

# Municipality of Lakeshore

## Water and Wastewater Master Plan Update

### Public Information Centre #3

# Welcome!

- Please sign in, and feel free to browse the information panels.
- Your comments are important to us. Please complete the survey (sheets provided) or online at [www.Lakeshore.ca/WWMP](http://www.Lakeshore.ca/WWMP) prior to July 10, 2024.
- Staff from the Municipality and their consultants (Jacobs) are available to answer any questions that you have.



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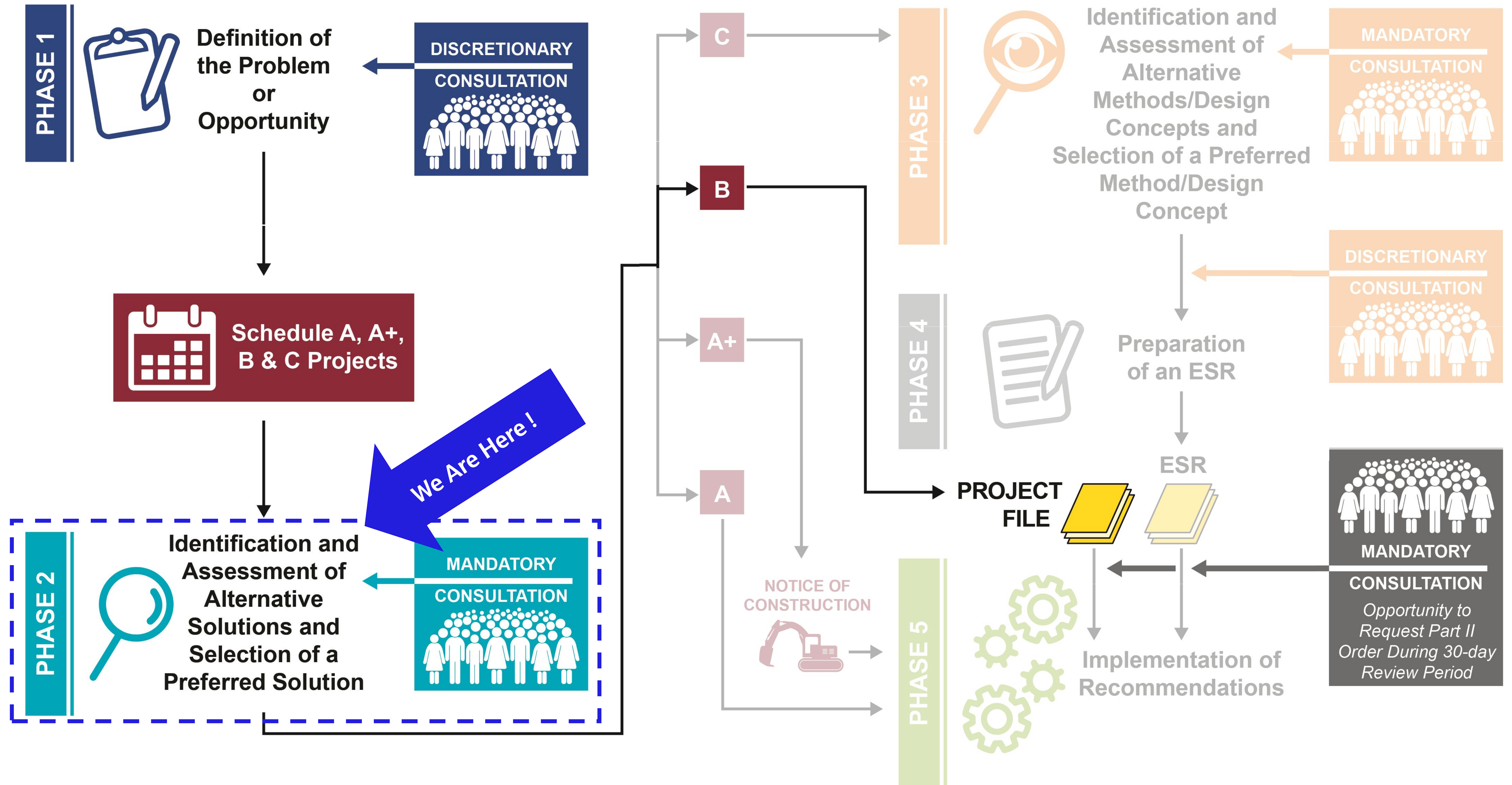
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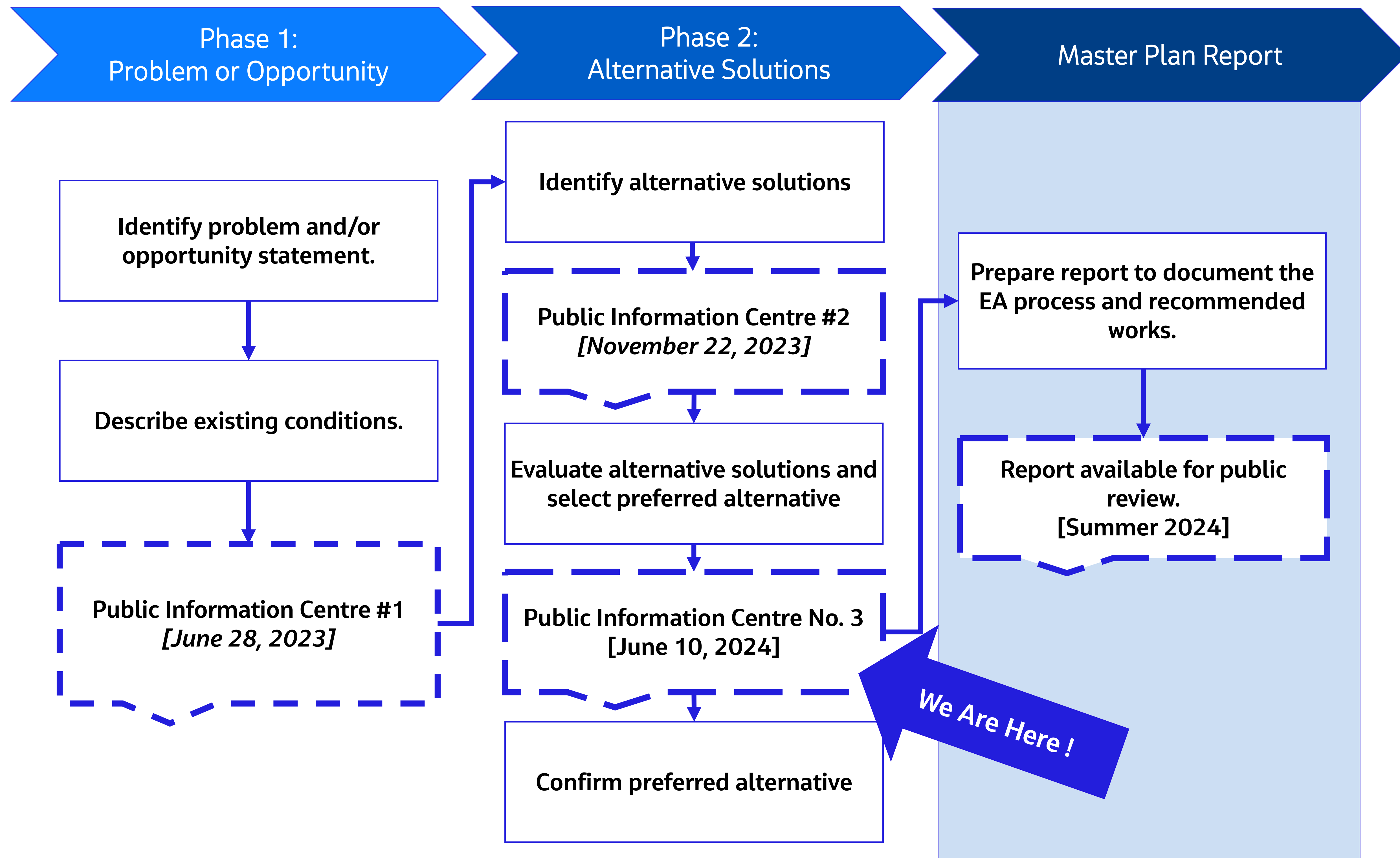
# Class Environmental Assessment Process

This Master Plan is being carried out in accordance with the Municipal Engineers Association's Municipal Class Environmental Assessment (EA) process. This Master Plan is being completed as a Schedule B and will result in the completion of a Project File.



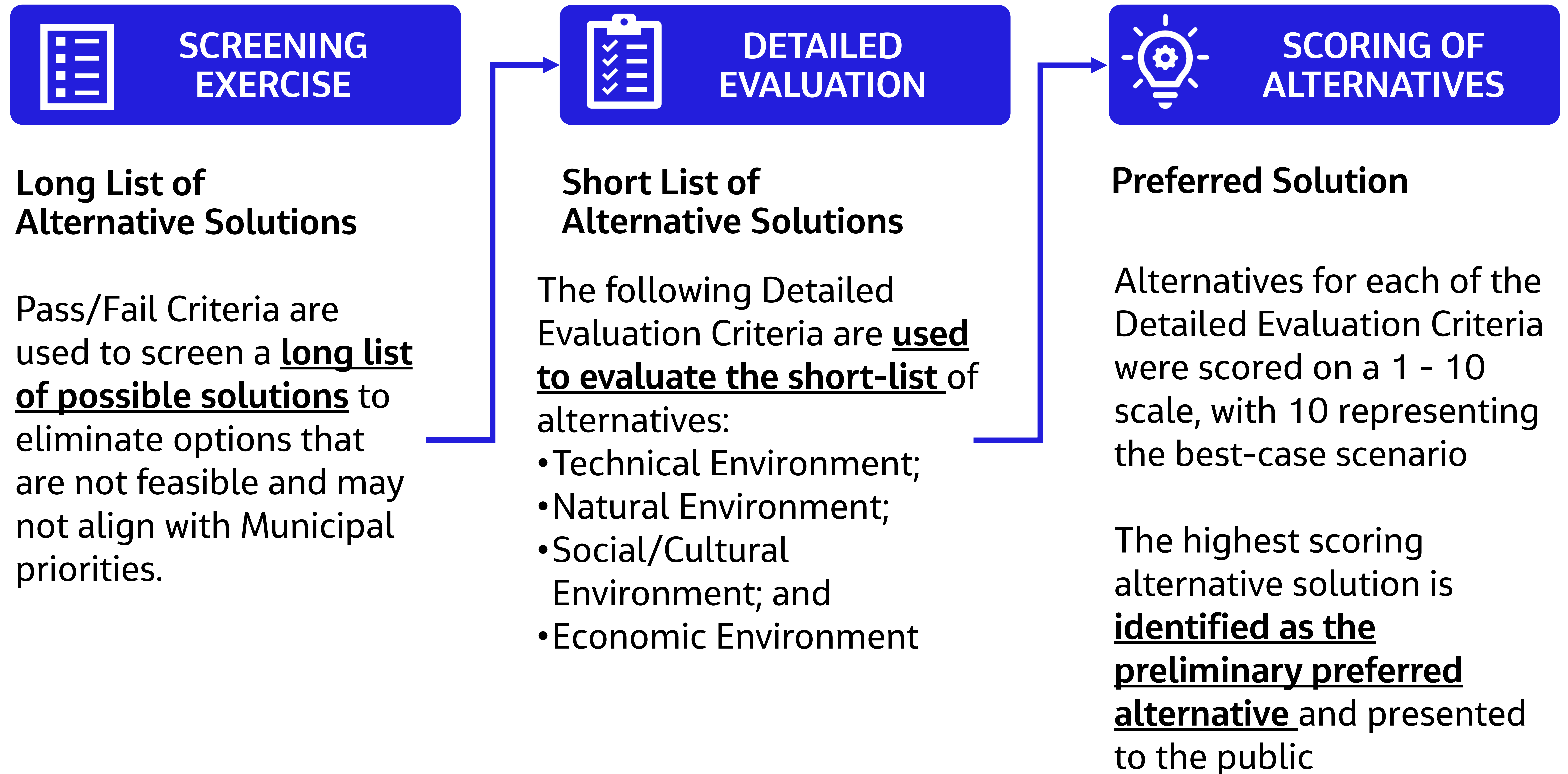
# Overview of Planned Public Engagement & Schedule

Opportunities for engagement include three Public Information Centres and an opportunity to comment on the WWMP report.



# Overview of Decision-Making Process

← Public Information Centre 2 → ← Public Information Centre 3 →



## Technical Environment

- Ease of Implementation (Constructability)
- Performance Record
- Energy Requirements
- Risks with Obtaining Permit and Approvals
- Operational Complexity
- Ability to Meet Treatment Capacity Requirements (short-term, medium-term, & long-term)
- Flexibility to Accommodate Potential Future Municipality Land Use
- Maintenance Complexity



## Social / Cultural Environment

- Compatibility with Current Agricultural Practices
- Impacts to Occupational & Community Health and Safety
- Noise / Odour
- Community Perception
- Positive Aesthetics
- Impacts to Transportation System
- Impact on Potential Archeological Resources
  - Impact on Cultural Heritage Resources
  - Municipal Planning Objectives Compatibility
- Impact to Private Property



## Detailed Evaluation Criteria

## Natural Environment

- Ability to meet Municipality's Climate Change/ Resiliency Goals
- Impacts on Groundwater Quality and Quantity
- Impacts to Terrestrial Habitats and Corridors
- Impacts to Aquatic Habitats and Fisheries
- Floodplain Impacts
- Impacts to Surface Water Quality
- Impacts to Soil Quality
- Impacts to Air Quality
- Impacts to Wetlands



## Economic Environment

- Capital Costs
- Operations and Maintenance (O&M) Costs
- Life Cycle Cost



# Project Prioritization and Implementation

## Projects were prioritized based on:

### 1. Risk, high risk means:

- Municipality is at risk of not complying with regulatory commitments
- Asset is in poor condition and consequence of failure is high

### 2. Ability to address existing capacity constraints

### 3. Ability to enable growth

## Project implementation timing is dependent on project priority.

### Implementation timing is defined as:

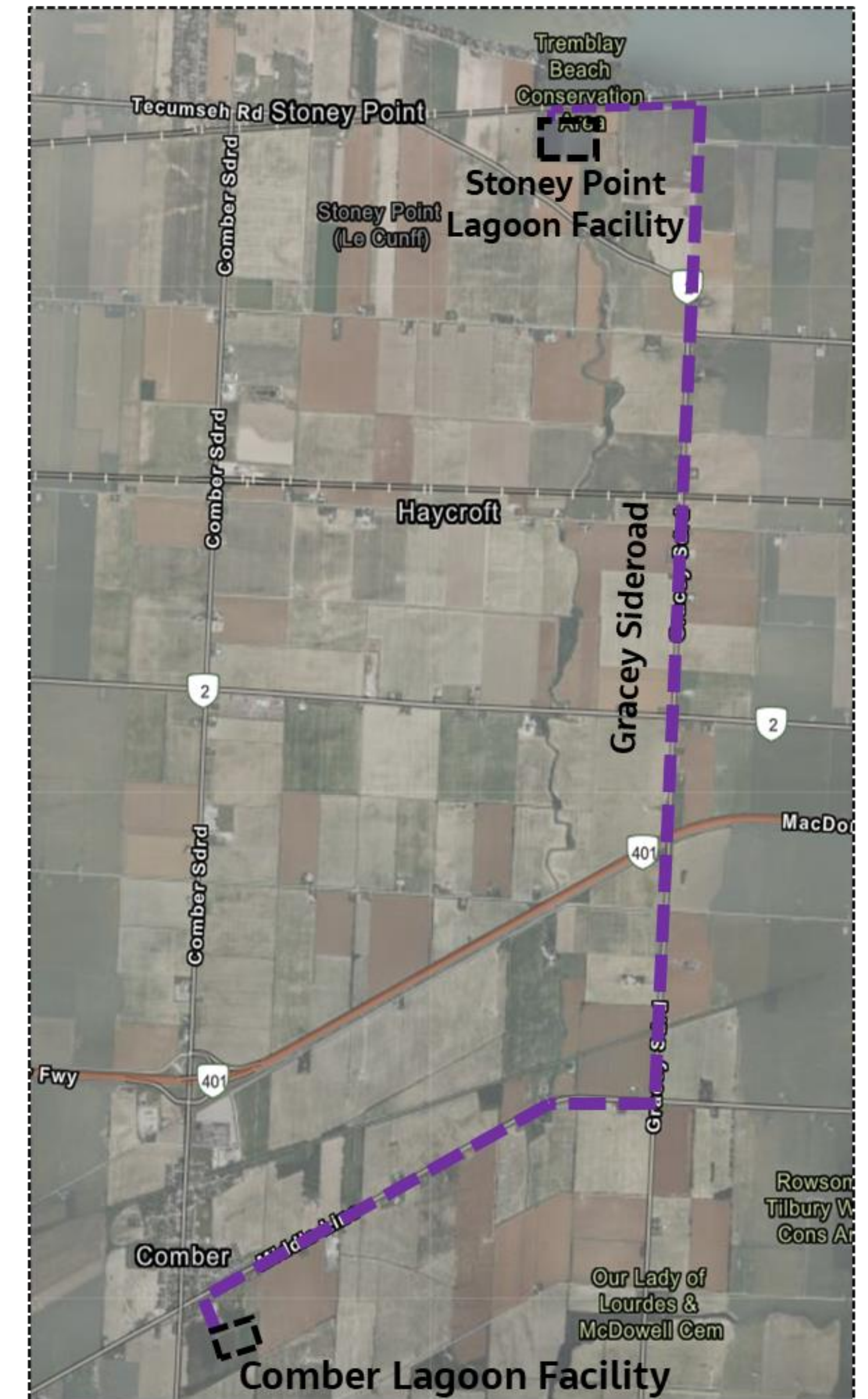
- Immediate: the project is required immediately due to identified risks
- Near-term: within 5 years
- Medium-term: within 10 years
- Long-term: by 2042 (planning horizon of the WWMP)

# Preliminary Preferred Wastewater Treatment Solutions - Stoney Point and Comber Lagoon Wastewater Facilities

Four shortlisted alternatives were carried forward to detailed evaluation. Following detailed evaluation, Alternative 3 (Common Mechanical Plant) was selected as the preferred solution for the following reasons:

- A common mechanical sewage treatment facility adjacent to the Stoney Point Lagoon Facility was selected as the preliminary preferred alternative
- This facility will service both Stoney Point and Comber. Flows from the Comber Lagoon Facility will be redirected to Stoney Point.
- The alternative requires upgrades to the Comber pumping station and a new forcemain from Comber to Stoney Point.

Implementation Timing	Planning Requirements	Capital Cost Estimate
Immediate	Schedule C Class EA	\$74,450,000



Note: The conveyance route presented (purple colour) is adapted from Municipality of Lakeshore, Eastern Communities ESR, 2012

# Preliminary Preferred Wastewater Treatment Solutions - Denis St. Pierre Wastewater Pollution Control Plant (WPCP)

Four shortlisted alternatives were carried forward to detailed evaluation. Following detailed evaluation, Alternative 2 (Expand on Existing Site) was selected as the preferred solution for the following reasons:

- The alternative expands the treatment capacity at the existing Denis St. Pierre WPCP site.
- Upon expansion to 30 MLD, the municipality will be required to expand the buffer zone.
- The alternative can accommodate future growth and is consistent with current operations.
- Alternatives for expanding beyond the current planning period will be evaluated during a subsequent Master Plan Update.

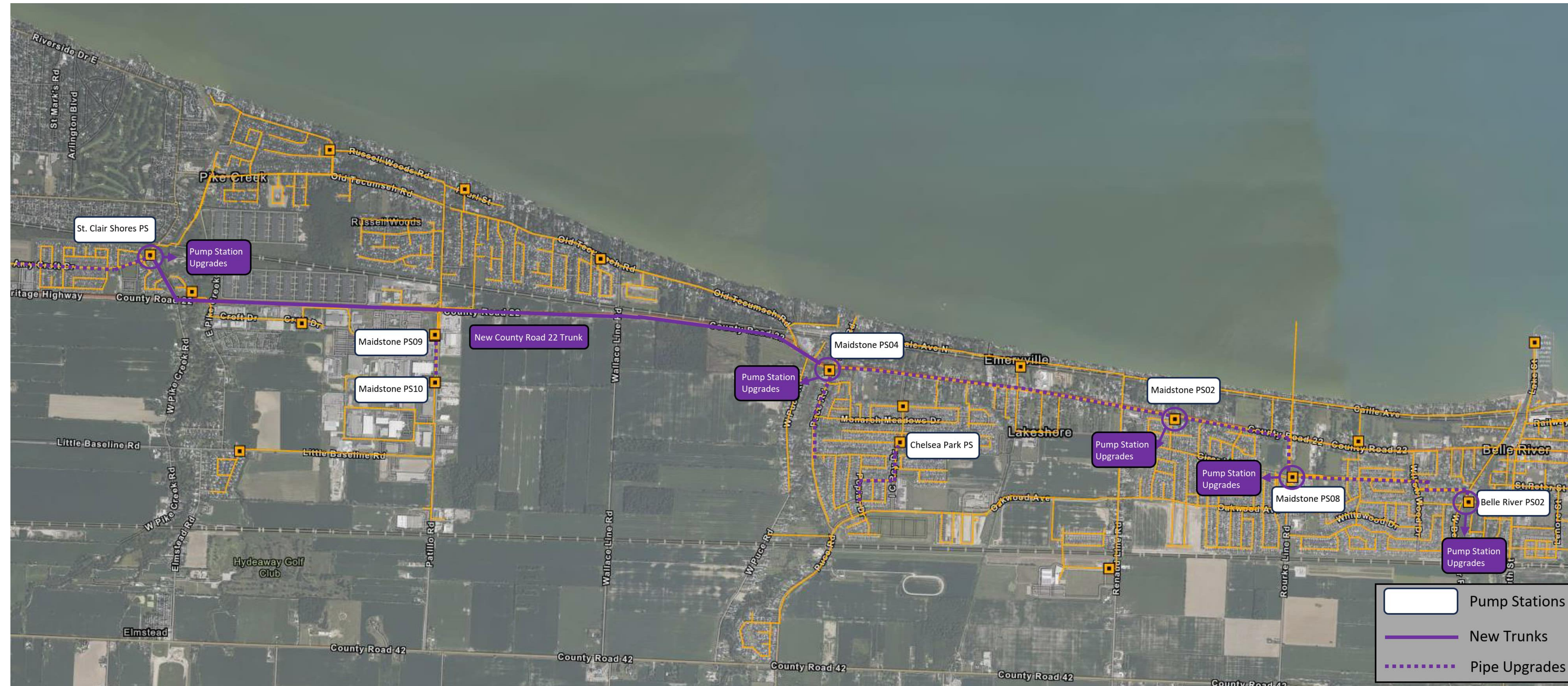


Implementation Timing	Planning Requirements	Capital Cost Estimate
Once conveyance upgrades are implemented, growth can be accepted and expansion of the plant to 30 MLD will be required.	The Schedule C Class EA for plant expansion to 30 MLD was completed in 2019.	\$6,400,000
Expansion beyond 30 MLD is expected beyond the current planning horizon. A Schedule C EA for expansion will be triggered within the WWMP planning horizon when flows reach 80% of the plant's rated capacity (24 MLD).	A Schedule C Class EA for plant expansion is required for growth beyond the planning period.	Cost estimate for expansion to be determined in next Master Plan.



# Preliminary Preferred Wastewater Conveyance Solutions - Conveyance Groups 1, 2 and 3

- Conveyance constraints in the system were grouped based on location and hydraulic connectivity within the conveyance system. The alternatives within each group were developed and evaluated separately.



Conveyance Group	Preferred Alternative Description	Implementation Timing	Capital Cost Estimate
Conveyance Group 1	Divert flows from Amy Croft Drive to a new trunk sewer along County Road 22 from West Pike Creek Road to West Puce Road. The alternative also includes pump station upgrades at St. Clair Shores Pump Station (PS) and PS04, as well as local sewer upgrades.	Conveyance Group 2 implementation must occur prior to Conveyance Group 1 implementation (Near-term)	\$47,295,000
Conveyance Group 2	Increase capacity of Trunk Sewer along County Road 22 from West Puce Road to Denis St. Pierre WPCP. The alternative also includes pump station upgrades at Maidstone PS02 and PS08, as well as local sewer upgrades.	Timing to overlap with County Road 22 Widening Project	\$44,740,000
Conveyance Group 3	Increase the capacity of Belle River PS02 and replace forcemain.	Immediate	\$7,954,000

# Summary of Preliminary Preferred Wastewater Solutions



Component	Preferred Solution/ Recommendations	Implementation Timing	Planning Requirements	Capital Cost Estimate
Comber and Stoney Point Lagoon Treatment Facilities	A common mechanical sewage treatment facility at the Stoney Point Lagoon Facility	Immediate	Schedule C Class EA	\$74,450,000
Denis St. Pierre Wastewater Pollution Control Plant (WPCP)	Expansion to 30 MLD	Medium-term <sup>a</sup>	Schedule C Class EA completed in 2019	\$6,400,000
	Expand plant beyond 30 MLD on existing site	Long-term <sup>a</sup>	Schedule C Class EA	Cost for expansion to be determined in next Master Pan
	Property Acquisition	Immediate	Not Required	Cost to be determined
Conveyance Group 1	Add new trunk sewer along County Road 22 from West Pike Creek Road to West Puce Road. Includes pump station upgrades and local sewer upgrades	Near-term <sup>b</sup>	Schedule B Class EA, satisfied through this WWMP	\$47,295,000
Conveyance Group 2	Increase capacity of County Road 22 trunk sewer from West Puce Road to Denis St. Pierre WPCP. Includes pump station upgrades and local sewer upgrades.	Near-term	Schedule B Class EA, satisfied through this WWMP	\$44,740,000
Conveyance Group 3	Increase the capacity of Belle River pump station (PS02) and replace forcemain.	Immediate	Schedule B Class EA, satisfied through this WWMP	\$7,954,000

<sup>a</sup> Timing is dependent on timing of implementation of Conveyance Group 1, 2, and 3 Upgrades and how quickly growth is realized.

<sup>b</sup> Conveyance Group 2 recommendations must be completed prior to Conveyance Group 1 implementation.

# Preliminary Preferred Water Treatment Solutions - Lakeshore Water Treatment Plant (WTP)

- No treatment capacity constraints were identified within the planning period
- However, the Lakeshore WTP will be operating at 98% of its rated capacity by 2042. A Schedule C EA will be triggered within the WWMP planning horizon when flows reach 80% of the plant's rated capacity (29 MLD).



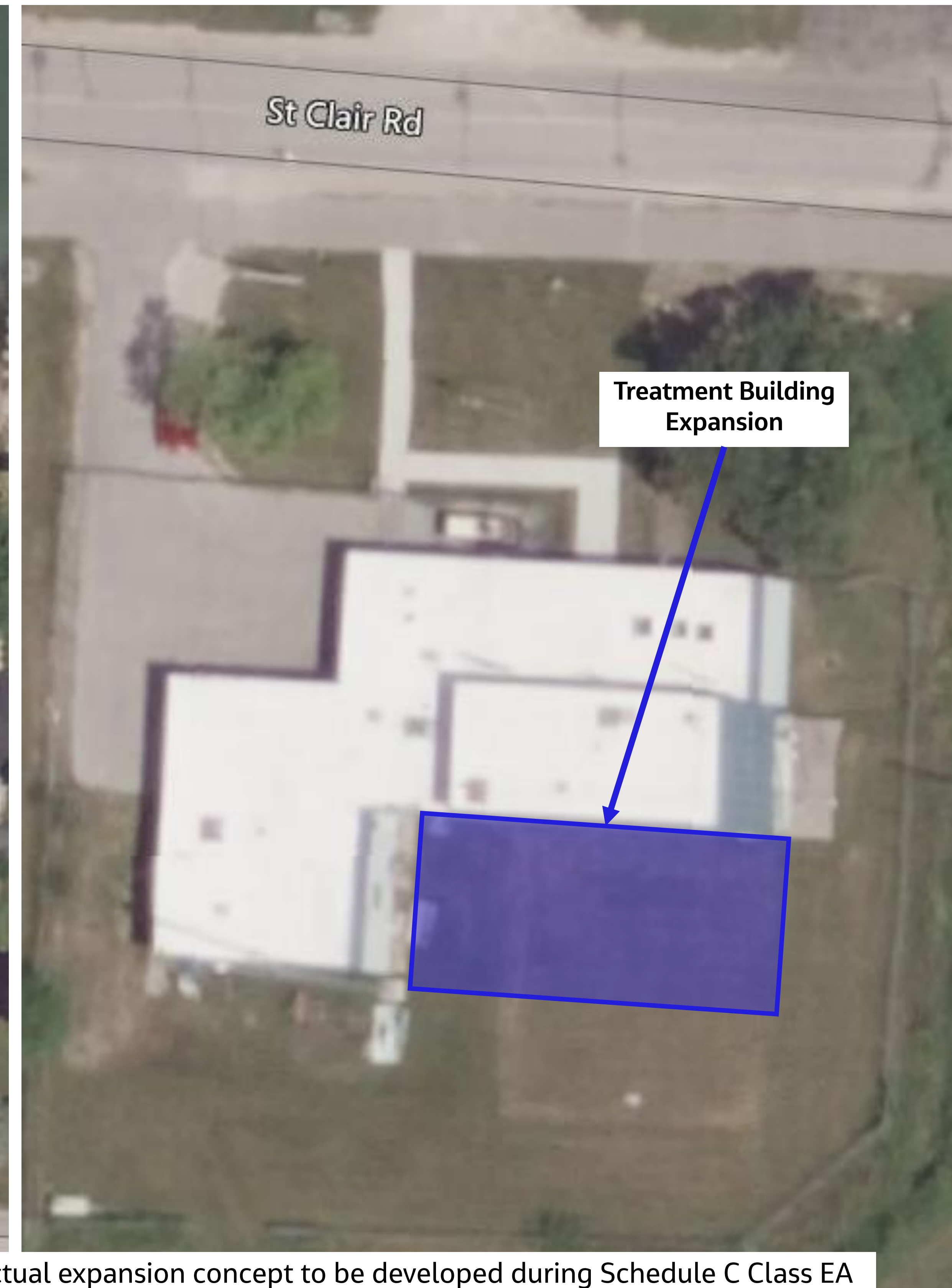
Implementation Timing	Planning Requirements	Capital Cost Estimate
Optimization study is recommended within planning period prior to expansion.	N/A	\$200,000
Schedule C EA for expansion is expected within the planning period.	N/A	\$350,000

# Preliminary Preferred Water Treatment Solutions – Stoney Point WTP

Two alternatives were evaluated. Following detailed evaluation, Alternative 2 (Expand the Stoney Point WTP) was selected as the preferred solution for the following reasons:

- Expansion of the Stoney Point WTP
- Provides water supply capacity to facilitate future projected growth within the Stoney Point Water Supply System

Implementation Timing	Planning Requirements	Capital Cost Estimate
Optimization study in near-term to improve capacity	N/A	\$11,950,000
Schedule C Class EA	Complete 5 years prior to WTP expansion	
Expansion in medium-term	Schedule C Class EA	

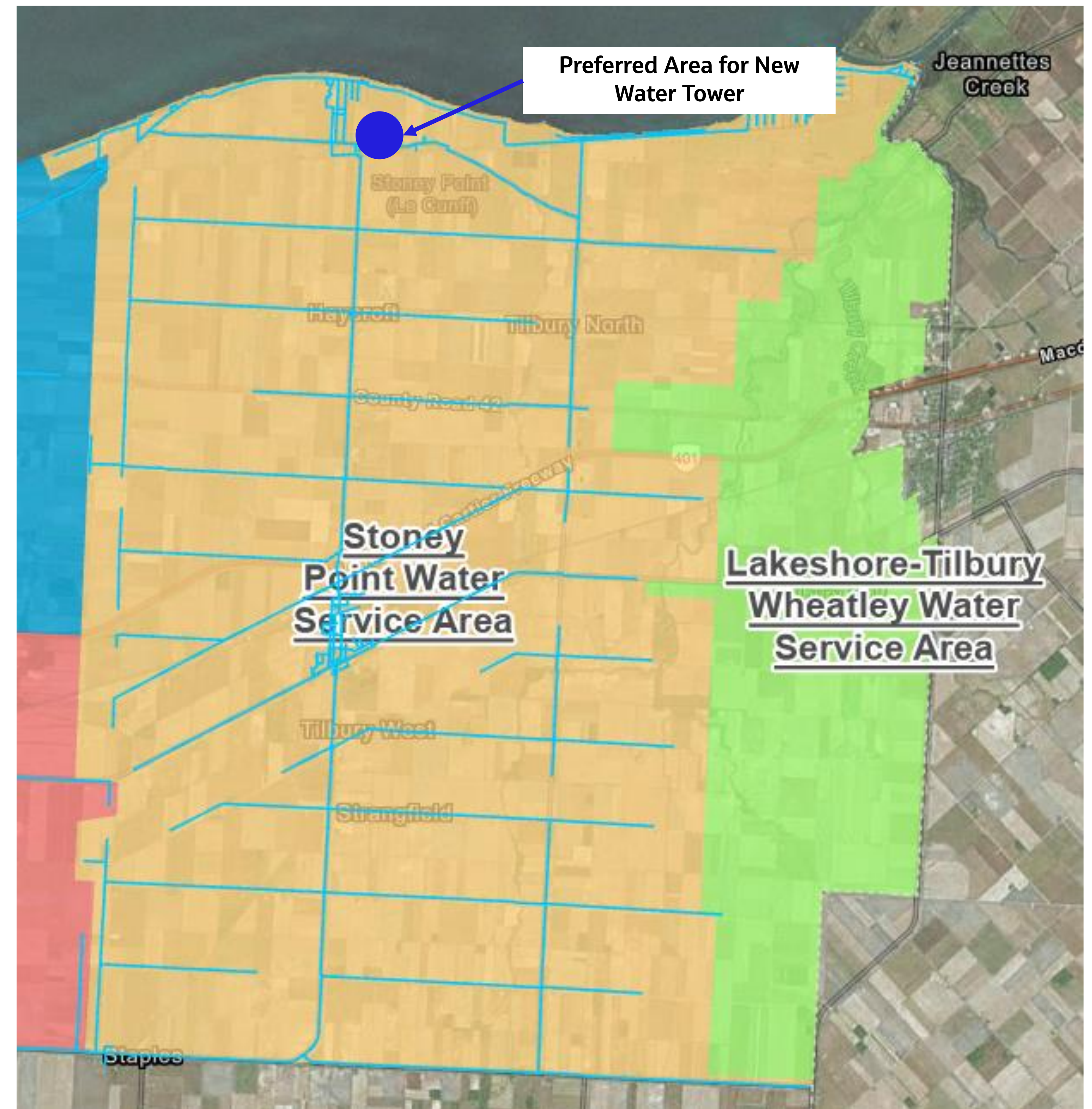


Preliminary Concept Shown –actual expansion concept to be developed during Schedule C Class EA

# Preliminary Preferred Water Pumping & Storage Solutions - Stoney Point System Storage and Pumping

Four alternatives were evaluated. Following detailed evaluation, Alternative 3 (Floating Storage) was selected as the preferred solution for the following reasons:

- Addresses both storage and pumping capacity constraints
- Increases storage redundancy within the Stoney Point system
- Provides opportunities for energy efficient pumping regimes
- Moderate capital, O&M and lifecycle costs
- Can select a site that meets footprint requirements

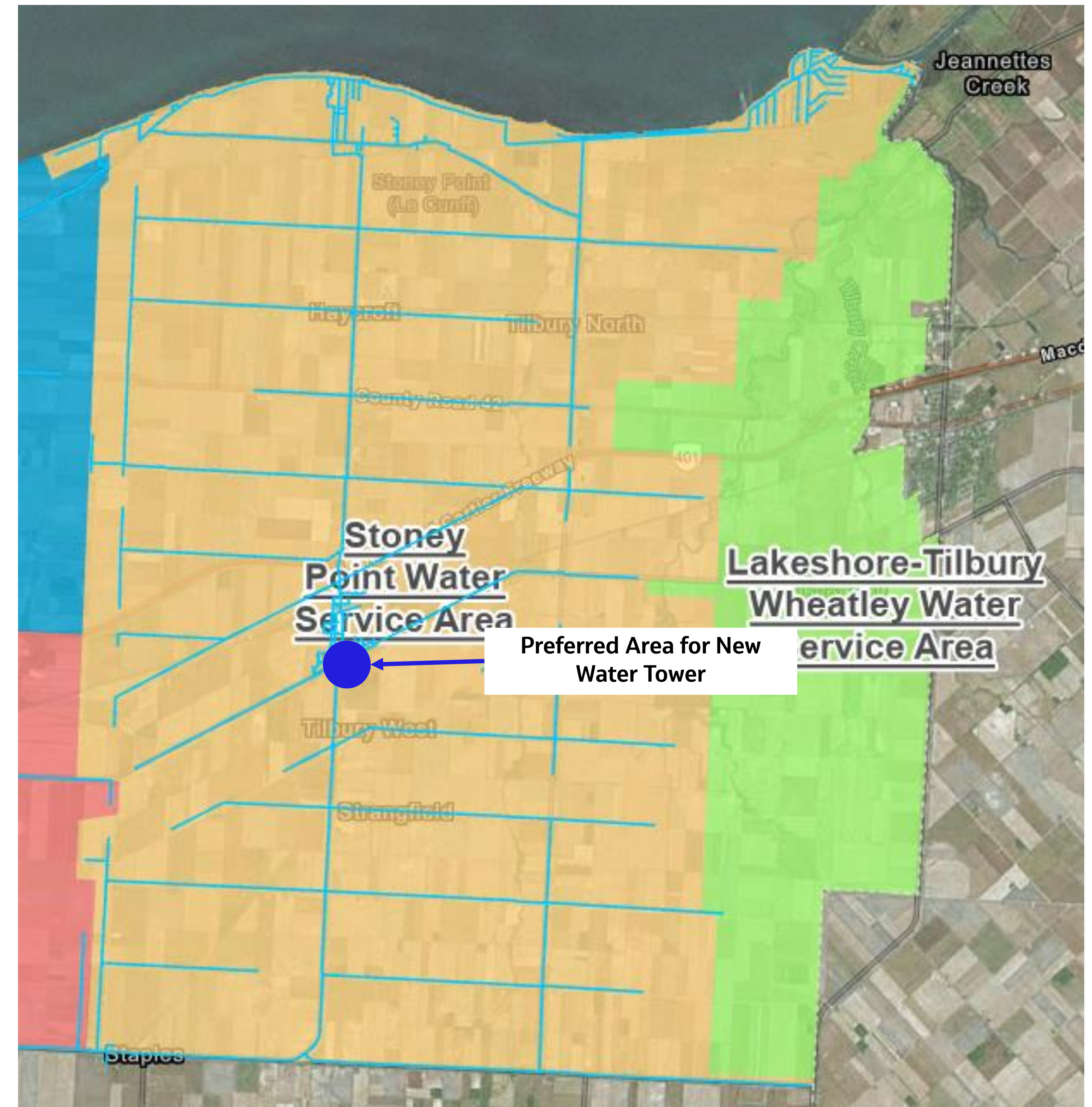


Implementation Timing	Planning Requirements	Capital Cost Estimate
Implement floating storage in the near-term	Refined location of floating storage to be determined through subsequent studies.	\$10,900,000

# Preliminary Preferred Water Pumping & Storage Solutions - Comber System Storage and Pumping

Three alternatives were evaluated. Following detailed evaluation, Alternative 3 (Floating Storage) was selected as the preferred solution for the following reasons:

- Addresses both storage and pumping capacity constraints
- Increases storage redundancy within the Comber system
- Provides opportunities for energy efficient pumping regimes
- Moderate capital, O&M and lifecycle costs
- Can select a site that meets footprint requirements



Implementation Timing	Planning Requirements	Capital Cost Estimate
Implement floating storage in the near-term	Refined location of floating storage to be determined through subsequent studies.	\$10,900,000

# Summary of Preliminary Preferred Water Solutions

Component	Preferred Solution/ Recommendations	Implementation Timing	Planning Requirements	Capital Cost Estimate
Lakeshore Water Treatment	Optimization study	Medium-term	N/A	\$200,000
	Schedule C Class EA for Expansion of Lakeshore WTP	Long-term	N/A	\$350,000
Stoney Point Water Treatment	Optimization study	Near-term	N/A	\$11,950,000
	Expand the Stoney Point WTP	Medium-term	Schedule C Class EA	
Stoney Point Pumping and Storage	Implement floating storage	Near-term <sup>a</sup>	Schedule B Class EA	\$10,900,000
Comber Pumping and Storage	Implement floating storage	Near-term <sup>a</sup>	Schedule B Class EA	\$10,900,000
Various Watermain Upgrades	Various	Various	N/A	\$46,257,000 <sup>b</sup>

<sup>a</sup> Comber Sideroad watermain to be replaced prior to floating storage construction

<sup>b</sup> Cost basis from 2018 Master Plan (Water distribution model calibration and hydraulic modelling is required to confirm constraints within the distribution system)

# Water Distribution System Recommendations

Water Distribution System Recommendations carried forward from 2018 Master Plan presented below.

Location	Existing Diameter	Proposed Diameter
<b>BELLE RIVER WATER SUPPLY SYSTEM</b>		
County Road 22 from West Puce River Road to County Road 21 (Partially funded in 2023)	300mm	400mm to 600mm
West Puce River Road from County Road 22 southerly to existing watermain (Funded in 2022)	300mm	600mm
Wallace Woods area from West Puce River Road to Patillo Road	N/A (new pipe)	600mm
Wallace Line Road from County Road 22 southerly to proposed watermain through Wallace Woods	N/A (new pipe)	600mm
Little Baseline Road from existing watermain west of Patillo Road to existing watermain at Stonebrook and East Pike Creek Road	N/A (new pipe)	500mm
Little Baseline Road from County Road 21 westerly to existing watermain near Manning Road	N/A (new pipe)	400mm
11th Street from Broadway Street to St. Louis Street	150mm	200mm to 300mm
<b>STONE POINT WATER SUPPLY SYSTEM</b>		
County Road 35 from St. Clair Road to existing watermain immediately north of Tecumseh Road	N/A (new pipe)	300mm
County Road 35 from Tecumseh Road to existing watermain immediately south of the CN Railway	N/A (new pipe)	300mm
Tecumseh Road from County Road 37 westerly to the existing watermain	50mm	200mm
Consider construction of a new watermain along Comber Sideroad from CN Railway as conditions dictate to south of Highway 401 in Comber to replace the existing watermain	200mm	400mm
Construct various new watermain looping interconnections including isolation and check valve facilities		
<b>COMPLETED WATER DISTRIBUTION SYSTEM PROJECTS SINCE 2018 MASTER PLAN</b>		
Watermain along Notre Dame Street from 11th street to Duck Creek Boulevard		
Rourke Line Rd from County Road 22 to Caille Avenue		
Renaud Line Rd from County Road 22 to Caille Avenue		
County Road 37 from Couture Beach Road to Tecumseh Road		

Water distribution model calibration and hydraulic modelling is required to confirm constraints within the distribution system. Other various watermains may need upgrades, as required.



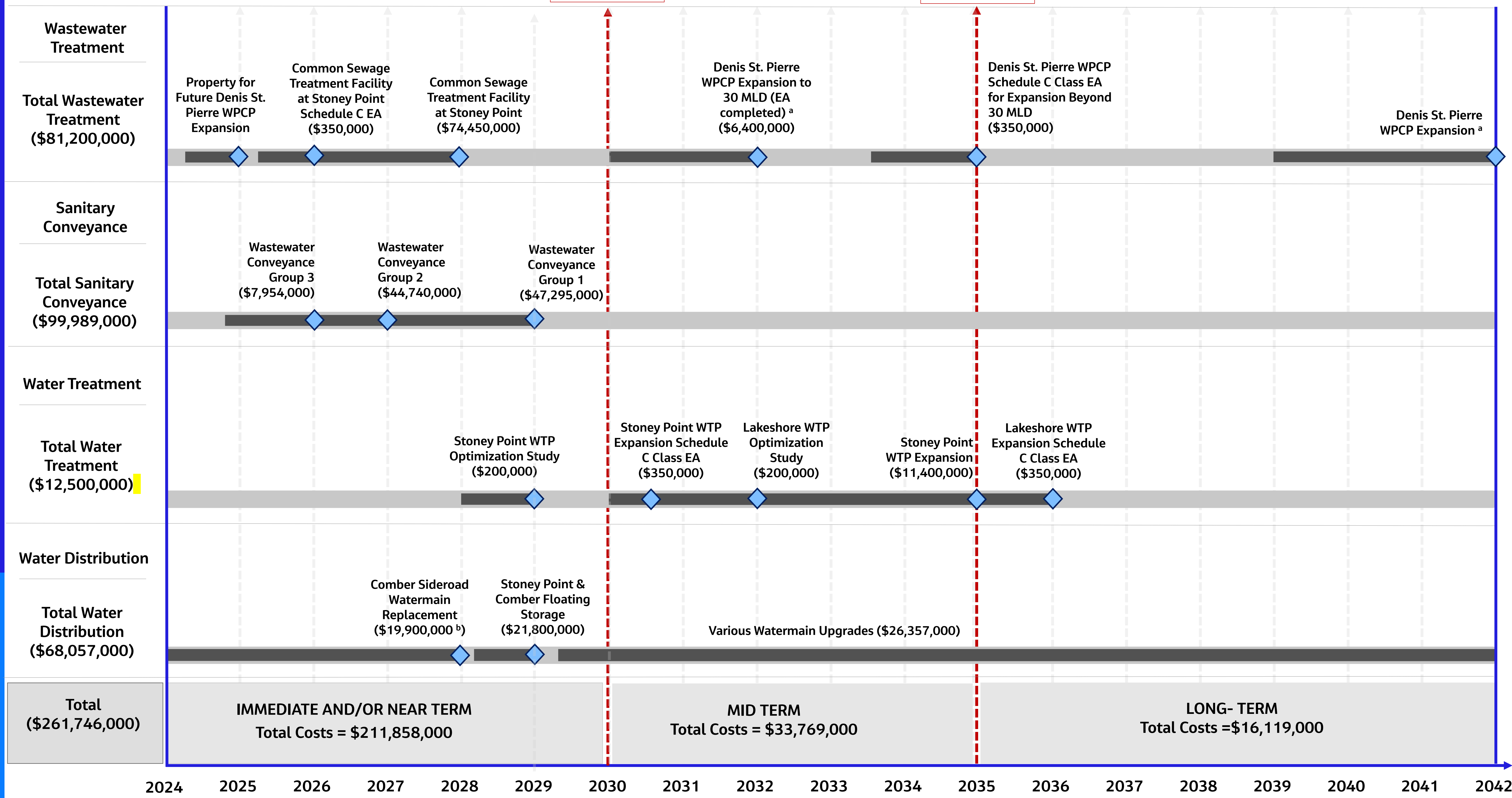
# Implementation Plan

**Legend**

- ◆ Project Completion
- ▬ Project Duration



Note: Costs shown are in 2024 dollars.



<sup>a</sup> The actual timing of the project is dependent on the timing of the implementation of Wastewater Conveyance Group 1, 2, and 3 Upgrades and how quickly growth is realized.

<sup>b</sup> Excludes Phase 1A

# General Recommendations



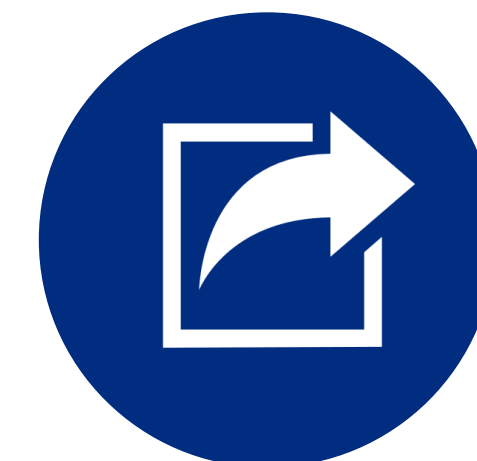
Complete flow monitoring within the Stoney Point, Comber, and North and South Woodslee wastewater collection systems.



Complete monitoring of Lakeshore water distribution systems and calibrate water distribution models with monitoring results. Update distribution system constraints and recommendations based on distribution modelling results.



Continue to actively investigate and mitigate inflow and infiltration within Lakeshore's wastewater collection systems.

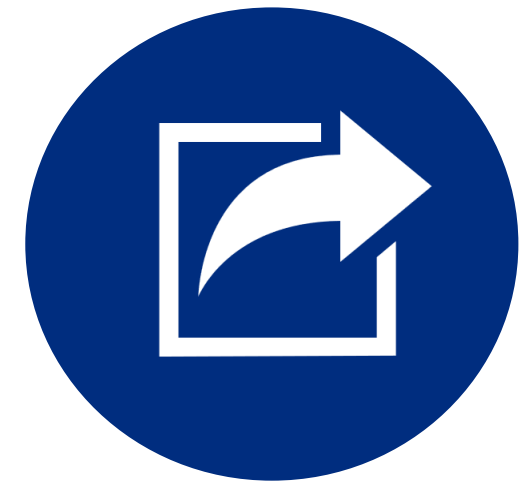


Develop and implement a sanitary reserve allocation policy.



Live time monitoring within Denis St. Pierre sanitary collection system.

# Sanitary Allocation Policy Introduction & Timing



Develop and implement a sanitary reserve allocation policy.

The **purpose** of a Sanitary Allocation Policy is to enable the allocation of sanitary servicing in a sustainable, responsible, and transparent manner.

The following will be considered through creation and implementation of the policy:

- Wastewater treatment and conveyance capacity and pump station performance;
- Inflow & Infiltration (I & I) challenges;
- Impact of rezoning and official plan amendment applications;
- Process milestones and timelines for allocation requests;
- Expiration/renewal of allocation; and
- Feedback on policy framework.



Target to be completed by Fall 2024, in line with the completion of the WWMP Update.

## Next Steps

**Thank you for your interest in Lakeshore's WWMP Update. Your feedback is an important part of the Master Plan process.**

- Please refer to the Municipality's website for the most up-to-date information related to the WWMP Update and to sign up for the project mailing list: [www.Lakeshore.ca/WWMP](http://www.Lakeshore.ca/WWMP)
- A dedicated email address has been set up for this study. To provide your comments or request more information please email [LakeshoreWWMP@jacobs.com](mailto:LakeshoreWWMP@jacobs.com)
- Alternatively, you can reach the following contacts:

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