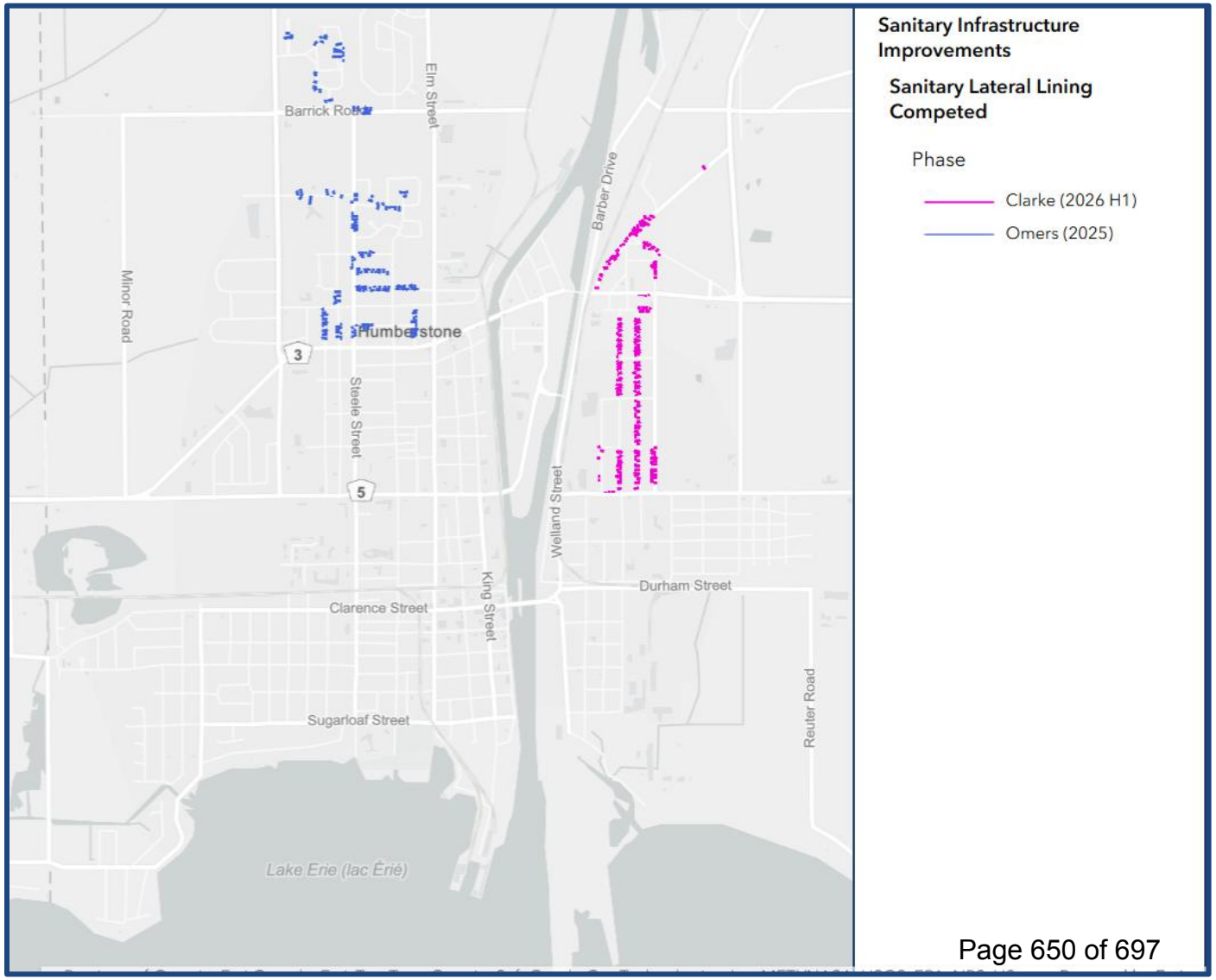




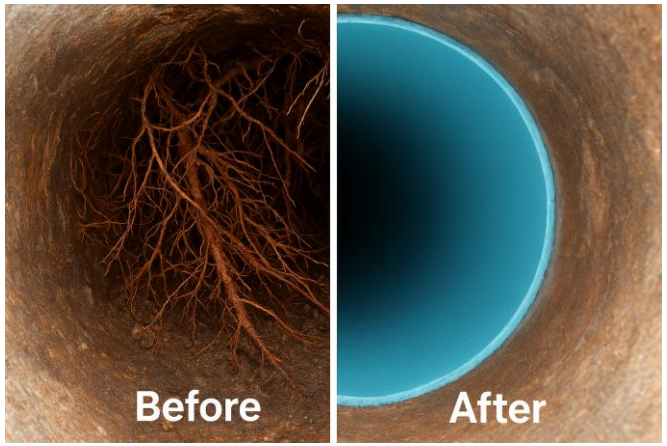




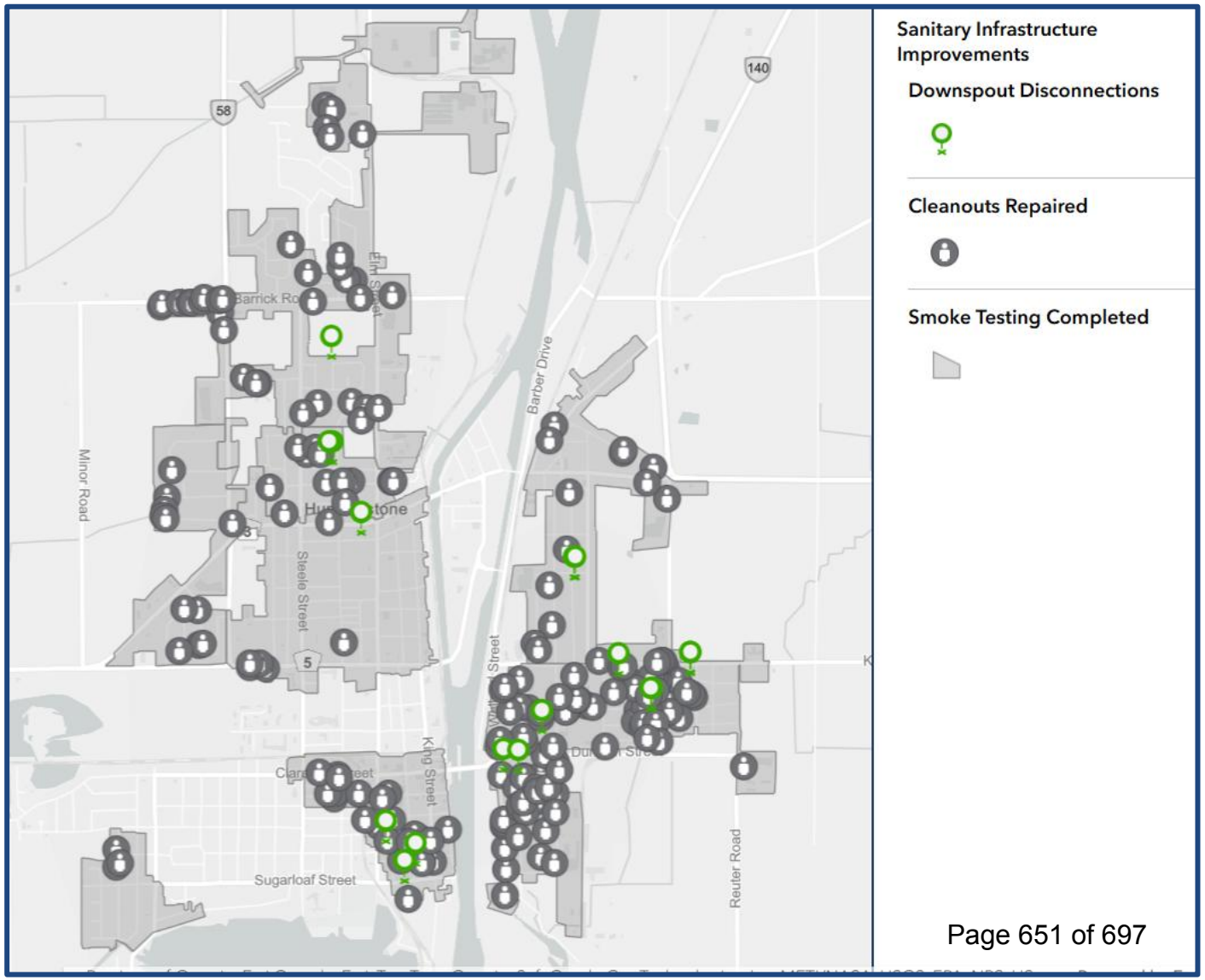
Wastewater Lateral Lining







I&I Reduction Programs







Early Results – Omer Area

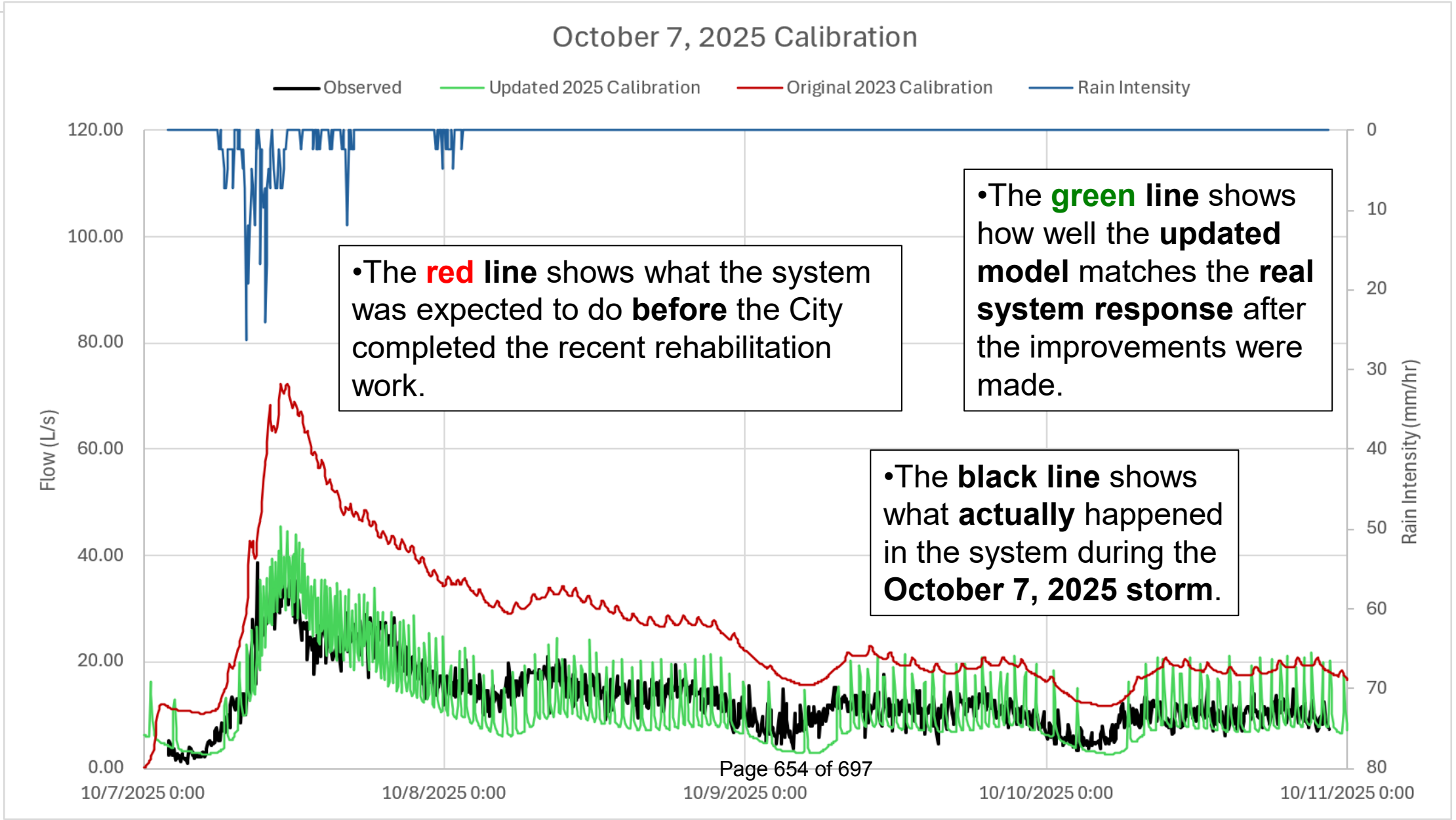
- ❑ Bartok Area has experienced historical flooding during **severe wet weather**
- ❑ January 2024 – **system surcharged** due to severe snowmelt and rainfall
- ❑ Real-time **flow monitoring** devices installed in October 2024
- ❑ **Remediation work** ongoing through 2023-2025
  - **4km** wastewater CIPP lining completed from August 2024 and August 2025.
  - **209** ww service laterals lined from October 2025 to January 2026
  - **47** damaged or missing cleanout caps repaired
  - **3** downspouts disconnected to address sources of inflow
  - **6** maintenance holes sealed and parged to reduce groundwater infiltration
- ❑ **Flow monitoring and analysis** conducted before, during and after remediation work (2023 to present)

Early Results – Omer Area

August 2, 2026 Rain Event: >80mm of rain (1 in 10 year storm event)

- Omer Pump Station operated at **86 L/s** against a **capacity of 108 L/s**, maintaining more than 20 L/s of available capacity
- Inlet sewer reached a maximum of **77% full**
- Conservative estimate of **50% reduction in peak rainfall-derived inflow and infiltration** as a result of the rehabilitation program
- High likelihood that the August 2 event would have resulted in flooding in the Omer/Bartok area had this work not been completed.
- Operations staff did not need to complete bypass pumping from the wastewater system to the stormwater system for this wet weather event

Omer Area – Sewer Model Update



Future Capital Program Recommendation

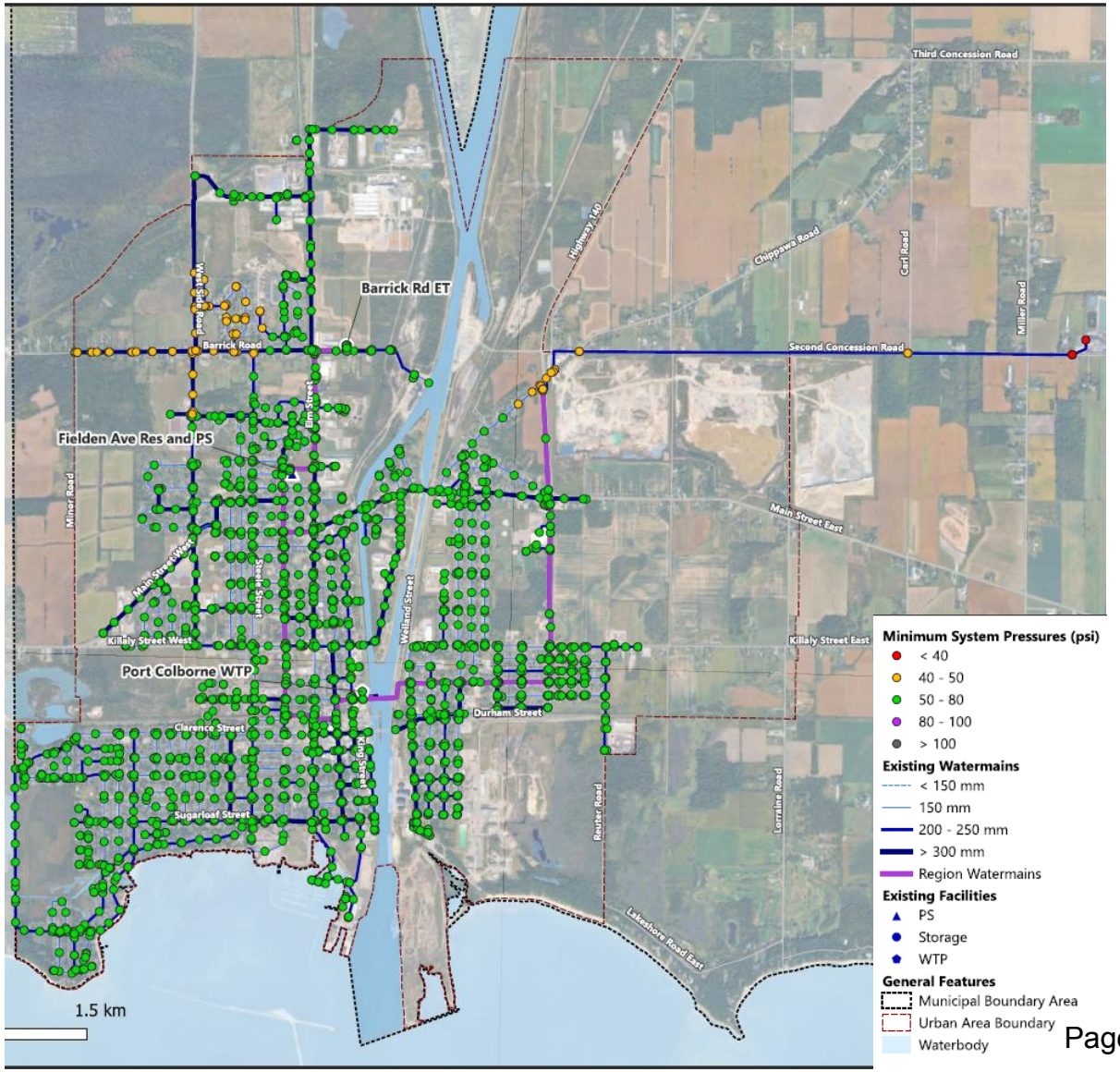
- ☑ **Finish previously approved and funded I&I work through 2026 and early 2027** –mainline sewer lining, lateral lining and complete maintenance hole rehab works
- ➔ **Lateral Lining** – Complete high priority lateral lining in Union/Arena sewershed and Nickel area following recommendations from lateral launch investigations

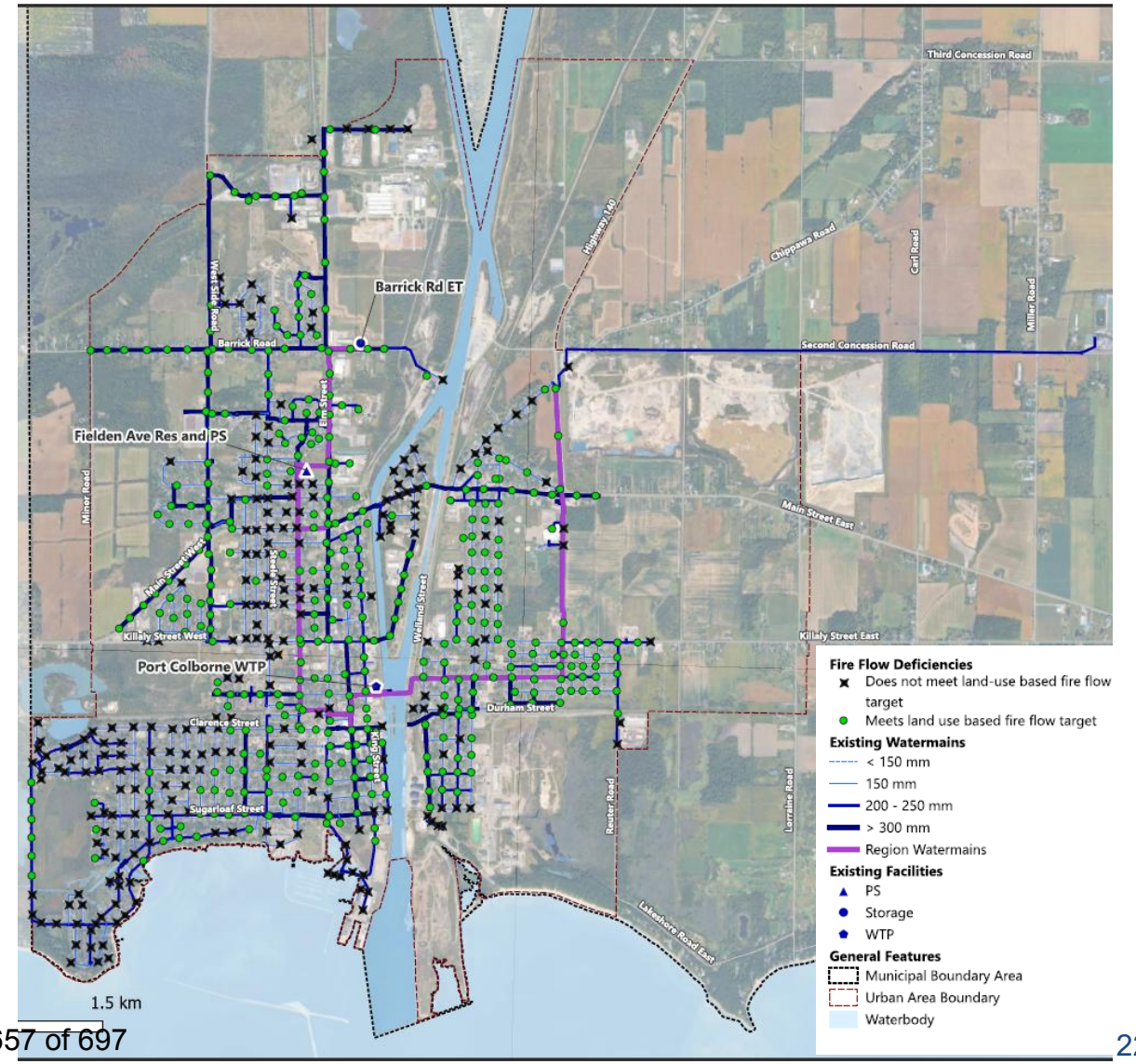
Program	Total Laterals	Rate Cost
Wastewater lateral rehabilitation	850 laterals	$8,000,000

Water

PORT COLBORNE

Existing System and Model Calibration





Evaluating Strategies

A. Buildout Capital Program

- City's planned watermain replacements
- Targets watermains with frequent breaks or ongoing issues
- Coordinates upgrades with planned municipal construction
- Length Replaced: 4.5 km
- Total System Deficiencies: 31%

B. Cast Iron Replacement

- Replaces all Cast Iron watermains in system
- Focused on localized renewal in areas with frequent watermain breaks
- Limited impact on overall system hydraulics
- Length Replaced: 30.9 km
- Total System Deficiencies: 11%

C. Sub-Trunk Loops — No Capital Program

- Adds new sub-trunk watermains to enhance fire flow capacity
- Focused on system performance rather than watermain replacement
- Does not focus on cast iron pipes
- Length Replaced: 6.9 km
- Total System Deficiencies: 23%

C+B. Sub-Trunk Loops + Targeted Upgrades

- Combines new looping with replacement of undersized watermains
- Focuses on cast iron watermains and breaks
- Focuses on system reliability and fire flows
- Length Replaced: 26.1 km
- Total System Deficiencies: 5%



Evaluating Strategies: City Priorities










Evaluating Strategies: City Priorities

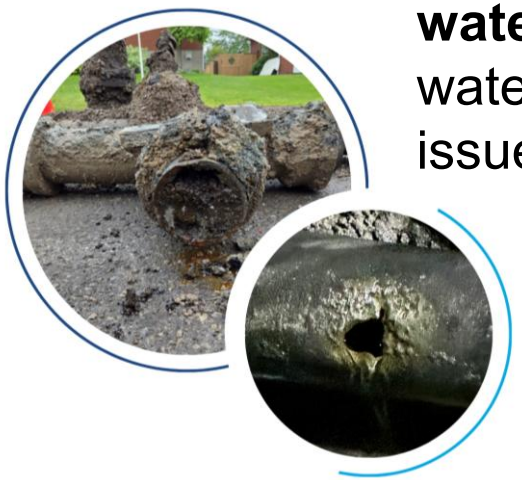






Preferred Strategy

- Combined approach integrating **looping** with targeted replacement of **undersized watermains**.
- Focuses on **system reliability** & **reduction of fire flow deficiencies**, while aligning with areas of **cast iron watermains** and historical break patterns.
    - Rehabilitation and/or replacement of **cast iron watermain** to address ongoing watermain break and **water loss** issues



Preferred Strategy: Sub-Trunk Loops & Target Upgrades (Concept C+B),

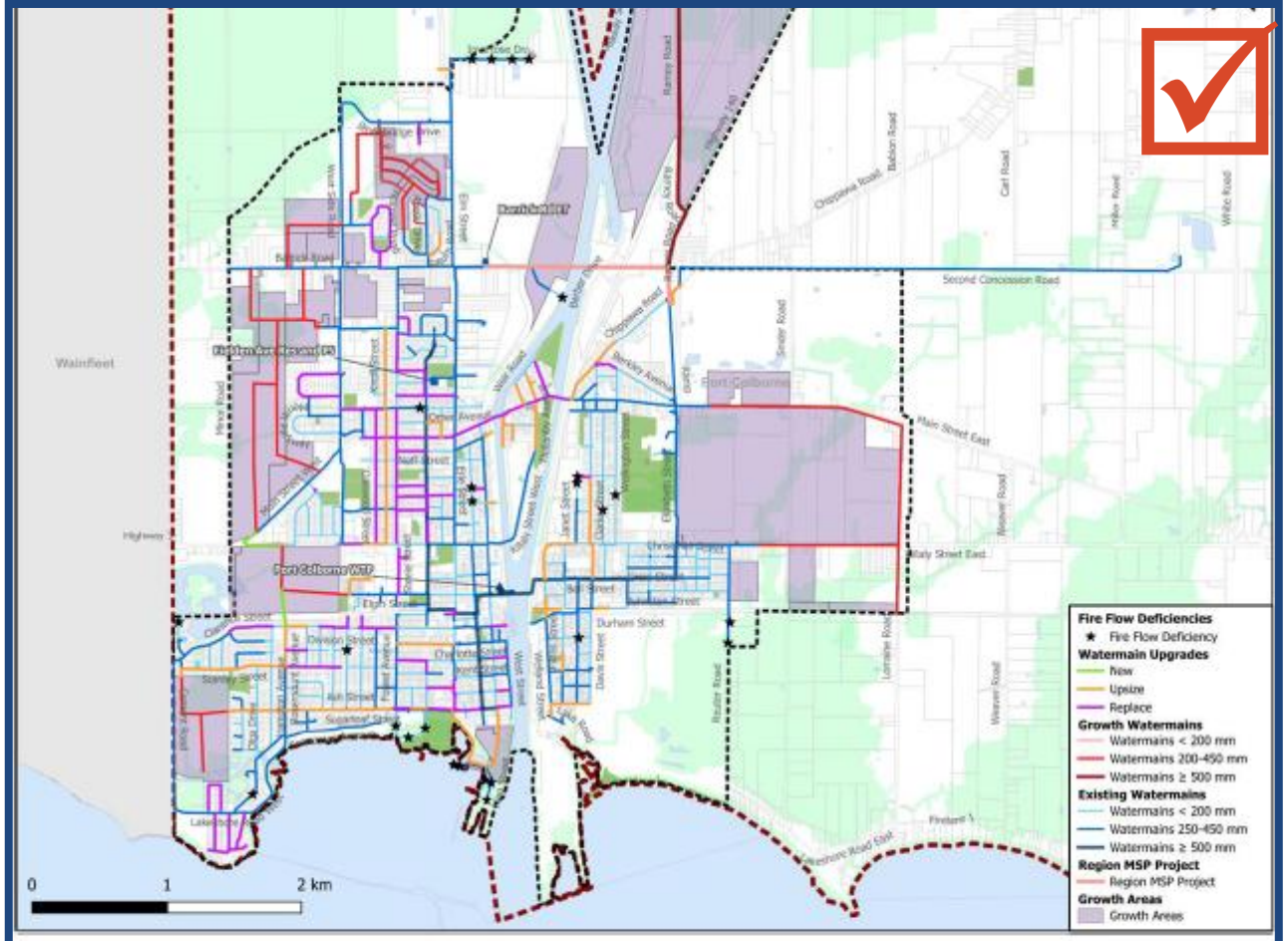
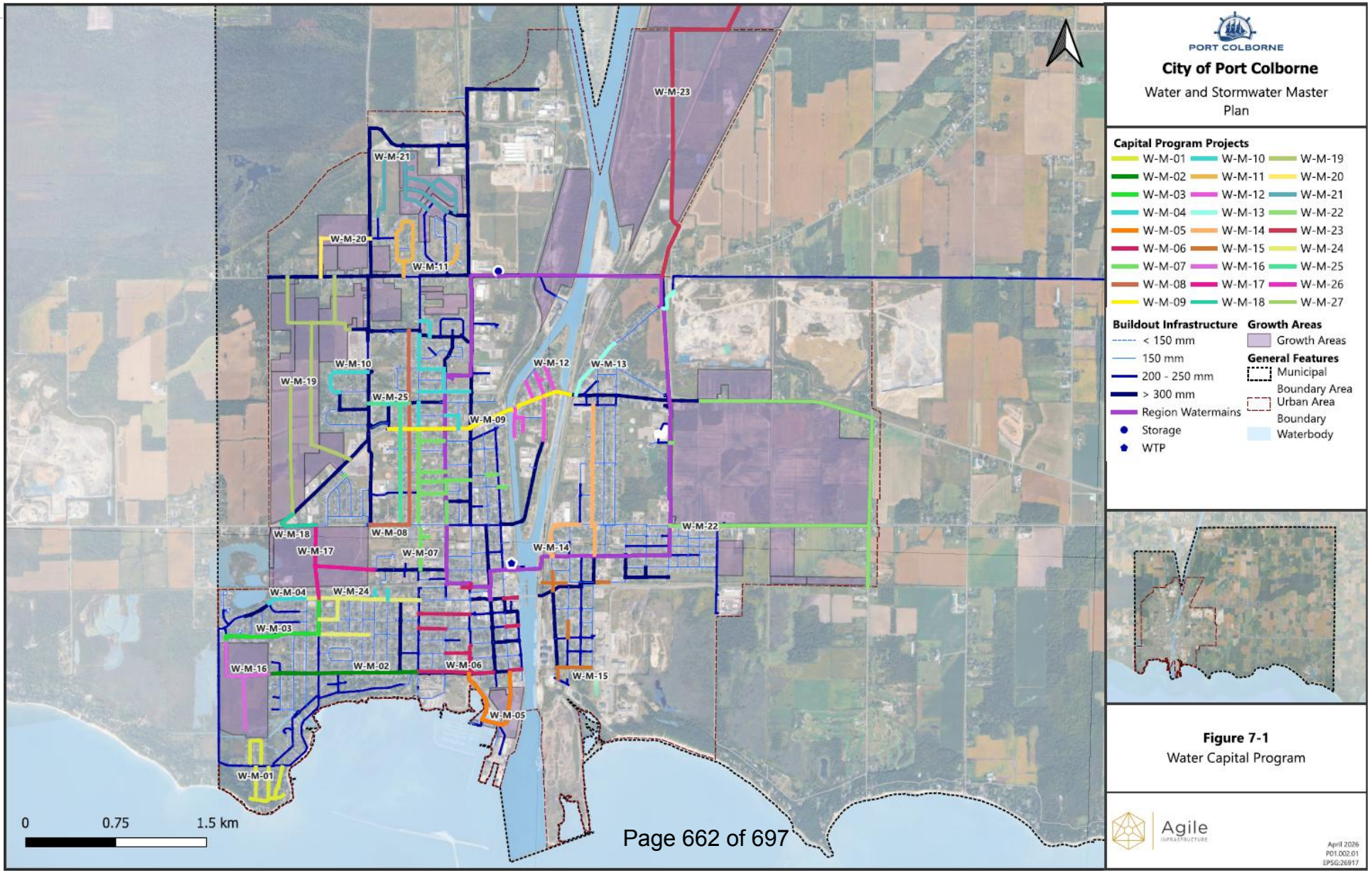


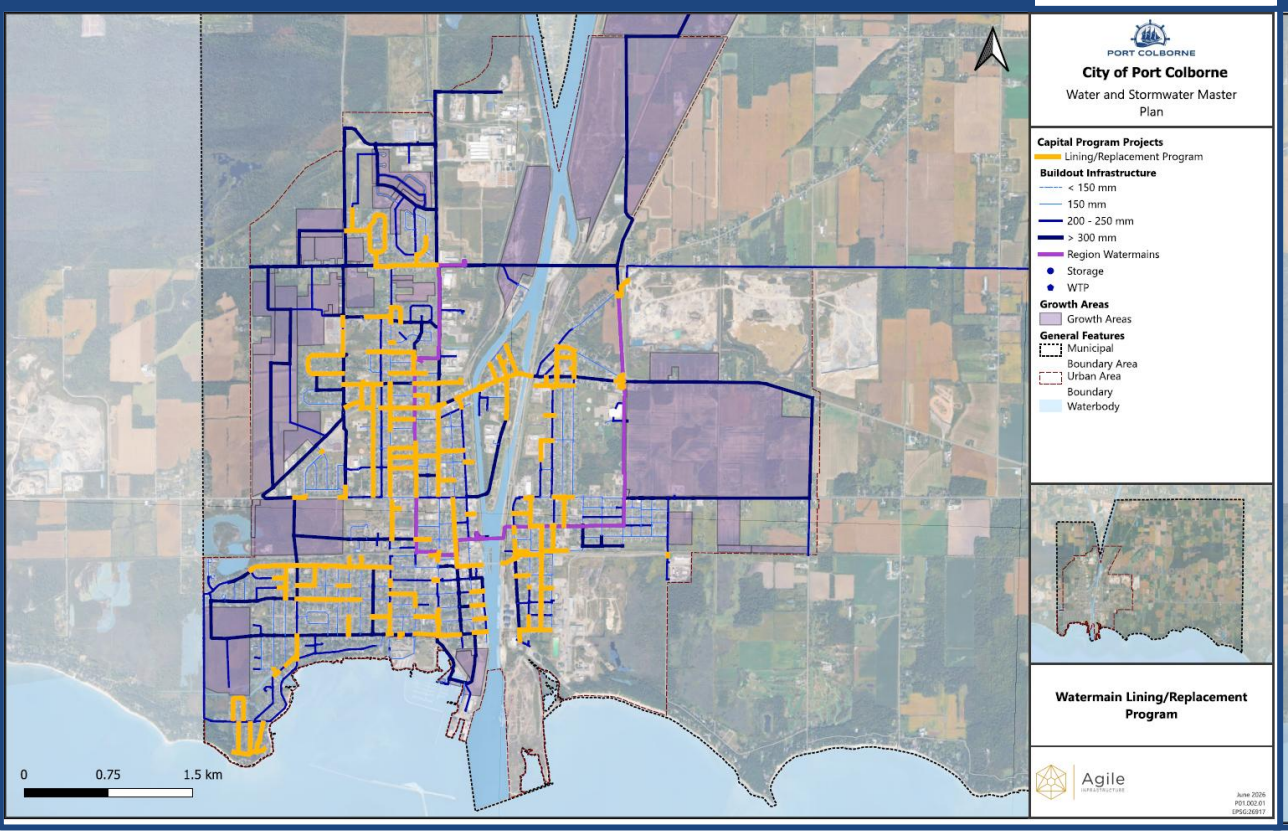
Figure 6-4: Sub-Trunk Loops & Target Upgrades

Capital Program Recommendations

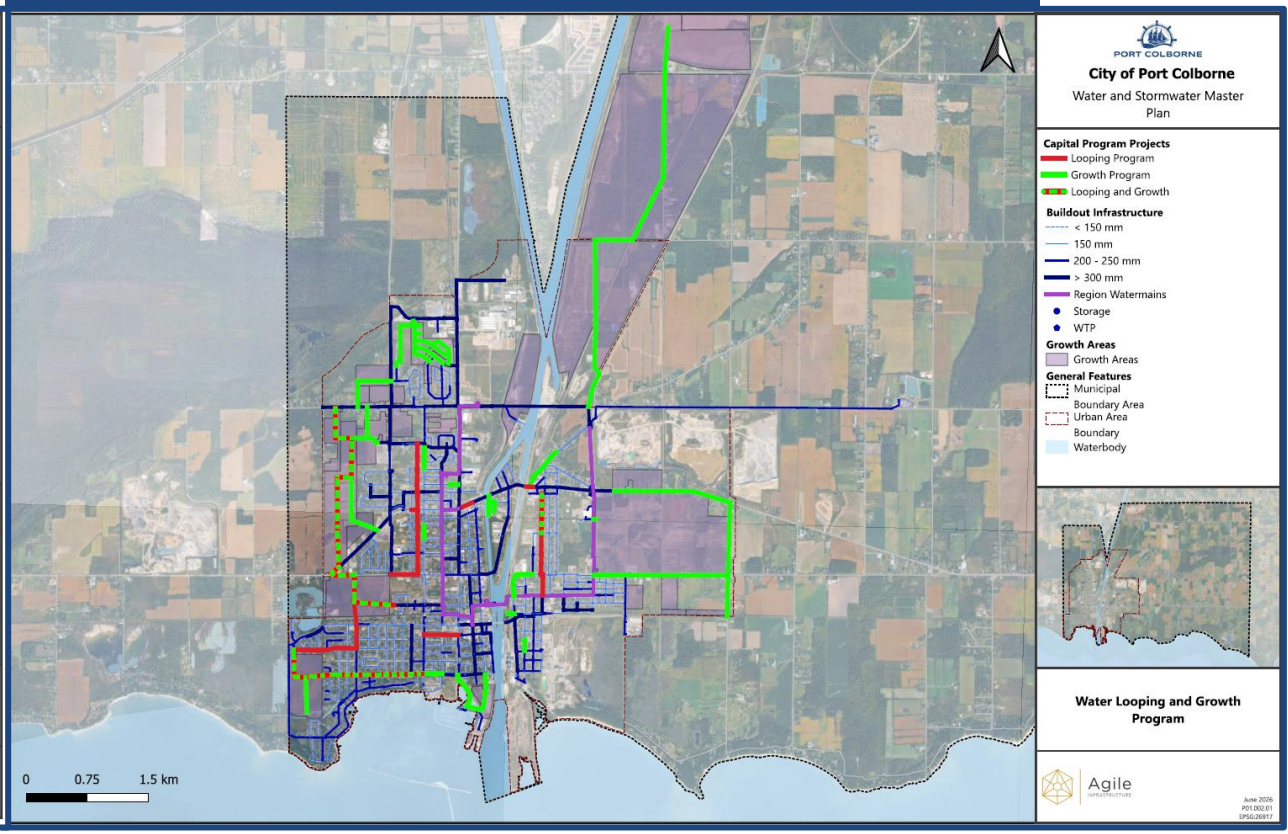


Capital Program Approach

Cast Iron Replacement & Lining Program



Looping & Growth Program



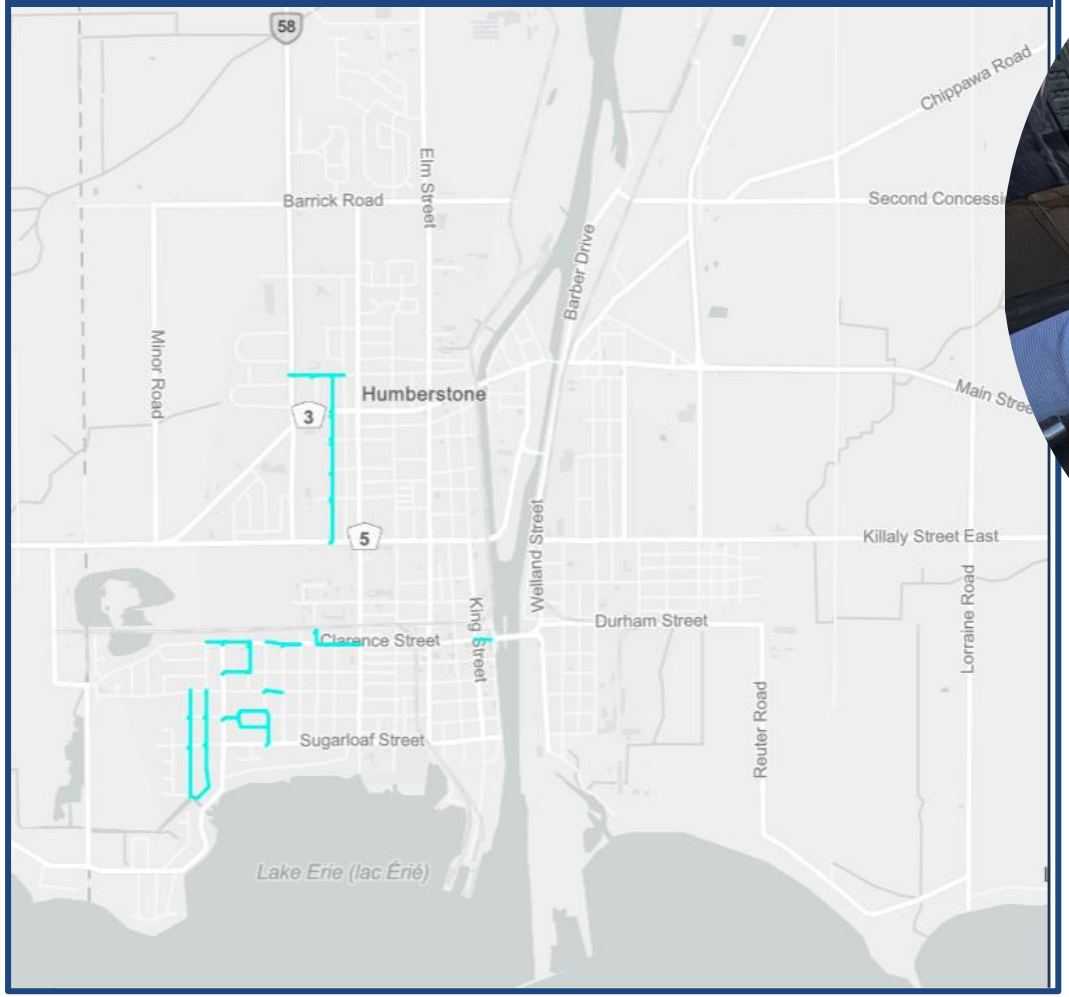
Capital Program

- **Lining / Replacement Program** – Lining or same-size replacement of existing Cast Iron or Asbestos Cement watermains. Address existing renewal needs and/or improvements to local capacity. Can provide moderate growth capacity
- **Looping & Growth Program** – Upgrading of existing network to provide additional capacity and provide additional system resiliency and operational flexibility. Will also support future growth.

Program	Length	Rate Cost
Watermain Replacement Program	26.8 km	$52,300,000
Watermain looping to improve system efficiency and fire flow (support future growth)	30.4 km	$27,700,000

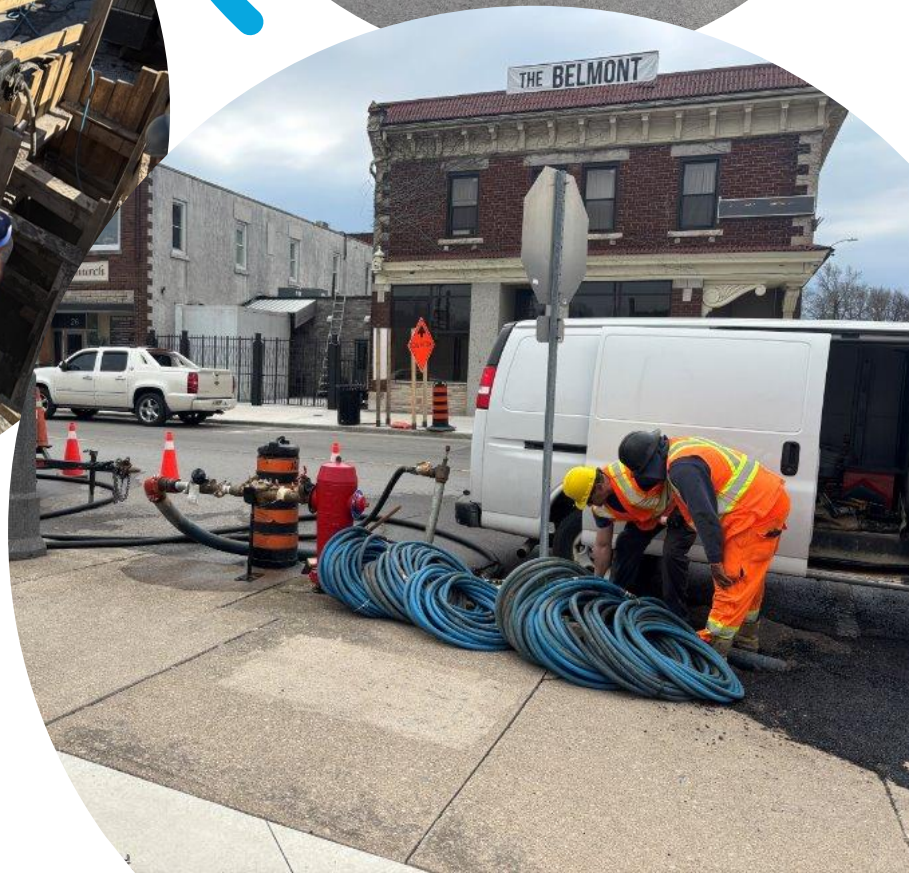
Watermain Lining Projects Completed

Watermain Lining Investment 2025-2028:
$10.2 million (5.2km)

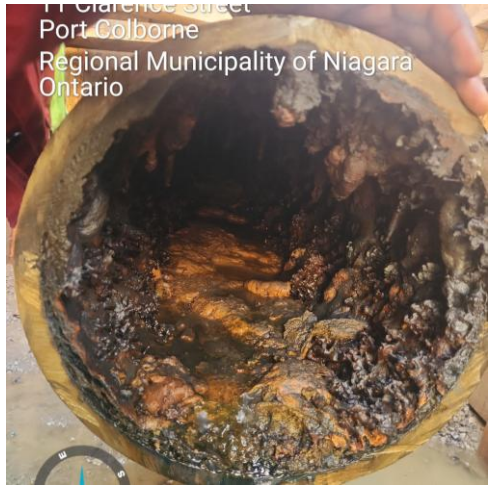








Watermain Lining









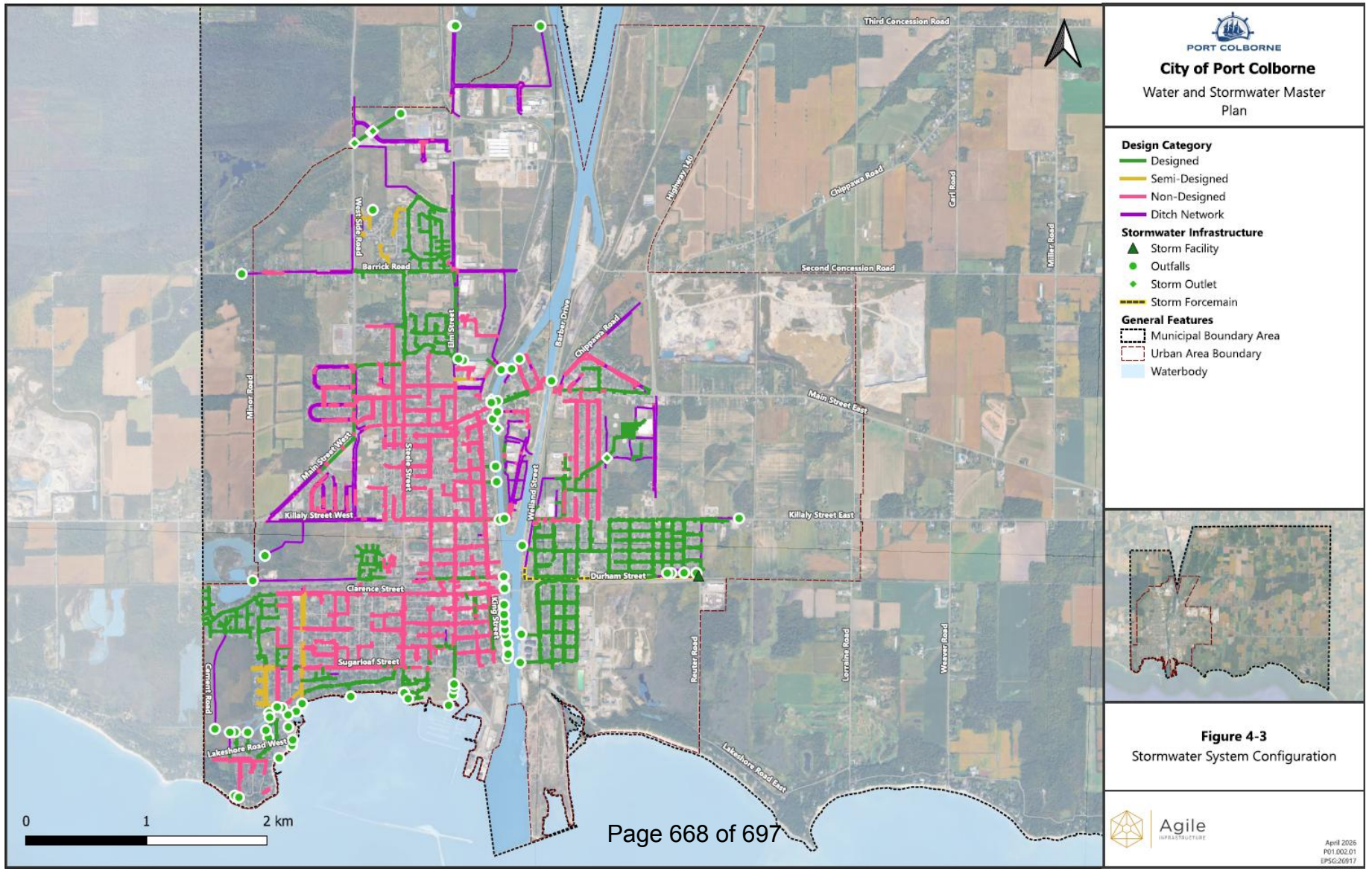




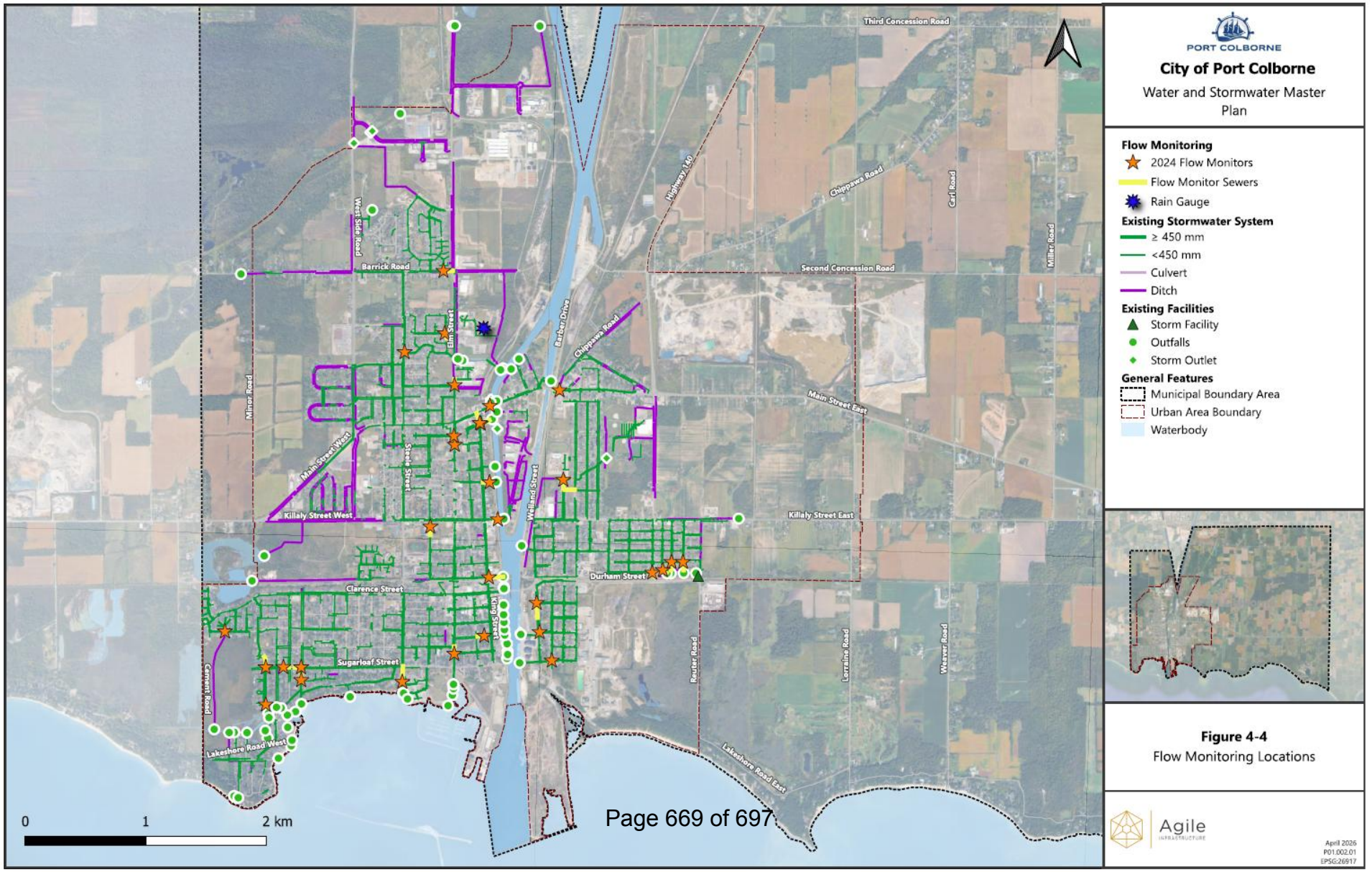
Stormwater

PORT COLBORNE

Stormwater System

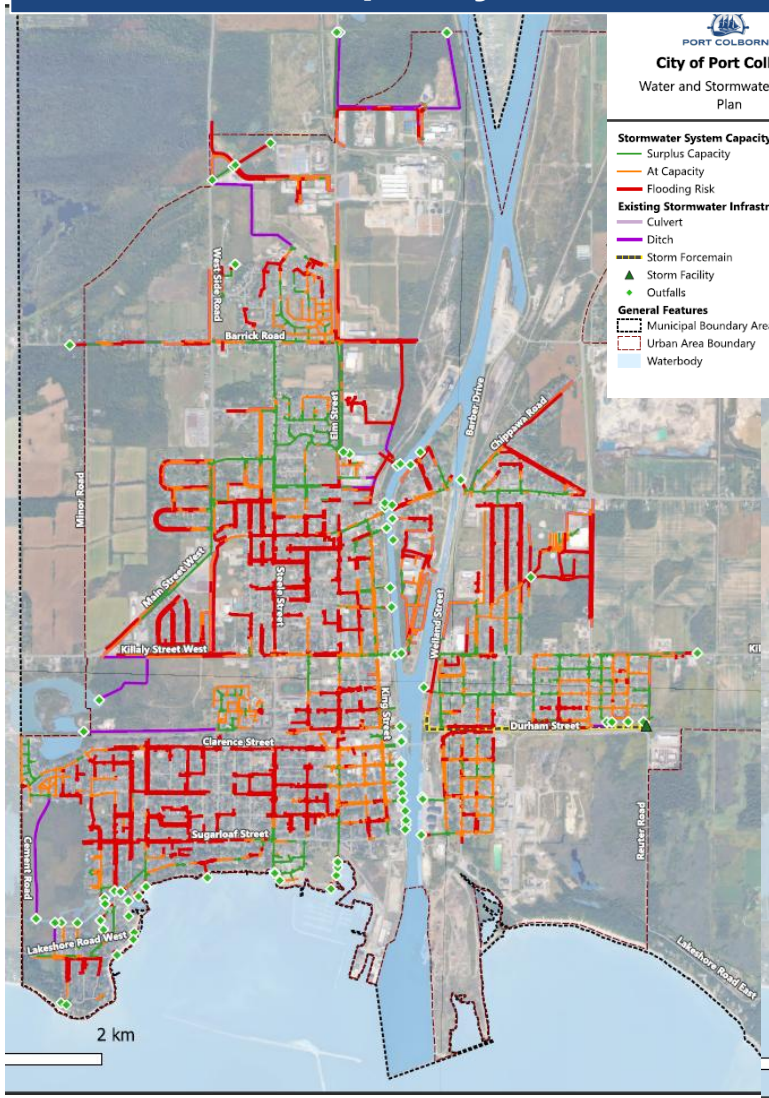


Model Calibration

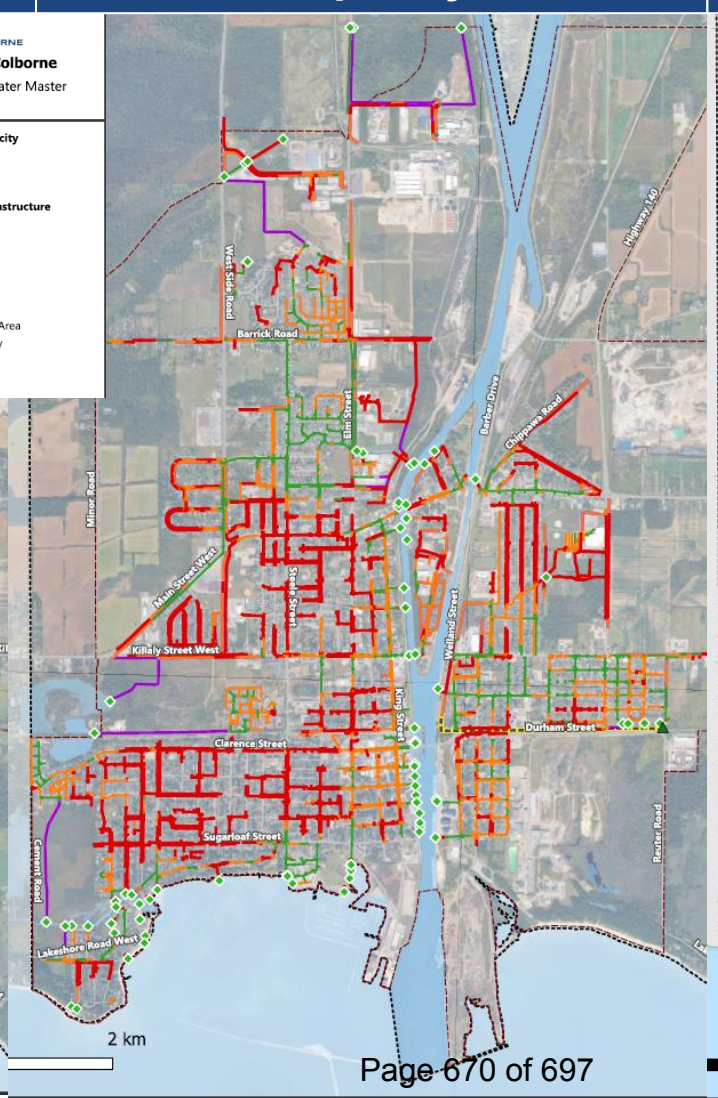


Model Output

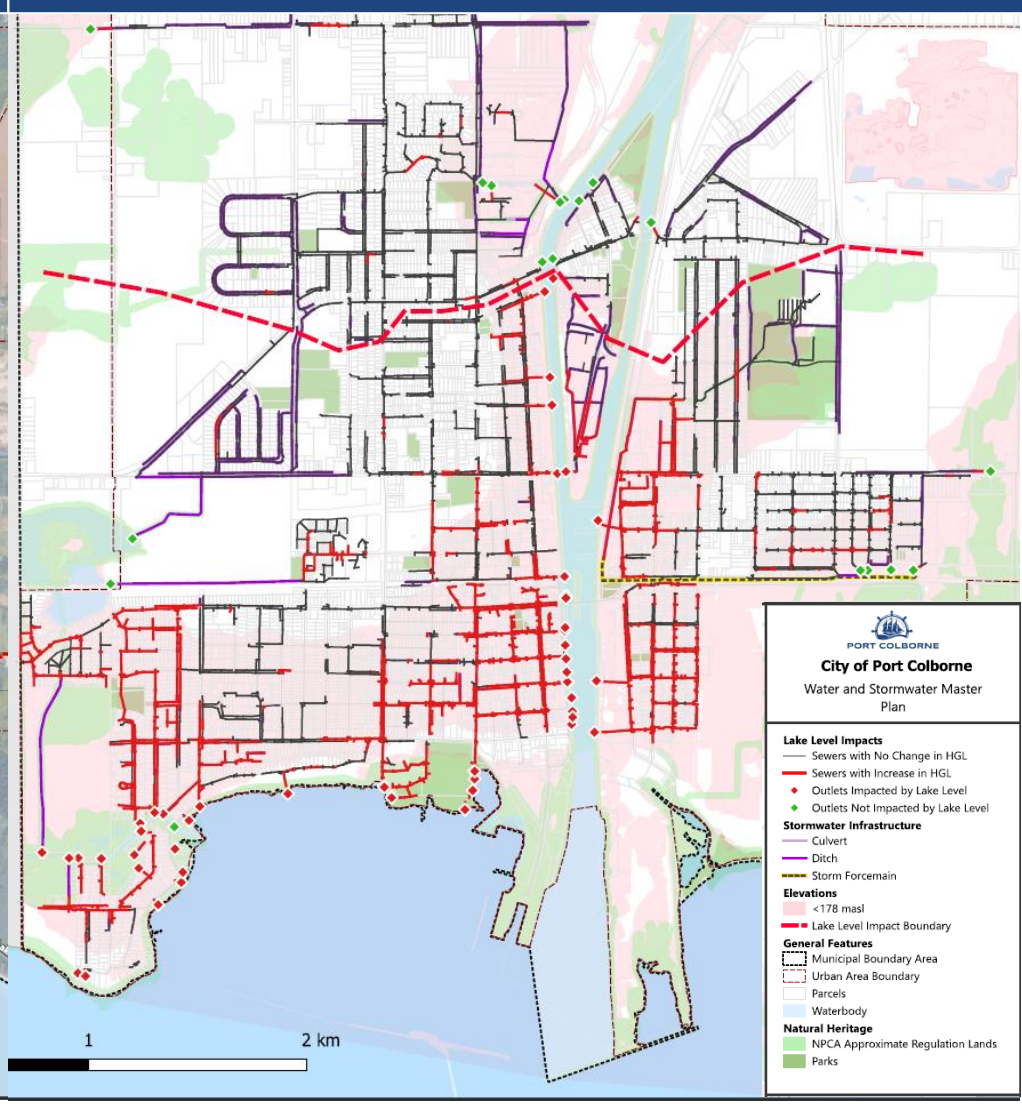
2-Year Stormwater Sewer Capacity



5-Year Stormwater Sewer Capacity



Lake Level Impact

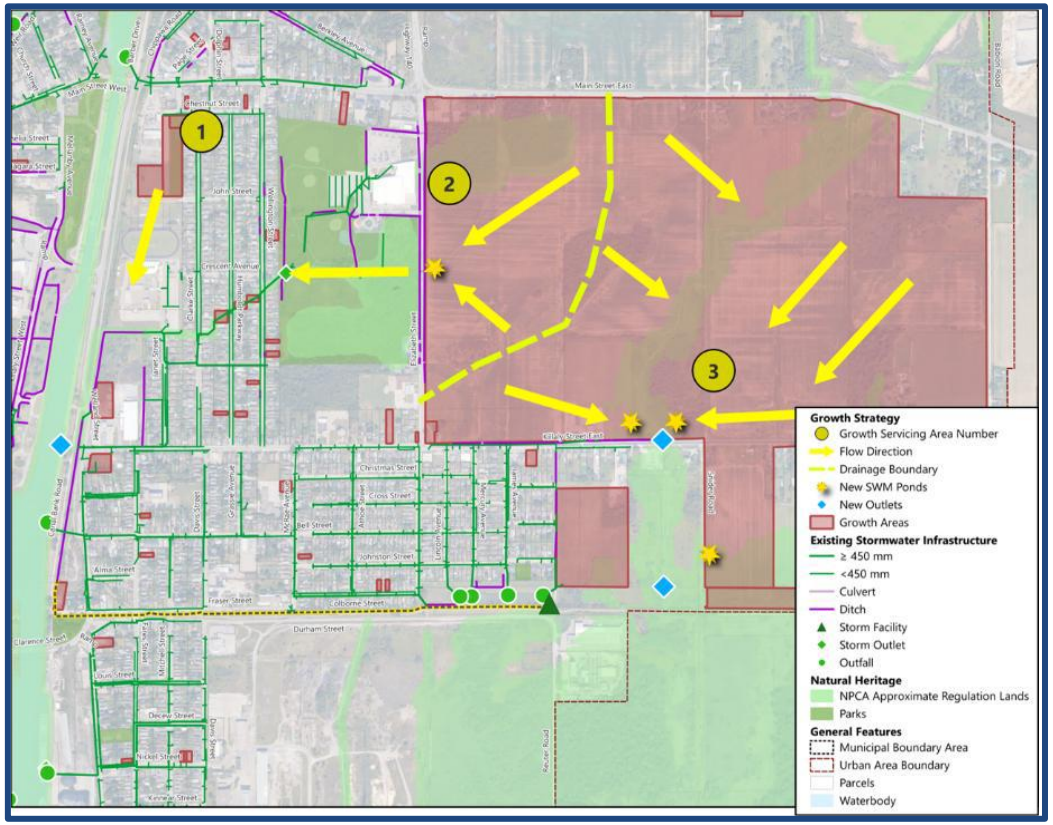


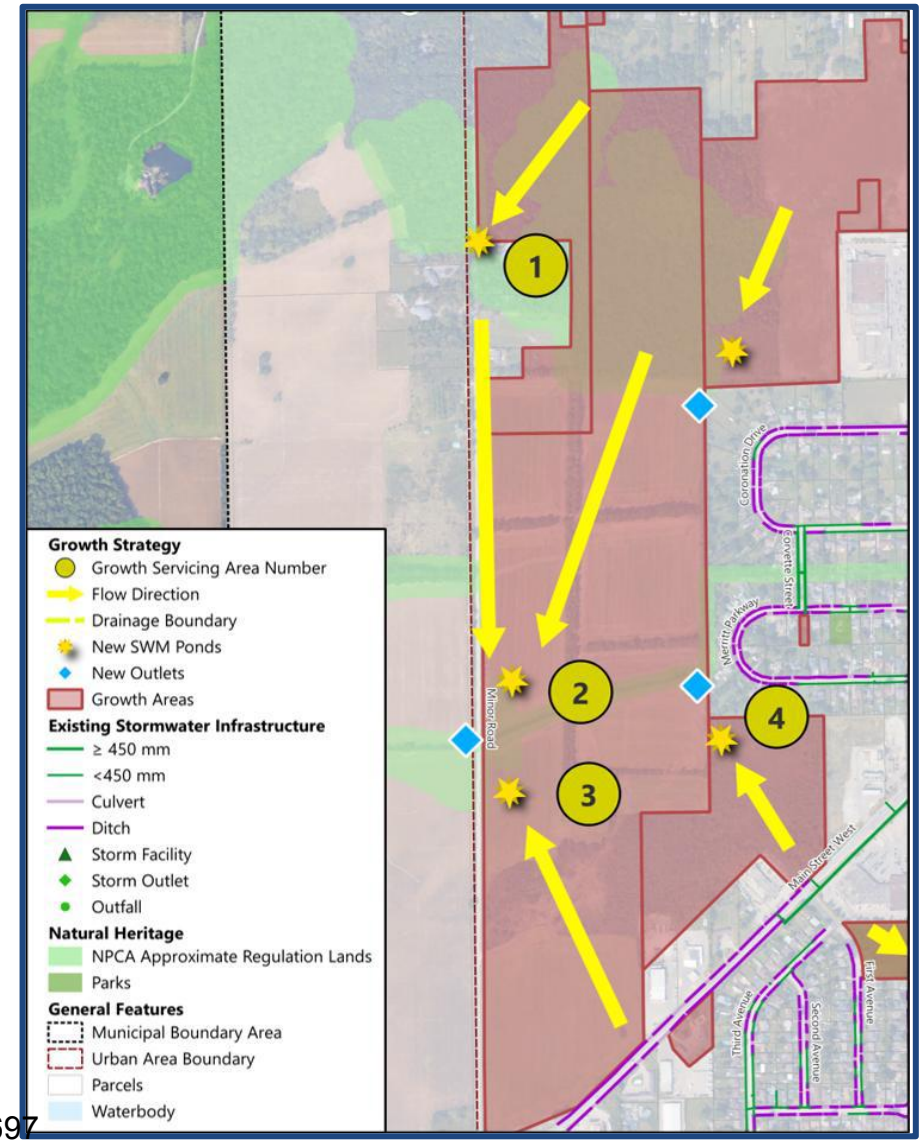
Stormwater Servicing: Growth Strategy

- The MSP provides a **high-level** framework for growth, identifying potential connections, capacity constraints, drainage routes, SWM facilities, and new outlets.
  - Detailed stormwater studies will still be required for each development
- **Growth-related infrastructure** may include new outlets, SWM ponds, drainage/conveyance improvements, and connections to the existing system
- **Roadway urbanization** associated with growth will be addressed through development and/or City roadway projects

Growth Area	MSP Section
• Eastern Growth Area	6.2.2
• ESEL Growth Area	6.2.3
• North Growth Area	6.2.4
• Marina Growth Area	6.2.5
• Southwest Growth Area	6.2.6
• Western Growth Area	6.2.7
• Northwestern Growth Area	6.2.8
• Central Growth Area	6.2.9
• Northwestern Growth Area – Existing Ditch Network	6.2.10
• Northwestern Growth Area - Growth Downstream of Existing Storm System	6.2.11
• Western Growth Area – Municipal Drain	6.2.12
• North Central Growth Area	6.2.13

Growth Strategy Examples





Stormwater Servicing: Strategy for Existing System

Major Drainage Areas:

- **Clarke Street Drainage Area:** Implement trunk sewer realignment along Russell Avenue, full reconstruction of the local sewer network north of Killaly Street to improve reliability.
- **Clarke Street Outlet:** Undertake capacity upgrades, implement flood protection and storage improvements, and integrate real-time control measures to optimize system performance.
- **Elm Street & King Street North:** Implement outlet flood protection measures and targeted local sewer upgrades, including new trunk sewers along Neff Street and Fielden Avenue, and local improvements along Charles, Minto, and Erie Streets.
- **Elm Street & King Street South:** Inspect and rehabilitate outlets to maintain structural integrity and implement flow protection measures to enhance reliability.
- **Sugarloaf Area**: Implement outlet flood protection and improve conveyance to existing outlets, including construction of new trunk sewers along Rosemount Avenue, Sugarloaf Street, and Stanley Street, upgrades on Steele Street and Ash Street, and partial flow diversion to reduce trunk demand.

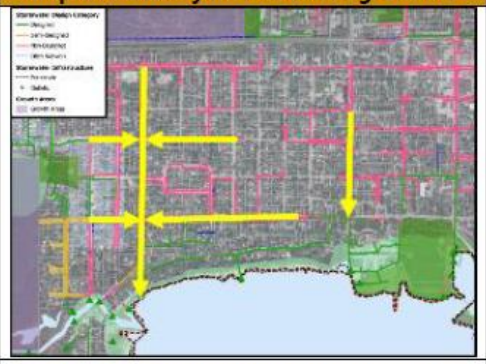
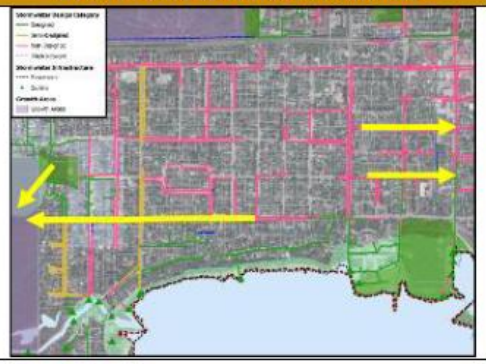
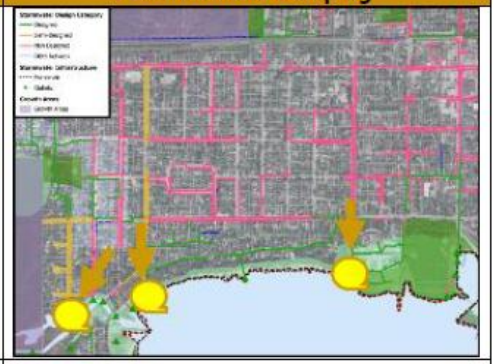
Stormwater Servicing: Strategy for Existing System (Example Clarke Area)

Table 6-1: Clark Street Drainage Alternatives Evaluation

		Sewer Upgrades – Existing Alignment	Trunk Sewer Re-alignment and System Reconstruction	Diversion to New Outfalls	Localized Sewer Upgrades
					
Advantage		• Leverage existing network	• Shifts the trunk sewer into road right-of-way for better access and long-term maintenance • Allows system optimization and flow diversions to address other system issues • Addresses trunk sewer rehabilitation/replacement needs	• Potential to minimize total sewer upgrade needs • Potential to address downstream capacity issues	• Addresses localized capacity issues • Minimizes implementation costs
Disadvantage		• Existing trunk sewer alignment has access and encroachment issues • Local network is deficient and does not support potential developments • Trunk sewer still requires rehabilitation or replacement	• Requires reconstruction of local storm sewer network • Requires diversion through parklands	• Outfall location may be limited due to canal locks • New outfall likely to require land acquisition and additional EA investigation • Trunk sewer needs rehabilitation/replacement	• Does not address broader system-wide issues
Financial	**Capital Cost**	Medium	High	Medium	Low
	O&M Cost	Medium	Low	Medium	Low
Evaluation		**Technical**: Medium **Environmental**: High **Social Cultural**: Medium	**Technical**: High **Environmental**: High **Social Cultural**: High	**Technical**: Low **Environmental**: Medium **Social Cultural**: Medium	**Technical**: Low **Environmental**: High **Social Cultural**: High
Recommended Alternative		**Not Recommended:** Does not address long-term operation and maintenance issues in the existing trunk sewer and provides limited opportunity to address local system deficiencies.	**Recommended:** Addresses long-term operation and maintenance issues in the existing trunk sewer and provides opportunities to reconfigure local system.	**Not Recommended:** Due to technical challenges related to securing and constructing a new outlet, it does not address long-term operation and maintenance issues of the existing trunk sewer.	**Recommended:** To address localized issues.

Stormwater Servicing: Strategy for Existing System (Example Sugarloaf Area)

Table 6-5: Sugarloaf Area Alternatives Evaluation

		Outlet Flood Protection	Improve Conveyance to Existing Outlets	Divert Flows to Other Catchments	Diversion and Pumping
					
Advantage		• Partial protection against high lake levels	• New trunk sewer and outlets provide the required system capacity • Addresses existing system condition and aligns with planned Sugarloaf Road rehabilitation • Supports future growth areas	• Divert minor flows to east and west catchments to reduce trunk demand	• Protects against high lake levels • Can provide substantial improvement in system performance
Disadvantage		• Does not increase system capacity • Still susceptible to high lake levels • Requires work along the lake shore • Existing system conditions and rehabilitation requirements remain • Does not provide capacity for growth areas	• Substantial upgrades required • Does not protect against high lake levels • Requires work along the lakeshore	• Diversions are insufficient to address capacity issues • May not provide capacity for growth areas • Triggers additional downstream upgrades • Timing and downstream development may constrain effectiveness • Still susceptible to high lake levels	• Requires substantial infrastructure investment • Increased operational cost due to pumping
Financial	**Capital Cost**	Low	Medium	Low	High
	O&M Cost	Low	Low	Low	High
Evaluation		**Technical** / **Environ-mental** / **Social Cultural**	**Technical** / **Environ-mental** / **Social Cultural**	**Technical** / **Environ-mental** / **Social Cultural**	**Technical** / **Environ-mental** / **Social Cultural**
		Medium / Medium / High	High / Medium / Medium	Medium / Medium / Medium	Low / Low / Low
Recommended Alternative		**Recommended as Part of Hybrid Solution:** Provides partial protection against high lake levels	**Recommended as Part of Hybrid Solution:** Addresses existing system capacity issues and provides capacity for growth areas.	**Not Recommended:** Trunk upgrades still required and triggers additional downstream upgrades. Limited by the timing of development.	**Not Recommended:** High implementation and operational cost.

Stormwater Servicing: Strategy for Local System Needs

Local Servicing Areas:

- **Chippawa Road Area:** Address existing capacity limitations and improve overall system reliability by redirecting flows to the Wellington Street trunk sewer, upgrading the Wellington Street sewer to provide adequate conveyance, and implementing localized drainage improvements along Chippawa Road and Berkey Avenue.
- **Third Avenue Area:** Improve local conveyance and reduce flooding risk through targeted upgrades to sewers and roadside ditches along Killaly Street and West Side Road, drainage improvements along Third Avenue and Sheba Crescent, and coordination with planned growth.
- **Omer Avenue Area:** Enhance system capacity and performance through construction of new sub-trunk sewers along Fielden Avenue and Omer Avenue/Steele Street, partial flow re-direction along Main Street, and coordinated timing with planned wastewater upgrades.
- **Lakeshore Road Area:** Maintain overall system performance by relying on available outlet capacity, while recognizing potential impacts from elevated lake levels. Improvements to Lakeshore Road West have addressed previous conveyance constraints, and no major upgrades are currently recommended beyond monitoring and minor localized improvements as needed.

Stormwater Servicing: Strategy for Local System Needs

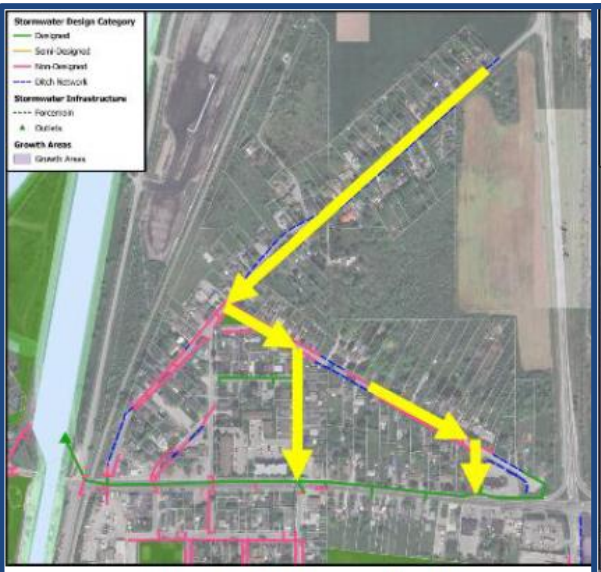


Figure 6-13: Chippawa Road Area

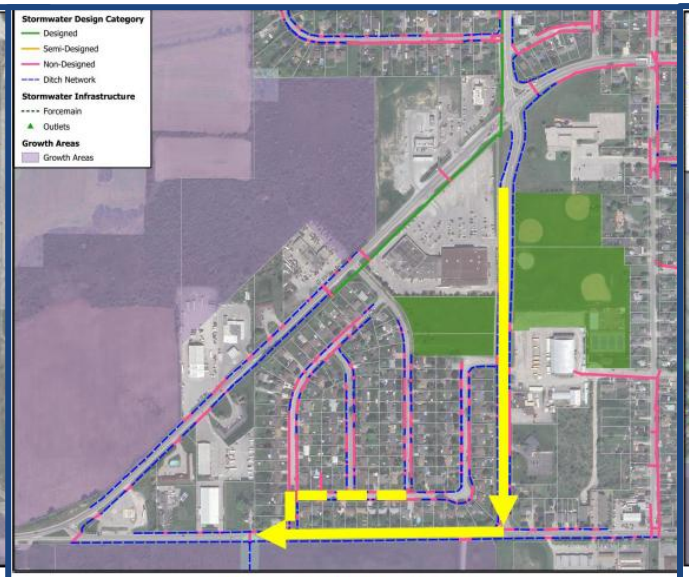


Figure 6-14: Third Avenue Area



Figure 6-15: Omer Avenue Area



Figure 6-16: Lakeshore Road Area

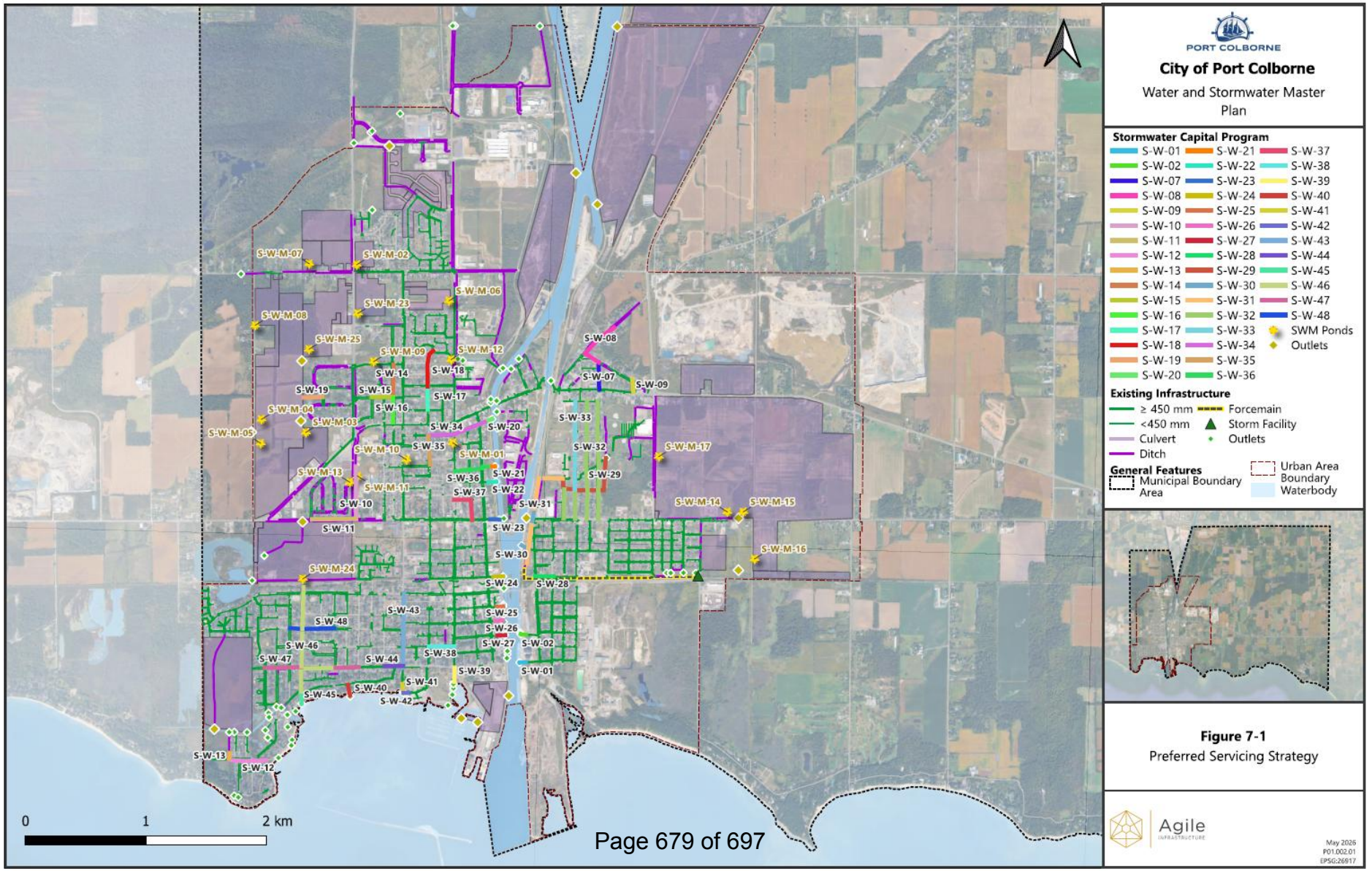
Stormwater Servicing: Strategy for Outlet Improvements

Outlet Upgrades

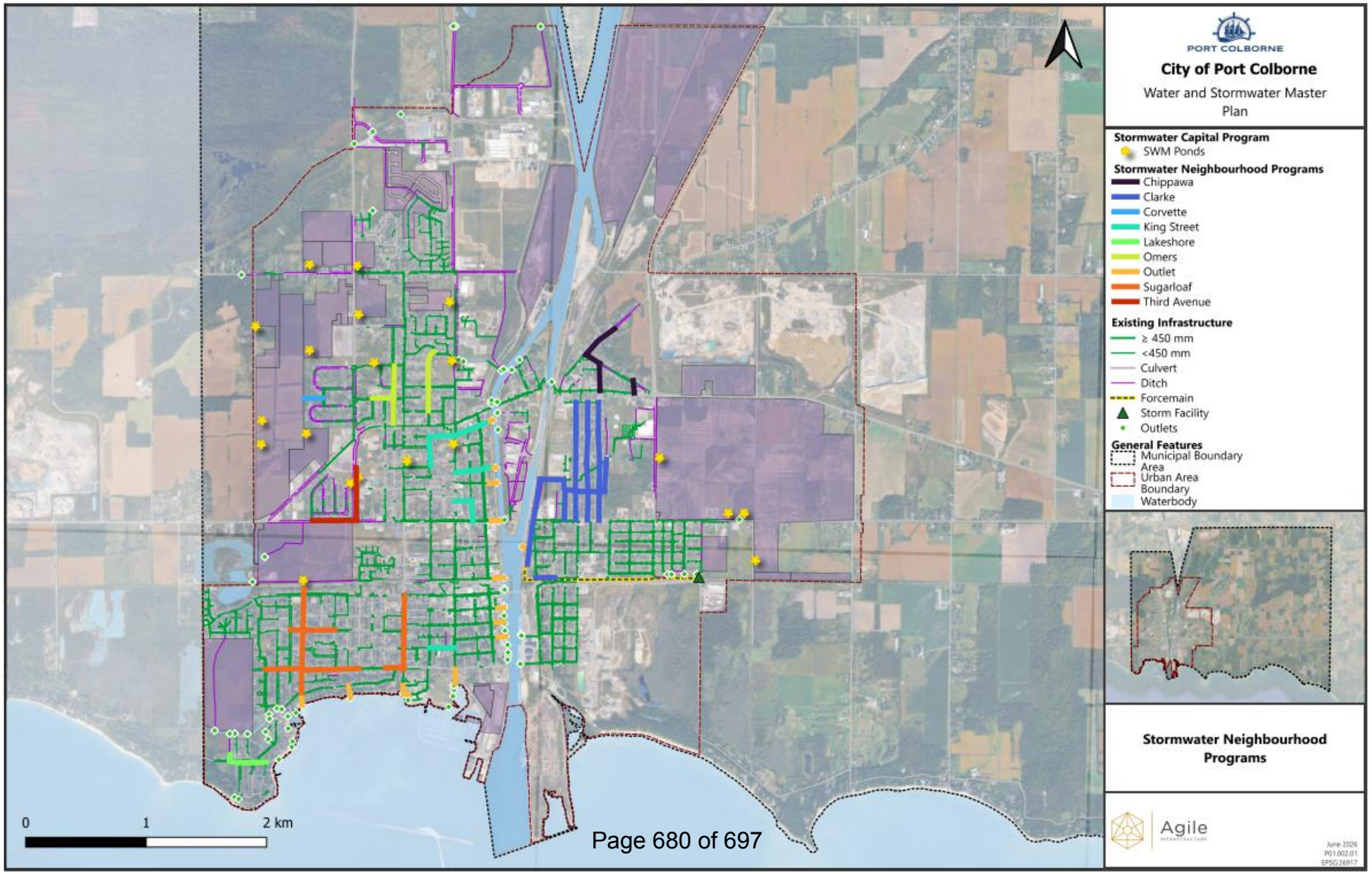
- **Capacity Upgrades:** Implement capacity upgrades to the Bell Street and Rosemount Avenue outfalls to accommodate increased peak flows due to the upgrading of the existing non-designed and semi-designed systems.
- **Flooding Protection:** For existing outlets discharging to Lake Erie and the Welland Canal south of Lock 8, rehabilitate and install new backflow protection to protect against high lake level conditions
- **New Outlet:** Explore potential overflow option for the Quarry Ponds.



Capital Program Recommendations



Capital Program Recommendation – Neighbourhood Plan



Recommendations

1. **Neighbourhood Improvement**: Trunk sewer improvement to address existing issues and/or to provide capacity to support the construction of designed local stormwater systems
2. **Local Stormwater Improvement Plan:** Future replacement/upgrading of local areas with designed stormwater systems.
3. **Outlet Protection:** Improvement/replacement of existing outlets and installation of protection against high lake levels
4. **Stormwater Management Facilities:** New stormwater management facilities to manage runoff from new development areas (Developer-lead)

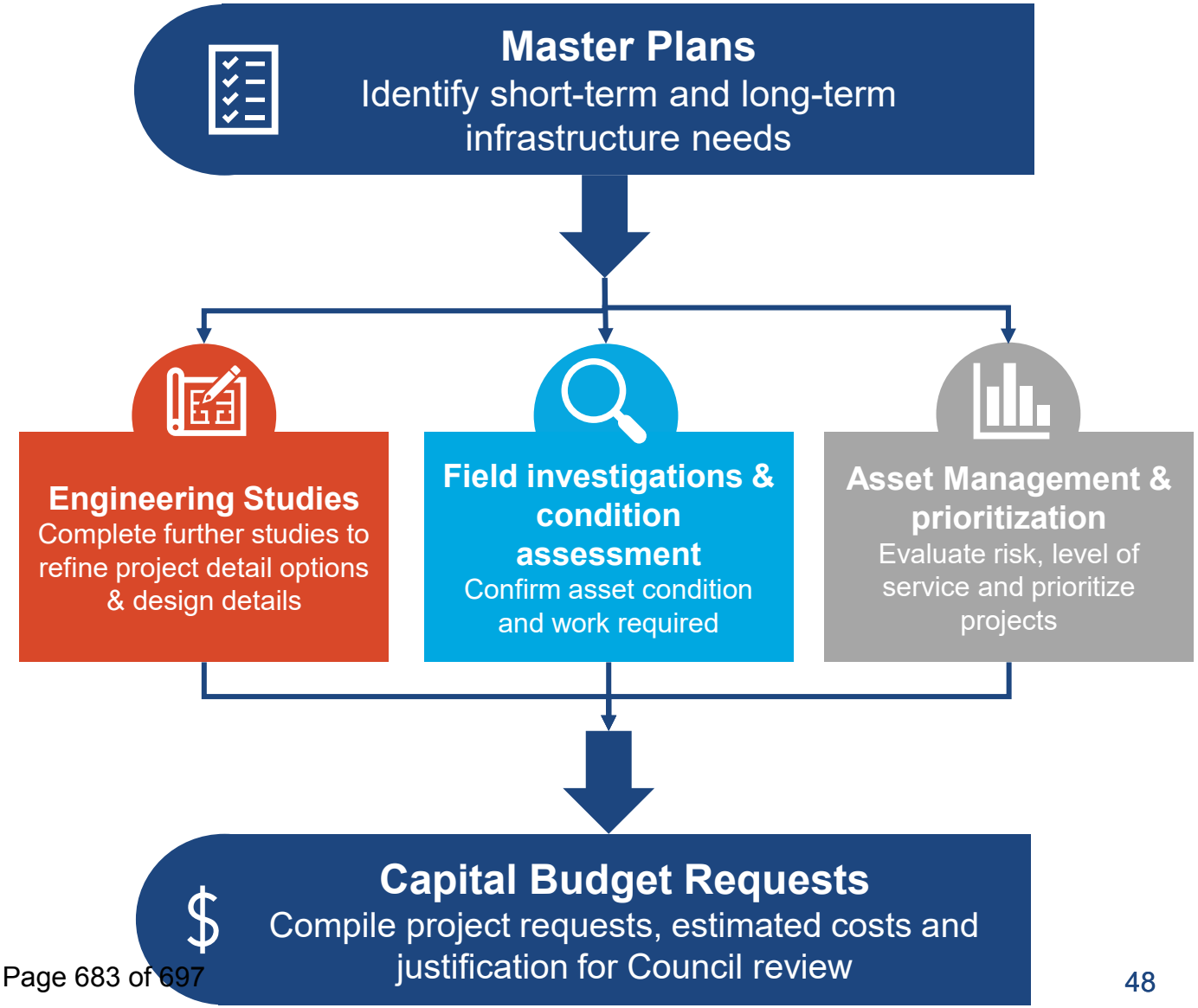
Program	Rate Cost
Storm neighbourhood and local improvements	$27,200,000
Storm outlet protection	$6,900,000

Bringing it all Together

PORT COLBORNE

Bringing it all Together

- These studies provide the **technical foundation** for **future infrastructure investment.**
- **Recommendations** are balanced with asset condition, operational and field findings, regulatory requirements, affordability and Council priorities before projects advance into the City's capital program.
- **Next steps** include:
  - Detailed capital budget
  - Water/wastewater allocation bylaw for new development



Thank you

PORT COLBORNE

PORT COLBORNE

Memorandum

To: **Mayor Steele and Members of Council**

From: **Councillor Bodner**

Date: **September 8, 2026**

Re: **September as 'Thank a Farmer' Month**

We are all proud of our Friday Farmers market and are often told it is one of the best in Niagara. But it is only that way because of the hard-working farmers and food produces that show up week after week. These farm operations are under increased pressures from Global Warming causing larger more intense weather events, like heavy rain, hail and often high winds. We have witnessed that this year in Niagara. Some years farmers deal with a lack of rain and like this year a cold spring event that resulted in virtually no sour cherry crop. Imagine facing increased fuel cost and higher repair costs to run your equipment. Then there is the higher cost of seeds that you plant not knowing if your crop will be successful and you will have something to sell.

Moat of us encounter people who are in the farm industry at the market, but a large area of Port Colborne is agricultural. Here we have many large- and small-scale farm operations supplying the food industry with raw products like wheat, corn, soya beans and hay for animal feed.

As we all are trying to buy products made in Canada and grown locally it does not get any easier to do this than visiting our Friday market or stopping at a local Farm stand. And while you are there thank the people that provide the safe and delicious food available.

I am requesting that the following motion be approved:

> *Now Therefore Be it Resolved:*
>
> *That Council for The Corporation of the City of Port Colborne hereby proclaims September as 'Thank a Farmer' Month in the City of Port Colborne.*

Thank you for your consideration,

Councillor Bodner
Ward 4

The Corporation of the City of Port Colborne

By-Law No. _____

A By-law to Change the Name of Ramey Road (North of Highway 140) Within the City of Port Colborne

Whereas pursuant to Section 9 of the *Municipal Act*, S.O. 2001, c. 25 as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act; and

Whereas Section 11 of the *Municipal Act*, S.O. 2001, c. 25 permits enactment of by-laws necessary or desirable for the public, including those respecting:

- Public assets of the municipality acquired for exercising its authority;
- Health, safety and well-being of persons; and
- Protection of persons and property; and

Whereas pursuant to Section 61(1) of the *Municipal Act*, S.O. 2001, c. 25 provides that a municipality may, at any reasonable time, enter upon land lying along a highway to install and maintain a sign setting out the name of a highway; and

Whereas pursuant to Section 116(1) of the *Municipal Act*, S.O. 2001, c. 25 provides that a municipality may establish, maintain and operate a centralized communication system for emergency response purposes; and

Whereas at its meeting of July 27, 2020 the Council of The Corporation of the City of Port Colborne approved Chief Administrative Officer Department Report 2020-99; Subject: Road Name Policy/Road Name Request, thereby approving the renaming of Ramey Road (North of Highway 140) in accordance with the Street Naming and Renaming Policy and Guidelines:

- Ramey Road north of Highway 140 and south of the railway tracks, be renamed Progress Drive South;
- Ramey Road north of the railway tracks and south of Third Concession Road, be renamed Progress Drive North; and

Whereas the Council of The Corporation of the City of Port Colborne deems it desirous to rename certain highways within the City of Port Colborne to alleviate duplication and confusion with respect to certain highways.

Now Therefore, the Council of The Corporation of the City of Port Colborne hereby enacts as follows**:**

1. That the following highways be renamed accordingly:

CURRENT ROAD NAME	ROAD SEGMENT	NEW ROAD NAME
Ramey Road	North of Highway 140, south of the railway tracks	Progress Drive South
Ramey Road	North of the railway tracks, south of Third Concession Road	Progress Drive North

2. That any previous bylaws referencing the current road names as noted above are deemed to be amended by this Bylaw or repealed accordingly.

3. That a certified copy of this by-law be registered in the appropriate Land Registry Office.

4. That this Bylaw shall come into force and take effect on the date of passing.

Enacted and passed this 8th day of September, 2026.

_____
William C. Steele
Mayor

_____
Charlotte Madden
City Clerk

The Corporation of the City of Port Colborne

By-law No. _____

Being a By-Law to Amend By-Law No. 4310/146/02, as amended, Being a By-Law Prescribing On and Off-Street Parking For Persons with Disabilities Within the City of Port Colborne

Whereas the Council of The Corporation of the City of Port Colborne (Council) enacted By-law 4310/146/02, Being a By-Law Prescribing On and Off-Street Parking For Persons with Disabilities Within the City of Port Colborne, on the 25th day of November 2002; and

Whereas By-law No. 7438/22/26 passed by the Council of The Corporation of the City of Port Colborne on March 10, 2026, delegated certain powers and duties under various Acts to certain Municipal Officers and Employees, including the Authority to amend the schedules that regulate stopping prohibition, stop controlled intersections, parking prohibition, limited parking restrictions, parking meter zones, commercial vehicle load permits, loading prohibitions, yield signs, prohibited turns, one-way highways, speed limits on highways, and designated parking spaces on streets and highways under the jurisdiction of the City of Port Colborne.

Now therefore the Council of The Corporation of the City of Port Colborne enacts as follows:

1. That Schedule "I" Designated Parking Spaces on Streets and Highways to By-Law 4310/146/02 as amended, be further amended by adding thereto the following:

Column 1	**Column 2**	**Column 3**		**Column 4**
Highway	**Side**	**From**	**To**	**Times/Days**
King Street	West	65m South of Charlotte Street	A point 7m South therefrom	Anytime
King Street	East	65m South of Kent Street	A point 7m south therefrom	Anytime

2. That the Clerk is authorized to affect any minor modifications, corrections, or omissions, solely of an administrative, numerical, grammatical, semantical, or descriptive nature to this by-law or its schedules after the passage of this bylaw.

3. The provisions of this By-law shall take effect on passing, subject to the display of official signs.

Enacted and passed this 8th day of September 2026.

William C. Steele
Mayor

Charlotte Madden
City Clerk

The Corporation of the City of Port Colborne

By-law no. _____

Being a By-Law to Amend By-Law No. 89-2000, as amended, Being a By-Law regulating Traffic and Parking on City Roads (Parking Prohibition Tow Away Locations)

Whereas the Council of The Corporation of the City of Port Colborne (Council) enacted By-law 89-2000, Being a By-Law regulating Traffic and Parking on City Roads Within the City of Port Colborne, on the 25th day of November 2002; and

Whereas By-law No. 7438/22/26 passed by the Council of The Corporation of the City of Port Colborne on March 10, 2026, delegated certain powers and duties under various Acts to certain Municipal Officers and Employees, including the Authority to amend the schedules that regulate stopping prohibition, stop controlled intersections, parking prohibition, limited parking restrictions, parking meter zones, commercial vehicle load permits, loading prohibitions, yield signs, prohibited turns, one-way highways, and speed limits on highways under the jurisdiction of the City of Port Colborne.

Now therefore the Council of The Corporation of the City of Port Colborne enacts as follows:

1. That Schedule "E" Limited Parking Restrictions to By-Law 89-2000 as amended, be further amended by adding thereto the following:

Column 1	Column 2	Column 3		Column 4	Column 5
Highway	**Side**	**From**	**To**	**Times/Days**	**Maximum**
King Street	East	50m North of Kent Street	34m South of Charlotte Street	6:00 a.m. 6:00 p.m. Mon. to Fri.	10min

2. That the Clerk is authorized to affect any minor modifications, corrections, or omissions, solely of an administrative, numerical, grammatical, semantical, or descriptive nature to this by-law or its schedules after the passage of this bylaw.

3. The provisions of this By-law shall take effect on passing, subject to the display of official signs.

Enacted and passed this 8th day of September 2026.

_____
William C. Steele
Mayor

_____
Charlotte Madden
City Clerk

The Corporation of the City of Port Colborne

By-law No._____

Being a By-law to Authorize Entering into an Agreement of Purchase and Sale with Mr. James Gonschior

Whereas at its meeting of September 8th, 2026, the Council of The Corporation of the City of Port Colborne (Council) approved the recommendations of Report 2026-130 Subject: Purchase of VL Wellington Street PIN 64152-0063 to Facilitate Future Drainage Realignment Project; and

Whereas Council is desirous of entering into an Agreement of Purchase and Sale with Mr. James Gonschior regarding the purchase of VL Wellington Street – PIN 64152-0063; and

Whereas the *Municipal Act*, 2001 S.O. 2001, c.25, as amended, confers broad authority on municipalities to enter into such agreements;

Now therefore the Council of The Corporation of the City of Port Colborne enacts as follows:

1. That The Corporation of the City of Port Colborne enters into an Agreement of Purchase and Sale with Mr. James Gonschior regarding the purchase of VL Wellington Street PIN 64152-0063.

2. That the Mayor and the City Clerk be and they are hereby authorized and directed to sign the said agreement, attached hereto as Schedule “A”, together with any documents necessary to complete the conditions of the said agreement, and the City Clerk is hereby authorized to affix the Corporate Seal thereto.

3. That the Mayor and City Clerk be and they are hereby authorized to make changes to the purchase agreement (ie. closing date) which are not material and do not impact the purchase price.

Enacted and passed this 8th day of September 2026.

_____
William C. Steele
Mayor

_____
Charlotte Madden
City Clerk

AGREEMENT OF PURCHASE AND SALE

THIS AGREEMENT is dated for reference as of the ____ day of _____, 2026.

BETWEEN:

THE CORPORATION OF THE CITY OF PORT COLBORNE
(the "**Purchaser**")

- and -

GONSCHIOR, JAMES
the "**Vendor**")

In consideration of the mutual covenants and agreements set forth in this Agreement and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the parties agree as follows:

1. **Real Property**

Upon and subject to the terms and conditions of this Agreement, the Purchaser hereby agrees to and with the Vendor to purchase, and the Vendor agrees to and with the Purchaser to sell, those lands and premises legally described as LT 78 PL 836 VILLAGE OF HUMBERSTONE; PT LT 77 PL 836 VILLAGE OF HUMBERSTONE PT 1, 59R7627 ; PORT COLBORNE, being all of PIN 64152-0063 (LT) (the "**Property**"). [**NTD: This is if City is purchasing all of the PIN**]

2. **Payment of Purchase Price**

The purchase price for the Property is TWO HUNDRED TWENTY THOUSAND DOLLARS ($220,000.00) (the "**Purchase Price**") plus Harmonized Sales Tax ("**H.S.T.**"), payable as follows:

(a) Within two (2) business Days after the acceptance date of this Agreement by the Vendor, the Purchaser shall pay FIVE THOUSAND DOLLARS ($5,000.00) Dollars by wire transfer or certified cheque drawn against the trust account of [**NTD: Vendor's Solicitors**], as the Vendor's solicitors (the "**Deposit**"). The Deposit will be held in trust pending completion or other termination of this transaction, and it will be credited on account of the Purchase Price on the Closing Date. The Deposit will not be invested in an interest bearing account; and

(b) Upon the completion of the transaction contemplated herein (the "**Closing**"), the Purchaser will be pay the sum of TWO HUNDRED FIFTEEN THOUSAND DOLLARS ($215,000.00) subject to the usual adjustments, if any.

3. **Title Clause**

This Agreement is subject to the title to the Property being good and free from all encumbrances, save only any easements for servicing or utilities, municipal agreements, registered restrictions, restrictive covenants, municipal by-laws, or governmental enactments. The Purchaser is not to call for the production of any title deeds, abstracts, survey or other evidence of title except such as are in the possession of the Vendor. The Purchaser is allowed until ten (10) days prior to Closing to examine the title at their own expense. If within that time, any valid objection to title is made in writing to the Vendor which the Vendor shall be unable or unwilling to remove, and which the Purchaser will not waive, then this Agreement shall, notwithstanding any intermediate acts or negotiations in respect of such objections, be null and void and any deposit shall be returned by the Vendor to the Purchaser forthwith without interest or deduction and the parties shall have no other liabilities to each other. Save as to any valid objections so made within such time, the

Purchaser shall be conclusively deemed to have accepted title of the Vendor to the Property.

4. Assignment

This Agreement may not be assigned by the Purchaser without the express written consent of the Vendor, which consent may be arbitrarily withheld.

5. Purchaser's Acceptance of Real Property "As Is, Where Is"

(a) The Purchaser acknowledges that the Vendor makes no representation nor gives any warranties with respect to the Property or the fitness of the Property for the Purchaser's intended uses, and, the Property is being sold by the Vendor and accepted by the Purchaser on an "As Is, Where Is" basis, including without limitation, state of title, outstanding work orders, zoning and development approval status, locations of any and all structures, walls, retaining walls or fences (freestanding or otherwise) or encroachments by buildings or fences or otherwise on the Property or adjoining properties or streets, soil condition, environmental status and as to quantity, quality or condition.

(b) The Purchaser agrees that the Vendor shall not be obligated to perform any work in respect of the Property in order to bring the Property, or any part thereof, into compliance with any applicable standards of any relevant authority. The Purchaser also agrees not to make any claim against the Vendor in respect of any such work that may be required in order to bring the Property, or any part thereof, into such compliance.

6. Future Use

The Vendor acknowledges and agrees that the Purchaser is under no obligation by virtue of the purchase and sale of the Property herein, to grant any approvals, including approvals for changes to the City of Port Colborne Official Plan or Comprehensive Zoning By-law, or with respect to site plan control, minor variances, or building permits, or to support approvals required by any other approval authority which may be necessary for any contemplated use of the Property, or any other lands that may be occupied or owned by the Vendor.

7. Closing Date

The transaction of purchase and sale shall be completed by no later than 5:00 p.m. on the ___ day of _____, 2026 (the "**Closing Date**").

8. Adjustments (Including Payment of Vendor's Legal Fees), Harmonized Sales Tax and Land Transfer Tax

Realty taxes, local improvements, and assessment rates shall be apportioned and allowed to the Closing Date (with the Closing Date to be for the account of the Purchaser). The Purchaser will pay for the reasonable legal fees of the Vendor incurred in connection with this transaction and this will be adjusted for on Closing. H.S.T. shall be in addition to the Purchase Price. The Vendor will not collect H.S.T. only if the Purchaser provides to the Vendor an H.S.T. number as proof that it is an H.S.T. registrant under the *Excise Tax Act* ("**ETA**"), together a warranty and indemnity, satisfactory to the Vendor acting reasonably, certifying, among other things, that the Purchaser will self-assess and remit the H.S.T. payable and file the prescribed form required under the ETA. The foregoing warranties shall not merge but shall survive the completion of the transaction. The Purchaser shall be responsible for Land Transfer Tax exigible respecting the transaction.

9. Closing Documents

(a) The Vendor and Purchaser shall cause their respective solicitors to enter into a Document Registration Agreement in prescribed form and content to facilitate the electronic registration required for Closing.

(b) The Vendor represents and warrants that it is not now and shall not at the time of Closing be a non-resident of Canada within the meaning of the *Income Tax Act* (Section 116), and, it shall deliver on closing an affidavit verifying same.

(c) In addition to the other deliveries contemplated herein, the Vendor shall prepare and deliver the Transfer, save for the Land Transfer Tax Statements, and, the parties shall exchange, Undertakings to Readjust and Statement of Adjustments, as necessary.

(d) The Vendor and Purchaser acknowledges and agrees that the exchange of closing funds, non-registrable documents and other items (the "**Requisite Deliveries**") and the release thereof to the Vendor and Purchaser, will (a) not occur at the same time as the registration of the Transfer (and any other documents intended to be registered in connection with the completion of this transaction) and (b) be subject to conditions whereby the lawyer(s) receiving any of the Requisite Deliveries will be required to hold same in trust and not release same except in accordance with the terms of a document registration agreement between the said solicitors.

10. Non-Merger

It is agreed that all covenants, representations and warranties of the parties herein contained shall not merge on the Closing of the transaction or the delivery of the transfer but shall survive thereafter.

11. Binding Agreement/Time of the Essence

This Agreement, when executed by both parties shall constitute a binding contract of purchase and sale, and time shall in all respects be of the essence hereof, provided that the time for doing or completing of any matter provided for herein may be extended or abridged by an agreement in writing signed by the Vendor and Purchaser, or, by their respective lawyers who may be specifically authorized in that regard.

12. Entire Agreement

It is agreed that there is no representation, warranty, collateral agreement or condition affecting this Agreement or the Property or supported thereby other than as expressed herein in writing.

13. Tender

Any tender of documents or money hereunder may be made upon the solicitor acting for the party on whom tender is desired on the Closing Date, and, it shall be sufficient that a negotiable bank draft or certified cheque may be tendered in lieu of cash.

14. Non-Fettering

(a) Nothing in this Agreement shall derogate from, interfere with or fetter the discretion of any present or future Council in the exercise of its decisions or in the Purchaser's determinations or actions in the capacity of the Purchaser as a municipal corporation, or

the rights of the municipality to act or refuse to act in connection with its approval, regulatory or inspection rights as a regulator or municipal corporation.

(b) All rights, benefits and obligations of the Purchaser under this Agreement shall be rights, benefits and obligations of the Purchaser in its capacity as a party to this Agreement, but notwithstanding the other provisions of this Agreement, shall not derogate or interfere with or fetter the rights, benefits, and obligations of the Purchaser in its function and capacity as a municipal corporation with respect to matters of general application.

15. Non-Registration

The Purchaser agrees not to register this Agreement nor notice thereof against the title to the Property. The Purchaser acknowledge that in the event that any registration respecting this Agreement or notice thereof occurs, the Vendor, in addition to any other rights or remedies it may have, shall be entitled to injunctive relief, and the Vendor may rely upon this provision in support thereof.

16. Business Day

For purposes of this Agreement, a business day means a day other than Saturday, Sunday or a statutory holiday for the Province of Ontario.

17. Severability

If any provision contained herein shall be found by a court of competent jurisdiction to be illegal or unenforceable, then such provision shall be considered separate and severable from the rest of this Agreement, and the remainder of this Agreement shall continue to be in full force and effect and shall continue to be binding upon the parties as though the illegal or unenforceable provision had never been included.

18. Notices

Any notice, demand, approval, consent, information, agreement, offer, request or other communication (hereinafter referred to as a "**Notice**") to be given under or in connection with this Agreement shall be in writing and shall be given by personal delivery, facsimile transmission or registered mail to the address set out below or to such other address or facsimile number as may from time to time be the subject of a Notice:

To the Vendor:

[**NTD: Vendor to confirm address for service**]

To the Purchaser:

The Corporation of the City of Port Colborne
66 Charlotte Street, Port Colborne, ON L3K 3C8

Attention: Chief Administrative Officer

Any Notice, if personally delivered, shall be deemed to have been validly and effectively given and received on the date of such delivery, and if sent by registered mail, shall be deemed to have been validly and effectively given and received five (5) business days after the date it was sent, and if sent by facsimile transmission with confirmation of transmission prior to 5 p.m., shall be deemed to have been validly and effectively given and received on the day it was sent, unless the confirmation of transmission was after 5 p.m. or on a non-

business day, in which case it shall be deemed to have been given and received on the next following business day.

19. <u>Successors and Assigns</u>

All of the covenants and agreements in this Agreement shall be binding upon the parties hereto and their respective successors and assigns and shall enure to the benefit of and be enforceable by the parties hereto and their respective successors and their permitted assigns pursuant to the terms and conditions of this Agreement.

20. <u>Counterparts and Electronic Delivery</u>

The parties agree that this Agreement may be executed in counterparts and transmitted by telecopier or email and that the reproduction of signatures in counterpart by way of telecopier or email will be treated as though such reproduction were executed originals.

21. <u>Offer Open for Acceptance</u>

Once executed by the Purchaser and delivered to the Vendor or its representative, this document shall constitute an irrevocable offer to purchase the Property on the terms and conditions herein contained, open for acceptance by the Vendor until 5 p.m. on _____, 2026, after which time, if not accepted, such offer shall become null and void.

[**next page is signature page**]

IN WITNESS WHEREOF the Purchaser have executed this Agreement the ____ day of _____, 2026.

THE CORPORATION OF THE CITY OF PORT COLBORNE

Per: _____
Name:
Title:

Per: _____
Name:
Title:
I/We have authority to bind the Corporation.

IN WITNESS WHEREOF the Vendor has executed this Agreement the ____ day of _____, 2026.

WITNESS:

_____ _____
JAMES GONSCHIOR

The Corporation of the City of Port Colborne

By-law No. _____

Being a by-law to Adopt, Ratify and Confirm the proceedings of the Council of The Corporation of the City of Port Colborne at its Meeting of September 8, 2026

Whereas Section 5(1) of the *Municipal Act, 2001,* provides that the powers of a municipality shall be exercised by its council; and

Whereas Section 5(3) of the *Municipal Act, 2001,* provides that a municipal power, including a municipality's capacity rights, powers and privileges under section 9, shall be exercised by by-law unless the municipality is specifically authorized to do otherwise; and

Whereas it is deemed expedient that the proceedings of the Council of The Corporation of the City of Port Colborne be confirmed and adopted by by-law;

Now therefore the Council of The Corporation of the City of Port Colborne enacts as follows:

1. Every action of the Council of The Corporation of the City of Port Colborne taken at its Meeting of September 8, 2026, upon which a vote was taken and passed whether a resolution, recommendations, adoption by reference, or other means, is hereby enacted as a by-law of the City to take effect upon the passing hereof.

2. That where no individual by-law has been or is passed with respect to the taking of any action authorized in or with respect to the exercise of any powers by the Council, then this by-law is deemed for all purposes to be the by-law required for such authorization or exercise of any powers.

3. That the Mayor and Clerk are authorized to execute any documents required on behalf of the City and affix the corporate seal of the City and the Mayor and Clerk, and such other persons as the action directs, are authorized and directed to take the necessary steps to implement the action.

4. That the Clerk is authorized to affect any minor modifications, corrections, or omissions, solely of an administrative, numerical, grammatical, semantical, or descriptive nature to this by-law or its schedules after the passage of this by-law.

Enacted and passed this 8th day of September 2026.

_____
William C. Steele
Mayor

_____
Charlotte Madden
City Clerk