South Niagara Falls Wastewater Solutions Schedule C Class Environmental Assessment

Public Information Centre No. 3

Wednesday, March 11, 2020

5:00 to 7:00 p.m.

MacBain Community Centre – Multi-purpose Room D and E

Welcome!

- Please sign in and take a comment sheet.
- Meeting is a “drop-in” format with display materials.
- Take an information bulletin and review the display materials.
- Members of the study team are available to answer questions.
- We welcome your feedback as your opinion can influence this study.
- Please place comment sheets in the box provided.

Please note that photos and videos will be taken during this event. If you have any concerns, please speak to a member of the project team.

Welcome!

Themes for Today's Public Information Centre

1. Present the study **recommendations** and the **preliminary preferred solution**
2. Review the three major study components:
   - Treatment plant site
   - Outfall location and receiving waterbody
   - Collection system strategy
3. Provide clarity on the evaluation process and results
4. Identify next steps and study commitments to confirm preferred solution and support design concepts
5. Receive feedback on the preliminary preferred solution

Environmental Assessment Process and Timeline

Fall 2018 – Spring 2019

- Study commencement
- Agency & stakeholder pre-consultation workshops
- Review of baseline data & information
- Define problem & opportunity statement
- **Public Information Centre #1**

Spring 2019 – Fall 2019

- Prepare natural, hydrogeological, social, cultural, archaeological & economic inventory
- Identify potential impacts and how to address them
- Supporting technical analysis and studies

Fall 2019

- Identify key factors and considerations
- Determine detailed criteria for overall strategy
- Identify alternative solutions
- **Public Information Centre #2**

Fall 2019 – Spring 2020

- Evaluate alternative solutions
- Select preliminary preferred plant site
- Select preliminary preferred plant outlet location
- Select preliminary preferred sewer alignments
- **Public Information Centre #3**
- Validate preferred solution

Spring 2020 – Fall 2020

- Identify design concept alternatives
- Prepare detailed inventory
- Identify impacts and how to address them
- Select preferred conceptual design and technologies
- **Public Information Centre #4**

End 2020 / Early 2021

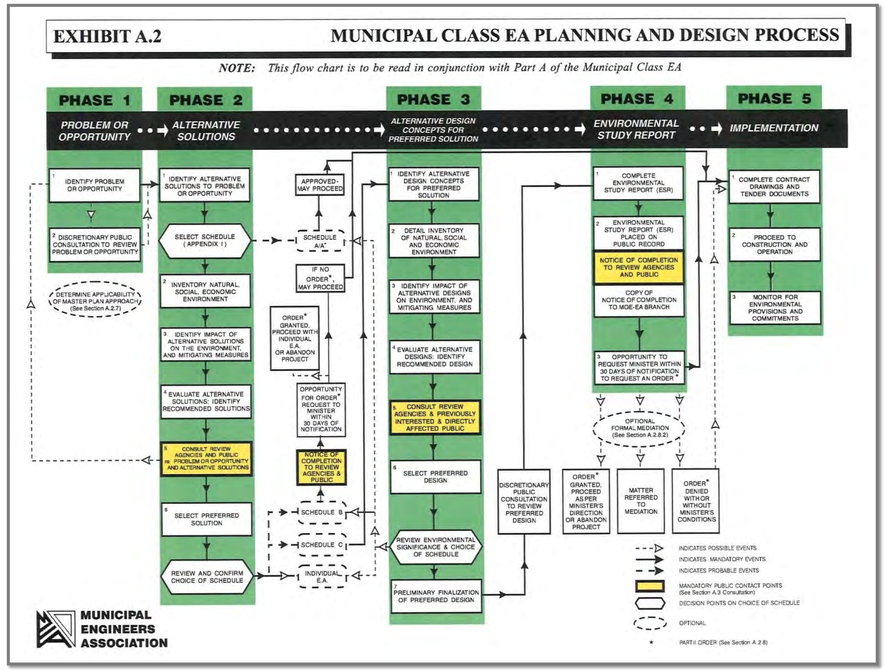
- Finalize Environmental Study Report (ESR)
- Notice of study completion
- Finalize conceptual design
- File ESR
- Public review period

Stakeholder Engagement

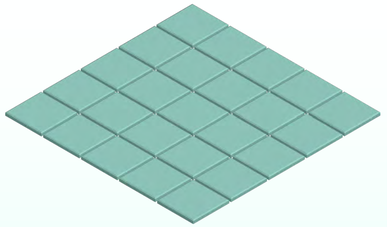
This study is following the Class Environmental Assessment (EA) process, which is a decision-making process that all Ontario municipalities follow for building new infrastructure. Success of the Class EA process requires active stakeholder engagement.

Key stakeholders in this study include:

- Federal Ministries
- Provincial Ministries
- Local Municipalities
- Indigenous Communities
- Ontario Power Generation
- Public Service Providers
- Property Owners
- Communities (including businesses and residents)
- Rail / Transit
- Utilities

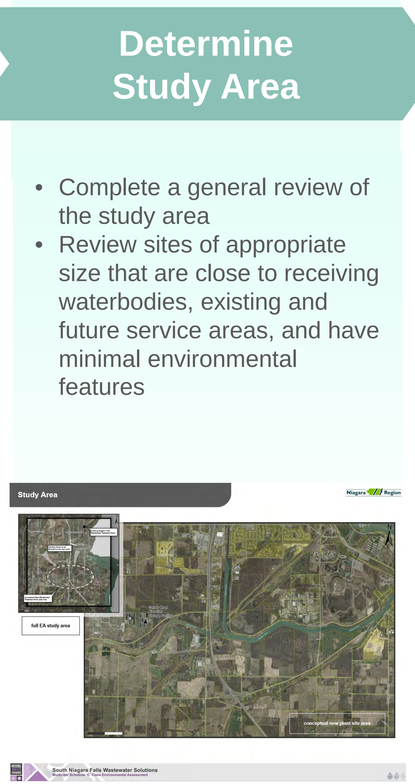


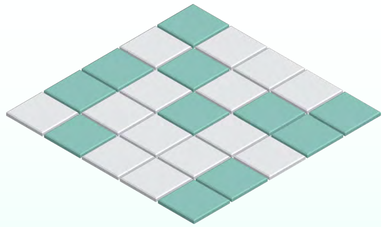
Evaluation Process



Determine Study Area

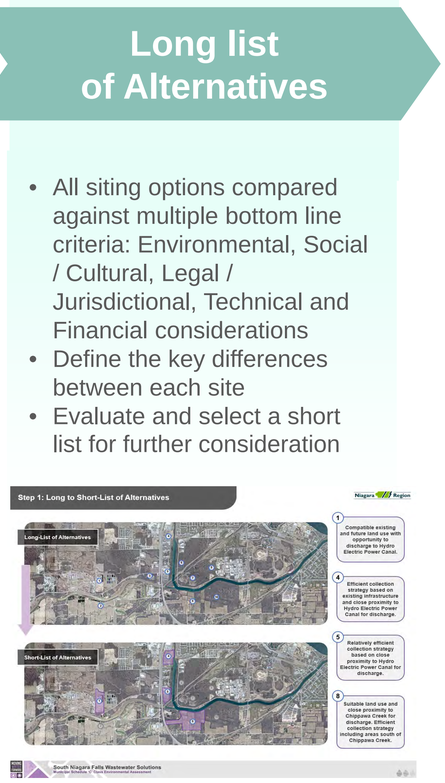
- Complete a general review of the study area
- Review sites of appropriate size that are close to receiving waterbodies, existing and future service areas, and have minimal environmental features

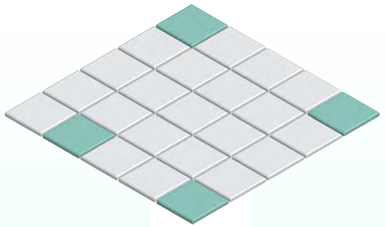




Long list of Alternatives

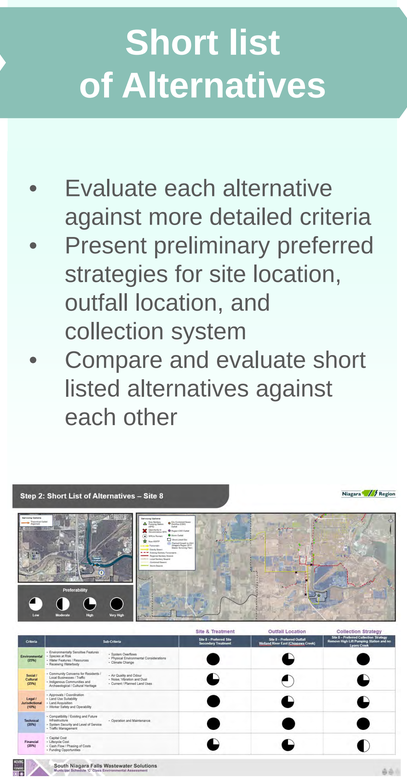
- All siting options compared against multiple bottom line criteria: Environmental, Social / Cultural, Legal / Jurisdictional, Technical and Financial considerations
- Define the key differences between each site
- Evaluate and select a short list for further consideration

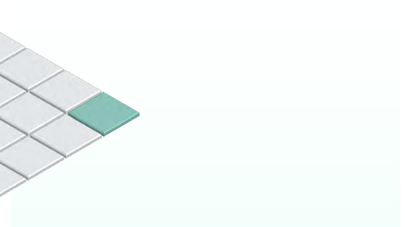




Short list of Alternatives

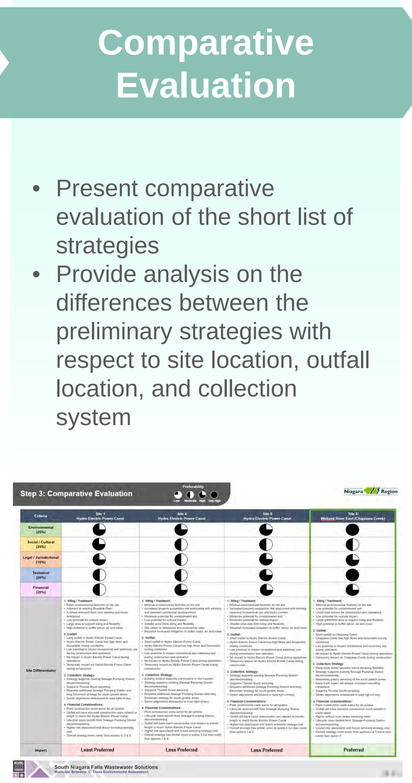
- Evaluate each alternative against more detailed criteria
- Present preliminary preferred strategies for site location, outfall location, and collection system
- Compare and evaluate short listed alternatives against each other

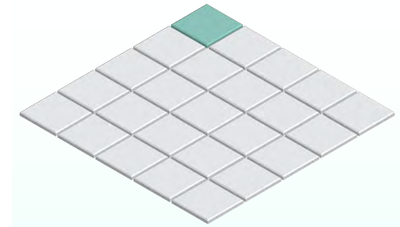




Comparative Evaluation

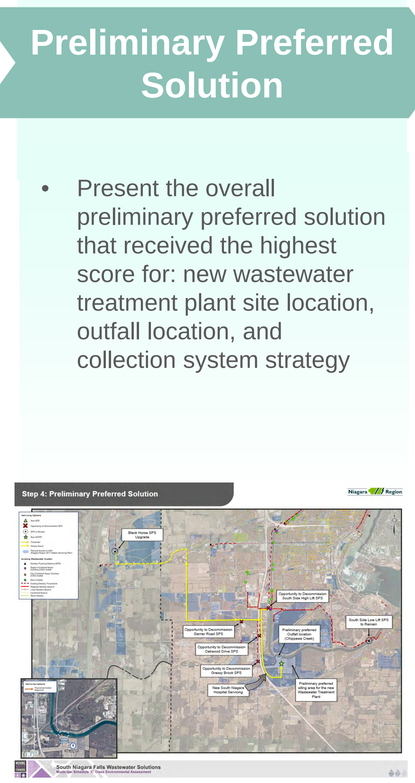
- Present comparative evaluation of the short list of strategies
- Provide analysis on the differences between the preliminary strategies with respect to site location, outfall location, and collection system



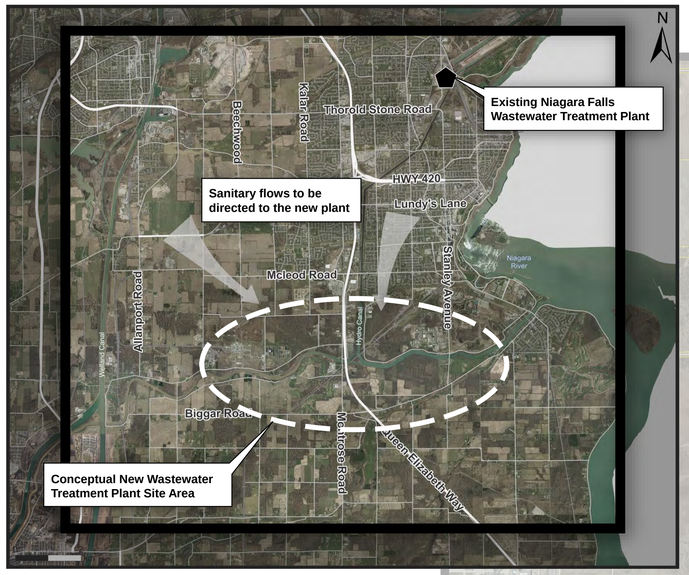


Preliminary Preferred Solution

- Present the overall preliminary preferred solution that received the highest score for: new wastewater treatment plant site location, outfall location, and collection system strategy



Study Area



full EA study area

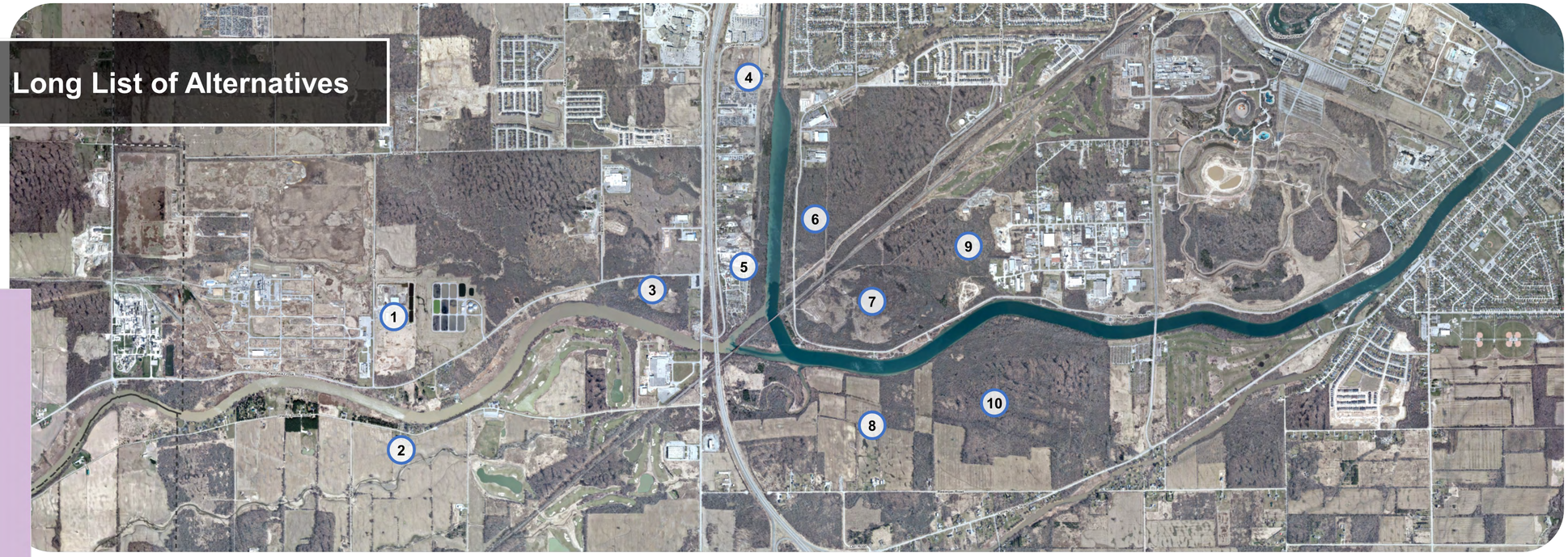
Step 1: Long List of Alternatives

Criteria	Site 1		Site 2		Site 3 HEPC	Site 4 HEPC	Site 5 HEPC	Site 6 HEPC	Site 7		Site 8		Site 9		Site 10	
	Option 1A Welland River	Option 1B HEPC	Option 2A Welland River	Option 2B HEPC					Option 7A HEPC	Option 7B Chippawa Creek	Option 8A HEPC	Option 8B Chippawa Creek	Option 9A Chippawa Creek	Option 9B Niagara River	Option 10A Chippawa Creek	Option 10B Niagara River
Environmental	- Receiving waterbody (Welland River) is more environmentally sensitive than Hydro Electric Power Canal (HEPC) and Chippawa Creek - Site has minimal environmental constraints (Environmental Conservation Area [ECA] is avoidable) reducing potential for siting impact	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site has minimal environmental constraints (ECA is avoidable) reducing potential for siting impact	- Receiving waterbody (Welland River) is more environmentally sensitive than HEPC and Chippawa Creek - Site has minimal environmental constraints reducing potential for siting impact	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site has minimal environmental features reducing potential for siting impact - Outfall requires crossing of significant environmental features	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site constrained by environmental features including significant wetland	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site has minimal environmental features reducing potential for siting impact	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site has minimal environmental features reducing potential for siting impact	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site is constrained by environmental features including significant wetland complexes and deer wintering	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site is constrained by environmental features including scattered wetland complexes	- Receiving waterbody (Chippawa Creek) is less environmentally sensitive than Welland River - Site is constrained by environmental features including scattered wetland complexes	- Receiving waterbody (Hydro Electric Power Canal) is less environmentally sensitive than Welland River - Site has minimal environmental features reducing potential for siting impact - Outfall requires extended crossing of environmental features	- Receiving waterbody (Chippawa Creek) is less environmentally sensitive than Welland River - Site has minimal environmental features reducing potential for siting impact	- Receiving waterbody (Chippawa Creek) is less environmentally sensitive than Welland River - Site is moderately constrained by environmental features including scattered wetland complexes	- Receiving waterbody (Niagara River) is less environmentally sensitive than Welland River - Site is moderately constrained by environmental features including scattered wetland complexes	- Receiving waterbody (Chippawa Creek) is less environmental sensitive than Welland River - Site is constrained by environmental features including scattered wetland complexes	- Receiving waterbody (Niagara River) is less environmental sensitive than Welland River - Site is constrained by environmental features including scattered wetland complexes
Social / Cultural	- Site is removed from core existing and future development areas - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Site is removed from core existing and future development areas - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future residential properties to the east - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future residential properties to the east - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Site is well buffered by natural features lowing potential impact to surrounding uses - Receiving waterbody has no public access reducing potential for impact during construction	- Increased potential impact to existing residential properties and existing / future commercial / retail use - Receiving waterbody has no public access reducing potential for impact during construction	- Increased potential impact to future residential properties and existing / future commercial / retail use - Impact to existing use as holiday park / recreational use - Receiving waterbody has no public access reducing potential for impact during construction	- Increased potential impact to future residential properties - Receiving waterbody has no public access reducing potential for impact during construction	- Increased potential impact to future residential properties - Receiving waterbody has no public access reducing potential for impact during constriction	- Increased potential impact to future residential properties - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Large site enables adequate buffer to future commercial properties - Receiving waterbody has no public access reducing potential for impact during construction	- Large site enables adequate buffer to future commercial properties - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future residential properties and existing / future commercial / retail use - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future residential properties and existing / future commercial / retail use - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future commercial properties - Receiving waterbody has existing recreational use increasing potential for impact during construction	- Increased potential impact to future commercial properties - Receiving waterbody has existing recreational use increasing potential for impact during construction
Legal / Jurisdictional	- Suitable existing, future and surrounding land use (industrial) - Sensitive receiving waterbody increasing permitting and approval requirements	- Suitable existing, future and surrounding land use (industrial)	- Suitable existing and future land use (open space) - Sensitive receiving waterbody increasing permitting and approval requirements	- Suitable existing and future and use (open space)	- Existing land use constrained by environmental features - Significant environmental constraints increasing permitting and approval requirements	- Existing land use includes mixed commercial properties and would require several property acquisitions for siting purposes - Suitable future land use (mostly commercial, some industrial)	- Existing land includes a holiday park that has seasonal recreation - Suitable future land use (mostly commercial, some industrial)	- Future land use (residential) is not compatible for siting purposes - Significant environmental constraints increasing permitting and approval requirements	- Future land use (residential) is not compatible for siting purposes - Significant environmental constraints increasing permitting and approval requirements	- Future land use (residential) is not compatible for siting purposes - Significant environmental constraints increasing permitting and approval requirements	- Existing land is being used for agriculture - Suitable future land use (commercial)	- Existing land is being used for agriculture - Suitable future land use (commercial)	- Future land use (residential) is not compatible for siting purposes	- Future land use (residential) is not compatible for siting purposes	- Suitable existing and future land use (commercial) - Significant environmental constraints increasing permitting and approval requirements	- Suitable existing and future land use (commercial) - Significant environmental constraints increasing permitting and approval requirements
Technical	- Complex treatment needed to meet effluent criteria objectives due to more sensitive receiving waterbody - Short outfall to reach receiving waterbody - Inefficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Long outfall required to reach receiving waterbody - Inefficient collection strategy	- Complex treatment needed to meet effluent criteria objectives due to more sensitive receiving waterbody - Short outfall to reach receiving waterbody - Difficult collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Long outfall required to reach receiving waterbody - Difficult collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Limited land availability for future phasing due to environmental constraints - Inefficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Short outfall to reach receiving waterbody - Facilitates long term planning and phasing - Efficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Short outfall to reach receiving waterbody - Facilitates long term planning and phasing - Relatively efficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Short outfall to reach receiving waterbody - Inefficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Short outfall to reach receiving waterbody - Inefficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Short outfall to reach receiving waterbody - Inefficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Facilitates long term planning and phasing - Efficient collection strategy	- Reduced treatment complexity needed to meet effluent criteria objectives - Facilitates long term planning and phasing - Efficient collection strategy	- Short outfall to reach receiving waterbody - Limited land availability for future phasing due to environmental constraints - Difficult collection strategy	- Long outfall required to reach receiving waterbody - Limited land availability for future phasing due to environmental constraints - Difficult collection strategy	- Short outfall to reach receiving waterbody - Limited land availability for future phasing due to environmental constraints - Relatively efficient collection strategy	- Long outfall required to reach receiving waterbody - Limited land availability for future phasing due to environmental constraints - Relatively efficient collection strategy
Financial	- Increased costs associated with treatment and inefficient collection strategy	- Increased costs associated with length of outfall required and inefficient collection strategy	- Increased costs associated with treatment and difficult collection strategy	- Increased costs associated with length of outfall required and difficult collection strategy	- Reduced costs associated with short outfall - Increased costs associated with inefficient collection strategy	- Reduced costs associated with short outfall and efficient collection strategy	- Reduced costs associated with short outfall and efficient collection strategy	- Reduced costs associated with short outfall - Increased costs associated with inefficient collection strategy	- Reduced costs associated with short outfall - Increased costs associated with inefficient collection strategy	- Reduced costs associated with short outfall - Increased costs associated with inefficient collection strategy	- Increased costs associated with length of outfall required - Reduced costs associated with efficient collection strategy	- Reduced costs associated with short outfall required and efficient collection strategy	- Reduced costs associated with short outfall required - Increased costs associated with difficult collection strategy	- Increased costs associated with length of outfall required and difficult collection strategy	- Reduced costs associated with short outfall required and relatively efficient collection strategy	- Increased costs associated with length of outfall required and relatively efficient collection strategy
Site Differentiator	***Concern with effluent discharge to Welland River and environmental implications.***	***Compatible existing and future land use with opportunity to discharge to Hydro Electric Power Canal.***	***Concern with effluent discharge to Welland River and environmental implications. Difficult and costly collection strategy.***	***Difficult outfall strategy to HEPC. Difficult and costly collection strategy.***	***Insufficient land due to environmental constraints.***	***Efficient collection strategy based on existing infrastructure and close proximity to Hydro Electric Power Canal for discharge.***	***Relatively efficient collection strategy based on existing infrastructure and close proximity to Hydro Electric Power Canal for discharge.***	***Inefficient collection system strategy. Environmental and planning constraints.***	***Inefficient collection system strategy. Environmental and planning constraints.***	***Inefficient collection system strategy. Environmental and planning constraints.***	***Suitable land use and efficient collection strategy including areas south of Chippawa Creek. Alternative was not carried forward as Chippawa Creek presents favourable Site 8 option.***	***Suitable land use and close proximity to Chippawa Creek for discharge. Efficient collection strategy including areas south of Chippawa Creek.***	***Difficult collection strategy. Land availability constrained.***	***Difficult collection strategy. Land availability constrained.***	***Increased environmental constraints.***	***Increased environmental constraints.***
Feasibility	X	✔	X	X	X	✔	✔	X	X	X	X	✔	X	X	X	X

Step 1: Long to Short List of Alternatives

Niagara Region

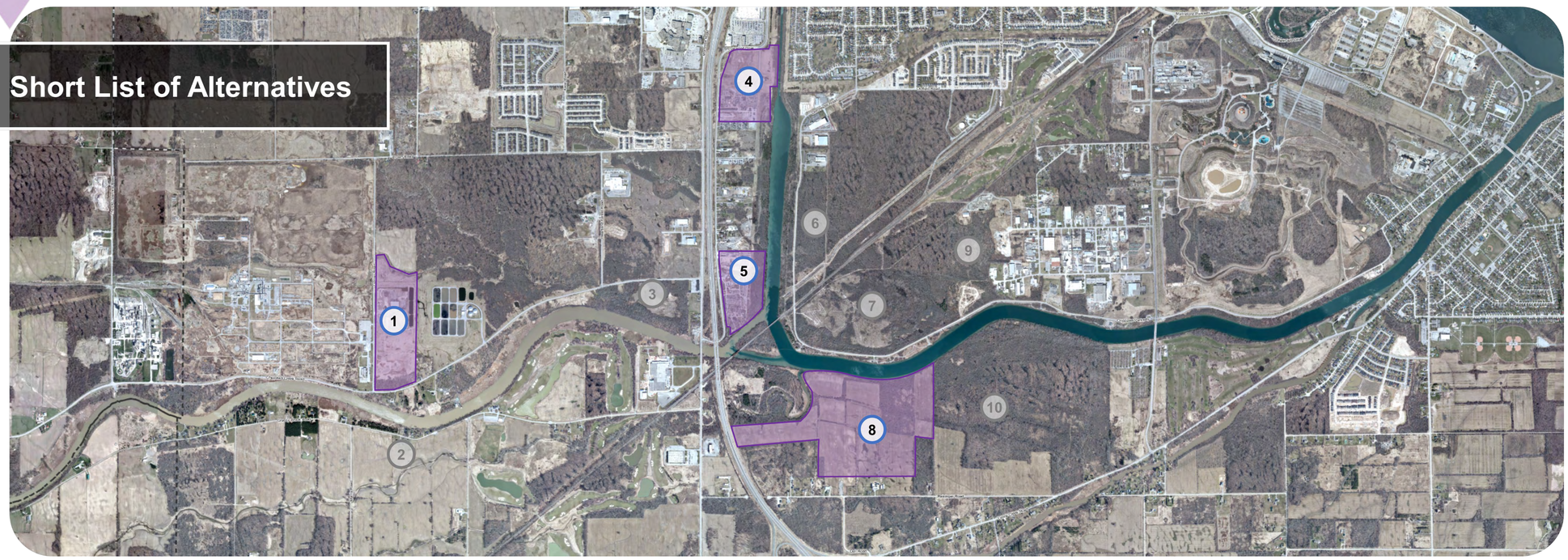
Long List of Alternatives



1 Compatible existing and future land use with opportunity to discharge to Hydro Electric Power Canal.

4 Efficient collection strategy based on existing infrastructure and close proximity to Hydro Electric Power Canal for discharge.

Short List of Alternatives

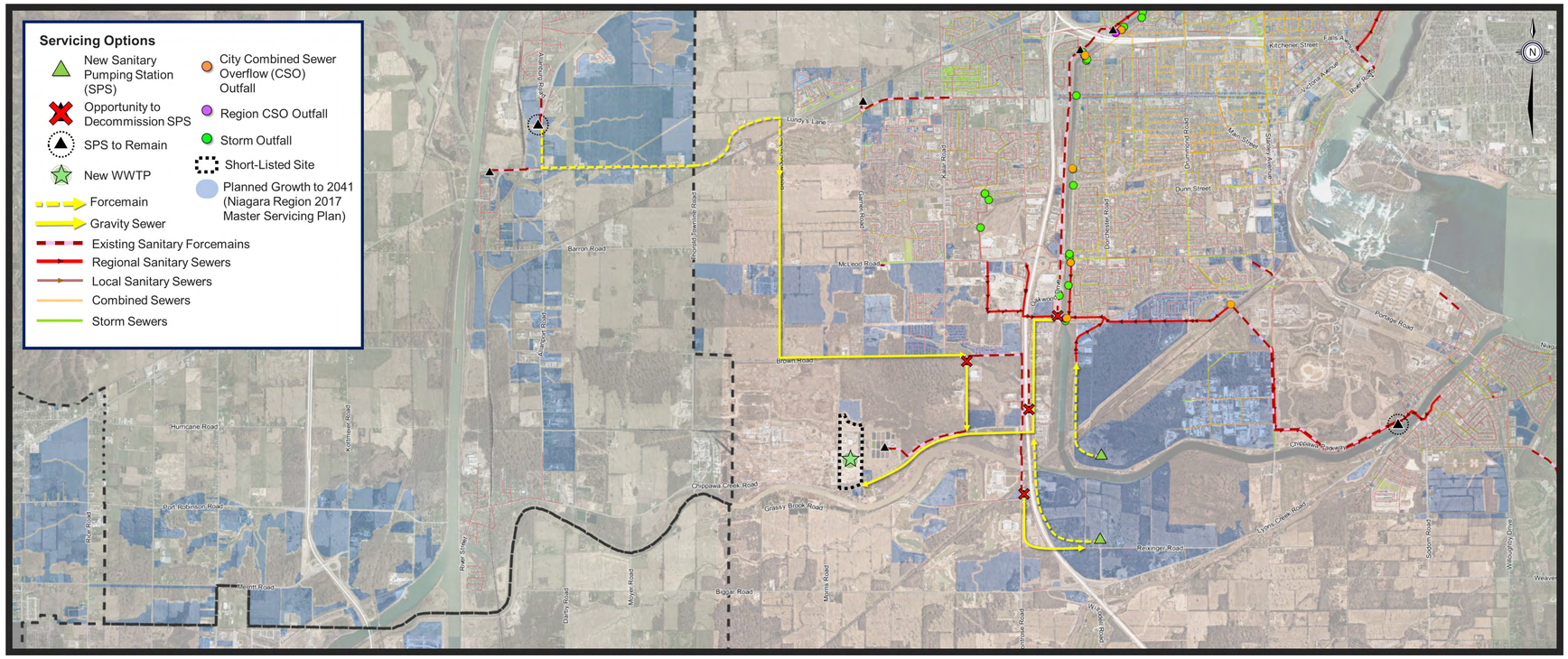


5 Relatively efficient collection strategy based on existing infrastructure and close proximity to Hydro Electric Power Canal for discharge.

8 Suitable land use and close proximity to Chippawa Creek for discharge. Efficient collection strategy including areas south of Chippawa Creek.

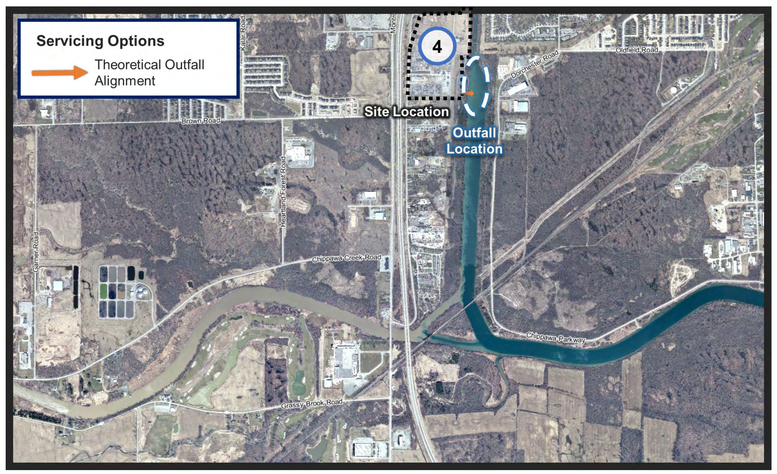
Step 2: Short List of Alternatives – Site 1

Preferability



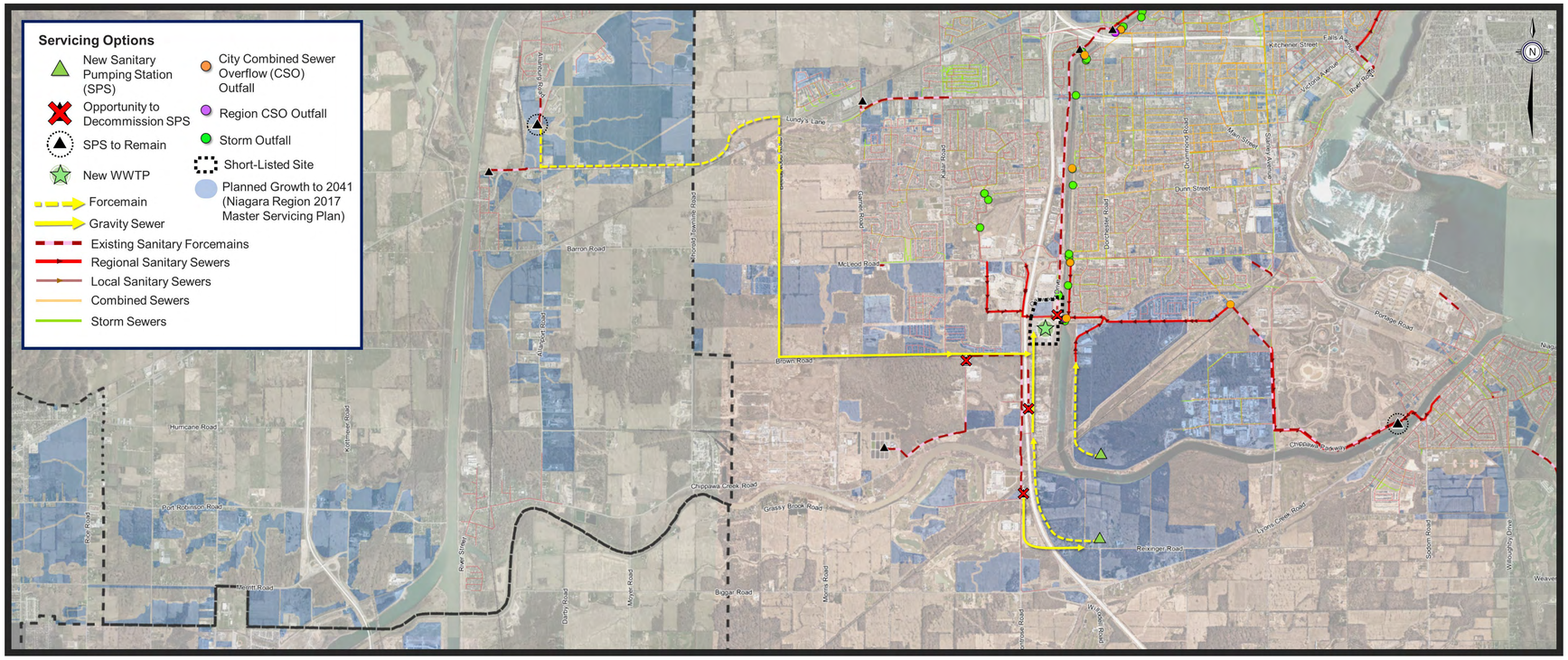
Criteria	Sub-Criteria		Site & Treatment Site 1 – Preferred Site Secondary Treatment	Outfall Location Site 1 – Preferred Outfall Hydro Electric Power Canal	Collection Strategy Site 1 – Preferred Collection Strategy Remove High Lift Pumping Station and no Lyons Creek
Environmental (25%)	• Environmentally Sensitive Features • Species at Risk • Water Features / Resources • Receiving Waterbody	• System Overflows • Physical Environmental Considerations • Climate Change			
Social / Cultural (25%)	• Community Concerns for Residents / Local Businesses / Traffic • Indigenous Communities and Archaeological / Cultural Heritage	• Air Quality and Odour • Noise, Vibration and Dust • Current / Planned Land Uses			
Legal / Jurisdictional (10%)	• Approvals / Coordination • Land Use Suitability • Land Acquisition • Worker Safety and Operability				
Technical (20%)	• Compatibility / Existing and Future Infrastructure • System Security and Level of Service • Traffic Management	• Operation and Maintenance			
Financial (20%)	• Capital Cost • Lifecycle Cost • Cash Flow / Phasing of Costs • Funding Opportunities				

Step 2: Short List of Alternatives – Site 4



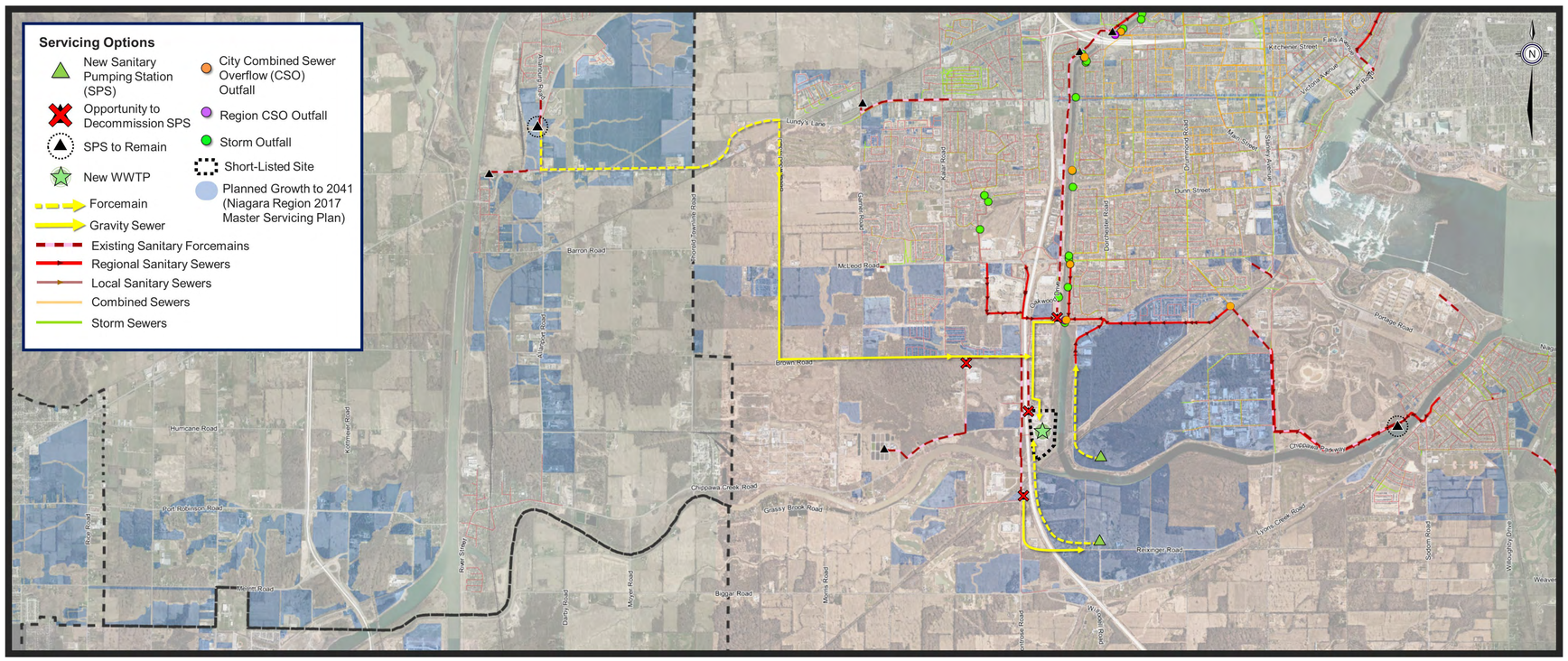
Preferability

Low | Moderate | High | Very High

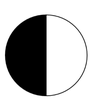


		Site & Treatment	Outfall Location	Collection Strategy
Criteria	**Sub-Criteria**	**Site 4 – Preferred Site Secondary Treatment**	**Site 4 – Preferred Outfall Hydro Electric Power Canal**	**Site 4 – Preferred Collection Strategy Remove High Lift Pumping Station and no Lyons Creek**
Environmental (25%)	• Environmentally Sensitive Features • Species at Risk • Water Features / Resources • Receiving Waterbody • System Overflows • Physical Environmental Considerations • Climate Change			
Social / Cultural (25%)	• Community Concerns for Residents / Local Businesses / Traffic • Indigenous Communities and Archaeological / Cultural Heritage • Air Quality and Odour • Noise, Vibration and Dust • Current / Planned Land Uses			
Legal / Jurisdictional (10%)	• Approvals / Coordination • Land Use Suitability • Land Acquisition • Worker Safety and Operability			
Technical (20%)	• Compatibility / Existing and Future Infrastructure • System Security and Level of Service • Traffic Management • Operation and Maintenance			
Financial (20%)	• Capital Cost • Lifecycle Cost • Cash Flow / Phasing of Costs • Funding Opportunities			

Step 2: Short List of Alternatives – Site 5

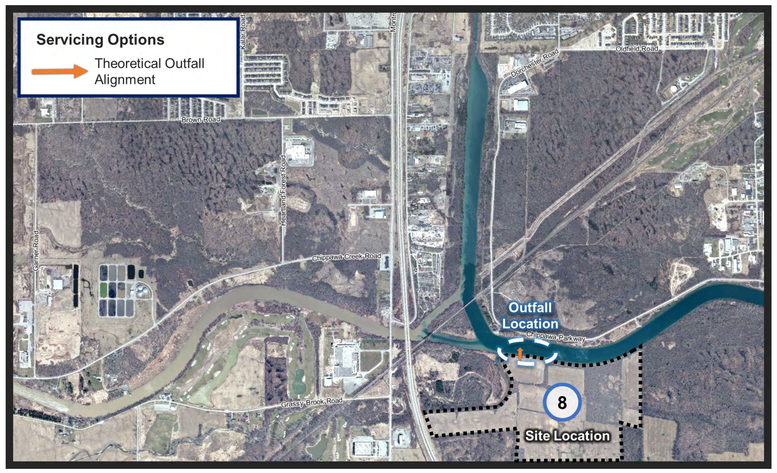


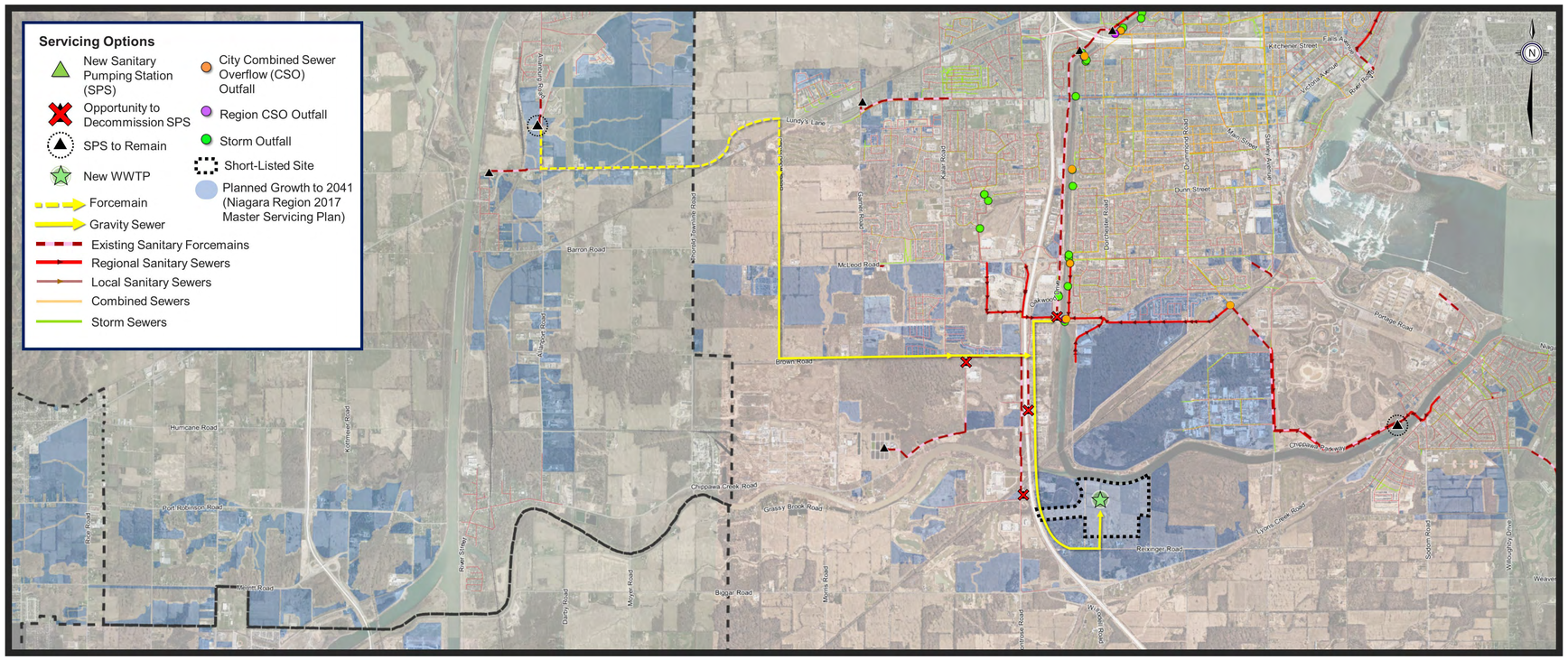
Preferability

Criteria	Sub-Criteria	Site & Treatment: Site 5 – Preferred Site Secondary Treatment	Outfall Location: Site 5 – Preferred Outfall Hydro Electric Power Canal	Collection Strategy: Site 5 – Preferred Collection Strategy Remove High Lift Pumping Station and no Lyons Creek
Environmental (25%)	• Environmentally Sensitive Features • Species at Risk • Water Features / Resources • Receiving Waterbody • System Overflows • Physical Environmental Considerations • Climate Change			
Social / Cultural (25%)	• Community Concerns for Residents / Local Businesses / Traffic • Indigenous Communities and Archaeological / Cultural Heritage • Air Quality and Odour • Noise, Vibration and Dust • Current / Planned Land Uses			
Legal / Jurisdictional (10%)	• Approvals / Coordination • Land Use Suitability • Land Acquisition • Worker Safety and Operability			
Technical (20%)	• Compatibility / Existing and Future Infrastructure • System Security and Level of Service • Traffic Management • Operation and Maintenance			
Financial (20%)	• Capital Cost • Lifecycle Cost • Cash Flow / Phasing of Costs • Funding Opportunities			

Step 2: Short List of Alternatives – Site 8

Niagara Region





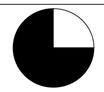
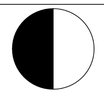
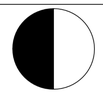
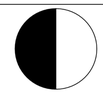
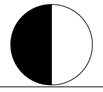
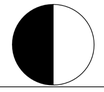
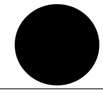
Preferability

		Site & Treatment	Outfall Location	Collection Strategy
Criteria	**Sub-Criteria**	**Site 8 – Preferred Site Secondary Treatment**	**Site 8 – Preferred Outfall Welland River East (Chippawa Creek)**	**Site 8 – Preferred Collection Strategy Remove High Lift Pumping Station and no Lyons Creek**
Environmental (25%)	• Environmentally Sensitive Features • Species at Risk • Water Features / Resources • Receiving Waterbody • System Overflows • Physical Environmental Considerations • Climate Change	●	◔	●
Social / Cultural (25%)	• Community Concerns for Residents / Local Businesses / Traffic • Indigenous Communities and Archaeological / Cultural Heritage • Air Quality and Odour • Noise, Vibration and Dust • Current / Planned Land Uses	◔	◔	◔
Legal / Jurisdictional (10%)	• Approvals / Coordination • Land Use Suitability • Land Acquisition • Worker Safety and Operability	●	◔	◔
Technical (20%)	• Compatibility / Existing and Future Infrastructure • System Security and Level of Service • Traffic Management • Operation and Maintenance	●	●	●
Financial (20%)	• Capital Cost • Lifecycle Cost • Cash Flow / Phasing of Costs • Funding Opportunities	◔	◔	◑

Step 3: Comparative Evaluation

Preferability

Niagara Region

Criteria	Site 1 Hydro Electric Power Canal	Site 4 Hydro Electric Power Canal	Site 5 Hydro Electric Power Canal	Site 8 Welland River East (Chippawa Creek)
Environmental (25%)				
Social / Cultural (25%)				
Legal / Jurisdictional (10%)				
Technical (20%)				
Financial (20%)				
Site Differentiator	**1. Siting / Treatment:** • Minor environmental features on the site • Adjacent to existing Biosolids Plant • Furthest removed from core existing and future residential • Low potential for cultural impact • Large area to support siting and flexibility • High potential to buffer odour, air and noise **2. Outfall:** • Long outfall to Hydro Electric Power Canal • Hydro Electric Power Canal has high flows and favourable mixing conditions • Low potential to impact recreational and waterway use during construction and operation • No impact to Hydro Electric Power Canal during operations • Temporary impact on Hydro Electric Power Canal during construction **3. Collection Strategy:** • Strategy supports existing Sewage Pumping Station decommissioning • Supports Thorold South servicing • Requires additional Sewage Pumping Station and long forcemain strategy for south growth areas • Sewer alignments anticipated in road right-of-way **4. Financial Considerations:** • Plant construction costs same for all options • Outfall will have elevated construction costs related to length to reach the Hydro Electric Power Canal • Lifecycle costs benefit from Sewage Pumping Station decommissioning • Higher risk associated with future servicing strategy cost • Overall strategy more costly than options 4, 5 & 8	**1. Siting / Treatment:** • Minimal environmental features on the site • Increased property acquisition risk associated with existing and planned commercial developments • Moderate potential for contaminated soil • Low potential for cultural impact • Smaller area limits siting and flexibility • Site closer to residential and commercial uses • Requires increased mitigation to buffer odour, air and noise **2. Outfall:** • Short outfall to Hydro Electric Power Canal • Hydro Electric Power Canal has high flows and favourable mixing conditions • Low potential to impact recreational and waterway use during construction and operation • No impact to Hydro Electric Power Canal during operations • Temporary impact on Hydro Electric Power Canal during construction **3. Collection Strategy:** • Existing system supports conveyance to this location • Strategy supports existing Sewage Pumping Station decommissioning • Supports Thorold South servicing • Requires additional Sewage Pumping Station and long forcemain strategy for south growth areas • Sewer alignments anticipated in road right-of-way **4. Financial Considerations:** • Plant construction costs same for all options • Lifecycle costs benefit from Sewage Pumping Station decommissioning • Outfall will have lower construction cost related to shorter length to reach Hydro Electric Power Canal • Higher risk associated with future servicing strategy cost • Overall strategy has similar costs to option 5 but less costly than options 1 & 8	**1. Siting / Treatment:** • Minimal environmental features on the site • Increased property acquisition risk associated with existing seasonal recreational use and hydro corridor • Moderate potential for contaminated soil • Low potential for cultural impact • Smaller area may limit siting and flexibility • Requires increased mitigation to buffer odour, air and noise **2. Outfall:** • Short outfall to Hydro Electric Power Canal • Hydro Electric Power Canal has high flows and favourable mixing conditions • Low potential to impact recreational and waterway use during construction and operation • No impact to Hydro Electric Power Canal during operations • Temporary impact on Hydro Electric Power Canal during construction **3. Collection Strategy:** • Strategy supports existing Sewage Pumping Station decommissioning • Supports Thorold South servicing • Requires additional Sewage Pumping Station and long forcemain strategy for south growth areas • Sewer alignments anticipated in road right-of-way **4. Financial Considerations:** • Plant construction costs same for all options • Lifecycle costs benefit from Sewage Pumping Station decommissioning • Outfall will have lower construction cost related to shorter length to reach Hydro Electric Power Canal • Higher risk associated with future servicing strategy cost • Overall strategy has similar costs to option 4 but less costly than options 1 & 8	**1. Siting / Treatment:** • Minimal environmental features on the site • Low potential for contaminated soil • Good road access for construction and operations • Low potential for cultural impact • Large greenfield area to support siting and flexibility • High potential to buffer odour, air and noise **2. Outfall:** • Short outfall to Chippawa Creek • Chippawa Creek has high flows and favourable mixing conditions • Low potential to impact recreational and waterway use during operation • No impact to Hydro Electric Power Canal during operations • Temporary impact on Chippawa Creek during construction **3. Collection Strategy:** • Deep trunk sewer provides future servicing flexibility • Strategy supports existing Sewage Pumping Station decommissioning • Maximizes gravity servicing of the south growth areas • Deep trunk sewer will require increased tunneling complexity • Supports Thorold South servicing • Sewer alignments anticipated in road right-of-way **4. Financial Considerations:** • Plant construction costs same for all options • Outfall will have elevated construction costs related to water depth • Higher upfront trunk sewer servicing costs • Lifecycle costs benefit from Sewage Pumping Station decommissioning • Lowest risk associated with future servicing strategy cost • Overall strategy more costly than options 4 & 5 but is less costly than option 1
Impact	**Least Preferred**	**Less Preferred**	**Less Preferred**	**Preferred**

Step 4: Preliminary Preferred Solution

Niagara Region

Servicing Options

- New SPS
- Opportunity to Decommission SPS
- SPS to Remain
- New WWTP
- Forcemain
- Gravity Sewer
- Planned Growth to 2041 (Niagara Region 2017 Master Servicing Plan)

Existing Wastewater System

- Sanitary Pumping Stations (SPS)
- Region Combined Sewer Overflow (CSO) Outfall
- City Combined Sewer Overflow (CSO) Outfall
- Storm Outfall
- Existing Sanitary Forcemains
- Regional Sanitary Sewers
- Local Sanitary Sewers
- Combined Sewers
- Storm Sewers

Black Horse SPS Upgrade

Opportunity to Decommission South Side High Lift SPS

South Side Low Lift SPS to Remain

Opportunity to Decommission Garner Road SPS

Preliminary preferred Outfall location (Chippawa Creek)

Opportunity to Decommission Oakwood Drive SPS

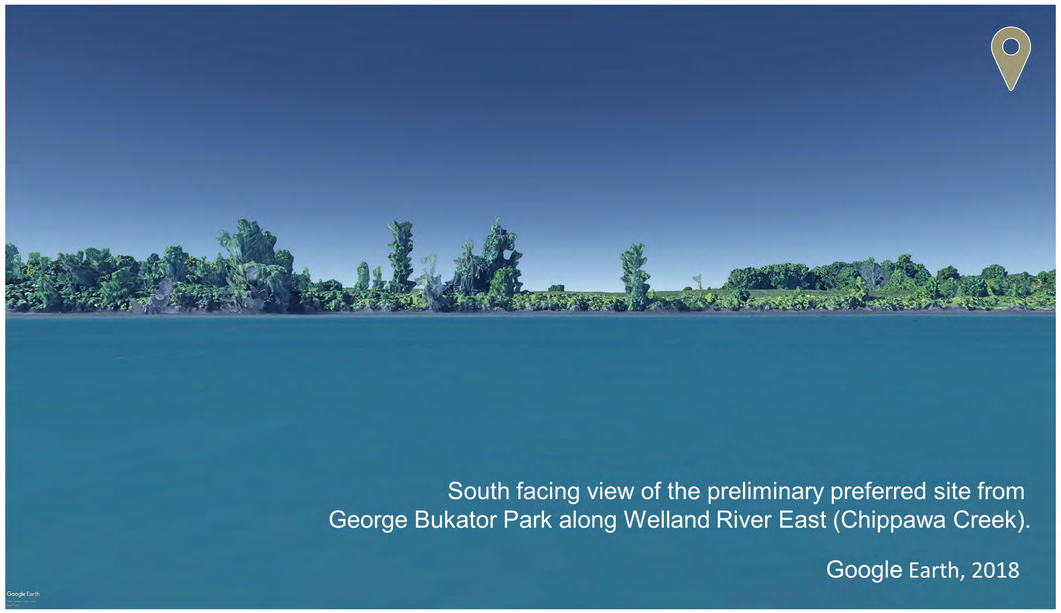
Opportunity to Decommission Grassy Brook SPS

New South Niagara Hospital Servicing

Preliminary preferred siting area for the new Wastewater Treatment Plant

Preliminary Preferred Site

Niagara Region



South facing view of the preliminary preferred site from George Bukator Park along Welland River East (Chippawa Creek).

Google Earth, 2018

Public Accessibility

Montrose Business Park Woodlot (City of Niagara Falls)

Non-Publicly Accessible Waterway (Power Canal)

Publicly Accessible Waterway (Chippawa Creek – canoeing, fishing, boating, etc.)

George Bukator Park and Trail Access Points (City of Niagara Falls)

Public Dock and Parking Lot

Niagara Boating Club

Niagara Rowing Club

OPG Hydro Electric Power Canal (HEPC) Boundary

Parking Lot with Trail Access

Publicly Accessible Waterway (Chippawa Creek – canoeing, fishing, boating, etc.)

Boat Launch Access

Outfall Location

Private Dock

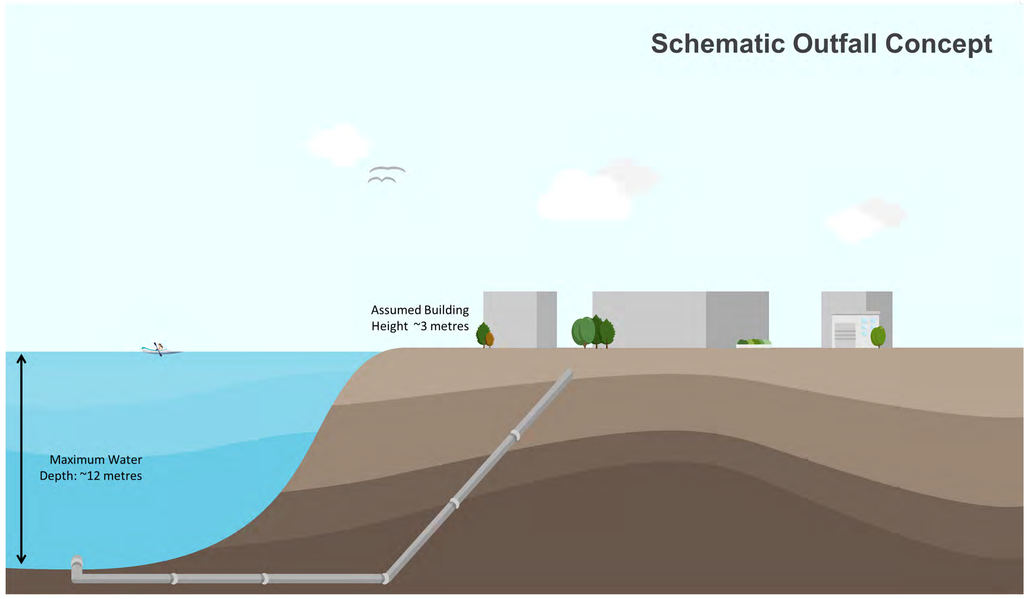
8

Site 8: Preliminary Preferred Site Boundary

Baden-Powell Park (City of Niagara Falls)

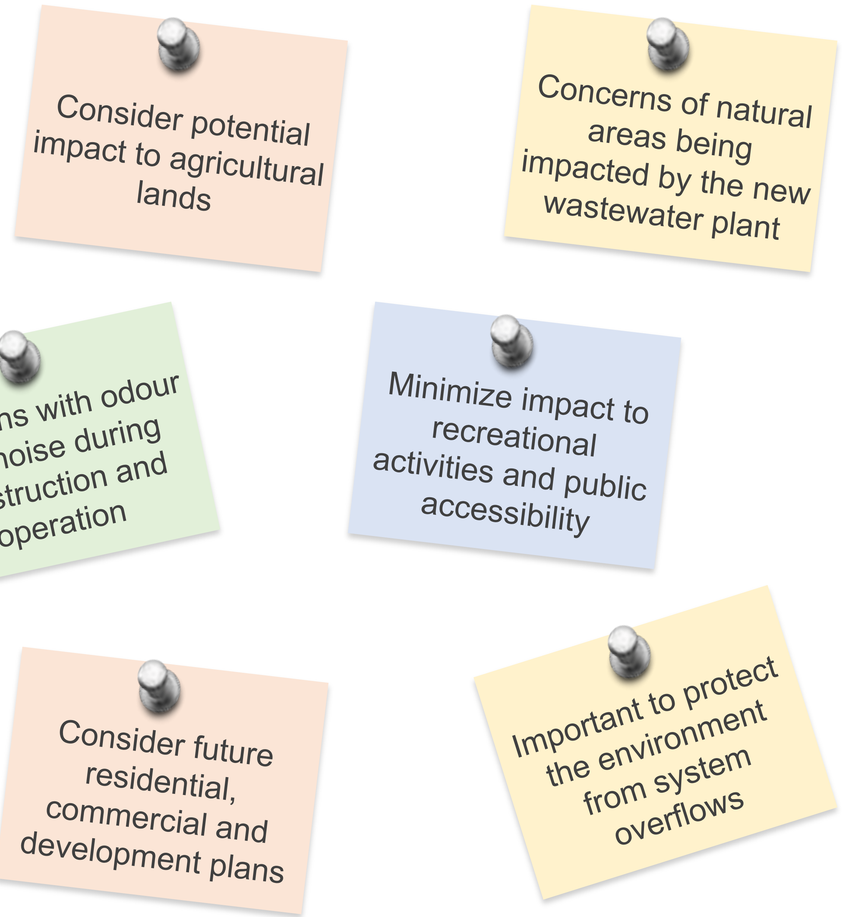
Oldfield Rd
Brown Rd
Blackburn Py
Chippawa Creek Rd
Grassy Brook Rd
Biggar Rd
Willodell Rd
Reixinger Rd
Ramsey Rd
Progress St
Don Murie St
Chippawa Py
Montrose Rd
Oakwood Dr
Dorchester Rd
Kister Rd
Stanley Av
Dell Rd
Beck Rd
Lyon St Py
Tallgrass Av
Saw Mill Dr
Mann St
Cinnamon Gv
Eclipse Wy
Shuttleworth Dr

Schematic Outfall Concept



We Want to Hear from You!

Get Engaged! Do you support the preliminary preferred solution? Is there anything else you'd like the team to consider? Using the sticky notes provided, please let us know your thoughts. Your feedback will be used to help inform the decision-making process.



Feedback received from previous Public Information Centres

Study Commitments

- The preliminary preferred solution has been selected based on multiple bottom line criteria and comparative evaluations
- Feedback from the PIC and from related agency and approval processes will be incorporated into development of the preferred solution
- Additional site specific investigations and studies will be completed in the next steps:
  - Stage 2 Archaeological
  - Environmental Site Assessment Investigations including contamination
  - Final Cultural Heritage Reports
  - Detailed Geotechnical and Hydrogeotechnical investigations
  - Final Traffic Impact Assessment
  - Final Noise and Odour Mitigation Reports
  - Assimilative Capacity Study Update (outfall and water body) based on MECP feedback and specific details on the preferred location
  - Updated Cost Estimates and Cost Benefit Analysis
- Using the site specific information, the preferred solution may be revised as appropriate before proceeding to development of the conceptual design details

The additional information is intended to support the selection of the preferred solution and guide the development of the design concepts. New information will be incorporated into the Class EA process.

The following information will be presented at our next Public Information Centre (anticipated for Fall 2020):

1. Site Specific Investigation and Results
2. Design Concept Evaluation and Selection
3. Treatment Plant and Site
   - Proposed location within the preferred site
   - Selection of preferred technologies and processes
   - Preliminary layout of: tankage, buildings, hydraulic profile, treatment technologies, etc.
   - Recommended wastewater effluent criteria
4. Outfall Location
   - Discharge location and design elements
   - Recommended methods of construction
5. Collection System
   - Sewer alignments
   - Proposed methods of construction including tunnel shaft locations
6. Impacts, Mitigation and Approvals

Thank you for Participating, Please Stay Engaged!

Next Steps

- Review input provided on the preliminary preferred solution: Is there additional information the team should consider? Did the public and stakeholders generally agree with the presented material?
- Validate the preliminary preferred solution and initiate a review and evaluation of design alternatives
- Public Information Centre No. 4 in Fall 2020: Present the preferred conceptual design for the new Wastewater Treatment Plant, outfall, and collection system strategy

Schedule:

Today: Public Information Centre No. 3 (Present preliminary preferred plant site, outfall location and collection strategy)

Spring / Summer 2020: Validate preferred solution and work through conceptual design

Fall 2020: Public Information Centre No. 4 (Select preferred design concept)

End 2020 / Early 2021: Environmental Assessment completion

2022: Post EA - Design & Construction

2027: Post EA - Estimated plant in-service date

We Want to Hear from You!

How to Stay Involved

- Sign up for project updates
- Attend a future Public Information Centre
- Submit an online feedback form or future survey
- Visit our website
  www.niagararegion.ca/projects/south-niagara-falls-treatment-plant
- Follow us on social media
  www.facebook.com/niagararegion and
  www.twitter.com/niagararegion

Today

- Fill out the questionnaire and comment sheet
- We want to know if you are interested in active involvement or prefer to participate through project information updates

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

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Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments received will become part of the public record and may be included in the study documentation prepared for public review. If you require an alternative format of this material please contact the Niagara Region's Accessibility Coordinator at 905-685-4225 ext. 3252 or accessibility@niagararegion.ca