

# **APPENDIX J – Part 2**

Record of Consultation

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## APPENDIX J: RECORD OF CONSULTATION – PART 2

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Public Information Centre  
Meeting #1 (October 30, 2019)  
Consultation Report

Prepared for

Toronto Region Conservation Authority

Prepared by



December 2019

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## **1.0 Date and Location**

**Date/Time:** Wednesday, October 30, 2019  
5:30 – 8:30pm

**Venue:** Program Room A  
Chestnut Hill Developments Recreation Complex  
1867 Valley Farm Road  
Pickering, Ontario

## **2.0 Notice**

Notice of the October 30, 2019 Pickering and Ajax Dykes Rehabilitation Public Information Centre (PIC) #1 was communicated to stakeholders through a variety of mechanisms including placement of a Notice of PIC in a local newspaper, and, to other prospective stakeholders via royal mail and/or email.

### **2.1 Ad Placement**

Notice of the October 30, 2019 Public Information Centre (Attachment 1) was placed in the Ajax Pickering News Advertiser October 10 and 17, 2019. Each of these editions had a circulation of 54,400 (approx.).

### **2.2 Notices to Stakeholders**

In addition to the widely circulated Notice placed in two editions of the local paper, notice of the PIC was also distributed to municipal, regional, provincial, and federal officials, abutting landowners, known user/naturalist groups, and utilities:

- Municipal, Regional, Provincial, Federal officials: 35 notices via mail and email (on or about October 10 and 25, 2019)
- Neighbours/Abutting Landowners: All properties within the indirect study area (Approx. 3000 people), via mail (October 21 - 25, 2019)
- User/Naturalist Groups: two (2), via email (on or about October 25, 2019)
- Utilities: five (5), via email (on or about October 25, 2019)
- First Nations: six (6) notices

A sample letter is included in Attachment 2.

### 3.0 Meeting Format

The three-hour Public Information Centre (PIC) was organized around three discrete sections: open house display boards (31, see Attachment 3); presentation (see Attachment 4)/Q&A (Section 3.2); one-on-one breakout (Section 3.3). Upon arrival, attendees were asked to register and provide contact information, if they wished to be kept apprised of Project developments. Throughout the PIC, attendees were encouraged and reminded to complete a short exit questionnaire before leaving (Section 4.0).

For the first hour attendees were able to peruse display boards (31) that explained the proposed Pickering and Ajax Dyke Rehabilitation Project. Project Team representatives were available to answer questions throughout the meeting. Specifically, the display boards described:

- the reasons for the proposed rehabilitation of the Pickering and Ajax dykes
- the Class Environmental Assessment, Project scope, and the regulatory/stakeholder review and approvals
- existing conditions within the Study Area
- the rationale for dividing the Pickering and Ajax dykes into six (6) segments
- the alternative solutions considered
- the two types of alternative solutions (“soft” and “hard” engineering solutions<sup>1</sup>) that have been identified to rehabilitate the Pickering and Ajax dykes
- The Preferred Preliminary Alternative Solution for each of the six segments, and, the bases by which these preferred solutions were identified

At approximately 6:30pm attendees were invited to a TRCA-led PowerPoint presentation that provided an overview of the Project. The 20-minute presentation was followed by a Facilitator-guided question/answer period after which attendees were encouraged to peruse the display boards in greater detail, and/or, to seek out Project Team representatives to discuss particular interests or concerns.

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<sup>1</sup> “Soft” solutions rely on earth-fill to create stable dyke embankments. “Hard” solutions include one or more structural components to strengthen the above-ground portion of the dyke embankments.

### 3.1 Project Team Representation

The Open House and presentation portions of the PIC were supported by a 10-person team of Project specialists (TRCA and KGS) and a meeting Facilitator (ECCI) who were available to answer questions throughout the PIC.

### 3.2 Presentation Question & Answer Highlights

- **Q:** There was some concern expressed that the flooding being experienced in the Study Area could be alleviated by more diligent seasonal maintenance and debris removal.

**A:** TRCA does not manicure natural systems nor does TRCA undertake regular maintenance/debris clearing of natural channels.

The target level of flood protection to be provided by the dykes is the 100-year design storm event. The amount of water flowing through the Duffins Creek system during a 100-year event exceeds the capacity of the creek and requires spill into the floodplain. Even if the channel was diligently maintained to be clear of debris, the flows would still exceed the capacity of the channel and spill into the floodplain. Therefore, the dykes would still be required in order to protect the nearby homes and businesses from flooding.

The existing dykes may not provide adequate flood protection to the community due to current structural deficiencies and the ongoing risk of further channel erosion. The objective of this project is to rehabilitate the existing dykes to provide flood protection that meets current engineering standards and addresses the risk of channel erosion in the future.

Attendees were advised that there is a 24/7 number (416.661.6514) to report any flooding concerns, and, that they can sign up to receive TRCA flood notices that provide real-time weather and water-level monitoring across the watershed. Attendees were advised that more information about this program is available at [www.trca.ca/flood](http://www.trca.ca/flood).

- **Q:** There were some questions pertaining to the bases on which the need to rehabilitate these two dykes were made.

**A:** It was explained that a number of background studies determined there has been considerable degradation and settlement (as much as 30cm in some places<sup>2</sup>) of these two dykes. Also, it was noted that engineering standards and flood modelling science have advanced since these dykes were constructed in the 1980s. Accordingly, these two structures have been deemed to be in need of further consideration for structural rehabilitation.

- **Q:** There was some discussion about whether the developments upstream or downstream (Seaton, Casino, respectively) were affecting the frequency and severity of flooding in the Study Area, or, whether particular attention to those developments might be able to reduce the frequency and/or severity of flooding in the Study Area.

**A:** It was explained that any development is required to avoid or mitigate its potential impacts on stormwater management within its watershed. Development must construct stormwater controls that restrict the amount of water released into rivers to be no more than what was released prior to the development. It was noted that the Seaton development, once fully constructed, will actually reduce the severity of peak flows through the Study Area.

- **Q:** There were some questions as to why Duffins Creek couldn't be straightened and deepened (channelized) to avoid the costs and impacts associated with replacing the two degraded dyke structures.

**A:** It was explained that the amount of water these dykes are intended to protect against far exceeds the capacity of the channel and that channel modifications would not eliminate the need to rehabilitate the dykes. Moreover, channelizing a river is an extremely costly undertaking that would have unacceptably broad environmental impacts to the stream and riparian habitat both up- and downstream of the channelized area. In the case of this Project, channelizing Duffins Creek is just not a practicable option.

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<sup>2</sup> Valdor Engineering Inc, 2018, Dyke Level of Service and Rehabilitation Report Pickering/Ajax SPA's – TRCA; Valdor Engineering Inc, 2018, Flood Characterization and Preliminary Remediation Investigations Pickering/Ajax SPA's – TRCA

- **Q:** There was a question of whether the proposed dykes, because of their larger footprints and/or heights, might cause increased flooding in areas not protected by the dykes.

**A:** It was explained that changes to the dykes will not affect the regulatory flood limits in the Study Area. The proposed changes to the dykes' footprints and/or height are not expected to increase flooding in other parts of the Study Area during lesser storm events, i.e., events more frequent than the 1-in-100 yr design storm. This will be confirmed with more hydraulic modeling.

- **Q:** There was a question as to whether a higher level of flood protection would be considered.

**A:** One objective in rehabilitating the Pickering and Ajax dykes is to ensure they are built on a foundation that is capable of being "upgraded" to higher standards of flood control should TRCA's municipal partners choose to consider greater flood protection for this area in the future.

It was explained that the new Pickering and Ajax dykes are to be designed to provide flood control for the 1-in-100-year design storm event. In the case of the Ajax dyke this would afford it a greater level of protection than it currently provides. However, in the event of a more severe flood, water would likely spill into adjacent neighbourhoods from areas of lower elevations beyond the dykes' protection zones.

- **Q:** There was a question of where funding for implementing the Project would come from.

**A:** It was explained that the Class EA is being jointly funded by Region of Durham and the federal government. Next stages and construction would be funded from various sources which could include municipal and/or federal agencies.

### **3.3 Additional One-on-One Discussion Comments**

The following provides additional comments raised by PIC attendees in various one-on-one discussions with Project Team representatives over the meeting period.

- With respect to the proposed “hard” solution:
  - don’t want to see that in my backyard
  - ugly fence on top of the dyke
  - it will cut off current access to the creek
  - want a natural look
- Why not just install sheet piling inside the existing dykes to reinforce the structures rather than causing environmental disturbance and incurring costs associated with the full reconstruction of the dykes being proposed?
- The Project Team is doing a wonderful job; keep up the good work.
- Concern was expressed about the impact construction and dyke replacement would have on those residences that rely on sump pumps that drain into the creek via culverts.
- What kind of disruptions could be expected during construction based on the location of specific people’s homes?
- Prefer leaving the existing dykes as they are with the prospect of their failing, rather than rehabilitating the dykes as proposed.
- Why not simply straighten the creek to remove bends where trees/debris get caught and/or remove the offending/dangerous trees (in the Oxbows and elsewhere) in order to eliminate the flood risk, they pose?

### **4.0 PIC Exit Questionnaire**

Prior to leaving the PIC, attendees were asked to complete a short, five-question comment sheet. Of the 33 registered attendees, 10 complete or partially complete comment forms were received (Attachment 5). There were subsequent email communications with interested community members (Attachment 6).

Attachment A  
PIC Meeting #1  
Public Notice

# NOTICE OF PUBLIC INFORMATION CENTRE

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA)

### Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

**THE FIRST PUBLIC INFORMATION CENTRE FOR THE PICKERING AND AJAX DYKE REHABILITATION ENVIRONMENTAL ASSESSMENT WILL BE HELD ON OCTOBER 30TH 2019.** At this meeting the study team will be presenting the evaluation of alternative solutions, a preferred alternative solution, and an update on consultation activities completed to date for this project.

Please come out to share your ideas and concerns about this exciting project!

#### **MEETING LOCATION & TIME:**

Chestnut Hill Developments Recreation Complex  
Program Room A

1867 Valley Farm Rd, Pickering ON, L1V 3Y7

**October 30<sup>th</sup>, 2019**

Open House Discussion: 5:30 PM – 8:30 PM

Presentation: 6:30 PM

#### **PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON, L4K 5R6

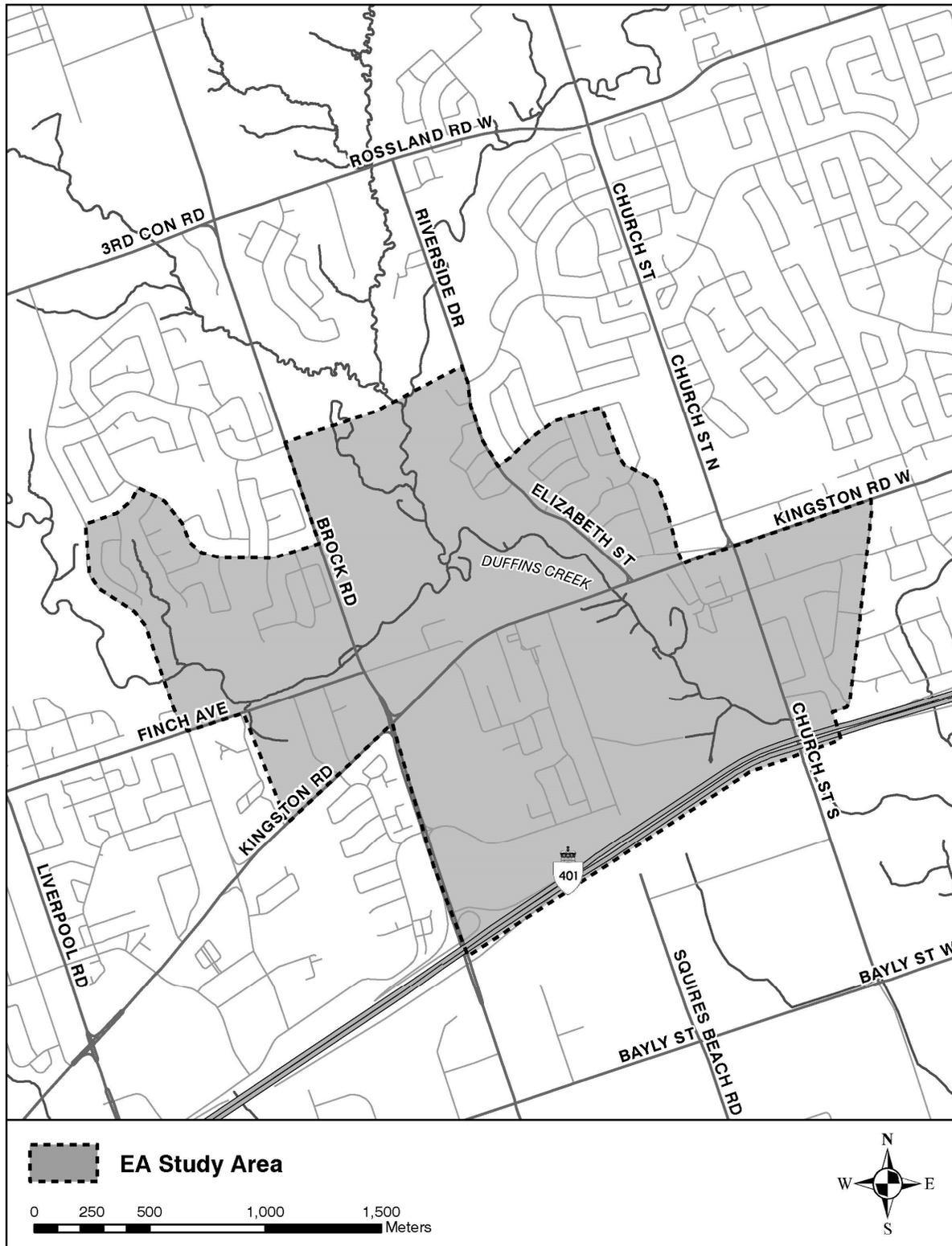
This notice was issued on October 10<sup>th</sup> and 17<sup>th</sup> 2019 in the Ajax/ Pickering News Advertiser.

*Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.*

# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



OPINION

# 'THE ROCK' PERFORMED ITS MAGIC

COLUMNIST  
MARGARET CARNEY  
'FELL IN LOVE WITH NEWFOUNDLAND - AGAIN'



MARGARET CARNEY  
Column

sand by ice.

Newfoundland rocks are a complex mix of geological ages, often black or grey, but sometimes purple, red, or my favourite - green, cut by dazzling white stripes of quartz. Roads themselves can be green or purple, made from crushed local stone. It's a colourful place, blue, green and golden in the sun, pewter, slate and silver when clouds crowd in and start to weep.

I fell in love with Newfoundland - again. A friend moving home after a lifetime away gave me a good excuse to fly to Gander and head north to Change Islands, the last ferry stop before Fogo, which is basically the end of the world. My friend needed her sheds painted, and every chance I got between drizzle, showers and downpours I was out there, brush in hand, breathing the pure air and listening to the silence. Well, the silence and the crows, the most vocal bunch of corvids I've ever come across.

Gulls were noisy, too, especially when a fishing

boat chugged up the 'tickle' - the channel between the north and south islands. I learned another Newfoundland word as well: 'mope', the local term for pine grosbeaks, beautiful rose and green-grey finches I seldom see in Ontario but which are common out there in the black spruce boreal forest. And strangely unafraid of humans, often sitting placidly when approached.

A week on Change Islands did its magic - it changed me. Slowed my pulse, my breathing, my busy mind, till I was living more and more in the present moment, picking up green and purple pebbles on the beach and watching the tides rise and fall, washing the rocks. Till I came home to the eternal 'now,' the only time we ever really have.

Nature queries: mcarney@interlinks.net or 905-725-2116.

*Durham nature writer Margaret Carney has more than 4,000 species on her life list of birds, many seen in far-flung corners of our beautiful planet.*

NEWS

## INPUT SOUGHT ON DURHAM TRANSPORTATION PAPER

DURHAM -- Public input is being sought about a transportation discussion paper released by the Region.

Durham's planning division has released the Transportation System Discussion Paper, which provides an overview of the Region's transportation system.

The paper is the fifth in a series released this year as part of Envision Durham, the Region's Municipal Comprehensive Review of the Region's Official Plan (ROP).

The planning division noted public input is integral to the success of this project.

The Transportation System Discussion Paper is available for public input until Dec. 30.



Ryan Pfeiffer/Torstar

Durham Region is looking for public input on a transportation paper. Residents have until Dec. 30 to comment on the document, which will be used to update the Region's official plan.

The Region's transportation system is made up of interconnected road, rail, transit and active transportation networks, with a variety of transportation-related land uses and generators of traffic.

The paper provides an overview of the system, the policy framework that sup-

ports it in the ROP, and identifies relevant changes to provincial policy requirements.

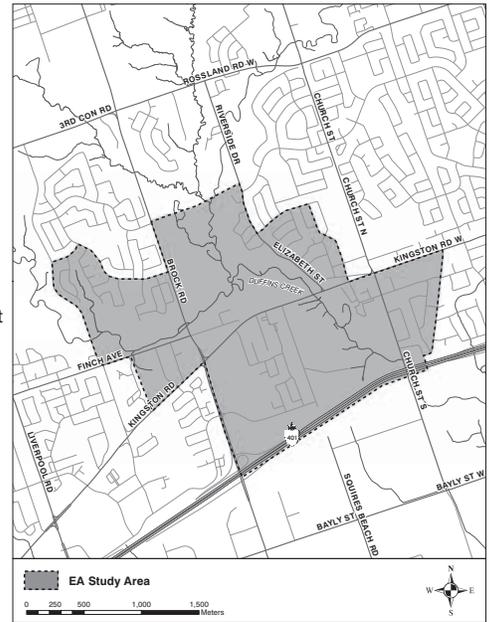
Envision Durham is in the "Discuss" stage of its public engagement program.

Visit [durham.ca/EnvisionDurham](http://durham.ca/EnvisionDurham) to provide comments on the paper.

## NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)  
Toronto and Region Conservation Authority (TRCA)

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This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

**THE FIRST PUBLIC INFORMATION CENTRE FOR THE PICKERING AND AJAX DYKE REHABILITATION ENVIRONMENTAL ASSESSMENT WILL BE HELD ON OCTOBER 30, 2019.** At this meeting the study team will present the evaluation of alternative solutions, a preferred alternative solution, and an update on consultation activities completed to date for this project.

Please come out to share your ideas and concerns about this exciting project!

**MEETING LOCATION & TIME:**  
Chestnut Hill Developments Recreation Complex  
Program Room A  
1867 Valley Farm Rd, Pickering ON, L1V 3Y7  
**October 30, 2019**  
Open House Discussion:  
5:30 PM – 8:30 PM  
Presentation: 6:30 PM

**PROJECT CONTACT INFORMATION:**  
PADR Project Coordinator  
Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Phone: 416-661-6600 x5948  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6

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Attachment B  
Sample Letter

October 10, 2019

**SUBJECT: Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment**

Dear Mr. Dave Ryan,

Please be advised that Toronto and Region Conservation Authority (TRCA) has recently commenced a study regarding remedial flood and erosion control works to provide long-term flood protection along a section of Duffins Creek in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred measure of flood control infrastructure rehabilitation through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013). A "Notice of Study Commencement" formally initiating the study appeared in the Ajax/Pickering News Advertiser on August 8, 2019.

As part of the Class EA process, collection of public input through the planning and design phases of the project is important. The first Public Information Centre (PIC) for this project is scheduled for Wednesday October 30, 2019 at 5:30 pm – 8:30 pm (presentation at 6:30 pm) at Chestnut Hill Developments Recreation Complex (1867 Valley Farm Rd, Pickering, ON L1V 6K7). Please let us know if you will be attending. Should you be unable to attend these meetings, please be assured that we will keep you updated regularly on the project status should you wish to participate in the process.

If you have any comments, questions or would like to meet with the Project Team, please do not hesitate to contact me by phone at 416-661-6600 ext. 5320 or by email at [Melody.Brown@trca.ca](mailto:Melody.Brown@trca.ca).

Sincerely,



Melody Brown  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority

Enclosed (1) Pickering and Ajax Dykes Rehabilitation – Project Update  
(1) Notice of Public Information Centre

## Pickering and Ajax Dyke Rehabilitation Conservation Ontario Class Environmental Assessment (PADR EA)

### Project Brief

Toronto and Region Conservation Authority (TRCA) has commenced a Conservation Ontario Class Environment Assessment (EA) for Remedial Flood and Erosion Control Projects to investigate flood remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

The Village East and the Notion Road Pickering Village communities in the City of Pickering (Ward 3) and Town of Ajax (Ward 1) are located within the regulatory floodplain of the Duffins Creek watershed. This area has a long history of flooding, with 634 buildings susceptible to flooding during a Regional Storm (Hurricane Hazel) event.

The Village East community in Pickering and the Notion Road/Pickering Village community in Ajax are both designated Special Policy Areas (SPA). Due to the flood vulnerability of the community, the areas were designated as a Special Policy Area (SPA) to provide for the continued viability of existing land uses while acknowledging the flood vulnerability of the communities. The dykes were constructed in the 1980s to provide flood protection for the communities up to and including the 500-year storm event.

The Pickering Dyke, constructed in 1985, extends for approximately 1,150 metres, and is located north of Kingston Road extending from Brock Road eastward to east of Notion road. The Ajax Dyke, constructed in 1984, extends for approximately 325 metres, and is located west of Church Street South extending north from near Mill Street.

Recent studies completed by TRCA have identified various deficiencies in their construction which prevent them from meeting current engineering design standards and factors of safety (FOS). Based on the results from the 2018 hydraulic modelling study, it was determined that the targeted level of flood protection to the 500-year event is not provided by the existing flood control dykes. Based on results from the 2018 geotechnical study the current dykes do not meet current engineering design standards and Factors of Safety (FOS). As such there is a high potential of dyke failure during a significant storm event. It is desired to undertake rehabilitation of the dykes to meet current engineering standards and FOS while maintaining, or improving, the existing level of flood protection to the surrounding communities.

The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while at minimum, maintaining a level of flood protection associated with the existing dyke crest elevations.

Consulting with the public, local community groups, government agencies and Indigenous Communities is a key component of the EA process. There are several committees being engaged throughout the PADR EA, including a Technical Advisory Committee, Executive Steering Committee, and Community Liaison Committee. Each group has been and will continue to be given the opportunity to engage and provide comments on the PADR EA. The primary method of disseminating project information to the general public will be through a series of up to two (2) Public Information Centres (PIC).

#### Next Steps:

The second round of consultations has been scheduled:

- Technical Advisory Committee Meeting
- Executive Steering Committee Meeting
- Community Liaison Committee Meeting
- Public Information Centre (October 30, 2019) – Chestnut Hill Developments Recreation Complex, Pickering

It should be noted that this project is on schedule with a completion date of summer 2020.

For more information please visit the project website at [trca.ca/PADR](http://trca.ca/PADR) or please contact the Project Team at [PADR@trca.ca](mailto:PADR@trca.ca).

# NOTICE OF PUBLIC INFORMATION CENTRE

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA)

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Program Room A

1867 Valley Farm Rd, Pickering ON, L1V 3Y7

**October 30<sup>th</sup>, 2019**

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Presentation: 6:30 PM

#### **PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON, L4K 5R6

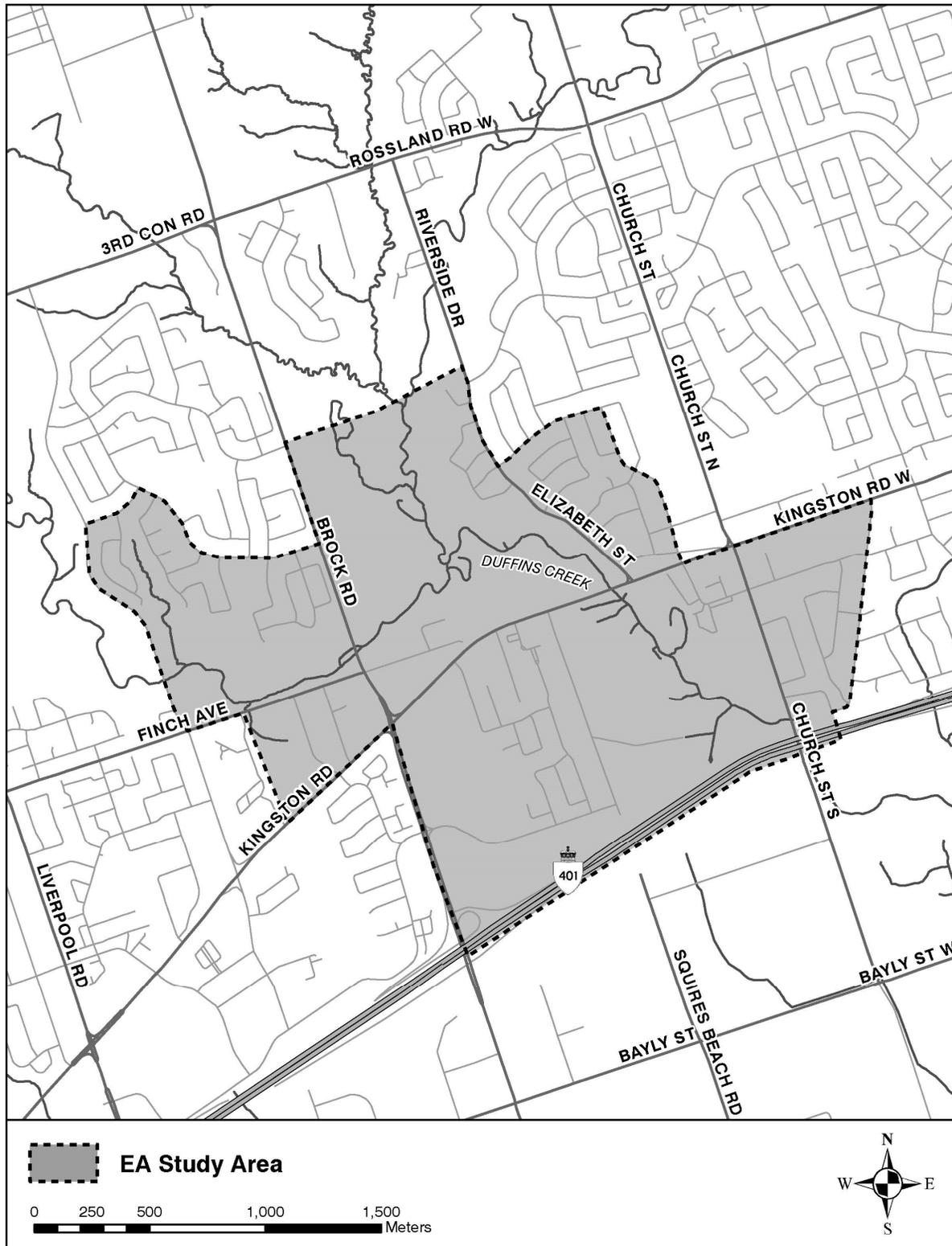
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# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



Attachment C  
PIC Meeting #1  
Display Material

# WELCOME TO PUBLIC INFORMATION CENTRE #1

## PICKERING AND AJAX DYKES REHABILITATION

### Class Environmental Assessment Project

#### Agenda

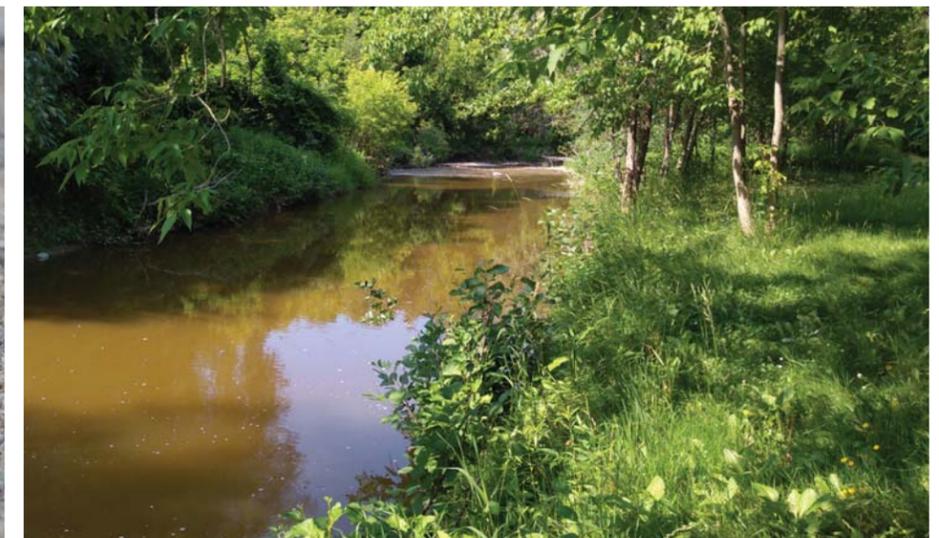
##### PROJECT OVERVIEW

- Problem and Opportunity
- Project Background
- Data Collected
- Alternative Solutions
- Evaluation of Alternative Solutions
- Preliminary Preferred Alternative Solution

##### NEXT STEPS

#### Seeking your feedback on:

- Existing Conditions
- Alternative Solutions
- Evaluation Criteria
- Preliminary Preferred Alternative Solution
- Your input, issues and concerns



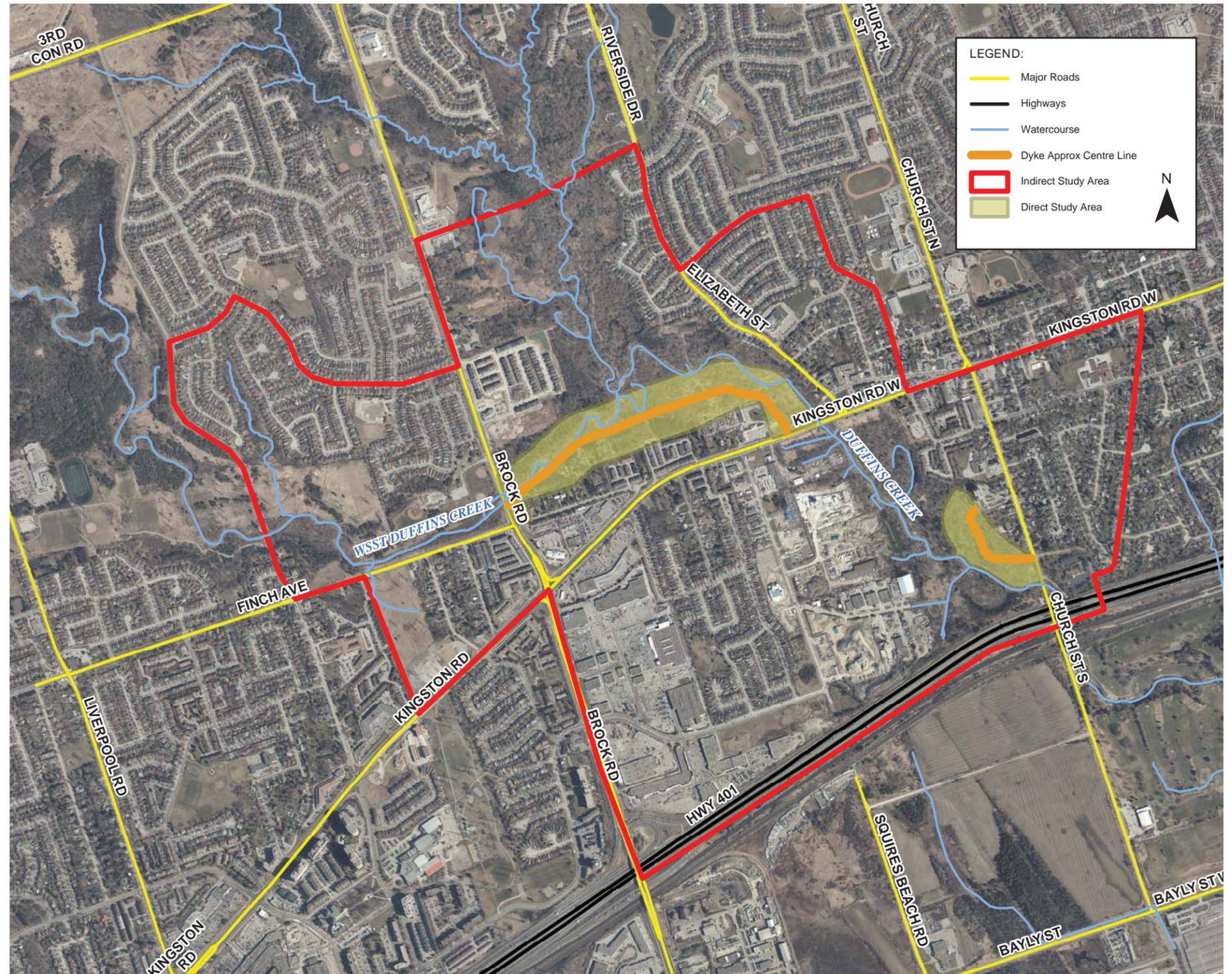
# WHERE IS THE PROJECT?

## DIRECT STUDY AREA

Valley lands within the limits of the flood control structures (dykes) and the area primarily impacted by construction access and/or routes.

## INDIRECT STUDY AREA

Valley lands and local communities surrounding the dykes that may be impacted by remedial works within the Direct Study Area.

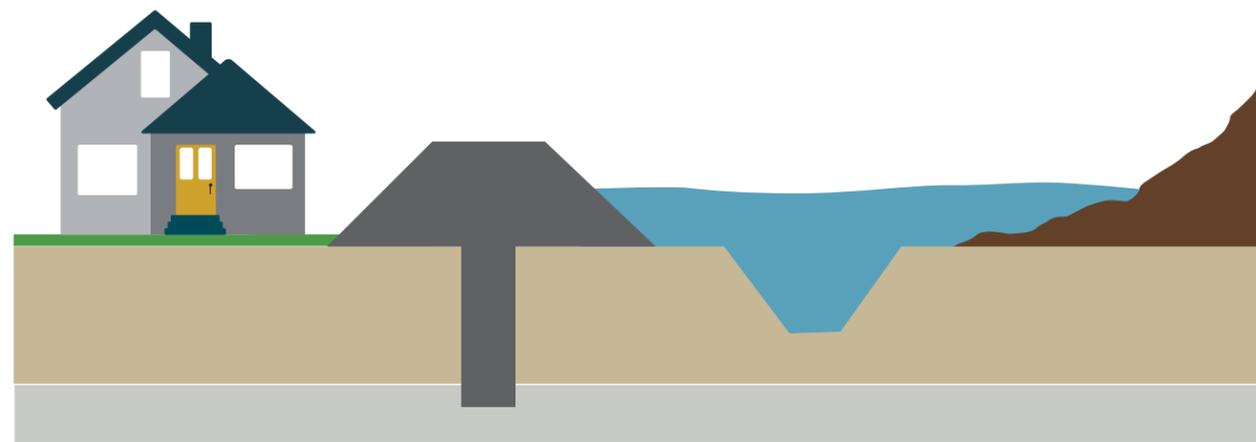


# HISTORY OF FLOODING

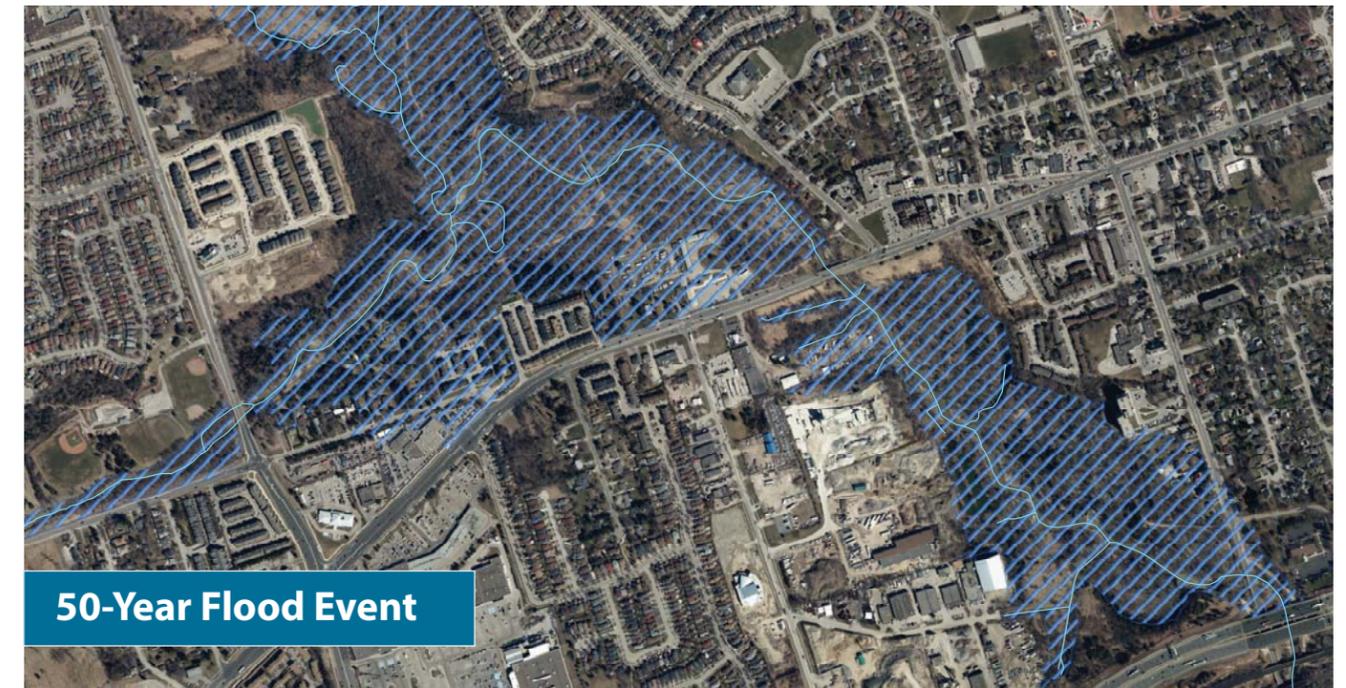
- Before the dykes were constructed the adjacent residential areas flooded frequently
- **1980's (approximately) Special Policy Area (SPA) Designation** for Village East and Notion Road Pickering Village communities
- **1984-1985 Pickering and Ajax Dykes constructed** Designed to provide flood protection for the communities up to the 500-year storm flood

## WHAT IS A DYKE?

A flood control dyke is a long wall or embankment built to prevent flooding from a river course.



## POTENTIAL FLOOD EXTENT WITHOUT DYKES



# FLOOD RISK 101



## WHAT IS A FLOODPLAIN?

A floodplain is the area beside a watercourse that would be covered in water by a flood event.

## WHAT IS A SPECIAL POLICY AREA (SPA)?

A Special Policy Area is a land use planning designation that acknowledges that there is already development in a flood vulnerable area and that only limited changes can be made to the development in the flood plain.

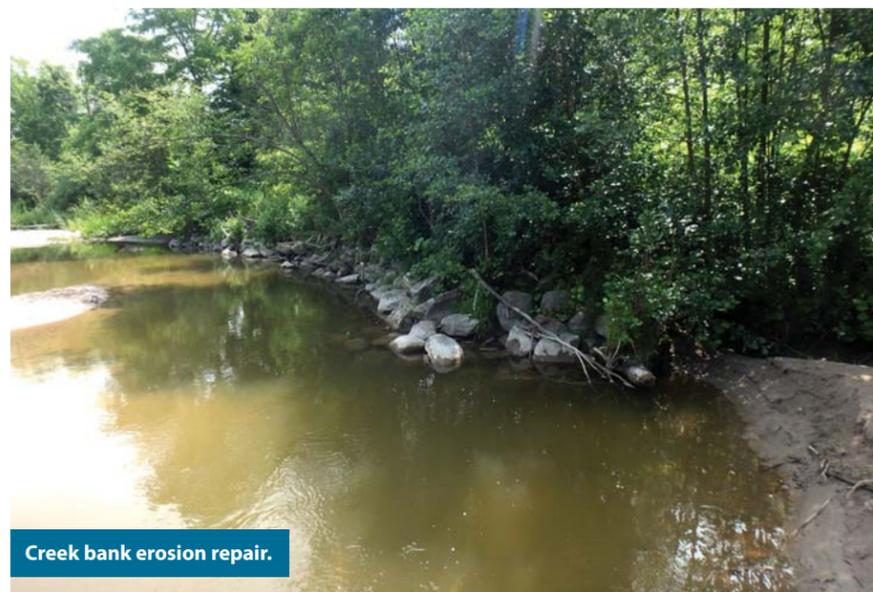
## WHAT IS THE REGULATORY FLOOD?

The Regulatory flood is the extent of flooding that would occur if a storm the size of Hurricane Hazel (the largest storm on record in southern Ontario) falls over an area.

# WHAT IS THE PROBLEM AND OPPORTUNITY?

## THE PROBLEM

- **The dykes are at risk of failure**
  - The dykes do not meet the current engineering design standards
  - Significant erosion of the creek banks in areas adjacent to the Pickering Dyke
  - Other issues
    - *Tree growth and root systems compromising integrity*
    - *Narrow crest width limits access for maintenance*



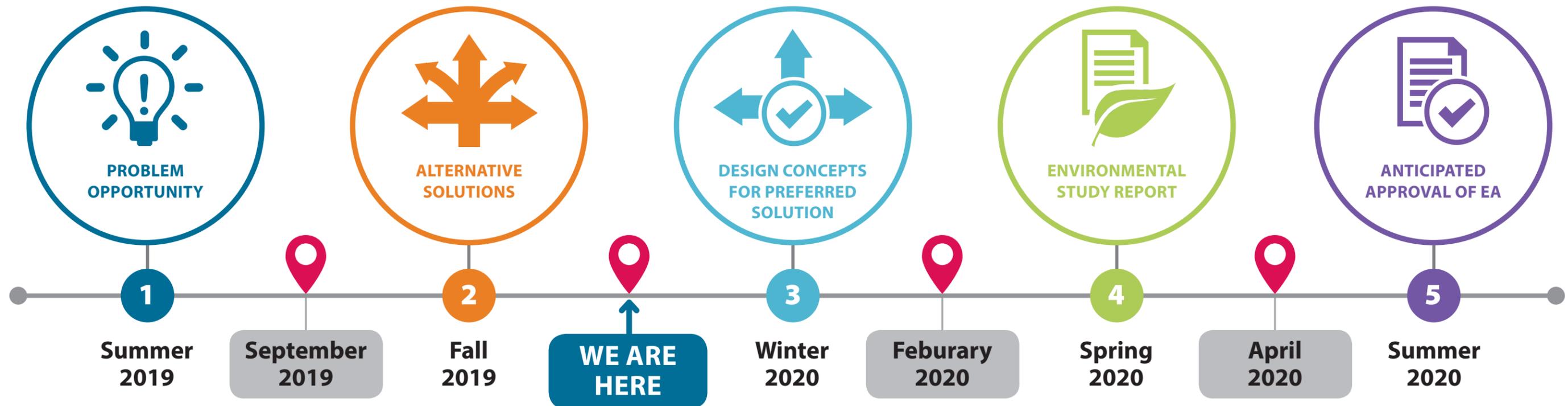
## THE OPPORTUNITY

- **Meet current design standards**
  - Ensure performance of flood protection at the current crest levels at minimum.
    - *Pickering Dyke: 100-year storm flood event*
    - *Ajax Dyke: 50-year storm flood event*
- **Protect the dykes against channel bank erosion**
- **Enhance the natural environment**
- **Allow for future improvements**
  - Flexibility to increase level of flood protection in the future

# THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS

## Conservation Ontario Class Environmental Assessment

 PUBLIC CONSULTATION



The Pickering and Ajax Dykes Rehabilitation Project is following the Class EA process for Remedial Flood and Erosion Control Projects outlined by Conservation Ontario.

The Class EA process has five phases that must be completed  
There are many opportunities for the  **PUBLIC TO CONSULT** with the Study Team throughout the process

# BASELINE CONDITIONS INVENTORY

Inventory of existing conditions within the indirect study area was undertaken. This included the compilation of all available information as well as additional field studies.

## GEOTECHNICAL INVESTIGATION AND ANALYSIS

- Confirmed existing dyke and sub-surface soil conditions
- Stability and seepage

## BUILT ENVIRONMENT

- Utilities and drainage infrastructure
- Close proximity to residential properties

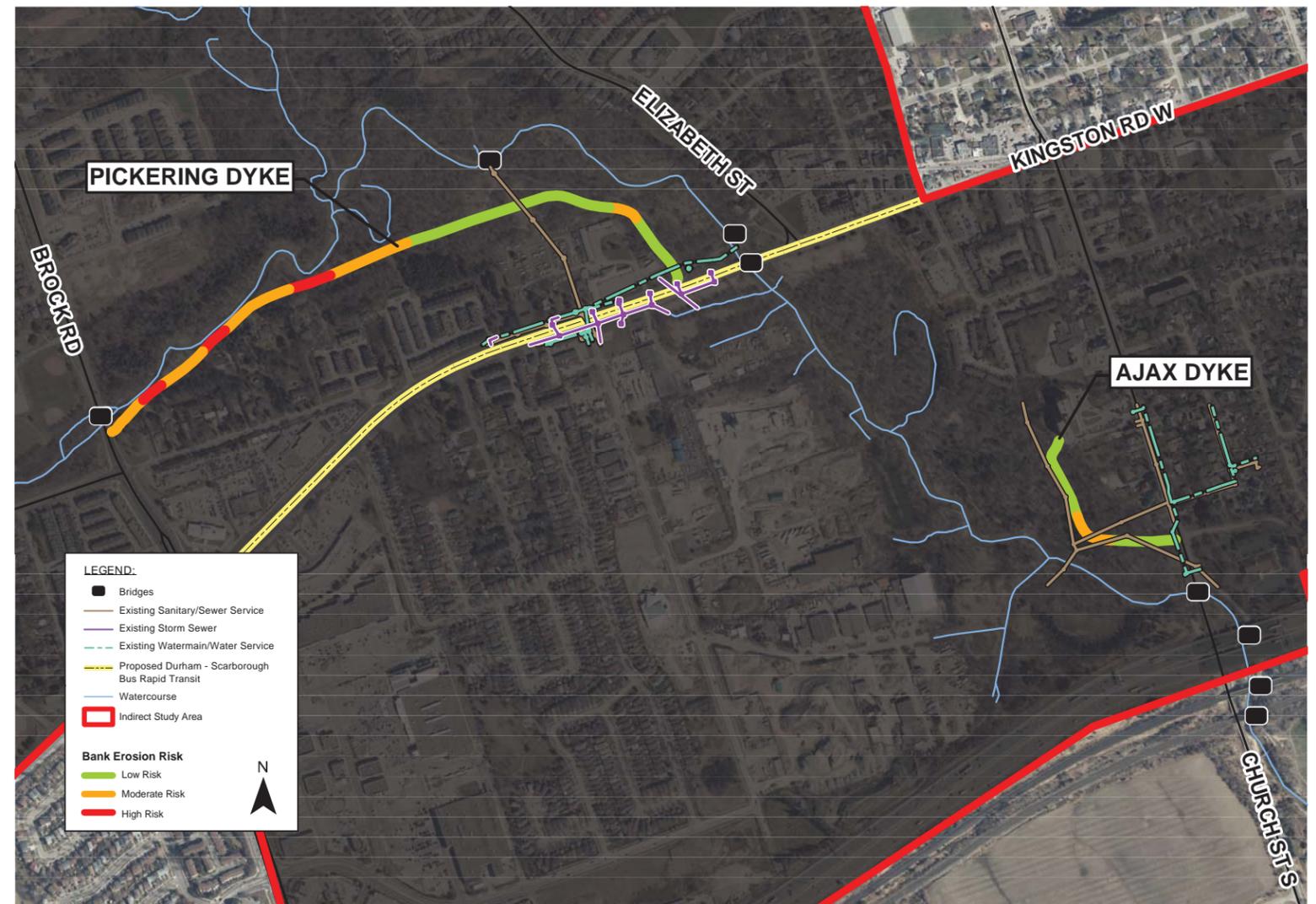
## FLUVIAL GEOMORPHOLOGICAL INVESTIGATION

- Determined channel erosion risks to dykes

## FLOODING MECHANISMS

- Dykes are circumvented during the 500-year storm flood

## BASELINE CONDITIONS - BUILT ENVIRONMENT



Utilities and drainage infrastructure

# BASELINE CONDITIONS INVENTORY

Inventory of existing conditions within the indirect study area was undertaken. This included the compilation of all available information as well as additional field studies.

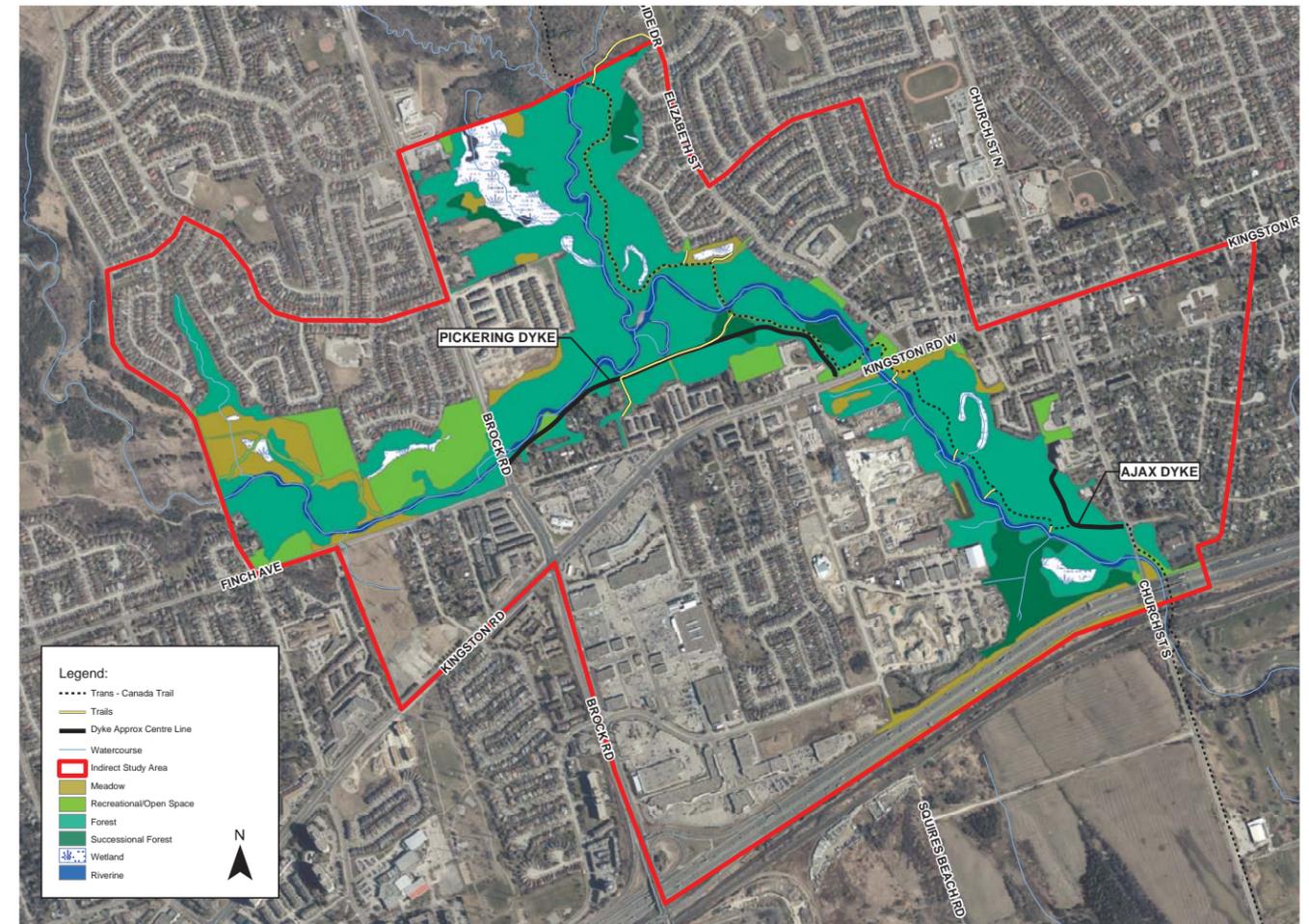
## NATURAL ENVIRONMENT

- The valley lands provide a link between Lake Ontario and the Greenbelt Plan area north of Pickering/Ajax
- Field inventories of flora, fauna and aquatic species
- Endangered Species and multiple Species of Special Concern are present

## SOCIOECONOMIC & CULTURAL ENVIRONMENT

- Special Policy Area & Regulatory Floodplain
- Trails and adjacent roads
- Residential, commercial, industrial, institutional and park lands
- Potential for archaeological resources. Further assessment required before digging.

## BASELINE CONDITIONS - NATURAL AND SOCIOECONOMIC ENVIRONMENTS



Baby Snapping Turtle



Trails

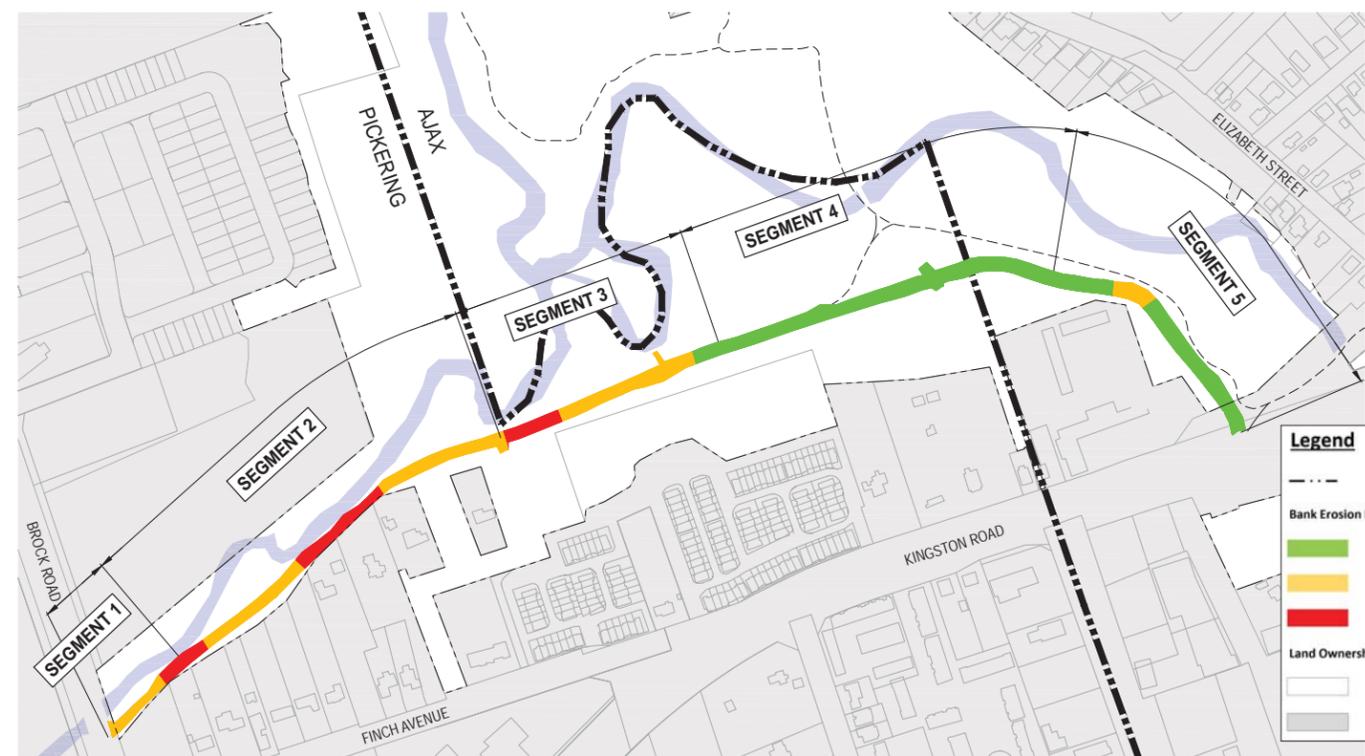


Eastern Wood Peewee

# DYKE SEGMENTS

- Dykes were divided into segments based on unique characteristics of the dyke and surrounding area
- Segmentation allows for a solution unique to each segment

## PICKERING DYKE



### NOTABLE CONDITIONS

- Does not meet engineering standards.
- Space limitations – property impacts
- Channel erosion
- Excessive vegetation
- Trail
- Utilities
- Protected terrestrial and aquatic species

## AJAX DYKE



### NOTABLE CONDITIONS

- Does not meet engineering standards.
- Excessive vegetation
- Trail
- Utilities
- Protected terrestrial and aquatic species

# FLOODING MECHANISMS

500-year storm flood protection is not feasible with just the dykes. The dykes are circumvented by flooding of low ground areas.

## 100 YEAR STORM EVENT



- Ajax Dyke overtops
- Spills in multiple low areas, impacting commercial and industrial properties

 = spilling into low lying areas

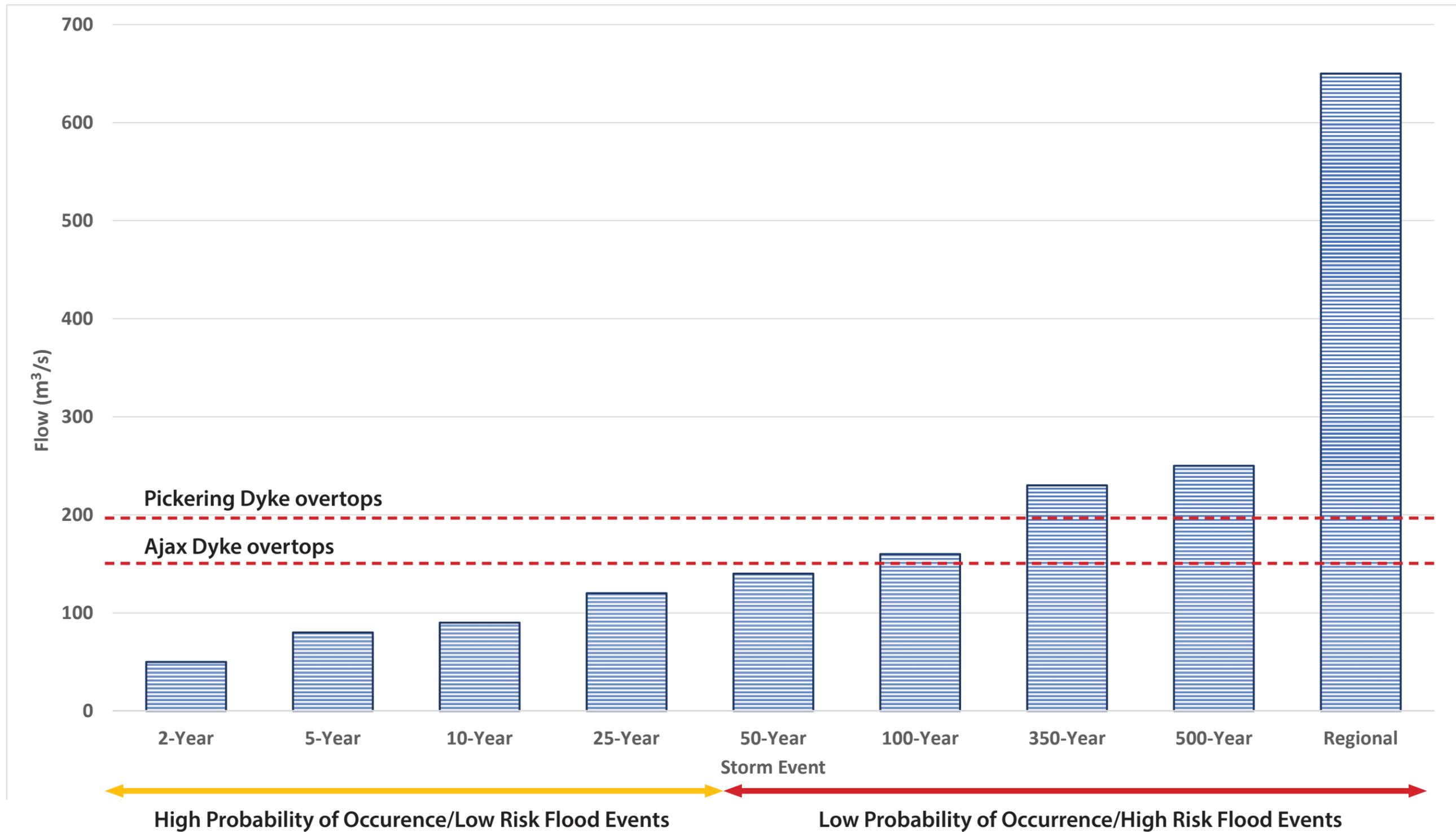
 = spilling due to overtopping of dyke

## 500 YEAR STORM EVENT

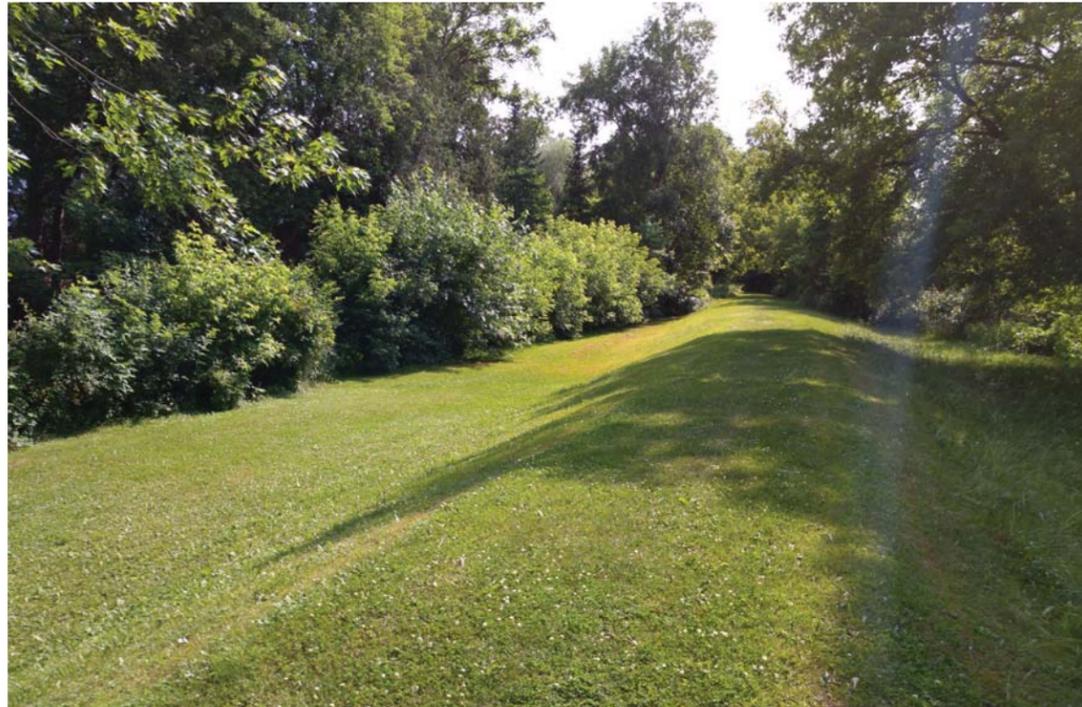


- Pickering Dyke and Ajax Dyke overtop
- Spills in multiple low areas, impacting residential, commercial and industrial properties

# FLOOD PROBABILITY VS RISK



# WHAT ARE ALTERNATIVE SOLUTIONS?



**ALTERNATIVE SOLUTIONS**  
are different ways to reduce flood  
risk to life and property.

## **Alternative Solutions must:**

- Provide at minimum, the level of flood protection associated with the current dyke crest elevations
- Meet current engineering standards
- Include the Do-Nothing alternative

**This project will not change current limitations on development.** The Special Policy Area designation and planning permit requirements will remain in effect.

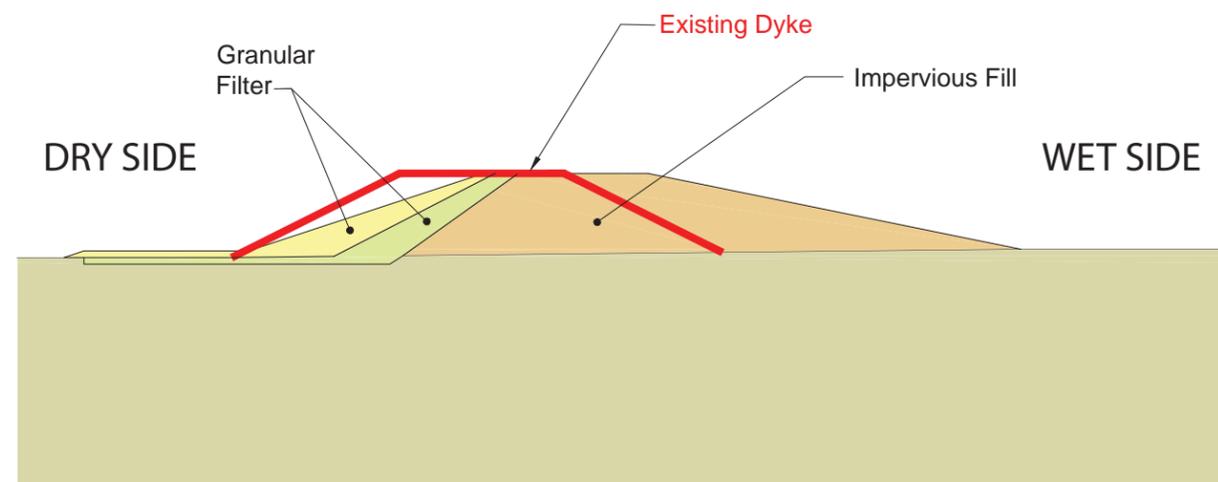
# PRELIMINARY ALTERNATIVE SOLUTIONS

## 1 'Soft' Engineering Solution (Embankment)



Rehabilitation of the existing flood protection structure with a softer, more natural looking, stable berm.

**Example:** earth embankment with stable slopes.



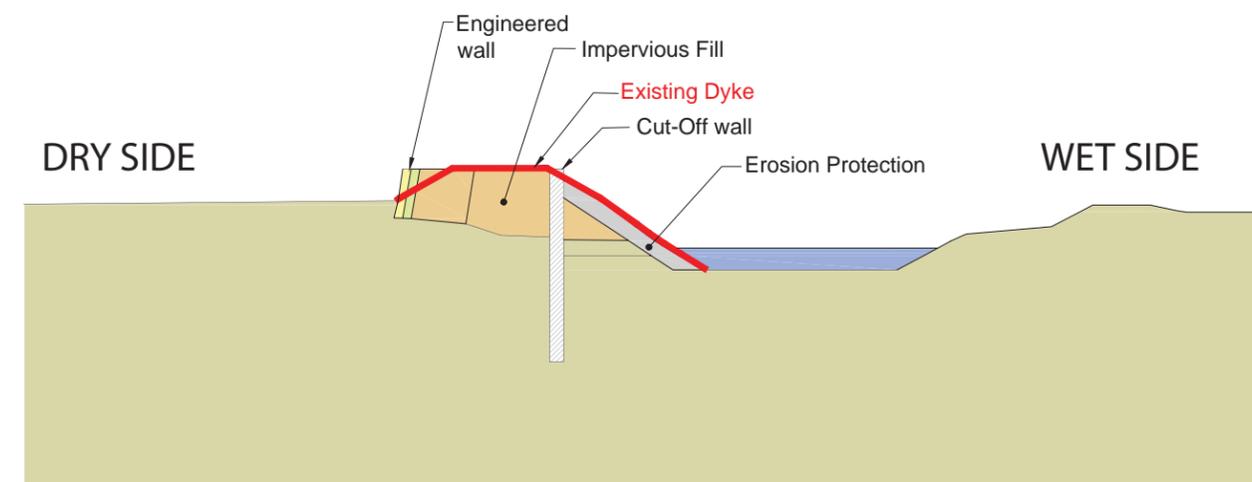
Example Cross-Section (not the exact solution)

## 2 'Hard' Engineering Solution (Structural)



Rehabilitation of the existing flood protection structure with a highly engineered structural solution.

**Example:** retaining walls and/or seepage-cutoff methods.



Example Cross-Section (not the exact solution)

# PRELIMINARY ALTERNATIVE SOLUTIONS

## 3 Do “Nothing”

Does not mitigate current risk of flooding that would occur during a dyke failure.

Ongoing repair works required as conditions degrade.

Impacts of a dyke failure included in evaluation.

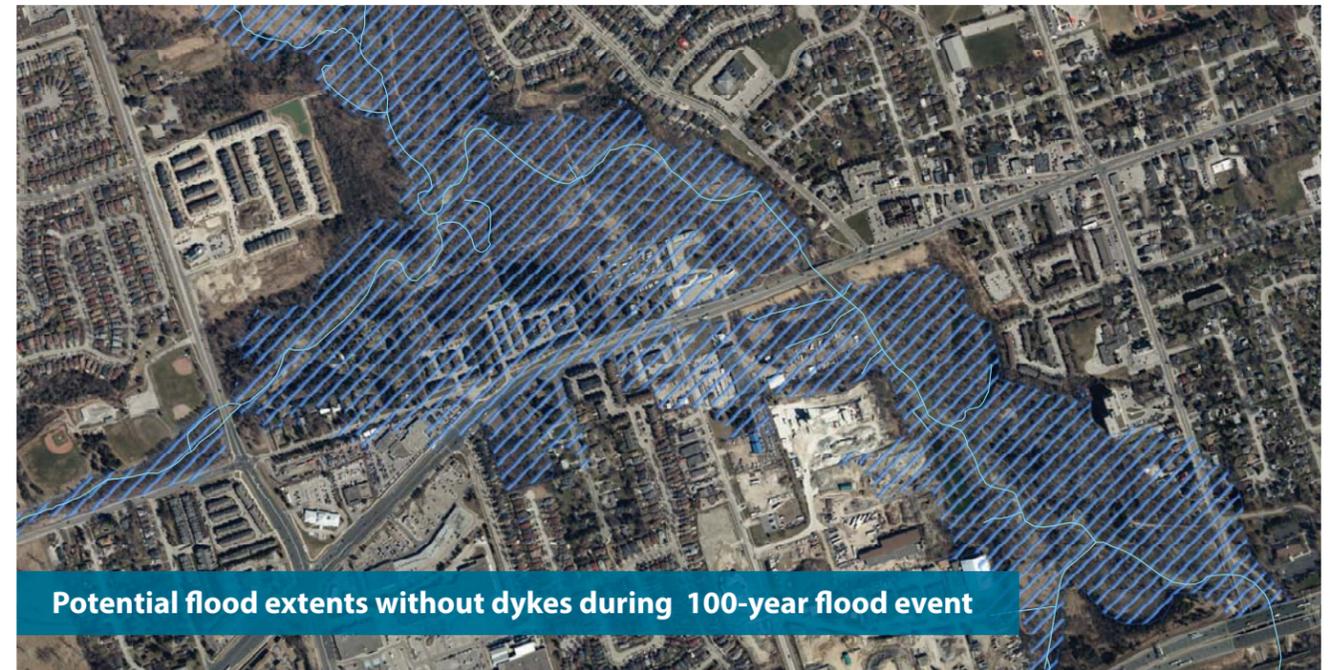
## 4 Removal of Vegetation on Existing Flood Protection Structure

Rehabilitation of the existing flood protection structure by the removal of all vegetation within the limits of the dykes.

However, this does not meet current engineering design standards.

## 5 Removal of Existing Flood Protection Structure

Decommissioning and removal of the existing flood protection structure. However, this does not provide flood protection.



# SCREENING OF ALTERNATIVE SOLUTIONS

Alternative solutions were screened to determine if they could address the problem and objective of project. Those that could not were dropped from further consideration.

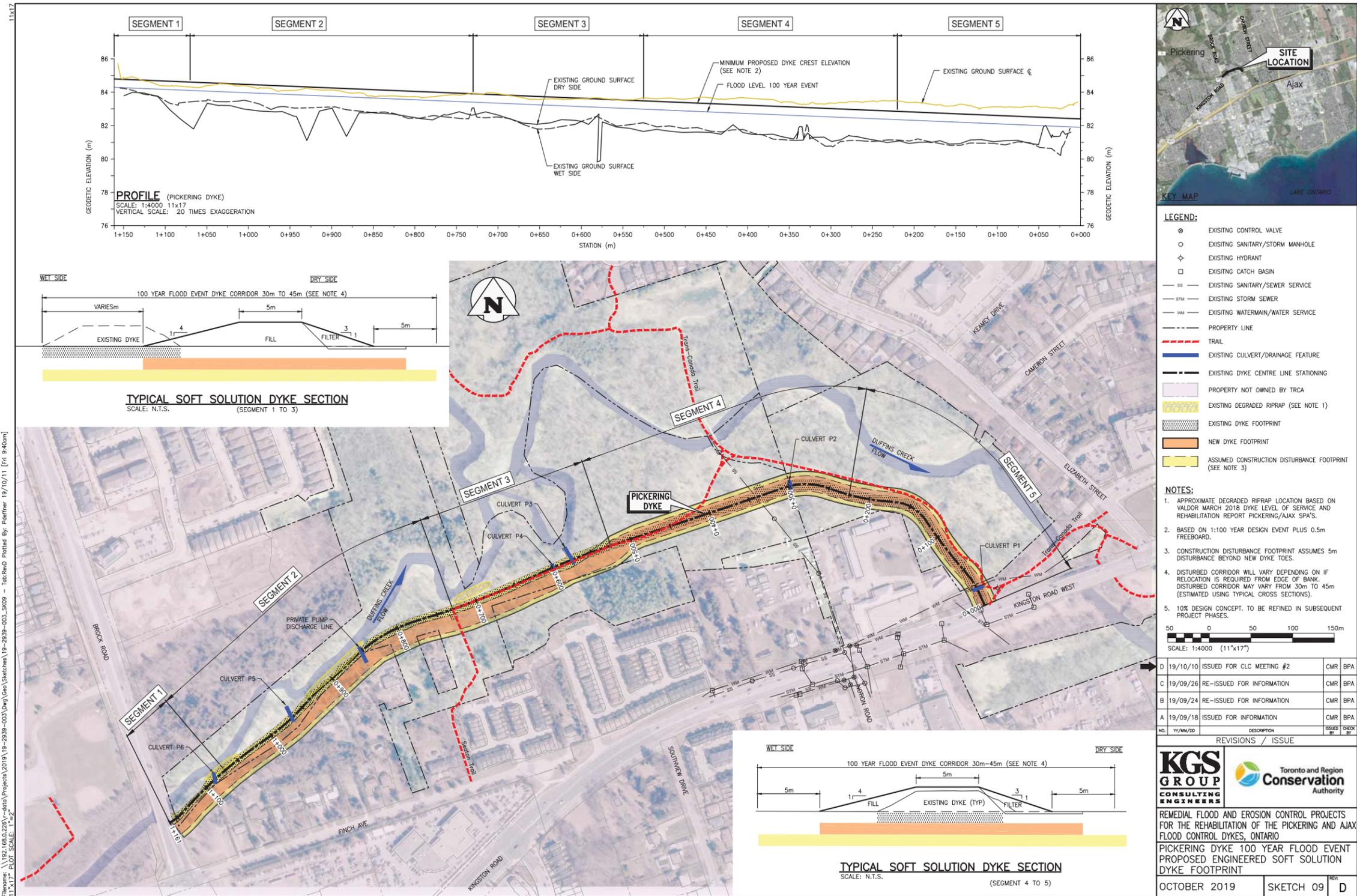
## SCREENING QUESTIONS

1. Does this alternative ensure the performance of flood protection at the current crest levels, at minimum?
2. Does it meet current engineering design standards?

ALTERNATIVE SOLUTIONS	ANSWER TO SCREENING QUESTIONS	
	Pickering Dyke	Ajax Dyke
1a. 'Soft' Engineering Solution – 50 storm year event	No	Yes
1b. 'Soft' Engineering Solution – 100 storm year event	Yes	Yes
1c. 'Soft' Engineering Solution – 500 storm year event	No	No
2a. 'Hard' Engineering Solution – 50 storm year event	No	Yes
2b. 'Hard' Engineering Solution – 100 storm year event	Yes	Yes
2c. 'Hard' Engineering Solution – 500 storm year event	No	No
3. Do Nothing Alternative	No	No
4. Removal of Vegetation on Existing Flood Protection Structure	No	No
5. Removal of Existing Flood Protection Structure	No	No

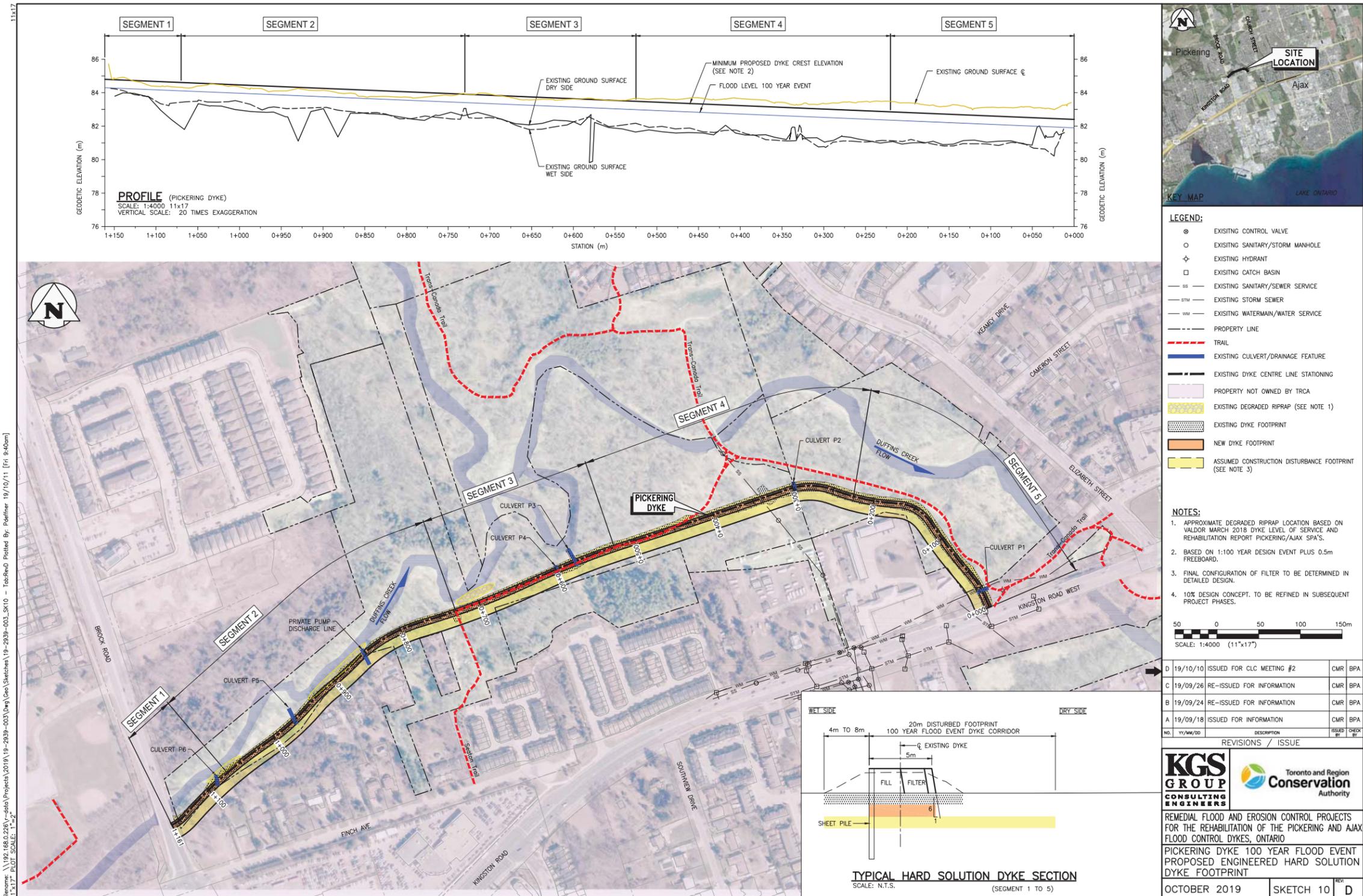
# CONCEPTUAL DYKE REHABILITATION PLAN

## - PICKERING DYKE 'SOFT' ENGINEERING SOLUTION



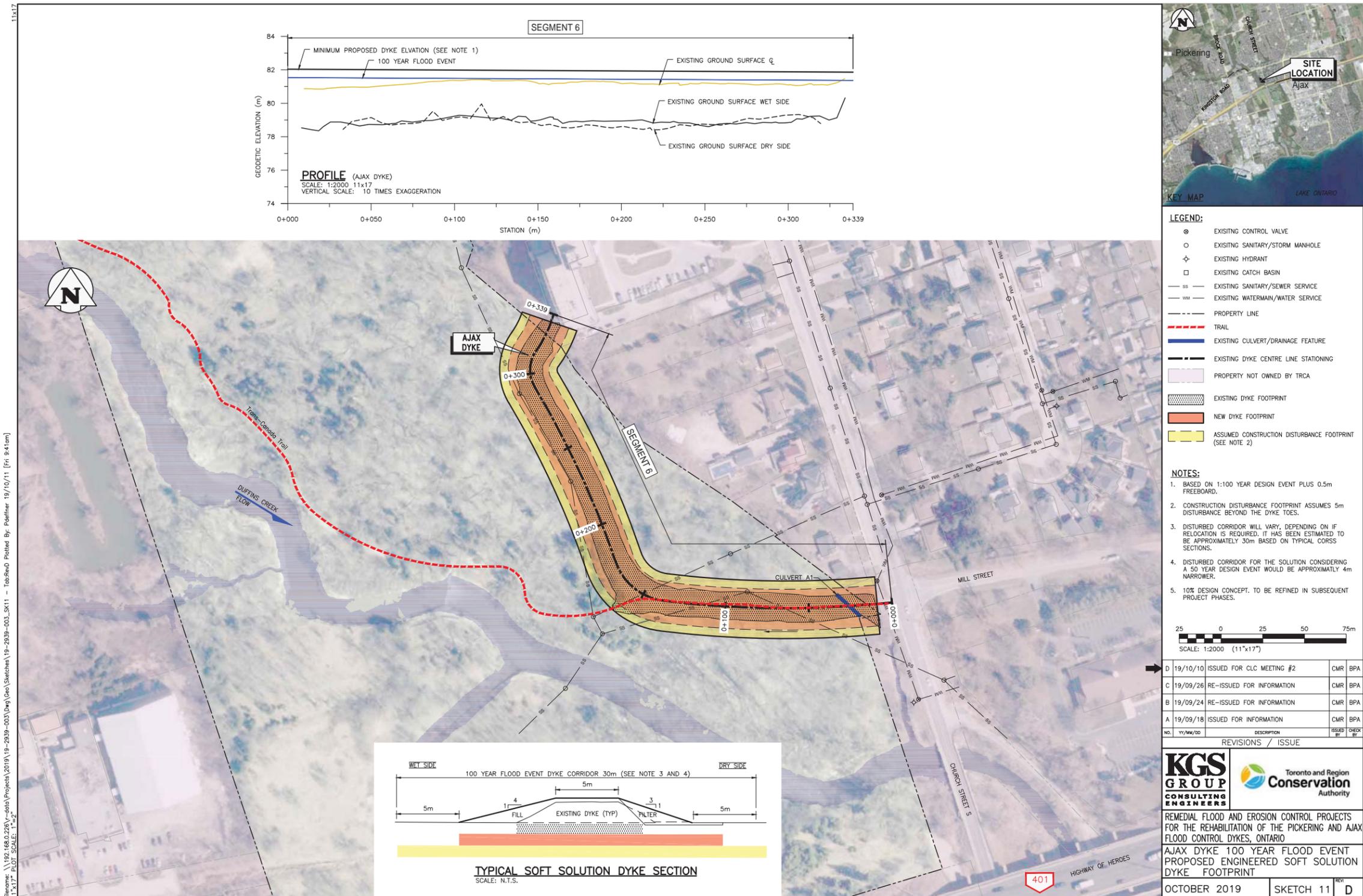
# CONCEPTUAL DYKE REHABILITATION PLAN

## - PICKERING DYKE 'HARD' ENGINEERING SOLUTION



# CONCEPTUAL DYKE REHABILITATION PLAN

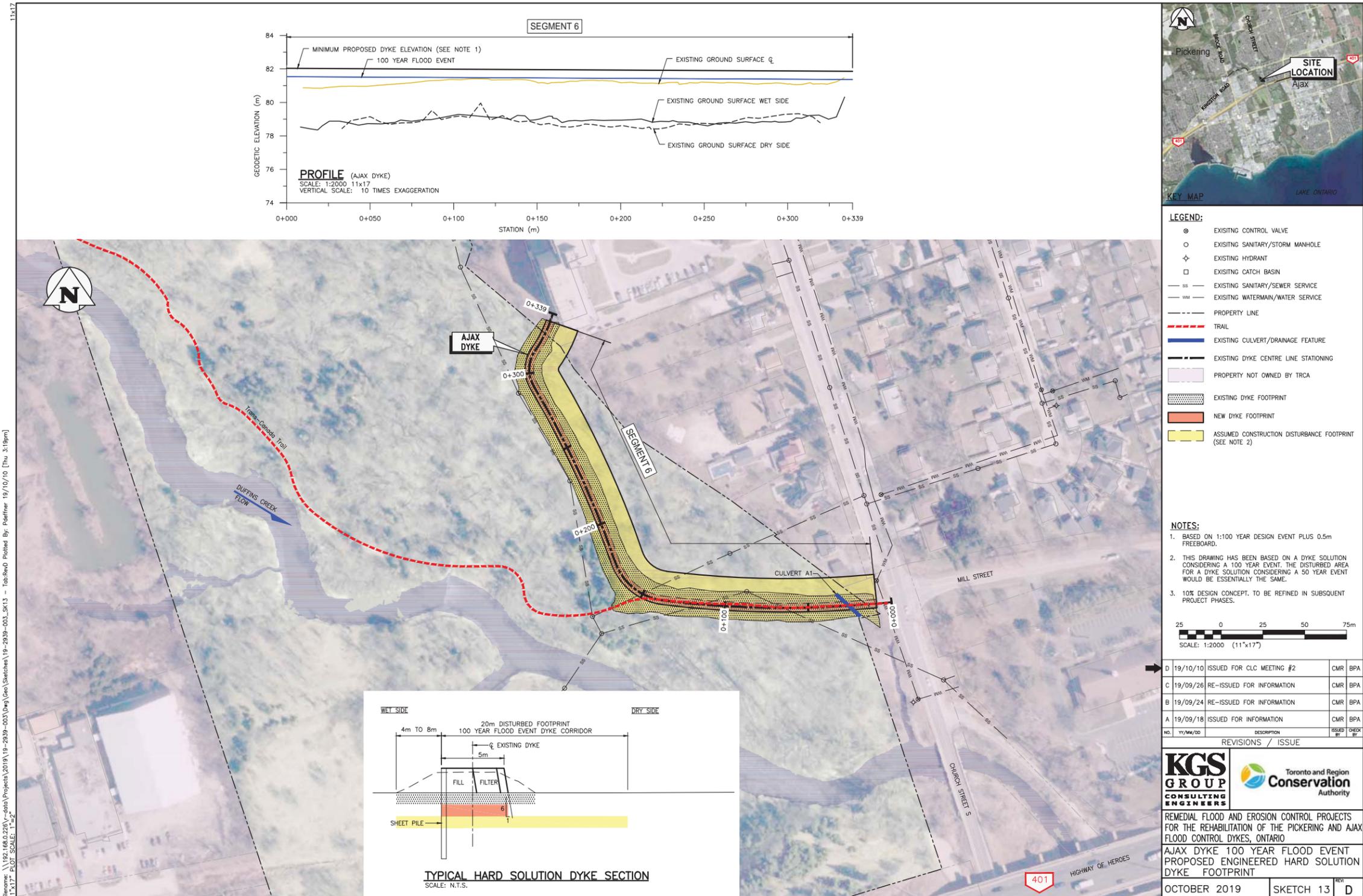
## - AJAX DYKE 'SOFT' ENGINEERING SOLUTION



Filepath: \\192.168.0.206\c-data\Projects\2019\19-2939-003\Draw\Sketches\19-2939-003\_Sk11 - Tab\RevD Plotted By: PdfPrinter 19/10/11 [Fri 8:41am] 11"x17" PLOT SCALE: 1"=2'

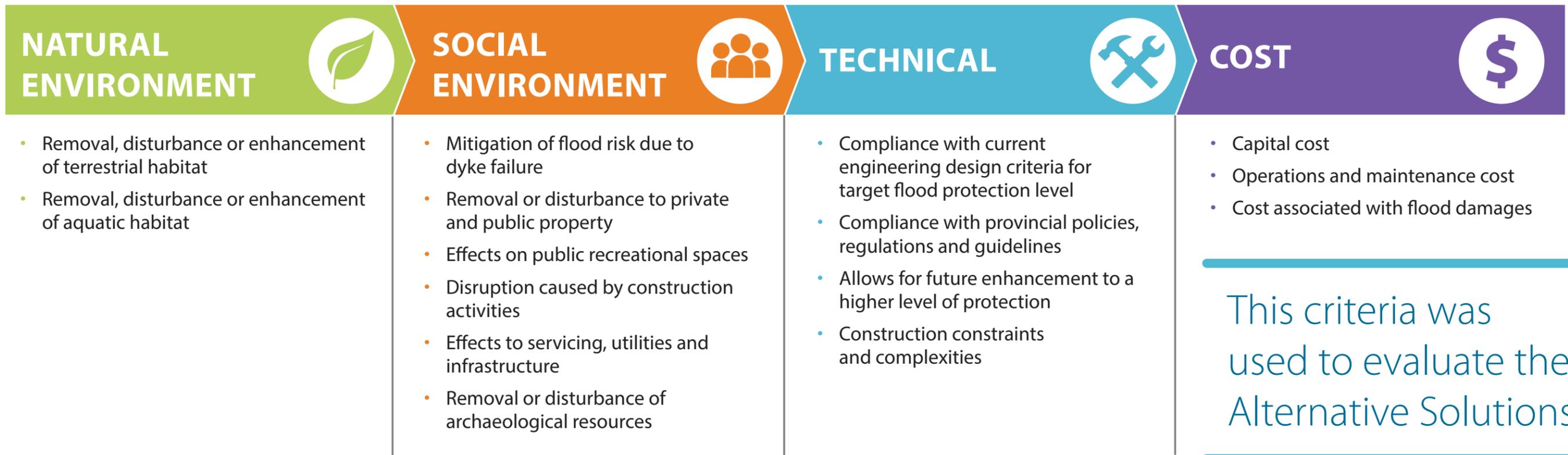
# CONCEPTUAL DYKE REHABILITATION PLAN

## - AJAX DYKE 'HARD' ENGINEERING SOLUTION



# HOW WILL WE CHOOSE THE BEST OPTION?

## PRELIMINARY EVALUATION CRITERIA



## ASSUMPTIONS

### Special Policy Area (SPA)

All Alternative Solutions will not change current limitations on development.

### Erosion Control

All Alternative Solutions will require channel erosion control along the channel bank within the western portion of the Pickering Dyke.

### Construction Conditions

All Alternative Solutions will require full reconstruction of the dykes. Areas of disturbance adjacent to the footprint of the alternatives have been assumed based on typical construction methods.

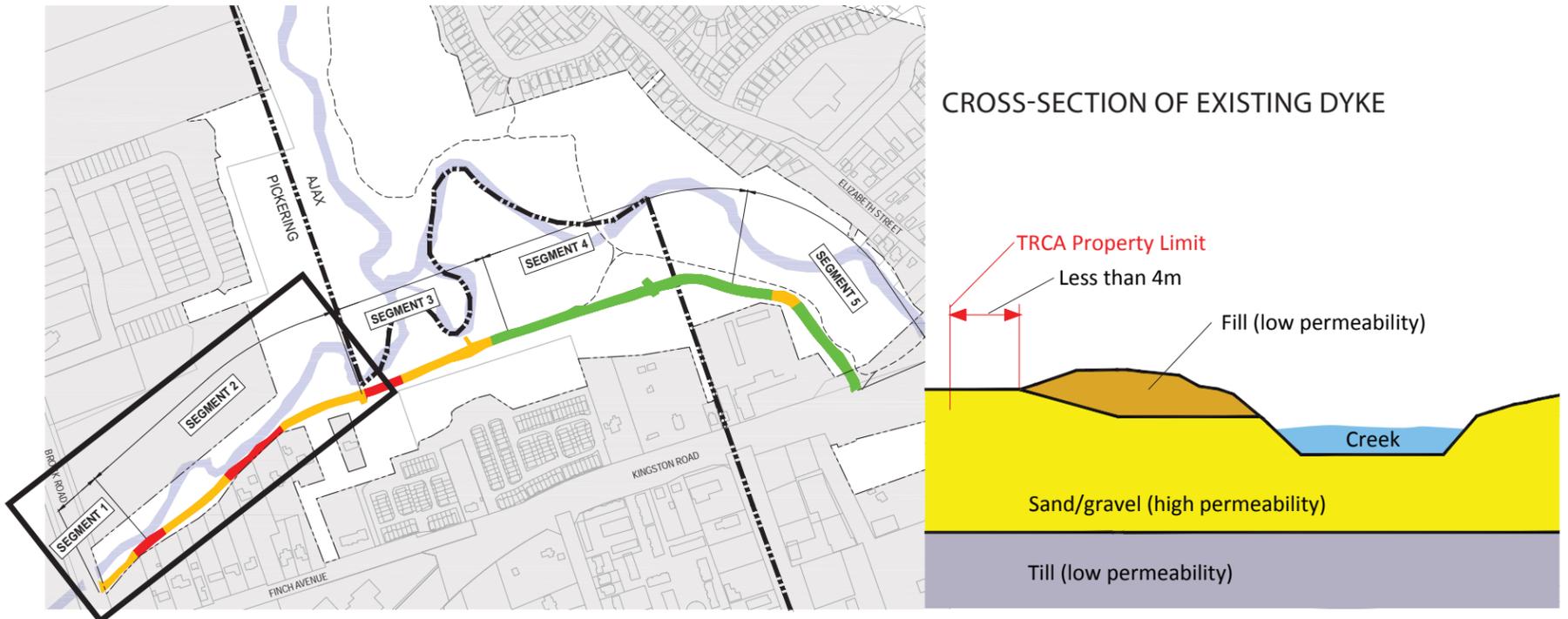
### Natural Environment

All Alternative Solutions will include restoration plans. These will be assessed during the next phase of the study.

### Infrastructure Changes

All Alternative Solutions will require modification to existing trails and surface drainage infrastructure. Effects on underground utilities varies for the different Alternative Solutions.

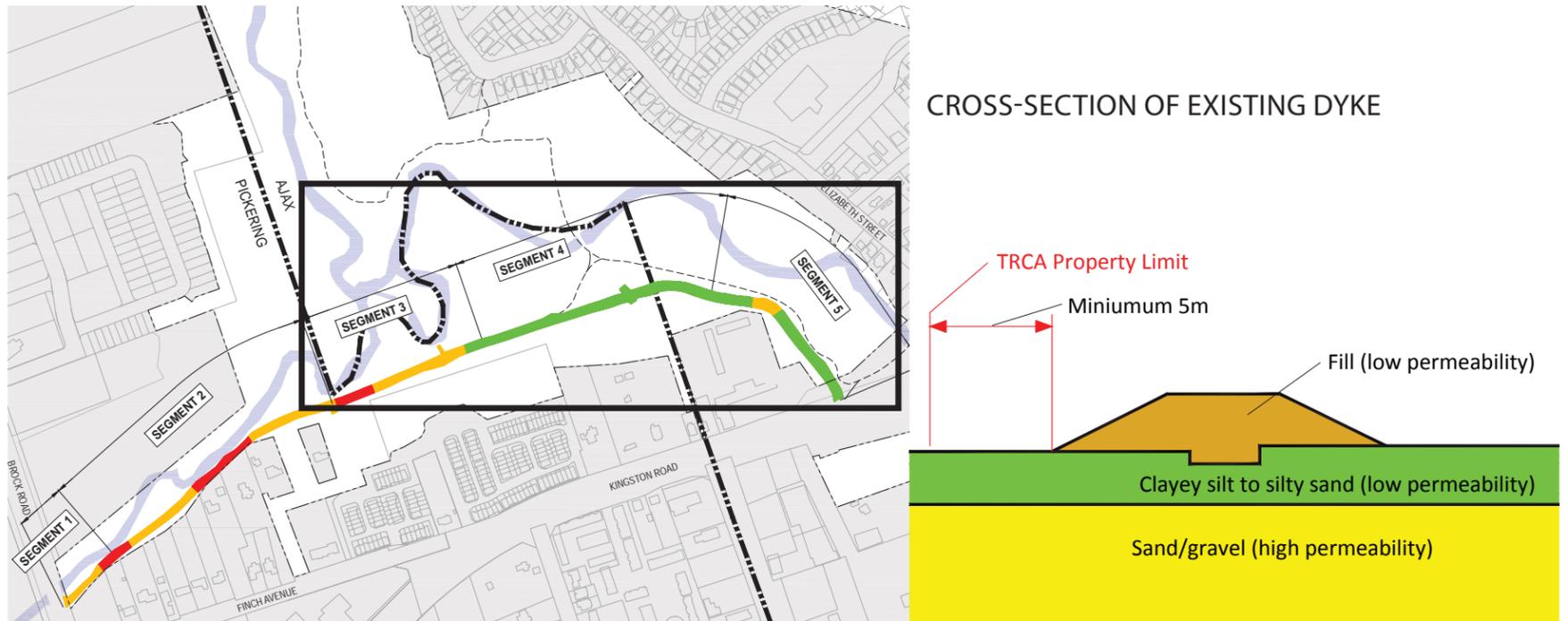
# EVALUATED ALTERNATIVE SOLUTIONS



	ADVANTAGES	DISADVANTAGES
1. 'Soft' Engineering Solution - 100 Year Storm Event	<ul style="list-style-type: none"> <li>• Addresses dyke deficiencies</li> <li>• Can enhance public access</li> <li>• <b>Lower capital cost</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Requires private land acquisition</b></li> <li>• Construction disturbance</li> <li>• <b>Largest disturbance area;</b> effects terrestrial and potential archaeological resources</li> </ul>
2. 'Hard' Engineering Solution - 100 Year Storm Event	<ul style="list-style-type: none"> <li>• Addresses dyke deficiencies</li> <li>• Can enhance public access</li> <li>• Reduces impact to surroundings and <b>minimizes private land acquisition</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Higher capital cost</b></li> <li>• Construction disturbance</li> <li>• Disturbance to archaeological resources</li> <li>• More complex construction</li> </ul>
3. "Do Nothing" Alternative	<ul style="list-style-type: none"> <li>• No property acquisitions required</li> <li>• No immediate construction disturbance</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Does not address dyke deficiencies</b> <ul style="list-style-type: none"> <li>- Bank erosion</li> <li>- <b>Risk to life and property</b></li> <li>- Public recreational spaces vulnerable</li> </ul> </li> <li>• Ongoing repair works required</li> </ul>

# EVALUATED ALTERNATIVE SOLUTIONS

## PICKERING DYKE SEGMENTS 3, 4 and 5



	ADVANTAGES	DISADVANTAGES
1. 'Soft' Engineering Solution - 100 Year Storm Event	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li>No property acquisitions required</li> <li><b>Lower capital cost</b></li> </ul>	<ul style="list-style-type: none"> <li>Construction disturbance</li> <li><b>Largest disturbance area;</b> effects terrestrial and potential archaeological resources</li> </ul>
2. 'Hard' Engineering Solution - 100 Year Storm Event	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li>No property acquisitions required</li> </ul>	<ul style="list-style-type: none"> <li><b>Higher capital cost</b></li> <li>Construction disturbance</li> <li>Disturbance to archaeological and terrestrial resources</li> <li>More complex construction</li> <li><b>Interaction with underground utilities</b></li> </ul>
3. "Do Nothing" Alternative	<ul style="list-style-type: none"> <li>No property acquisitions required</li> <li>No immediate construction disturbance</li> </ul>	<ul style="list-style-type: none"> <li><b>Does not address dyke deficiencies</b> <ul style="list-style-type: none"> <li>Bank erosion</li> <li><b>Risk to life and property</b></li> <li>Public recreational spaces vulnerable</li> </ul> </li> <li>Ongoing repair works required</li> </ul>

# EVALUATED ALTERNATIVE SOLUTIONS

## AJAX DYKE SEGMENT 6

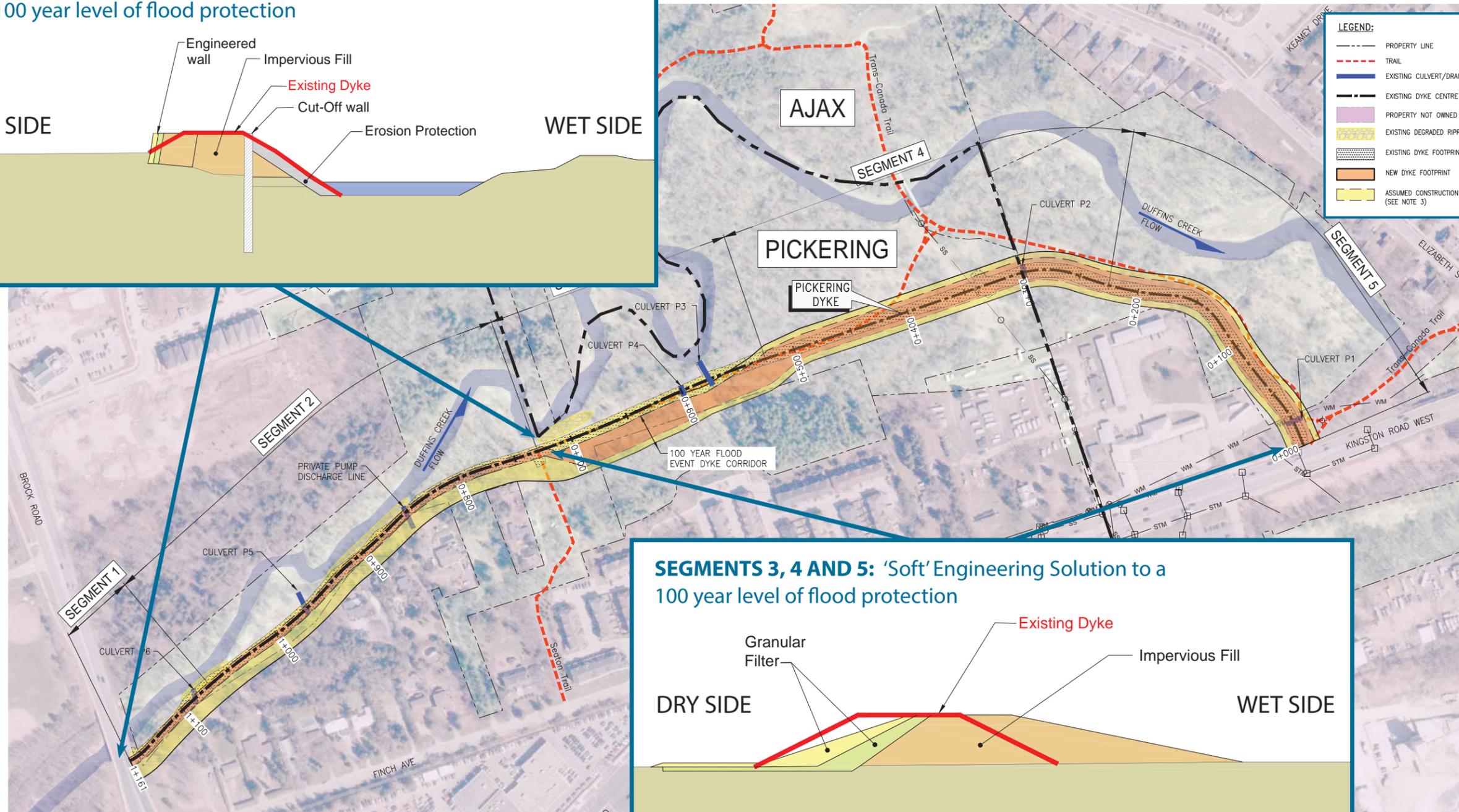
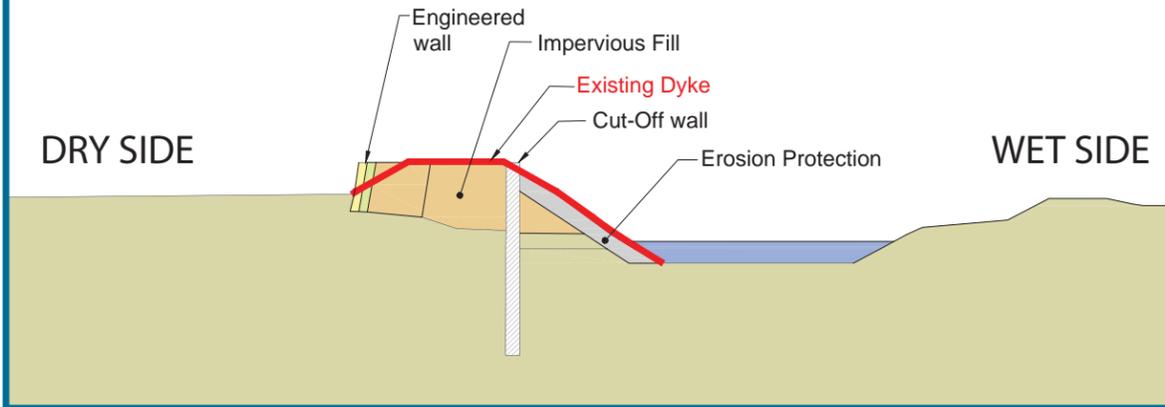


	ADVANTAGES	DISADVANTAGES
<b>1a. 'Soft' Engineering Solution - 50 Year Storm Event</b>	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li><b>Lowest capital cost</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Large disturbance area;</b> effects terrestrial and potential archaeological resources</li> </ul>
<b>1b. 'Soft' Engineering Solution - 100 Year Storm Event</b>	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li><b>Highest level of flood protection</b></li> <li><b>Low capital cost</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Largest disturbance area;</b> effects terrestrial and potential archaeological resources</li> </ul>
<b>2a. 'Hard' Engineering Solution - 50 Year Storm Event</b>	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li>Reduced impacts to vegetation communities</li> </ul>	<ul style="list-style-type: none"> <li><b>Higher construction cost</b></li> <li>Construction disturbance</li> <li>Moderate disturbance area; effects terrestrial and potential archaeological resources</li> <li>More complex construction and <b>interaction with underground utilities</b></li> </ul>
<b>2b. 'Hard' Engineering Solution - 100 Year Storm Event</b>	<ul style="list-style-type: none"> <li>Addresses dyke deficiencies</li> <li><b>Highest level of flood protection</b></li> <li>Reduced impacts to vegetation communities</li> </ul>	<ul style="list-style-type: none"> <li><b>Highest construction cost</b></li> <li>Construction disturbance</li> <li>Moderate disturbance area; effects terrestrial and potential archaeological resources</li> <li>More complex construction and <b>Interaction with underground utilities</b></li> </ul>
<b>3. "Do Nothing" Alternative</b>	<ul style="list-style-type: none"> <li>No property acquisitions required</li> <li>No immediate construction disturbance</li> </ul>	<ul style="list-style-type: none"> <li><b>Does not address dyke deficiencies</b></li> <li>- <b>Risk to life and property</b></li> <li>- Public recreational spaces vulnerable</li> <li>Ongoing repair works required</li> </ul>

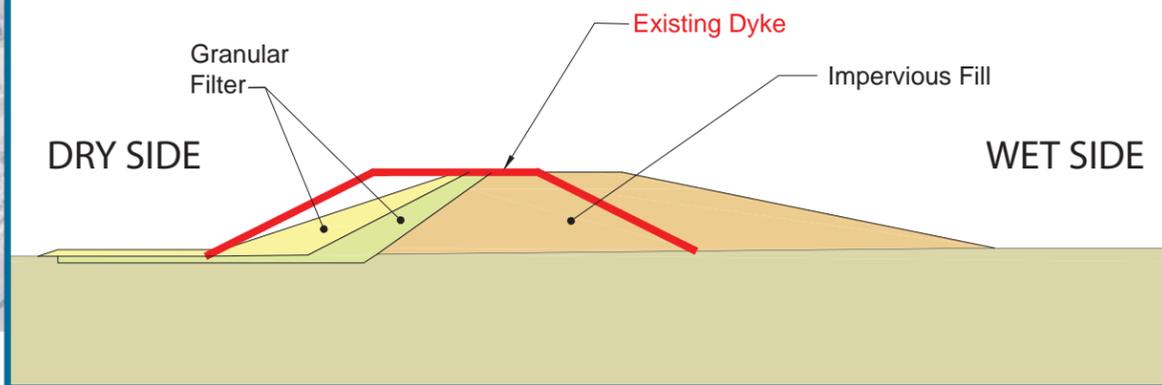
# PRELIMINARY PREFERRED ALTERNATIVE SOLUTION

## PICKERING DYKE

### SEGMENTS 1 AND 2: 'Hard' Engineering Solution to a 100 year level of flood protection

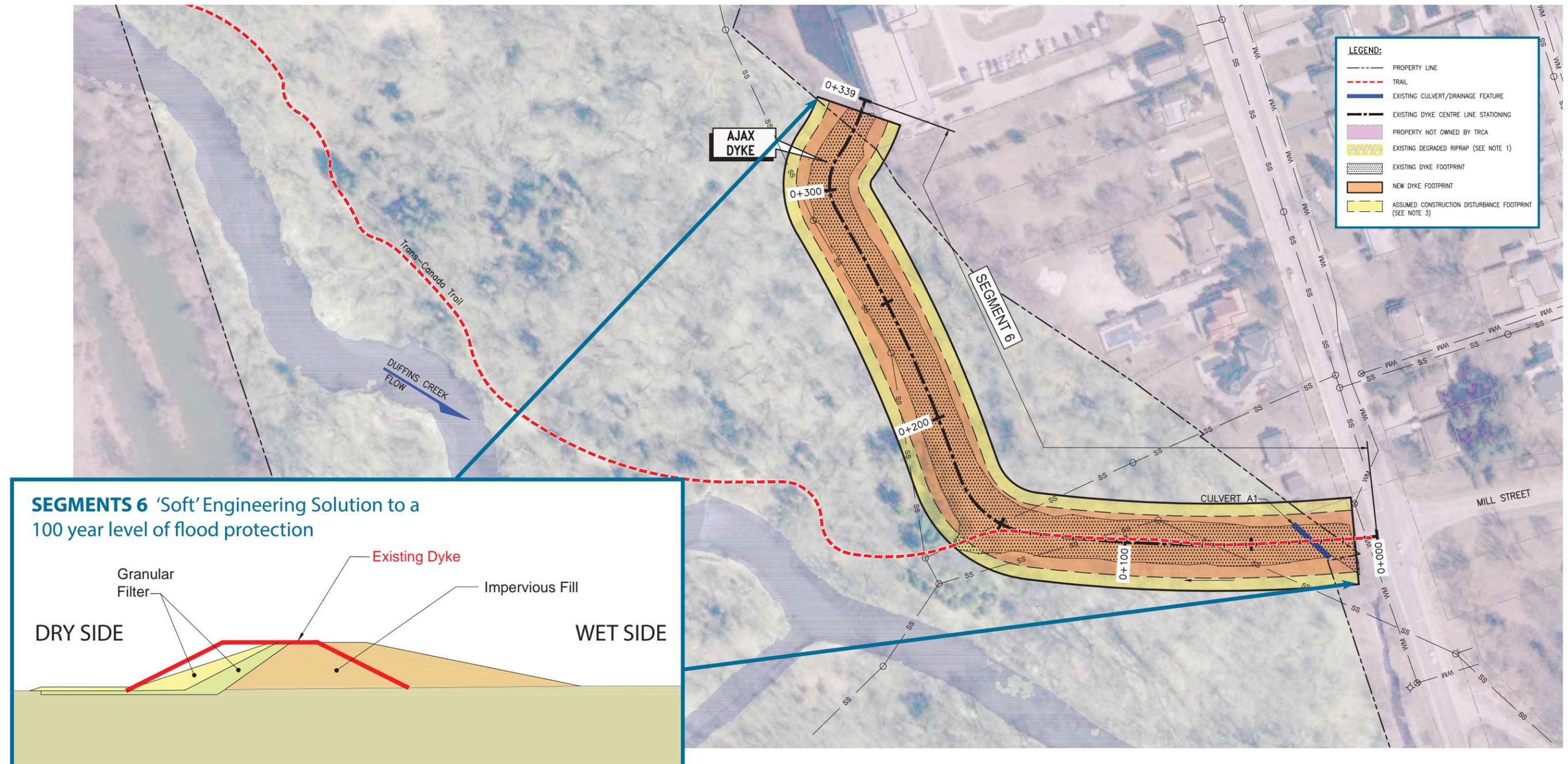


### SEGMENTS 3, 4 AND 5: 'Soft' Engineering Solution to a 100 year level of flood protection



# PRELIMINARY PREFERRED ALTERNATIVE SOLUTION

## AJAX DYKE



# NEXT STEPS

## Next Stage of the Environmental Assessment will include the following:

**Refine Evaluation and selection of the Preferred Alternative Solution based on feedback received tonight.**

### **Develop Alternative Design Concepts which includes:**

- Refining the Preferred Alternative Solution to minimize impacts.
- More detailed consideration of changes to infrastructure including underground utilities.
- More detailed modeling to refine design of flood protection works to withstand flooding
- Refining of dyke location to minimize impacts and costs.

**Alternative Design Concepts and evaluation criteria will be brought back to the public for comment in February 2020.**

**On-going consultation with agencies, landowners and other stakeholders**



# THANK YOU

We appreciate the time you have taken to learn more about the Pickering and Ajax Dykes Rehabilitation EA. Your input is important for the success of the EA process. Please provide your input.

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## HOW TO STAY CONNECTED:

- Next PIC meeting: February 2020
- Send us your comments or questions. Email us at [PADR@trca.ca](mailto:PADR@trca.ca)
- **Join our mailing list** – leave us your email or mailing address if you would like to be keep up to date as the study progresses

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Contact the Project Team with any additional comments or questions at any time:

### **PADR EA Project Coordinator**

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

[www.trca.ca/PADR](http://www.trca.ca/PADR)

PHONE: 416-661-6600 ext. 5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON



# SUMMARY EVALUATION OF ALTERNATIVE SOLUTIONS

## SEGMENTS 1 AND 2 – PICKERING DYKE

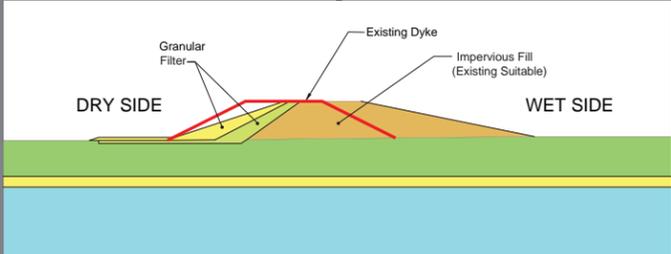
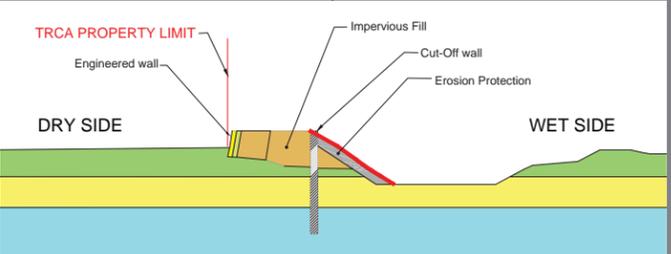
EVALUATION CRITERIA	ALTERNATIVE 1: 'SOFT' ENGINEERING SOLUTION – 100 Y	ALTERNATIVE 2: 'HARD' ENGINEERING SOLUTION - 100 Y	ALTERNATIVE 3: DO-NOTHING
<b>SOCIAL ENVIRONMENT</b>			
Mitigation of flood risk due to dyke failure	<ul style="list-style-type: none"> <li>Mitigates flood risk by addressing slope stability and seepage deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>Mitigates flood risk by addressing slope stability and seepage deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>Dyke deficiencies remain</li> <li>Risk of impact to several properties and people's safety</li> </ul>
Removal or disturbance to private and public property	<ul style="list-style-type: none"> <li>Requires potential easements or acquisitions of private properties</li> </ul>	<ul style="list-style-type: none"> <li>No permanent impact to private property but temporary disturbance during construction</li> <li>Potential need for long-term maintenance easement</li> </ul>	<ul style="list-style-type: none"> <li>No immediate impacts to private or public property</li> <li>Potential for moderate property damage associated with dyke failure</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>Temporary disturbance to informal trail</li> <li>Opportunities for permanent trail improvements</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disturbance to informal trail</li> <li>Opportunities for permanent trail improvements</li> </ul>	<ul style="list-style-type: none"> <li>Does not enhance public recreational spaces</li> <li>Moderate impacts if dyke fails</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>Disturbance within and outside of existing dyke footprint</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Disturbance within and outside of existing dyke footprint</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction impacts</li> <li>Increased need for future repair work with associated construction disturbance</li> </ul>
Effects to servicing, utilities, and infrastructure	<ul style="list-style-type: none"> <li>Potential unknown private utilities could be impacted</li> </ul>	<ul style="list-style-type: none"> <li>Potential unknown private utilities could be impacted</li> </ul>	<ul style="list-style-type: none"> <li>No impact on servicing and utilities</li> <li>Dyke failure would flood roads and could cause damages</li> </ul>
Removal or disturbance of archaeological resources	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance or removal of potential archaeological resources</li> </ul>
SUMMARY	LEAST PREFERRED	MOST PREFERRED	MODERATELY PREFERRED
<b>NATURAL ENVIRONMENT</b>			
Removal, disturbance, or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Established vegetation within and outside of the dyke footprint would be disturbed</li> <li>Larger disturbance area than the 'hard' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Established vegetation within and outside of the dyke footprint would be disturbed</li> <li>Smaller disturbance area than the 'soft' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>No immediate disturbance from construction</li> <li>Dyke failure could result in localized disturbance and habitat loss</li> </ul>
Removal, disturbance, or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>Temporary disruption of creek banks due to construction</li> <li>Opportunities for fish habitat and riparian enhancement</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disruption of creek banks due to construction</li> <li>Opportunities for fish habitat and riparian enhancement</li> </ul>	<ul style="list-style-type: none"> <li>No immediate disturbance from construction</li> <li>Risk of channel bank erosion persists</li> <li>Dyke failure could cause localized disturbance and send debris and sediment into the creek</li> </ul>
SUMMARY	LEAST PREFERRED	MOST PREFERRED	MODERATELY PREFERRED
<b>TECHNICAL ENVIRONMENT</b>			
Compliant with current engineering design criteria for target flood protection level	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria</li> </ul>	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria</li> </ul>	<ul style="list-style-type: none"> <li>Current dyke does not satisfy engineering design criteria</li> <li>Risk of dyke failure remains</li> </ul>
Compliant with provincial, policies, regulations, and guidelines	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements</li> </ul>	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements</li> </ul>	<ul style="list-style-type: none"> <li>Does not satisfy LRIA slope stability safety factors</li> </ul>
Allows for future enhancement to a higher level of protection	<ul style="list-style-type: none"> <li>Allows for future upgrades to a higher level of protection</li> </ul>	<ul style="list-style-type: none"> <li>Allows for upgrades to a higher level of protection; more complex as structural modifications would be needed</li> </ul>	<ul style="list-style-type: none"> <li>Dykes in their current state do not satisfy engineering standards, and do not provide opportunity for enhancement</li> </ul>
Construction constraints and complexities	<ul style="list-style-type: none"> <li>Allows for future upgrades to a higher level of protection</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction operation, including cranes and pile driving hammers than for the 'soft' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Moderate potential for significant future repairs</li> <li>Repairs could be more complex due to access restrictions</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
<b>COST</b>			
Capital cost	<ul style="list-style-type: none"> <li>Moderate construction costs</li> <li>Greatest amount of property easements or acquisitions needed resulting in significant cost</li> </ul>	<ul style="list-style-type: none"> <li>Highest construction cost</li> <li>Lesser amount of property easements or acquisitions needed</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction costs, however future repair costs</li> <li>No additional property needed</li> </ul>
Cost of flood damages	<ul style="list-style-type: none"> <li>Lower potential flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Lower potential flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Higher potential flood damage costs</li> </ul>
Operations and maintenance cost	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Higher slope maintenance costs than the 'hard' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Lowest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Highest potential costs associated with dyke repair</li> </ul>
SUMMARY	MODERATELY PREFERRED	MOST PREFERRED	LEAST PREFERRED
<b>OVERALL</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>

# SUMMARY EVALUATION OF ALTERNATIVE SOLUTIONS

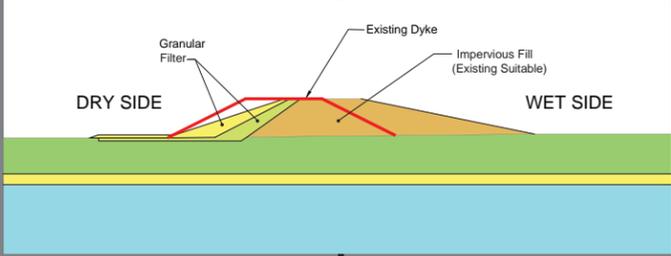
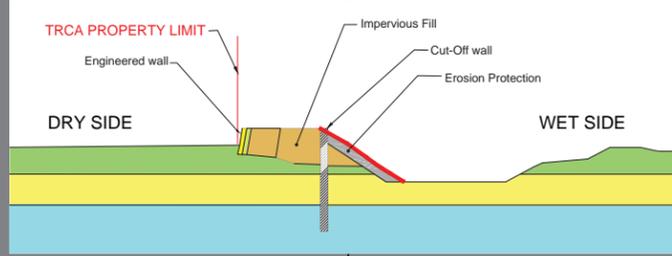
## SEGMENTS 3, 4 AND 5 – PICKERING DYKE

EVALUATION CRITERIA	ALTERNATIVE 1: 'SOFT' ENGINEERING SOLUTION – 100 Y	ALTERNATIVE 2: 'HARD' ENGINEERING SOLUTION - 100 Y	ALTERNATIVE 3: DO-NOTHING
<b>SOCIAL ENVIRONMENT</b>			
Mitigation of flood risk due to dyke failure	<ul style="list-style-type: none"> <li>Mitigates flood risk by addressing slope stability and seepage deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>Mitigates flood risk by addressing slope stability and seepage deficiencies</li> </ul>	<ul style="list-style-type: none"> <li>Dyke deficiencies remain</li> <li>Risk of impact to several properties and people's safety</li> </ul>
Removal or disturbance to private and public property	<ul style="list-style-type: none"> <li>Avoids impacts to private property due to available space</li> </ul>	<ul style="list-style-type: none"> <li>Avoids impacts to private property due to available space</li> </ul>	<ul style="list-style-type: none"> <li>No immediate impacts to private or public property</li> <li>Potential for moderate property damage associated with dyke failure</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction</li> <li>Opportunities for permanent trail improvements</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction</li> <li>Opportunities for permanent trail improvements</li> </ul>	<ul style="list-style-type: none"> <li>Does not enhance public recreational spaces</li> <li>Moderate impacts if dyke fails</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>Disturbance within and outside of existing dyke footprint</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Disturbance within and outside of existing dyke footprint</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction impacts</li> <li>Increased need for future repair work with associated construction disturbance</li> </ul>
Effects to servicing, utilities, and infrastructure	<ul style="list-style-type: none"> <li>Due to shallower excavation there would be less opportunity for conflict with underground utilities than for the 'hard' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Deep sheet pile solution introduces more potential for conflict with underground utilities but these can be resolved as part of the design of the solution</li> <li>Design complexity to accommodate surface drainage</li> </ul>	<ul style="list-style-type: none"> <li>No impact on servicing and utilities</li> <li>Dyke failure would flood roads and could cause damages</li> </ul>
Removal or disturbance of archaeological resources	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance or removal of potential archaeological resources</li> </ul>
SUMMARY	MODERATELY PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
<b>NATURAL ENVIRONMENT</b>			
Removal, disturbance, or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Established vegetation within and outside of the dyke footprint would be disturbed</li> <li>Larger disturbance area than the 'hard' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Established vegetation within and outside of the dyke footprint would be disturbed</li> <li>Smaller disturbance area than the 'soft' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>No immediate disturbance from construction</li> <li>Dyke failure could result in localized disturbance and habitat loss</li> </ul>
Removal, disturbance, or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek</li> <li>Minimal impacts to aquatic habitat</li> </ul>	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek</li> <li>Minimal impacts to aquatic habitat</li> </ul>	<ul style="list-style-type: none"> <li>Risk of channel bank erosion persists on a limited section of the creek</li> </ul>
SUMMARY	LEAST PREFERRED	MODERATELY PREFERRED	MOST PREFERRED
<b>TECHNICAL ENVIRONMENT</b>			
Compliant with current engineering design criteria for target flood protection level	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria</li> </ul>	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria</li> </ul>	<ul style="list-style-type: none"> <li>Current dyke does not satisfy engineering design criteria; risk of failure remains</li> </ul>
Compliant with provincial, policies, regulations, and guidelines	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements</li> </ul>	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements</li> </ul>	<ul style="list-style-type: none"> <li>Does not satisfy LRIA slope stability safety factors</li> </ul>
Allows for future enhancement to a higher level of protection	<ul style="list-style-type: none"> <li>Allows for future upgrades to a higher level of protection</li> </ul>	<ul style="list-style-type: none"> <li>Allows for upgrades to a higher level of protection; more complex as structural modifications would be needed</li> </ul>	<ul style="list-style-type: none"> <li>Dykes in their current state do not satisfy engineering standards and do not provide opportunity for enhancement</li> </ul>
Construction constraints and complexities	<ul style="list-style-type: none"> <li>Standard equipment and construction methods required</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction operation, including cranes and pile driving hammers than for the 'soft' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Moderate potential for significant future repairs</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
<b>COST</b>			
Capital cost	<ul style="list-style-type: none"> <li>Moderate construction costs</li> </ul>	<ul style="list-style-type: none"> <li>Highest construction cost</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction costs, however future repair costs</li> </ul>
Cost of flood damages	<ul style="list-style-type: none"> <li>Lower potential flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Lower potential flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Higher potential flood damage costs</li> </ul>
Operations and maintenance cost	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Higher slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Lowest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required</li> <li>Highest potential costs associated with dyke repair</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
<b>OVERALL</b>	<b>MOST PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>LEAST PREFERRED</b>

# SUMMARY EVALUATION OF ALTERNATIVE SOLUTIONS – SEGMENT 6 - AJAX DYKE

EVALUATION CRITERIA	ALTERNATIVE 1a: 'SOFT' ENGINEERING SOLUTION – 50 Y	ALTERNATIVE 1b: 'SOFT' ENGINEERING SOLUTION – 100 Y	ALTERNATIVE 2a: 'HARD' ENGINEERING SOLUTION - 50 Y	ALTERNATIVE 2b: 'HARD' ENGINEERING SOLUTION - 100 Y	ALTERNATIVE 3: DO-NOTHING
					
<b>NATURAL ENVIRONMENT</b>					
Removal, disturbance or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Established vegetation would be disturbed on a larger area than the 'hard' engineering solutions.</li> <li>Disturbance area is narrower than for 100 year 'soft' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Established vegetation would be disturbed on a larger area than the 'hard' engineering solutions</li> </ul>	<ul style="list-style-type: none"> <li>Established vegetation would be disturbed on a smaller area than the 'soft' engineering solutions</li> </ul>	<ul style="list-style-type: none"> <li>Established vegetation would be disturbed on a smaller area than the 'soft' engineering solutions</li> </ul>	<ul style="list-style-type: none"> <li>No immediate disturbance from construction;</li> <li>Dyke failure could result in disturbance and habitat loss</li> </ul>
Removal, disturbance or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek. Minimal impacts to aquatic habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek. Minimal impacts to aquatic habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek. Minimal impacts to aquatic habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Dyke is farther away from the creek. Minimal impacts to aquatic habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Minimal or no impact on aquatic habitat.</li> </ul>
<b>SUMMARY</b>	<b>LEAST PREFERRED</b>	<b>LEAST PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>
<b>TECHNICAL ENVIRONMENT</b>					
Compliant with current engineering design criteria for target flood protection level	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Provides target flood protection level (100 year) and satisfies all engineering design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Provides target flood protection level (50 year) and satisfies all engineering design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Provides target flood protection level (50 year) and satisfies all engineering design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Current dyke does not satisfy engineering design criteria; risk of dyke failure remains.</li> </ul>
Compliant with provincial, policies, regulations and guidelines	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Satisfies LRIA slope stability and seepage requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Does not satisfy LRIA slope stability safety factors.</li> </ul>
Allows for future enhancement to a higher level of protection	<ul style="list-style-type: none"> <li>Allows for future upgrades to a higher level of protection.</li> </ul>	<ul style="list-style-type: none"> <li>Allows for future upgrades to a higher level of protection.</li> </ul>	<ul style="list-style-type: none"> <li>Allows for upgrades to a higher level of protection.</li> <li>More complex as structural modifications would be needed.</li> </ul>	<ul style="list-style-type: none"> <li>Allows for upgrades to a higher level of protection.</li> <li>More complex as structural modifications would be needed.</li> </ul>	<ul style="list-style-type: none"> <li>Dykes in their current state do not satisfy engineering standards and do not provide opportunity for enhancement.</li> </ul>
Construction constraints and complexities	<ul style="list-style-type: none"> <li>Standard equipment and construction methods required</li> </ul>	<ul style="list-style-type: none"> <li>Standard equipment and construction methods required.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction operation, including cranes and pile driving hammers than for the 'soft' engineering solutions.</li> </ul>	<ul style="list-style-type: none"> <li>More complex construction operation, including cranes and pile driving hammers, than for the 'soft' engineering solutions.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate potential for significant future repairs.</li> <li>Repairs could be more complex due to access restrictions.</li> </ul>
<b>SUMMARY</b>	<b>MOST PREFERRED</b>	<b>MOST PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>LEAST PREFERRED</b>
<b>OVERALL</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>LEAST PREFERRED</b>

# SUMMARY EVALUATION OF ALTERNATIVE SOLUTIONS – SEGMENT 6 - AJAX DYKE

EVALUATION CRITERIA	ALTERNATIVE 1a: 'SOFT' ENGINEERING SOLUTION – 50 Y	ALTERNATIVE 1b: 'SOFT' ENGINEERING SOLUTION – 100 Y	ALTERNATIVE 2a: 'HARD' ENGINEERING SOLUTION - 50 Y	ALTERNATIVE 2b: 'HARD' ENGINEERING SOLUTION - 100 Y	ALTERNATIVE 3: DO-NOTHING
					
<b>SOCIAL ENVIRONMENT</b>					
Mitigation of flood risk due to dyke failure	<ul style="list-style-type: none"> <li>Mitigates flood risk (up to 50 year event) by addressing slope stability and seepage deficiencies</li> <li>Flood protection level is less than for the 100 yr solutions</li> </ul>	<ul style="list-style-type: none"> <li>Mitigates flood risk (up to 100 year event) by addressing slope stability and seepage deficiencies</li> <li>Flood protection level is more than for the 50 yr solutions</li> </ul>	<ul style="list-style-type: none"> <li>Mitigates flood risk (up to 50 year event) by addressing slope stability and seepage deficiencies</li> <li>Flood protection level is less than for the 100 yr solutions</li> </ul>	<ul style="list-style-type: none"> <li>Mitigates flood risk (up to 100 year event) by addressing slope stability and seepage deficiencies</li> <li>Flood protection level is more than for the 50 yr solutions</li> </ul>	<ul style="list-style-type: none"> <li>Dyke deficiencies remain.</li> <li>Risk of impact to several properties and people's safety.</li> </ul>
Removal or disturbance to private and public property	<ul style="list-style-type: none"> <li>Minimal impact to private property at ends of dyke</li> </ul>	<ul style="list-style-type: none"> <li>Minimal impact to private property at ends of dyke</li> </ul>	<ul style="list-style-type: none"> <li>Minimal impact to private property at ends of dyke</li> </ul>	<ul style="list-style-type: none"> <li>Minimal impact to private property at ends of dyke</li> </ul>	<ul style="list-style-type: none"> <li>No immediate impacts to private or public property.</li> <li>Potential for property damage associated with dyke failure.</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction.</li> <li>Opportunities for permanent trail improvements.</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction.</li> <li>Opportunities for permanent trail improvements.</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction.</li> <li>Opportunities for permanent trail improvements.</li> </ul>	<ul style="list-style-type: none"> <li>Temporary disturbance to trail during construction.</li> <li>Opportunities for permanent trail improvements.</li> </ul>	<ul style="list-style-type: none"> <li>Does not enhance public recreational spaces.</li> <li>Moderate impacts if dyke fails</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>Will cause disturbance within and outside of existing dyke footprint</li> <li>Typical disruptions associated with construction (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Will cause disturbance within and outside of existing dyke footprint; largest disturbance footprint of all solutions</li> <li>Typical disruptions associated with construction (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Will cause disturbance within and outside of existing dyke footprint, however on a narrower footprint than the 'soft' engineering solutions</li> <li>Typical disruptions associated with construction (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Will cause disturbance within and outside of existing dyke footprint, however on a narrower footprint than the 'soft' engineering solutions</li> <li>Typical disruptions associated with construction (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction impacts.</li> <li>Increase need for future repair work with associated construction disturbance.</li> </ul>
Effects to servicing, utilities and infrastructure	<ul style="list-style-type: none"> <li>Due to shallower excavation there would be less opportunity for conflict with underground utilities than for the 'hard' engineering solutions</li> </ul>	<ul style="list-style-type: none"> <li>Due to shallower excavation there would be less opportunity for conflict with underground utilities than for the 'hard' engineering solution</li> </ul>	<ul style="list-style-type: none"> <li>Deep sheet pile solution introduces more potential for conflict with underground utilities but these can be resolved as part of the design of the solution</li> </ul>	<ul style="list-style-type: none"> <li>Deep sheet pile solution introduces more potential for conflict with underground utilities but these can be resolved as part of the design of the solution</li> </ul>	<ul style="list-style-type: none"> <li>No impact on servicing and utilities.</li> <li>Dyke failure would flood roads and could cause damages.</li> </ul>
Removal or disturbance of archaeological resources	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Poses potential for removal or disturbance of potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance or removal of potential archaeological resources</li> </ul>
SUMMARY	MODERATELY PREFERRED	MODERATELY PREFERRED	MODERATELY PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
<b>COST</b>					
Capital cost	<ul style="list-style-type: none"> <li>Moderate construction costs and less costly than the corresponding 'soft' 100 year solution</li> </ul>	<ul style="list-style-type: none"> <li>Moderate construction costs, but more costly than the corresponding 'soft' 50 year solution</li> </ul>	<ul style="list-style-type: none"> <li>Higher construction cost than 'soft' engineering solutions</li> </ul>	<ul style="list-style-type: none"> <li>Highest construction cost</li> </ul>	<ul style="list-style-type: none"> <li>No immediate construction costs, but greater future repair costs.</li> </ul>
Cost of flood damages	<ul style="list-style-type: none"> <li>Lower potential flood damage costs (however higher than corresponding 100 year solution)</li> </ul>	<ul style="list-style-type: none"> <li>Lowest flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Lower potential flood damage costs (however higher than corresponding 100 year solution)</li> </ul>	<ul style="list-style-type: none"> <li>Lowest flood damage costs</li> </ul>	<ul style="list-style-type: none"> <li>Highest flood damage costs</li> </ul>
Operations and maintenance cost	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required; highest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required; highest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required; lowest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required; lowest slope maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>Regular inspection and maintenance required.</li> <li>Highest potential costs associated with dyke repair.</li> </ul>
SUMMARY	MODERATELY PREFERRED	MOST PREFERRED	MODERATELY PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED

Attachment D  
PIC Meeting #1  
Presentation Material

# PICKERING AND AJAX DYKES REHABILITATION

## Class Environmental Assessment

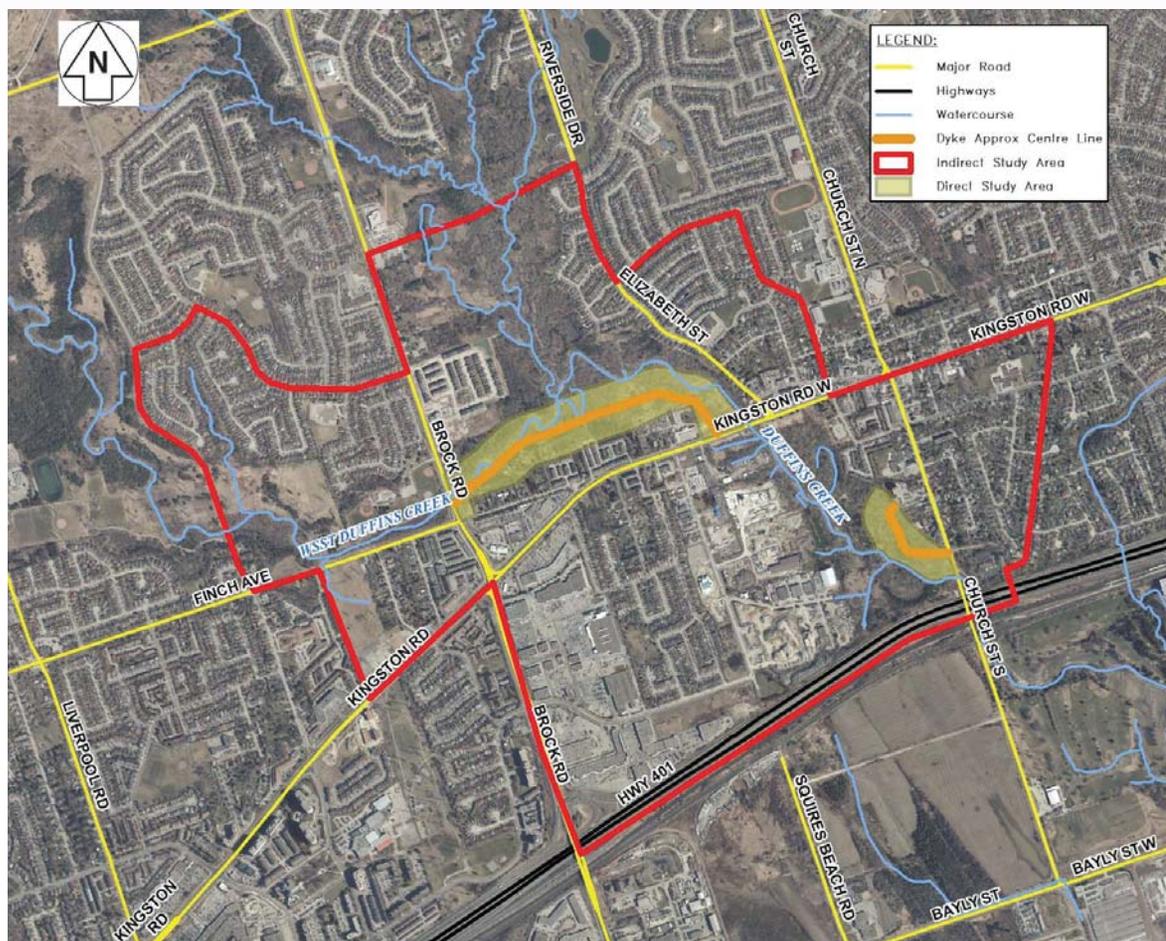
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PUBLIC INFORMATION CENTRE #1  
OCTOBER 30, 2019

# LAND ACKNOWLEDGEMENT

We acknowledge the land we are standing on is the traditional territory of nations including the Mississauga's of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat people and is now home to many diverse First Nations, Inuit and Métis peoples.

# WHERE IS THE PROJECT?

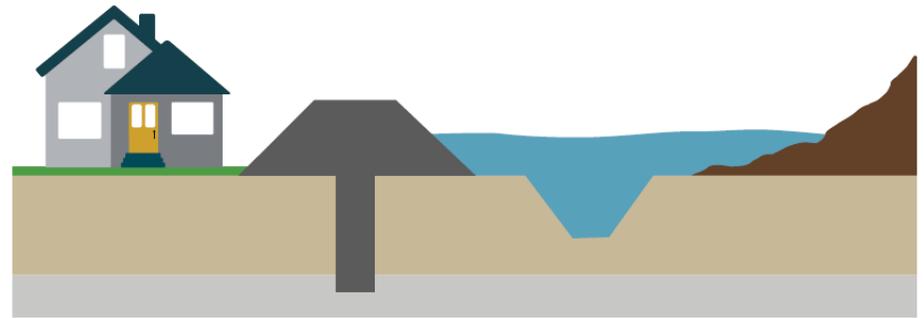


# HISTORY OF FLOODING

- Before the dykes were constructed the adjacent residential areas flooded frequently
- **1980's (approximately) Special Policy Area (SPA) Designation** for Village East and Notion Road Pickering Village communities
- **1984-1985 Pickering and Ajax Dykes constructed**  
Designed to provide flood protection for the communities up to the 500-year storm flood

## WHAT IS A DYKE?

A flood control dyke is a long wall or embankment built to prevent flooding from a river course.



## WHAT IS A SPECIAL POLICY AREA?

A Special Policy Area is a land use planning designation. It acknowledges that there is already development in a flood-vulnerable area, and that only limited changes can be made to the development in the flood plain.

# WHAT IS THE PROBLEM?

## THE DYKES ARE AT RISK OF FAILURE

- The dykes do not meet the current engineering design standards
- Significant erosion of the creek banks in areas adjacent to the Pickering Dyke
- Other issues
  - Tree growth and root systems compromising integrity
  - Narrow crest width limits access for maintenance



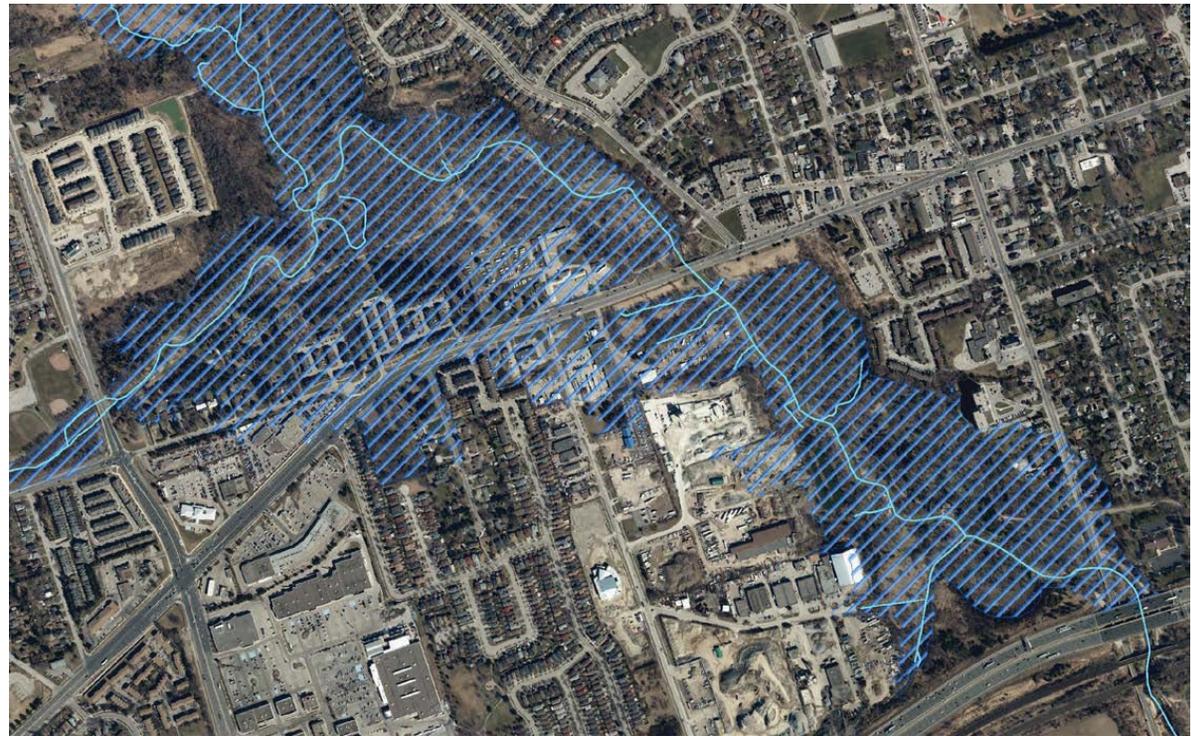
Narrow dyke crest and tree growth on dyke.



Creek bank erosion repair.

# WHAT IS THE OPPORTUNITY?

- **Meet current design standards**
  - Ensure performance of flood protection at the current crest levels at minimum.
- **Protect the dykes against channel bank erosion**
- **Enhance the natural environment**
- **Allow for future improvements**



Potential extent of flooding without dykes (100 year storm event).

# CLASS ENVIRONMENTAL ASSESSMENT PROCESS

## Conservation Ontario Class Environmental Assessment

 PUBLIC CONSULTATION



**The Pickering and Ajax Dykes Rehabilitation Project is following the Class EA process for Remedial Flood and Erosion Control Projects outlined by Conservation Ontario.**

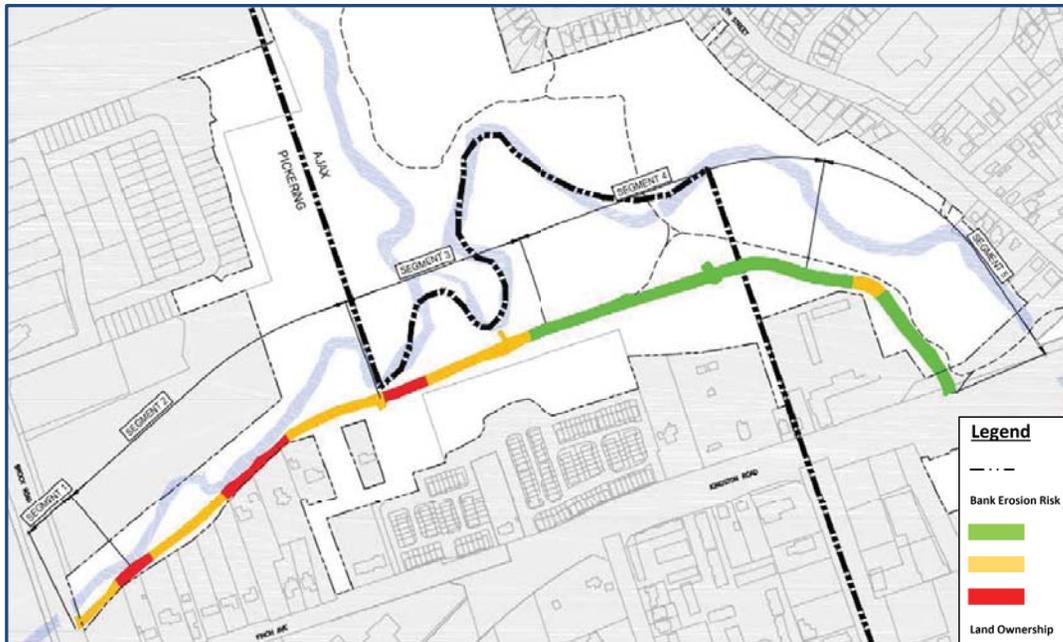
### Project Tasks Completed:

- ✓ Define the problem & opportunity.
- ✓ Prepare initial stakeholder list. Publish Notice of Commencement.
- ✓ Inventory of baseline conditions within study area.
- ✓ Develop alternatives solutions the address the problem.
- ✓ Evaluate alternative solutions.
- ✓ Stakeholder consultations including meetings with various committees.

# DYKE SEGMENTS

- The dykes were divided into segments based on unique characteristics of the dyke and surrounding area.
- Segmentation allows for a solution unique to each segment.

## PICKERING DYKE



## AJAX DYKE



### NOTABLE CONDITIONS

- Does not meet engineering standards
- Space limitations – property impacts
- Channel erosion
- Excessive vegetation / root systems
- Trails
- Utilities
- Protected terrestrial and aquatic species

# WHAT ARE ALTERNATIVE SOLUTIONS?



## ALTERNATIVE SOLUTIONS

are different ways to reduce flood risk to life and property.

### Alternative Solutions must:

- Provide at minimum, the level of flood protection associated with the current dyke crest elevations
- Meet current engineering standards
- Include the Do-Nothing alternative

**This project will not change current limitations on development.** The Special Policy Area designation and planning permit requirements will remain in effect.

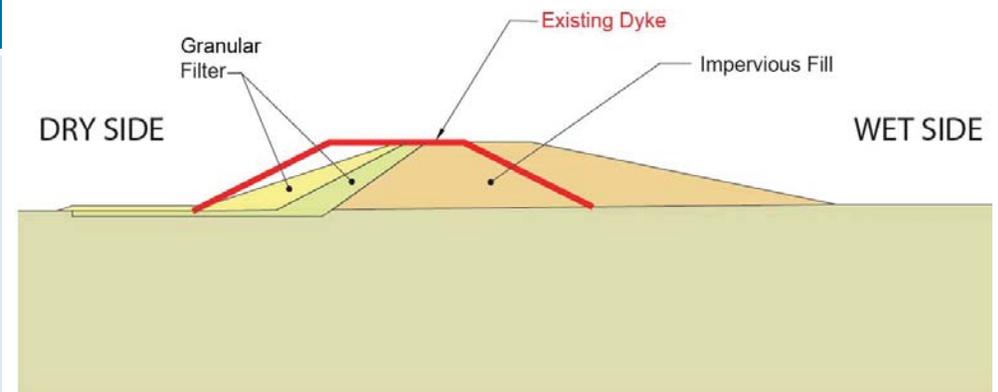
# PRELIMINARY ALTERNATIVE SOLUTIONS

## 1 'Soft' Engineering Solution (Embankment)

Rehabilitation of the existing flood protection structure with a softer, more natural looking, stable berm.

**Example:** earth embankment with stable slopes.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"><li>• Less costly to construct</li></ul>	<ul style="list-style-type: none"><li>• Generally will require a larger footprint to accommodate embankment slopes</li><li>• Generally will disrupt a larger area during construction</li></ul>



Example Cross-Section (not the exact solution)

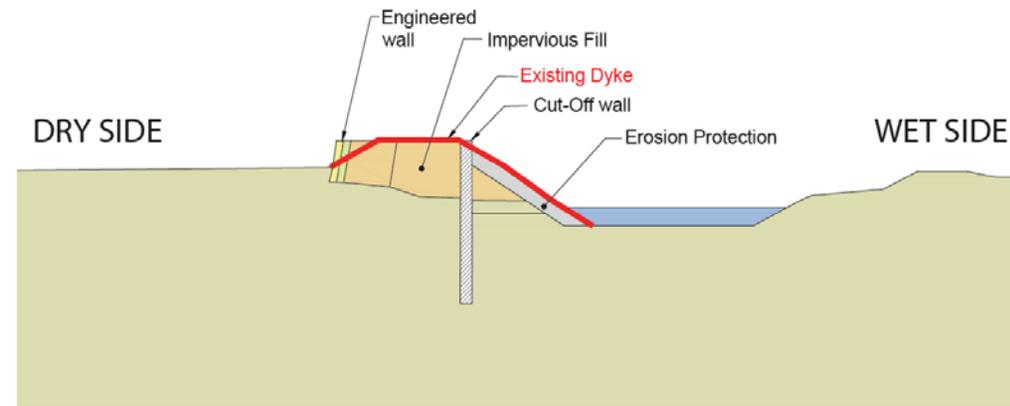
# PRELIMINARY ALTERNATIVE SOLUTIONS

## 2 'Hard' Engineering Solution (Structural)

Rehabilitation of the existing flood protection structure with a highly engineering structural solution.

**Example:** retaining walls and/or seepage-cutoff methods.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"><li>• Generally will require a smaller footprint (than the embankment alternative)</li><li>• Generally will disrupt a smaller area during construction</li></ul>	<ul style="list-style-type: none"><li>• More costly to construct</li><li>• More complex design and construction</li><li>• Interaction with underground utilities</li></ul>



Example Cross-Section (not the exact solution)

# PRELIMINARY ALTERNATIVE SOLUTIONS

## 3 “Do Nothing”

Does not mitigate current risk of flooding that would occur during a dyke failure.

Ongoing repair works required as conditions degrade.

Impacts of a dyke failure are included in the evaluation.

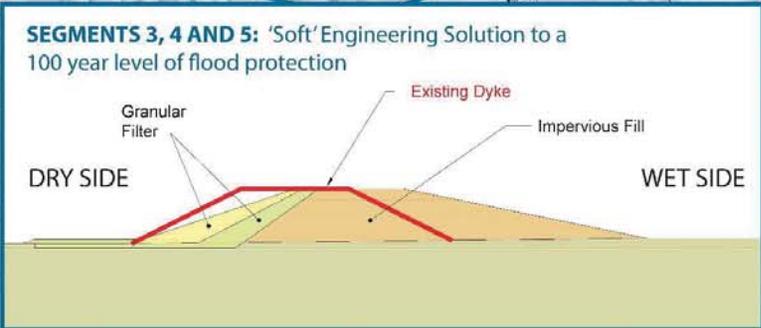
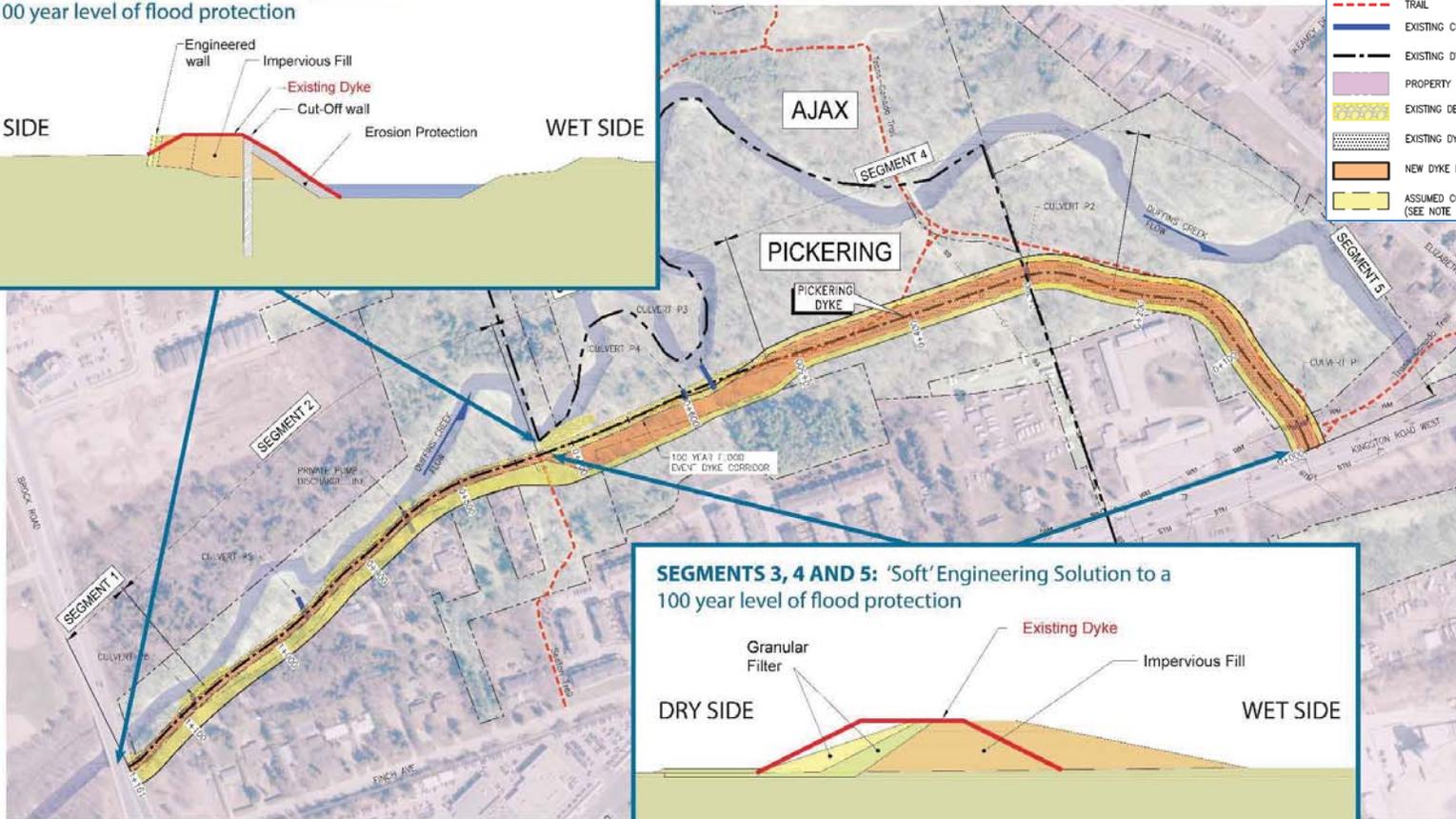
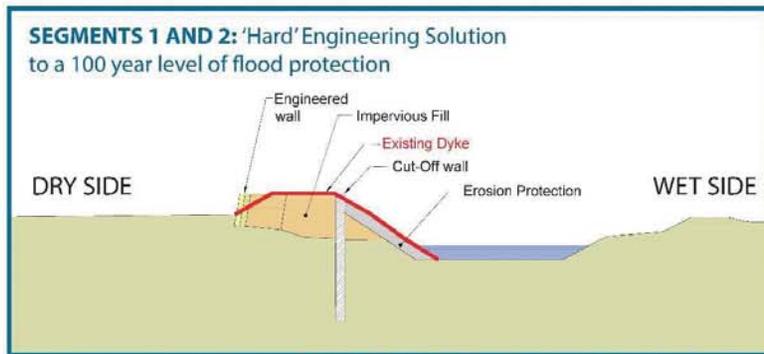
ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"><li>• No immediate capital cost</li><li>• No immediate disturbance to existing environments</li></ul>	<ul style="list-style-type: none"><li>• Potential of dyke failure</li><li>• Risk to human life and property</li><li>• Ongoing repair works required</li></ul>



Example of a dyke failure

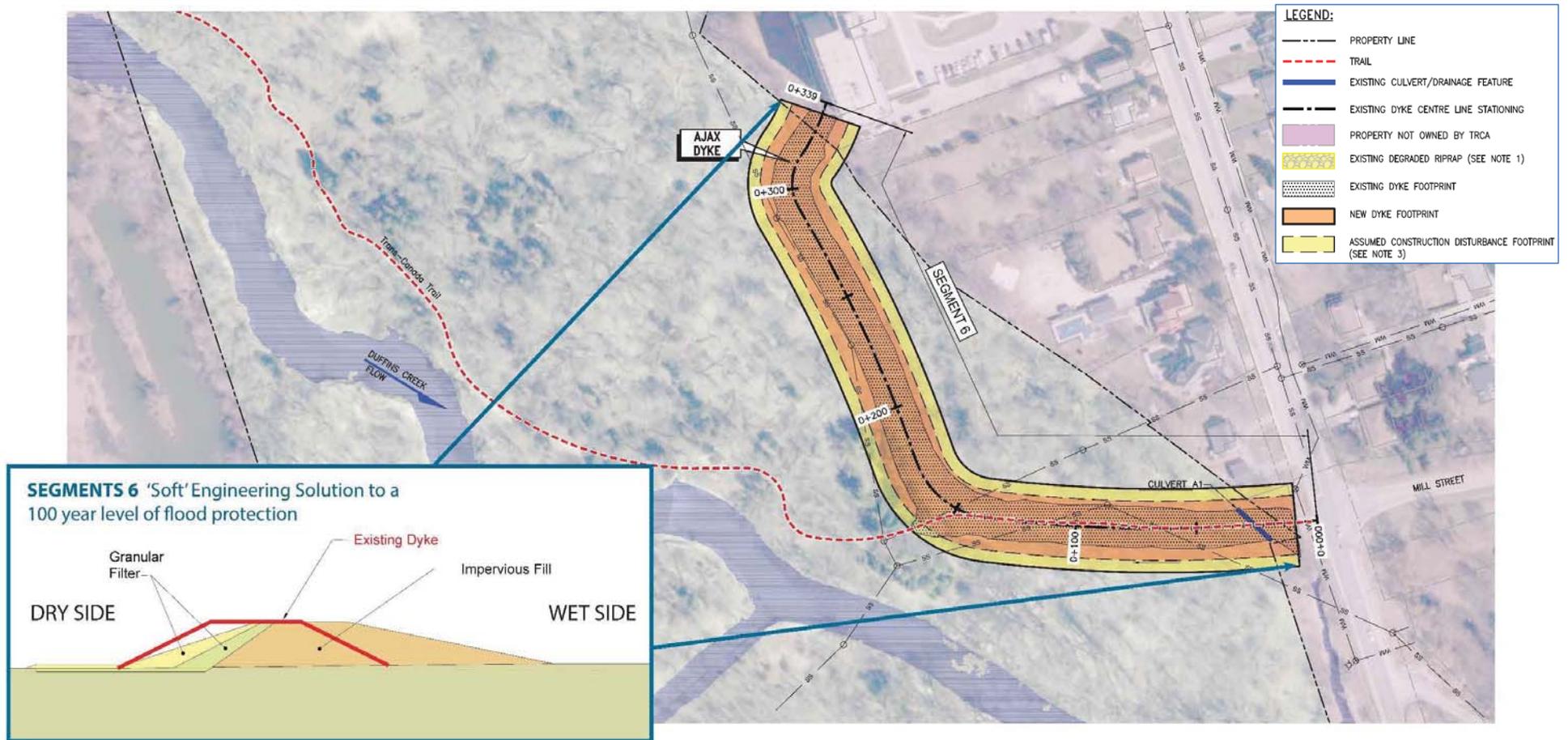
# PRELIMINARY PREFERRED ALTERNATIVE SOLUTION

## PICKERING DYKE

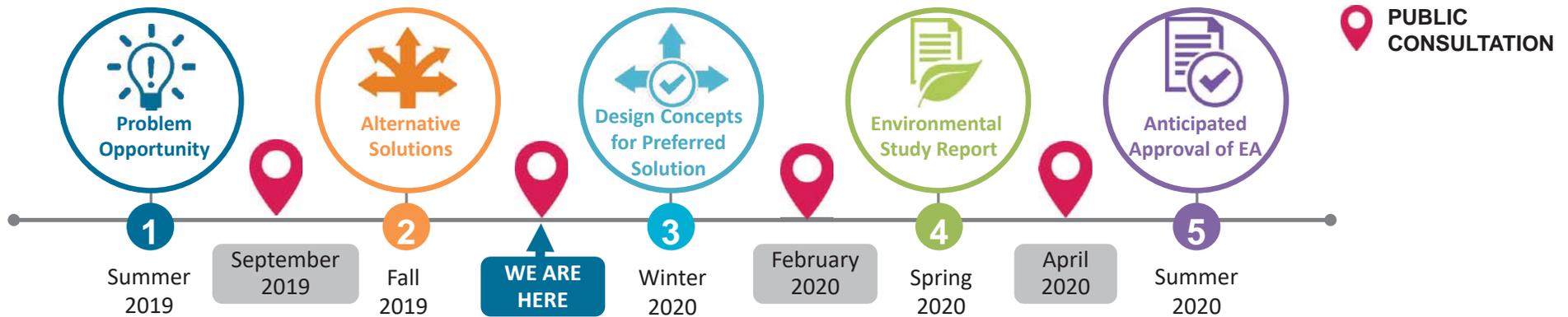


# PRELIMINARY PREFERRED ALTERNATIVE SOLUTION

## AJAX DYKE



# NEXT STEPS



- **Refine Evaluation and Preferred Alternative Solution based on feedback received.**
- **Consider Alternative Design Concepts which includes:**
  - Refining the Preferred Alternative Solution to minimize impacts.
  - More detailed consideration of changes to infrastructure including underground utilities.
  - More detailed modeling to refine design of flood protection works to withstand flooding.
- **Alternative Design Concepts and Evaluation Criteria will be brought back to the committees and public for comment in January and February 2020.**
- **On-going consultation with agencies, landowners and other stakeholders.**

# THANK YOU

We appreciate the time you have taken to learn more about the Pickering and Ajax Dykes Rehabilitation EA. Your input is important for the success of the EA process. Please provide your input.

## Contact the Project Team:

Pickering and Ajax Dykes Rehabilitation Project  
Coordinator

EMAIL: [PADR@trca.ca](mailto:PADR@trca.ca)

WEBSITE: [www.trca.ca/PADR](http://www.trca.ca/PADR)

PHONE: 416-661-6600 ext. 5948

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6

## HOW TO STAY CONNECTED:

- Next PIC: February 2020 (*tentative date*)
- **Join our mailing list** – leave us your email or mailing address if you would like to be kept up to date as the study progresses
- Send us your comments or questions. Email us at **[PADR@trca.ca](mailto:PADR@trca.ca)**

Thank you.

**Melody Brown, P.Eng**  
*TRCA*

**Fuad Curi, P.Eng**  
*KGS Group*

Attachment E  
PIC Meeting #1  
Completed Comment Forms

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

NOTHING YOU DON'T KNOW

2. Do you have any comments on the evaluation of the alternative solutions?

STRONGLY IN FAVOR OF MOST ROBUST  
SOLUTION POSSIBLE → AS FAST AS  
POSSIBLE HARD ENOUGH SOON PLEASE!

3. Do you have any comments on the preliminary preferred alternative solution?

4. Are there any issues you would like addressed in the next phase of the project?

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5. Do you have any additional thoughts or comments?

FROM The back of properties up against the berm,  
is there still access to the creek?

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**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than Friday November 8th, 2019.

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

No, ONLY AS NOTED UNDER POINT 5.

2. Do you have any comments on the evaluation of the alternative solutions?

CAN the current DYKES NOT BE Re-constructed ?  
AND CONSIDER the trees/ROOT SYSTEMS etc.

3. Do you have any comments on the preliminary preferred alternative solution?

Appears from a long term perspective AND COST SAVINGS the  
"HARD" APPROACH is the way to proceed with COST CONSIDERATION.

4. Are there any issues you would like addressed in the next phase of the project?

SOLUTIONS & Related COSTS

5. Do you have any additional thoughts or comments?

I HAVE A MAJOR CONCERN AS FOLLOWS:

THE TOWNHOMES BUILT IN 2001 BY COUGHLIN ON THE NORTH EAST CORNER  
I.E. BROOK & FINCH.

APPROXIMATELY 4 YRS. AGO, THE REGION OF DURHAM DID TOTAL  
RECONSTRUCTION WORK BEHIND THE TOWNHOMES, DUG MANY METERS DOWN  
AND PLACED LARGE CONCRETE PIPES, FILLED WITH SOIL, AND THEN BUILT  
A 10 FOOT SIDEWALK. BELIEVE CONSTRUCTION WAS ALSO DONE NORTH OF  
THE BROOK & FINCH CORNER. ALSO CATCH BASINS WERE CONSTRUCTED.

**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than Friday November 8th, 2019.

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6

Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

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2. Do you have any comments on the evaluation of the alternative solutions?

- 1 - I have a house immediately adjacent to the red line flood plain. ~~My~~ I am not protected by the ~~existing~~ dikes. My only concern is that the dikes not result in putting me more at risk.
- 2 - Please don't straighten the river
- 3 - If people are living in the flood plain please consider buying them out and eliminating the problem permanently.

3. Do you have any comments on the preliminary preferred alternative solution?

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4. Are there any issues you would like addressed in the next phase of the project?

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5. Do you have any additional thoughts or comments?

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**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than Friday November 8th, 2019.

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)



# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

THE CURRENT BERM HAS NOT BEEN MAINTAINED & THE LOGS HAVE NOT BEEN REMOVED. UNNATURAL DEBRIS (SHOPPING CARTS, PICNIC TABLES ETC) ARE CAUSING THE JAMS.

2. Do you have any comments on the evaluation of the alternative solutions?

YOU HAVE NOT CONSIDERED THE REAL ISSUES WHY THE WATER IS CAUSING ISSUES.

3. Do you have any comments on the preliminary preferred alternative solution?

IT DOES NOT LOOK NATURAL

4. Are there any issues you would like addressed in the next phase of the project?

KEEP THE AREA NATURAL

2 AM. M. D. THE  
MOUNTAIN  
21E

5. Do you have any additional thoughts or comments?

PLEASE ARRANGE A SITE VISIT WHERE WE CAN  
SHOW YOU PHYSICALLY WHAT THE PROBLEMS ARE



**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than **Friday November 8th, 2019.**

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

We strongly feel proper maintenance  
of debris in the river would increase  
water flow & avoid damming which leads  
to flooding

2. Do you have any comments on the evaluation of the alternative solutions?

'Hybrid' solutions should be  
proposed - eg. parts of the  
dyke east of Brock DO need  
attention, others not so much

3. Do you have any comments on the preliminary preferred alternative solution?

The 'hard' solution means you  
will go into the river yet  
the claim is made you cannot  
disturb the natural river?

4. Are there any issues you would like addressed in the next phase of the project?

We would very strongly ask that our property is NOT affected by the solutions proposed. The wall would hopefully be stepped rather than straight?

5. Do you have any additional thoughts or comments?

The Berm / Dyke to the west of the trail is relatively new & we do not see why this needs redoing - there has been no flooding around here to our knowledge

**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than **Friday November 8th, 2019.**

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

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2. Do you have any comments on the evaluation of the alternative solutions?

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3. Do you have any comments on the preliminary preferred alternative solution?

Has consideration been given to building the hard solution on the north side of the Dyke @ 1760-1770 Finch?

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4. Are there any issues you would like addressed in the next phase of the project?

- ① Move containment to South Shore, West Side of Brack
- ② Some solution to trees that jam the river - perhaps periodic inspection & selective harvest as maintenance

5. Do you have any additional thoughts or comments?

Would like to see the scope of the study widened to address water flow issues around the traditional logjam areas, given how major the impact of flooding would be.

**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than Friday November 8th, 2019.

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6

Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

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CLC Member ↑  
Respond

2. Do you have any comments on the evaluation of the alternative solutions?

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3. Do you have any comments on the preliminary preferred alternative solution?

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4. Are there any issues you would like addressed in the next phase of the project?

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5. Do you have any additional thoughts or comments?

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**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than **Friday November 8th, 2019.**

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

The water level has never overflowed over the berm, I strongly disagree with the plan put in place as far as the block wall, fence, etc. I do agree with raising the berm and giving it a better slope.

2. Do you have any comments on the evaluation of the alternative solutions?

3. Do you have any comments on the preliminary preferred alternative solution?

4. Are there any issues you would like addressed in the next phase of the project?

The Burm / hill should be raised with a gradual slope for easy walking, grass cutting and convenience.

5. Do you have any additional thoughts or comments?

**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than **Friday November 8th, 2019.**

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

# FEEDBACK FORM

Public Information Centre #1 – October 30, 2019

1. Do you have any additional information regarding existing conditions?

*Does the new structure e.g. basins affect any flood related construction*

2. Do you have any comments on the evaluation of the alternative solutions?

3. Do you have any comments on the preliminary preferred alternative solution?

4. Are there any issues you would like addressed in the next phase of the project?

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5. Do you have any additional thoughts or comments?

*The proposed rehab area is too restrictive*

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**Please leave your completed feedback form at the door on the way out.**

If you think of more feedback later you can submit it to TRCA by email or mail no later than Friday November 8th, 2019.

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6

Email: [PADR@trca.ca](mailto:PADR@trca.ca) Website: [trca.ca/PADR](http://trca.ca/PADR)

Attachment F  
PIC Meeting #1  
Email Correspondence from the Public

## Melody Brown

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**From:** Pickering Ajax Dyke Rehabilitation  
**Sent:** Monday, November 4, 2019 9:57 AM  
**To:** [REDACTED]  
**Cc:** Pickering Ajax Dyke Rehabilitation  
**Subject:** RE: Feedback Form

Good morning [REDACTED]

Your feedback has been noted.

Thank you for your feedback and your interest in this project.

Kind regards,

### The PADR EA Team

Pickering and Ajax Dykes Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)



**From:** [REDACTED]  
**Sent:** Saturday, November 2, 2019 1:31 PM  
**To:** Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>  
**Subject:** Feedback Form

Attention: Pickering and Ajax Dykes Rehabilitation Project Coordinator

I attended the Public Information Session at the Recreation Centre in Pickering on October 30, 2019.

I am in favour of whichever solution is least disruptive to the aquatic life of the river and integrity of the surrounding woods and green space.

I acknowledge the importance of meeting or exceeding current engineering and design standards for satisfactory flood control now and in the future.

Thank you for a thorough and informative presentation.

[REDACTED]  
[REDACTED]

Public Information Centre  
Meeting #2 (April 28, 2020)  
Consultation Report

Prepared for

Toronto Region Conservation Authority

Prepared by



May 2020

## **Table of Contents**

- 1.0 Date & Location**
- 2.0 Notice**
  - 2.1 Broadcast Notice (Print and Electronic)**
  - 2.2 Stakeholder Notices**
- 3.0 PIC Format**
  - 3.1 Display Boards**
  - 3.2 PIC Presentation**
  - 3.3 Questions & Answers**
- 4.0 PIC Exit Questionnaire**

## **Attachments**

- A. Public Notice**
- B. Public Notice of Postponement**
- C. Social Media Notice**
- D. Sample Letter**
- E. Details of Virtual PIC Notification**
- F. Presentation Display Panels**
- G. Presentation Material**
- H. Completed Comment Forms**
- I. Email Correspondence from the Public**

## **1.0 Date and Location**

**Date/Time:** Tuesday, April 28, 2020  
6:30 – 8:00pm

**Venue:** GoToWebinar (a web-based meeting platform)

## **2.0 Notice**

Notice of a March 24, 2020 Public Information Centre (PIC) #2 appeared in the March 5, 2020 local newspaper and was distributed to stakeholders via Canada Post on or about March 9, 2020 and via email on March 6, 2020 (Attachment A). However, due to the COVID-19 pandemic, the PIC was rescheduled to Tuesday April 28, 2020 as an online meeting, in order to follow new public health guidelines.

Stakeholders were notified of this needed change with a Notice of Postponement communicated through the same means as the original Notice of PIC as well as through multiple social media platforms. The Notice of Postponement of the PIC appeared in the March 19, 2020 local newspaper and was distributed to stakeholders via Canada Post on or about March 19, 2020 and via email on March 17, 2020 (Attachment B). Details are provided below.

### **2.1 Broadcast Notice (Print and Electronic)**

Notice of Postponement that the PIC #2 was to be rescheduled from its original March 24<sup>th</sup> date to April 28, 2020 Public Information Centre (Attachment B) appeared in the March 19, 2020 edition of the Ajax Pickering News Advertiser (circulation 54,400 (approximately)).

Due to the need to quickly reschedule the PIC, at the time of the print Notice the details of the PIC were unknown, only the date was set. As such, the Notice advertised that details would be provided on the project website ([www.TRCA.ca/PADR](http://www.TRCA.ca/PADR)) and directly sent to those who are on the project mailing list. It should be noted that 10 interested parties/individuals requested to be added to the project mailing list following advertisement of the Notice of PIC Postponement.

Notices advertising the online PIC were posted to TRCA's Facebook, Twitter and LinkedIn profiles on April 27, 2020 to further advertise the opportunity to participate. Posts included a link to the project webpage where interested parties could then click the registration link for the online PIC. A sample screenshot of the postings can be found in Attachment C.

## **2.2 Stakeholder Notices**

The Notice of Postponement of the PIC was also distributed via Canada Post or email to the following stakeholders:

- Municipal, Regional, Provincial, Federal officials: 37 notices via email (on April 23, 2020)
- Neighbours/Abutting Landowners: All properties within the indirect Study Area (approx. 3000 people), via mail (week of March 23, 2020). Notice only, follow-up communication with PIC registration details only sent to those on the project mailing list.
- User/Naturalist Groups: two (2), via email (on April 23, 2020)
- Utilities: five (5), via email (on April 23, 2020)
- First Nations: (refer to Indigenous Engagement Report provided by TRCA and included in the Pickering and Ajax Dykes Rehabilitation Class EA-Environmental Study Report)
- Interested parties who requested to be on the project mailing list: 30, via email (on April 23, 2020).

A sample letter is provided in Attachment D

A follow-up email with details of how to register for and participate in the PIC (Attachment E) was also distributed via email to the project mailing list which included the following stakeholder groups unless noted otherwise.

## **3.0 PIC Format**

The one and one-half hour Public Information Centre (PIC) webinar was organized around three discrete sections: open house style display boards (Attachment F), a one-hour, 35-slide PowerPoint presentation by TRCA's Project Manager (Attachment G) followed by a Question & Answer (Q&A) period.

The PIC webinar was hosted using GoToWebinar, a freely available and easily accessible open software platform. Attendees were required to register to attend the webinar, either in advance or during the event. The registration process requires the name and email address of the registrant and provides a unique link to join to meeting for each registrant. This provided a record of PIC attendance based on how many unique registrants joined the meeting, however it does not indicate if more than one person sat together to attend the PIC from the same device.

PIC webinar attendees were advised they could post any questions at any time throughout the webinar, and, that the moderator would raise them for discussion during the Q&A portion of the webinar period. Project Team representatives were online and available throughout the webinar to answer questions. The Project Team consisted of five Project specialists (TRCA and KGS), a moderator (TRCA), and three support staff (TRCA, KGS and ECCL).

Of the 30 individuals who pre-registered for the webinar, 26 attended the event. The entire PIC webinar (presentation and Q&A) was recorded and posted on the project website.

The Project website included a Comment Form through which stakeholders could provide feedback for a seven-day period subsequent to the April 28, 2020 PIC to stakeholders on the Project website for a seven-day period after the PIC. Additionally, stakeholders were encouraged to contact the Project Team via email at any time with questions or concerns.

Members of the public and stakeholders were offered the option to schedule an individual phone call with the project team to discuss the project, if they were uncomfortable with the webinar format, or unable to access all of the informational materials. No one made this request.

### **3.1 Display Boards**

To promote public understanding of the project and the upcoming PIC (April 28, 2020), the PIC display boards were posted on the project website on April 24, 2020. These display boards provided drawings of the preferred Design Concepts for the dyke rehabilitation as well as the evaluation table with criteria and considerations used to compare potential Design Concepts and select the preferred ones. They are provided in Attachment F.

### 3.2 PIC Presentation

Prior to holding the April 28, 2020 PIC Webinar, TRCA posted a 25 display board-like panel description of the project's status for public review on its project website (Attachment G). A similar, but more detailed 35-slide PowerPoint presentation was given by the TRCA's Project Manager during the webinar. That presentation included:

- Review of the reasons for the proposed rehabilitation of the Pickering and Ajax dykes
- Description of the Class Environmental Assessment process, Project scope and objectives, and the regulatory/stakeholder review and approvals
- A brief overview of existing conditions within the Study Area as it pertains to the selection of the preferred Alternative Solution and Design Concept and the rationale for dividing the Pickering and Ajax dykes into segments with consistent characteristics
- Review of the selection of the preferred Alternative Solutions which was presented in detail at PIC #1: "soft" and "hard" engineered solutions<sup>1</sup> to rehabilitate the Pickering and Ajax dykes, capable of providing 100-year storm flood protection
- The refinement of the preferred Alternative Solutions into six (6) more detailed Design Concepts, a description of each Design Concept's components, how it functions and the pros and cons
- Evaluation and the selection of the recommended preferred Design Concept for each dyke segment
- A discussion of the recommended Design Concepts' potential impacts, and, the measures proposed to mitigate undesirable impacts and the residual impacts after mitigation
- Focused discussion on changes/improvements to flood conditions
- Next Steps

### 3.3 Questions & Answers

Throughout the webinar, registrants were able to post any questions they might have concerning the project. Via a moderator, these questions were

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<sup>1</sup> "Soft" solutions rely on earth-fill to create stable dyke embankments. "Hard" solutions include one or more structural components to strengthen the above-ground portion of the dyke embankments.

read aloud for the benefit of all PIC webinar attendees and directed to the appropriate Project Team specialist for a response.

- **Q:** What measures would be required to provide protection for a 1-in-350 or -500-year storm event?

**A:** It was explained that given the topography of the Study Area and its surroundings, other measures, in addition to rehabilitating the dykes, would be required. These include the installation of additional dykes in other low-lying portions of the Study Area and altering the elevation of nearby roadways. For even greater events, bridges would need to be enhanced to pass more flow beneath them. These measures are beyond the scope of the proposed rehabilitation of the existing Pickering and Ajax dykes.

That said, the proposed Design Concepts for the Pickering and Ajax dykes allow for a suitable base that could be built upon, in conjunction with additional measures, to provide greater flood protection in the future.

- **Q:** Will TRCA take measures to ensure the dykes do not become overgrown with trees?

**A:** Yes. As part of TRCA's regular maintenance of the rehabilitated dyke structures, mowing will be done to ensure trees do not become established on the structures. The goal is to eliminate root structures extending through the dykes which can damage the dykes due to seepage along the roots or trees falling over and ripping out large sections of the dyke material. Additionally, a mowed surface also allows close inspection of dyke surface to see any issues and allow for early response/repairs.

- **Q:** Were maintenance costs a consideration in the evaluation of alternatives?

**A:** Yes. The technical feasibility and financial cost of maintaining each of the particular designs was a critical consideration in assessing the relative merits of the different Design Concepts, and selecting the preferred option.

- **Q:** How was climate change considered?

**A:** In many respects, climate change is an important part of TRCA's assessment that the Pickering and Ajax dykes require rehabilitation in order to restore these structures' resiliency. Rehabilitating the Pickering and Ajax dykes, using the latest design standards, and advancements in engineering science and modelling, will ensure these two rehabilitated structures can be relied upon to provide the intended flood protection.

Opinions vary on the effects of climate change; whether it will cause more frequent summer storms and/or changes to winter conditions. Improving the resiliency of the dykes also provides a benefit during winter floods events and ice jam events which were not included specifically in the design criteria.

- **Q:** The large footprint and wide tops proposed for these dykes might make sense if the aim is to put a trail along the top of them. But if the purpose of the wide tops of the dykes is to simply facilitate maintenance access, that seems unnecessary. Why can't the crest width be reduced, and simply allow maintenance equipment to straddle the top of the dykes.

**A:** Worker safety, site stability and maintainability are fundamental considerations in assessing the suitability of any flood control structure we might consider. The larger footprint proposed for these dykes addresses the needs to improve slope stability on both the wet and dry sides (where possible) of the dykes, reduce the risk of erosion/slumping, while providing field crews with a safe and stable base from which they can undertake any needed maintenance/inspection any time of year, in the harshest of conditions, over the dykes' design lives.

It was noted that dykes provide access for inspections and maintenance work (and potentially for emergency response) which is sometimes necessary during unfavourable conditions such as potential floods and during winter when the ground is icy, so having safe access is of great importance and straddling the dyke crest is considered unsafe.

- **Q:** Where can the details for the landscape/habitat restoration plan be found?

**A:** As part of the EA, there is a conceptual restoration plan that shows the areas of vegetation removal and replanting, the types of vegetation communities to be replanted, as well as recommended habitat improvement features. The restoration plan will be available for public review as part of the complete Environmental Study Report (expected July 2020). The Study Team also offered to send a copy of the restoration plan now to anyone who makes this request.

The restoration plan would be refined in the future as part of the detailed design phase, following this EA project. A landscape/habitat protection plan is a necessary part of the approvals during the next stage in this Project and will lay out the plantings of various indigenous trees, shrubs and grasses with a view to protecting or enhancing the Study Area's natural character while not posing a risk to the new dyke structures' integrity or their need for maintenance/emergency access.

- **Q:** Has funding been set aside yet for implementing what will be the recommended measures, and, what will this funding structure look like?

**A:** Although the funding for implementing the recommended measures has not been ear-marked yet, senior leadership at TRCA is very supportive of moving the project forward. This project does meet various criteria required to secure funding from various levels of government. To that end, TRCA is in active discussions with all levels of government (municipal, provincial and federal) to secure funding and determine a suitable funding envelop and structure.

- **Q:** How long will it take to build the proposed hard and soft dyke solutions?

**A:** Building the three dyke segments would take about four to five months for each segment. However, to avoid/mitigate potential seasonal environmental impacts to important local terrestrial and aquatic habitats, this work would be broken up, taking place during different times of the year when the particular activities are least impactful. Dyke segments could be constructed concurrently using multiple construction crews, or one at a time, over multiple years. Completion over multiple years is most likely, as it is more typical for funding commitments to include a certain amount of money for each of x number of years.

#### **4.0 PIC Exit Questionnaire**

At various points throughout the webinar, attendees were invited to post any questions they might have concerning aspects of the project and/or to complete a five-question Comment Form available on the Project website.

Of the 30 individuals who pre-registered for the webinar, 26 attended the event.

Three (3) complete or partially complete Comment Forms were received (Attachment H). Following the PIC, two individuals contacted the Project Team via email with questions. The team responded via email addressing their concerns and indicating how to watch the recorded PIC 2 video from TRCA's website (Attachment I).

Attachment A  
PIC Meeting #2  
Public Notice

# NOTICE OF PUBLIC INFORMATION CENTRE

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA)

### Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide some flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

**THE SECOND PUBLIC INFORMATION CENTRE (PIC) FOR THE PICKERING AND AJAX DYKES REHABILITATION CLASS ENVIRONMENTAL ASSESSMENT WILL BE HELD ON MARCH 24TH 2020.** At this meeting the study team will be presenting the evaluation of different design concepts prepared for the preferred dyke rehabilitation solution that was presented at the last PIC, project impacts and mitigation measures, an update on consultation activities and work completed to date and next steps for this project.

Please come out to share your ideas and concerns about this exciting project!

#### **MEETING LOCATION & TIME:**

McLean Community Centre  
Community Hall  
95 Magill Drive, Ajax ON

**March 24<sup>th</sup>, 2020**

Open House Discussion: 5:30 PM – 8:30 PM

Presentation: 6:30 PM

#### **PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6

This notice was issued on March 5<sup>th</sup> and 19<sup>th</sup> 2020 in the Ajax/ Pickering News Advertiser.

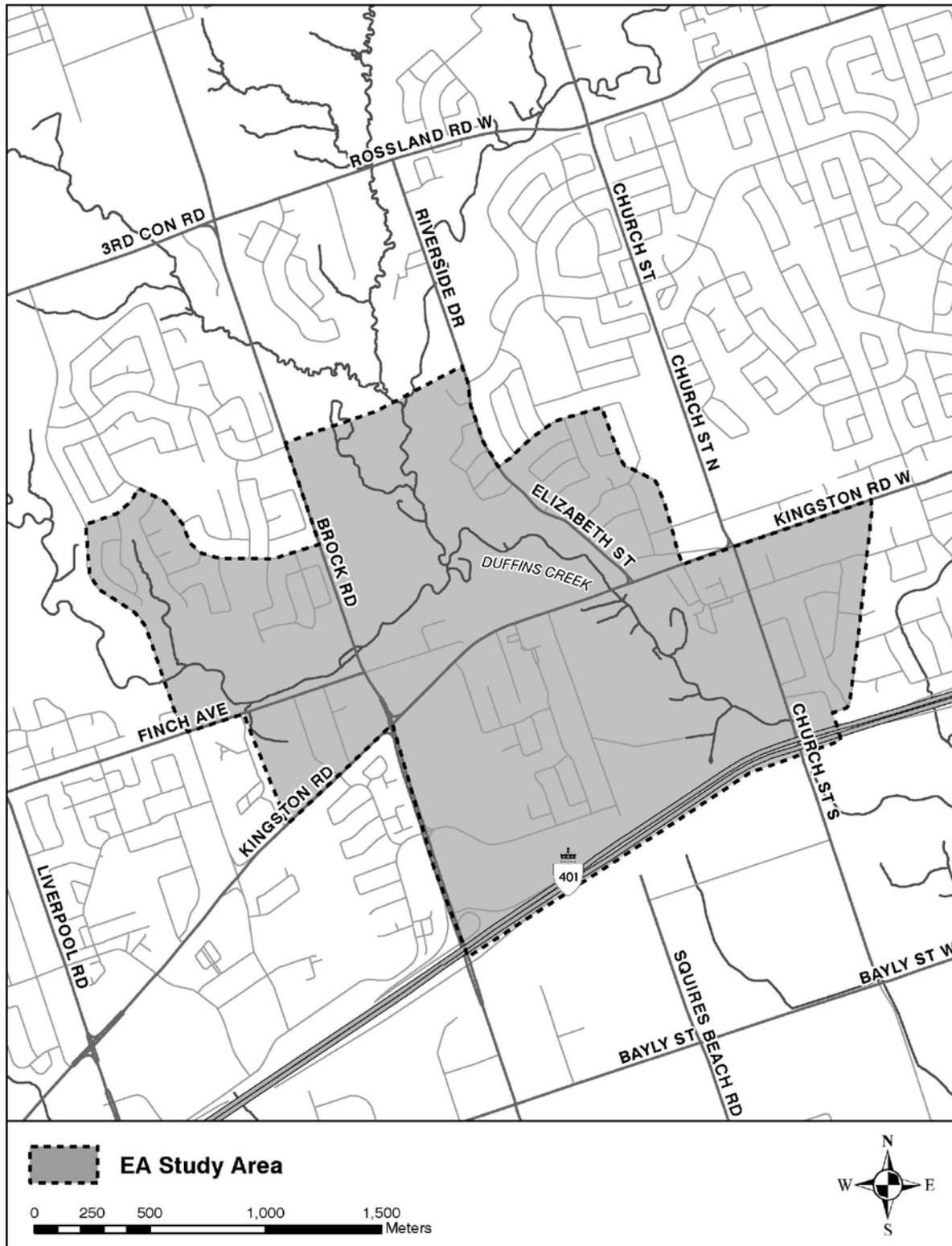
*Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.*



# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



# NOTICE OF PUBLIC INFORMATION CENTRE

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA) Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide some flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

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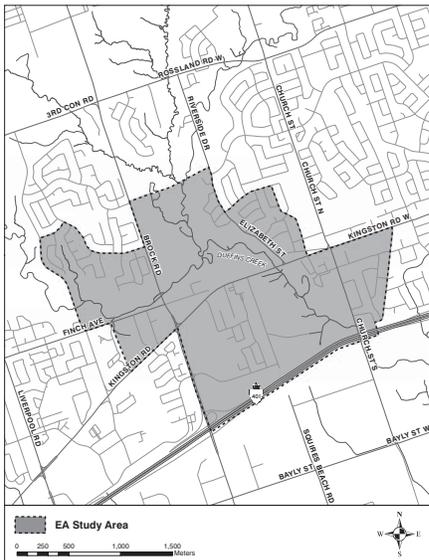
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McLean Community Centre  
Community Hall  
95 Magill Drive, Ajax ON  
**March 24, 2020**  
Open House Discussion: 5:30 PM – 8:30 PM  
Presentation: 6:30 PM

**PROJECT CONTACT INFORMATION:**

PADR Project Coordinator  
Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Phone: 416-661-6600 x5948  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6



This notice was issued on March 5 and 19, 2020 in the Ajax/ Pickering News Advertiser.

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Attachment B  
PIC Meeting #2  
Public Notice of Postponement

# NOTICE OF PUBLIC INFORMATION CENTRE POSTPONEMENT

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)

**THE SECOND PUBLIC INFORMATION CENTRE (PIC) FOR THE PICKERING AND AJAX DYKES REHABILITATION CLASS ENVIRONMENTAL ASSESSMENT, ORIGINALLY PLANNED FOR MARCH 24<sup>TH</sup>, WILL NOW BE HELD ON APRIL 28<sup>TH</sup>, 2020.**

In light of recent concerns with COVID-19, this meeting will be moved to a virtual format using computer and telephone technologies. An update with details of how to participate in the April 28<sup>th</sup> virtual PIC will be posted on the project website [www.trca.ca/PADR](http://www.trca.ca/PADR) and will be sent to everyone on the project mailing list. If you would like to be added to the mailing list, please call or email us at [PADR@trca.ca](mailto:PADR@trca.ca). A future notice will not be posted in the newspaper.

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. At this PIC the study team will be presenting the evaluation of different design concepts prepared for the preferred dyke rehabilitation solution that was presented at the last PIC, project impacts and mitigation measures, an update on consultation activities and work completed to date and next steps for this project. This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Please join our mailing list to stay up to date on public consultation for this exciting project!

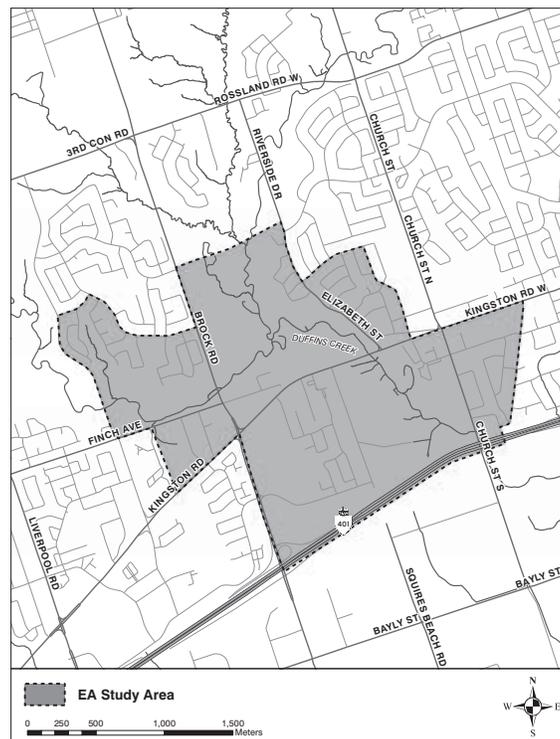
### PROJECT CONTACT INFORMATION:

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-624-4235

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6



This notice was issued on March 19<sup>th</sup> 2020 in the Ajax/ Pickering News Advertiser.

*Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.*

# NOTICE OF PUBLIC INFORMATION CENTRE POSTPONEMENT

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)  
Toronto and Region Conservation Authority (TRCA)

THE SECOND PUBLIC INFORMATION CENTRE (PIC) FOR THE PICKERING AND AJAX DYKES REHABILITATION CLASS ENVIRONMENTAL ASSESSMENT, ORIGINALLY PLANNED FOR MARCH 24<sup>TH</sup>, WILL NOW BE HELD ON APRIL 28<sup>TH</sup>, 2020.

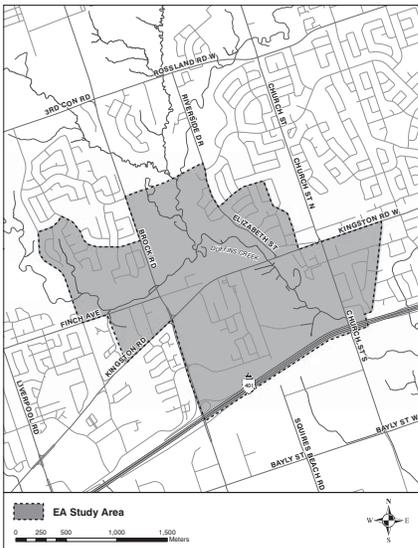
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**PROJECT CONTACT INFORMATION:**

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Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Phone: 416-624-4235  
Toronto and Region Conservation Authority  
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Attachment C  
PIC Meeting #2  
Social Media Notice

## Posts



**Toronto and Region Conservation Authority**

16 hrs · 🌐

The Pickering and Ajax Dykes Rehabilitation Environmental Assessment is evaluating options for rehabilitating existing flood protection infrastructure along Duffins Creek in Pickering and Ajax. Find out more on April 28 at our Virtual Public Information Centre from 6:30 to 8:00 pm. See details at [www.trca.ca/padr](http://www.trca.ca/padr)



👍 13

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💬 Comment

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Attachment D  
PIC Meeting #2  
Sample Letter

March 9, 2020

**SUBJECT: Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment**

Dear Mr. Dave Ryan,

Please be advised that Toronto and Region Conservation Authority (TRCA) is continuing its study regarding remedial flood and erosion control works to provide long-term flood protection along a section of Duffins Creek in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred measure of flood control infrastructure rehabilitation through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013). A “Notice of Study Commencement” formally initiating the study appeared in the Ajax/Pickering News Advertiser on August 8, 2019.

As part of the Class EA process, collection of public input through the planning and design phases of the project is important. The first Public Information Centre (PIC) for this project was held on Wednesday October 30, 2019. The second PIC for this project is now scheduled for Tuesday March 24, 2020 at 5:30 pm – 8:30 pm (presentation at 6:30 pm) at the McLean Community Centre (95 Magill Drive, Ajax). Please let us know if you will be attending. Should you be unable to attend these meetings, please be assured that we will keep you updated regularly on the project status should you wish to participate in the process.

If you have any comments, questions or would like to meet with the Project Team, please do not hesitate to contact me by phone at 416-661-6600 ext. 5320 or by email at [Melody.Brown@trca.ca](mailto:Melody.Brown@trca.ca).

Sincerely,

Melody Brown  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority

Enclosed (1) Pickering and Ajax Dykes Rehabilitation – Project Update  
(1) Notice of Public Information Centre #2

## **Pickering and Ajax Dyke Rehabilitation Conservation Ontario Class Environmental Assessment (PADR EA)**

### **Project Brief**

Toronto and Region Conservation Authority (TRCA) has commenced a Conservation Ontario Class Environment Assessment (EA) for Remedial Flood and Erosion Control Projects to investigate flood remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

The Village East and the Notion Road Pickering Village communities in the City of Pickering (Ward 3) and Town of Ajax (Ward 1) are located within the regulatory floodplain of the Duffins Creek watershed. This area has a long history of flooding, with 634 buildings susceptible to flooding during a Regional Storm (Hurricane Hazel) event.

The Village East community in Pickering and the Notion Road/Pickering Village community in Ajax are both designated Special Policy Areas (SPA). Due to the flood vulnerability of the community, the areas were designated as a Special Policy Area (SPA) to provide for the continued viability of existing land uses while acknowledging the flood vulnerability of the communities. The dykes were constructed in the 1980s to provide flood protection for the communities up to and including the 500-year storm event.

The Pickering Dyke, constructed in 1985, extends for approximately 1,150 metres, and is located north of Kingston Road extending from Brock Road eastward to east of Notion road. The Ajax Dyke, constructed in 1984, extends for approximately 325 metres, and is located west of Church Street South extending north from near Mill Street.

Recent studies completed by TRCA have identified various deficiencies in their construction which prevent them from meeting current engineering design standards and factors of safety (FOS). Based on the results from the 2018 hydraulic modelling study, it was determined that the targeted level of flood protection to the 500-year event is not provided by the existing flood control dykes. Based on results from the 2018 geotechnical study the current dykes do not meet current engineering design standards and Factors of Safety (FOS). As such there is a high potential of dyke failure during a significant storm event. It is desired to undertake rehabilitation of the dykes to meet current engineering standards and FOS while maintaining, or improving, the existing level of flood protection to the surrounding communities.

The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while at minimum, maintaining a level of flood protection associated with the existing dyke crest elevations.

Consulting with the public, local community groups, government agencies and Indigenous Communities is a key component of the EA process. There are several committees being engaged throughout the PADR EA, including a Technical Advisory Committee, Executive Steering Committee, and Community Liaison Committee. Each group has been and will continue to be given the opportunity to engage and provide comments on the PADR EA. The primary method of disseminating project information to the general public will be through a series of up to two (2) Public Information Centres (PIC).

#### **Next Steps:**

The third round of consultations has been scheduled:

- Technical Advisory Committee Meeting
- Executive Steering Committee Meeting
- Community Liaison Committee Meeting
- Public Information Centre (March 24, 2020) – McLean Community Centre, Ajax

It should be noted that this project is on schedule with a completion date of summer 2020.

For more information please visit the project website at [trca.ca/PADR](http://trca.ca/PADR) or please contact the Project Team at [PADR@trca.ca](mailto:PADR@trca.ca).

# NOTICE OF PUBLIC INFORMATION CENTRE

## Pickering and Ajax Dykes Rehabilitation Project Class Environmental Assessment (PADR EA)

### Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide some flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

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McLean Community Centre  
Community Hall  
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**March 24<sup>th</sup>, 2020**

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#### **PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON, L4K 5R6

This notice was issued on March 5<sup>th</sup> and 19<sup>th</sup> 2020 in the Ajax/ Pickering News Advertiser.

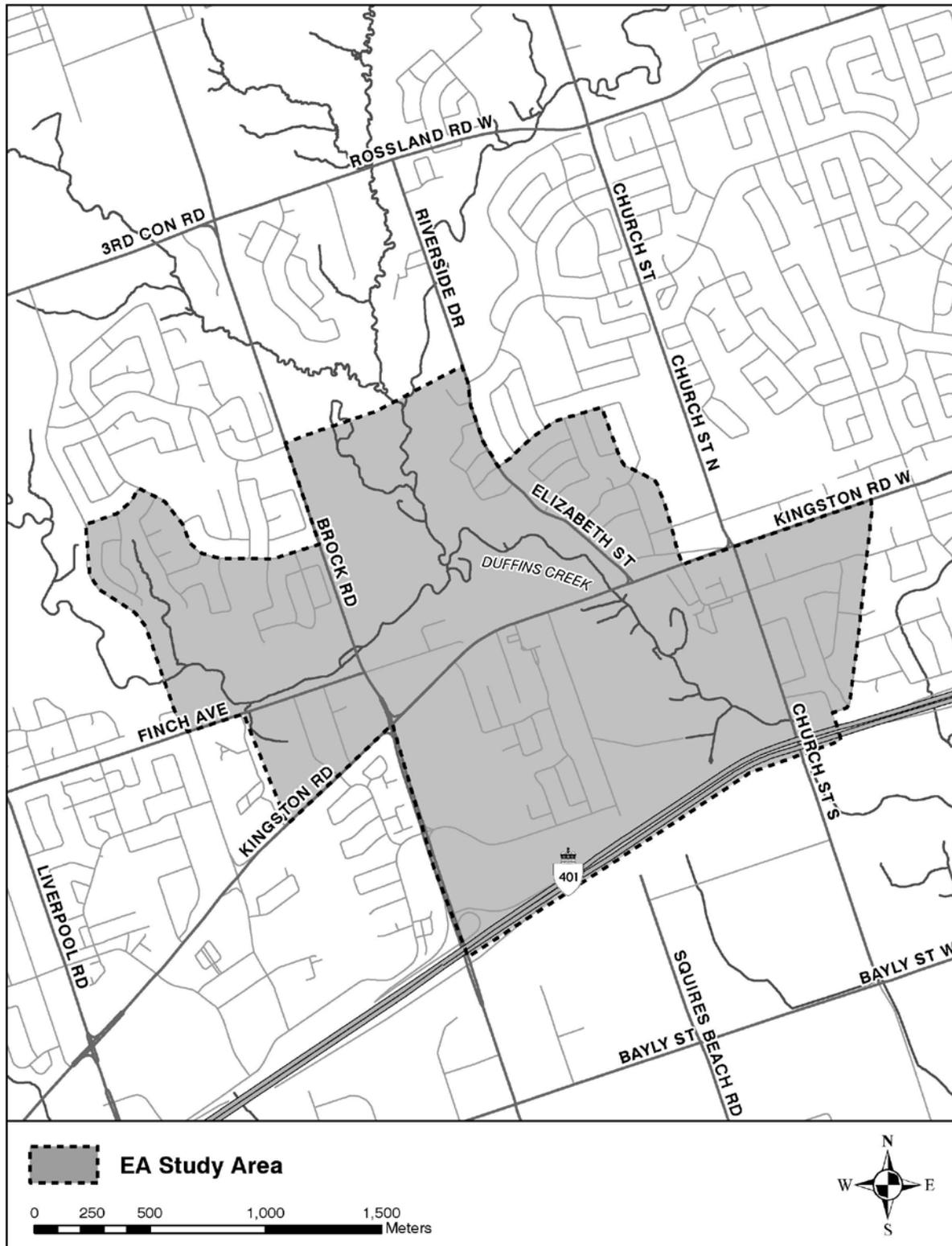
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# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



Attachment E  
PIC Meeting #2  
Details of Virtual PIC Notification

**From:** [Pickering Ajax Dyke Rehabilitation](#)  
**To:** [Pickering Ajax Dyke Rehabilitation](#)  
**Subject:** Conservation Ontario Class EA – Pickering & Ajax Dykes Rehabilitation - Virtual Public Information Centre Details  
**Date:** April 23, 2020 4:54:01 PM  
**Attachments:** [Notice of PIC#2 Postponement Advertisement.pdf](#)

---

Good afternoon,

Further to our previous notice, details of how to participate in the virtual Public Information Centre on April 28<sup>th</sup> are outlined below, as well as how to access the Public Information Centre informational materials before and after the event.

The second Public Information Centre (PIC) for the Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment, **will be held live online at 6:30 pm on April 28<sup>th</sup>, 2020**. You will need a computer, tablet or smartphone and an internet/data connection in order to participate. You must register online in order to attend the live meeting, this will give you a link to join the meeting. Please register by clicking here: <https://attendee.gotowebinar.com/register/720803945546408462>

'Display Boards' providing details of the work completed since the first PIC, as well as drawings of the proposed design will be available for you to view starting April 24<sup>th</sup>. A link to download the Display Boards will be listed under the heading **Public Information Centre #2: April 28, 2020** on the project website [www.trca.ca/PADR](http://www.trca.ca/PADR)

During the PIC you will be able to ask the study team your questions, which will be answered live during the meeting.

You may also provide the Study Team with your thoughts, concerns and comments by filling out a Comment/Feedback Form. This form will be available to fill out on the project website starting at 7pm on April 28<sup>th</sup> (during the PIC) and will close on May 5<sup>th</sup> at 11:59 pm. We ask that you fill out the comment form by May 5<sup>th</sup> so that the Study Team can proceed with the project, and incorporate your feedback into the next steps. However, you can continue to contact the Study Team with your questions or concerns at any time.

The presentation given during the PIC will be recorded and posted on the project website for viewing after the event.

If you are unable to access the PIC materials and meeting online, or are not comfortable with the virtual format, you may request a phone call with the Study Team, whom will be happy to discuss the project with you individually.

**PROJECT CONTACT INFORMATION:**

Website: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-624-4235

Please refer to the project website for further details about how to participate in the PIC.

Regards,

The PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)

---

**From:** Pickering Ajax Dyke Rehabilitation <PADR@trca.ca>  
**Sent:** Tuesday, March 17, 2020 3:31 PM  
**To:** Pickering Ajax Dyke Rehabilitation <PADR@trca.ca>  
**Subject:** RE: Postponement - Conservation Ontario Class EA - Notice of Public Information Centre

Good Afternoon,

The second Public Information Centre (PIC) for the Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment, **originally planned for March 24<sup>th</sup>, will now be held on April 28<sup>th</sup>, 2020.** A "Notice of Public Information Centre Postponement" will appear in the Ajax and Pickering News Advertiser on March 19<sup>th</sup>, 2020 and has been attached to this email.

Materials presented during the first PIC, which was held Oct 30<sup>th</sup>, 2019, are available for viewing on the project website [www.trca.ca/PADR](http://www.trca.ca/PADR). Materials presented during this second PIC will also be posted on the website following the PIC.

Kind Regards,

The PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)

---

**From:** Pickering Ajax Dyke Rehabilitation  
**Sent:** Friday, March 6, 2020 2:31 PM  
**To:** Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>  
**Subject:** Conservation Ontario Class EA - Notice of Public Information Centre

Good Afternoon,

Please be advised that Toronto and Region Conservation Authority (TRCA) is proposing to carry out remedial flood control works to provide long-term flood protection along sections of the Duffins Creek, in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred solution for the rehabilitation of two (2) existing flood control dykes through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013).

The second Public Information Centre (PIC) for the Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment will be held on March 24<sup>th</sup>, 2020. A “Notice of Public Information Centre” formally inviting interested persons to learn more about the project appeared in the Ajax and Pickering News Advertiser on March 5<sup>th</sup> and 19<sup>th</sup>, 2020 and has been attached to this email.

Materials presented during the first PIC, which was held Oct 30<sup>th</sup>, 2019, are available for viewing on the project website [www.trca.ca/PADR](http://www.trca.ca/PADR). Materials presented during this second PIC will also be posted on the website following the PIC.

Kindest Regards,

The PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)

Attachment F  
PIC Meeting #2  
Presentation Display Panels

# WELCOME TO PUBLIC INFORMATION CENTRE #2

## PICKERING AND AJAX DYKES REHABILITATION

### Class Environmental Assessment Project

#### Agenda

- Project Overview
- Alternative Design Concepts
- Evaluation of Design Concepts
- Recommended Preferred Design Concept
- Project Impacts and Mitigation
- Next Steps

#### Seeking your feedback on:

- Evaluation of Design Concepts
- Recommended Preferred Design Concepts
- Project Impacts and Mitigation
- Your input, issues and concerns



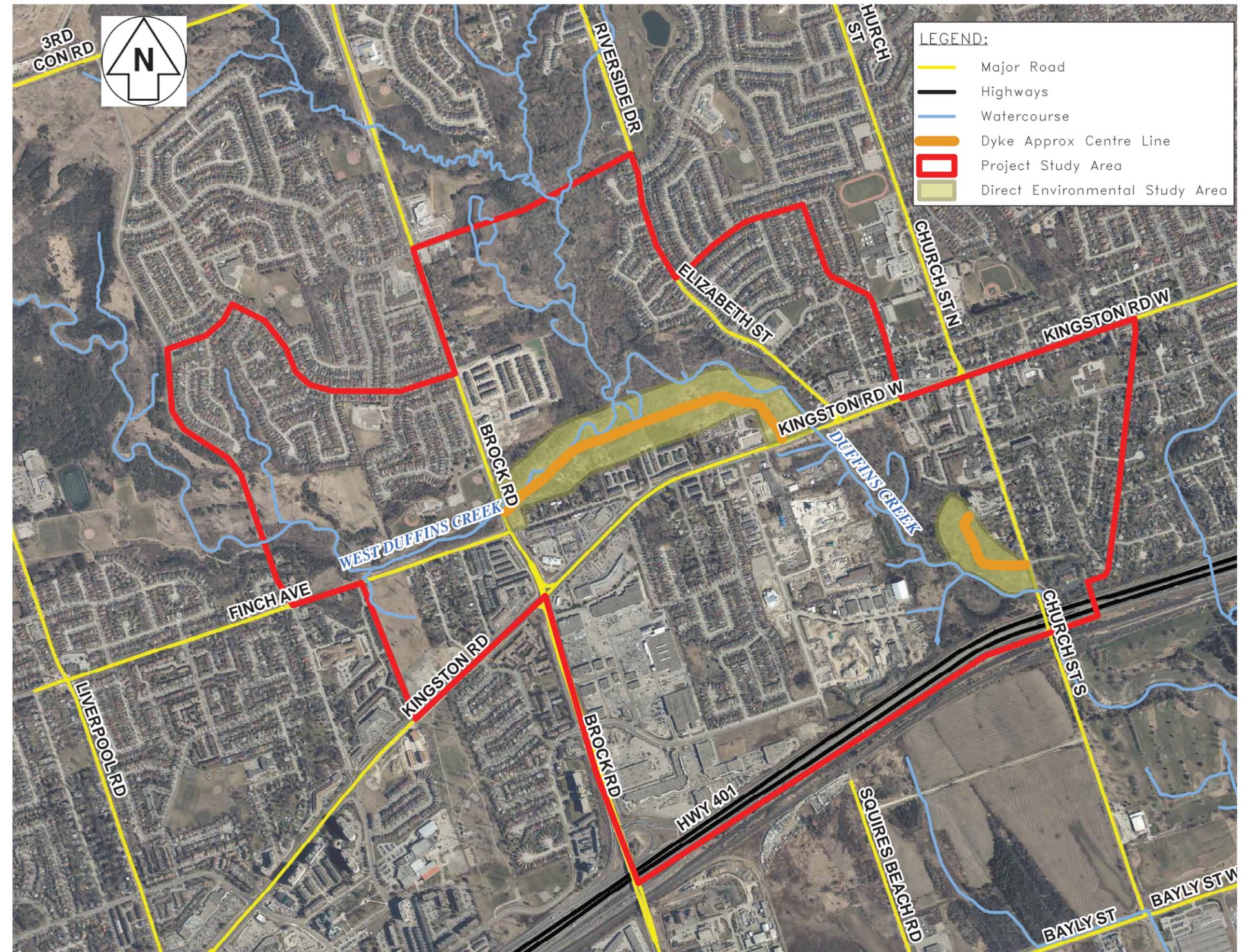
# WHERE IS THE PROJECT?

## DIRECT ENVIRONMENTAL STUDY AREA

Valley lands within the limits of the flood control structures (dykes) and the area primarily impacted by construction access and/or routes.

## PROJECT STUDY AREA

Valley lands and local communities surrounding the dykes that may be impacted by remedial works within the Direct Environmental Study Area.



# THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS

## Conservation Ontario Class Environmental Assessment

 PUBLIC CONSULTATION



The Pickering and Ajax Dykes Rehabilitation Project is following the Class EA process for Remedial Flood and Erosion Control Projects outlined by Conservation Ontario.

The Class EA process has five phases that must be completed

There are many opportunities for the  **PUBLIC TO CONSULT** with the Study Team throughout the process

# WHAT IS THE PROBLEM AND OPPORTUNITY?

## THE PROBLEM

- **The dykes are at risk of failure**
  - The dykes do not meet the current engineering design standards
  - Significant erosion of the creek banks in areas adjacent to the Pickering Dyke
  - Other issues
    - *Tree growth and root systems compromising integrity*
    - *Narrow crest width limits access for maintenance*



## THE OPPORTUNITY

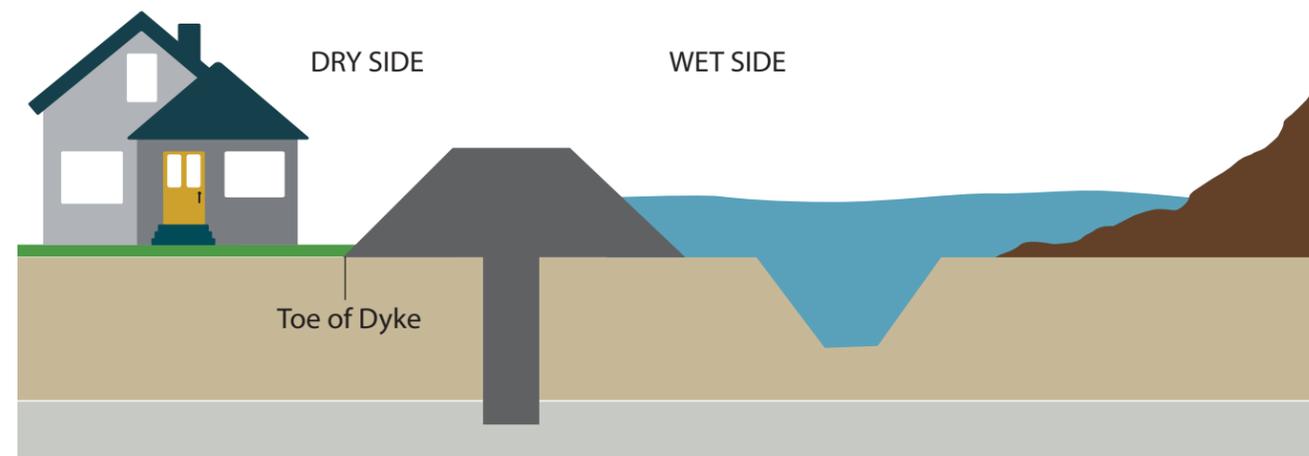
- **Meet current design standards**
  - Ensure performance of flood protection at the current crest levels at minimum.
    - *Pickering Dyke: 100-year storm flood event*
    - *Ajax Dyke: 50-year storm flood event*
- **Protect the dykes against channel bank erosion**
- **Enhance the natural environment**
- **Allow for future improvements**
  - Flexibility to increase level of flood protection in the future

# HISTORY OF FLOODING

- Before the dykes were constructed the adjacent residential areas flooded frequently
- **1980's (approximately) Special Policy Area (SPA) Designation** for Village East and Notion Road/Pickering Village communities
- **1984-1985 Pickering and Ajax Dykes constructed**  
Designed to provide flood protection for the communities up to the 500-year storm flood

## WHAT IS A DYKE?

A flood control dyke is a long wall or embankment built to prevent flooding from a river course.



## POTENTIAL FLOOD EXTENT WITHOUT DYKES



# FLOOD RISK 101



## WHAT IS A FLOODPLAIN?

A floodplain is the area beside a watercourse that would be covered in water by a flood event.

## WHAT IS A SPECIAL POLICY AREA (SPA)?

A Special Policy Area is a land use planning designation that acknowledges that there is already development in a flood vulnerable area and that only limited changes can be made to the development in the flood plain.

## WHAT IS THE REGULATORY FLOOD?

The Regulatory flood is the extent of flooding that would occur if a storm the size of Hurricane Hazel (the largest storm on record in southern Ontario) falls over an area.

# DYKE SEGMENTS

- The dykes were divided into segments based on unique characteristics of the dyke and surrounding area
- Segmentation allows for a solution unique to each segment

## PICKERING DYKE



### SEGMENT PICKERING 1 (P1)

#### Previously Segment 1 and 2

Preferred Alternative Solution: 'Hard' Engineering Solution to a 100 year level flood protection

#### Design Concepts

- H1 – MSE Wall + Sheetpile
- H2 – Modified Embankment + Sheetpile
- H3 – Sheetpile Only
- H4 – Modified Embankment + Concrete Wall

### SEGMENT PICKERING 2 (P2)

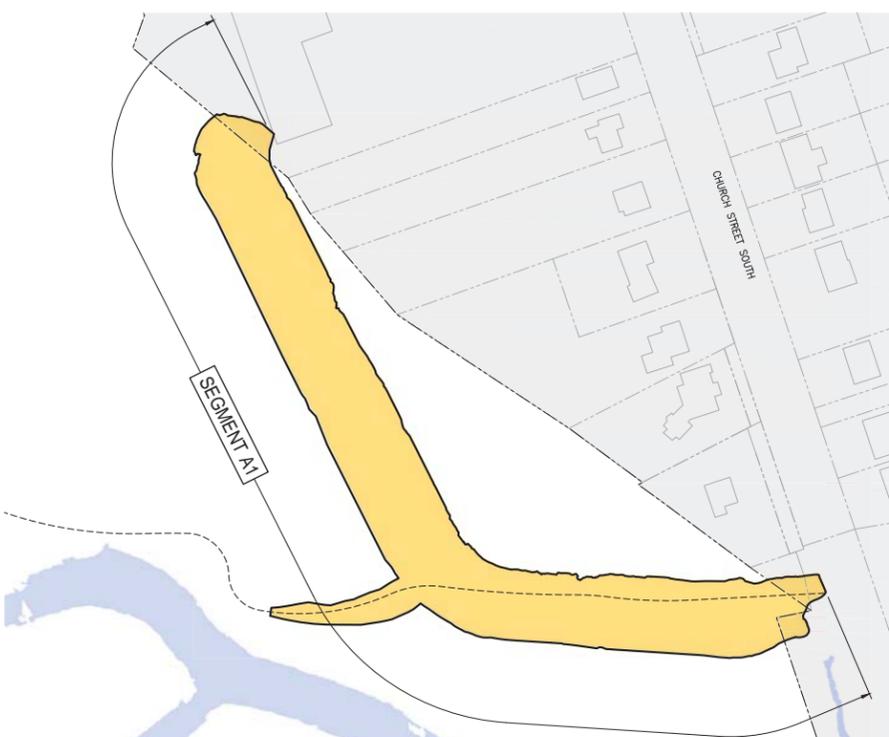
#### Previously Segments 3, 4 and 5.

Preferred Alternative Solution: 'Soft' Engineering Solution to a 100 year level flood protection

#### Design Concepts

- S1 – Modified Embankment + Filter
- S2 – Modified Embankment + Seepage Cutoff + Filter where needed

## AJAX DYKE



### SEGMENT AJAX 1 (A1)

#### Previously Segment 6.

Preferred Alternative Solution: 'Soft' Engineering Solution to a 100 year level flood protection

#### Design Concepts

- S1 – Modified Embankment + Filter
- S2 – Modified Embankment + Seepage Cutoff + Filter where needed

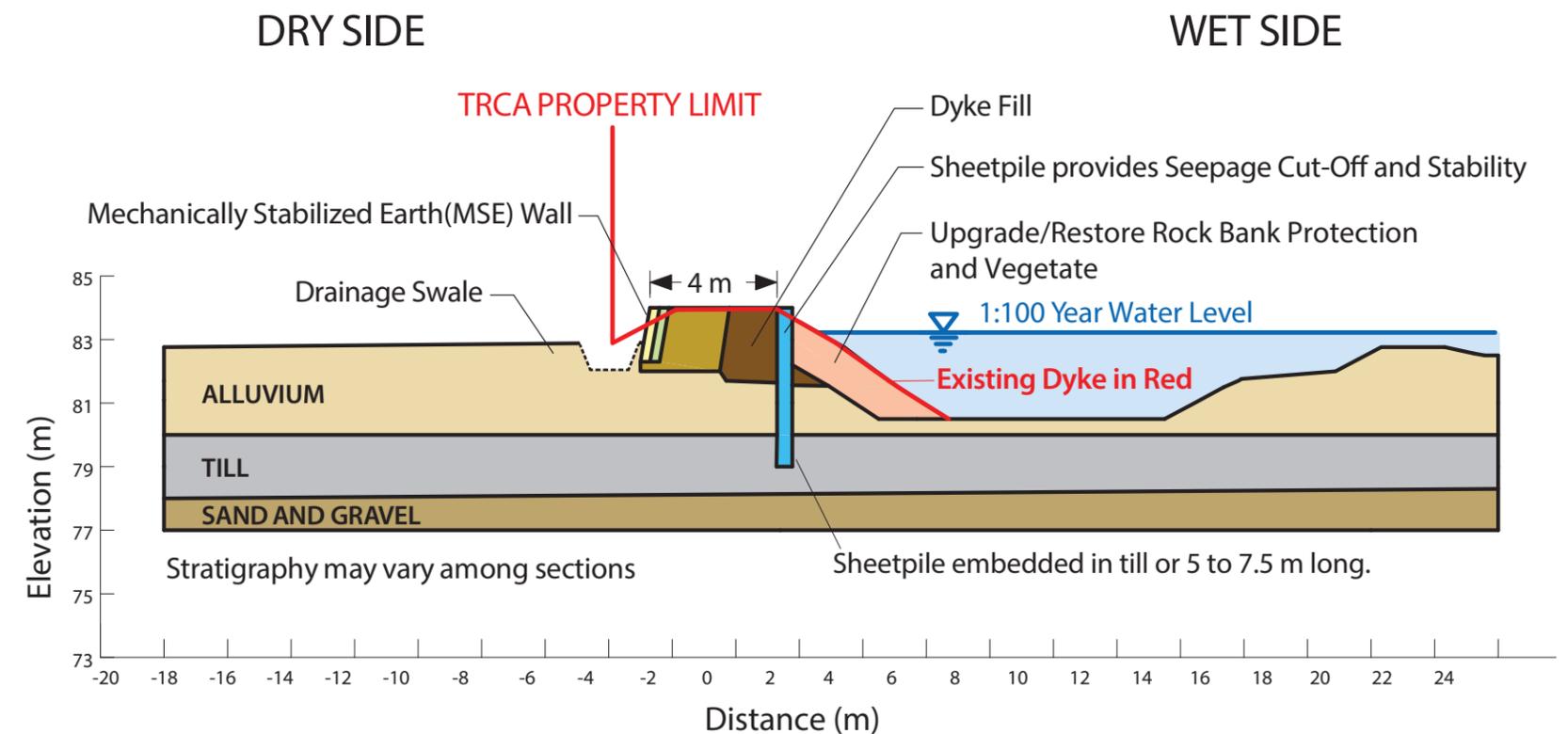
### DESIGN CONCEPT H1: MSE WALL + SHEETPILE

#### ADVANTAGES

- Moderate capital cost (\$7.2 million)
- Smallest footprint and disturbance area
- Smallest impact to private properties (no permanent impact, up to 5 m temporary impact for construction)
- Can be raised in the future without permanently impacting private properties

#### DISADVANTAGES

- Lowest aesthetics: not a natural appearance and requires a fence at top for public safety
- Dyke difficult to cross. Higher complexity for maintaining pedestrian access to creek.
- Slightly more complex construction than typical embankment
- Moderate construction duration





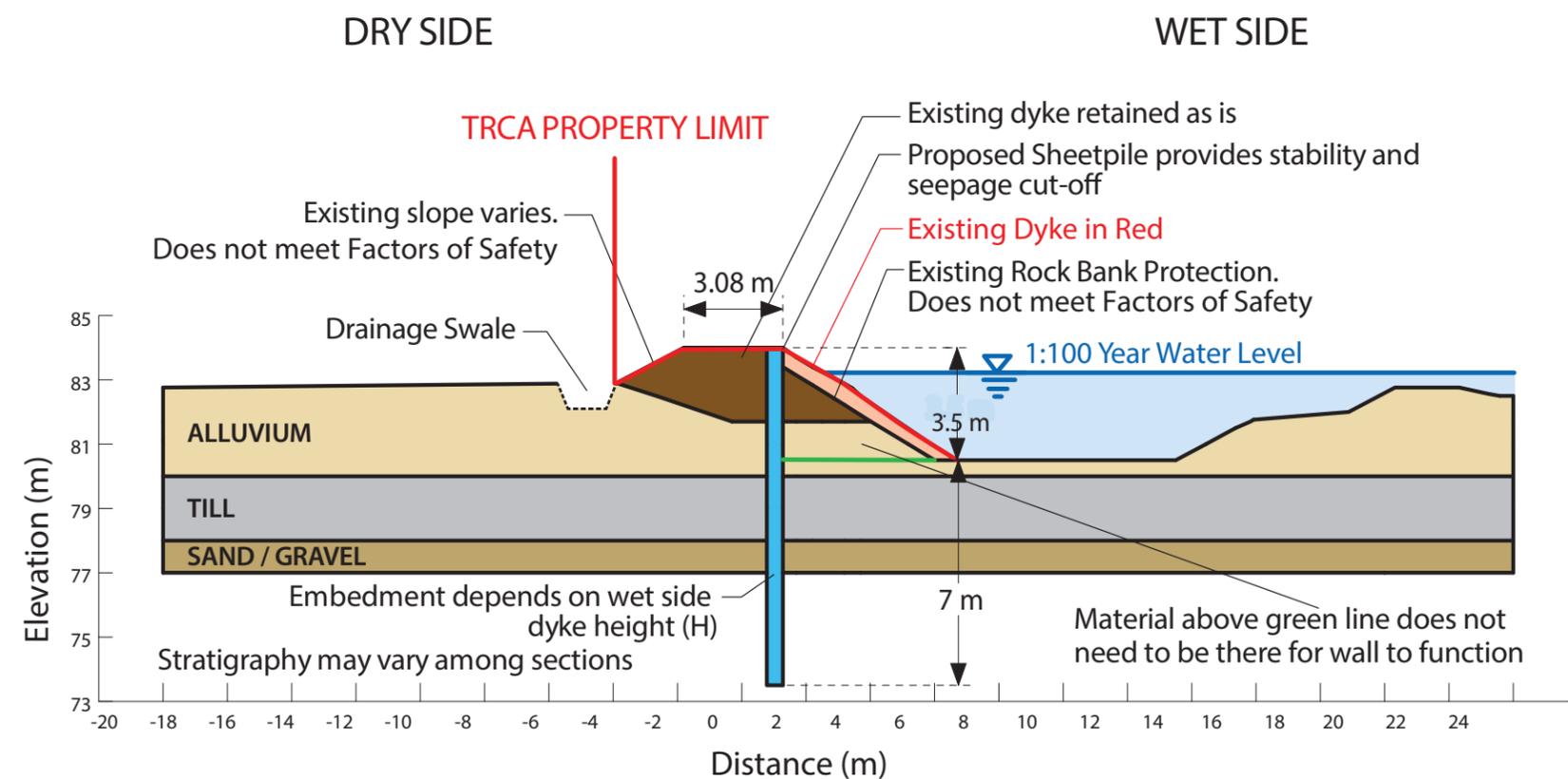
### DESIGN CONCEPT H3: DEEP STRUCTURAL SHEETPILE

#### ADVANTAGES

- Greatest aesthetics: most natural appearance
- Smallest permanent disturbance area
- Lowest immediate aquatic impacts

#### DISADVANTAGES

- Highest capital cost (\$11.1 million)
- Largest construction impact and largest equipment required
- Slopes do not meet standards and could fail, causing environmental impacts and requiring expensive repairs
- Narrower crest width limits maintenance access
- More susceptible to construction complications which could increase impacts



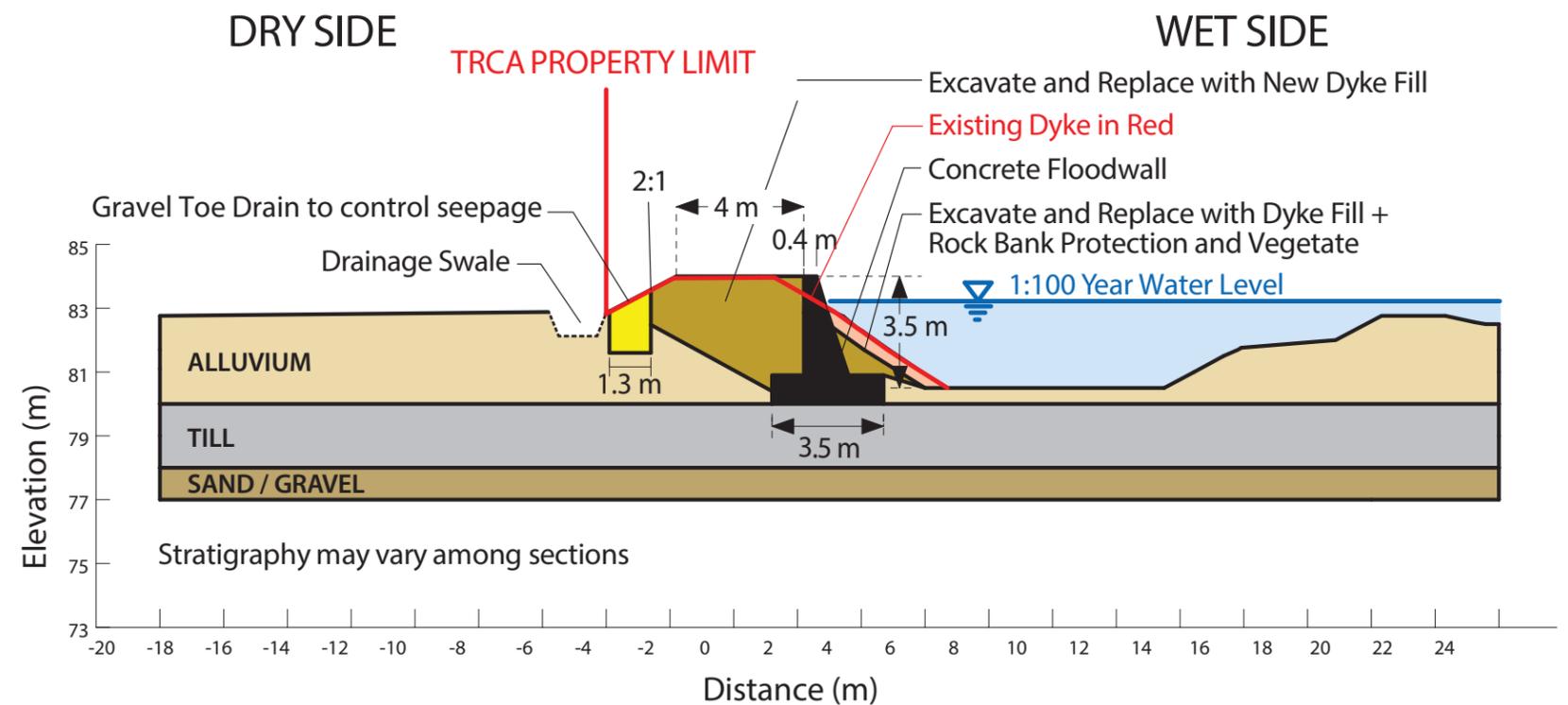
### DESIGN CONCEPT H4: MODIFIED DRY-SIDE EMBANKMENT + CONCRETE WALL

#### ADVANTAGES

- No notable advantages over other options

#### DISADVANTAGES

- High capital cost (\$10.7 million)
- Large construction disturbance including creek
- Difficult construction and future repairs
- Longest construction duration
- Impacts to private properties



## DESIGN CONCEPT S1: MODIFIED EMBANKMENTS + FILTER

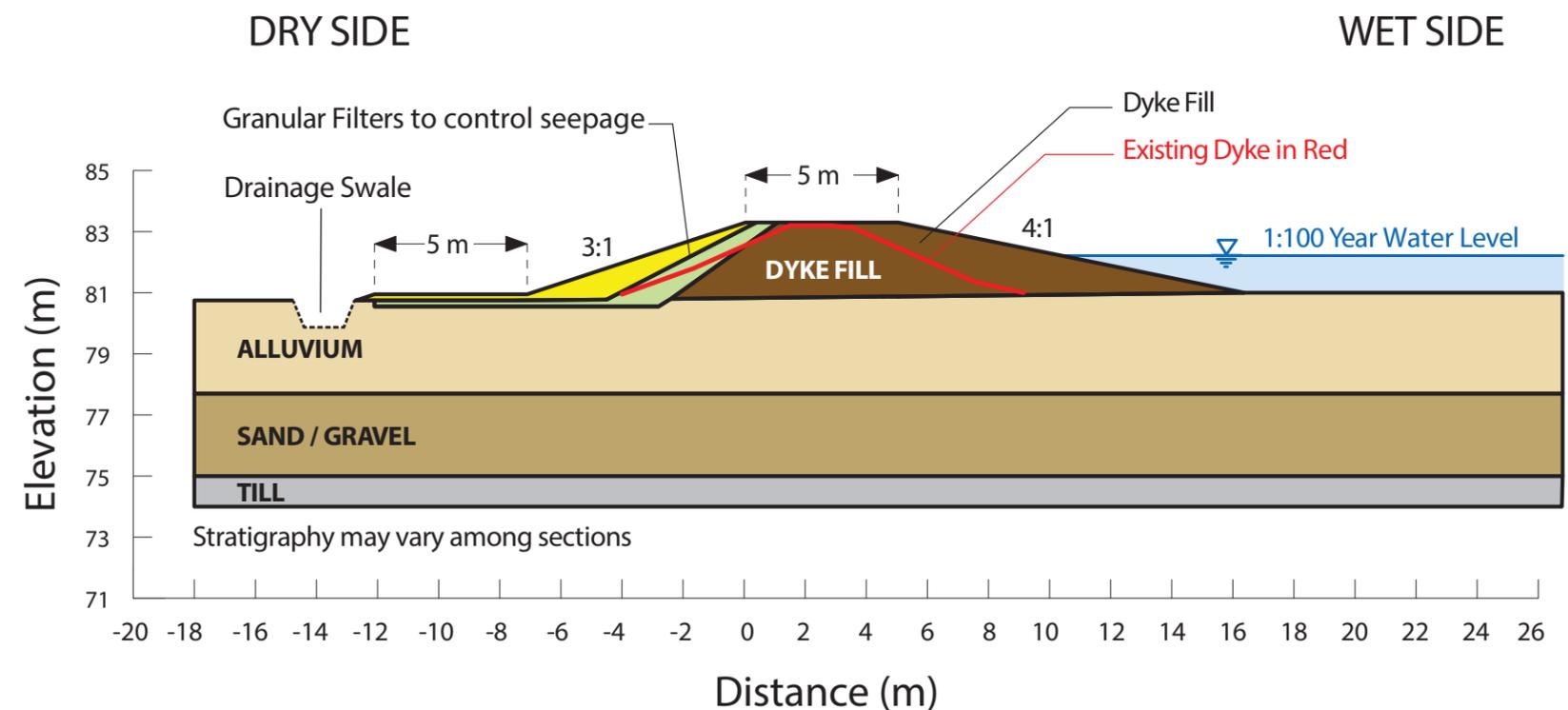
RECOMMENDED PREFERRED CONCEPT FOR DYKE SEGMENTS P2 & A1

### ADVANTAGES

- Lowest capital cost (P2 \$3 million and A1 \$2.6 million)
- Easier and faster construction with fewer impacts
- No interaction with buried utilities, minimal impact
- Easier to raise in the future

### DISADVANTAGES

- Largest footprint and construction area
- More area to maintain



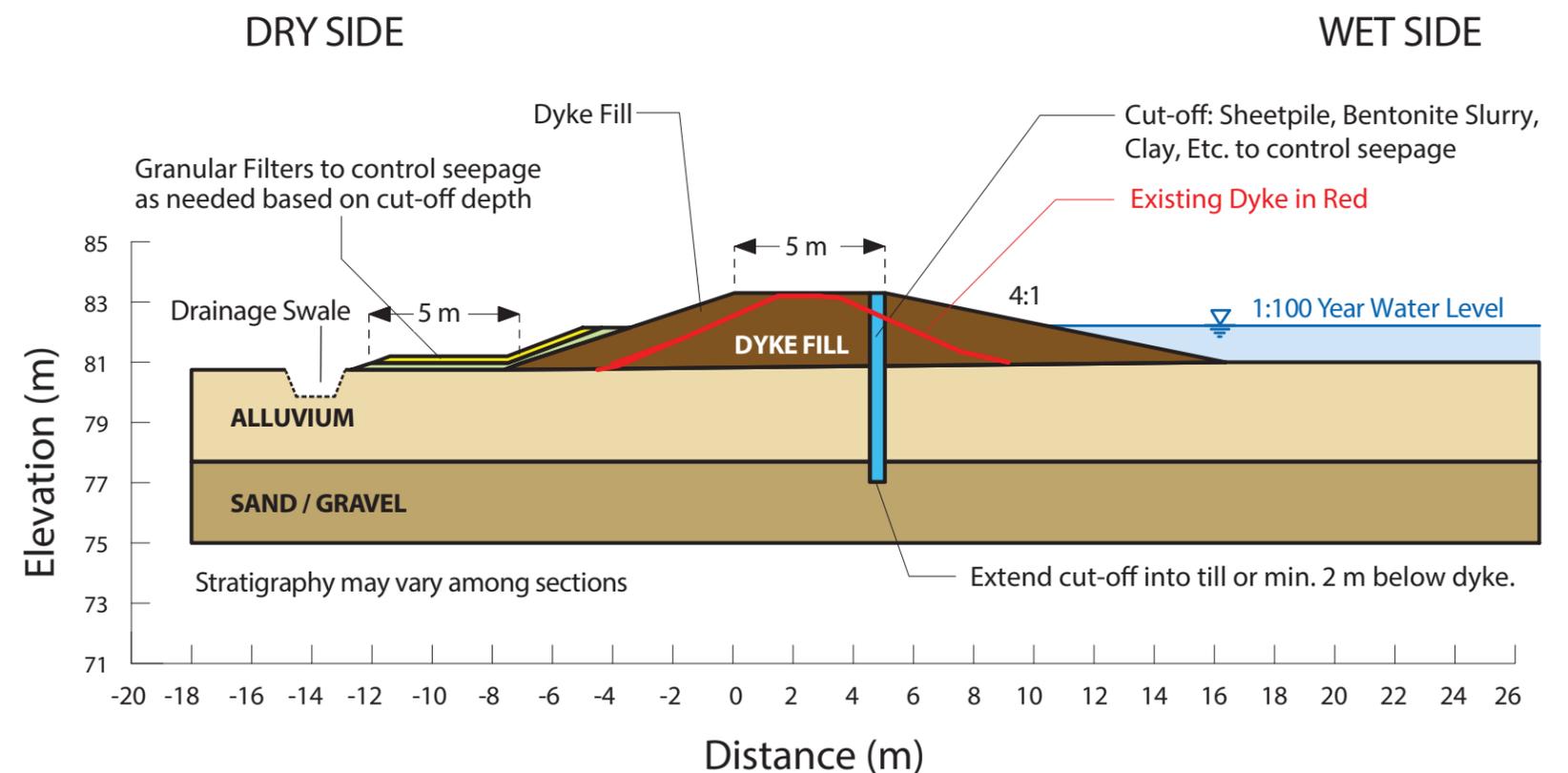
### DESIGN CONCEPT S2: MODIFIED EMBANKMENTS + SEEPAGE CUT-OFF + FILTER WHERE NEEDED

#### ADVANTAGES

- Smaller footprint and construction area than S1 where the filter is not needed
- Less area to maintain where the filter is not needed

#### DISADVANTAGES

- Highest capital cost (P2 \$9.1 million and A1 \$4.7 million)
- More complex construction, longer duration and more noise impacts
- Greatest impact & interaction with buried utilities
- More complex and expensive to raise in the future



# SUMMARY EVALUATION OF ALTERNATIVE DESIGN CONCEPTS

## SEGMENT P1 – PICKERING DYKE

EVALUATION CRITERIA	CONCEPT H1: MSE WALL + SHEETPILE	CONCEPT H2: MODIFIED DRY-SIDE EMBANKMENT + SHEETPILE	CONCEPT H3: STRUCTURAL SHEETPILE IN EXISTING	CONCEPT H4: MODIFIED DRY-SIDE EMBANKMENT + CONCRETE WALL
<b>SOCIAL ENVIRONMENT</b>				
Removal or disturbance to private and public property not owned by TRCA	<ul style="list-style-type: none"> <li>• Smallest disturbance and impacts to private properties</li> <li>• Dyke and drainage swale contained on TRCA property</li> <li>• Temporary construction access could require up to 5m at the rear of private properties</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate disturbance and impacts to private properties</li> <li>• Dyke contained on TRCA property while drainage swale could require up to 1.5m at the rear of private properties</li> <li>• Temporary construction access could require up to an additional 5m at the rear of private properties</li> </ul>	<ul style="list-style-type: none"> <li>• Largest disturbance and impacts to private properties</li> <li>• Dyke contained on TRCA property while drainage swale could require up to 1.5m at the rear of private properties</li> <li>• Temporary construction access could require up to 20m at the rear of private properties</li> <li>• Potential for additional impacts if tie-backs are required</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate disturbance and impacts to private properties</li> <li>• Dyke contained on TRCA property while drainage swale could require up to 1.5m at the rear of private properties</li> <li>• Temporary construction access could require up to an additional 5m at the rear of private properties</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>• Largest temporary and long-term impacts</li> <li>• Municipal trail from Bluebird Cres to the dyke would be temporarily closed for use as construction access</li> <li>• Fence / barrier required along top of MSE wall per local building codes</li> <li>• Pedestrian access to cross dyke would be impeded by wall</li> <li>• Opportunity to improve public realm at top of dyke</li> </ul>	<ul style="list-style-type: none"> <li>• Minor temporary impacts</li> <li>• Municipal trail from Bluebird Cres to the dyke would be temporarily closed for use as construction access</li> <li>• Dyke slope allows pedestrians to cross the dyke as existing</li> <li>• Fall barrier may be needed in some areas with steeper slopes as required</li> <li>• Opportunity to improve public realm</li> </ul>	<ul style="list-style-type: none"> <li>• Minor temporary impacts</li> <li>• Municipal trail from Bluebird Cres to the dyke would be temporarily closed for use as construction access</li> <li>• Dyke slope allows pedestrians to cross the dyke as existing</li> <li>• Fall barrier may be needed in some areas with steeper slopes as required</li> <li>• Less opportunity to improve public realm</li> </ul>	<ul style="list-style-type: none"> <li>• Minor temporary impacts</li> <li>• Municipal trail from Bluebird Cres to the dyke would be temporarily closed for use as construction access</li> <li>• Dyke slope allows pedestrians to cross the dyke as existing</li> <li>• Fall barrier may be needed in some areas with steeper slopes as required</li> <li>• Opportunity to improve public realm</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>• Moderate construction duration</li> <li>• Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Shortest construction duration</li> <li>• Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate construction duration with potential for extended duration should the use of tie-backs be required</li> <li>• Significant temporary construction impacts due to larger equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Longest construction duration</li> <li>• Significant temporary construction impacts due to significant excavation and concrete work</li> </ul>
Effects to servicing, utilities and infrastructure	<ul style="list-style-type: none"> <li>• No public utilities in the P1 segment</li> <li>• Potential private utilities can be accommodated during construction</li> </ul>	<ul style="list-style-type: none"> <li>• No public utilities in the P1 segment</li> <li>• Potential private utilities can be accommodated during construction</li> </ul>	<ul style="list-style-type: none"> <li>• No public utilities in the P1 segment</li> <li>• Potential private utilities can be accommodated during construction</li> </ul>	<ul style="list-style-type: none"> <li>• No public utilities in the P1 segment</li> <li>• Potential private utilities can be accommodated during construction</li> </ul>
Removal or disturbance of potential archaeological resources	<ul style="list-style-type: none"> <li>• Smallest excavation footprint</li> <li>• Smallest chance of disturbing potential archeological resources</li> </ul>	<ul style="list-style-type: none"> <li>• Small excavation footprint</li> <li>• Small chance of disturbing potential archeological resources</li> </ul>	<ul style="list-style-type: none"> <li>• Small excavation footprint</li> <li>• Small chance of disturbing potential archeological resources with increased potential should the use of tie-backs be required</li> </ul>	<ul style="list-style-type: none"> <li>• Largest excavation footprint</li> <li>• Largest chance of disturbing potential archeological resources</li> </ul>
Aesthetics	<ul style="list-style-type: none"> <li>• Low aesthetic value due to wall and fence</li> <li>• Natural appearance with native grasses on wet side</li> </ul>	<ul style="list-style-type: none"> <li>• High aesthetic value: natural appearance with native grasses</li> </ul>	<ul style="list-style-type: none"> <li>• Highest aesthetic value: natural appearance with native grasses, and greatest opportunity for trees and shrubs</li> </ul>	<ul style="list-style-type: none"> <li>• Low aesthetic value: natural appearance with native grasses on dry side but with concrete wall on wet side</li> </ul>
<b>SUMMARY</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	<b>LEAST PREFERRED</b>
<b>COST</b>				
Capital cost	• \$ 7.2 Million	• \$ 7.0 Million	• \$ 11.1 Million	• \$ 10.7 Million
Operations and maintenance cost	• Low maintenance cost	• Low maintenance cost	<ul style="list-style-type: none"> <li>• Moderate maintenance cost</li> <li>• Smallest area to mow (crest only) however, more effort and cost to repair regular nuisance failures</li> </ul>	• Low maintenance cost
<b>SUMMARY</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	<b>LEAST PREFERRED</b>

# SUMMARY EVALUATION OF ALTERNATIVE DESIGN CONCEPTS

## SEGMENT P1 – PICKERING DYKE

EVALUATION CRITERIA	CONCEPT H1: MSE WALL + SHEETPILE	CONCEPT H2: MODIFIED DRY-SIDE EMBANKMENT + SHEETPILE	CONCEPT H3: STRUCTURAL SHEETPILE IN EXISTING	CONCEPT H4: MODIFIED DRY-SIDE EMBANKMENT + CONCRETE WALL
<b>NATURAL ENVIRONMENT</b>				
Removal, disturbance or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Moderate permanent disturbance. Dyke footprint similar to existing</li> </ul>	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Moderate permanent disturbance. Dyke footprint slightly larger than existing</li> </ul>	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Largest temporary disturbance during construction</li> <li>Smallest permanent disturbance</li> <li>Potential additional areas of disturbance should tie-backs be required</li> </ul>	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Large temporary disturbance during construction</li> <li>Moderate permanent disturbance. Dyke footprint similar to existing</li> </ul>
Removal, disturbance or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>Moderate disturbance to aquatic habitat due to installation of erosion controls</li> <li>Significant temporary impact during construction if channel is used for access</li> <li>Permanent reduction of instream erosion</li> </ul>	<ul style="list-style-type: none"> <li>Moderate disturbance to aquatic habitat due to installation of erosion controls</li> <li>Significant temporary impact during construction if channel is used for access</li> <li>Permanent reduction of instream erosion</li> </ul>	<ul style="list-style-type: none"> <li>Smallest disturbance to aquatic habitat as erosion controls are limited</li> <li>Potential for large long-term impacts if channel bank erodes</li> <li>Largest short-term disturbance should tie-backs be required</li> </ul>	<ul style="list-style-type: none"> <li>Largest disturbance to aquatic habitat due to significant excavation</li> <li>Permanent reduction of instream erosion</li> </ul>
<b>SUMMARY</b>	<b>MOST PREFERRED</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	<b>LEAST PREFERRED</b>
<b>TECHNICAL ENVIRONMENT</b>				
Allowance for future enhancement to a higher level of flood protection	<ul style="list-style-type: none"> <li>Moderate effort to raise / enhance the dyke in the future</li> <li>Potential to raise MSE wall and extend sheetpile</li> </ul>	<ul style="list-style-type: none"> <li>Least effort to raise / enhance the dyke in the future</li> <li>Larger footprint required, which may require private properties</li> </ul>	<ul style="list-style-type: none"> <li>Moderate effort to raise / enhance the dyke in the future</li> <li>Potential increased maintenance needs and difficulty in maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Moderate effort to raise / enhance the dyke in the future</li> <li>Larger footprint required, which may require private property</li> </ul>
Construction complexity and constraints	<ul style="list-style-type: none"> <li>Moderate construction constraints and complexities</li> <li>Additional construction complexities due to the installation of sheetpile and MSE wall using small equipment within limited space</li> </ul>	<ul style="list-style-type: none"> <li>Least construction constraints and complexities</li> <li>Additional construction complexities due to the installation of sheetpile using small equipment within limited space</li> </ul>	<ul style="list-style-type: none"> <li>Significant construction constraints and complexities due to large construction equipment operating within limited space</li> <li>Potential increase to construction constraints and complexity if tie-backs are required</li> </ul>	<ul style="list-style-type: none"> <li>Significant construction constraints and complexities due to excavation and concrete work in close proximity to the creek</li> </ul>
Service life	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance and monitoring</li> <li>Additional erosion mitigation measures may be required long-term</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance and monitoring</li> <li>Additional erosion mitigation measures may be required long-term</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance and monitoring</li> <li>Additional erosion mitigation measures may be required long-term</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance and monitoring</li> <li>Additional erosion mitigation measures may be required long-term</li> </ul>
Maintenance requirements	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> <li>Potential, more complex, maintenance of MSE wall, fence / barrier and bank erosion protection</li> </ul>	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> <li>Potential maintenance of bank erosion protection</li> </ul>	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> <li>Potential maintenance of bank erosion protection and repair of damage from slope failures and tree failures</li> </ul>	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> <li>Potential, complex, maintenance of concrete wall and bank erosion protection</li> </ul>
<b>SUMMARY</b>	<b>MOST PREFERRED</b>	<b>MOST PREFERRED</b>	<b>MODERATELY PREFERRED</b>	<b>LEAST PREFERRED</b>
<b>OVERALL</b>	<b>MODERATELY PREFERRED</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>	<b>LEAST PREFERRED</b>

# SUMMARY EVALUATION OF ALTERNATIVE DESIGN CONCEPTS

## SEGMENT P2 – PICKERING DYKE

EVALUATION CRITERIA	CONCEPT S1: MODIFIED EMBANKMENTS + FILTER	CONCEPT S2: MODIFIED EMBANKMENTS + SEEPAGE CUT-OFF + (where needed) FILTER
<b>SOCIAL ENVIRONMENT</b>		
Removal or disturbance to private and public property not owned by TRCA	<ul style="list-style-type: none"> <li>No direct disturbance to private property</li> <li>All components of this design are contained on TRCA property</li> <li>Construction can be facilitated on TRCA and other public property</li> </ul>	<ul style="list-style-type: none"> <li>No direct disturbance to private property</li> <li>All components of this design are contained on TRCA property</li> <li>Construction can be facilitated on TRCA and other public property</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>Temporary removal of the TransCanada trail and municipal recreational trail during construction</li> <li>Easier pedestrian access over dyke due to gentler side slopes</li> <li>Opportunity to improve public realm / open space areas</li> </ul>	<ul style="list-style-type: none"> <li>Temporary removal of the TransCanada trail and municipal recreational trail during construction</li> <li>Easier pedestrian access over dyke due to gentler side slopes</li> <li>Opportunity to improve public realm / open space areas</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>Shortest construction duration</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Longest construction duration</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.), with potential for additional impacts if sheetpile is selected as preferred cut-off material</li> </ul>
Effects to servicing, utilities and infrastructure	<ul style="list-style-type: none"> <li>Least impact to existing servicing and utilities</li> <li>Pipes will remain covered during construction</li> <li>Requires coordination with multiple utility owners</li> </ul>	<ul style="list-style-type: none"> <li>Most impact to existing servicing and utilities due to interaction of seepage cut-off with pipes</li> <li>Pipes will need to be exposed during construction</li> <li>Requires coordination with multiple utility owners</li> </ul>
Removal or disturbance of potential archaeological resources	<ul style="list-style-type: none"> <li>Largest excavation footprint</li> <li>Highest chance of disturbing potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Smallest excavation footprint</li> <li>Lowest chance of disturbing potential archaeological resources</li> </ul>
Aesthetics	<ul style="list-style-type: none"> <li>High aesthetics value: natural appearance with native grasses</li> </ul>	<ul style="list-style-type: none"> <li>High aesthetics value: natural appearance with native grasses</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED
<b>NATURAL ENVIRONMENT</b>		
Removal, disturbance, or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Largest permanent disturbance, however only moderately larger than S2</li> </ul>	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Smallest permanent disturbance, however only moderately smaller than S1</li> </ul>
Removal, disturbance, or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>No permanent disturbance to aquatic habitat</li> <li>Potential for temporary disturbance during installation of drainage pipe</li> </ul>	<ul style="list-style-type: none"> <li>No permanent disturbance to aquatic habitat</li> <li>Potential for temporary disturbance during installation of drainage pipe</li> </ul>
SUMMARY	MODERATELY PREFERRED	MOST PREFERRED
<b>TECHNICAL ENVIRONMENT</b>		
Allowance for future enhancement to a higher level of flood protection	<ul style="list-style-type: none"> <li>Dyke can easily be built upon to raise / enhance in the future</li> </ul>	<ul style="list-style-type: none"> <li>Dyke can be built upon to raise / enhance in the future</li> <li>More complex to raise dyke as the seepage cut-off must also be raised</li> </ul>
Construction complexity and constraints	<ul style="list-style-type: none"> <li>Typical earthworks construction practices, equipment and constraints</li> <li>Low complexity</li> </ul>	<ul style="list-style-type: none"> <li>Typical earthworks construction practices and equipment</li> <li>Moderate complexity and additional constraints due to seepage cut-off</li> </ul>
Service life	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance</li> </ul>
Maintenance requirements	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> </ul>	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED
<b>COST</b>		
Capital cost	<ul style="list-style-type: none"> <li>\$ 3.0 Million</li> </ul>	<ul style="list-style-type: none"> <li>\$ 9.1 Million</li> </ul>
Cost of flood damages	<ul style="list-style-type: none"> <li>Low maintenance cost</li> <li>Largest area to mow, however only moderately larger than S2</li> </ul>	<ul style="list-style-type: none"> <li>Low maintenance cost</li> <li>Smaller area to mow, however only moderately smaller than S1</li> </ul>
SUMMARY	MOST PREFERRED	LEAST PREFERRED
<b>OVERALL</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>

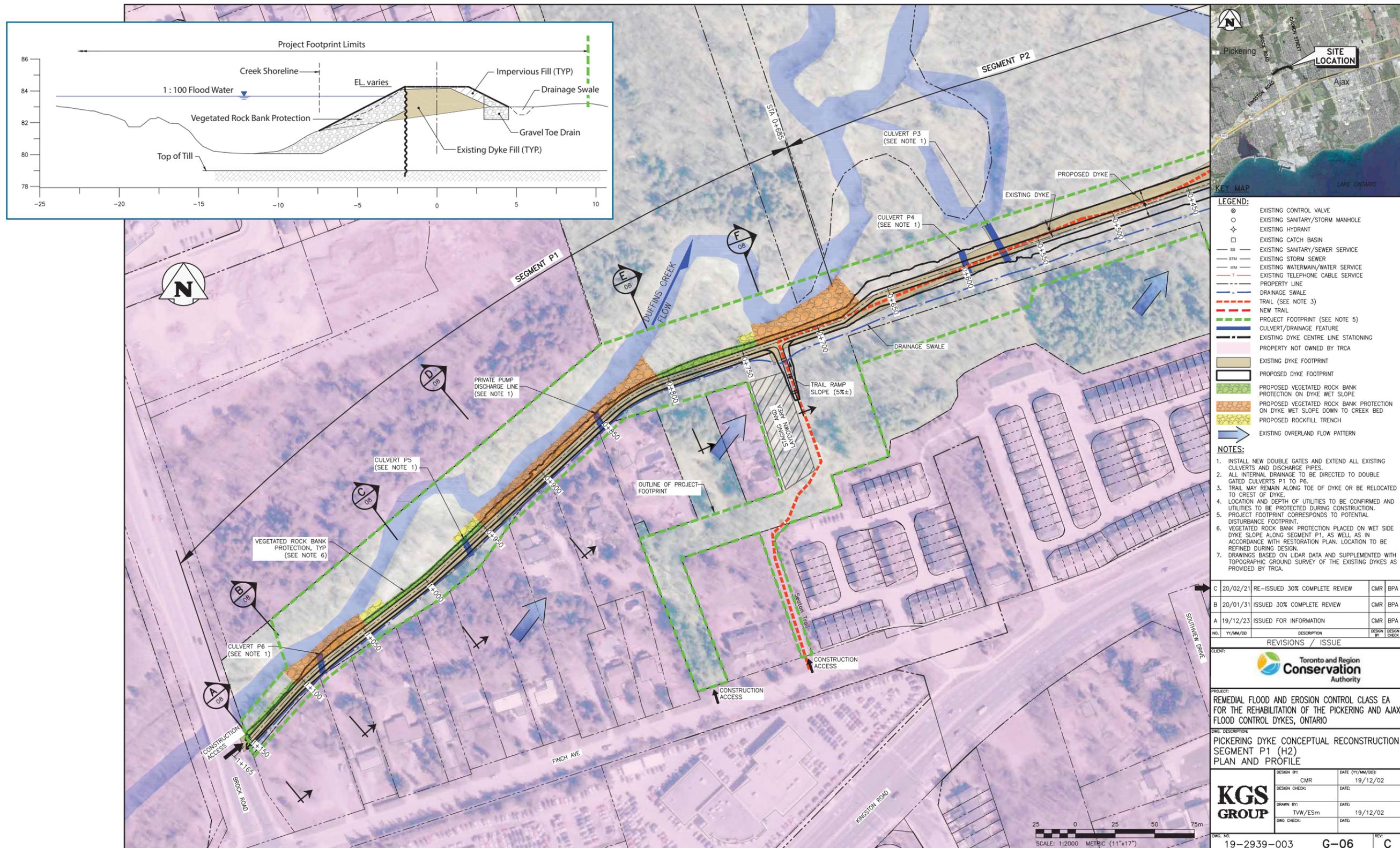
# SUMMARY EVALUATION OF ALTERNATIVE DESIGN CONCEPTS

## SEGMENT A1 – AJAX DYKE

EVALUATION CRITERIA	CONCEPT S1: MODIFIED EMBANKMENTS + FILTER	CONCEPT S2: MODIFIED EMBANKMENTS + SEEPAGE CUT-OFF + (where needed) FILTER
<b>SOCIAL ENVIRONMENT</b>		
Removal or disturbance to private and public property not owned by TRCA	<ul style="list-style-type: none"> <li>A small portion of the dyke will be located on private lands</li> <li>Potential temporary impacts to four properties for construction access</li> <li>Both concepts have equivalent impacts</li> </ul>	<ul style="list-style-type: none"> <li>A small portion of the dyke will be located on private lands</li> <li>Potential temporary impacts to four properties for construction access</li> <li>Both concepts have equivalent impacts</li> </ul>
Effects on public recreational spaces	<ul style="list-style-type: none"> <li>Temporary removal of the TransCanada trail during construction</li> <li>Easier pedestrian access over dyke due to gentler side slopes</li> <li>Opportunity to improve public realm / open space areas</li> </ul>	<ul style="list-style-type: none"> <li>Temporary removal of the TransCanada trail during construction</li> <li>Easier pedestrian access over dyke due to gentler side slopes</li> <li>Opportunity to improve public realm / open space area</li> </ul>
Disruption caused by construction activities	<ul style="list-style-type: none"> <li>Shortest construction duration</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Longest construction duration</li> <li>Typical temporary construction impacts (dust, noise, vibration, etc.), with potential for additional impacts if sheetpile is selected as preferred cut-off material</li> </ul>
Effects to servicing, utilities and infrastructure	<ul style="list-style-type: none"> <li>Least impact to existing servicing and utilities</li> <li>Pipes will remain covered during construction</li> <li>Requires coordination with multiple utility owners</li> </ul>	<ul style="list-style-type: none"> <li>Most impact to existing servicing and utilities due to interaction of seepage cut-off with pipes</li> <li>Pipes will need to be exposed during construction</li> <li>Requires coordination with multiple utility owners</li> </ul>
Removal or disturbance of potential archaeological resources	<ul style="list-style-type: none"> <li>Large excavation footprint into undisturbed soils</li> <li>Chance of disturbing potential archaeological resources</li> </ul>	<ul style="list-style-type: none"> <li>Large excavation footprint into undisturbed soils</li> <li>Chance of disturbing potential archaeological resources</li> </ul>
Aesthetics	<ul style="list-style-type: none"> <li>High aesthetics value: natural appearance with native grasses</li> </ul>	<ul style="list-style-type: none"> <li>High aesthetics value: natural appearance with native grasses</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED
<b>NATURAL ENVIRONMENT</b>		
Removal, disturbance, or enhancement of terrestrial habitat	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Large permanent disturbance (double the existing dyke footprint)</li> <li>Both concepts have equivalent impacts</li> </ul>	<ul style="list-style-type: none"> <li>Requires removal of trees</li> <li>Moderate temporary disturbance during construction</li> <li>Large permanent disturbance (double the existing dyke footprint)</li> <li>Both concepts have equivalent impacts</li> </ul>
Removal, disturbance, or enhancement of aquatic habitat	<ul style="list-style-type: none"> <li>No disturbance to aquatic habitat</li> </ul>	<ul style="list-style-type: none"> <li>No disturbance to aquatic habitat</li> </ul>
SUMMARY	MOST PREFERRED	MOST PREFERRED
<b>TECHNICAL ENVIRONMENT</b>		
Allowance for future enhancement to a higher level of flood protection	<ul style="list-style-type: none"> <li>Dyke can easily be built upon to raise / enhance in the future</li> </ul>	<ul style="list-style-type: none"> <li>Dyke can be built upon to raise / enhance in the future</li> <li>More complex to raise dyke as the seepage cut-off must also be raised</li> </ul>
Construction complexity and constraints	<ul style="list-style-type: none"> <li>Typical earthworks construction practices, equipment and constraints</li> <li>Low complexity</li> </ul>	<ul style="list-style-type: none"> <li>Typical earthworks construction practices and equipment</li> <li>Moderate complexity and additional constraints due to seepage cut-off</li> </ul>
Service life	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 50 year design life, with regular maintenance</li> </ul>
Maintenance requirements	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> </ul>	<ul style="list-style-type: none"> <li>Typical, low complexity, maintenance works required on a regular basis (ie. mowing and culvert cleaning)</li> </ul>
SUMMARY	MOST PREFERRED	MODERATELY PREFERRED
<b>COST</b>		
Capital cost	<ul style="list-style-type: none"> <li>\$ 2.6 Million</li> </ul>	<ul style="list-style-type: none"> <li>\$ 4.7 Million</li> </ul>
Cost of flood damages	<ul style="list-style-type: none"> <li>Low maintenance cost</li> <li>Largest area to mow</li> </ul>	<ul style="list-style-type: none"> <li>Low maintenance cost</li> <li>Large area to mow</li> </ul>
SUMMARY	MOST PREFERRED	LEAST PREFERRED
<b>OVERALL</b>	<b>MOST PREFERRED</b>	<b>LEAST PREFERRED</b>

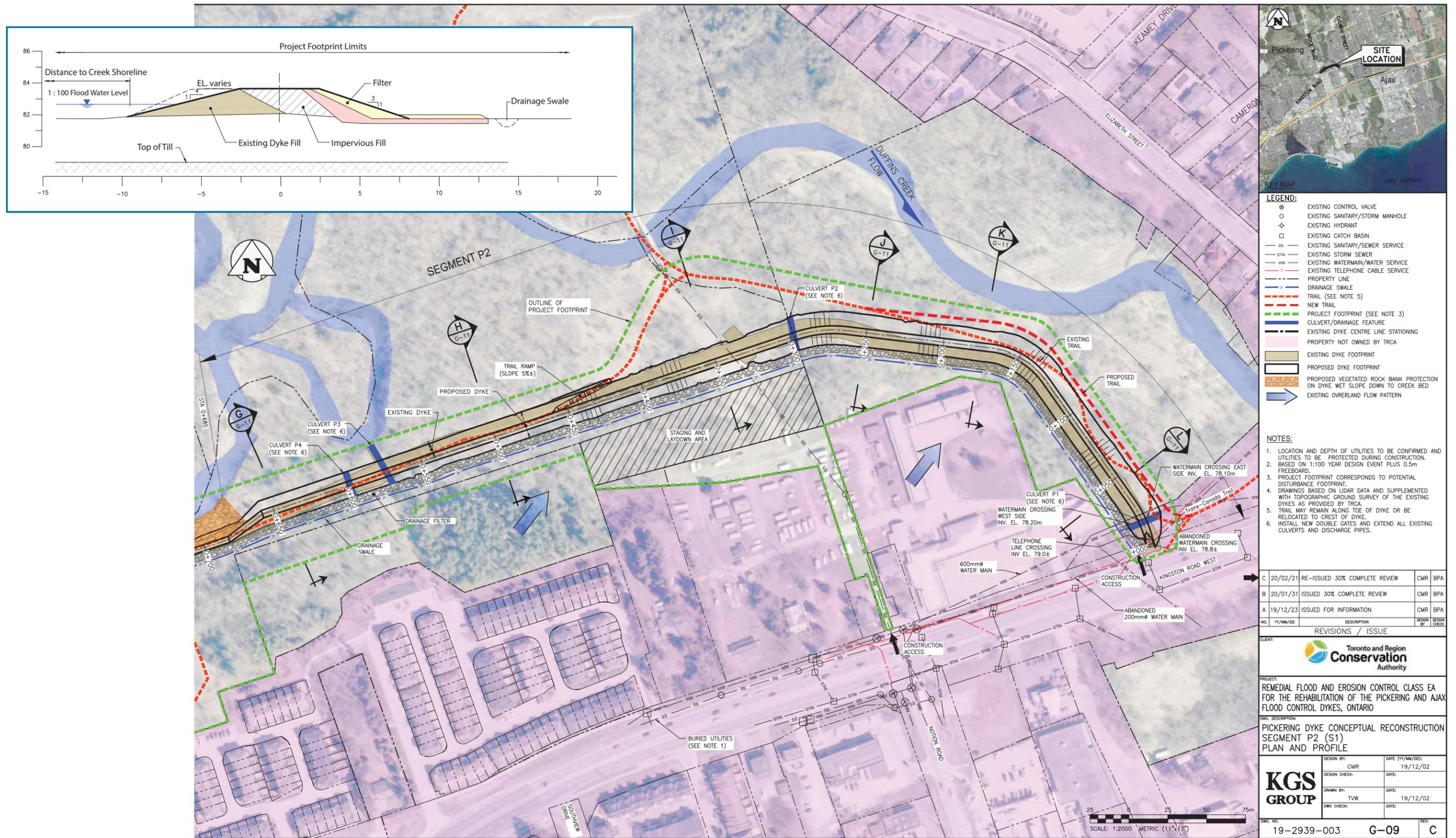
# RECOMMENDED PREFERRED DESIGN CONCEPT

## PICKERING DYKE SEGMENT P1 -DESIGN CONCEPT H2: Modified Dry-side Embankment + Sheetpile



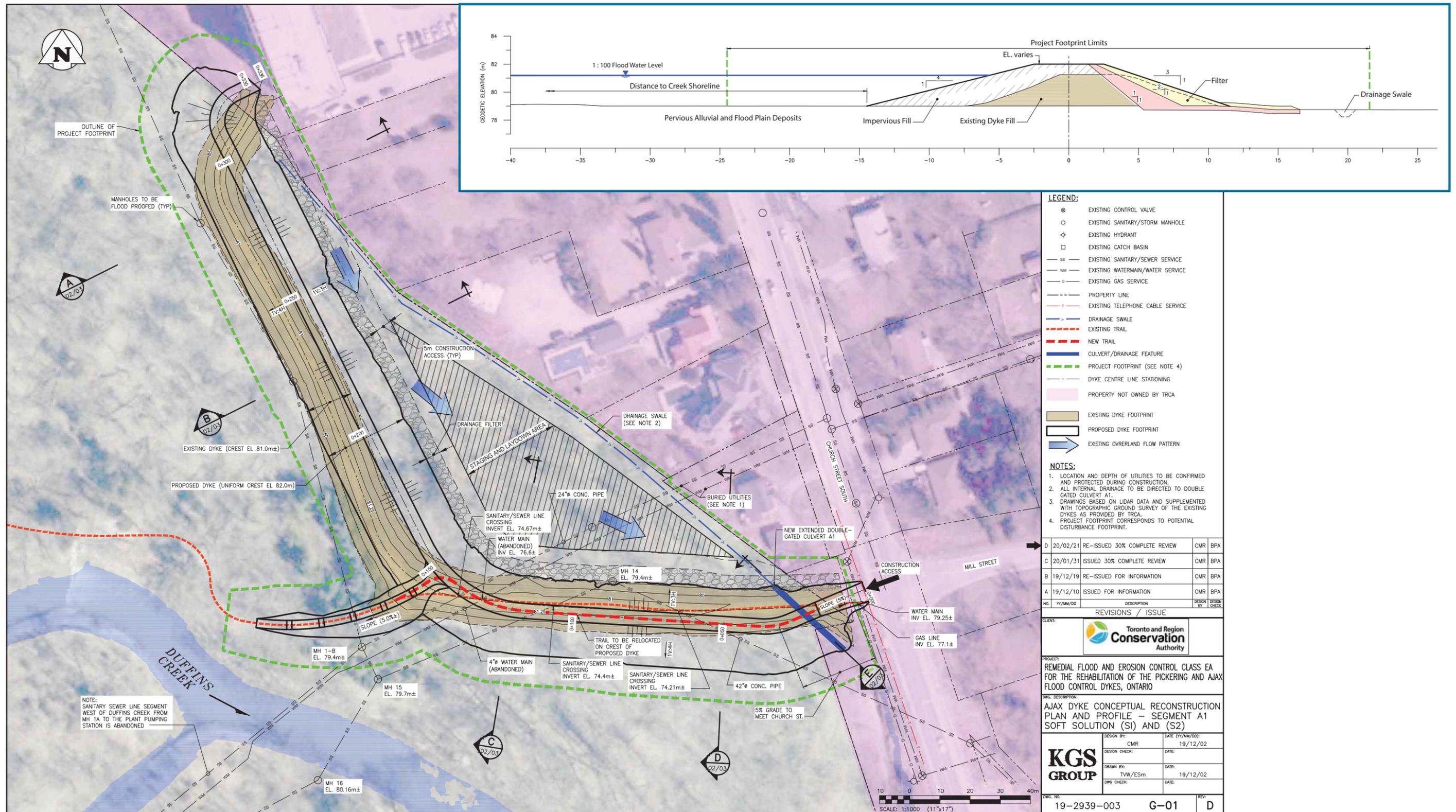
# RECOMMENDED PREFERRED DESIGN CONCEPT

## PICKERING DYKE SEGMENT P2 - DESIGN CONCEPT S1: Modified Embankments + Filter



# RECOMMENDED PREFERRED DESIGN CONCEPT

## AJAX DYKE SEGMENT A1 - DESIGN CONCEPT S1: Modified Embankments + Filter



# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## BIOLOGICAL ENVIRONMENT

### Effects

- Disturbance of wildlife habitat during construction and temporary avoidance of the area by wildlife
- Removal of approximately 2.7 ha of forest/woodland and thicket for rehabilitation of the Pickering Dyke
- Removal of approximately 1.4 ha forest/woodland for the rehabilitation of the Ajax Dyke
- Butternut Tree and Redside Dace habitat within the project impact area
- Potential negative impacts to fish habitat along Segment 1 of the Pickering Dyke during construction (due to in-water works) and long-term due to rock bank protection

### Mitigation Measures

- All temporarily disturbed areas will be restored and planted with native vegetation
- A tree compensation plan will be developed during detailed design
- Guidelines to reduce risk to migratory birds as per the Migratory Bird Act will be followed including removal of trees outside of the nesting window
- Species at Risk surveys during detailed design and mitigation in consultation with the Ministry of the Environment, Conservation and Parks
- Construction fencing and avoiding construction activities within the buffer area for Butternut Tree.
- Evaluation of harmful effect to fish habitat during detailed design and mitigated e.g. adhere to timing windows, rock bank protection optimized for both erosion protection and fish habitat
- Adherence to Best Management Practices for in-water works
- Creek features restored to pre-construction condition or better

### Net Effects Biological Environment

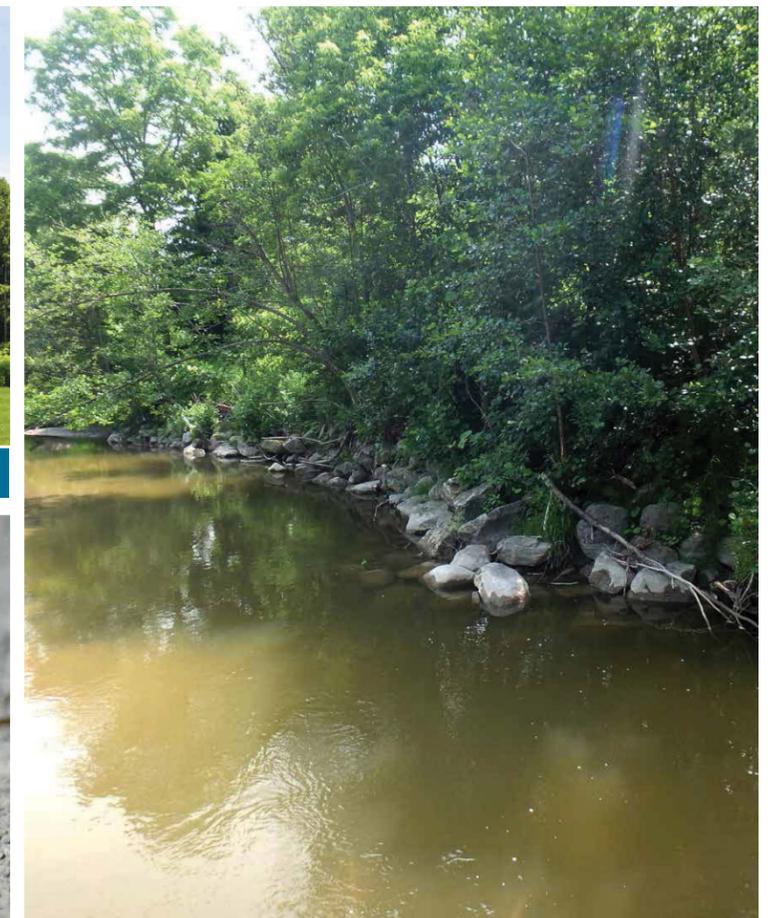
- Permanent removal of approximately 2.7 ha of terrestrial habitat to be compensated off-site.
- Re-established vegetation will be comprised of targeted native species and will contribute to a healthier ecosystem.
- Permanent vegetation removals are linear and narrow in comparison to valley scale so not expected to be detrimental to the overall terrestrial habitat value.



Butternut tree



Baby Snapping Turtle



Creek bank erosion repair.

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## ENGINEERING/TECHNICAL ENVIRONMENT

### Effects

- Flood protection afforded by the dykes will be compromised / reduced during construction, as portions of the dyke are being rebuilt / rehabilitated
- Long term improvements to dyke stability, creek bank stability, and reduction of creek bank erosion
- Long term improvement to dyke access for maintenance
- No impact to Special Policy Area designation
- Improvements to extreme storm event flood conditions. Up to 100-year storm event is contained within valley (restricted by dykes)

### Mitigation Measures

- Dyke construction works to be completed outside of spring freshet period during less flood prone seasons
- A risk management plan, to minimize risk and restore flood protection during construction in short notice, will be required from the contractor

### Net Effects Engineering/Technical Environment

- Positive effects on long term flood protection, dyke and bank stability, and channel erosion
- Improved ability to maintain the flood protection infrastructure
- Minimized risk of flooding during construction. Risk expected to be similar or better than existing (due to current potential for dyke failure)

## SOCIOECONOMIC ENVIRONMENT

### Effects

- Potential impact to private property for access during construction and potentially long term
- Improved riverine flood protection for properties within the Special Policy Areas
- Potential impacts to local traffic during construction due to material hauling activities (e.g. Kingston Road West, Brock Road and Church Street South)
- Access to creek temporarily restricted during construction
- Potential impact to underground utilities due to construction
- Potential construction timing conflict with the Durham Bus Rapid Transit project

### Mitigation Measures

- Further refinement of dyke rehabilitation design during detailed design stage to focus on reducing dyke footprint and construction access requirements
- A traffic management plan and communication strategy will be developed for construction
- Synergies with utilities upgrades to be explored during subsequent project design and planning stages. Coordinate with utilities on timing of upgrades
- Coordinate with other projects to reduce/avoid construction conflicts

### Net Effects Socioeconomic Environment

- Minimized impacts to private properties
- Improved riverine flood protection for properties within the Special Policy Areas
- Minimized impacts to traffic in the Direct and Project Study Area during construction
- Temporary restrictions to pedestrian routes through Direct Study Area during construction

This panel provides a summary of the evaluation highlighting the environment factors that we expect the public to be most interested in based on previous consultations. The full evaluation will be available for public review as part of the complete Environmental Study Report.

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## CULTURAL ENVIRONMENT

### Effects

- Temporary removal/closure of trails will impact accessibility within the parklands in the Direct Project Area during construction
- There will be a permanent aesthetic change as there will not be trees within the dyke footprint
- Possibility of incorporating some vertical structural components into dyke where public space is most restricted to avoid property impacts. Fencing / fall barrier could be necessary in those areas for public safety
- In most areas pedestrian accessibility to cross dykes will be improved with more gradual side slopes and clear passage
- Chance of impacting potential archaeological resources (per Stage 1 assessment)

### Mitigation Measures

- Trail will be reconstructed to present conditions or better
- Reconstructed trails can be located differently to improve vistas / public realm
- Appropriate public notification of construction works and temporary trail closure
- Pedestrian barriers into work areas and other safety measures to be implemented during construction to ensure public safety
- If possible, trail closures will be scheduled during periods of lower use and provide accessibility during weeknights and weekends. Safety considerations provided
- Restoration of dykes will favour natural look, with grassy dyke slopes
- Stage 2 Archaeological Assessment will be carried out prior to construction to confirm presence of archaeological resources

### Net Effects Cultural Environment

- Temporary and minimized impacts to access and enjoyment of recreation areas during construction
- Dyke appearance will be different than present but will maintain natural appearance in general
- In most areas pedestrian accessibility to cross dykes will be improved with more gradual side slopes and clear passage

## PHYSICAL ENVIRONMENT

### Effects

- Potential noise, dust and vibration impacts to adjacent properties during construction
- Potential spills during construction could affect soil and surface water quality
- Contaminated soils have not been identified on site but they could exist in area of excavations
- Changes to high water flow regimes. Up to 100-year storm event is contained within valley (restricted by dykes)
- Improvements to surface water drainage on dry side through formalized drainage swales discharging to culverts in dykes
- Potential, but not expected, localized effects to groundwater flow patterns

### Mitigation Measures

- Construction best management practices will be used to minimize noise, dust, vibration, and effectively implement spill control, sediment control, and soil management. This will include implementation of construction management and contingency plans.
- Application of TRCA Erosion and Sediment Control Guidelines
- Works restricted by Noise By-Law
- Groundwater study recommended to determine if there is impact

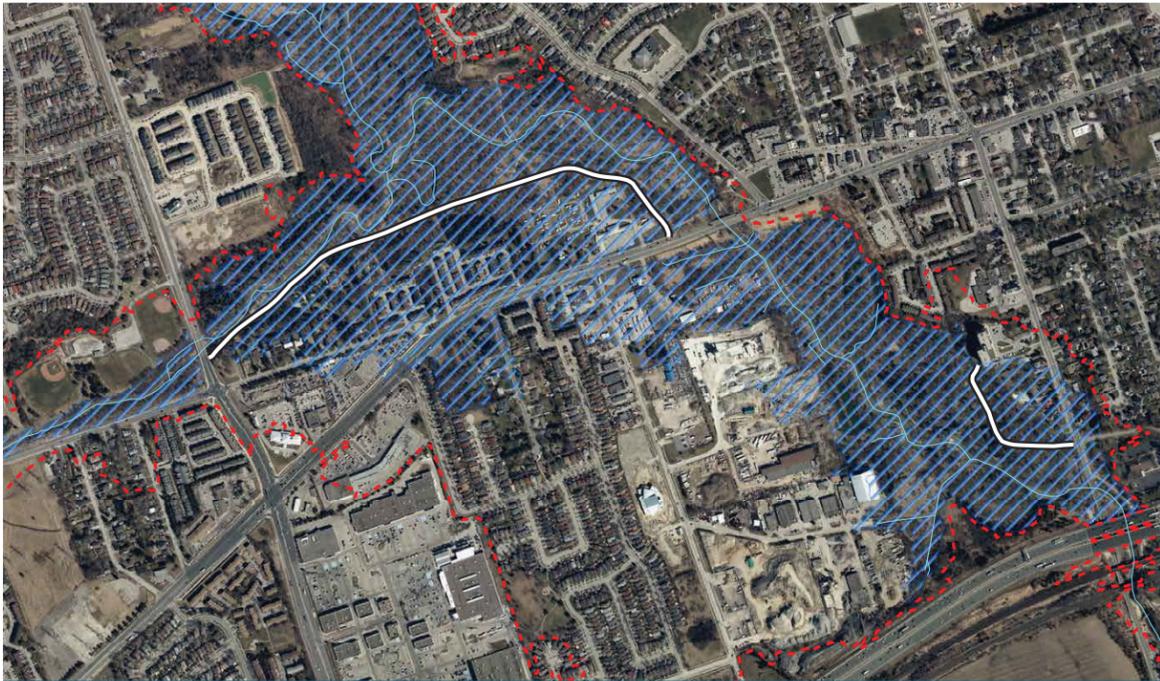
### Net Effects Physical Environment

- Nuisance effects from construction activities will be lessened to the extent possible
- Risk of spills, sedimentation and spreading contaminated soils effectively controlled

This panel provides a summary of the evaluation highlighting the environment factors that we expect the public to be most interested in based on previous consultations. The full evaluation will be available for public review as part of the complete Environmental Study Report.

# CHANGES TO FLOOD CONDITIONS

## 100-YEAR FLOOD EVENT



Potential extent of flooding without dykes (ie. a dyke failure)

**Without the dykes approximately 60 buildings would be flooded during a 100-Year Flood Event.**

The majority of the flooded buildings are residential.

Additionally, Finch Avenue, Kingston Road and Church Street South would be flooded during a 100-Year Flood Event.



Extent of flooding with current dyke heights

Rehabilitating the dykes to their current height would provide 100-Year Flood Event protection for the Pickering Special Policy Area community.

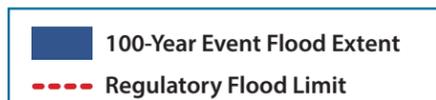
However, 10 buildings (all residential) in the Ajax Special Policy Area community would still be flooded.



Extent of flooding with proposed dykes

**The proposed dyke rehabilitation provides 100-Year Flood Event protection for both the Pickering and Ajax Special Policy Area communities.**

*Note: The proposed dyke rehabilitation does not effect the Regulatory Flood Limit.*



# NEXT STEPS AND THANK YOU

## Next Stage of the Environmental Assessment will include the following:

- Refinement of design concepts, evaluation and impacts assessment based on feedback received
- Confirmation of selection of the Preferred Design Concept
- Preparation of Environmental Monitoring Plan
- On-going consultation with agencies, landowners and other stakeholders
- Completion of Environmental Study Report
- Project Filing with Ministry of the Environment, Conservation and Parks (MECP)
- The complete Environmental Study Report will be available for public review for a 30-day period following the Notice of Filing. This is tentatively scheduled for July 2020.

We appreciate the time you have taken to learn more about the Pickering and Ajax Dykes Rehabilitation EA. Your input is important for the success of the EA process. Please provide your input.

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## HOW TO STAY CONNECTED:

- Send us your comments or questions. Email us at [PADR@trca.ca](mailto:PADR@trca.ca)

**Join our mailing list** – leave us your email or mailing address if you would like to be kept up to date as the study progresses

Contact the Project Team with any additional comments or questions at any time:

### **PADR EA Project Coordinator**

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

[www.trca.ca/PADR](http://www.trca.ca/PADR)

PHONE: 416-624-4235

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON



Attachment G  
PIC Meeting #2  
Presentation Material

# PICKERING AND AJAX DYKES REHABILITATION

## Class Environmental Assessment

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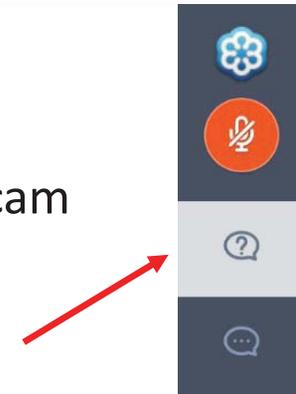
**PUBLIC INFORMATION CENTRE #2**  
**APRIL 28, 2020**

# LAND ACKNOWLEDGEMENT

We acknowledge the land we are standing on is the traditional territory of nations including the Mississauga's of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat people and is now home to many diverse First Nations, Inuit and Métis peoples.

# HOUSEKEEPING

- Attendees are muted.
- If you are using a smart phone, you can switch between webcam and slideshow view by swiping the screen.
- Use the question function to submit your questions.
- After the presentation there will be a Q&A session. Questions will be read aloud and answered by our panel of experts.
- You may submit your questions at any time during the presentation or Q&A session. Submitted questions are only visible to the meeting organizers.



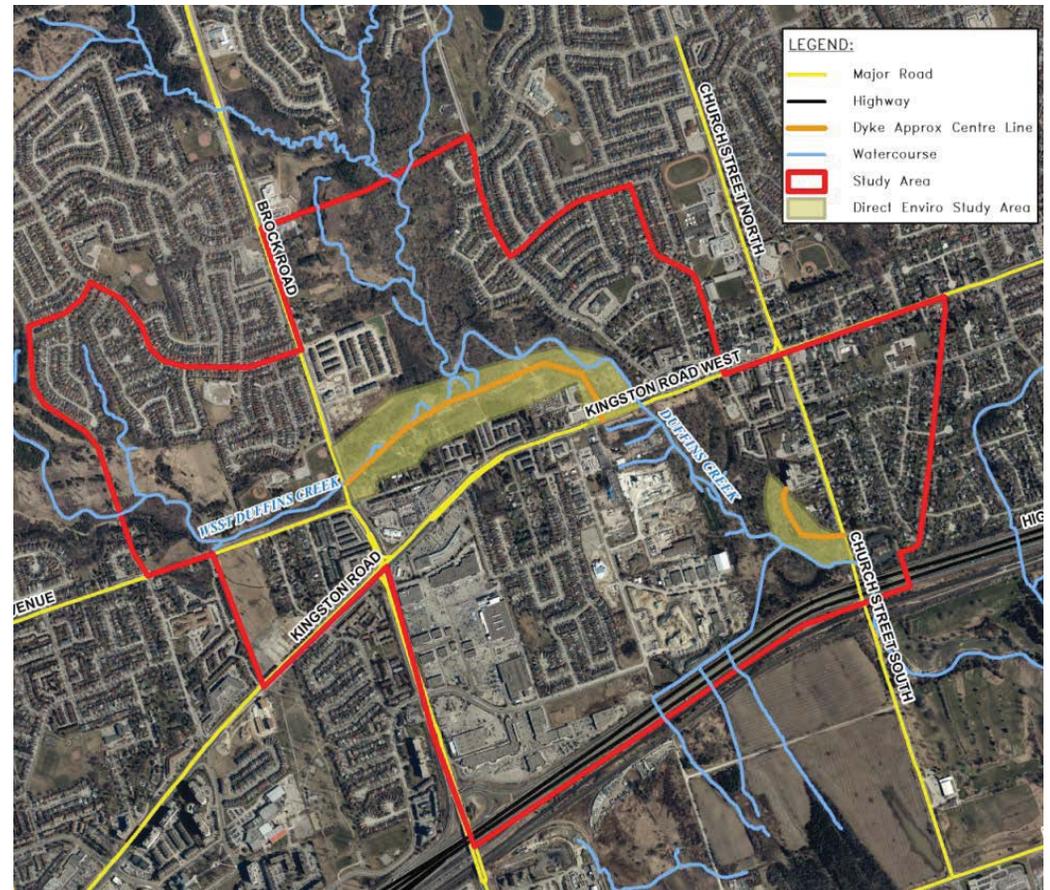
# WELCOME TO PIC #2

## PRESENTATION AGENDA

- Recap: Problem and Opportunity
- Recap: Preferred Alternative Solution
- Design Concepts for Preferred Alternative
- Evaluation of Design Concepts
- Summary of Impacts and Mitigation
- Next Steps

## SEEK YOUR FEEDBACK ON:

- Design concepts for preferred alternative solution
- Evaluation of design concepts
- Impacts and mitigation
- Your input, issues and concerns

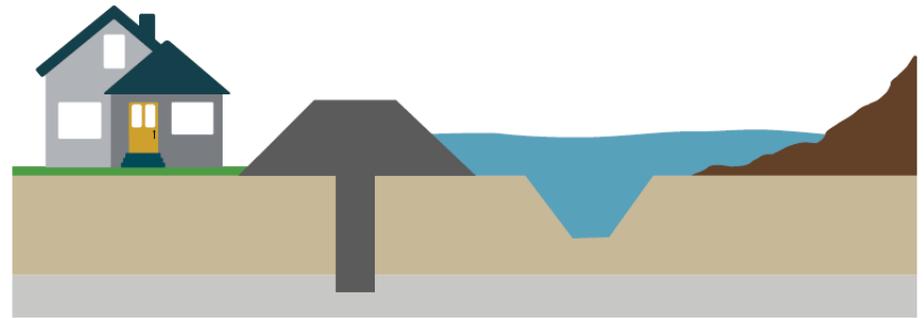


# HISTORY OF FLOODING

- Before the dykes were constructed the adjacent residential areas flooded frequently
- **1980's (approximately) Special Policy Area (SPA) Designation** for Village East and Notion Road Pickering Village communities
- **1984-1985 Pickering and Ajax Dykes constructed**  
Designed to provide flood protection for the communities up to the 500-year storm flood

## WHAT IS A DYKE?

A flood control dyke is a long wall or embankment built to prevent flooding from a river course.



## WHAT IS A SPECIAL POLICY AREA?

A Special Policy Area is a land use planning designation. It acknowledges that there is already development in a flood-vulnerable area, and that only limited changes can be made to the development in the flood plain.

# WHAT IS THE PROBLEM?

## THE DYKES ARE AT RISK OF FAILURE

- The dykes do not meet the current engineering design standards
- Significant erosion of the creek banks in areas adjacent to the Pickering Dyke
- Other issues
  - Tree growth and root systems compromising integrity
  - Narrow crest width limits access for maintenance



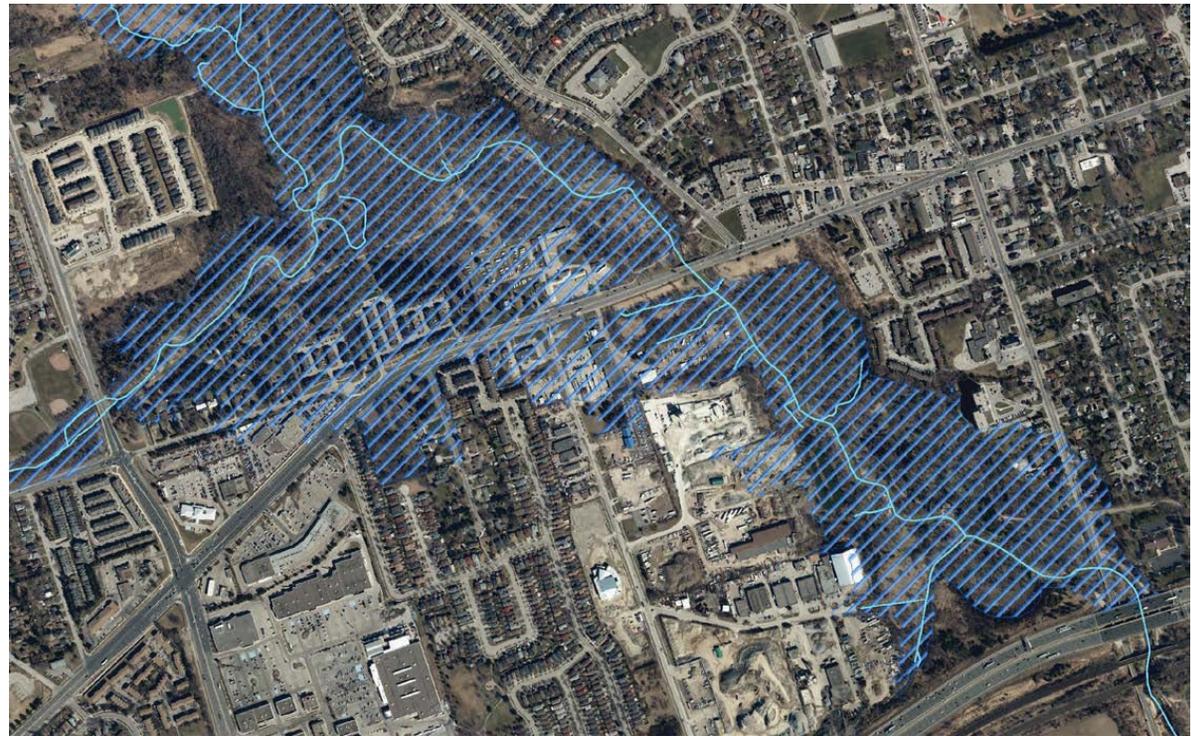
Narrow dyke crest and tree growth on dyke.



Creek bank erosion repair.

# WHAT IS THE OPPORTUNITY?

- **Meet current design standards**
  - Ensure performance of flood protection at the current crest levels at minimum.
- **Protect the dykes against channel bank erosion**
- **Enhance the natural environment**
- **Allow for future improvements**



Potential extent of flooding without dykes (100 year storm event).

# CLASS EA PROCESS

## Conservation Ontario Class Environmental Assessment

 PUBLIC CONSULTATION



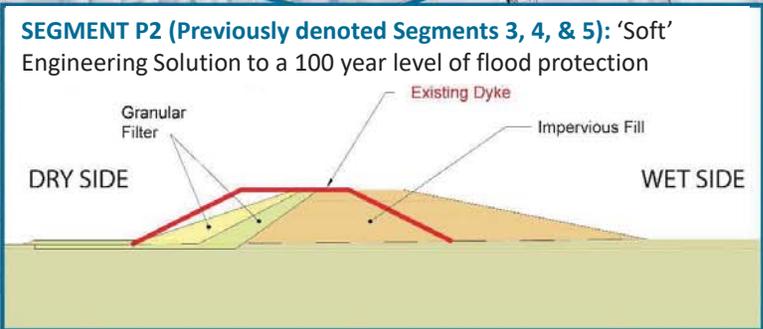
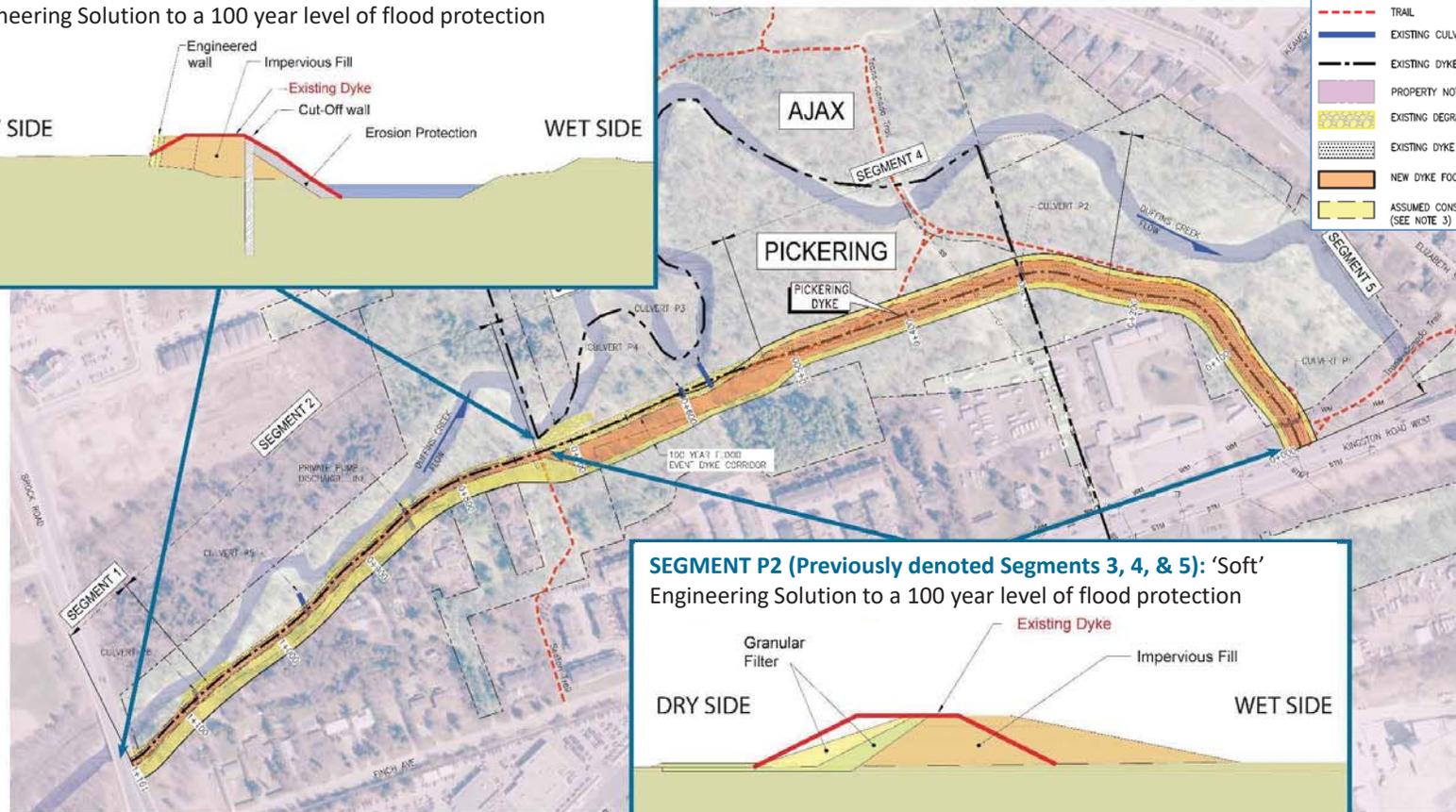
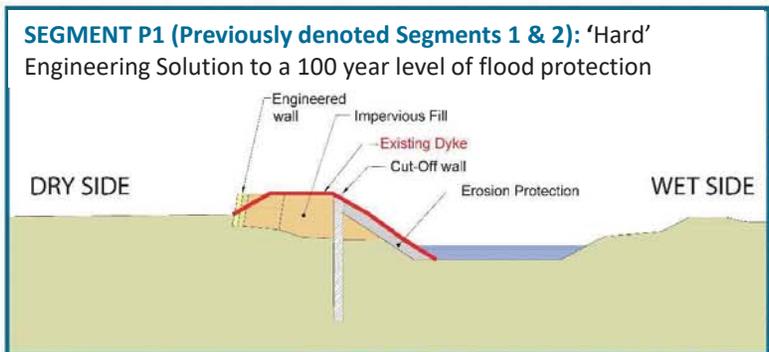
**The Pickering and Ajax Dykes Rehabilitation Project is following the Class EA process for Remedial Flood and Erosion Control Projects outlined by Conservation Ontario.**

### Project Tasks Completed:

- ✓ Define the problem & opportunity. Inventory of study area baseline conditions.
- ✓ Assess alternatives solutions that address the problem. Select preferred.
- ✓ Assess design concepts that achieve the preferred solution. Select preferred.
- ✓ Identify impacts and develop mitigation measures.
- ✓ Stakeholder consultations throughout.

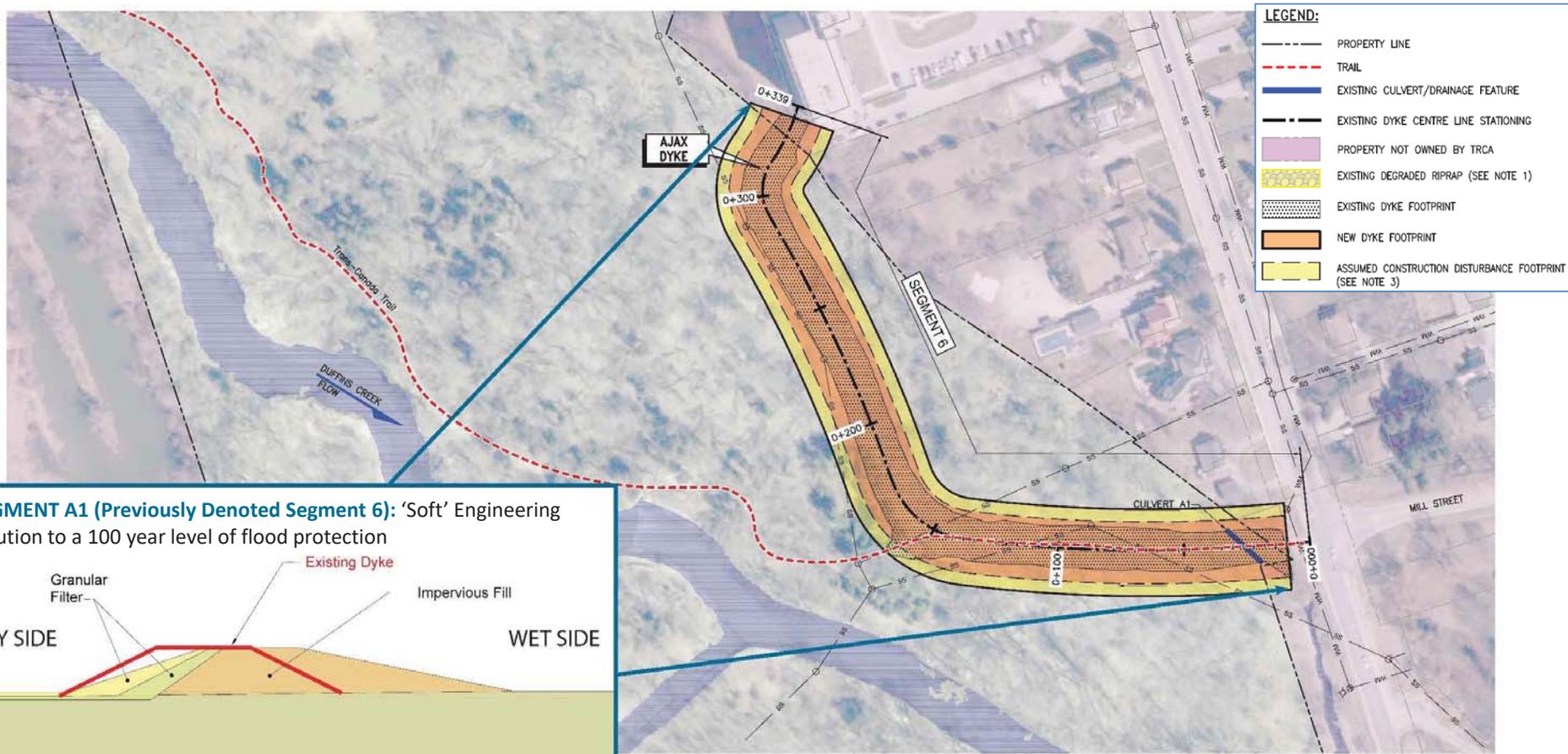
# PREFERRED ALTERNATIVE SOLUTION

## PICKERING DYKE



# PREFERRED ALTERNATIVE SOLUTION

## AJAX DYKE



**SEGMENT A1 (Previously Denoted Segment 6):** 'Soft' Engineering Solution to a 100 year level of flood protection

Granular Filter

Existing Dyke

Impervious Fill

DRY SIDE

WET SIDE

# WHAT WE HEARD FROM THE PUBLIC

## Feedback from CLC and PIC

- Comments regarding other flood concerns such as debris jams and development
- Concern for loss of private property
  - Suggestion to shift West Duffins Creek north to make more room to construct the dyke, to avoid property impacts
- Concern for the dyke looking unnatural or being a wall
  - Suggestion to just install sheet pile on existing dyke, with no other measures, to avoid disturbances
- Concern for maintaining pedestrian access to creek
- Concern for construction impacts
- Importance of trail access

## Questions from CLC and PIC

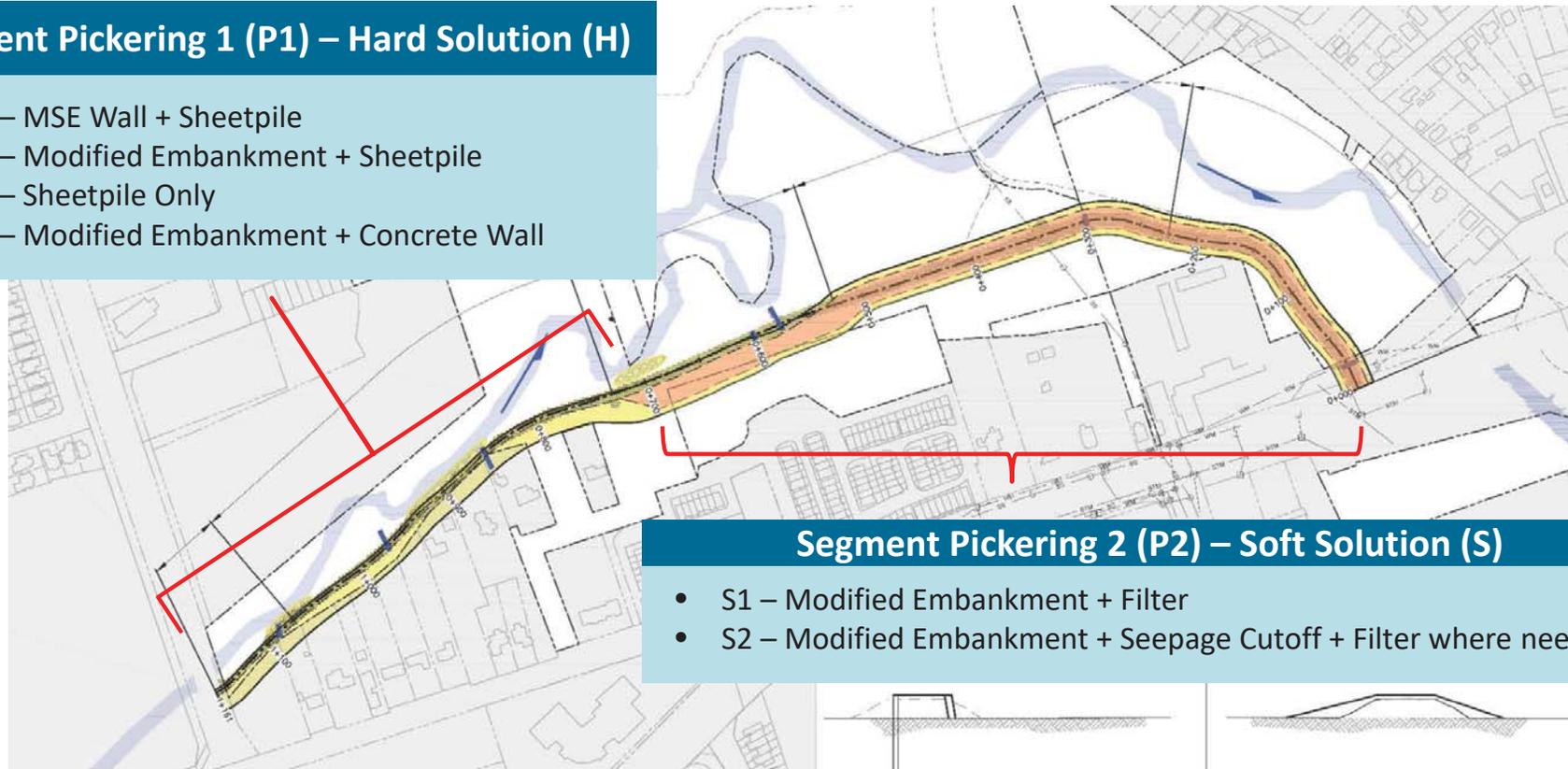
- How did we decide the dykes need rehabilitation?
- Can a higher level of flooding protection be achieved?
- Will the dykes change flooding elsewhere?
- How is the project being funded?
- Questions regarding drainage impacts in backyards

# DESIGN CONCEPTS FOR PREFERRED ALTERNATIVE

PICKERING DYKE

## Segment Pickering 1 (P1) – Hard Solution (H)

- H1 – MSE Wall + Sheetpile
- H2 – Modified Embankment + Sheetpile
- H3 – Sheetpile Only
- H4 – Modified Embankment + Concrete Wall



## Segment Pickering 2 (P2) – Soft Solution (S)

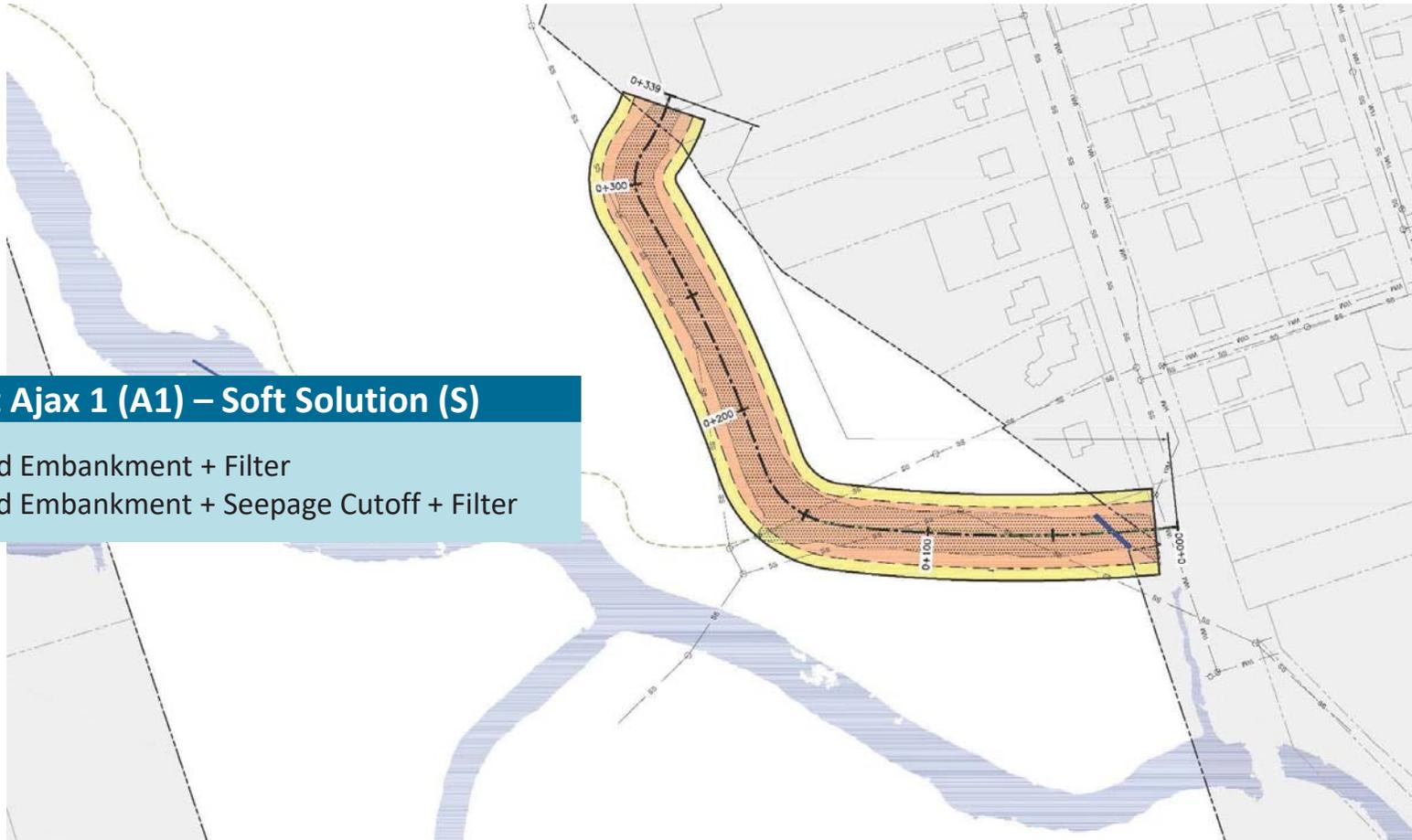
- S1 – Modified Embankment + Filter
- S2 – Modified Embankment + Seepage Cutoff + Filter where needed

# DESIGN CONCEPTS FOR PREFERRED ALTERNATIVE

AJAX DYKE

## Segment Ajax 1 (A1) – Soft Solution (S)

- S1 – Modified Embankment + Filter
- S2 – Modified Embankment + Seepage Cutoff + Filter



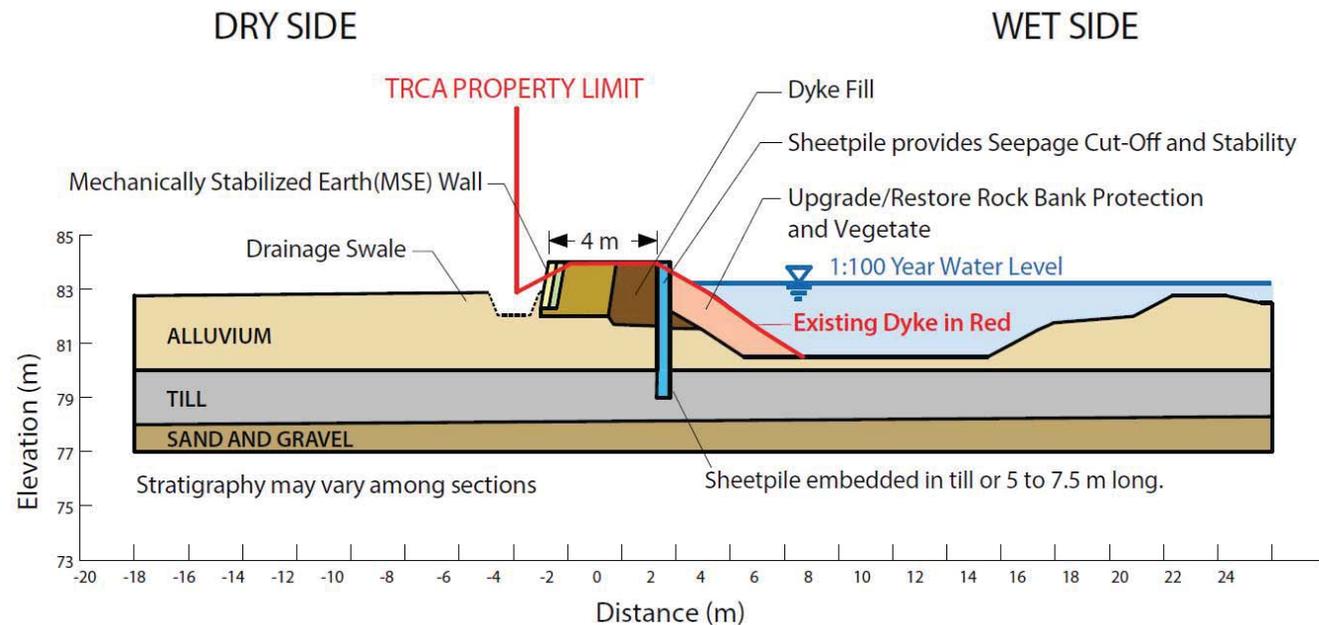
### DESIGN CONCEPT H1: MSE Wall + Sheetpile

#### ADVANTAGES

- Moderate capital cost (\$7.2 million)
- Smallest footprint and disturbance area
- Smallest impact to private properties (no permanent impact, up to 5 m temporary for construction)
- Can be raised in the future without permanently impacting private properties

#### DISADVANTAGES

- Lowest aesthetics: not a natural appearance and requires a fence at top for public safety
- Dyke difficult to cross. Higher complexity for maintaining pedestrian access to creek.
- Slightly more complex construction than typical embankment
- Moderate construction duration



# DESIGN CONCEPTS

PICKERING DYKE (P1)

## DESIGN CONCEPT H2: Modified Dry-side Embankment + Sheetpile

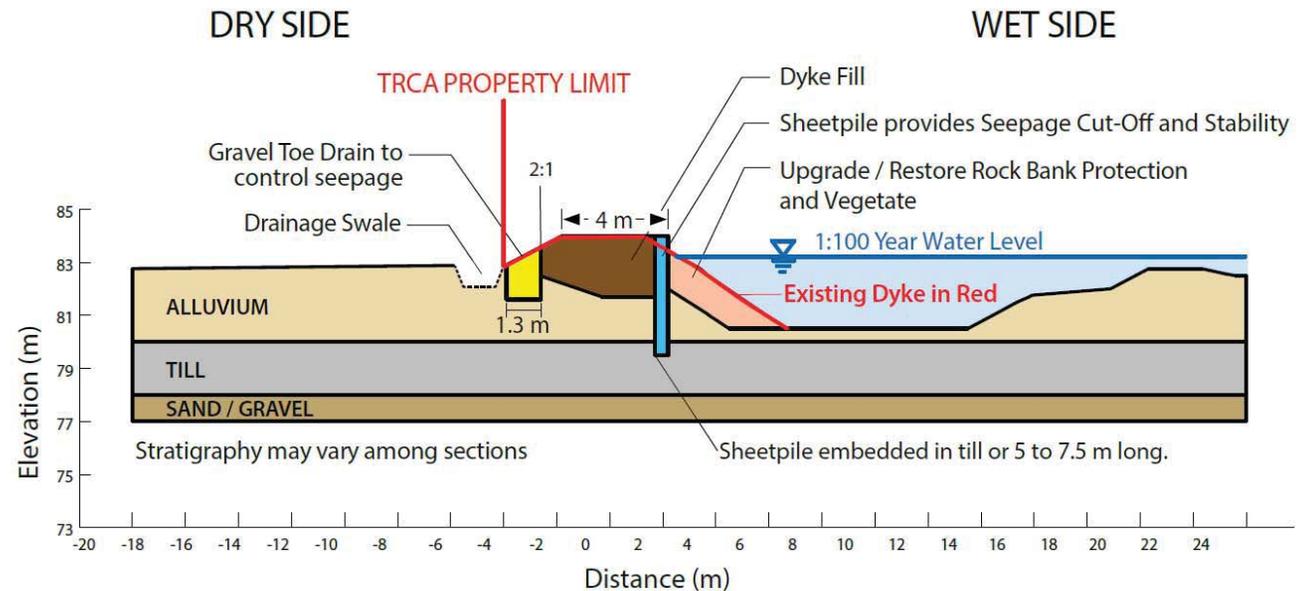
RECOMMENDED  
PREFERRED CONCEPT FOR  
DYKE SEGMENT P1

### ADVANTAGES

- Lowest capital cost (\$7 million)
- Lowest construction complexity and time
- Easiest pedestrian access to creek
- Preferred aesthetic: natural appearance

### DISADVANTAGES

- Moderate footprint (larger than existing) and disturbance area
- Impacts to private properties (up to 1.5 m permanent for drainage, plus 5 m temporary for construction)



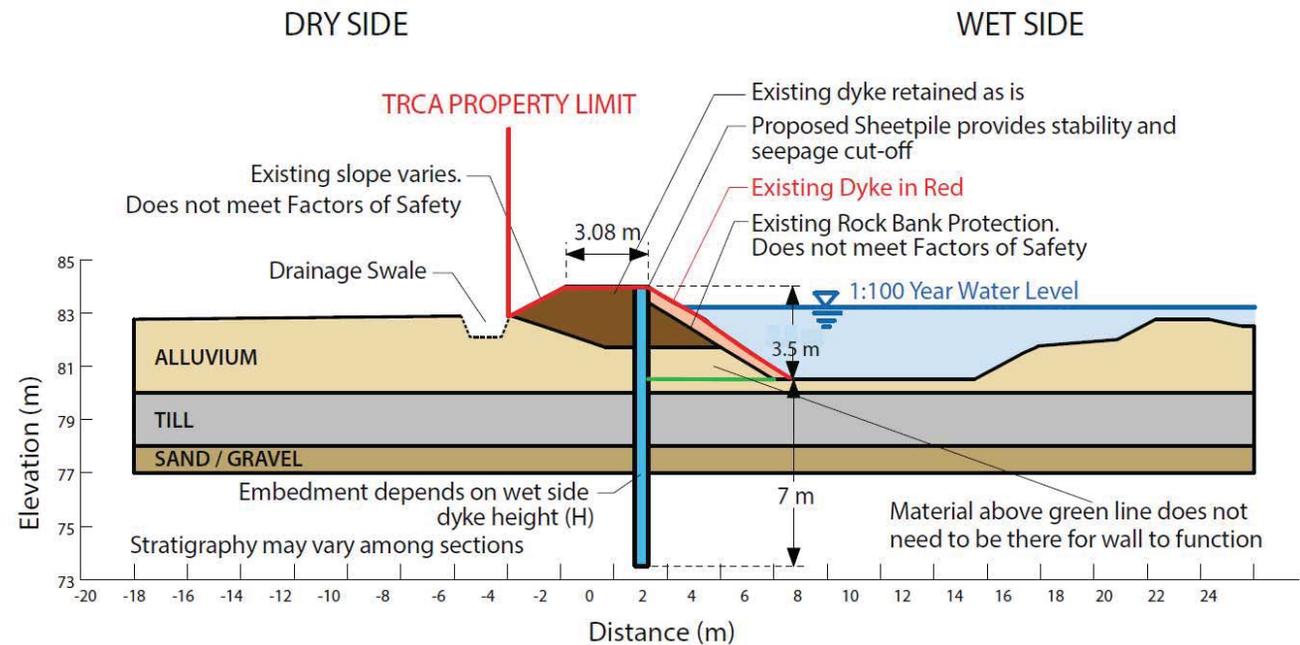
## DESIGN CONCEPT H3: Deep Structural Sheetpile

### ADVANTAGES

- Greatest aesthetics: most natural appearance
- Smallest permanent disturbance area
- Lowest immediate aquatic impacts

### DISADVANTAGES

- Highest capital cost (\$11.1 million)
- Largest construction impact and largest equipment required
- Slopes do not meet standards and could fail, causing environmental impacts and requiring expensive repairs
- Narrower crest width limits maintenance access
- More susceptible to construction complications which could increase impacts



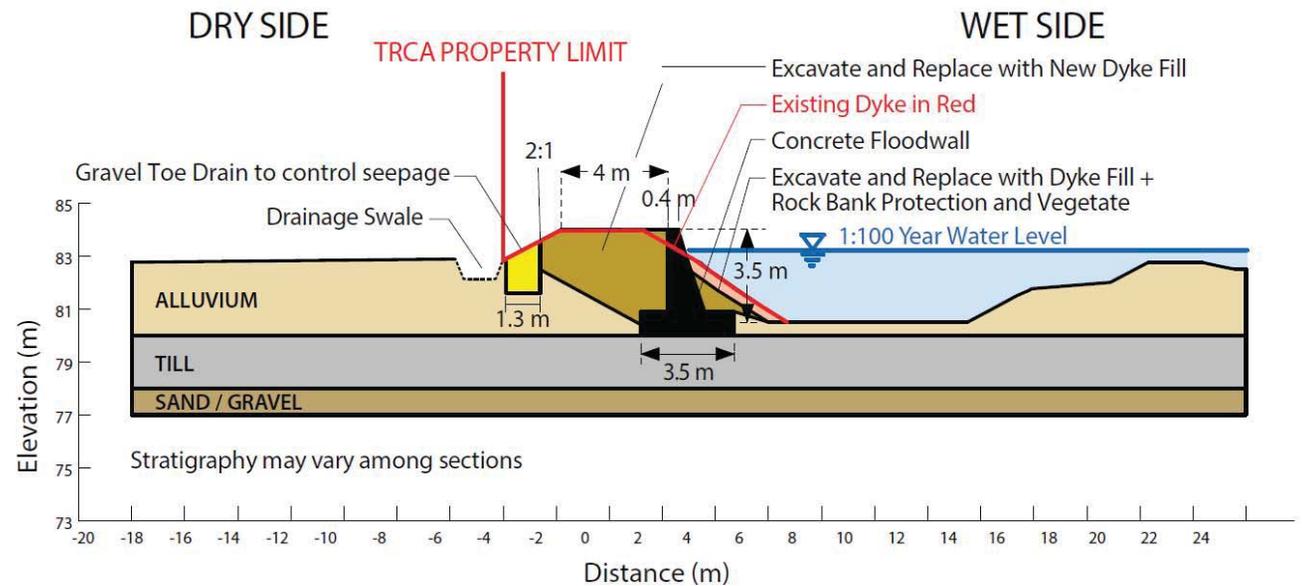
## DESIGN CONCEPT H4: Modified Dry-side Embankment + Concrete Wall

### ADVANTAGES

- No notable advantages over other options

### DISADVANTAGES

- High capital cost (\$10.7 million)
- Large construction disturbance including creek
- Difficult construction and future repairs
- Longest construction duration
- Impacts to private properties



# EVALUATION - HARD SOLUTION CONCEPTS

## Pickering Segment P1

	H1 : MSE Wall + Sheetpile	H2: Modified Dry-side Embankment + Sheetpile	H3: Deep Structural Sheetpile	H4: Modified Dry-side Embankment + Concrete Wall
<b>NATURAL ENVIRONMENT</b>	MOST	MOST	LEAST	LEAST
<b>SOCIAL ENVIRONMENT</b>	MODERATELY	MOST	LEAST	LEAST
<b>TECHNICAL</b>	MOST	MOST	MODERATELY	LEAST
<b>COST</b>	MODERATELY	MOST	LEAST	LEAST
<b>OVERALL</b>	<b>MODERATELY</b>	<b>MOST</b>	<b>LEAST</b>	<b>LEAST</b>

# DESIGN CONCEPTS

PICKERING DYKE (P2)

AJAX DYKE (A1)

## DESIGN CONCEPT S1: Modified Embankments + Filter

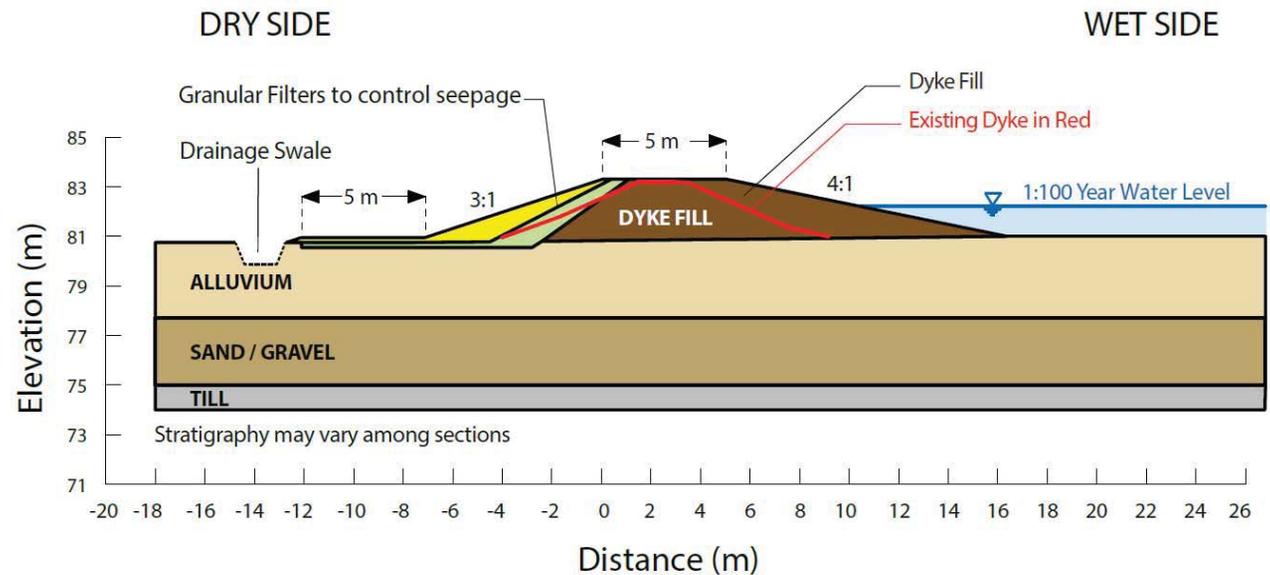
RECOMMENDED PREFERRED  
CONCEPT FOR DYKE  
SEGMENTS P2 & A1

### ADVANTAGES

- Lowest capital cost (P2 \$3 million, A1 \$2.6 million)
- Easier and faster construction with fewer impacts
- No interaction with buried utilities, minimal impact
- Easier to raise in the future

### DISADVANTAGES

- Largest footprint and construction area
- More area to maintain



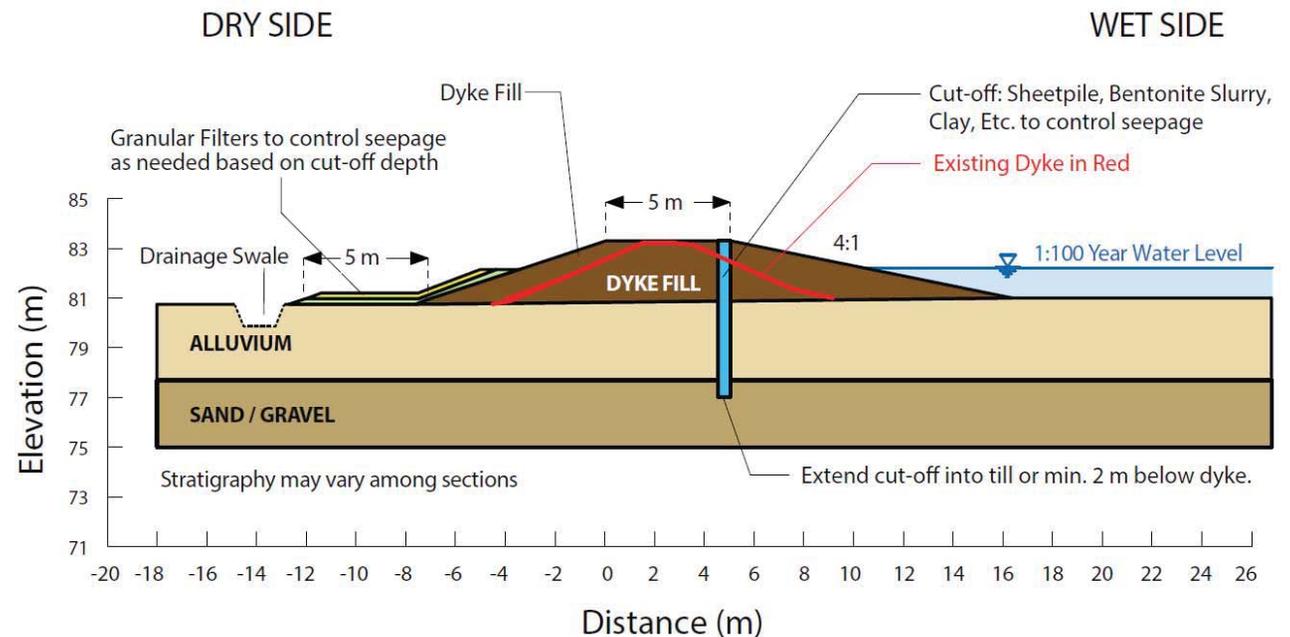
## DESIGN CONCEPT S2: Modified Embankments + Seepage Cut-off + Filter where needed

### ADVANTAGES

- Smaller footprint and construction area than S1 where the filter is not needed
- Less area to maintain where the filter is not needed

### DISADVANTAGES

- Highest capital cost (P2 \$9.1 million, A1 \$4.7 million)
- More complex construction, longer duration and more noise impacts
- Greatest impact & interaction with buried utilities
- More complex and expensive to raise in the future



# EVALUATION - SOFT SOLUTION CONCEPTS

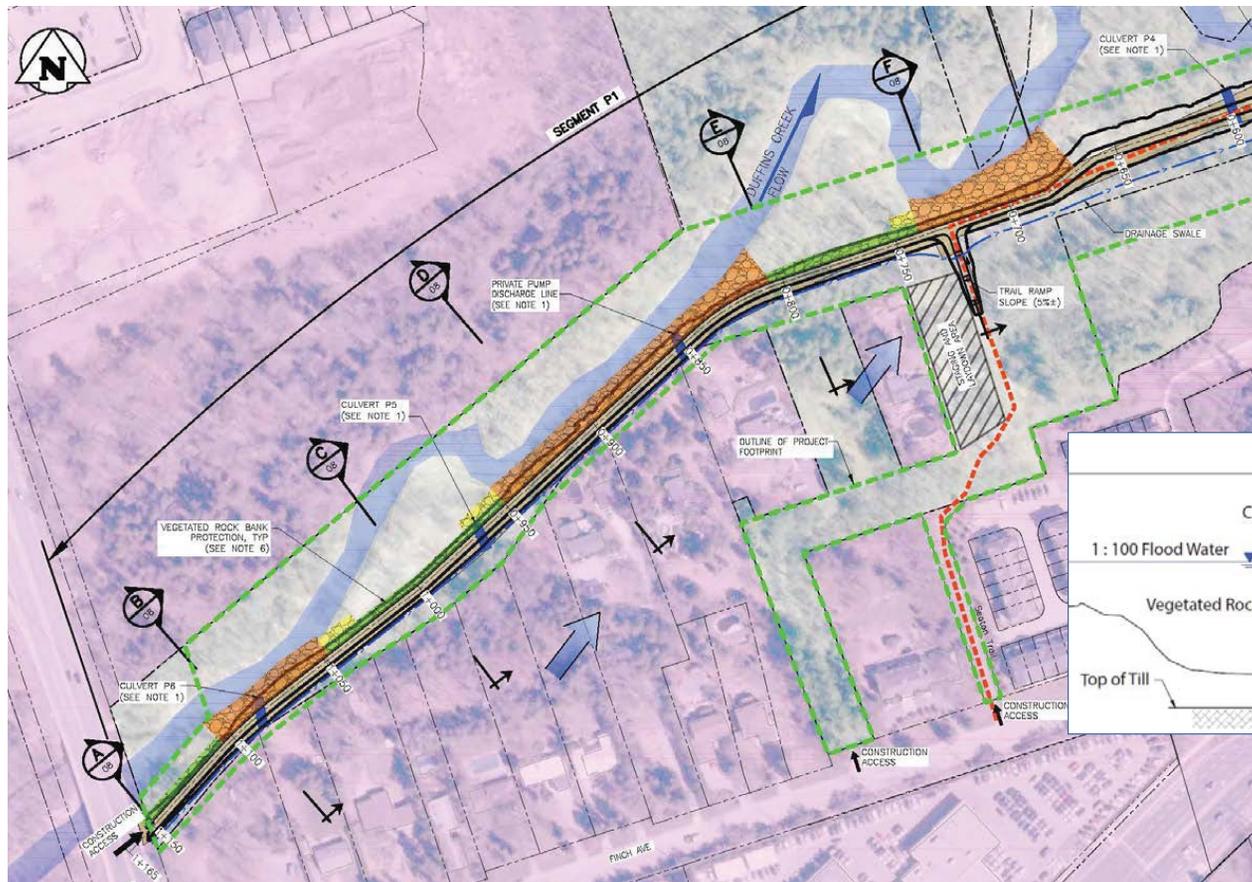
## Pickering Segment P2

	S1: Modified Embankments + Filter	S2: Modified Embankments + Seepage Cut-off + Filter (where needed)
NATURAL ENVIRONMENT	MODERATELY	MOST
SOCIAL ENVIROMENT	MOST	MODERATELY
TECHNICAL	MOST	MODERATELY
COST	MOST	LEAST
OVERALL	MOST	LEAST

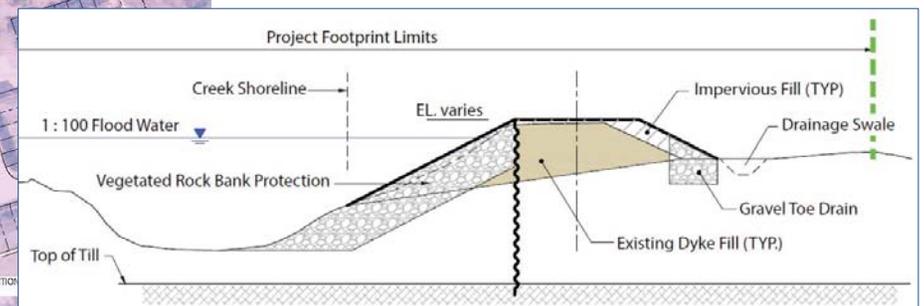
## Ajax Segment A1

	S1: Modified Embankments + Filter	S2: Modified Embankments + Seepage Cut-off + Filter (where needed)
NATURAL ENVIRONMENT	MOST	MOST
SOCIAL ENVIROMENT	MOST	MODERATELY
TECHNICAL	MOST	MODERATELY
COST	MOST	LEAST
OVERALL	MOST	LEAST

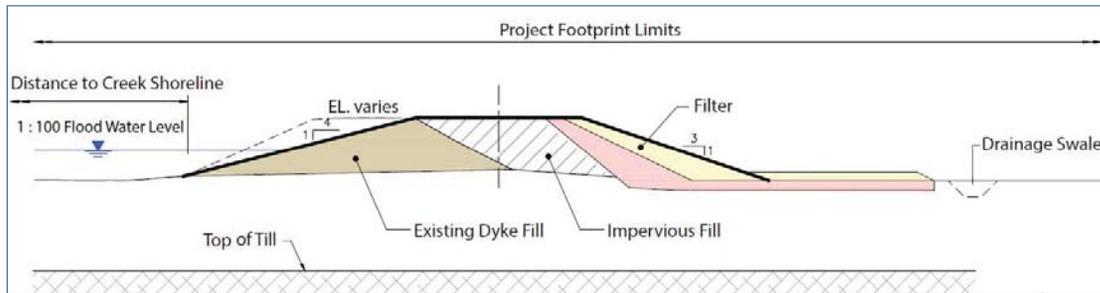
# RECOMMENDED PREFERRED DESIGN CONCEPT – SEGMENT P1



## DESIGN CONCEPT H2: Modified Dry-side Embankment + Sheetpile



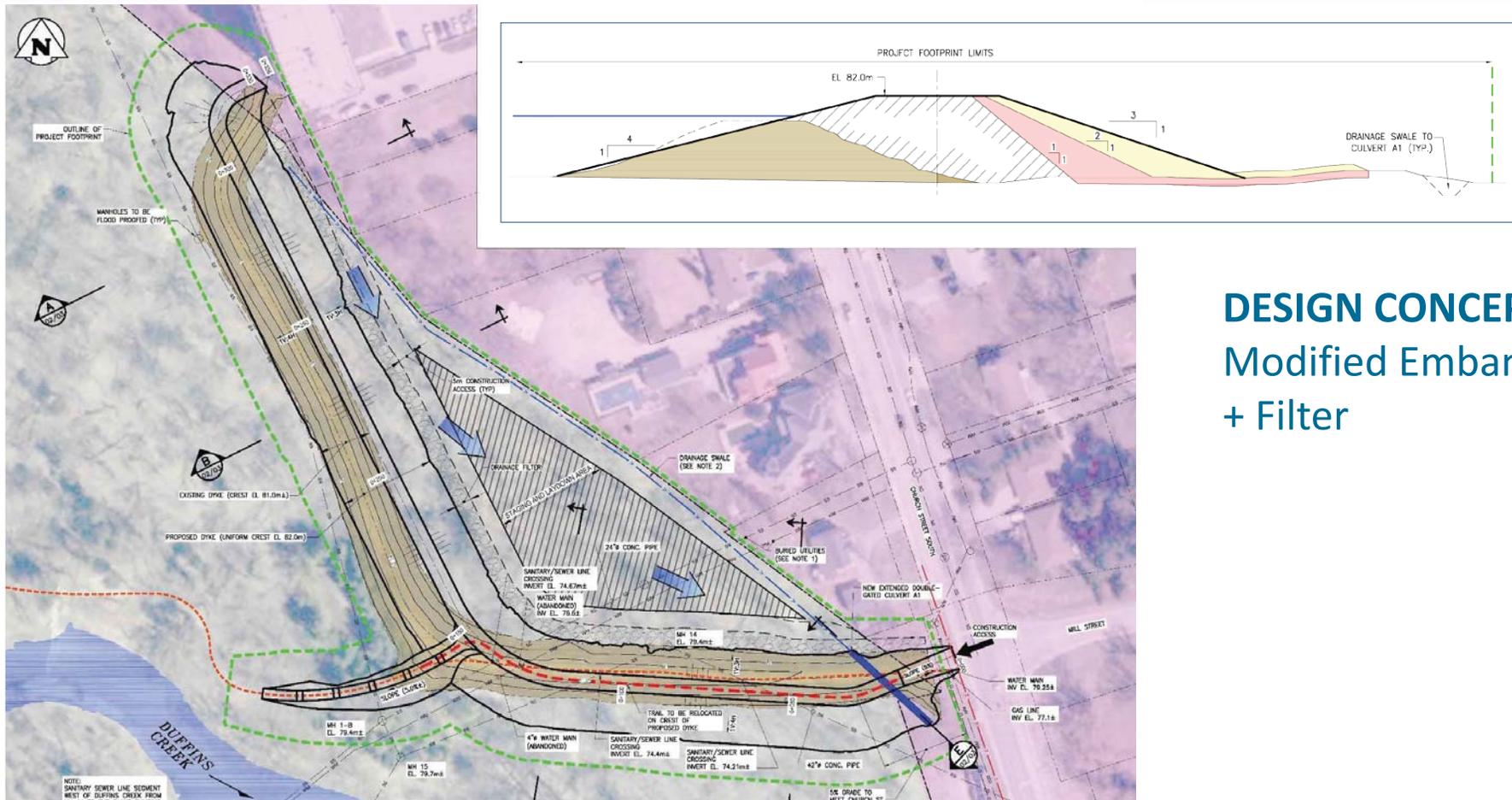
# RECOMMENDED PREFERRED DESIGN CONCEPT – SEGMENT P2



## DESIGN CONCEPT S1: Modified Embankments + Filter



# RECOMMENDED PREFERRED DESIGN CONCEPT – SEGMENT A1



**DESIGN CONCEPT S1:**  
Modified Embankments  
+ Filter

## RECOMMENDED PREFERRED DESIGN CONCEPT



**DESIGN CONCEPT S1:**  
Example of a similar  
dyke in a park setting

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## Physical Environment

### Effects

- Potential noise, dust and vibration impacts to adjacent properties during construction
- Potential spills during construction could affect soil and surface water quality
- Contaminated soils have not been identified on site but they could exist in area of excavations
- Changes to high water flow regimes. Up to 100-year storm event is contained within valley (restricted by dykes)
- Improvements to surface water drainage on dry side through formalized drainage swales discharging to culverts in dykes
- Potential, but not expected, localized effects to groundwater flow patterns

### Mitigation Measures

- Construction best management practices will be used for noise, dust, vibration, spill control, sediment control, and soil management. This will include implementation of construction management and contingency plans.
- Application of TRCA Erosion and Sediment Control Guidelines
- Works restricted by Noise By-Law
- Groundwater study recommended to determine if there is impact

### Net Effects Physical Environment

- Nuisance effects from construction activities will be lessened to the extent possible
- Risk of spills, sedimentation and spreading contaminated soils effectively controlled

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## Biological Environment

### Effects

- Disturbance of wildlife habitat during construction and temporary avoidance of the area by wildlife
- Removal of approximately 2.7 ha of forest/woodland and thicket for rehabilitation of the Pickering Dyke
- Removal of approximately 1.4 ha forest/woodland for the rehabilitation of the Ajax Dyke
- Butternut Tree and Redside Dace habitat within the project impact area
- Potential negative impacts to fish habitat along Segment 1 of the Pickering Dyke during construction (due to in-water works) and long-term due to rock bank protection

### Mitigation Measures

- All temporarily disturbed areas will be restored and planted with native vegetation
- A tree compensation plan will be developed during detailed design
- Guidelines to reduce risk to migratory birds as per the Migratory Bird Act will be followed including removal of trees outside of the nesting window
- Species at Risk surveys during detailed design and mitigation in consultation with Ministry of the Environment, Conservation and Parks
- Construction fencing and avoidance of buffer area for Butternut Tree
- Evaluation of harmful effect to fish habitat during detailed design and mitigated e.g. adhere to timing windows, optimize rock bank protection
- Adherence to Best Management Practices for in-water works
- Creek features restored to pre-construction condition or better

### Net Effects Biological Environment

- Permanent removal of approximately 2.7 ha of terrestrial habitat to be compensated off-site
- Re-established vegetation will be comprised of targeted native species and will contribute to a healthier ecosystem
- Permanent vegetation removals are linear and narrow in comparison to valley scale so not expected to be detrimental to the overall terrestrial habitat value

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## Cultural Environment

### Effects

- Temporary removal/closure of trails will impact accessibility within the parklands in the Direct Project Area during construction
- There will be a permanent aesthetic change as there will not be trees within the dyke footprint
- Possibility of incorporating some vertical structural components into dyke where public space is most restricted to avoid property impacts. Fencing / fall barrier could be necessary in those areas for public safety
- In most areas pedestrian accessibility to cross dykes will be improved with more gradual side slopes and clear passage
- Chance of impacting potential archaeological resources (per Stage 1 assessment)

### Mitigation Measures

- Appropriate public notification of construction works and temporary trail closure
- Pedestrian barriers into work areas and other safety measures to be implemented during construction to ensure public safety
- If possible, trail closures will be scheduled during periods of lower use and provide accessibility during weeknights and weekends. Safety considerations provided
- Trail will be reconstructed to present conditions or better
- Reconstructed trails can be located differently to improve vistas / public realm
- Restoration of dykes will favour natural look, with grassy dyke slopes
- Stage 2 Archaeological Assessment will be carried out prior to construction to confirm presence of archaeological resources

### Net Effects Cultural Environment

- Temporary and minimized impacts to access and enjoyment of recreation areas during construction
- Dyke appearance will be different than present but will maintain natural appearance in general
- In most areas pedestrian accessibility to cross dykes will be improved with more gradual side slopes and clear passage

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## Socioeconomic Environment

### Effects

- Potential impact to private property for access during construction and potentially long term
- Improved riverine flood protection for properties within the Special Policy Areas
- Potential impacts to local traffic during construction due to material hauling activities (e.g. Kingston Road West, Brock Road and Church Street South)
- Access to creek temporarily restricted during construction
- Potential impact to underground utilities due to construction
- Potential construction timing conflict of the Durham Bus Rapid Transit project

### Mitigation Measures

- Further refinement of dyke rehabilitation design during detailed design stage to focus on reducing dyke footprint and construction access requirements
- A traffic management plan and communication strategy will be developed for construction
- Synergies with utilities upgrades to be explored during subsequent project design and planning stages. Coordinate with utilities on timing of upgrades
- Coordinate with other projects to reduce/avoid construction conflicts

### Net Effects Socioeconomic Environment

- Minimized impacts to private properties
- Improved riverine flood protection for properties within the Special Policy Areas
- Minimized impacts to traffic in the Direct and Project Study Area during construction
- Temporary restrictions to pedestrian routes through Direct Study Area during construction

# DETAILED ANALYSIS OF ENVIRONMENTAL EFFECTS

## Engineering/Technical Environment

### Effects

- Flood protection afforded by the dykes will be compromised / reduced during construction, as portions of the dyke are being rebuilt / rehabilitated
- Long term improvements to dyke stability, creek bank stability, and reduction of creek bank erosion
- Long term improvement to dyke access for maintenance
- No impact to Special Policy Area designation
- Improvements to extreme storm event flood conditions. Up to 100-year storm event is contained within valley (restricted by dykes)

### Mitigation Measures

- Dyke construction works to be completed outside of spring freshet period during less flood prone seasons
- A risk management plan, to minimize risk and restore flood protection during construction in short notice, will be required from the contractor

### Net Effects Engineering/Technical Environment

- Positive effects on long term flood protection, dyke and bank stability, and channel erosion
- Improved ability to maintain the flood protection infrastructure
- Minimized risk of flooding during construction. Risk expected to be similar or better than existing (due to current potential for dyke failure)

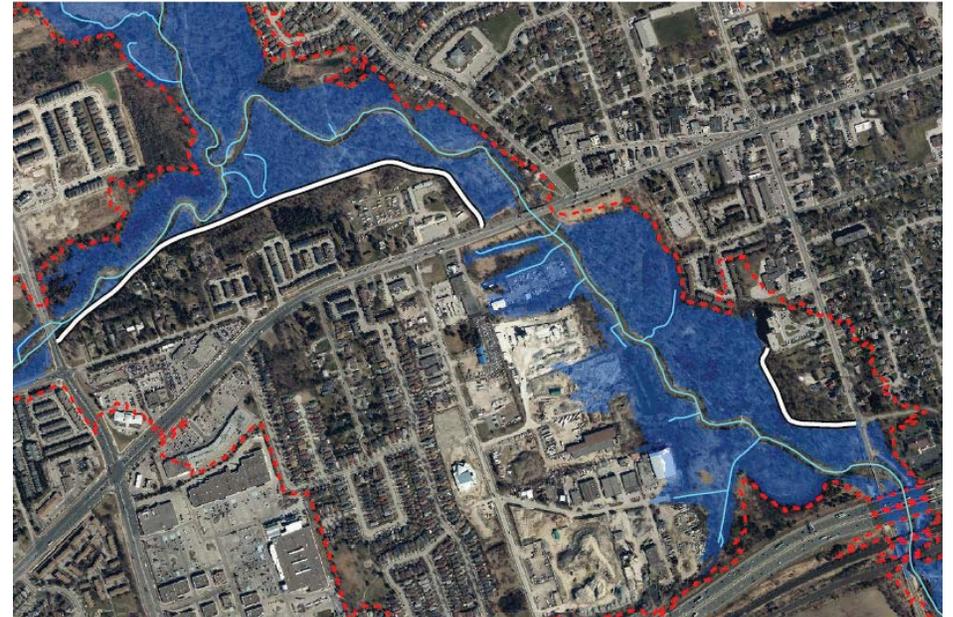
# CHANGES TO FLOOD CONDITIONS

## 100 YEAR STORM EVENT



**Extent of flooding with current dyke heights**

Approximately 10 residential buildings within the Ajax Special Policy Area would be flooded during a 100-year flood event.

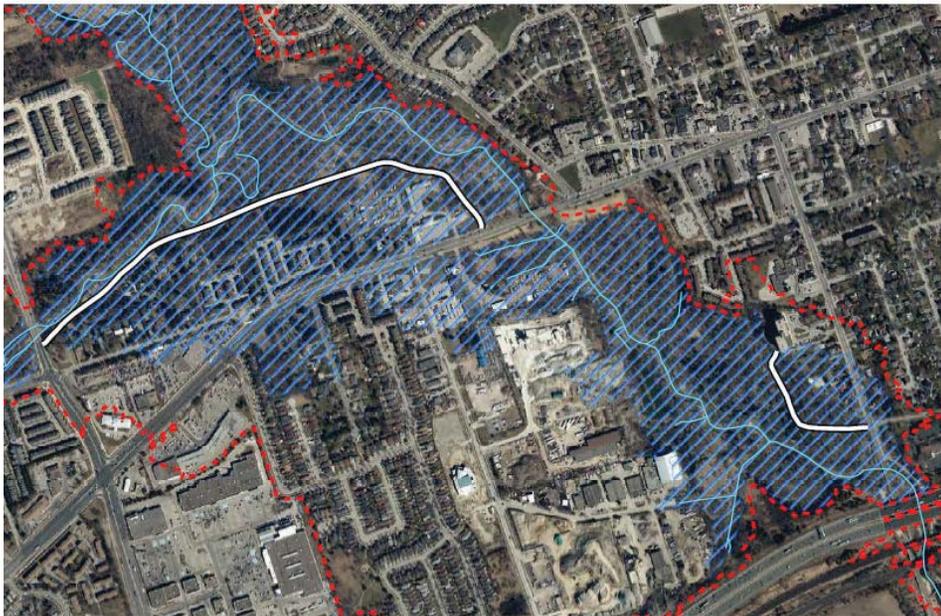


**Extent of flooding with proposed dykes**

The proposed dyke rehabilitation provides 100-year flood event protection for both the Pickering and Ajax Special Policy Area communities.

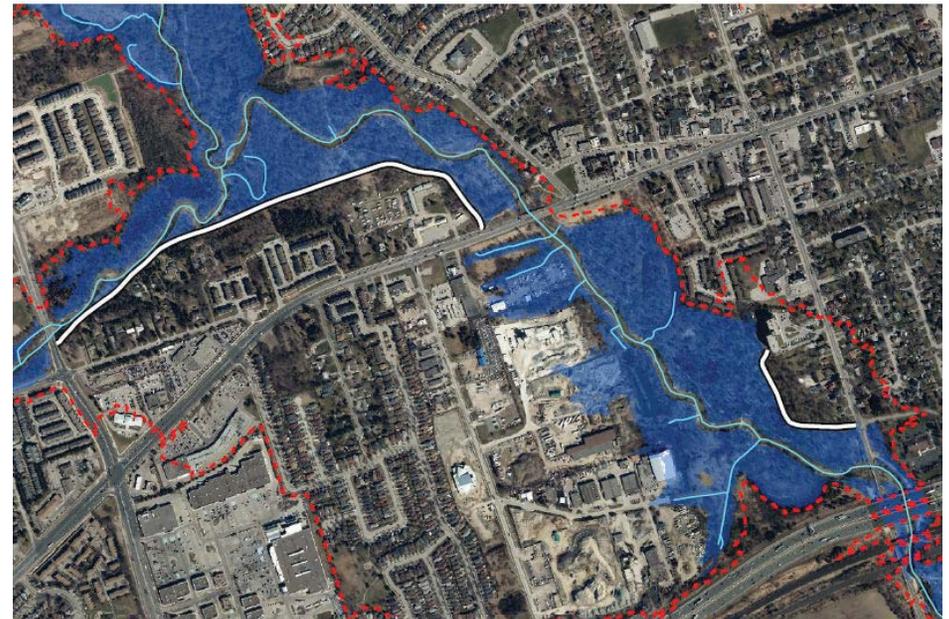
# CHANGES TO FLOOD CONDITIONS

## 100 YEAR STORM EVENT



**Potential extent of flooding without dykes (ie. a dyke failure)**

Approximately 60 buildings would be flooded without dykes, during a 100-year flood event.



**Extent of flooding with proposed dykes**

The proposed dyke rehabilitation provides 100-year flood event protection for both the Pickering and Ajax Special Policy Area communities.

# NEXT STEPS



- Refine evaluation and Preferred Design Concept based on feedback received.
- Refine impact assessment and mitigation measures based on feedback received.
- Prepare an Environmental Monitoring Plan.
- Completion of Environmental Study Report.
- On-going consultation with agencies, landowners and other stakeholders.
- Project filing with the Ministry of the Environment, Conservation and Parks.
- The complete Environmental Study Report will be available for public review for a 30-day period following the Notice of Filing. This is tentatively scheduled for July 2020.

# THANK YOU

We appreciate the time you have taken to learn more about the Pickering and Ajax Dykes Rehabilitation EA. Your input is important for the success of the EA process. Please provide your input.

## Contact the Project Team:

Pickering and Ajax Dykes Rehabilitation  
Project Coordinator

EMAIL: [PADR@trca.ca](mailto:PADR@trca.ca)

WEBSITE: [www.trca.ca/PADR](http://www.trca.ca/PADR)

PHONE: 416-661-6600 ext. 5948

Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan ON, L4K 5R6

## HOW TO STAY CONNECTED:

- **Join our mailing list** – leave us your email or mailing address if you would like to be kept up to date as the study progresses
- Submit your comments and feedback with our online form

### Public Information Centre #2: April 28, 2020

- [Notice of Public Information Centre #2](#)
- [Notice of Public Information Centre #2 Postponement](#)
- [Display Boards/Panels](#)
-  [Comment/Feedback Form](#)

- Send us your questions. Email us at [PADR@trca.ca](mailto:PADR@trca.ca)

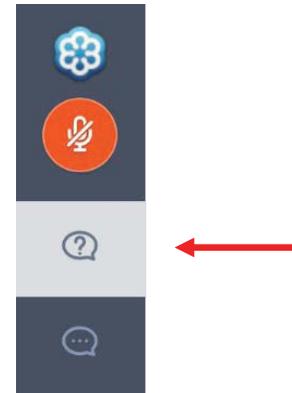
Thank you!

**Melody Brown, P.Eng**  
TRCA

**Fuad Curi, P.Eng**  
KGS Group

# QUESTION AND ANSWER SESSION

Use the question function to submit your questions.



## Panel of Project Team Specialists

- Fuad Curi – Project Manager, KGS Group
- Shan Gnanasunthar – Senior Geotechnical Engineer, KGS Group
- Melody Brown – Project Manager, TRCA
- Nick Lorrain – Senior Manager of Capital Projects, TRCA
- Craig Mitchell – Senior Manager of Flood Infrastructure and Hydrometrics, TRCA

Attachment H  
PIC Meeting #2  
Completed Comment Forms

**From:** [Toronto and Region Conservation Authority](#)  
**To:** [Pickering Ajax Dyke Rehabilitation](#)  
**Subject:** New submission from Pickering Ajax EA PIC2 Comment Form  
**Date:** April 29, 2020 10:36:31 AM

---

**1. Before coming to this meeting, my questions and concerns regarding this proposed dyke rehabilitation project were:**

Where is the dyke and how does it function?

**5. After this meeting, are there any questions or concerns that have not been addressed?**

Maybe the residents within this flood area will have to prepare sandbags to protect their own properties if this doesn't get funded soon enough due to COVID-19.

**6. Do you have any additional thoughts or comments?**

I thought that the presentation was thorough . I liked the use of the red dot pointer and would have like it to be used with all the photos. Melody did an excellent job. Her explanation about someone's idea to straddle the dyke for maintenance clarified that it would be unsafe for all services to do because of potential ice, snow and rain is slippery when wet.

**From:** [Toronto and Region Conservation Authority](#)  
**To:** [Pickering Ajax Dyke Rehabilitation](#)  
**Subject:** New submission from Pickering Ajax EA PIC2 Comment Form  
**Date:** May 4, 2020 3:23:24 PM

---

**1. Before coming to this meeting, my questions and concerns regarding this proposed dyke rehabilitation project were:**

Before this meeting I did not know anything about dykes.

**2. Do you have any comments on the recommended design concepts?**

I was very impressed by all the different recommended design concept considerations and how they were presented. I especially thought that explaining the advantages and disadvantages was very helpful in having a better understanding of the designs.

**3. Do you have any comments on the mitigation of potential project impacts?**

None

**4. Do you have any comments on the evaluation of the design concepts?**

I have a clear understanding why the chosen concept is preferred and I agree.

**5. After this meeting, are there any questions or concerns that have not been addressed?**

No, I found that the answers at the end of the meeting were thoroughly addressed by knowledgeable people and the presentation was clear and informative.

**6. Do you have any additional thoughts or comments?**

I would suggest that showing photos of dykes at the beginning of the presentation would be helpful to the viewers.

**From:** [Toronto and Region Conservation Authority](#)  
**To:** [Pickering Ajax Dyke Rehabilitation](#)  
**Subject:** New submission from Pickering Ajax EA PIC2 Comment Form  
**Date:** April 29, 2020 7:48:20 AM

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**1. Before coming to this meeting, my questions and concerns regarding this proposed dyke rehabilitation project were:**

I was concerned with the extent of environmental disturbance to the site and if a trail connection between Brock Road and Kingston road is being considered. The project should protect, preserve and rehabilitate the valley during the design and construction of the project and the community would benefit from the development of a formal trail in the area

**2. Do you have any comments on the recommended design concepts?**

If a formal trail is not being considered then the crest of the berm is too wide. Operations, major and minor maintenance could be easily facilitated by a narrower berm. , 4wd trucks, UTVs, backhoes and tractors can all access the site on a narrower berm. It seems that a 5 meter crest width is excessive unless a formal trail is situated on top

**3. Do you have any comments on the mitigation of potential project impacts?**

I am not sure that complete mitigation of this project can be assessed if the terrestrial and aquatic rehabilitation of the site isn't detailed and assessed. An overlooked long term impact is the attraction and increased public use of this area if public use isn't formalized . The project footprint and berm size and rehabilitation will dictate the desirability and utilization of this area in the future by the public

**4. Do you have any comments on the evaluation of the design concepts?**

I don't think you can thoroughly evaluate the design concepts without detailing the aquatic and terrestrial rehabilitation. Especially if you consider the opportunity to reduce the project footprint

**5. After this meeting, are there any questions or concerns that have not been addressed?**

I am concerned that the dyke will become a manicured feature in this natural area. That is why an aquatic and terrestrial restoration plan is essential. I would suggest that in stream habitat improvements, opportunity for a low maintenance meadow on the berm structure and a onsite tree and shrub planting plan, and a wildlife enhancement plan be considered

**6. Do you have any additional thoughts or comments?**

I am along term resident of the area (32 years ) I think this project can continue providing flood protection to the area, but I think that it is critically important to the community to improve local trail connections at the same time that we rehabilitate, and protect the natural environment

██████████

Attachment I  
PIC Meeting #2  
Email Correspondence from the Public

## Melody Brown

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**From:** Pickering Ajax Dyke Rehabilitation  
**Sent:** [REDACTED]  
**Subject:** RE: River - water current now

Hi [REDACTED]

You're welcome. I just noticed an error in my earlier email. The preferred design concept for the area behind your house is H2 (not H1). Sorry for the confusion.

Please do let me know if you feel that your concerns have been satisfactorily addressed with what is proposed, or if you have any other concerns.

The project website is [www.trca.ca/padr](http://www.trca.ca/padr) and below is a list of the PIC#2 materials available on the website.

### Public Information Centre #2: April 28, 2020

- [Notice of Public Information Centre #2](#)
- [Notice of Public Information Centre #2 Postponement](#)
- [Display Boards/Panels](#)
- [Presentation](#)
- [PIC Video](#)
- [Comment/Feedback Form](#)

Best regards,

Melody Brown on behalf of the PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)



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**From:** [REDACTED]  
**Sent:** Thursday, April 30, 2020 11:47 AM  
**To:** Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>  
**Cc:** [REDACTED]  
**Subject:** RE: River - water current now

Hi Melody: thank you so much for your detailed response. Yes, at this time it does look like the rocks are doing their job. There is a larger tree trunk stuck in the river a bit east of us - I hope it isn't impacting the fish currently heading upstream. Thanks for asking - we are also all well & realizing how very fortunate we are to have all this space to be "prisoner" in!

----- Original Message -----

From: Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>

Date: April 30, 2020 at 11:10 AM

Thank you for your email and the picture! It is nice to hear from you.

Even though you could not attend the PIC live, you still do have an opportunity to 'participate' in the PIC if you are interested. The entire meeting was recorded and a video of it is now available to view from the project website. Click on the link "PIC Video".

Also posted on the website are copies of the display panels (what normally would have been up on easels around the room) and a copy of the presentation slides (no audio).

The comment/feedback form is available for you to fill out on the website until May 5<sup>th</sup>. Click on the link "Comment/Feedback Form".

We would be happy to have you look at the available information and fill out a comment form. You will notice the presentation is very similar to what we gave at the last CLC meeting.

I do believe that the selected preferred design concept (H1 for the area behind your house) does meet your requests of:

- Being minimally invasive to the current topography as possible – the proposed dyke will be in the same location and will keep as much of the existing dyke as possible (based on suitability of material to be a strong dyke)
- Maintaining access to berm and the riverfront – your current access will continue. You will be able to walk up and over the berm slope, we just ask that stairs are not built on the dyke.
- Maintaining the meadow (the dyke itself will be either park-like mowed grasses or seasonally/less-frequently mowed meadow-like area to keep new trees from growing on the dyke, the surrounding area will be natural and not mowed)

- Impacts to your backyard will be no more than what we discussed during our meeting with you on March 5<sup>th</sup>, 2020 and looked at while walking around your property. During future design phases the focus will be to further reduce these impacts.

Please do let me know if you feel satisfied that these requests have been met, or if you have any other concerns.

There will not be any more public meetings for this EA project, however the public is always welcome to contact the project team and ask for a phone call to discuss any questions or concerns. Since you are a member of the CLC, we will be sending you a digital copy of the entire project report for you to review and there will be the option to have a remote-meeting (ie. conference call) with other CLC members to discuss any comments or questions you have regarding the report. This is expected to be in late June/early July. At a later date the same report will become available for everyone in the public to review.

The rock in the picture does look to be stable/in place. TRCA completes annual inspections of the dyke, at a minimum, and would also be looking at the rock during these inspections. However having your eyes on the area 'everyday' is helpful so please do let us know if the rock does shift/get washed away.

Despite the C-19 situation, the wheels are still turning at TRCA. TRCA's leadership team is supportive of this project and have been reaching out to various levels of government to promote the project and seek funding.

The PADR EA team is safe and working remotely from home – thank you. I hope you and your family are also safe and keeping well during this time.

Sincerely,

Melody Brown on behalf of the PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment  
PADR EA  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6  
Project Email: [PADR@trca.ca](mailto:PADR@trca.ca)  
Project Website: [trca.ca/PADR](http://trca.ca/PADR)



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**From:** [REDACTED]  
**Sent:** Tuesday, April 28, 2020 4:13 PM  
**To:** Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>  
**Subject:** Fwd: River - water current now

Hi Melody & others: Unfortunately I'm unable to participate in this evening's virtual info meeting. I've enclosed a shot of the river which I hope is clear enough to show the flow of the current at this time. As you can see it is aimed toward the rock wall which was created about 16 yrs. ago to stabilize the bank. So far, there does not appear to be any erosion due to this but perhaps more rocks may be required. The C-19 situation we are all dealing with right now really puts this issue (dyke rehab) on the back burner now, in my opinion - not to mention questionable if it can go forward based on the billions the government has had to spend to keep people alive. However, certainly life goes on & we must assume at some point it will be done.

I would like to reiterate we are just concerned that whatever solution is chosen it be as minimally invasive to the current topography as possible, maintaining the meadow & access to the riverfront - and that it impacts our property and access to the berm we currently very much enjoy as little as possible. I trust there will be further meetings which will allow for more public input?

We hope everyone on the PADR EA team is safe & well & look forward to meeting again in person.

Kind regards, [REDACTED]

[REDACTED]

Date: April 28, 2020 at 10:51 AM  
Subject: River

Sent from my Bell Samsung device over Canada's largest network.

## Melody Brown

---

**From:** Pickering Ajax Dyke Rehabilitation  
**Sent:** Friday, May 1, 2020 1:42 PM  
**To:** [REDACTED]  
**Subject:** RE: Re dykes project in Ajax/Pickering

Hi [REDACTED]

Thank you for your interest in this project. The presentation on April 28th was recorded and the video is available for viewing on the project website. All of the Public Information Centre informational materials are available for you to view by following links on the project website.

This link will take you directly to the list of informational materials available from Tuesday's Public Information Centre.  
<https://trca.ca/conservation/green-infrastructure/pickering-ajax-dykes-ea/#meeting-materials>

Please let us know if you have any questions or would like to discuss the project once you view the materials.

Sincerely,

The PADR EA Team

Pickering Ajax Dyke Rehabilitation, Environmental Assessment PADR EA Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6 Project Email: [PADR@trca.ca](mailto:PADR@trca.ca) Project Website: [trca.ca/PADR](http://trca.ca/PADR)

-----Original Message-----

**From:** [REDACTED]  
**Sent:** Thursday, April 30, 2020 1:25 PM  
**To:** Pickering Ajax Dyke Rehabilitation <[PADR@trca.ca](mailto:PADR@trca.ca)>  
**Subject:** Re dykes project in Ajax/Pickering

Would like to view information presented at April 28 meeting Sent from my iPad

## Melody Brown

---

**From:** Pickering Ajax Dyke Rehabilitation  
**Sent:** Friday, May 8, 2020 11:15 AM  
**To:** [REDACTED]; Pickering Ajax Dyke Rehabilitation  
**Subject:** RE: Pickering and Ajax Dykes Rehabilitation Project

Hi [REDACTED],

Thank you for your interest in this project.

During construction vibrations could be caused by heavy equipment moving around the construction area, by compaction of materials used to construct the dykes, and most significantly by the installation of sheet pile, which would likely be installed using a vibratory hammer.

The St. Georges Anglican Church at 77 Randall Drive is located about 0.35 km away from the proposed construction area and well over 1 km away from where the sheet pile installation is proposed.

TRCA has completed previous projects where similar construction activities were done (sheet pile installation and compaction of materials) and vibration monitoring was done during construction. The vibration monitoring indicated the significant of vibrations at properties/buildings near the construction area. Based on our experience from completing these other construction projects, the church is outside of the area that would reasonably be expected to feel vibrations that are significant enough to cause an impact.

During the next, more detailed design stage, which will take place after the completion of this Class EA project, the expected range/zone of influence by vibrations, and potential impacts will be investigated in more detail.

Please let us know if you have any other questions.

Sincerely,

The PADR EA Team

Pickering & Ajax Dykes Rehabilitation, Environmental Assessment (PADR EA) Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan, ON L4K 5R6 Project Email: PADR@trca.ca Project Website: trca.ca/PADR

-----Original Message-----

From: [REDACTED] >  
Sent: Wednesday, May 6, 2020 11:49 AM  
To: Pickering Ajax Dyke Rehabilitation <PADR@trca.ca>  
Subject: Pickering and Ajax Dykes Rehabilitation Project

I have been receiving all the mailings on this file .I appreciate it very much.My one concern is for the Historically designated St.Georges Anglican Church located within the study area.at 77 Randall Drive.How will the vibrant ions from construction affect the stability of such an old building?Thanks for your thoughts on this matter [REDACTED]

Sent from my iPad

# Agency Correspondence

Letters to MNRF

PADR Letter of Notification – MNRF Bohdan Kowalyk

PADR Letter of Notification – MNRF Brad Allan

PADR Letter of Notification – MNRF Mark Stephan

Melody Brown  
Toronto and Region Conservation Authority  
101 Exchange Ave.  
Vaughan, Ontario, L4K 5R6

August 9, 2019

CFN: 61407

Bohdan Kowalyk  
Ministry of Natural Resources and Forestry  
50 Bloomington Rd.  
Aurora, Ontario  
L4G 0L8

**Attention:** Mr. Kowalyk

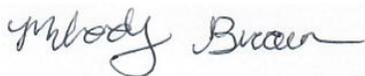
**SUBJECT: Pickering and Ajax Flood Control Dykes Rehabilitation – Class  
Environmental Assessment**

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Please be advised that Toronto and Region Conservation Authority (TRCA) is proposing to carry out remedial flood control works to provide long-term flood protection along sections of the Duffins Creek, in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred solution for the rehabilitation of two (2) existing flood control dykes through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013). A “Notice of Commencement” formally initiating the study appeared in the Ajax/Pickering News Advertiser on August 8, 2019.

If you have any questions or would like more detailed information about the project, please do not hesitate to contact the undersigned at (416) 661-6600 ext. 5320, or by email [melody.brown@trca.ca](mailto:melody.brown@trca.ca).

Sincerely,



Melody Brown, P.Eng.  
Project Manager, Capital Projects

Encl: Notice of Commencement

Cc: Ministry of the Environment

# TORONTO AND REGION CONSERVATION AUTHORITY PICKERING AND AJAX DYKES REHABILITATION PROJECT CLASS ENVIRONMENTAL ASSESSMENT NOTICE OF COMMENCEMENT

Toronto and Region Conservation Authority (TRCA) has commenced a study to investigate flood remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

In the 1980s, TRCA constructed the dykes to provide flood protection for the Pickering and Ajax Special Policy Areas (SPA). Recent studies have identified that the dykes do not meet current engineering design standards and factors of safety (FOS). The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while at minimum, maintaining the existing level of flood protection.

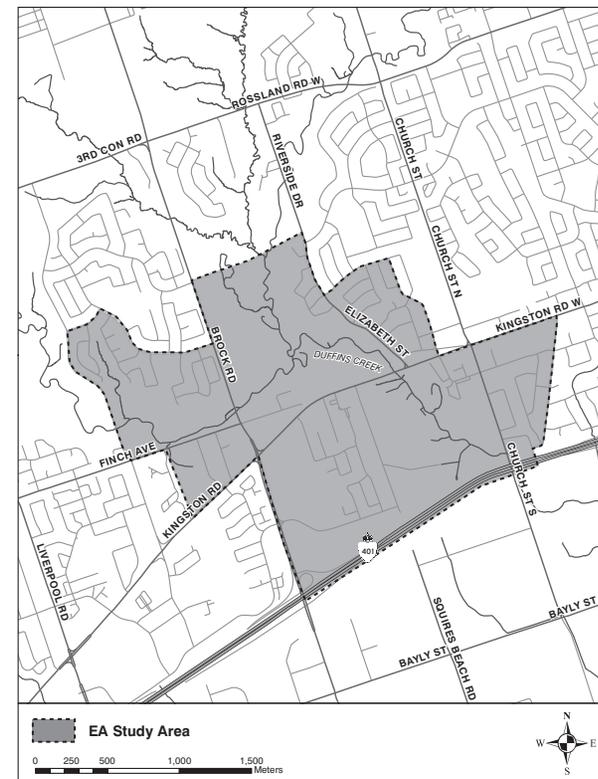
TRCA invites the public to participate in this study which is subject to the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, regulated by Conservation Ontario (January 2002, as amended in June 2013), under the Ontario Environmental Assessment Act. Two (2) Public Information Centres (PICs) will be held during the study to provide information and allow for public comment. Notification of the PICs will be advertised in the local newspaper and posted on TRCA's website.

For further information on this project or if you wish to be added to the mailing list, please contact:

Melody Brown P.Eng.  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan Ontario, L4K 5R6  
E-mail: [PADR@trca.ca](mailto:PADR@trca.ca)  
Website: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, TRCA intends to proceed with the implementation.

Notice issued on August 8, 2019.



A project of:



Melody Brown  
Toronto and Region Conservation Authority  
101 Exchange Ave.  
Vaughan, Ontario, L4K 5R6

August 9, 2019

CFN: 61407

Brad Allan  
Ministry of Natural Resources and Forestry  
50 Bloomington Rd.  
Aurora, Ontario  
L4G 0L8

**Attention:** Mr. Allan

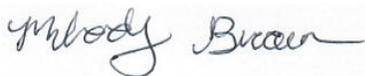
**SUBJECT: Pickering and Ajax Flood Control Dykes Rehabilitation – Class  
Environmental Assessment**

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Sincerely,



Melody Brown, P.Eng.  
Project Manager, Capital Projects

Encl: Notice of Commencement

Cc: Ministry of the Environment

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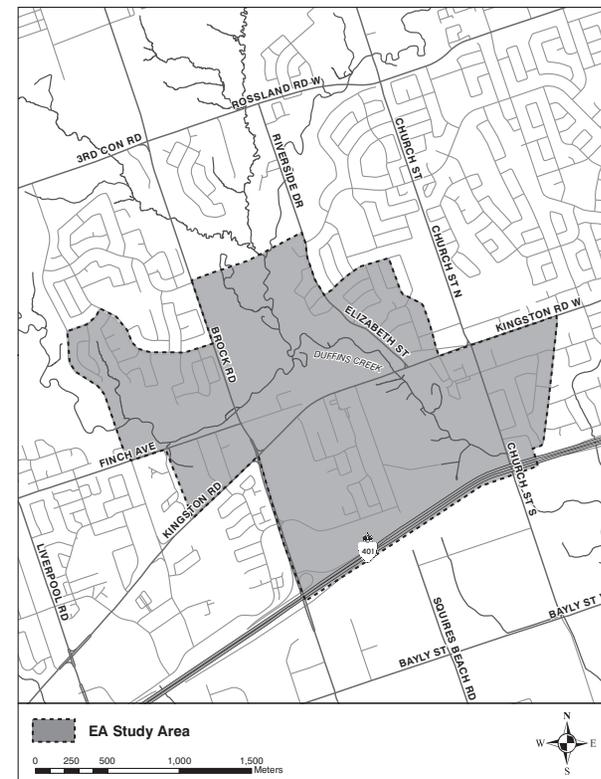
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Melody Brown P.Eng.  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan Ontario, L4K 5R6  
E-mail: [PADR@trca.ca](mailto:PADR@trca.ca)  
Website: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, TRCA intends to proceed with the implementation.

Notice issued on August 8, 2019.



A project of:



Melody Brown  
Toronto and Region Conservation Authority  
101 Exchange Ave.  
Vaughan, Ontario, L4K 5R6

August 9, 2019

CFN: 61407

Mark Stephen  
Ministry of Natural Resources and Forestry  
4<sup>th</sup> Floor, S, 300 Water Street  
Peterborough, Ontario  
K9J 3C7

**Attention:** Mr. Stephen

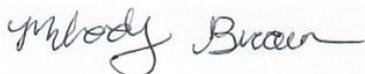
**SUBJECT: Pickering and Ajax Flood Control Dykes Rehabilitation – Class  
Environmental Assessment**

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Sincerely,



Melody Brown, P.Eng.  
Project Manager, Capital Projects

Encl: Notice of Commencement

Cc: Ministry of the Environment

# TORONTO AND REGION CONSERVATION AUTHORITY PICKERING AND AJAX DYKES REHABILITATION PROJECT CLASS ENVIRONMENTAL ASSESSMENT NOTICE OF COMMENCEMENT

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Project Manager, Capital Projects

Toronto and Region Conservation Authority

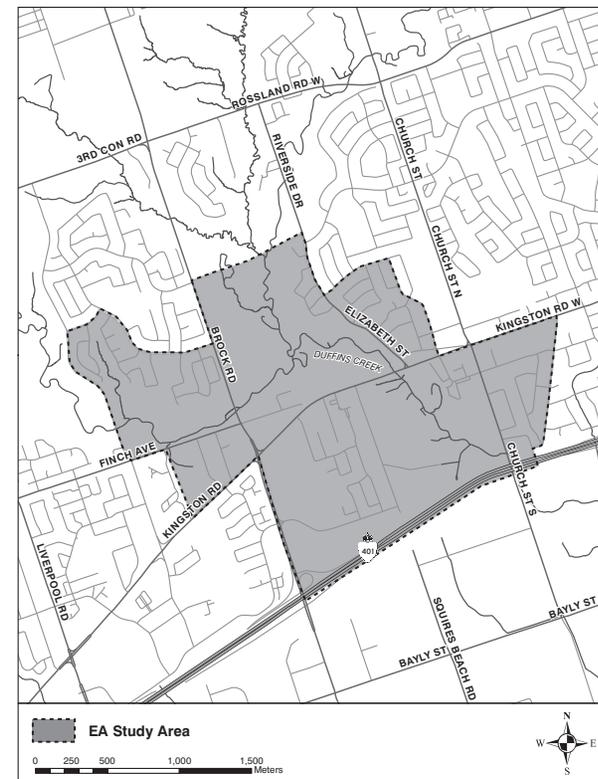
101 Exchange Avenue, Vaughan Ontario, L4K 5R6

E-mail: [PADR@trca.ca](mailto:PADR@trca.ca)

Website: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, TRCA intends to proceed with the implementation.

Notice issued on August 8, 2019.



A project of:



Correspondence with Ministry of Environment, Conservation and Parks

## Tony Gallo

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**From:** Tony Gallo  
**Sent:** September 18, 2019 9:53 AM  
**To:** SAROntario@ontario.ca  
**Subject:** FW: Species at Risk - Pickering/Ajax - Conservation Ontario Class EA - Pickering & Ajax Dykes Rehabilitation  
**Attachments:** Ajax Pickering Notice of Commencement.pdf

Good Morning,

Please see below and attached.

**From:** Tony Gallo  
**Sent:** Thursday, September 12, 2019 8:24 AM  
**To:** SAR@ontario.ca  
**Cc:** Fuad Curi <fcuri@kgsgroup.com>; Melody Brown <Melody.Brown@trca.ca>  
**Subject:** Species at Risk - Pickering/Ajax - Conservation Ontario Class EA - Pickering & Ajax Dykes Rehabilitation

Good Morning

KGS Group has been retained by the Toronto and Region Conservation Authority to complete a Class Environmental Assessment (Class EA) for remedial flood control works to provide long-term flood protection along sections of the Duffins Creek, in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred solution for the rehabilitation of two (2) existing flood control dykes through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013). A "Notice of Commencement" formally initiating the study appeared in the Ajax and Pickering News Advertiser on Thursday August 8, 2019 and has been attached to this email.

The baseline inventory work completed for this Class EA has determined that there are Species at Risk within the study area: **Butternut Tree** and **Redside Dace**.

Three Butternut trees are present in the study area. An assessment of the trees was conducted in August of 2019 by Palmer Environmental Consulting Group Inc. Two of the trees were assessed as non-retainable, and one as retainable.

The Duffins Creek in the area is considered "occupied" by Redside Dace. According to MECP staff Redside Dace were caught during sampling conducted in 2019 in the main Duffins Creek. The West Duffins Creek has not been designated yet but could in the future be a "contributing" area.

Please contact KGS Group's Project Manager – Mr. Fuad Curi P.Eng. at [fcuri@kgsgroup.com](mailto:fcuri@kgsgroup.com), for any additional information required regarding the project.

Regards,

**Tony Gallo, M.Sc., P.Biol. EP**  
Environmental Department Head



Suite 301A - 1001 William Street, Thunder Bay ON P7B 6M1  
phone: 807.623.2195 ext. 246 | cell: 807.628.3832  
[tgallo@ksgroup.com](mailto:tgallo@ksgroup.com)  
[www.ksgroup.com](http://www.ksgroup.com)

This email (including any attachments) is only for the use of the intended recipient(s). It may contain information or material that is confidential, proprietary or privileged. Any unauthorized use, distribution, disclosure or copying of this email is strictly prohibited. If you believe that you received this email in error, please notify us immediately by reply email or telephone and permanently delete this email without making or retaining a hard copy.

## Tony Gallo

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**From:** Species at Risk (MECP) <SAROntario@ontario.ca>  
**Sent:** November 27, 2019 11:22 AM  
**To:** Tony Gallo  
**Subject:** RE: Species at Risk - Pickering/Ajax - Conservation Ontario Class EA - Pickering & Ajax Dykes Rehabilitation

Tony;

MECP staff has nothing to add at this juncture. Please keep us apprised as to the progression of the project.

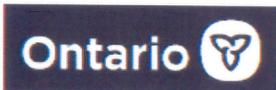
Kind Regards;

JJA

JEFF J. ANDERSEN

**MANAGEMENT BIOLOGIST  
PERMISSIONS AND COMPLIANCE SECTION, SPECIES AT RISK BRANCH  
LAND AND WATER DIVISION  
ONTARIO MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS**

50 Bloomington Road, Aurora ON L4G 0L8 | [jeff.andersen@ontario.ca](mailto:jeff.andersen@ontario.ca) | 289-221-1705



**From:** Tony Gallo <tgallo@kgsgroup.com>  
**Sent:** November 19, 2019 3:17 PM  
**To:** Species at Risk (MECP) <SAROntario@ontario.ca>  
**Subject:** FW: Species at Risk - Pickering/Ajax - Conservation Ontario Class EA - Pickering & Ajax Dykes Rehabilitation

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Hello

We were wondering if there would be any follow up or additional communication regarding our Class EA Project?

**Tony Gallo** M.Sc., P.Biol. EP  
ENVIRONMENTAL DEPARTMENT HEAD

P 807-623-2195 ext 246

C 807-628-3832

[tgallo@kgsgroup.com](mailto:tgallo@kgsgroup.com) | [kgsgroup.com](http://kgsgroup.com)

**From:** Species at Risk (MECP) <[SAROntario@ontario.ca](mailto:SAROntario@ontario.ca)>  
**Sent:** September 18, 2019 9:55 AM  
**To:** Tony Gallo <[tgallo@kgsgroup.com](mailto:tgallo@kgsgroup.com)>

**Subject:** Automatic reply: Species at Risk - Pickering/Ajax - Conservation Ontario Class EA - Pickering & Ajax Dykes Rehabilitation

Thank you for your inquiry to the Permissions and Compliance team, Species at Risk Branch, Ministry of the Environment, Conservations and Parks.

### **What's New?**

- The Ministry of the Environment, Conservations and Parks (MECP) has responsibility for the administration of the Ontario Endangered Species Act (ESA). In MECP, work associated with ESA authorizations has been centralized from Ministry of Natural Resources and Forestry district offices into one, newly formed Permissions and Compliance team within the new Species at Risk Branch in MECP.

### **What Next?**

- Your email is being reviewed by branch staff to determine the nature of your inquiry or submission. Your inquiry or submission will then be actioned to someone from our team for follow up as required.
- We strive to follow up with a response to your inquiry within 15 business days to confirm that your submission has been actioned out and to provide contact information.

### **Do you think you may need an ESA permit or authorization?**

- Please visit <https://www.ontario.ca/page/species-risk> to learn more about protecting and recovering species at risk, then navigate to the Resources and Permits section, including [Register or Get a Permit](#) for more information about permits and authorizations under the ESA.
- You only need an authorization under the ESA (e.g. a permit or other type of authorization) if your work is going to contravene the ESA (e.g. if the activity you are proposing is going to kill, harm or harass a species at risk or damage or destroy their habitat). If you are able to undertake your work in a manner that does not contravene the ESA, that is what we call "avoidance" of impacts to species at risk or their habitat and it is the ideal scenario for clients and the species - the species aren't adversely impacted, and you don't need an authorization.

### **Do you want to know if any species at risk are at, or near, your project site? Do you need help determining if you need an ESA permit or authorization?**

- We have developed a guide to help clients work through the preliminary screening process, including providing advice to clients on how they can gather information you have requested from publicly available information sources. The guide provides advice on how you can determine if any species at risk are likely to exist at your site. If you are seeking information regarding species at risk likely to occur at or near your site, please send an email to [sarontario@ontario.ca](mailto:sarontario@ontario.ca) and include "request for preliminary screening guide" in the subject line. To provide the most efficient service, it is recommended clients read this guide and explore applicable information sources prior to contacting [sarontario@ontario.ca](mailto:sarontario@ontario.ca) to begin discussions with the Permissions and Compliance team about your proposed project.

### **Do you want to report a suspected violation of the ESA?**

- Please call the MECP Tips/Pollution Hotline at 1-866-663-8477 and provide the details requested. Someone may follow up with you directly to request additional information. We

may not be able to follow up with you to provide you an update on the status of your tip as the status of any ongoing inspections or investigations is confidential until resolved.

**We also receive a high volume of inquiries related to Butternut (an endangered tree) to this email address. The following information can assist you if you have some of the more common questions regarding the ESA and impacts to Butternut.**

**Do you think you may need an ESA permit or authorization to cut down a Butternut tree?**

- If a Butternut tree has been identified, a Butternut Health Assessment will need to be completed to assess the health of the tree in accordance with the document titled [Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the Endangered Species Act, 2007](#). This will determine if the tree is Category 1, 2 or 3.
- Please note that Section 4.2 (Timing of Assessment) on page 10 of the Butternut Assessment Guidelines states that “A complete and accurate assessment of a Butternut tree can only be conducted during the leaf-on season.” It also notes that “For the purposes of the ESA, an assessment will be considered to have been conducted during the leaf-on season if it was conducted between the dates of May 15 and August 31.” For this reason, a Butternut Health Assessment should not be conducted until May 15 in order to get an accurate assessment of the live crown.
- Once A Butternut Health Assessment has been completed and submitted to the Ministry for at least 30 days, ESA requirements can be identified as per below:
- If a BHA identifies a tree as a hybrid, no authorization under the ESA is required to remove the tree, as it is not a pure Butternut and not protected under the ESA.
- If a BHA identifies a tree as a Category 1, no authorization under the ESA is required to remove the tree, as it affected by Butternut canker (a fungal disease) to such an advanced degree that retaining the tree would not support the protection or recovery of Butternuts in the area.
- If a BHA identifies a tree as a Category 2, Registration under [section 23.7 of the Ontario Regulation 242/08](#) is likely feasible so long as all requirements of the Regulation are met.
- If a BHA identifies a tree as a Category 3, then a [17\(2\)\(c\) Permit](#) is likely required.

**Are you submitting a Butternut health assessment?**

- Please submit your Butternut Health Assessment Forms to at [sarontario@ontario.ca](mailto:sarontario@ontario.ca). In the subject line, clearly indicate that the email contains a BHA and the municipality within which the BHA was conducted. Once received, the submission will be triaged and actioned.

**Did you recently see a species at risk?**

- Please visit <https://www.ontario.ca/page/report-rare-species-animals-and-plants> for information on how to report a species at risk sighting.

**Would you like to learn more about species at risk and the ESA and its related policies?**

- Please visit <https://www.ontario.ca/page/species-risk>.
- Policies under the ESA, ministry-endorsed survey protocols and a number of best-management practices related to how you can avoid or minimize impacts to species at risk can be found online at <https://www.ontario.ca/page/species-risk-guides-and-resources>.

- General inquiries related to the ESA or species at risk can be directed to [esa-sarinquiries@ontario.ca](mailto:esa-sarinquiries@ontario.ca)

Meeting Minutes – Region of Durham

***Pickering and Ajax Dykes Rehabilitation (PADR) Environmental Assessment (EA)***

TRCA CFN No: 61407

**Stakeholder Meeting with Durham Region**

Date: Tuesday, November 5, 2019

Time: 10:00AM – 11:00AM

Location: Durham Region Head Office – Works Meeting Room 5F-8

**PRESENT:**

Toronto and Region Conservation Authority (TRCA)

Melody Brown, Project Manager, Capital Projects, Engineering Services

Nick Lorrain, Senior Manager, Capital Projects, Engineering Services

Regional Municipality of Durham

Charlotte Pattee, Project Manager, Corridor Control, Works Department

Aaron Christie, Manager, Engineering Planning & Studies, Works Department

**REGRETS:**

Crystal Robertson, Project Coordinator (TRCA)

Lindsay Prihoda, Senior Project Manager (TRCA)

**ISSUED:** All present and regrets.

**PURPOSE:** Stakeholder Meeting with Durham Region regarding Regional Infrastructure within the EA Direct Study Area.

**AGENDA:**

1. Discuss current EA status / proposed works
2. Confirm existing Regional infrastructure within the direct study area
3. Discuss Durham Region's restrictions/expectations for works near their infrastructure
4. Next steps

**MINUTES:**

ITEM	DETAILS	ACTION BY:
1	<p><b>Current EA Status / Proposed Works</b></p> <ul style="list-style-type: none"> <li>• The focus of the EA is to rehabilitate two dykes (referred to as Pickering and Ajax Dykes) to provide reliable flood protection.</li> <li>• The preferred solution for each dyke has been determined. Alternative design concepts that achieve these preferred solutions will be developed during the next phase of the EA project.</li> <li>• The preferred solution for the two dykes was discussed. The design is at a 10% design level. <ul style="list-style-type: none"> <li>○ Pickering Dyke: structural solution for western portion where space is limited. However, there are no Regional utilities in this area so this is not of concern. Earth-fill embankment of similar height but a wider footprint than existing for the central and eastern portion.</li> <li>○ Ajax Dyke: Earth-fill embankment that is taller (approx 1 ft taller) and a wider footprint than existing for the entire dyke. A taller dyke is proposed to provide a greater flood protection level of service.</li> </ul> </li> </ul>	
2	<p><b>Existing Durham Region Infrastructure</b></p> <ul style="list-style-type: none"> <li>• There is currently one sanitary sewer and one watermain that crosses the Pickering Dyke (in Segment 4 and Segment 5 respectively). The sanitary sewer is 600mm diam concrete built in 1988. The watermain is 600mm diam concrete pressure pipe built in 1989. <ul style="list-style-type: none"> <li>○ Potentially there is also a 200mm diam watermain that crosses the dyke in segment 5 near Kingston Road West. This pipe is shown on the as-builts but was not recorded in the consultant's locate search. The Region expects that this pipe has been abandoned but will confirm.</li> <li>○ <b>Action item:</b> Region to confirm the status of the discussed 200mm diam watermain near Kington Rd W.</li> </ul> </li> <li>• There are currently 3 sanitary sewers that cross the Ajax Dyke. A 1050mm diam concrete sewer built in 1978, a 600mm diam concrete sewer built in 1969, and a 250mm diam concrete sewer built in 1976. <ul style="list-style-type: none"> <li>○ The Region suggested realignment of the dyke and/or sewers in this area to minimize the amount of sewer that crosses under the dyke.</li> </ul> </li> </ul>	Region

Minutes provided by TRCA.



ITEM	DETAILS	ACTION BY:
	<ul style="list-style-type: none"> <li>• If proposing to place/construct more than just earth-fill over the Region's pipes, then the Region needs to sign off on it. This includes if plantings are proposed (such as trees). The Region's concern is their ability to access their infrastructure if needed and what might need to be removed/replaced if they did need to dig up their pipes. Easements should be free and clear. <ul style="list-style-type: none"> <li>○ A trail is ok. Shrubs are generally ok. Trees are deterred.</li> </ul> </li> <li>• The Region does not have guidelines for cover requirements (min/max) or loading restrictions during construction activities or for permanent installations. The Region requires the consultant and contractor completing the design and construction works to determine these restrictions and take all measures necessary to protect the pipes. The responsibility and risk is on the contractor and design engineer. The consultant must do a structural analysis. The Region would need to be circulated the plans prior to construction. <ul style="list-style-type: none"> <li>○ An example of an extreme condition that would raise red flags at the Region is if it was proposed to excavate down to 1m of cover over a pipe and then drive equipment over the pipe.</li> <li>○ Generally 3-5m of earth-fill cover over the pipes is not excessive.</li> <li>○ Usually steel plates and/or layers of granular material is used by contractors to protect pipes during construction activities.</li> <li>○ Compaction over watermains is a concern.</li> </ul> </li> </ul>	
4	<p><b>Next Steps</b></p> <ul style="list-style-type: none"> <li>• TRCA to circulate the design concepts developed during the next phase of the EA to Charlotte and Aaron at the Region and possibly set up another meeting to discuss the concepts and the Region's input.</li> </ul>	TRCA

- END OF MEETING -

Correspondence with Hydro One



Hydro One Networks Inc  
483 Bay St  
Toronto, ON

September 13, 2019

Re: TORONTO AND REGION CONSERVATION AUTHORITY PICKERING AND AJAX DYKES REHABILITATION PROJECT

Attention:  
Melody Brown P.Eng.  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority

In our preliminary assessment, we have confirmed that Hydro One has existing high voltage Transmission facilities within your study area. At this point in time we do not have enough information about your project to provide you with meaningful input with respect to the impacts that your project may have on our infrastructure. As such, this response does not constitute any sort of approval for your plans and is being sent to you as a courtesy to inform you that we must be consulted on your project.

In addition to the existing infrastructure mentioned above, the affected transmission corridor may have provisions for future lines or already contain secondary land uses (i.e. pipelines, watermains, parking, etc). Please take this into consideration in your planning.

Also, we would like to bring to your attention that should (TORONTO AND REGION CONSERVATION AUTHORITY PICKERING AND AJAX DYKES REHABILITATION PROJECT) result in a Hydro One station expansion or transmission line replacement and/or relocation, an environmental assessment (EA) will be required as described under the Class Environmental Assessment for Minor Transmission Facilities (Hydro One, 2016). This EA process would require a minimum of 6 months to be completed and associated costs will be allocated and recovered in accordance with the Transmission System Code. Furthermore, to complete an EA it can take from 6 months (to complete a Class EA Screening Process) to 18 months (to complete a Full Class EA Process) based on the level of assessment required for the EA. In order to achieve speedy completion of the EA, Hydro One will need to rely on studies and/or reports completed as part of the EA for your project.

Please allow the appropriate lead-time in your project schedule in the event that your proposed development impacts Hydro One infrastructure to the extent that it would require modifications to our infrastructure.

In planning, please note that developments should not reduce line clearances or limit access to our facilities at any time in the study area of your Proposal. Any construction activities must maintain the electrical clearance from the transmission line conductors as specified in the Ontario Health and Safety Act for the respective line voltage.

Please note that the proponent will be held responsible for all costs associated with modification or relocation of Hydro One facilities, as well as any added costs that may be incurred due to increase efforts to maintain our facilities.

We reiterate that this message does not constitute any form of approval for your project. Hydro One must be consulted during all stages of your project. Please ensure that all future communications about your project are sent to us electronically to [secondarylanduse@hydroone.com](mailto:secondarylanduse@hydroone.com).

Sent on behalf of,

***Secondary Land Use  
Asset Optimization  
Strategy & Integrated Planning  
Hydro One Networks Inc.***



Hydro One Networks Inc  
483 Bay St  
Toronto, ON

March 12, 2020

Re: PICKERING AND AJAX DYKES REHABILITATION PROJECT

Attention:

Melody Brown P.Eng.  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority

We have confirmed that your Preliminary Preferred Alternative Solution is in proximity to but does not directly affect Hydro One's existing high voltage Transmission facilities within your study area (see map attached). At this point in time we do not have any objections with you continuing with this solution. If your preferred solution changes Hydro One will need to reassess the impacts that your project may have on our infrastructure. As such, this response does not constitute any sort of approval for your plans and is being sent to you as a courtesy to inform you that we must be consulted on your project.

Also, we would like to bring to your attention that should (PICKERING AND AJAX DYKES REHABILITATION PROJECT) result in a Hydro One station expansion or transmission line replacement and/or relocation, an environmental assessment (EA) will be required as described under the Class Environmental Assessment for Minor Transmission Facilities (Hydro One, 2016). This EA process would require a minimum of 6 months to be completed and associated costs will be allocated and recovered in accordance with the Transmission System Code. Furthermore, to complete an EA it can take from 6 months (to complete a Class EA Screening Process) to 18 months (to complete a Full Class EA Process) based on the level of assessment required for the EA. In order to achieve speedy completion of the EA, Hydro One will need to rely on studies and/or reports completed as part of the EA for your project.

Please allow the appropriate lead-time in your project schedule in the event that your proposed development impacts Hydro One infrastructure to the extent that it would require modifications to our infrastructure.

In planning, please note that developments should not reduce line clearances or limit access to our facilities at any time in the study area of your Proposal. Any construction activities must maintain the electrical clearance from the transmission line conductors as specified in the Ontario Health and Safety Act for the respective line voltage.

Be advised that any changes to lot grading and/or drainage within or in proximity to Hydro One transmission corridor lands must be controlled and directed away from the transmission corridor.

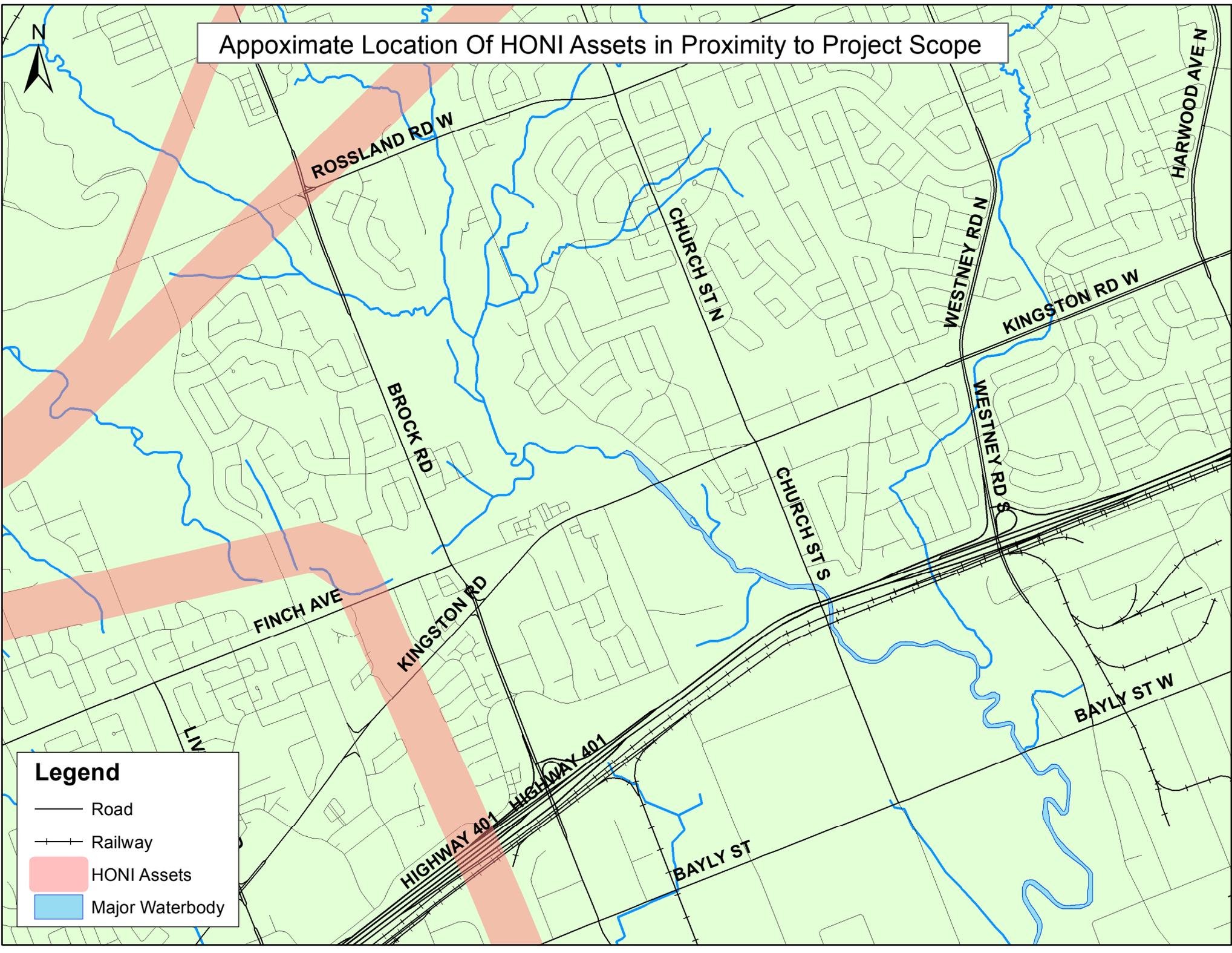
Please note that the proponent will be held responsible for all costs associated with modification or relocation of Hydro One facilities, as well as any added costs that may be incurred due to increase efforts to maintain our facilities.

We reiterate that this message does not constitute any form of approval for your project. Hydro One must be consulted during all stages of your project. Please ensure that all future communications about your project are sent to us electronically to [secondarylanduse@hydroone.com](mailto:secondarylanduse@hydroone.com).

Sent on behalf of,

***Secondary Land Use  
Asset Optimization  
Strategy & Integrated Planning  
Hydro One Networks Inc.***

# Approximate Location Of HONI Assets in Proximity to Project Scope



October 3, 2019

Hydro One Networks Inc.  
483 Bay Street  
Toronto, Ontario

**SUBJECT: Pickering and Ajax Dykes Rehabilitation Project, Class Environmental Assessment**

Dear Hydro One Networks Inc.,

Please be advised that Toronto and Region Conservation Authority (TRCA) has reviewed the letter from Hydro One dated September 13, 2019 regarding the Pickering and Ajax Dykes Rehabilitation Project. As previously noted, the Project is located along a section of Duffins Creek in the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred measure of flood control infrastructure rehabilitation through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects (Conservation Ontario, January 2002, as amended in June 2013)*.

TRCA understands there is an existing high voltage Transmission facility within our overall study area, and the transmission corridor may be located within our direct environment study area with potential provisions for future lines or already contain secondary land uses (i.e., pipelines, watermains, parking, etc.).

The Project Team would like to ensure all stakeholders are included in all phases of the project. Therefore, the Project Team would like to schedule a meeting with Hydro One to discuss any potential impacts to existing or future infrastructure. If you could please contact Crystal Robertson, by email [crystal.roberston@trca.ca](mailto:crystal.roberston@trca.ca) or phone (416) 661-6600 extension 5948, at your earliest convenience with an appropriate time and location for a meeting to discuss the details of the project it would be greatly appreciated.

Sincerely,



Melody Brown  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority

Enclosed (1) Pickering and Ajax Dykes Rehabilitation – Project Brief

**Pickering and Ajax Dyke Rehabilitation Conservation Ontario Class Environmental Assessment  
(PADR EA)**

**Project Brief**

Toronto and Region Conservation Authority (TRCA) has commenced a Conservation Ontario Class Environment Assessment (EA) for Remedial Flood and Erosion Control Projects to investigate flood remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

The Village East and the Notion Road Pickering Village communities in the City of Pickering (Ward 3) and Town of Ajax (Ward 1) are located within the regulatory floodplain of the Duffins Creek watershed. This area has a long history of flooding, with 634 buildings susceptible to flooding during a Regional Storm (Hurricane Hazel) event.

The Village East community in Pickering and the Notion Road/Pickering Village community in Ajax are both designated Special Policy Areas (SPA). Due to the flood vulnerability of the community, the areas were designated as a Special Policy Area (SPA) to provide for the continued viability of existing land uses while acknowledging the flood vulnerability of the communities. The dykes were constructed in the 1980s to provide flood protection for the communities up to and including the 500-year storm event.

The Pickering Dyke, constructed in 1985, extends for approximately 1,150 metres, and is located north of Kingston Road extending from Brock Road eastward to east of Notion road. The Ajax Dyke, constructed in 1984, extends for approximately 325 metres, and is located west of Church Street South extending north from near Mill Street.

Recent studies completed by TRCA have identified various deficiencies in their construction which prevent them from meeting current engineering design standards and factors of safety (FOS). Based on the results from the 2018 hydraulic modelling study, it was determined that the targeted level of flood protection to the 500-year event is not provided by the existing flood control dykes. Based on results from the 2018 geotechnical study the current dykes do not meet current engineering design standards and Factors of Safety (FOS). As such there is a high potential of dyke failure during a significant storm event. It is desired to undertake rehabilitation of the dykes to meet current engineering standards and FOS while maintaining, or improving, the existing level of flood protection to the surrounding communities.

The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while at minimum, maintaining a level of flood protection associated with the existing dyke crest elevations.

Works associated with the rehabilitation of the dykes are expected to occur within the Direct Environmental Study Area as shown on Figure 1. The alignment and footprint of the proposed rehabilitated dykes may differ from the existing dykes, however, they are proposed to be located in the same general area as existing.

Consulting with the public, local community groups, government agencies and Indigenous Communities is a key component of the EA process. There are several committees being engaged throughout the PADR EA, including a Technical Advisory Committee, Executive Steering Committee, and Community Liaison Committee. Each group has been and will continue to be given the opportunity to engage and provide

comments on the PADR EA. The primary method of disseminating project information to the general public will be through a series of up to two (2) Public Information Centres (PIC).

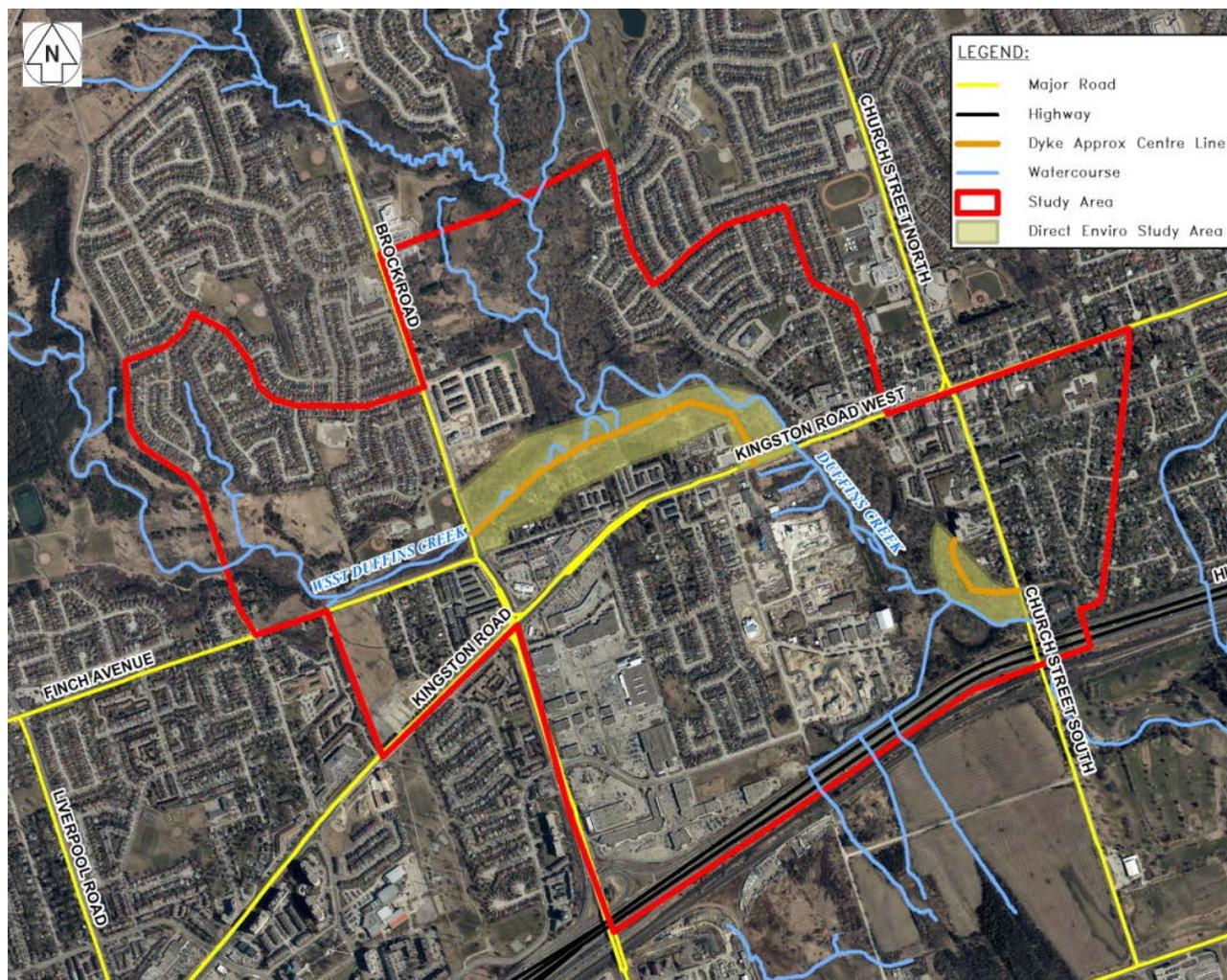


Figure 1 - Study Area Map

### Next Steps:

The second round of committee consultations has been scheduled:

- Technical Advisory Committee Meeting
- Executive Steering Committee Meeting
- Community Liaison Committee Meeting
- Public Information Centre (October 30, 2019) – Chestnut Hill Developments Recreation Complex, Pickering

It should be noted that this project is on schedule with a completion date of summer 2020.

For more information please visit the project website at [trca.ca/PADR](http://trca.ca/PADR) or please contact the Project Team at [PADR@trca.ca](mailto:PADR@trca.ca).

# Public Consultation Comment Tracking Table

## Public Comments Tracking Table

The following table provides a record of comments and issues raised by the public during Community Liaison Committee meetings, Public Information Centres, and emails/phone calls otherwise received by the Study Team from the public. Comment have been summarized and paraphrased, especially where similar comments were raised by multiple individuals / at different events. For a more accurate account of comments received please refer to the copies of the comment forms and email correspondence provided in the CLC and PIC Consultation Reports and other documents enclosed in the Record of Consultation Appendix J.

ID #	Date of Comment Submission	Event / Source of Comment	Comment / Concern from the Public	Response / Action Taken
1	9/11/2019 10/30/2019	CLC 1 PIC 1	Comments that there has been no flooding with the existing dykes, and their crests have not been exceeded.	It was explained during the consultation that flooding prior to the dykes construction was frequent and that the dykes not meeting standards result in a flooding risk that, even if not in the past, could materialize in the future, and this project intends to address.
2	2019-10-07	CLC 2	Request to provide an idea of flood levels if dyke fails	Model simulations were carried out during the project to represent conditions without the dykes, as representative of areas potentially flooded during a dyke failure. The results were presented to the public and various committees and included in the ESR.
3	10/30/2019 4/28/2020	PIC 1 PIC 2	Would a higher level of protection (for instance 350 or 500 year storm floods) be considered?	The proposed level of protection is the 100-yr, which is higher than what the current crest elevation of the Ajax Dyke allows. Greater events (350 yr, 500 yr) would cause spilling into the study area from other areas of low overbank elevations, not protected by the existing dykes. The dykes alone cannot provide 350 yr or 500 yr protection, other infrastructure changes would be needed as well. However, the dykes will be designed with consideration of the 500-yr event so that they can be raised in the future to that level if these other infrastructure projects are undertaken.
4	2019-09-11	CLC 1	Would the project affect SPA designation in the Project Study Area?	No. This project is for rehabilitation of existing infrastructure, and it provides protection for a lesser event than the Regulatory Flood. Furthermore, dykes are not considered permanent solutions within the Provincial policy framework, and so they are not acceptable means to modify SPA designation.
5	2019-10-30	PIC 1	Suggestion to buy out properties in the floodplain.	Public consultation included explanation of the concept and rationale for Special Policy Area designation in the Province. This allows for continued use of an existing built environment within the floodplain while managing risks.
6	2020-03-10	CLC 3	Suggestion to consider future (urban) growth for the solution.	In regards to design flows, this aspect was addressed in preceding studies.
7	2020-04-28	PIC 2	How was climate change considered in this project?	By bringing the dykes up to engineering design standards, the rehabilitation will restore/increase dyke resiliency to ensure reliability for future effects of climate change as well as other flooding conditions such as ice jamming. Additionally the provision for freeboard (buffer between dyke crest and flood water elevation) allows for climate change resiliency.
8	9/11/2019 10/7/2019	CLC 1 CLC 2	Are upstream or downstream land uses or projects exacerbating the flooding conditions in the area protected by the dykes? Questions posed in general as well as with reference to the developments on the Seaton area, upstream, and a proposed casino, downstream.	Re-examining watershed land uses is not within scope for this project. However input runoffs are reviewed and updated regularly by TRCA. Also, the requirement for allowing development of upstream areas includes building stormwater management infrastructure to ensure downstream flood peaks do not increase.
9	10/7/2019 10/30/2019	CLC 2 PIC 1	Would the rehabilitated dykes reduce creek capacity to pass flows and cause flooding in some areas that would not be flooded with the current dykes?	This concern was addressed by analyses that demonstrated that the proposed dykes would not increase flooding in the Project Study Area for the 100-year and for the Regional Storm Flood.
10	2020-03-10	CLC 3	Comment that neighbour is not aware of major bank erosion.	Most of the current bank erosion is controlled with existing measures. The project considers anticipated long-term river dynamics for a 25 year horizon.

ID #	Date of Comment Submission	Event / Source of Comment	Comment / Concern from the Public	Response / Action Taken
11	2019-10-30	PIC 1	Suggestion to arrange site visits where residents can describe the issues that they perceive.	Site visits by the consultant and TRCA were part of the initial phases of the project. In addition, the consultant visited one of the neighbours that had solicited. TRCA subsequently conducted several one-on-one meetings with neighbours which included site visits.
12	2019-10-30	PIC 1	Suggestion to look into issues west of Brock Rd.	This area is out of the scope of this project. This project is focused on rehabilitating existing infrastructure deficiencies.
13	9/11/2019 10/30/2019	CLC 1 PIC 1	Can channelization and vegetation/fallen trees clearance be carried out instead of the dyke rehabilitation? Associated comments about debris being the source of jams affecting conveyance.	-The level of flood protection service intended with the dyke rehabilitation is greater than what could be feasible with those measures. -They would not resolve the deficiencies in the flood protection infrastructure. -Channelizing a stream would have significant environmental impacts and is not something TRCA would consider when there are alternatives. -While there might be opportunities to revisit maintenance schedules, extensive vegetation clearance is also not promoted. Removal is limited to localized work on woody features that could cause imminent damage to infrastructure or blockages that would exacerbate flooding.
14	2019-10-30	PIC 1	Suggestion to broaden the scope of the project to address existing log jam areas.	Maintenance issues for the creek and TRCA's approach for those were explained to the community, as well as the fact that rehabilitating the dykes would make the protection system more resilient in general, for any flooding mechanism. However, maintenance of the creek is not part of the scope of this project directed to rehabilitate the existing dykes.
15	2019-10-30	PIC 1	Can the creek not be straightened?	Straightening/channelizing of the creek was not considered in this study. The focus of the study is rehabilitation of existing deficient flood infrastructure.
16	2019-10-30	PIC 1	Comment: You have not considered the real issue, why the water is causing issues.	Rationale of the study was explained and feedback was requested throughout the consultation process. The land was settled prior to flood plain regulation and the community historically flooded frequently. The dykes provide important flood protection and require rehabilitation to provide continued flood protection.
17	2019-10-30	PIC 1	Comment that the proposed solution would require working on the creek; but it has been indicated that the creek cannot be disturbed.	Work on the creek might not be avoidable; but it is minimized and mitigated as part of the solution. It was also considered as part of the evaluation of rehabilitation options.
18				
19	9/11/2019 10/7/2019 10/30/2019	CLC 1 CLC 2 PIC 1	Can the creek be displaced north to avoid the need of affecting private property?	That would require altering the creek course. It would have significant environmental impacts and is not something TRCA would consider. A letter explaining the impacts of moving the creek was provided to the CLC members (enclosed).
20	2019-10-07	CLC 2	Can the existing dyke (Pickering Dyke in areas where it abuts West Duffins Creek) be kept and then a new hard solution be built between the dyke and the creek.	This was not considered feasible, as it would alter the creek course as in previous comment regarding displacing the creek towards the north bank.
21	2019-10-07	CLC 2	Would it be possible to build a large catchment (pond) to retain storm runoff and control peak flows in the area, instead of rehabilitating the dykes?	Retention or storage areas would be very expensive and impractical for already developed areas as they require a lot of land to build. They are typically used to avoid increasing runoff from new developments. That solution is not considered a feasible replacement of the dyke rehabilitation.
22	2019-10-30	PIC 1	Could the rehabilitation be limited to only installing a sheetpile on the existing dyke?	Design Concept H3 added to the options considered and was assessed during next phase of study in response to this question.
23	2019-10-30	PIC 1	Can the dykes not be rebuilt and instead simply resolve issues with vegetation and roots?	This was one of the Alternative Solutions considered, and it was not selected because it would not address all the deficiencies identified in the dykes and the associated flooding risk to the community.
24	9/11/2019 10/7/2019	CLC 1 CLC 2	Will the dyke rehabilitation require acquisition of privately owned lands?	Land acquisition may be required; but there is a criterion used in the selection of the preferred solutions, that favors avoiding/minimizing private land acquisition.

ID #	Date of Comment Submission	Event / Source of Comment	Comment / Concern from the Public	Response / Action Taken
25	9/11/2019 10/7/2019 10/30/2019	CLC 1 CLC 2 PIC 1	Interest in maintaining access to the creek, across the dykes and from adjacent properties. Concern that vertical walls and protection measures associated with some of the 'hard' alternative solutions being considered could impede this access.	This consideration was added as an evaluation criterion and factored in the selection of the preferred Design Concept. In that regard, Design Concept H2 (with an inclined dry slope) was preferred over Design Concept H1 (with a vertical MSE wall). It is recognized, however, that (a) if users safety requires so, some protection measures would still be considered for the preferred Design Concept, and (b) Design Concept H1 is still an acceptable option that could be used if land needs becomes an obstacle for implementing Design Concept H2. These aspects need to be decided during further design stages, with consideration of the various concerns from land owners adjacent to the dyke: land acquisition, dyke natural appearance and direct access to the creek.
26	9/11/2019 10/30/2019	CLC 1 PIC 1	Members of the public indicated preference for a natural appearance of the dykes	This consideration was added as an evaluation criterion and factored in the selection of the preferred Design Concept. This was one of the factors for favoring Design Concept H2 over Design Concept H1. This is a consideration to include in subsequent design stages, along with private property impacts and creek direct access, for design of the solution in areas with restricted space between the creek and private lands.
27	2019-10-30	PIC 1	Concern related to interaction with underground structures and utilities.	This consideration was added as an evaluation criterion. This has been factored in the definition and evaluation of solutions.
28	2020-04-28	PIC 2	Suggestion that community would benefit from connecting the trail on the Pickering Dyke to Brock Rd.	Noted. There are differing opinions amongst the community regarding this. The formalization of trails will be investigated during the detailed design phased in collaboration with the respective municipalities.
29	2020-04-28	PIC 2	Question about the rationale for increasing dyke and dyke crest width if not for facilitating a walking trail.	Worker safety, site stability and maintainability are fundamental considerations. The larger footprint of the dykes improves slope stability and reduces risk of erosion. The crest width allows safe access for inspections, maintenance and also for emergency response, which could be required in difficult winter conditions.
30	2020-03-10	CLC 3	Why a ditch is required on the dry side if there is no water buildup there?	Rationale for solution components indicated in the ESR in Sections 5 and 6.
31	2019-10-07	CLC 2	Would the rehabilitation require tree removal?	All alternatives do require varying amounts of tree removal. It is desired to have no trees on the surface of the rehabilitated dykes, as trees can damage the dykes. Currently portions of the dykes are covered with trees. So at a minimum these trees must be removed.
32	2019-10-07	CLC 2	Request to include constructability, construction phasing and duration in the criteria for evaluation of solutions.	Included as criteria in the evaluation of both Alternative Solutions and Design Concepts.
33	2020-03-10	CLC 3	What would happen if archaeologically significant artifacts are found in the working area during the dyke rehabilitation?	There is little likelihood of that due to the disturbance that already occurred when originally building the dykes, and the confined footprint of the anticipated rehabilitation works. However, a Class 2 Archaeological Assessment is recommended in the next design phase, after completion of the EA. If artifacts are found there would be a protocol to recover them before continuing work.
34	10/7/2019 3/10/2020	CLC 2 CLC 3	What measures would be taken to minimize risk of flooding during construction?	Risk management plans were included in the dyke considerations, impact and mitigation measures assessment. These were discussed during the CLC meetings.
35	9/11/2019 10/7/2019	CLC 1 CLC 2	Would Bluebird Cr be repaired if damaged?	Roads damaged will be repaired and restored to pre-construction condition. This commitment is included in Section 7 of the ESR.
36	2020-03-10	CLC 3	Comment suggesting speed control and dust control measures for construction traffic.	These aspects are included in the ESR in Section 7.
37	10/7/2019 3/10/2020 4/28/2020	CLC 2 CLC 3 PIC 2	How long would the construction of the solutions take?	One to two years, phasing activities to respect timing windows for tree removal, in-water works. However construction is also dependant on the funding available, and may need to be extended over multiple years if required by availability of funding in any one year.

ID #	Date of Comment Submission	Event / Source of Comment	Comment / Concern from the Public	Response / Action Taken
38	2020-03-10	CLC 3	What are the anticipated timelines from now to completion of the rehabilitation works?	In general it is expected that Class EA completion/approval would occur in the summer of 2020, and the best case scenario is multi-agency funding for completing designs would be obtained by end of 2020, detailed design would be completed and funding for construction would be obtained by end of 2021, construction would occur between 2022-2024.
39	10/30/2019 3/10/2020 4/28/2020	PIC 1 CLC 3 PIC 2	How would construction be funded? Has construction funding been secured?	Funding would likely come from multiple partners including multiple levels of government (municipal, provincial, federal). It has not been secured but there is support at TRCA upper management level to proceed with this project.
40	2020-03-10	CLC 3	What improvements will be done before funding is approved for the dyke rehabilitation?	The funding TRCA currently has for maintenance is limited. Inspections of the dykes, culverts and flap gates are done annually, as well as after major storm events. The dykes are too overgrowth to start mowing those areas now. TRCA is increasing their ice jam monitoring activities in the area.
41	2020-03-10	CLC 3	CLC member suggestion of enabling waste haulers to deposit appropriate fill to offset material cost.	This will be considered by TRCA Soils Management Team.
42	2020-03-10	CLC 3	Would the rehabilitated dykes require changes to current maintenance practices?	Yes. It is expected that current maintenance work will be completed on a more regular basis. Also more frequent mowing of the dykes to stop the establishment of trees on them.
43	3/10/2020 4/28/2020	CLC 3 PIC 2	Is cost of maintenance included in the assessment?	Yes it is an evaluation criterion included in the evaluation of both the Alternative Solutions and Design Concepts. Cost provisions for maintenance will be included in the funding for the adopted solution.
44	2020-04-28	PIC 2	Comment that an overlooked long term impact is the increased attraction and public use of the area after restoration if public use is not formalized.	There are currently informal trails/paths used by the public along the tops of both dykes (in areas without formal trails). During consultations the community has expressed mixed opinions about formalizing these trails. The formalization of trails/public use is something that will be investigated during the detailed design phased in collaboration with the respective municipalities.
45	2020-04-28	PIC 2	Comment: I don't think you can thoroughly evaluate the design concepts without detailing the aquatic and terrestrial rehabilitation. Especially if you consider the opportunity to reduce the project footprint.	The aquatic and terrestrial restoration considerations and plans were developed to a level of detail appropriate to the Class EA study process and level of detail of the overall design (conceptual design). The opportunity to reduce the project footprint was a focus during the development of the Design Concepts (footprint are significantly reduced over Alternative Solutions). Opportunities to further reduce the footprint have been outlined in the ESR and require more in-depth engineering analysis that will be carried out during the detailed design stage.
46	2020-04-28	PIC 2	Comment of concerned that the dyke will become a manicured feature in this natural area. That is why an aquatic and terrestrial restoration plan is essential. I would suggest that in stream habitat improvements, opportunity for a low maintenance meadow on the berm structure and a onsite tree and shrub planting plan, and a wildlife enhancement plan be considered.	A conceptual on-site tree and shrub planting plan was prepared as part of the EA project as well as identification of potential impacts to aquatic and terrestrial habitat. All of these noted habitat and restoration details will be considered during the detailed design phase. A meadow on the dykes could be considered by implementing less frequent seasonal mowing to stop the establishment of trees and allow for proper inspections of the structure.
47	2020-04-28	PIC 2	Question: Maybe the residents within this flood area will have to prepare sandbags to protect their own properties if this doesn't get funded soon enough due to COVID-19.	Even once the rehabilitated dykes are constructed the residents will still be within a floodplain and will be at risk of flooding (during larger storm events that exceed the dykes). Residents are encourage to become informed of the risks and take steps to protect their property and possessions. TRCA's website has some useful information at: <a href="https://trca.ca/conservation/flood-risk-management/prepare/">https://trca.ca/conservation/flood-risk-management/prepare/</a>

ID #	Date of Comment Submission	Event / Source of Comment	Comment / Concern from the Public	Response / Action Taken
48	2020-04-28	PIC 2	Question about potential impact from construction vibration to the St. Johns Anglican Church at 77 Randall Dr.	TRCA indicated that, based on previous experience, the church (approximately 350 m away from the construction area and over 1 km from the area where sheetpile installation is proposed) is outside of the area where construction vibration can be expected to cause impact. TRCA also indicated that this area of impact will be further assessed in subsequent design stages following the EA project.
49	2020-04-28	PIC 2	TRCA received a two emails from members of the community indicating that they could not attend PIC 2 and would like to see the information presented.	TRCA indicated that PIC 2 was recorded and can be accessed, along with all other information material for that and other meetings, at the project webpage. TRCA provided link to the PIC 2 presentation.

# Individual Landowner Meetings

## Summary of Consultation

### March 2020

**Venue:** Meeting Room 3  
Chestnut Hill Developments Recreation Complex  
1867 Valley Farm Road  
Pickering, Ontario

#### **Project Team Members Present:**

Melody Brown (TRCA), Nick Lorrain (TRCA), Craig Mitchell (TRCA), Crystal Robertson (TRCA)

#### **Engagement**

To address concerns and comments from landowners immediately adjacent to the anticipated dyke construction, TRCA offered one-on-one meetings with individual landowners. Letters were mailed using registered mail (copy of letter enclosed) to 15 properties on February 18, 2020. The letter was successfully delivered to 11 properties (confirmation received from Canada Post); 7 responded as wanting a meeting, and 1 responded as not wanting a meeting. One-hour meetings were held individually for each property on March 4<sup>th</sup>, 5<sup>th</sup> and 10<sup>th</sup>, 2020. Site visits were also offered to view the dyke and/or landowner's property and further discuss the proposed works and potential impacts specific to their property.

#### **Meeting Agenda**

1. Introductions
2. Purpose of Meeting & Agenda
3. Why are we undertaking this EA Project?
4. Class EA Project Overview and Update of Steps Completed
5. Dyke Rehabilitation Design Solution - What is Proposed & Why
6. Discussion of Potential Impacts to Adjacent Landowners
7. Site Walk – if requested

#### **Main Discussion Points and Comments**

Participants were presented with plan view drawings and cross-sections of the recommended design concept for the segment applicable to their properties. The project team described the components of the dyke, what it would look like once it was constructed and what impacts could be expected during construction.

- Overall support was voiced for the preservation of the natural environment, including wildlife habitat, and ensuring the completed dykes maintain a natural appearance. Landowners preferred a temporary disturbance to their property, if needed, to accomplish a long-term natural appearance, compared to limiting construction access which could result in the wall solution being implemented in some areas.
- Many residents currently enjoying viewing wildlife in and behind their backyards. A primary concern is impacts to wildlife and wildlife habitat. Construction timing windows to mitigate wildlife impacts and the restoration plan was discussed in response.
- Another primary concern is impacts to trees, both on private property and on TRCA property. There are some significant/high value trees present. It was discussed that during later detailed design phases an inventory of trees, mapping the location, species and size of each tree would be done. This would be used to assess impacts and identify areas to protect. TRCA will also meet with residents during detailed design phase to discuss specific features on their property that should be protected.
  - Residents noted important features on their properties that should be protected during construction, such as buried pets. These details will be considered during later design phases.
- Particular to the Ajax segments, people inquired about the impact of the downstream development activities and their impact on the creek. Project team members referred them to the planning department at TRCA for specifics but assured them that impacts to the creek and stormwater would have been considered and mitigated as required by TRCA permits.
- Mixed comments were received from residents in regard to formalizing a trail on top of Segment P1. Some were in favour (one benefit raised by a resident was the lower likelihood of tick bites if there is a trail) but the majority were against a formal trail and prefer it as it is now (natural looking and an informal trail used by some).
- Residents were pleased that access to the creek across Segment P1 would be maintained with a slope comparable to current.
- Reportedly one of the neighbors is currently mowing the grass along the P1 segment, not municipal crews.
- Concern was expressed over the lack of funding for further steps in the process. Residents would like this project to proceed as soon as possible and were interested in ways they could encourage local governments to prioritize this project.
- Landowners asked who would be maintaining the new dykes to ensure they do not get overgrown again. The Project Team responded that funding for maintenance comes from municipal partners, but either TRCA or the municipalities would be maintaining the new dykes. Maintenance funding agreements would be established before the dyke rehabilitation construction proceeds.

- The impacts and timelines of construction activities were explained. Residents were overall supportive of what they heard, including efforts to streamline and reduce the impacts.
- Residents spoke of sump pump concerns and asked that the impacts of the project on local drainage be considered, including the drainage pipes that run through the dykes. The drainage swale was explained, and residents asked about whether they could walk over it or how it would look. Access and aesthetics were important.
  - Some residents have sump pumps that discharge to the ground surface in their yard which then drains overland to the culverts through the dyke. Other residents have sump pumps that discharge directly to the municipal sewer system, and other properties do not have sump sumps.
- Opportunity for compensation plantings to take place on the private properties in the area was offered to landowners, if they would like additional trees/landscaping.
- Landowners were assured that any private property features that are impacted during construction (eg. fencing, decks, etc.) would be replaced following construction to restore the area to pre-construction conditions at minimum.
- Concern was expressed about being exposed to more flood risk during construction. The process of reconstruction was explained as well as the measures that would be in place should an emergency arise.
- Specific to the Ajax Dyke area, concern was raised over an existing rat problem in the area and that rats will be 'stirred up' during construction. Rodent control during construction was requested.
- Residents acknowledged construction access points and encouraged TRCA to improve some of the existing routes (i.e. Bluebird Cres.) following their usage. The project team stated that work will likely be undertaken by TRCA staff, so they would have a lot of control over the process, including work site conditions and cleanliness of vehicles on the nearby roads. Additionally, access routes would be restored to pre-construction condition once construction is complete.
- TRCA committed to meeting with adjacent landowners again during the 90% detailed design stage to show residents the details plans and at that time will discuss specific backyard features, such as specific trees, that should be preserved.

February 18, 2020

Dear Resident,

The Pickering and Ajax Dykes Rehabilitation EA project team would like to invite you to a one-on-one meeting to discuss the potential effects of this project and how they might impact your property. At this time, we will also address your concerns, answer questions and present information to you ahead of the next upcoming Public Information Centre.

In the 1980s, TRCA constructed the dykes to provide some flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes now do not meet current engineering design standards and factors of safety (FOS). The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while, at minimum, maintaining the level of flood protection associated with the existing dyke height. This project is being planned as a Conservation Ontario Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project visit: <http://www.trca.ca/PADR>. A second Public Information Centre will be held on March 24<sup>th</sup>, 2020.

The PADR EA project team have been working diligently on the refinement of the preferred alternative to assess potential impacts and develop mitigation measures. The project team members would like to discuss the potential impacts with you and are scheduling 'one-on-one' meetings with individual landowners during one of the times listed below. Meetings can include a site walk of your property and/or the TRCA's adjacent property if requested.

**Two dates to choose from:**

**Date:** Wednesday March 4, and Thursday March 5, 2020

**Location:** Chestnut Hill Developments Recreation Complex, 1867 Valley Farm Rd, Pickering.

**Timeslots:** 1:30 pm, 2:30 pm, 3:30 pm, 6:00 pm, 7:00 pm, 8:00 pm

Please **RSVP** with your preferred timeslot(s) to **Crystal Robertson**, Project Coordinator, at [crystal.robertson@trca.ca](mailto:crystal.robertson@trca.ca) or call (416) 661-6600 ext. 5948 by Thursday, February 27<sup>th</sup>, 2020. Timeslots will be booked on a first come, first served, basis. **If you do not respond by February 27<sup>th</sup>, 2020, it is assumed that you do not wish to meet with the PADR EA project team.**

Thank you.

Kindest regards,

---

Melody Brown  
Project Manager  
Toronto and Region Conservation Authority



## Indigenous Engagement: Pickering and Ajax Dykes Rehabilitation Project

Prepared by: Kathryn Brown

**DRAFT**

April 2020

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## Cultural Environment

### Traditional Land Uses

This project is located with the Traditional Territories and Treaty Lands of the Williams Treaties Nations and the Huron Wendat Nation. No adverse effects on traditional land uses were identified during consultation with Indigenous communities.

### Aboriginal Reserves or Communities

There are no Indigenous reserves or communities within the project limits; therefore, there will be no impact due to these works.

### Outstanding Native Land Claims or Treaty Rights

The project is located within the boundaries of the Williams Treaty 1923. No impacts to treaty rights were identified during consultation with Indigenous communities.

## Consultation

Prior the delivery of any notifications, the Ministry of the Environment, Conservation, and Parks (MECP) was contacted for advice and information about the Indigenous communities that should be contacted during the Indigenous Engagement process. Additional Indigenous community contact lists were also considered, including the lists held by Toronto and Region Conservation Authority (TRCA). The following communities and agencies were engaged based on asserted or established interest:

- Alderville First Nation
- Coordinator, Williams Treaties First Nations
- Curve Lake First Nation
- Hiawatha First Nation
- Huron-Wendat Nation
- Mississaugas of Scugog Island First Nation

### Summary of Notifications

Notification	Date	Method
Notification #1: Notice of Commencement.	8-Aug-2019	Email, courier
Notification #2: Public Information Centre #1. Included Notice of Commencement follow up.	23-Oct-2019	Email
Notification #3: Public Information Centre #2.	5-Mar-2020	Email
Notification #4: Rescheduled Public Information Centre #2.	7-Apr-2020	Email
Notification #5: Notice of Filing.	TBD	Email, courier

### Discussion of Concerns

#### Archaeological Assessments

The Huron-Wendat Nation (HWN) indicated an interest in archaeological assessments related to this project. The completed Stage 1 Archaeological Assessment (P1016-0175-2019) was provided on October 23, 2019. HWN requested to be kept informed of any potential further archaeology.

#### Environmental Studies

Curve Lake First Nation and Alderville First Nation both expressed an interest in potential impacts to the environment as a result of this project.

Curve Lake First Nation requested a fee from TRCA for their participation in the Indigenous engagement process for this project. TRCA informed Curve Lake First Nation that TRCA currently follows Indigenous engagement protocols set out in the TRCA Engagement Guidelines along with MTCS' Standards and Guidelines for Consultant Archaeologists. As a result, TRCA does not pay fees related to engagement or include Cultural Heritage Liaisons during Stage 1-2 archaeological assessments.

Curve Lake First Nation expressed specific interest in four areas of concern:

- Possible environmental impact to drinking water
- Endangerment to fish and wild game
- Impact on Aboriginal heritage and cultural values
- Impact on endangered species, lands, savannas, etc.

TRCA staff compiled a letter and summary of environmental information to address Curve Lake First Nation's concerns, both of which are included in the following section. No further concerns were raised by Curve Lake First Nation.

Alderville First Nation requested further information about studies undertaken as a result of this project. TRCA staff provided Alderville First Nation with a document summarizing completed environmental and archaeological studies.

# Correspondence with First Nations

## Notifications

### Notification #1: Notice of Commencement

**From:** [Kathryn Brown](#)  
**To:** [REDACTED]  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:21:49 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion: German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NOC Pickering and Ajax Dykes Rehabilitation Project AldervilleFN.pdf](#)  
[2019-08-08-\(letter\) NoC German Mills Settlers Park AldervilleFN.pdf](#)  
[image002.png](#)

Good afternoon [REDACTED]

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
C: [\(647\) 242-1913](tel:(647)242-1913)  
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](https://www.trca.ca/1229-Bethesda-Sideroad-Richmond-Hill-ON-L4E-1A2) | [trca.ca](https://www.trca.ca)





August 8, 2019

Addressee  
First Nation  
Address  
Address

**Re: Pickering and Ajax Dykes Rehabilitation Project Class EA – Notice of Commencement**

Dear \_\_\_\_\_,

Toronto and Region Conservation Authority (TRCA) has commenced a study to investigate flood remedial solutions for the rehabilitation of two existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

This study will be prepared in accordance with the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* under the Ontario Environmental Assessment Act. Please find the Notice of Commence attached, which includes more detailed information about the study and a map of the EA Study Area.

TRCA is seeking comments from your community. If you have any comments, questions, or would like more detailed information about the project, please do not hesitate to contact me by phone at **416-661-6600 ext. 6407** or by email at [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca).

Sincerely,

A handwritten signature in blue ink, appearing to read "Kathryn Brown", is written over a light blue horizontal line.

Kathryn Brown  
Senior Archaeologist, Indigenous Engagement Coordinator  
Toronto and Region Conservation Authority

Enclosed (1) Notice of Commencement, Pickering and Ajax Dykes Rehabilitation Project Class EA

## TORONTO AND REGION CONSERVATION AUTHORITY PICKERING AND AJAX DYKES REHABILITATION PROJECT CLASS ENVIRONMENTAL ASSESSMENT NOTICE OF COMMENCEMENT

Toronto and Region Conservation Authority (TRCA) has commenced a study to investigate flood remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax.

In the 1980s, TRCA constructed the dykes to provide flood protection for the Pickering and Ajax Special Policy Areas (SPA). Recent studies have identified that the dykes do not meet current engineering design standards and factors of safety (FOS). The purpose of this study is to identify and evaluate flood remedial solutions and select a preferred remedial solution to rehabilitate the dykes to meet current engineering standards and FOS, while at minimum, maintaining the existing level of flood protection.

TRCA invites the public to participate in this study which is subject to the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects*, regulated by Conservation Ontario (January 2002, as amended in June 2013), under the Ontario Environmental Assessment Act. Two (2) Public Information Centres (PICs) will be held during the study to provide information and allow for public comment. Notification of the PICs will be advertised in the local newspaper and posted on TRCA's website.

For further information on this project or if you wish to be added to the mailing list, please contact:

Melody Brown P.Eng.  
Project Manager, Capital Projects  
Toronto and Region Conservation Authority  
101 Exchange Avenue, Vaughan Ontario, L4K 5R6  
E-mail: [PADR@trca.ca](mailto:PADR@trca.ca)  
Website: [www.trca.ca/PADR](http://www.trca.ca/PADR)

Subject to comments received as a result of this study and the receipt of necessary approvals and funding, TRCA intends to proceed with the implementation.

Notice issued on August 8, 2019.



A project of:  Toronto and Region  
Conservation  
Authority

Notification #2: Public Information Centre #1

**From:** [Kathryn Brown](#)  
**To:** [REDACTED]  
**Subject:** Pickering and Ajax Rehabilitation EA - PIC  
**Date:** Wednesday, October 23, 2019 2:30:53 PM  
**Attachments:** [Notice of PIC PADR.pdf](#)  
[image003.png](#)

---

Good afternoon [REDACTED]

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time.

A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

**THE FIRST PUBLIC INFORMATION CENTRE FOR THE PICKERING AND AJAX DYKE REHABILITATION ENVIRONMENTAL ASSESSMENT WILL BE HELD ON OCTOBER 30TH 2019.** At this meeting the study team will be presenting the evaluation of alternative solutions, a preferred alternative solution, and an update on consultation activities completed to date for this project.

Please come out to share your ideas and concerns about this exciting project!

**MEETING LOCATION & TIME:**

Chestnut Hill Developments Recreation Complex  
Program Room A  
1867 Valley Farm Rd, Pickering ON, L1V 3Y7

**October 30<sup>th</sup>, 2019**

Open House Discussion: 5:30 PM – 8:30 PM

Presentation: 6:30 PM

**PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON, L4K 5R6

This notice was issued on October 10<sup>th</sup> and 17<sup>th</sup> 2019 in the Ajax/ Pickering News Advertiser.

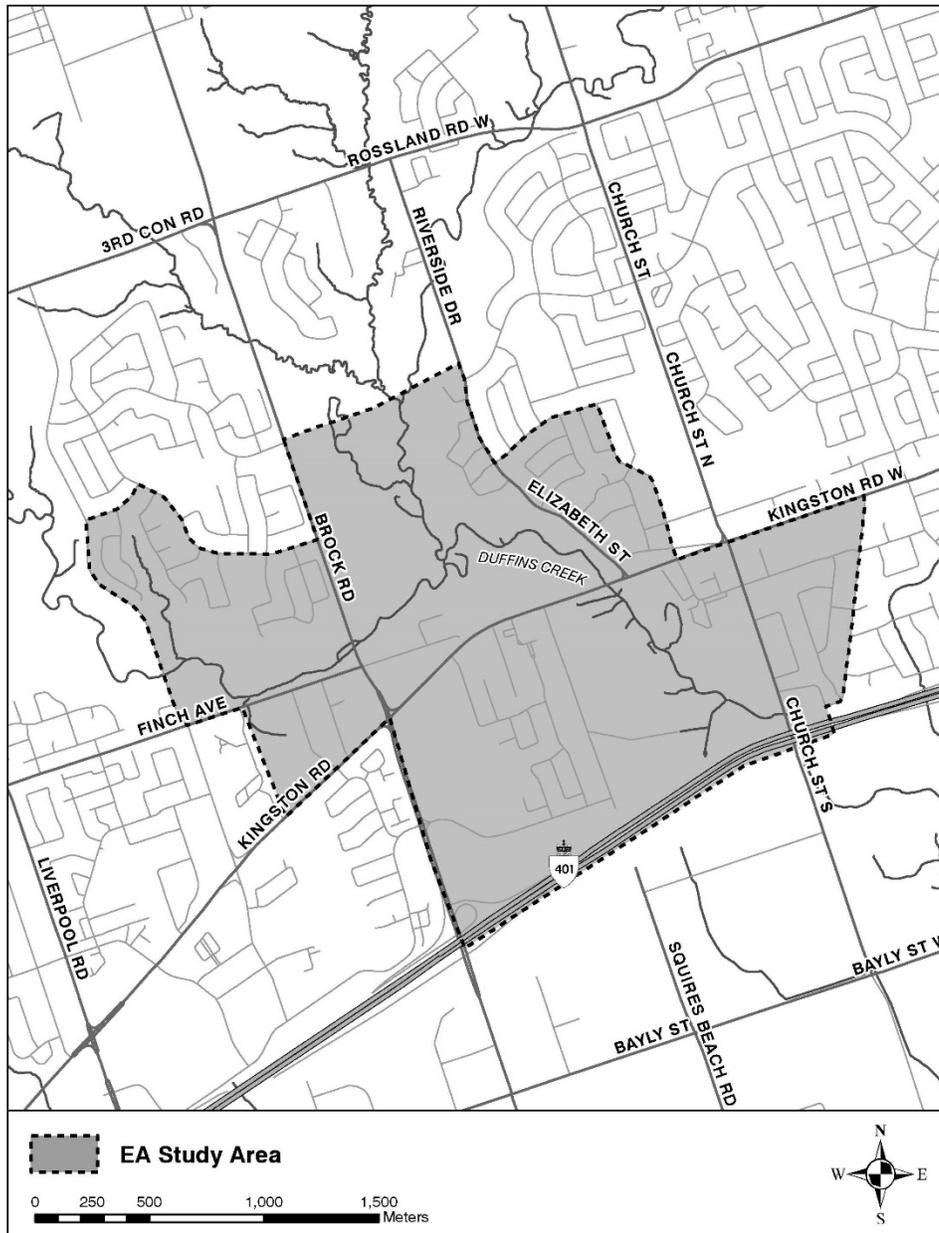
*Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.*



# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



Notification #3: Public Information Centre #2

**From:** [Kathryn Brown](#)  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:12 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive AldervilleFN.pdf](#)  
[image003.png](#)

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Good afternoon [REDACTED]

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)

TRCA is investigating remedial solutions for the rehabilitation of two (2) existing flood control dykes, referred to as the Pickering and Ajax Dykes, located north of Hwy 401 between Brock Road and Church Street, in the City of Pickering and Town of Ajax. In the 1980s, TRCA constructed the dykes to provide some flood protection for the Pickering and Ajax Special Policy Areas. Recent studies have identified that the dykes are at risk of failure as they do not meet current engineering design standards and factors of safety (FOS) for flood control facilities. The purpose of this study is to identify and evaluate remedial solutions and select a preferred solution to rehabilitate the dykes to meet current engineering standards and FOS, while maintaining or increasing the level of flood protection service associated with the existing height of the dykes.

This project is being undertaken through Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects. For further information on this project please visit: [www.trca.ca/PADR](http://www.trca.ca/PADR)

**THE SECOND PUBLIC INFORMATION CENTRE (PIC) FOR THE PICKERING AND AJAX DYKES REHABILITATION CLASS ENVIRONMENTAL ASSESSMENT WILL BE HELD ON MARCH 24TH 2020.** At this meeting the study team will be presenting the evaluation of different design concepts prepared for the preferred dyke rehabilitation solution that was presented at the last PIC, project impacts and mitigation measures, an update on consultation activities and work completed to date and next steps for this project.

Please come out to share your ideas and concerns about this exciting project!

**MEETING LOCATION & TIME:**

McLean Community Centre  
Community Hall  
95 Magill Drive, Ajax ON

**March 24<sup>th</sup>, 2020**

Open House Discussion: 5:30 PM – 8:30 PM

Presentation: 6:30 PM

**PROJECT CONTACT INFORMATION:**

PADR Project Coordinator

Email: [PADR@trca.ca](mailto:PADR@trca.ca)

Phone: 416-661-6600 x5948

Toronto and Region Conservation Authority

101 Exchange Avenue, Vaughan ON, L4K 5R6

This notice was issued on March 5<sup>th</sup> and 19<sup>th</sup> 2020 in the Ajax/ Pickering News Advertiser.

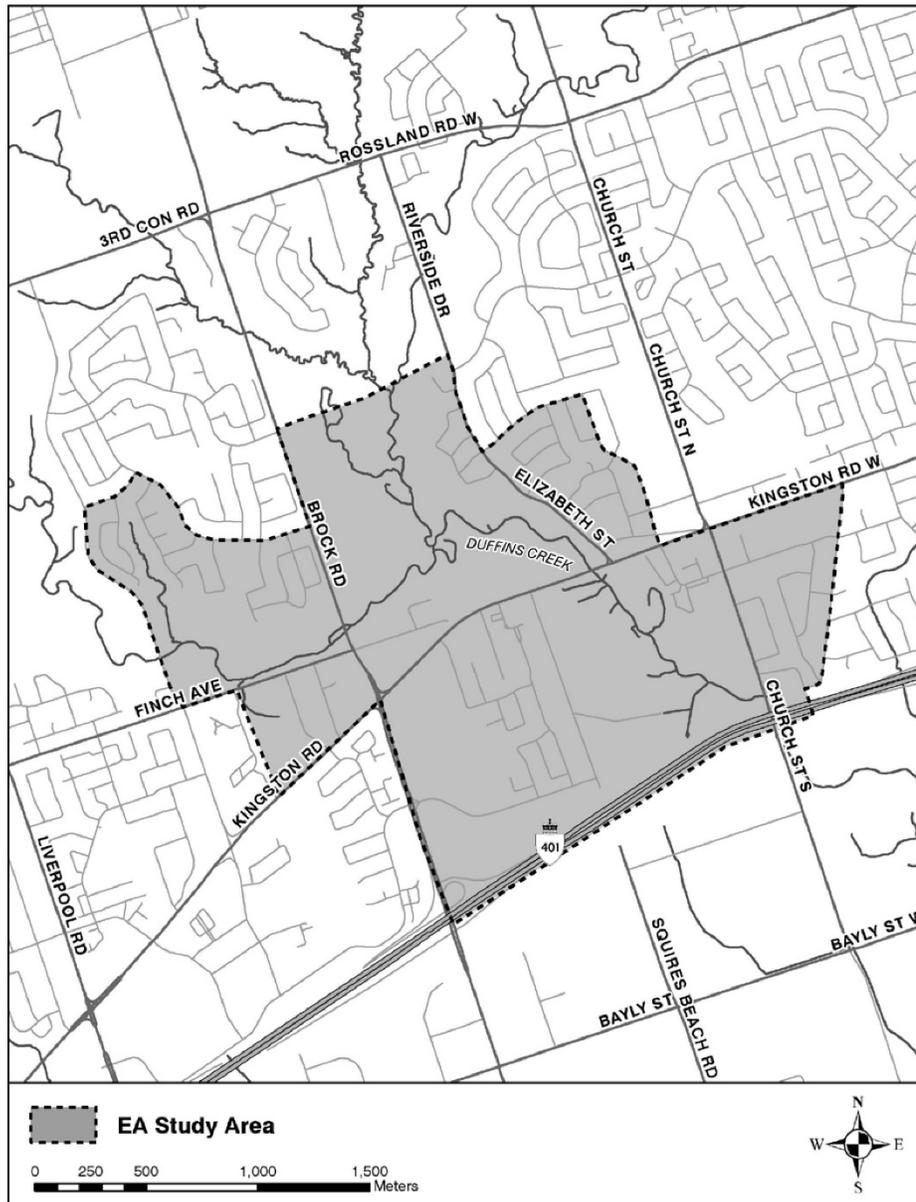
*Under the Freedom of Information and Protection of Privacy Act and the Environmental Assessment Act, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.*



# NOTICE OF PUBLIC INFORMATION CENTRE

Pickering and Ajax Dykes Rehabilitation Project  
Class Environmental Assessment (PADR EA)

Toronto and Region Conservation Authority (TRCA)



Notification #4: Rescheduled Public Information Centre #2

**From:** [Kathryn Brown](#)  
**To:** [REDACTED]  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:41:42 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image003.png](#)

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Good morning [REDACTED]

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will now be held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600) ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2 | trca.ca](#)





Notification #5: Notice of Filing

Insert email, letter, and notice

## Correspondence with First Nations

### Alderville First Nation

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Chief Mowat (Alderville First Nation)	Email, courier	Notification #1: Notice of Commencement.
9-Sep-2019	Dave Simpson (Alderville First Nation)	Kathryn Brown	Email	Requested further information about studies undertaken as a result of this project.
11-Oct-2019	Kathryn Brown	Dave Simpson	Email	Provided a document summarizing completed environmental and archaeological studies.
23-Oct-2019	Kathryn Brown	Dave Simpson	Email	Notification #2: Public Information Centre #1.
5-Mar-2020	Kathryn Brown	Chief Mowat, Dave Simpson	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown	Dave Simpson	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown	Chief Mowat, Dave Simpson	Email, courier	Notification #5: Notice of Filing.

**From:** [Kathryn Brown](#)  
**To:** [Dave Mowat](#)  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:21:49 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NOC Pickering and Ajax Dykes Rehabilitation Project AldervilleFN.pdf](#)  
[2019-08-08-\(letter\) NoC German Mills Settlers Park AldervilleFN.pdf](#)  
[image002.png](#)

---

Good afternoon Chief Mowat,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
C:  [\(647\) 242-1913](tel:(647)242-1913)  
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Dave Simpson](#)  
**Subject:** RE: Pickering and Ajax dykes rehabilitation project  
**Date:** Friday, October 11, 2019 3:46:40 PM  
**Attachments:** 2019-10-11-(document) [Pickering and Ajax Dykes Rehabilitation Project Information.pdf](#)

---

Hi Dave,

Thank you for expressing interest in this project. Please see the attached document for more information about studies relating to this project. No archaeology has been done yet, but I will be sure to keep you informed if any is necessary once the project is a little further along.

Thanks, and have a great long weekend!

Kathryn

---

**From:** Dave Simpson <[consultation@alderville.ca](mailto:consultation@alderville.ca)>  
**Sent:** Monday, September 9, 2019 10:16 AM  
**To:** Kathryn Brown <[Kathryn.Brown@trca.ca](mailto:Kathryn.Brown@trca.ca)>  
**Subject:** Pickering and Ajax dykes rehabilitation project

Thank you for the notice of this project and we do realize it is only the study phase. We are very interested in any project that takes place in our treaty territory and especially around water. Please keep us posted with results from studies conducted eg. Environmental and archaeological as this project moves along.

Thank you

Dave Simpson Consultation  
Alderville First Nation  
Ph. 905 352-2662  
Cell 905 375-5480  
[consultation@alderville.ca](mailto:consultation@alderville.ca)



October 11, 2019

Mr. Dave Simpson  
Alderville First Nation  
11696 2<sup>nd</sup> Line  
Roseneath ON K0K 2X0

**Re: Pickering-Ajax Dyke Rehabilitation Conservation Ontario Class Environmental Assessment**

Dear Mr. Simpson,

In our previous correspondence, you indicated that the Alderville First Nation community is interested in the Pickering-Ajax Dyke Rehabilitation (PADR) Class Environmental Assessment (Class EA). In particular, you would like to be informed on results from studies conducted as it pertains to the environment and archaeology.

The project team has provided a summary of the results from environmental and archaeological studies completed to date as an attachment to this letter for your information.

If you have any comments, questions or would like to meet in person, please do not hesitate to contact me by phone at 416-661-6600 ext. 6407 or by email at [Kathryn.Brown@trca.ca](mailto:Kathryn.Brown@trca.ca). TRCA staff can arrange to meet at your convenience.

Sincerely,

A handwritten signature in blue ink that reads "Kathryn Brown".

Kathryn Brown  
Senior Archaeologist, Indigenous Engagement Coordinator  
Toronto and Region Conservation Authority

Enclosed (1) Summary results of environmental and archaeological studies

## Pickering and Ajax Dykes Rehabilitation Conservation Ontario Class Environmental Assessment

Toronto and Region Conservation Authority (TRCA), is proposing to carry out remedial flood control works to provide long-term flood protection for the City of Pickering and Town of Ajax. The purpose of the study is to determine a preferred measure of flood control infrastructure rehabilitation through the planning and design process prescribed in the *Class Environmental Assessment for Remedial Flood and Erosion Control Projects* (Conservation Ontario, January 2002, as amended in June 2013). Kontzamanis Graumann Smith MacMillan Inc (KGS Group) has been retained by TRCA to provide professional engineering services to assist with the planning and design of the Class EA.

The study area is divided into two study areas: indirect and direct study area.

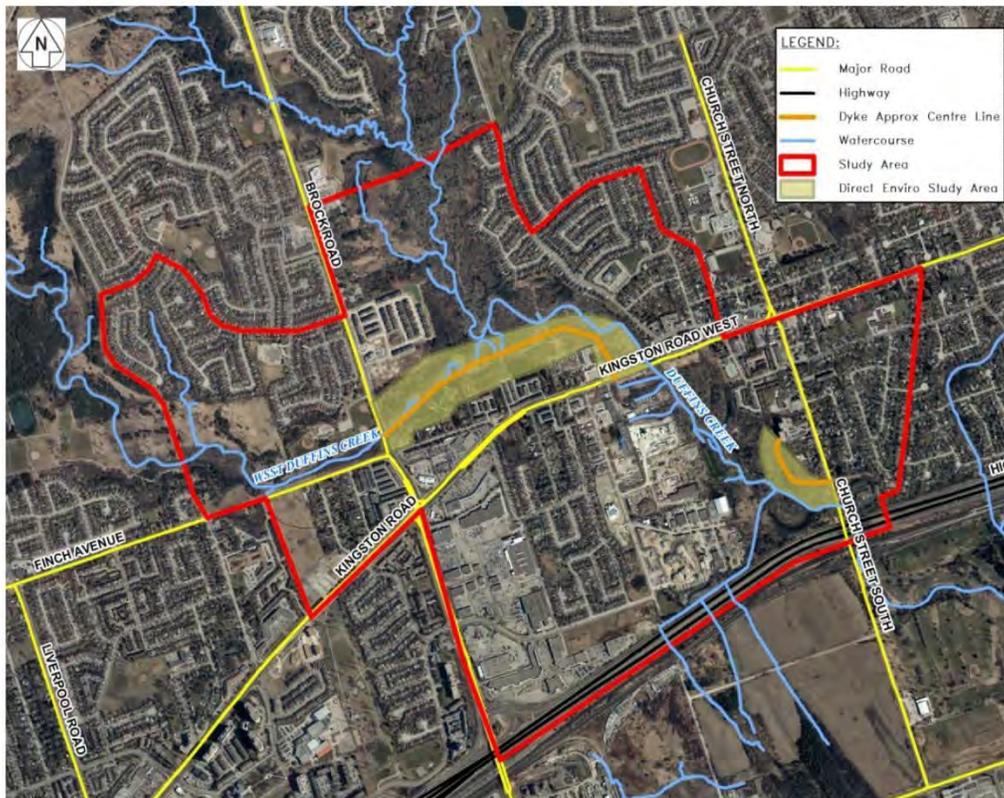


Figure 1 – Direct and Indirect Study Area

**Indirect study area:** Valley lands and local communities surrounding the flood control structures (Dykes) that may be impacted by remedial works within the Direct Study Area.

**Direct study area:** Valley lands within the limits of the flood control structures (Dykes) and the area primarily impacted by construction access and/or routes.

Pickering and Ajax Dyke

The Pickering dyke (Figure 2) is divided into 5 segments. Segments are grouped by the characteristics of the existing conditions. The Ajax dyke (Figure 3) is considered as a single segment, as there was minimal variability of the existing conditions throughout the entire Dyke.

From the Pickering and Ajax dyke figure, most of the watercourse in the direct study area is away from the dykes. Areas where the dyke is near the watercourse is due to erosion.

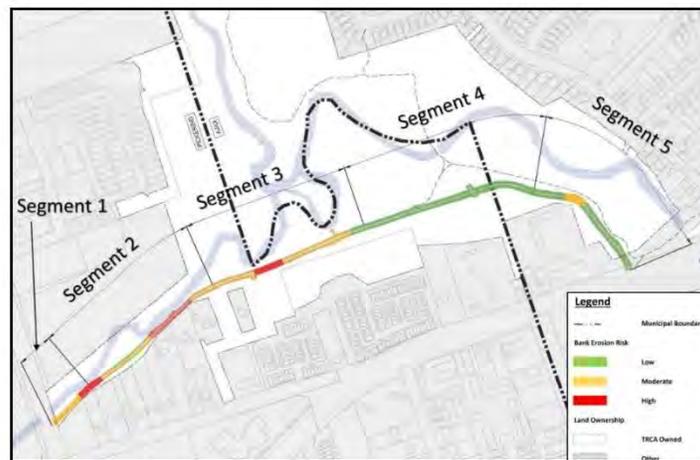


Figure 2 – Pickering Dyke (KGS Group, August, 2019)

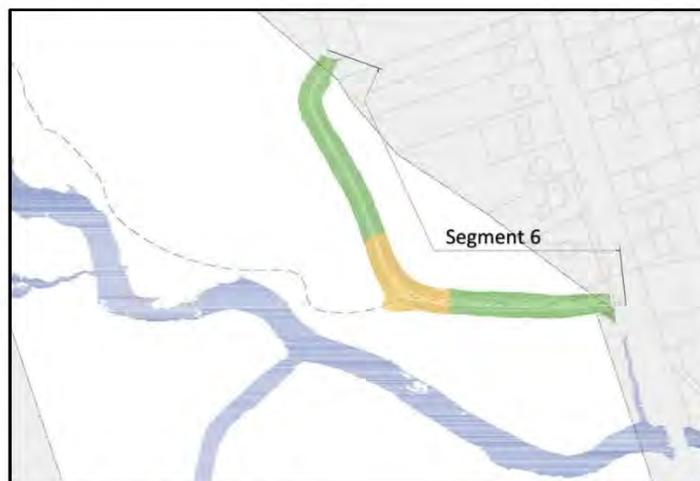


Figure 3 – Ajax Dyke (KGS Group, August, 2019)



## **Summary Results of Environmental Studies**

A series of studies related to the environment were undertaken to document the existing condition of the study area. These studies include:

- Ecological Assessment including terrestrial and aquatic inventory
- Geomorphology study
- Hydrologic study of the Duffins watershed
- Water quality

### Summary of Ecological Assessment

There are several Species at Risk (SAR) that have been identified within the vicinity of the Indirect and Direct Study Area, as well as potential habitat for SAR. The following SAR have been confirmed:

- Butternut (tree)
- Chimney swift (bird)
- Eastern wood-pewee (bird)
- Redside Dace (fish)

The main Duffins Creek is designated as 'occupied' Redside Dace habitat. Although the West Duffins Creek is not currently designated, the Ministry of Environment, Climate and Parks (MECP) may decide to designate it as 'contributing' habitat in the future. Due to the presence of SAR, the appropriate federal and provincial agencies (e.g. MECP) will be informed on the project if it is to be constructed and the appropriate planning and permitting will be required. The area of habitat protection for Redside Dace typically includes the stream plus the nearby riparian areas banks, which is determined as the meander belt width plus 30 meters (m).

In addition to the observed SAR, there is a frog species of 'Regional Concern' in the study area. The grey treefrog, which was located near the Pickering Dyke, has a specific breeding habitat requirement of a fishfree wetland. There was an open area of water, Turbid Open Aquatic (unvegetated) area north of the Pickering dyke which may be acting as the breeding area for this species. To avoid interactions with this potential Significant Wildlife Habitat area, the Turbid Open Aquatic (unvegetated) area should be avoided during the main period for frogs (early April to August 1).

### Recommendations

- Butternut tree health assessment – the trees in the study area have been identified and assessed by a certified Butternut Tree Assessor. Works within the 25 m habitat buffer of a butternut are considered an 'injury' to the tree under the Environmentally Sensitive Area (ESA). Therefore, with the conditions and locations of the trees known, planning should be undertaken to avoid these trees to the extent possible, tree #2 in particular. Any unavoidable works within the 25 m habitat buffer of these trees must be registered on the MNRF Notice of Activity Registry but are not expected to present a constraint to the project. While the Category 1 trees could be removed subsequent to Registry, mitigation or compensation would be required for injury/removal of the Category 2 tree in order to comply with the ESA.
- Consideration should be given to determining the meander belt width for the study area to determine Redside Dace protected habitat in order to coordinate the project with the MECP.
- Project scheduling to avoid the "regional nesting period" for birds and the breeding period for frogs (early April to August 1).



- If tree clearing cannot be avoided during the “regional nesting period” (early April to August 1), the trees to be cleared should be identified, and a nest sweep be completed by a qualified avian biologist.

#### Summary of Geomorphology study

A fluvial geomorphology baseline assessment of West Duffins Creek and Duffins Creek alongside the Pickering and Ajax Dykes was completed as part of this Class EA. The fluvial geomorphology assessment included both desktop and field analyses. Comparative overlay analysis was completed using a series of aerial photographs to document historic and recent (post-2009) planform adjustment near Pickering and Ajax Dykes. As well, time-averaged rates and trajectories of bank erosion were established as a basis for forecasting erosional risk to the dykes.

Both West Duffins Creek and Duffins Creek exhibit a history of realignment and straightening. Both watercourses are recovering from the previous straightening and are gradually readopting a meander pattern, a process that is expected to continue for decades. The Pickering Dyke was constructed alongside this relatively straight section of channel without regard for the risks associated with inevitable readoption of a meandering channel pattern. West Duffins Creek abuts the Pickering Dyke at high erosion risk sites as identified in **Figure 2**. Continued channel migration and/or avulsions could increase the erosion risk at additional sites along Pickering Dyke. The majority of the Ajax Dyke is set back sufficiently far from Duffins Creek that it has limited interaction with fluvial erosion and is not subject to the same erosional risks.

#### Summary of Hydrologic study of the Duffins watershed

In 2009, TRCA completed a detailed fluvial geomorphic assessment and level of service study of the channel and dyke systems as part of the development of a permanent solution to address erosion issues. Recommendations from the study include:

- Complete a detailed geotechnical assessment
- Update flood modelling through two-dimensional modelling
- Detailed characterization of flooding and identify flood zones

Results from the recommendations include the below findings:

- Current dykes in Ajax and Pickering do not meet flood protection for the intended 500-year storm event
- Current dykes are deficient e.g. excessive vegetation, erosion

#### Summary of Water Quality/Surface Drainage and Groundwater Seepage

Duffins Creek and its main branches and tributaries (West Duffins Creek, Reesors Creek, Ganetsekiagon Creek, Urfe Creek, Brougham Creek, Mitchell Creek) flow on the direction north to south.

TRCA monitors water quality in Duffins Creek at several locations. General parameters monitored include nutrients, metals and inorganics and general water quality parameters. Some examples of parameters include, conductivity, nitrogen, dissolved oxygen, phosphorus, dissolved solids, temperature and turbidity. It should be noted that chloride concentrations have been increasing over time. In particular, chloride from road salt and elevated chloride concentrations can harm aquatic life.

According to the TRCA's 2018 Watershed Report Card, the distribution of the land cover in the watershed is 42% natural, 40% rural and 18% urban, the urbanized areas are located in the southern portions of the watershed, near Lake Ontario. The urbanized portion of the watershed has separate sanitary and stormwater sewer systems.



## **Summary Results of Archaeological Studies**

The review of historic land use, geographic and cultural features, with careful consideration of available aerial photography, has indicated that the Direct Study Area has the potential for buried cultural resources.

The Stage 1 archaeological assessment was completed in June 2019. A background investigation was completed to review the historical and cultural contexts of the people who lived both within and adjacent to the project area boundaries. As well, archaeological site predictive models were reviewed to identify the potential for the project area to contain archaeological sites. Finally, documented eighteenth, nineteenth, and twentieth century property alterations were reviewed to evaluate the potential for cultural heritage resources and landscapes to remain intact within undisturbed pockets of the properties. Archaeological potential as determined by the various avenues of research contained within this study are summarized below.

### **Potential for Encountering Pre-Contact Sites**

The Direct Study Area is in close proximity of a major watercourse. The surrounding ravine of the Duffins Creek would have offered rich resources such as fish, waterfowl and game that would have been exploited as part of a people's seasonal round. As a result, there is very high potential for encountering Indigenous sites within the project area.

### **Potential for Encountering Euro-Canadian Sites**

Based on the proximity to water, former historic structures, roadways, a watercourse, a grist mill, mill pond and mill races, a church and cemetery, a blacksmith shop, and the historic village of Duffins Creek, the project area would be expected to demonstrate high potential for encountering Euro-Canadian sites. The project area lies adjacent to the Pickering Village Heritage Conservation District and one of the earliest church and cemetery locations in the Town of Ajax.

The review of historic maps indicates there is potential to encounter nineteenth-century structures within the project area. Although twentieth-century topographic maps and aerial photographs reveal some extensive twentieth century disturbances from residential development, there remains the potential to locate some intact cultural heritage resources within undisturbed portions of the project area.

### **Proximity to Known Archaeological Sites**

A review of the Ministry of Tourism, Culture and Sports' (MTCS) Ontario Archaeological Sites Database (OASD) revealed that 22 archaeological sites have been registered within one-kilometre of the project area. As a result, the potential for encountering archaeological sites remains high.

### **Proximity to Known Built and Cultural Heritage Resources**

Several inventories were reviewed in order to determine if the local project area contained any identified built heritage resources, features, or landscapes. Presently, one HCD, numerous designated and listed heritage properties recognized by the City of Pickering and Town of Ajax, and one heritage plaque are located within close proximity of the Direct Study Area. No built heritage resources are located within the Direct Study Area, however their close proximity contributes to the elevated potential to find archaeological resources within this area.

### **Twenty and Twenty-First Century Alterations to the Land**

The suburbanization of the project area and its surroundings are illustrated through aerial photography dating from 1954 to 1993 and a satellite image from 2005. Aerial photographs are important sources to review as they can display past disturbances within a project area. Aerial photographs are also valued for



their ability to track changes in watercourse alignments and natural greenspace cover, though greenspaces depicted on aerial photographs often hide potential structures within a project area.

A review of these images and maps indicates that a roadway, paved pedestrian trails, and residential structures were constructed within the project area during the twentieth century. It can also be presumed heavy disturbances associated with the installation of utilities to service the homesteads would be present within their footprint. All of these various twenty and twentieth century alterations would have removed the integrity of any potential archaeological resources in those locales.

#### Recommendations

The following recommendations were proposed:

- Background research has identified portions of the project area having been previously subject to a Stage 1-2 Archaeological Assessment. With previous archaeological assessments having fulfilled the Stage 2 Archaeological Assessment requirements within their respective portion(s) of the project area, these areas are recommended to be exempt from Stage 2 Archaeological Assessment within the scope this project.
- A Stage 2 Archaeological Assessment is required in all areas identified as holding potential prior to any ground disturbing activities within the boundaries of the project area. Areas determined to hold potential must be subject to archaeological test pit survey at five-metre intervals prior to any ground disturbing activities, in accordance with the 2011 Standards and Guidelines for Consultant Archaeologists.
- Portions of the project area identified as disturbed and holding no potential due to built features (e.g. man-made disturbances) must be subjected to an on-site visual survey to confirm and document their nature and extent. Only then can these areas be exempt from Stage 2 test pit survey.
- Portions of the project area classified as having low or no archaeological potential due to physiographic features (e.g. , permanently wet areas; steep slope) must be subjected to an on-site visual survey to confirm and document their nature and extent. Only then can these areas be exempt from Stage 2 test pit survey.
- Future areas determined for construction that are not covered by this Stage 1 Archaeological Assessment such as staging areas, temporary access roads, etc., must also be subject to a Stage 1 Archaeological Assessment, and if recommended, a Stage 2 Archaeological Assessment.

**From:** [Kathryn Brown](#)  
**To:** [Dave Simpson](#)  
**Subject:** Pickering and Ajax Rehabilitation EA - PIC  
**Date:** Wednesday, October 23, 2019 2:30:53 PM  
**Attachments:** [Notice of PIC PADR.pdf](#)  
[image003.png](#)

---

Good afternoon Dave,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time.

A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
C: [\(647\) 242-1913](tel:(647)242-1913)  
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](https://www.trca.ca/1229/Bethesda-Sideroad-Richmond-Hill-ON-L4E-1A2) | [trca.ca](https://www.trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Dave Mowat](#)  
**Cc:** [Dave Simpson](#)  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:12 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive\\_AldervilleFN.pdf](#)  
[image003.png](#)

---

Good afternoon Chief Mowat,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Dave Simpson](#)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:41:42 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image003.png](#)

---

Good morning Dave,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will now be held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



Insert NOF email

Coordinator, Williams Treaties Nations

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Karry Sandy-McKenzie (Coordinator, Williams Treaties Nations)	Email, courier	Notification #1: Notice of Commencement.
23-Oct-2019	Kathryn Brown	Karry Sandy-McKenzie	Email	Notification #2: Public Information Centre #1. Included Notice of Commencement follow up.
5-Mar-2020	Kathryn Brown	Karry Sandy-McKenzie	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown	Karry Sandy-McKenzie	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown	Karry Sandy-McKenzie	Email, courier	Notification #5: Notice of Filing.

**From:** [Kathryn Brown](#)  
**To:** [k.a.sandy-mckenzie@rogers.com](mailto:k.a.sandy-mckenzie@rogers.com)  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:22:44 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NOC Pickering and Ajax Dykes Rehabilitation Project CoordWilliamsTreaties.pdf](#)  
[2019-08-08-\(letter\) NoC German Mills Settlers Park CoordWilliamsTreaties.pdf](#)  
[image002.png](#)

---

Good afternoon Ms. Sandy-Mckenzie,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
C: [\(647\) 242-1913](tel:(647)242-1913)  
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [k.a.sandy-mckenzie@rogers.com](mailto:k.a.sandy-mckenzie@rogers.com)  
**Subject:** Pickering and Ajax Rehabilitation EA - PIC  
**Date:** Wednesday, October 23, 2019 2:31:03 PM  
**Attachments:** [Notice of PIC PADR.pdf](#)  
[Image002.png](#)

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Good afternoon Ms. Sandy-McKenzie,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time.

A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

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**From:** [Kathryn Brown](#)  
**To:** [k.a.sandy-mckenzie@rogers.com](mailto:k.a.sandy-mckenzie@rogers.com)  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:07 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive WilliamsTreatiesCoord.pdf](#)  
[image003.png](#)

---

Good afternoon Ms. Sandy-McKenzie,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T: [416\) 661-6600](tel:(416)661-6600) ext. 6407

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [k.a.sandy-mckenzie@rogers.com](mailto:k.a.sandy-mckenzie@rogers.com)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:41:48 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image002.png](#)

---

Good morning Karry,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will on held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



Insert NOF email

Curve Lake First Nation

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Kaitlin Hill, Julie Kapyrka (Curve Lake First Nation)	Email, courier	Notification #1: Notice of Commencement.
9-Sep-19	Chief Whetung	Melody Brown (TRCA)	Letter	Expressed interest in potential impacts to the environment as a result of this project. Requested a fee from TRCA for their participation in the Indigenous engagement process for this project.
23-Oct-2019	Kathryn Brown	Kaitlin Hill, Julie Kapyrka (Curve Lake First Nation)	Email	Notification #2: Public Information Centre #1.
7-Feb-2020	Kathryn Brown	Kaitlin Hill, Julie Kapyrka	Email	Provided information about why TRCA does not pay fees related to engagement. Provided a letter and summary of environmental information to address Curve Lake First Nation's concerns.
5-Mar-2020	Kathryn Brown	Kaitlin Hill, Julie Kapyrka	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown	Kaitlin Hill, Julie Kapyrka	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown	Chief Whetung, Kaitlin Hill, Julie Kapyrka	Email, courier	Notification #5: Notice of Filing.

**From:** [Kathryn Brown](#)  
**To:** [kaitlinh@curvelake.ca](mailto:kaitlinh@curvelake.ca)  
**Cc:** [juliek@curvelake.ca](mailto:juliek@curvelake.ca)  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:22:15 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion\\_German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NOC\\_Pickering and Ajax Dykes Rehabilitation Project\\_CurveLakeFN.pdf](#)  
[2019-08-08-\(letter\) NoC\\_German Mills Settlers Park\\_CurveLakeFN.pdf](#)  
[Image002.png](#)

---

Good afternoon Kaitlin,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600) ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



Government Services  
Building  
22 Winookeeda Street  
Curve Lake, Ontario K0L1R0



Phone: 705.657.8045  
Fax: 705.657.8708  
www.curvelakefirstnation.ca

September 9, 2019

Melody Brown  
101 Exchange Avenue  
Vaughan Ontario L4K 5R6

Dear Melody Brown,

**RE: Pickering and Ajax Dykes Rehabilitation Project**

I would like to acknowledge receipt of your correspondence, which was received on 8/8/2019 regarding the above noted project.

As you may be aware, the area in which your project is proposed is situated within the Traditional Territory of Curve Lake First Nation. Our First Nation's Territory is incorporated within the Williams Treaties Territory and was the subject of a claim under Canada's Specific Claims Policy, which has now been settled. All 7 First Nations within the Williams Treaties have had their harvesting rights legally re-affirmed and recognized through this settlement. We strongly suggest that you provide Karry Sandy-Mackenzie, Williams Treaty First Nation Claims Coordinator, 8 Creswick Court, Barrie, ON L4M 2S7, with a copy of your proposal as your obligation to consult may also extend to the other First Nations of the Williams Treaties.

Curve Lake First Nation is requiring a File Fee for this project in the amount of \$250.00 as outlined in the Consultation and Accommodation Standards. This Fee includes project updates as well as review of standard material and project overviews. Depending on the amount of documents to be reviewed by the Consultation Department, additional fees may apply. **Please make this payment to Curve Lake First Nation Consultation Department and please indicate the project name or number on the cheque.**

If you do not have a copy of Curve Lake First Nation's Consultation and Accommodation Standards they are available at <https://www.curvelakefirstnation.ca/services-departments/lands-rights-resources/consultation/>. Hard copies are available upon request.

Based on the information that you have provided us with respect to Pickering and Ajax Dykes Rehabilitation Project Curve Lake First Nation may require a Special Consultation Framework for this project. Information on this Framework can be found on page 9 of our Consultation and Accommodation Standards.

In order to assist us in providing you with timely input, it would be appreciated if you could provide a summary statement indicating how the project will address the following areas that are of concern

Government Services  
Building  
22 Winookeeda Street  
Curve Lake, Ontario K0L1R0



Phone: 705.657.8045  
Fax: 705.657.8708  
[www.curvelakefirstnation.ca](http://www.curvelakefirstnation.ca)

to our First Nation within our Traditional and Treaty Territory: possible environmental impact to our drinking water; endangerment to fish and wild game; impact on Aboriginal heritage and cultural values; and to endangered species; lands; savannas etc.

After the information is reviewed it is expected that you or a representative will be in contacts to make arrangements to discuss this matter in more detail and possibly set up a date and time to meet with Curve Lake First Nation in person.

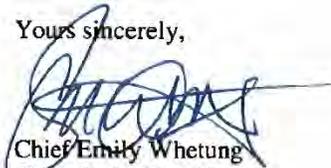
Although we have not conducted exhaustive research nor have we the resources to do so, there may be the presence of burial or archaeological sites in your proposed area. Please note, that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains, or other such evidence of a native burial site or any other archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the *Cemeteries Act* to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately.

Furthermore, Curve Lake First Nation also has available, trained Cultural Heritage Liaisons who are able to actively participate in the archaeological assessment process as a member of a field crew, the cost of which will be borne by the proponent. Curve Lake First Nation expects engagement at Stage 1 of an archaeological assessment, so that we may include Indigenous Knowledge of the land in the process. We insist that at least one of our Cultural Heritage Liaisons be involved in any Stage 2-4 assessments, including test pitting, and/or pedestrian surveys to full excavation.

Although we may not always have representation at all stakeholders meetings, it is our wish to be kept apprised throughout all phases of this project.

Should you have further questions or if you wish to hire a liaison for a project, please feel free to contact Julie Kapyrka or Kaitlin Hill, Lands and Resources Consultation Liaisons, at 705-657-8045 or via email at [JulieK@Curvelake.ca](mailto:JulieK@Curvelake.ca) and [KaitlinH@Curvelake.ca](mailto:KaitlinH@Curvelake.ca).

Yours sincerely,



Chief Emily Whetung  
Curve Lake First Nation



**From:** [Kathryn Brown](#)  
**To:** [kaitlinh@curvelake.ca](mailto:kaitlinh@curvelake.ca)  
**Cc:** [juliek@curvelake.ca](mailto:juliek@curvelake.ca)  
**Subject:** Additional Project Information - Pickering Ajax Dyke Rehabilitation EA  
**Date:** Friday, February 7, 2020 9:25:30 AM  
**Attachments:** [2020-02-07-\(letter\).PADR FA Additional Information\\_Curve Lake FN.pdf](#)  
[image002.png](#)

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Good morning Kaitlin,

Curve Lake First Nation requested additional information about the Pickering Ajax Dyke Rehabilitation (PADR) EA. Please accept my apologies for the delay in my response. I dedicated yesterday to cleaning up my emails and realized this had not been addressed. Please do not hesitate to reach out to me via phone or email if you have further questions or concerns about this or any other TRCA project.

Again, I am very sorry for the delay.

Kind regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T: [416\) 661-6600](tel:(416)661-6600) ext. 6407  
C: [647\) 242-1913](tel:(647)242-1913)  
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)





February 7, 2020

Chief Emily Whetung  
Curve Lake First Nation  
Government Services Building  
22 Winookeeda Street  
Curve Lake, Ontario K0L 1R0

Sent via email to [JulieK@curvelake.ca](mailto:JulieK@curvelake.ca) and [KaitlinH@curvelake.ca](mailto:KaitlinH@curvelake.ca)

**SUBJECT: Pickering and Ajax Dykes Rehabilitation Project, Class Environmental Assessment**

Dear Chief Whetung,

Thank you for your letter dated September 9, 2019 expressing interest in the Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment (EA) project.

I would first like to confirm that Ms. Kathryn Brown of Toronto and Region Conservation Authority (TRCA) has contacted all seven Williams Treaties Nation in addition to Ms. Karry Sandy-McKenzie, regarding this project.

At this time TRCA follows Indigenous engagement protocols set out in the TRCA Engagement Guidelines along with MTCS' Standards and Guidelines for Consultant Archaeologists. As a result, TRCA does not pay fees related to engagement or include Cultural Heritage Liaisons during Stage 1-2 archaeological assessments.

Information about this project is available online at the website: [www.trca.ca/PADR](http://www.trca.ca/PADR) The information presented at the first public information meeting is available to download from this website. Existing environmental conditions within the project study area have been documented and very high-level alternative solutions to the problem have been developed and evaluated against project-specific evaluation criteria. During the next phase of the project the design of the preferred solution will be refined and further details will be worked out, however the design will still be conceptual and high-level. During the next phase the project team will also identify potential impacts to the environment and ways in which these impacts can be avoided, mitigated or compensated for.

The following sections strive to address the specific areas of concern highlighted in your letter. Please see refer to the enclosed environmental feature summary table for more information.

**Possible environmental impact to drinking water**

TRCA does not anticipate any environmental impacts to drinking water as a result of this project. No long-term impacts are expected based on the type of project and proposed design solutions. There is the potential for short-term impacts during construction due to fuel spills and dewatering activities, but there are ways to avoid or mitigate this. During construction all efforts will be made to minimize any potential spills during the implementation of the proposed works. Contractors will prepare a site-specific environmental protection plan, to the satisfaction of TRCA, prior to mobilizing to site. The plan will identify safe equipment refueling locations and safeguards and a spill-response plan. Appropriate erosion and sediment control measures will also be utilized throughout the entirety of construction. Dewatering activities are expected to be short-duration and only occur in a smaller portion of the construction site at any one time.

**Endangerment to fish and wild game**

Proposed works are within valleylands and the floodplain. The majority of the proposed construction area is far enough away from the creeks that aquatic impacts are not expected. In some areas construction will be close to West Duffin Creek or occurring within the banks of the West Duffins Creek and Duffins Creek to install channel

T: 416.661.6600 | F: 416.661.6898 | [info@trca.on.ca](mailto:info@trca.on.ca) | 101 Exchange Avenue, Vaughan, ON L4K 5R6 | [www.trca.ca](http://www.trca.ca)

erosion protection measures. Appropriate isolation measures will be installed within the creeks and fish and other aquatic animals will be rescued from the isolated work area by trained professionals prior to starting construction work. Areas where the creeks or creek riparian areas are disturbed will be restored and habitat will be improved where feasible through the installation of additional features or plantings.

Tree removals will be necessary. Sections of the dykes are currently covered with trees and/or surrounded by trees. Significant reconstruction of the dykes must be undertaken to ensure the rehabilitated dykes are structurally stable and will provide reliable flood protection. As such the trees on top of and near the dykes will need to be removed to allow for construction work. Tree removals would be completed outside of the key breeding bird window and that vegetation clearing would be kept to an absolute minimum. Once dyke reconstruction is completed tree plantings and other terrestrial habitat restoration or improvement work will be completed within the disturbed areas and surrounding area. Trees damage the dykes affecting their performance as flood protection infrastructure, therefore trees will not be planted on top of the dykes but will be planted in surrounding areas.

Before commencing work, the construction site will be inspected for wildlife and in the rare occurrence that wildlife is found, it will be passively removed/relocated by a trained professional.

**Impact on Aboriginal heritage and cultural values**

An archaeological assessment for this project has been completed: Stage 1 (P1016-0175-2019). There is the potential for buried cultural resources to be present within some areas of the proposed construction areas. A Stage 2 assessment will be completed at a later date before any ground-disturbing activities in these areas. If deeply buried deposits or human remains are encountered during implementation of the project Curve Lake First Nation will be notified as requested.

**Impact on endangered species, lands, savannas, etc.**

There will be no impact to land features or unique areas. There is the potential for temporary impacts to endangered species during construction. During the next phase of this project measures to avoid, mitigate or compensate for these impacts will be determined. The scheduling of construction activities will consider the potential impacts to wildlife and be undertaken during the lesser impactful times of year. Appropriate isolation measures and relocation of wildlife will be undertaken by trained professionals to ensure wildlife is not harmed during construction. Once dyke reconstruction is completed habitat restoration and improvement work will be completed within the disturbed areas and surrounding area.

Sincerely,



Kathryn Brown  
Senior Archaeologist, Indigenous Engagement Coordinator  
Toronto and Region Conservation Authority

Encl: Summary Environmental Information for Curve Lake First Nation Response

Cc: Julie Kapyrka, Curve Lake First Nation  
Kaitlin Hill, Curve Lake First Nation  
Melody Brown, Toronto and Region Conservation Authority

Summary Environmental Information for Curve Lake First Nation Response – Pickering and Ajax Dykes Rehabilitation Class Environmental Assessment Project

Environmental Feature	Notes
Groundwater Recharge & Discharge Zones	<p>According to the 2018 Watershed Report Card (TRCA 2018) the quality of the groundwater in the Duffins Creek watershed is excellent (grade A) for nitrate as well as for chloride.</p> <p>No impacts to ground water recharge and discharge are expected.</p>
Surface Water	<p>Surface water quality within the Duffins Creek Watershed is among the highest in the Toronto Region, and has been graded as "C" or "Fair" according to the provincially-scaled scoring system.</p> <p>There is a TRCA water quality monitoring station within the Project Study Area along West Duffins Creek. Data from this monitoring station is available to the public through TRCA's Open Data Portal (<a href="https://data.trca.ca/">https://data.trca.ca/</a>). It has been noted that chloride concentrations have been increasing over time.</p> <p>No impacts to surface water are expected. The proposed dyke design will incorporate means to continue drainage of surface water from behind the dykes into the creeks as in existing conditions. During construction all efforts will be made to minimize any potential spills during the implementation of the proposed works. Appropriate erosion and sediment control measures will also be utilized throughout the entirety of construction.</p>
Significant Vegetation Communities	<p>The Pickering Dyke is surrounded by a mix of deciduous forest and culturally modified but re-naturalizing vegetation communities.</p> <p>The Ajax Dyke is surrounded by deciduous forest and a small patch of deciduous swamp. There is significant cultural influence visible as the dominant tree is not native to Ontario.</p> <p>Fifteen plant species that are of regional concern and urban concern (not currently rare but at risk over the long term) within TRCA's jurisdiction were observed within the project study area.</p> <p>A rare vegetation community (Fresh Moist Black Walnut Lowland Deciduous Forest) is located within the Project Study area but is far enough away from the dykes that impacts to this forest are not expected.</p> <p>Vegetation clearing will be necessary within the construction area but would be kept to an absolute minimum. Once dyke reconstruction is completed native vegetation plantings will be completed within the disturbed areas and surrounding area.</p>
Aquatic Habitat & Communities	<p>Both dykes are located near creeks. The Pickering Dyke is near the West Duffins Creek which is classified as intermediate riverine coldwater. The Ajax Dyke is near Duffins Creek which is classified as large riverine. The study area is within the Lower Main Duffins subwatershed.</p> <p>There is a sea lamprey barrier and trap on Duffins Creek just west of Church St S, north of Highway 401. Eleven different fish species have been observed in the Duffins Creek and twelve in the West Duffins Creek within the project study area. Atlantic Salam were observed in Duffins Creek only. Atlantic Salmon were</p>

Environmental Feature	Notes
	<p>extirpated from Lake Ontario but have been stocked in Duffins Creek in an attempt to reintroduce the species.</p> <p>In-water and near-water construction work is proposed in some areas. Appropriate isolation measures will be installed within the creeks and fish and other aquatic animals will be rescued from the isolated work area by trained professionals prior to starting construction work. Areas where the creeks or creek riparian areas are disturbed will be restored and habitat will be improved where feasible through the installation of additional features or plantings.</p>
Wildlife Habitat	<p>The woodlands in the study areas are large and diverse. The buffering and protection they provide the West Duffins Creek and Duffins Creek and the potential wildlife habitats and movement corridor opportunities are important functions of these woodlands.</p> <p>The following significant wildlife habitat potentially exist within the project study area (although the presence of such wildlife/habitat uses has not been observed):</p> <ul style="list-style-type: none"> <li>- <b>Raptor Wintering Area:</b> the forested creek corridors provide linkages to the open meadow communities to the north, and may be attractive for birds of prey.</li> <li>- <b>Bat Maternity Colonies:</b> many of the forested areas contain large, older trees near a water source. Older trees tend to have features such as loose bark and cavities that may function as roost opportunities.</li> <li>- <b>Turtle Wintering Areas:</b> the oxbow may provide still waters and loose gravel needed by turtles to hibernate. No impacts to the oxbow are expected.</li> <li>- <b>Amphibian Breeding Habitat (Woodland):</b> the oxbow provides an open water habitat &gt;500 m<sup>2</sup> within a forested area. Frogs have been observed in the project study area. No impacts to the oxbow are expected.</li> <li>- <b>Landbird Migratory Stopover Areas:</b> the project study area contains a large woodland within 5 km of Lake Ontario, with a variety of habitats.</li> <li>- <b>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat:</b> the study area includes tall trees available for perches, adjacent to a watercourse.</li> </ul> <p>Woodland habitat within the construction area will be impacted due to tree removal and construction noise. However, there are significant woodlands and tree-lined watercourses surrounding the proposed construction area that extend far from the area of disturbance. These other comparable habitat areas would provide wildlife refuge and long-term alternative habitat areas.</p> <p>Tree removals would be completed outside of the key breeding bird window and vegetation clearing would be kept to an absolute minimum. Once dyke reconstruction is completed habitat restoration and improvement work will be completed within the disturbed areas and surrounding area.</p>
Wildlife Migration Patterns	<p>West Duffins Creek and Duffins Creek within the project study area are considered Urban River Valleys that connect the Greenbelt Plan area north of Pickering and Ajax to Lake Ontario south of the study area. This Urban River Valley provides a wildlife corridor for a variety of species moving between the Greenbelt and Lake Ontario.</p>

Environmental Feature	Notes
	<p>No impacts are expected as a result of the proposed works as only a portion of the river valley area will be disturbed. Valley lands and similar habitat will remain undisturbed nearby the work area providing continued wildlife migration opportunities. Tree removals would be completed outside of the key breeding bird window and vegetation clearing would be kept to an absolute minimum. Once dyke reconstruction is completed habitat restoration and improvement work will be completed within the disturbed areas and surrounding area.</p>
Species At Risk	<p>Snapping Turtle had previously been identified in the project study area. Field surveys identified the presence of Chimney Swift, Eastern Wood-pewee and Butternut. Additionally, there is the potential for 3 bat species, 2 aquatic species (eel and fish) and 1 terrestrial plant species that are species at risk to be inhabiting the study area, however they were not observed.</p> <p>The scheduling of construction activities will consider the potential impacts to wildlife and be undertaken during the lesser impactful times of year. Appropriate isolation measures and relocation of wildlife will be undertaken by trained professionals to ensure wildlife is not harmed during construction. Once dyke reconstruction is completed habitat restoration and improvement work will be completed within the disturbed areas and surrounding area.</p>
Environmentally Significant Areas (ESA)	<p>The Duffins Creek corridor that passes through the Project Study Area is designated as an Environmental Protection Area. This protects natural areas that pass through the urban area including the stream, valley corridors and the Rouge-Duffins Wildlife Corridor. The Duffins Creek corridor through the Pickering portion of the study area is a Major-Spink Environmentally Significant Area.</p> <p>There are no Provincially Significant Wetlands within the project study area.</p> <p>The majority of the Project Study Area is located within the regulatory floodplain of Duffins Creek and a portion of the developed lands within the study area that are part of the regulatory floodplain are designed as Special Policy Areas.</p> <p>The area of the Duffins Creek corridor that will be disturbed during construction work is relatively small in comparison to the entire corridor area. As stated earlier in this letter, during the next phase of this project potential impacts will be determined and measures to avoid, mitigate or compensate for the impacts will be recommended.</p>
Areas of Natural and Scientific Interest (ANSI)	<p>There are no earth science ANSIs within the Project Study Area.</p>
Unique Landforms	<p>There are no unique landforms within the Project Study Area.</p>
Specialty Crop Area / Agricultural Lands	<p>There are no specialty crop areas or agricultural lands or agriculture production within the Project Study Area.</p>

**From:** [Kathryn Brown](#)  
**To:** [EmilyW@curvelake.ca](mailto:EmilyW@curvelake.ca)  
**Cc:** [kaitlinh@curvelake.ca](mailto:kaitlinh@curvelake.ca); [juliek@curvelake.ca](mailto:juliek@curvelake.ca)  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:28 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive\\_CurveLakeFN.pdf](#)  
[image003.png](#)

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Good afternoon Chief Whetung,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600) ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [kaitlinh@curvelake.ca](mailto:kaitlinh@curvelake.ca); [juliek@curvelake.ca](mailto:juliek@curvelake.ca)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:41:51 AM  
**Attachments:** 2020-04-07-(PIC 2) Pickering and Ajax Dykes Rehabilitation Project.pdf  
[image002.png](#)

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Good morning Kaitlin and Julie,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will on held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2 | trca.ca](#)



Insert NOF email

Hiawatha First Nation

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Chief Carr, Tom Cowie (Hiawatha First Nation)	Email, courier	Notification #1: Notice of Commencement.
23-Oct-2019	Kathryn Brown (TRCA)	Tom Cowie	Email	Notification #2: Public Information Centre #1. Included Notice of Commencement follow up.
5-Mar-2020	Kathryn Brown (TRCA)	Chief Carr, Tom Cowie	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown (TRCA)	Tom Cowie	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown (TRCA)	Chief Carr, Tom Cowie	Email, courier	Notification #5: Notice of Filing.

**From:** [Kathryn Brown](#)  
**To:** [tcowie@hiawathafn.ca](mailto:tcowie@hiawathafn.ca)  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:22:21 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NOC Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NoC German Mills Settlers Park HiawathaFN.pdf](#)  
[image002.png](#)

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Good afternoon Tom,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [tcowie@hiawathafn.ca](mailto:tcowie@hiawathafn.ca)  
**Subject:** Pickering and Ajax Rehabilitation EA - PIC  
**Date:** Wednesday, October 23, 2019 2:31:00 PM  
**Attachments:** [Notice of PIC PADR.pdf](#)  
[image002.png](#)

---

Good afternoon Tom,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time.

A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [chiefcarr@hiawathafn.ca](mailto:chiefcarr@hiawathafn.ca)  
**Cc:** [tcowie@hiawathafn.ca](mailto:tcowie@hiawathafn.ca)  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:02 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive\\_HiawathaFN.pdf](#)  
[image002.png](#)

---

Good afternoon Chief Carr,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [tcowie@hiawathafn.ca](mailto:tcowie@hiawathafn.ca)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:41:55 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image002.png](#)

---

Good morning Tom,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will be held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



Insert NOF email

Huron Wendat Nation

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Chief Sioui, Maxime Picard, Mélanie Vincent, Catherine Dupont (HWN)	Email, courier	Notification #1: Notice of Commencement.
8-Aug-2019	Maxime Picard	Kathryn Brown	Email	Indicated interest in archaeological assessments related to this project.
23-Oct-2019	Kathryn Brown	Maxime Picard, Mélanie Vincent, Catherine Dupont	Email	Notification #2: Public Information Centre #1. Included completed Stage 1 Archaeological Assessment P1016-0174-2019).
23-Oct-2019	Maxime Picard	Kathryn Brown	Email	Requested HWN be kept informed of potential further archaeology.
5-Mar-2020	Kathryn Brown	Maxime Picard, Mélanie Vincent, Catherine Dupont	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown	Maxime Picard, Mélanie Vincent, Catherine Dupont	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown	Chief Sioui, Maxime Picard, Mélanie Vincent	Email, courier	Notification #5: Notice of Filing.

**From:** [Maxime Picard](#)  
**To:** [Kathryn Brown](#)  
**Cc:** [melanievincent21@yahoo.ca](mailto:melanievincent21@yahoo.ca)  
**Subject:** RE: Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 3:21:21 PM  
**Attachments:** [image002.png](#)

---

Good afternoon Kathryn,

This is to acknowledge reception of your email and letters.

Please keep us updated on the archaeological program of those projects.

Best,

Maxime



**NATION HURONNE-WENDAT**  
**Bureau du Nionwentsio**

**Maxime Picard, B. Sc. A.**  
Coordonnateur de projets - Ontario  
255, Place Chef Michel-Laveau  
Wendake (Qc) G0A 4V0  
Téléphone : 418-843-3767 # 2105  
Courriel : [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)

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Do you really need to print this email?  
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**De :** Kathryn Brown [<mailto:Kathryn.Brown@trca.ca>]

**Envoyé :** 8 août 2019 14:23

**À :** [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)

**Cc :** [melanievincent21@yahoo.ca](mailto:melanievincent21@yahoo.ca)

**Objet :** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project

Good afternoon Maxime,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection**

**Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.

2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](https://www.trca.ca/locations/1229-Bethesda-Sideroad-Richmond-Hill-ON-L4E-1A2) | [trca.ca](https://www.trca.ca)





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**De :** Kathryn Brown [<mailto:Kathryn.Brown@trca.ca>]

**Envoyé :** 23 octobre 2019 14:31

**À :** [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)

**Objet :** Pickering and Ajax Rehabilitation EA - PIC and Archaeology

Good afternoon Maxime,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time. A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regarding archaeology, the Stage 1 archaeological assessment is available via this link: [https://torontoregion-my.sharepoint.com/:f:/r/personal/kathryn\\_brown\\_trca\\_ca/Documents/Indigenous%20Engagement%20-%20Shared%20Files/HWN%20-%20Shared%20Files?csf=1&e=7vMhhT](https://torontoregion-my.sharepoint.com/:f:/r/personal/kathryn_brown_trca_ca/Documents/Indigenous%20Engagement%20-%20Shared%20Files/HWN%20-%20Shared%20Files?csf=1&e=7vMhhT). I will provide you with information about potential Stage 2 work when we are further along in the project.

Thanks for your time,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [416 661-6600](tel:4166616600) ext. 6407

C: [647 242-1913](tel:6472421913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](https://www.trca.ca/locations/1229-Bethesda-Sideroad-Richmond-Hill-ON-L4E-1A2) | [trca.ca](https://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Maxime Picard](#)  
**Subject:** RE: Pickering and Ajax Rehabilitation EA - PIC and Archaeology  
**Date:** Wednesday, October 23, 2019 2:44:29 PM  
**Attachments:** [image002.png](#)

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Unfortunately size constraints mean I can't send these reports via email. I just tried to give you access to the folder again, you should have gotten an email saying I shared a folder with you. And this link should now work:

[https://torontoregion-my.sharepoint.com/:f:/r/personal/kathryn\\_brown\\_trca\\_ca/Documents/Indigenous%20Engagement%20-%20Shared%20Files/HWN%20-%20Shared%20Files?csf=1&e=3iOYCq](https://torontoregion-my.sharepoint.com/:f:/r/personal/kathryn_brown_trca_ca/Documents/Indigenous%20Engagement%20-%20Shared%20Files/HWN%20-%20Shared%20Files?csf=1&e=3iOYCq).

Please let me know if you continue to have issues.

Thanks,  
Kathryn

---

**From:** Maxime Picard <maxime.picard@cnhw.qc.ca>  
**Sent:** Wednesday, October 23, 2019 2:33 PM  
**To:** Kathryn Brown <Kathryn.Brown@trca.ca>  
**Subject:** RE: Pickering and Ajax Rehabilitation EA - PIC and Archaeology

Well received Kathryn.

However those like you send us doesn't seem to work.

Are you able to send us the Stage 1 report by PDF ?

Thanks,

Maxime

**From:** [Maxime Picard](#)  
**To:** [Kathryn Brown](#)  
**Subject:** RE: Kathryn Brown shared the folder "HWN - Shared Files" with you.  
**Date:** Wednesday, October 23, 2019 2:46:22 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

Thanks Kathryn.

Please keep us updated on when you expect to conduct the Stage 2.

Maxime



**NATION HURONNE-WENDAT**  
**Bureau du Nionwentsio**

**Maxime Picard, B. Sc. A.**  
Coordonnateur de projets - Ontario  
255, Place Chef Michel-Laveau  
Wendake (Qc) G0A 4V0  
Téléphone : 418-843-3767 # 2105  
Courriel : [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)



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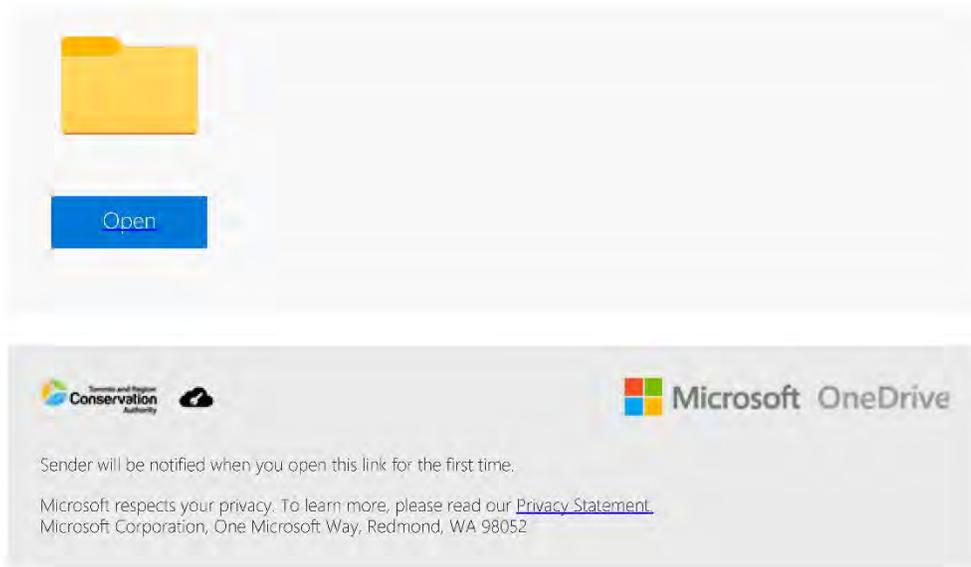
**De :** Kathryn Brown [<mailto:Kathryn.Brown@trca.ca>]  
**Envoyé :** 23 octobre 2019 14:42  
**À :** [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)  
**Objet :** Kathryn Brown shared the folder "HWN - Shared Files" with you.

Here's the folder that Kathryn Brown shared with you.



This link only works for the direct recipients of this message.

[HWN - Shared Files](#)



**From:** [Kathryn Brown](#)  
**To:** [maxime.picard@cnhw.gc.ca](mailto:maxime.picard@cnhw.gc.ca)  
**Cc:** [melanievincent21@yahoo.ca](mailto:melanievincent21@yahoo.ca); "Catherine Dupont"  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:19 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive\\_HWN.pdf](#)  
[image003.png](#)

---

Good afternoon Maxime,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T: [416\) 661-6600](tel:(416)661-6600) ext. 6407

C: [647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [maxime.picard@cnhw.qc.ca](mailto:maxime.picard@cnhw.qc.ca)  
**Cc:** [Catherine Dupont](#); [melanievincent21@yahoo.ca](mailto:melanievincent21@yahoo.ca)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:47:07 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image002.png](#)

---

Good morning Maxime,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will be held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

In regards to archaeology – the Stage 1, which I sent last November, is still the only archaeological assessment related to this project. I will make sure you're kept informed of any potential further archaeology.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407  
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A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



Insert NOF email

Mississaugas of Scugog Island First Nation

Date	Sent by	Contacted	Method	Summary
8-Aug-2019	Kathryn Brown (TRCA)	Chief LaRocca, Monica Sanford (MSIFN)	Email, courier	Notification #1: Notice of Commencement.
23-Oct-2019	Kathryn Brown	Monica Sanford	Email	Notification #2: Public Information Centre #1. Included Notice of Commencement follow up.
5-Mar-2020	Kathryn Brown	Monica Sanford	Email	Notification #3: Public Information Centre #2.
7-Apr-2020	Kathryn Brown	Chief LaRocca, Monica Sanford (MSIFN)	Email	Notification #4: Rescheduled Public Information Centre #2.
TBD	Kathryn Brown	Chief LaRocca, Monica Sanford (MSIFN)	Email, courier	Notification #5: Notice of Filing.

**From:** [Kathryn Brown](#)  
**To:** [Monica Sanford](#)  
**Subject:** Notice of Completion: German Mills Settlers Park and Notice of Commencement: Pickering and Ajax Dykes Rehab Project  
**Date:** Thursday, August 8, 2019 2:22:34 PM  
**Attachments:** [2019-08-08-\(notice\) Notice of Completion German Mills.pdf](#)  
[2019-08-08-\(NOC\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2019-08-08-\(letter\) NoC German Mills Settlers Park MSIFN.pdf](#)  
[2019-08-08-\(letter\) NOC Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image002.png](#)

---

Good afternoon Monica,

This email is in regards to two Toronto and Region Conservation Authority (TRCA) projects:

1. TRCA has completed the **German Mills Settlers Park Sanitary Infrastructure Protection Project** in the City of Toronto. The Notice Of Intent was sent to your community on April 19, 2018. The Notice of Completion and a letter with more information about the project are attached.
2. TRCA has commenced the **Pickering and Ajax Dykes Rehabilitation Project Class EA**, in the City of Pickering and Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement and a letter with more information about the project are attached.

Please do not hesitate to contact me with questions, comments, or concerns about this or any other TRCA projects.

Thank you,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T: [\(416\) 661-6600](tel:(416)661-6600) ext. 6407

C: [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Monica Sanford](#)  
**Subject:** Pickering and Ajax Rehabilitation EA - PIC  
**Date:** Wednesday, October 23, 2019 2:31:01 PM  
**Attachments:** [Notice of PIC PADR.pdf](#)  
[image002.png](#)

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Good afternoon Monica,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing Dykes. The Notice of Commencement was sent to your community on August 8, 2019. Please let me know if you have any comments or questions for me at this time.

A Public Information Centre for this project will be held on October 30, 2019 at the Chestnut Hill Developments Recreation Complex in Pickering. The PIC notice is attached and contains more information.

Regards,  
Kathryn

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Engineering Projects | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407  
C:  [\(647\) 242-1913](tel:(647)242-1913)   
E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)  
A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [klarocca@scugogfirstnation.com](mailto:klarocca@scugogfirstnation.com)  
**Cc:** [Monica Sanford](#)  
**Subject:** NOI - Clarinda Drive Erosion Control and Slope Stabilization; PIC 2 - Pickering and Ajax Dykes Rehab  
**Date:** Thursday, March 5, 2020 4:05:23 PM  
**Attachments:** [2020-03-05-\(NOI\) Clarinda Drive.pdf](#)  
[2020-03-05-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[2020-03-05-\(letter\) NOI Clarinda Drive\\_MSIFN.pdf](#)  
[image003.png](#)

---

Good afternoon Chief LaRocca,

There are two Toronto and Region Conservation Authority (TRCA) projects with updates:

**East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project**

TRCA has initiated a study to address erosion and slope instability along the East Don River Tributary behind Clarinda Drive in the City of Toronto. This project is supported by the Disaster Mitigation and Adaption Fund (DMAF), the notice for which was sent to your community on February 21, 2020. A Community Liaison Committee meeting will be held on March 11, 2020. Please see the attached Notice of Intent and letter for more information.

**Pickering and Ajax Dykes Rehabilitation Project**

This study was initiated to investigate flood remedial solution to two existing dykes in the City of Pickering and Town of Ajax. The second Public Information Centre (PIC) will be held on March 24, 2020. Please see the attached PIC notice for more information.

If you have any comments or questions about these or any other TRCA project please do not hesitate to contact me. TRCA staff are available to meet and discuss all projects in further detail.

Kind regards,  
Kathryn

**Kathryn Brown**

Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600) ext. 6407

C:  [\(647\) 242-1913](tel:(647)242-1913)

E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



**From:** [Kathryn Brown](#)  
**To:** [Monica Sanford](#)  
**Subject:** Pickering Ajax Dykes Rehabilitation EA - Rescheduled PIC 2  
**Date:** Tuesday, April 7, 2020 10:42:01 AM  
**Attachments:** [2020-04-07-\(PIC 2\) Pickering and Ajax Dykes Rehabilitation Project.pdf](#)  
[image002.png](#)

---

Good morning Monica,

TRCA has commenced the Pickering and Ajax Rehabilitation Project Class EA in the City of Pickering and the Town of Ajax. This study will investigate flood remedial solutions to two existing dykes. The Notice of Commencement was sent to your community on August 8, 2019.

The second Public Information Centre for this project has been rescheduled due to COVID-19. The meeting will be held on April 28, 2020 in a virtual format. The attached notice contains information on how to participate.

Please let me know if you have any questions or comments about this or any other TRCA project.

Sincerely,  
Kathryn

Working remotely. Available Monday-Friday, 8 am to 4 pm.

**Kathryn Brown**  
Senior Archaeologist/Coordinator, GIS Indigenous Engagement  
Professional Services | Restoration and Infrastructure

T:  [\(416\) 661-6600](tel:(416)661-6600)  ext. 6407

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E: [kathryn.brown@trca.ca](mailto:kathryn.brown@trca.ca)

A: [1229 Bethesda Sideroad, Richmond Hill, ON, L4E 1A2](#) | [trca.ca](http://trca.ca)



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