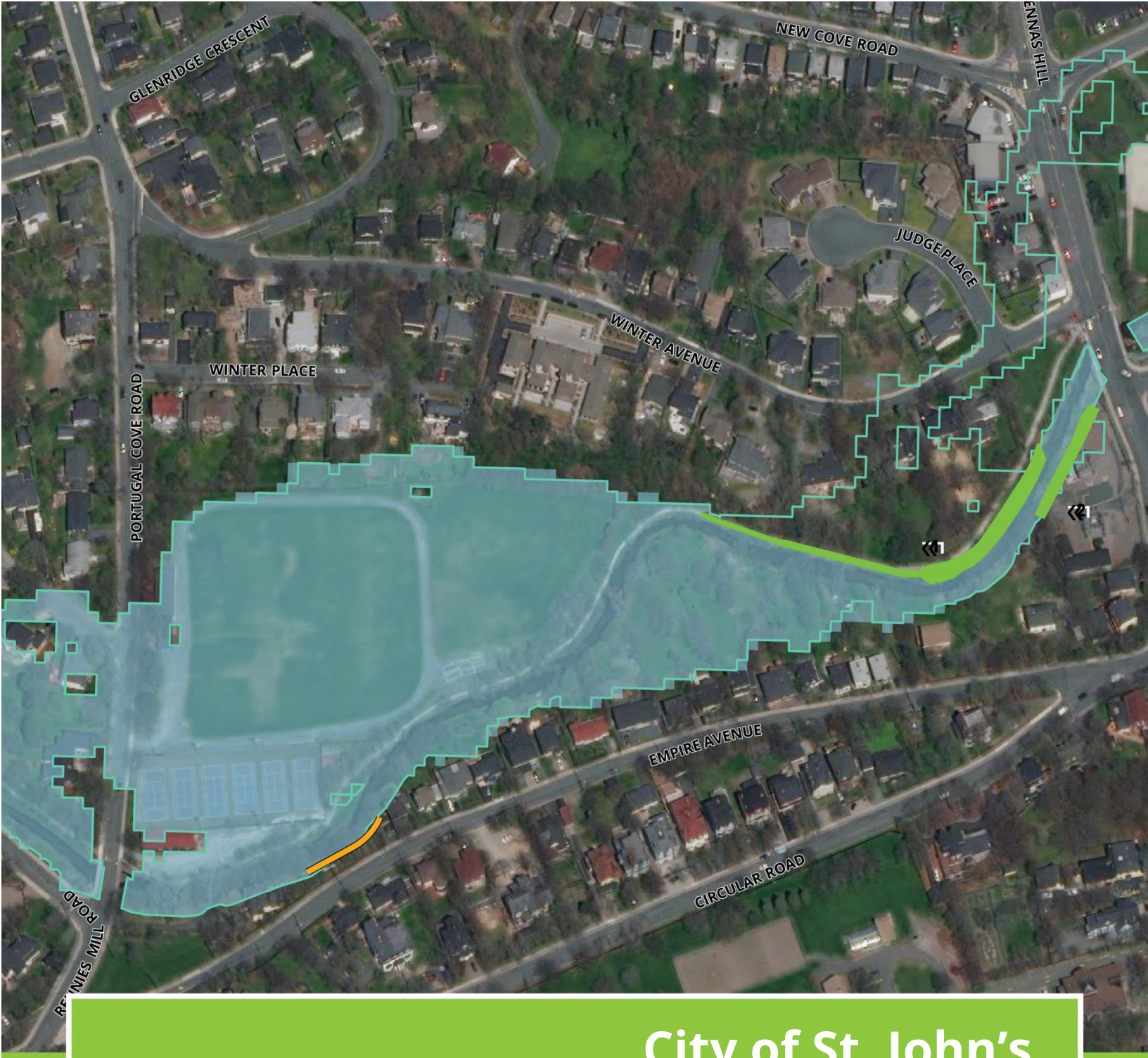


City of St. John's

Rennies River Flood Mitigation

Portugal Cove Road to Kings Bridge Road

Environmental Preview Report

CBCL

ST. JOHN'S

Project No. 213032 • September 2022

Appendix C

River Morphology Assessment

CBCL
Solutions today | Tomorrow IN mind
187 Kenmount Road, St. John's, NL A1B 3P9
709-364-8623 | CBCL.ca | info@CBCL.ca

June 6, 2022

Joanne Sweeney
Dept. of Municipal Affairs and Environment
PO Box 8700
St. John's, NL A1B 4J6

Dear Ms. Sweeney:

RE: Rennies River Flood Mitigation – Portugal Cove Road to Kings Bridge Road – River Morphology Assessment

The Ministry of Environment and Climate Change has issued a set of guidelines for the Environmental Preview Report for the Rennies River Flood Mitigation from Portugal Cove Road to King's Bridge Road. This document outlines the requirement for registration of an assessment of the potential changes in river morphology and flow velocity at the proposed berm locations as well as upstream and downstream of the site; and an evaluation of the potential need for riverbank stabilization measures. This letter summarizes the assessment conducted to address this requirement.

The current geomorphological conditions of Rennies River are consistent with those typical of urban streams. The head of the river features riparian zones that are generally undeveloped with most of the stream featuring channelized riverbanks through urbanized areas, as it flows to Quidi Vidi Lake. Urban land uses generally provide rivers with less nutrients and sediments than those found in undeveloped settings. This generally results in increased risks of erosion of the riverbanks and fish habitat deterioration. The proposed berm sites between Portugal Cove and Kings Bridge Road are located close to the mouth of the river, amid a highly urbanized setting. The river channel sections immediately upstream and downstream of this location feature multiple stabilization works including gabion walls, riprap, retention walls and channelized banks.

CBCL conducted a high-level evaluation of the potential effect of the construction of the berms on the velocities and erosive processes along the river for the 1 in 2 year and the 1 in 100 year rainfall events through hydraulic modelling of the river, before and after construction of the berms. The modelling results provide a general indication of whether additional erosion mitigation measures may be required to stabilize the channel. An assessment of the potential effects of proposed changes on long term river morphology and fish habitat was not included. To provide some context, a thorough evaluation of potential long term morphological changes in the Rennies River would require at least the following components:

- Assessment of historical discharge patterns along the river
- Assessment of sediment transport processes
- Sediment sampling along the stream
- Evaluation of the feedback mechanism that may exist and evolve between sediment accumulation and movement, and discharge rates and velocities

Short term effects can, however, be evaluated with the modelling conducted in the present assessment. CBCL evaluated the potential changes in the average cross-section velocity and depth along the river using the existing 1D-2D XPSWMM model of the Rennies River System (details about the model development can be found in the City of St. John's Rennies River Flood Mitigation submitted to the Department of Municipal Affairs and Environment in January, 2021). The extreme events modelled were selected based on the following considerations:

- **1 in 2 year Rainfall Event**: This event was selected to estimate the potential local velocity changes during extreme flow events, where water would remain within the existing channel, and for which the construction of the berm would have minor impacts;
- **1 in 100 year Rainfall Event**: This event was selected to evaluate local changes in velocities during major extreme flow events where water would overflow the river banks under current conditions but would remain within the channel after construction of the berms.

As shown in Figure 1, the calculated average cross-sectional velocity in the River for the 1 in 2 year rainfall event shows negligible change following the construction of the berm. As shown in Figure 2, for the 1 in 100 year rainfall event, the calculated average cross-sectional velocity in the River locally increases following the construction of the berm. The calculations do not show a significant change in velocities upstream of the proposed location of the berm. These results indicate that erosion mitigation measures may be required along the face of the new berm and along downstream sections of the river that are not currently stabilized. These options could include riprap, turf reinforcement mats (TRMs), reinforced vegetation or erosion control blankets, or erosion-resistant retaining walls.

References

CBCL Limited, 2021 City of St. John's Rennies River Flood Mitigation Portugal Cove Road to Kings Bridge Road.

Ministry of Environment and Climate Change, 2021. Guidelines for the Environmental Preview Report for the Rennies River Flood Mitigation from Portugal Cove Road to King's Bridge Road.

Ms. Sweeney
June 6, 2022

Yours very truly,

CBCL Limited

Prepared by:
Victoria Fernandez, P.Eng., M.Sc.
Water Resources Engineer
Direct: 902-421 72 41
E-Mail: vfernandez@cbcl.ca

Reviewed by:
Alex Wilson, M.Eng., P.Eng.
Senior Technical Specialist Water Resources

Attachments: Figure 1 and Figure 2

Report No: 213032.00

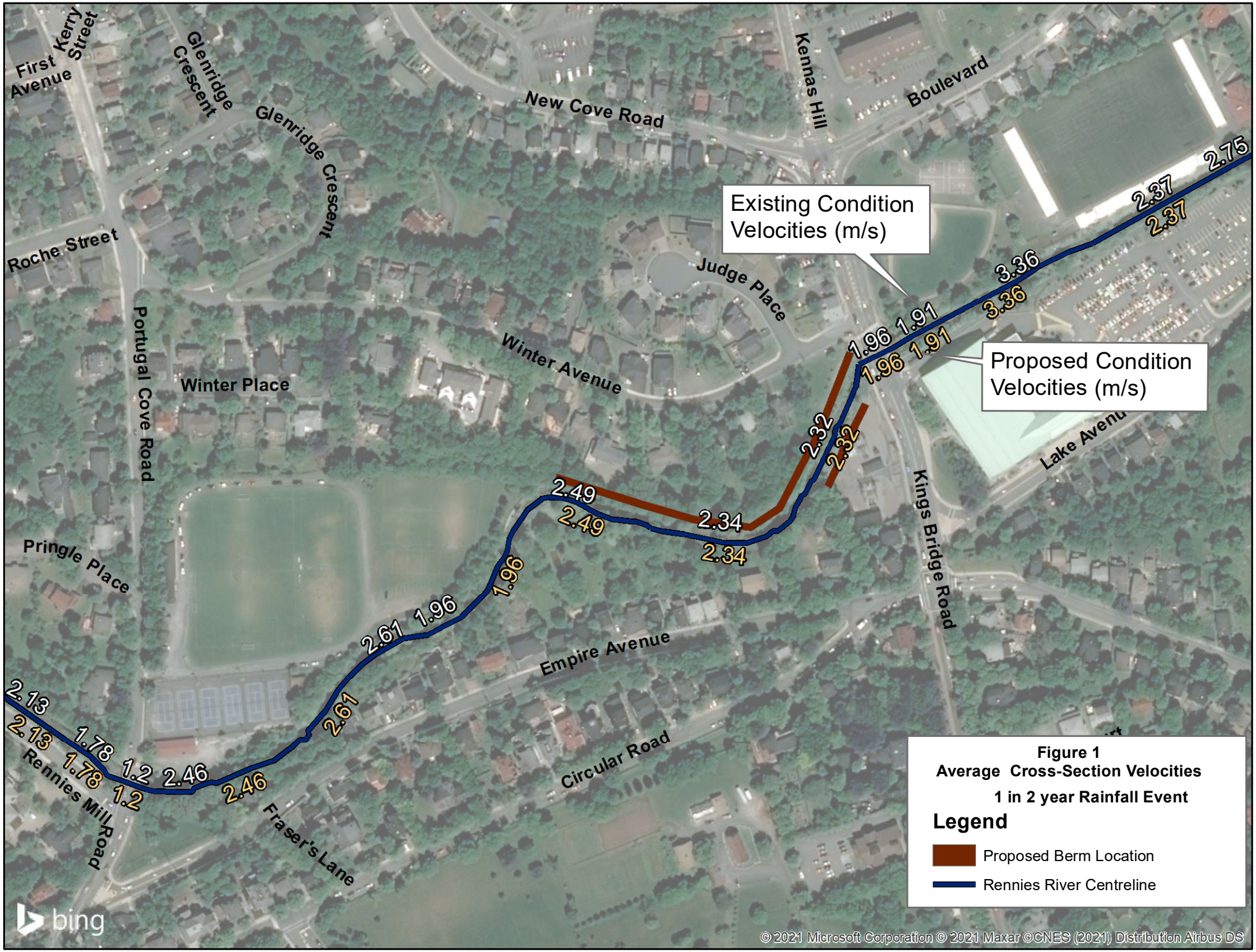


Figure 1
Average Cross-Section Velocities
1 in 2 year Rainfall Event

Legend

- Proposed Berm Location
- Rennies River Centreline

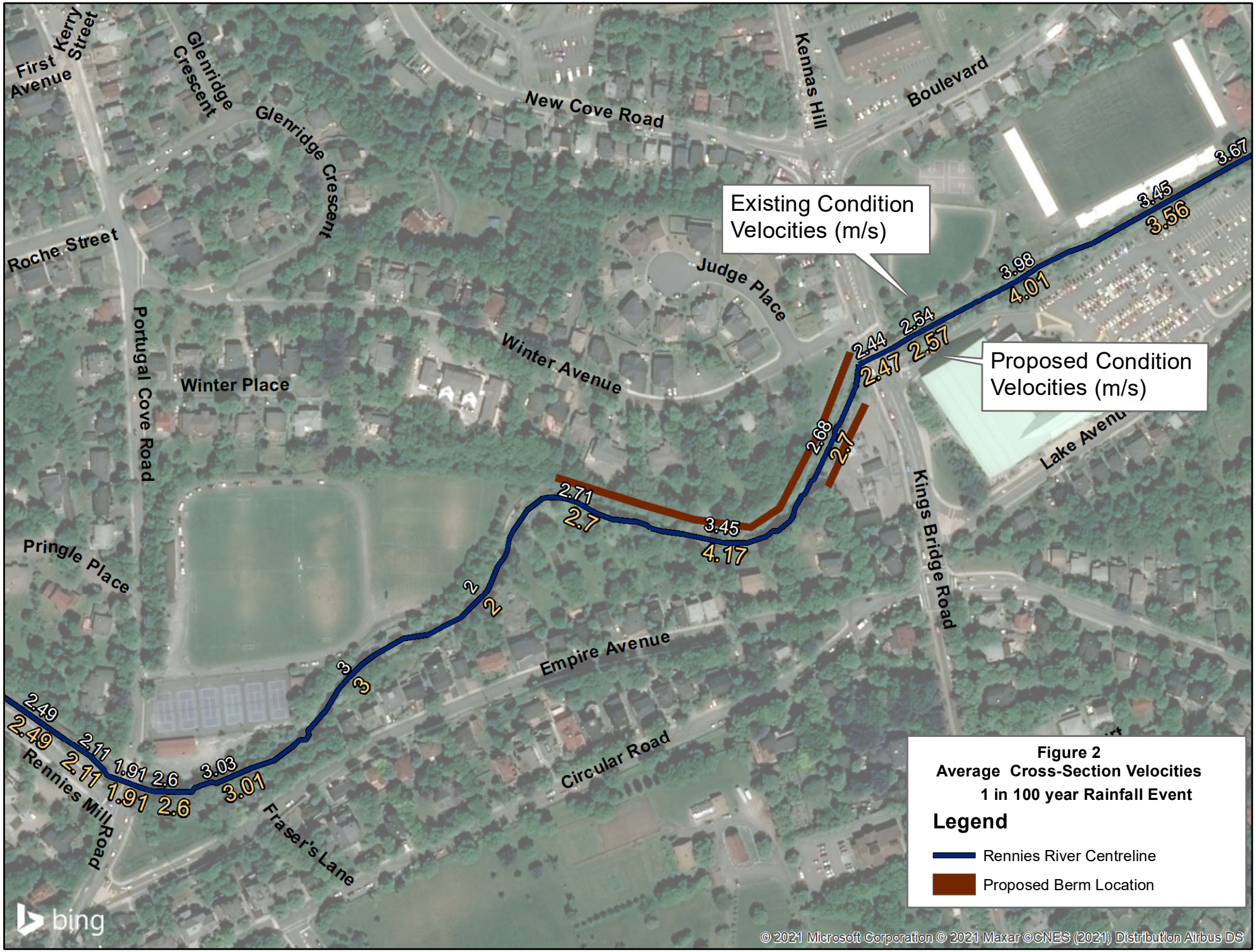


Figure 2
Average Cross-Section Velocities
1 in 100 year Rainfall Event

Legend

- Rennies River Centreline
- Proposed Berm Location

Appendix D

Pre-EPR Public Consultation Documents

Engage! St. John's

What we Heard

Rennie's River Flood Mitigation

Nov. 2020

ST. JOHN'S

Context/Scope

The Rennie's River Catchment Stormwater Management Plan (RRCSMP) was completed in 2014. On May 26, 2014, Council Directive CD# R2014-05-26/5 recommended implementation of the recommendations below to address flooding in the area.

Priority	Description of Location
1	Location 3: Weir at outlet of Long Pond
2	Location 1, Option A: Kings Bridge Road to Portugal Cove Road & Upstream of Portugal Cove Road – Berms & Walls only (Recommended Option)
	Location 1, Option B: Kings Bridge Road to Portugal Cove Road & Upstream of Portugal Cove Road – New Channel and bridge
	Location 1, Option C: Kings Bridge Road to Portugal Cove Road & Upstream of Portugal Cove Road – Raised parking lot
2	Location 2: Upstream of Carpasian Road Bridge
3	Location 4: Clinch Crescent East to Clinch Crescent West
4	Location 5: Wicklow Street to Thorburn Road
5	Location 7: O'Leary Avenue Bridge
6	Location 8: Downstream of Mews Place

While the report recommended that the weir at Long Pond be given priority and the two problem areas located downstream of Long Pond be given second priority, the City has been working through the provincial environmental approval process for the Long Pond Weir Project since that time and the process is still ongoing. The most recent progress has been the issuance of a revised Environmental Preview Report Guideline (June 2020) by the Province that will require revisions and updating to the Environmental Preview Report (EPR). Based on these new EPR guidelines, a revised EPR will be required to continue the environmental review and approval process for the Long Pond Weir Project.

In 2018, the City received funding for Phase 2A under the New Building Canada Fund. The scope of work was presented to Council at Committee of the Whole on December 19, 2018. One of the concerns raised during that meeting was the potential effect of proceeding with Phase 2A flood mitigation works prior to the completion of the Long Pond Weir Project. An engineering firm was subsequently hired to undertake additional stormwater modelling to review the impact of the downstream phasing sequence in the absence of the Long Pond Weir being competed. The outcome of that was to complete various modelling scenarios where it was determined that a two-phased approach could be undertaken for the flood mitigation measures in the area downstream of Long Pond based on the timing of construction for the Long Pond Weir.

Environmental Assessment

- Council directed staff to consult with residents in the area prior to the City's submission to the Government of NL for an Environmental Assessment Process for Phase II.
- Once the report is submitted, the Province will also engage on the project.

Engagement and Communications

- Nearly 5000 postcards mailed to households in the area
- Newsletter to 2700 registered users of engagestjohns.ca
- Posts to regular City communications channels including social media (22,500 views), news release, listservs, website

Rennie's River Flood Mitigation Project Phase Two

A construction project for flood mitigation is being planned along parts of Rennie's River from King's Bridge Road to Carpasian Road. A virtual public meeting is being held in advance of submitting an environmental assessment application to the provincial government for this work.

Attend a virtual information session on Tuesday, Nov. 17 from 7 to 8:30 p.m.

To register visit engagestjohns.ca

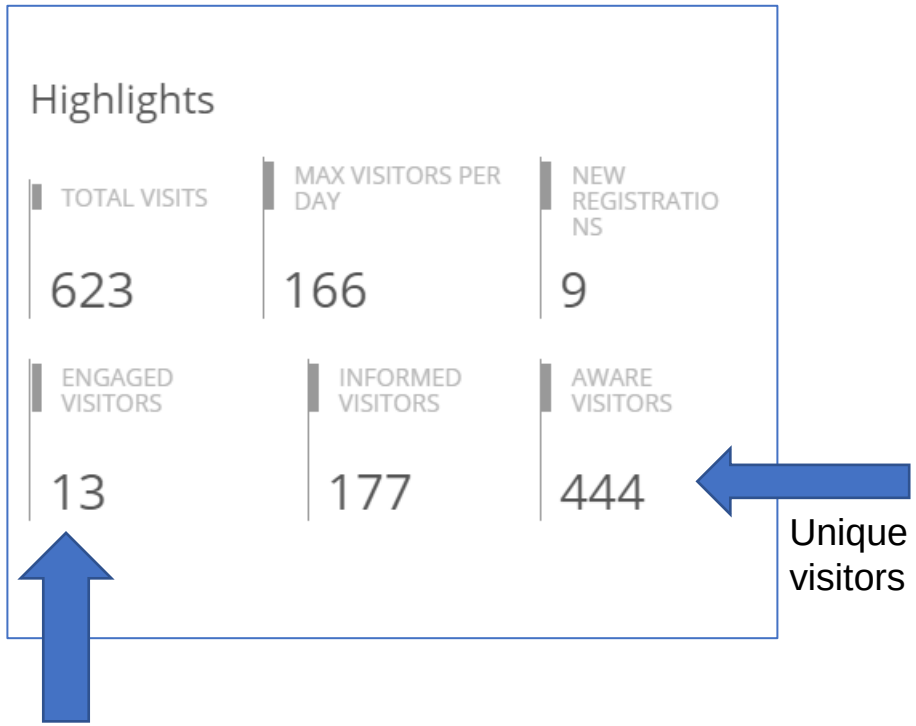
If you do not have online access you can call 311 or 754-CITY (2489)

Engage! St. John's

ST. JOHN'S

Who Engaged

On engagestjohns.ca



Unique visitors

#people who posed questions

Virtual Public session
41 people – many of whom live in the immediate area

E-mail – two submissions

Most people who posted questions on engage also attended the virtual meeting.

What we Heard Highlights

- A list of ALL questions/comments captured throughout the engagement process is at the end of this document. Answers to these questions can be found at engagestjohns.ca
- Key concerns/issues from all feedback were as follows:
  - health and beauty of the river
  - project proceeding without the weir project completed
  - environmental assessment process for the Weir and this project, and timelines
  - impact of this project and the shared-use bike plan including widening, removal of trees, potential use of asphalt for shared use path, run off
  - the use and look of berms
  - the water table/surface water, ground water
  - Impact on surrounding properties on Empire Avenue
  - Feildian Grounds and Riverdale area concerns
  - Immediate impact on houses in the area and the desire not to proceed with the project at all by some property owners

What we Heard Highlights con't

Key concerns/issues were as follows:

- Climate change considerations
- Concerns regarding the source of the flooding and upstream issues such as the new hospital
- Bridge capacity to withstand water during heavy rains with berms in place
- Overall costs of the project
- Perspectives of other stakeholders and opportunity to engage them
- Individual concerns with impact of project on their personal property such as fences
- Continued interest and desire to be engaged

What we Heard via Email

Don’t think building walls or berms is a viable solution. For one, wouldn’t walls and berms simply facilitate the water backing up upstream in extreme rain events? Natural vegetation can be an adequate flood control for most storm events. Flood and water fluctuation are a normal part of river systems – perhaps where we build in the floodplain needs to be reconsidered. It may be too late to re-locate homes already in the floodplain, but the proposed hospital upstream is a bad idea that should not go ahead. The section of the river between Kings Bridge and Portugal Cove Road is a narrow trail and quite beautiful. I’m concerned that the construction of walls and berms will affect the shoreline environment and narrow the channel. I see this as a pre-cursor to the proposed bike trails – which I also oppose along this corridor. I’m a and commute by bike, but I don’t think the Rennie’s River trail will make a good shared-use trail. I urge you to think of more naturalize options for flood control in the Rennie’s River. The trails here are a jewel in the city that are enjoyed by many citizens, not just property owners in the area. Walls and berms will destroy the natural beauty and I think there are better solutions to flooding issues.

What we Heard via Email con't

- We have paved or built into every bit of land and wet land that feeds into this river from Kelsey Drive down. We even paved Larch Park which used to serve a bit of sponge in the spring runoff time. There is endless construction around the Health Sciences: I now shudder when I see the activity up there for yet another building. There is an 8-foot walk of concrete on the river just west of Clinch Cres and what was a lovely pond will soon be a concrete swimming pool. The City will never get the flooding under control unless it can work with the provincial government to get "the cause" under control. This was foreseeable and the cause should be addressed not just the treatment.
- I appreciate that the property owners along the river deserve protection from what is, in essence, a man-made made mess. I would hope, and strongly recommend that the engineers absolutely minimise the use of various forms of concrete in the process of the mitigation. The river is a special asset creating a calm and tranquil space in the middle of the city. Concrete will distract from this asset and turn the river into an urban canal instead. (Burton's Pond is an example. It used to be a pretty little pond. Now it has a 6 ft. concrete wall around 1/3 of it and it has lost all its rustic charm.) Additionally, concrete is nothing but a magnet for graffiti "artists". The concrete section by the bridge by the tennis club is already well covered. This will completely distract from any part of the river in which it will be used. Perhaps some use of large rocks to create the channels instead?
- I see no reason to widen, flatten or straighten the walking trail. There are some wiggly parts for sure, but we can all manage to be polite and make room for those who need a little space or time. Before her death, 15 years ago, we used to take my mother in her wheelchair up the part of the trail by St Pat's Home. If we could do that people in other forms of "self-motored" vehicles and do the same. It is not meant to be a highway. It is meant to be a special pastoral spot in the middle of the city.
- And finally I am very much against the widening of this trail in preparation for being included in the Bike Master plan. I will deal with that issue in a note on the bike plan; for now, sufficed to say that the disruption of the widening and the paving of the banks will further degrade those banks and lead to longer term problems instead of solving them.

Questions From engagestjohns.ca

- In this process, have you consulted with any geographers, biogeographers, botanists, biologists...? Any scientists at all? What is the impact of this project on biodiversity along the river? Have you considered what the river needs in terms of appropriate riparian zones? Is this study taking into account the new mental health facility which will have massive impacts on the Rennie's River watershed? How is what you are proposing to do here consistent with the city's climate change plan?
- Is the recommended option the "Alternative Option" as listed in the briefing note to council and will this option proceed unless there is a revised recommendation based on these consultations?
- Will the natural beauty of the trail along the river be affected?
- How will the berm construction behind my property at 3 Pringle Place remove my property from the flood plain as stated in City's media release of November 3/20? Does the water table in this area have any impact on the flood plain mapping in my area?
- Will the work completed increase the frequency and/or severity to flooding to the homes on Empire Avenue?
- What is the plan to mitigate flood risk for Feildian Grounds and Riverdale? Why was this not included?
- What is the flooding history in the Riverdale/Feildian Grounds area?
- If the City is so concerned about flooding, then why are they planning on widening and paving the walking trails, as widening involves the removal of significant number of trees and vegetation. Paving decrease the infiltration of runoff. Many km of a 3m wide strip of pavement and significant widening of the trails will have a significant impact of the infiltration and attenuation capacity. Furthermore, the trail greenspace of narrow, 25m wide or less on many sections, so widening will have a significant impact.
- Why didn't the City register the entire project (i.e. Phases 1 and 2) under provisions of the Environmental Assessment Regulations, 2003?
- Will the construction of the berms behind my property a 3 Pringle Place any effect on the on the drainage of water from my property during periods of heavy rain and or snow melting, given the membrane which will be put in place between the rivers edge and the berm wall?
- The proposed berm to be constructed from Portugal Cove Road to approximately the foot of the steps leading to Larch Place Park was to be built following the weir dam at Long Pond (Phase 1 of the recommendations) .Has the City formally asked the resident property owners, whose properties are adjacent to the proposed berms , if they want the berms built , without Phase 1 (the weir dam) being constructed firstly?
- Will there be an equal amount of property security as I have now with the existing 6-foot chain link fence when the berm is built, i.e. will there be a 6-foot chain link fence on the new raised trail bed between my property and the edge of the new raised trail bed?

Questions From engagestjohns.ca con't

- I live across the river from Riverdale and the riverbank (city property) adjacent to my property has suffered significant erosion over the past number of years. The city remediated a portion of the riverbank in 2008 but the remainder continues to erode. How will building berms on the Riverdale side of the river impact further erosion along the riverbank adjacent to my property? Is there a plan to remediate the riverbank opposite Riverdale? How and when will the riverbank be remediated? I do not want our mature trees to be removed to accomplish this.
- I walk that trail from Carpasian to Kingsbridge every day. Summer and winter. I can recall walking along the path adjacent to Pringle after Gabriel or maybe Igor. The water barely flowed under the Portugal Cove Road bridge. If I could walk on the path what good would a raised berm do? The water would be up against the bridge. Would the integrity of the bridge withstand that flow of water? What would happen to the bridge and the road? Where would that water go? What would it take with it? Has there been any storm studies undertaken for the river? Measurements should be taken during storms. River height, total rainfall in the area at the time, and water table levels adjacent to the river. Where does the water go? Have cameras in the area. I also agree with him. The river takes away surface runoff during a storm. Portugal Cove Road becomes a river. Your berm will prevent the river from doing that. Steps up to the berm? The water will go around your berm. What is the budget for this project? And the Pringle Place residents don't want this done? Why are you moving ahead with it? Wait for the weir. A waste of taxpayers money and ruining a beautiful trail.
- I would argue that no one puts more footsteps on the path from Carpasian to Kingsbridge over the last 25 years than I. Flooding spots that I have noticed are the boardwalk at the bottom of Fieldian Grounds and a property off Winter Avenue. In this area the footpath has been reconstructed and acts as a berm. I assume at some time during major storms the river crests over that berm. It cannot then get back into the river and stays in the yard until it seeps into the ground. That is the problem with berms. There was limited discussion last night regarding the Vaughn Place berm. I was not aware there is flooding in that area. I had always assumed they had water table issues. Vegetation in the river holds soil in place. Removing it may increase soil movement and related problems. Rennie's River has been recorded as having the highest biomass of German brown trout in the world. There was also an effort to reintroduce salmon to the river. How will habitat be affected by your project. The weir project may have environmental concerns that affect all of these concerns. A weir is only as good as the people who design, build, maintain and operate it. I was a bit concerned last night that from the tone of the City, this project was going ahead as designed. I certainly hope not.
- What is the estimated cost to construct the berm upstream from Portugal Cove Road to the bottom of the Larch Place Park steps?
- What's the opinion of the Grand Concourse Authority on your project?
- In many cities, they are taking rivers OUT of channels and re-naturalizing shorelines. Naturalized shorelines can do a good job of flood control if bioengineered properly. I feel like building berms and walls will destroy the riparian shoreline, be bad for biodiversity and not solve flooding problems. Berms and walls will likely exacerbate flooding in high rainfall events upstream of the new structures.

Questions From Public Session

- The images are deceptive because they do not show the height of the bridge. If you install a 19 m elevation low side to the river and the bridge is at 18 m, how can you put a barrier and not have water flow out over at some point in time?
- What has been done with the ground water flow study in the areas?
- Is there risk that the assessment this needs to go through will be held up by the Province?
- With no weir being build and the Waterford hospital being constructed and replacing the marsh land that accommodates the accumulation of water, has this been factored into the design and plan? Should we wait until the Province allows the weir to be built and do the berms after the weirs are built?
- With no weir being build and the Waterford hospital being constructed and replacing the marsh land that accommodates the accumulation of water, has this been factored into the design and plan? Should we wait until the Province allows the weir to be built and do the berms after the weirs are built?
- Will all the vegetation have to be removed from the channel that you walled off to keep Mannings End at a level where the water can flow freely? The images show a lovely area with vegetation. How will the river channel be cleaned out once you have it walled off?
- How would water get through the 4-5 foot wall if needed? What is the nature of the wall and how will it be designed?
- Is there any plan to mediate the riverbank across from the Riverdale Tennis Courts?
- Phase I on the bike plan fits into the Rennie's River Trail, how can money be spent on this in Jan before we know how phase I and II of the bike plan will be implemented?
- How long has the City been waiting for the weir?
- Will the bermage be wide enough for multiuse trails? Will you use the draft design for the bike plan to develop the design?
- Can one assume some of this work will facilitate the contested bike plan and possible make mute some of the arguments against it like environmental, aesthetics before consultation can occur?

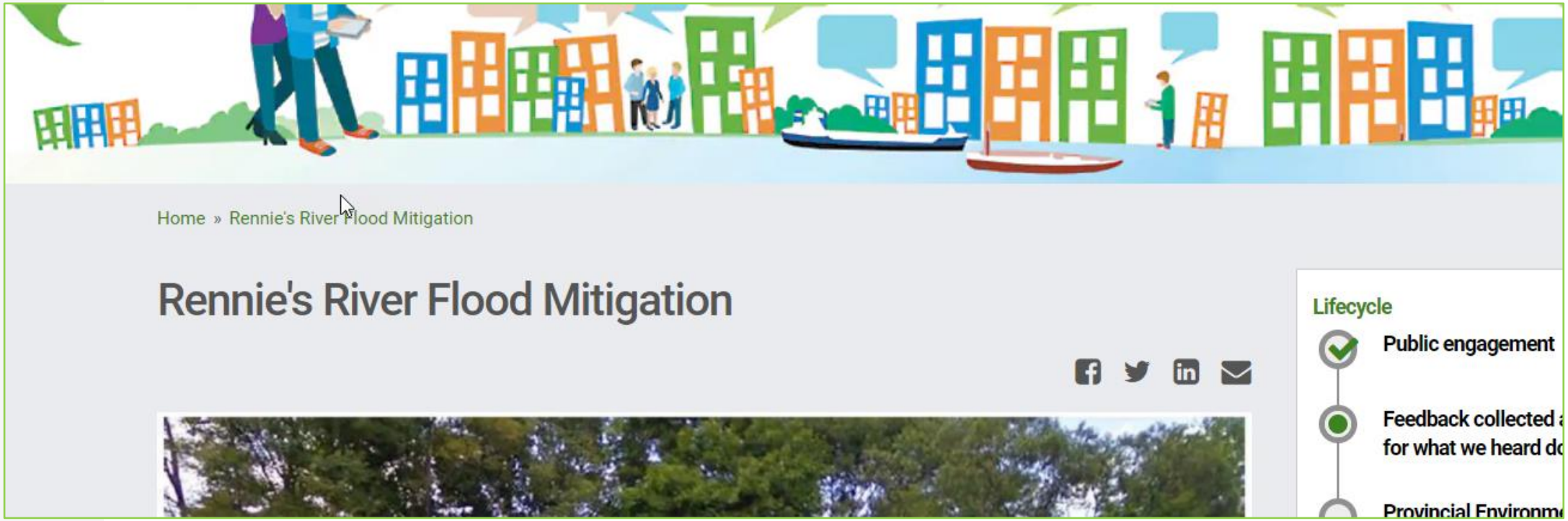
Questions From Public Session con't

- What has changed since the 2014 study? Why would we now proceed without the weir that was recommended in Phase I at the time?
- Have you considered head waters?
- Is the proposed infrastructure sufficient to handle projected climate change impacts?
- Did we adjust estimates based on the Province's decision to fill in the wetland by the Health Sciences Centre?
- Where will the width come from for the trail to be expanded for multiuse? The bike plan is recommending 12 feet of space.
- If you are spending money now on weirs and berms, will we have to tear it all up again in a few years for the bike trail?
- How long have we been waiting on results for the weir project?
- What measure are being taken to deal with runoff water from roads and streets and parking lots upstream of Kelsey Drive into Rennie's River?
- Can Pippy Park stall this project further?
- Will the river back up and flow over the land of the homes opposite the berms? At the Carpasian bridge?
- How will we know when the environmental assessment is submitted?
- Did you consider alternatives to putting the weir dam in Pippy Park?

Next Steps

- Share What we Heard with Council and the public
- Finalize the environmental registration documentation to be submitted to both the Provinces Department of Municipal Affairs & Environment and the City's Environment & Sustainability Experts.

To Stay Up to Date
Follow the Project/Register on engagestjohns.ca



Appendix E

EPR Public Consultation Documents

ST. JOHN'S
NEWFOUNDLAND AND LABRADOR, CANADA

Tuesday, March 08, 2022 - 4:00 PM

Public Engagement: Rennies River Flood Mitigation Project Phase Two

Given consideration to the What We Heard document released in Dec. 2020 related to this project, the current scope of the proposed Rennies River flood mitigation work is focused on the area from Portugal Cove Road to Kings Bridge Road. A virtual public meeting will be held prior to the submission of the Environmental Preview Report which will support the Environmental Assessment process.

To learn about the project details, background information and public engagement process:

- Visit the project page on EngageStjohns.ca
- Register to attend the virtual session on March 22 taking place from 7 to 8:30 p.m.
- If you do not have online access, you can call 311 or 754-CITY (2489) and ask to speak with a project representative or email engage@stjohns.ca.

Feedback from this engagement process will be incorporated into the Environmental Preview Report and shared with Council through a new What We Heard document.

Work on the detailed design, tendering and construction will not start until after the undertaking is released from the Environmental Assessment process.

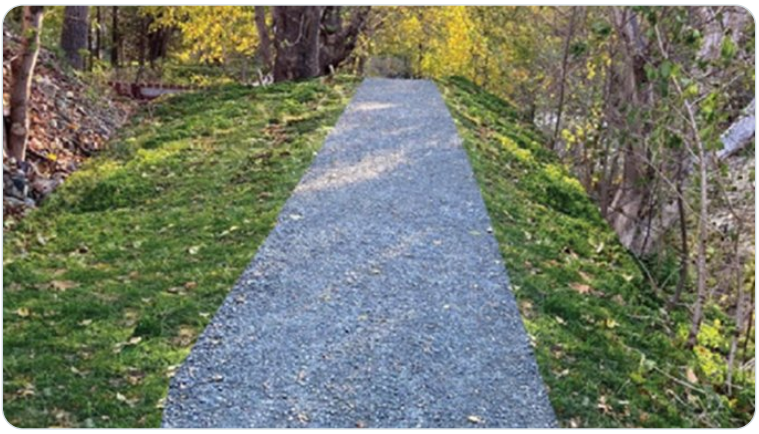
Explore
Settings

Tweet

City of St. John's
@CityofStJohns

There will be a virtual session on March 22 from 7 to 8:30 p.m. about phase two of the Rennies River Flood Mitigation Project.

For more information on how to register for the session, please visit stjohns.ca/media-release/...



4:10 PM · Mar 8, 2022 · Loomly

3 Retweets **2** Likes

More Tweets

Michael Connors @MikeConnors · 16h
Some personal news: I switched work desks today.

> **NTV News** @NTVNewsNL · 16h
> NTV Evening Newshour ntv.ca/programs/news-...
>
> 
>
> 123 12 901

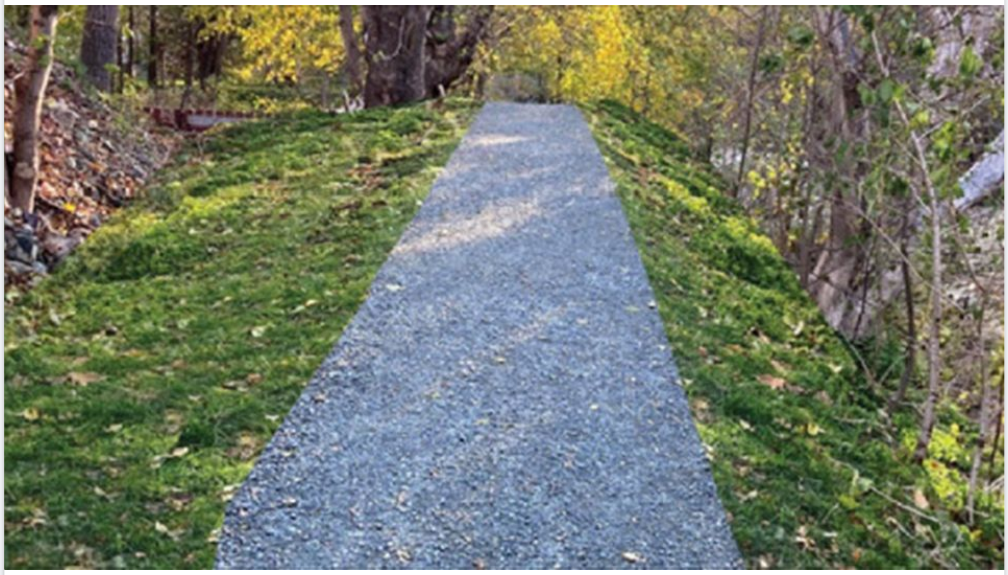
Devin Heroux @Devin_Heroux · 18h
Curling fans in Newfoundland and Labrador!

How's everyone doing today? #cbccurl

City of St. John's
March 8 at 4:10 PM ·

There will be a virtual session on March 22 from 7 to 8:30 p.m. about phase two of the Rennies River Flood Mitigation Project. The proposed work is focused on the area from Portugal Cove Road to Kings Bridge Road.

For more information on how to register for the session, please visit https://www.stjohns.ca/.../public-engagement-rennies...



2 1 Share

Like Comment Share

Write a comment...

PUBLIC NOTICE

Public Information Session on the Proposed

Rennies River Flood Mitigation Portugal Cove Road to King's Bridge Road St John's, NL

shall be held at

March 22, 2022, 07:00PM to 8:30PM
Zoom Web based Meeting.
Please register in advance at
https://www.engagestjohns.ca/rennie-s-river-flood-mitigation

This session shall be conducted by the proponent,
City of St. John's, 709-754-CITY (2489)
as part of the environmental assessment for this project.
The purpose of this session is to describe all aspects of the proposed project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

OUR CITY. OUR FUTURE.

Rennies River Flood Mitigation
Phase 2 – Portugal Cove Rd. to Kings Bridge Rd

Public Engagement

What We Heard
March 2022

ST. JOHN'S

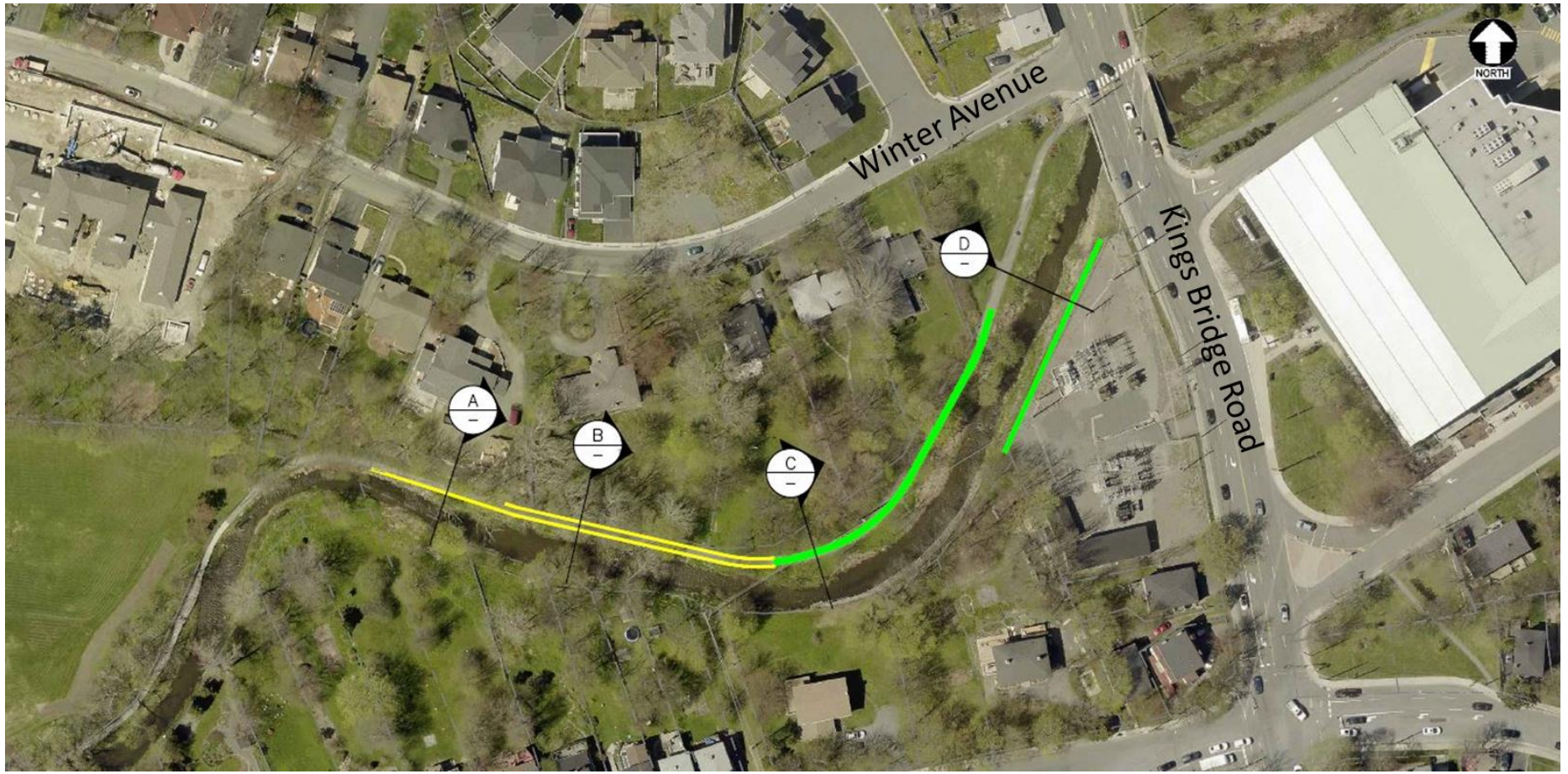
Disclaimer

- This document provides a summary of what was heard during this engagement process. It is not meant to reflect the specific details of each submission word-for-word. However, as this project involves environmental assessment and submissions to the Government of NL, questions and responses from the public meeting held on March 22 are included.
- The City produces a What We Heard document for every city-led public engagement project. This collected commentary is shared with the community to ensure we heard you correctly.
- The City protects the privacy of those who provide feedback as per Access to Information and Privacy Legislation.
- The full scope of commentary is used by city staff and Council to help inform recommendations and decisions.

Context

- Rennies River Catchment Stormwater Management Plan completed in 2014 (CBCL 2014)
- Prioritized list of improvements; Some have been completed: Health Sciences Centre Berms, O'Leary Avenue Bridge
- Long Pond Flow Control currently going though Environmental Assessment Review
- Public engagement on Rennies River Flood Mitigation completed in 2021; as a result, scope of project changed to focus only on area between Portugal Cove Rd. and Kings Bridge Rd.
  - Colleting feedback as part of Environmental Preview Process

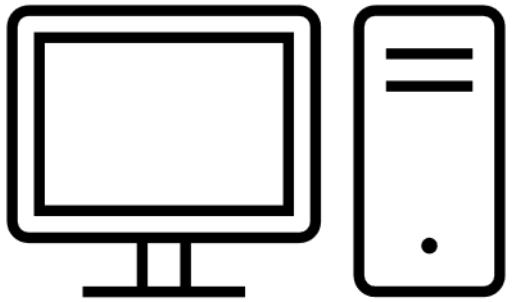
Project Location



Public Engagement Plan

- Provide an update on the status of the Rennies River Flood Mitigation project since the 2021 public engagement process
- Provide residents in and around the impacted area an opportunity to ask questions, provide comments on the proposed plan
- Provide an opportunity for anyone interested in the project to provide feedback and ask questions
- Prepare a What We Heard document to inform the plan and the Environmental Preview Process

Engagement and Communications



- Addressed mail notification to over 4000 households/property owners in the area
- Newsletter sent from EngageStJohns.ca to nearly 3300 subscribers including those who follow this project and similar projects such as Long Pond Flow Control
- Social Media
  - 1 post on Twitter
    - 2,818 Impressions – 38 Engagements - 4 Profile Visits – 17 Link Clicks
  - 1 post on Facebook
    - 3,435 Impressions – 34 Engagements – 10 Link Clicks – 3,279 Reach
- Advertisement in The Telegram- March 12, 2022

Who Engaged

- 66 people attended a virtual public session on March 22, 2022
- 1 person provided a comment/question on EngageStJohns.ca
- 1 person called 311 with feedback
- 13 people submitted feedback via email – most of these attended the public session as well

What We Heard Highlights

- Most people expressed concerns about upstream issues and questioned why this project was being done at this time and who was requesting it.
- There were questions/concerns about funding and whether funding is driving project. Some suggested redirecting the money to Long Pond project.
- Many people suggested other alternatives such as :
  - Redirecting runoff upstream
  - Using existing drainage systems upstream
  - Installation of stormwater retention from the headwater by using wetlands/existing ponding upstream
- People living on the Empire Ave. side of the river expressed concerns about the impact of the berms in creating additional water issues for them. Some people also suggested it would create or make issues upstream worse.
- People living in the affected area asked if the drainage pipes would be installed on all properties and whether that would mean their properties would be free from water in the future.
- There were questions and concerns about temporary ponding.
- There was general concern and opposition to the project for a variety of reasons including the need for more data, more time to review and analyze options, concern for fish habitat, trees and personal property, and the need to address the larger issue upstream first.

What We Heard Highlights

- There were comments and questions about the use of catch basins.
- There were comments about the impact of the bridge repairs in the area which have made the space under the bridges smaller and created stagnate water issues/flow issues.
- Two people from the affected area support the project.
- Some people wondered why there was no direct consultation with the most affected areas prior to the meeting and whether there would be consultation prior to any design work being completed and why this would only happen once the project was released from ERP.
- Some people asked about the role of the province in the process.
- One person noted the erosion control near tennis courts was good.
- There were concerns about the impact of the berms on the walking trail.
- There were concerns about waterlogged soil and impact on trees.

Note: For a detailed summary of the discussion from the virtual public session, check out the notes attached.

Summary and Next Steps

- Share What we Heard with Council and community
- Complete report for Environmental Preview Report

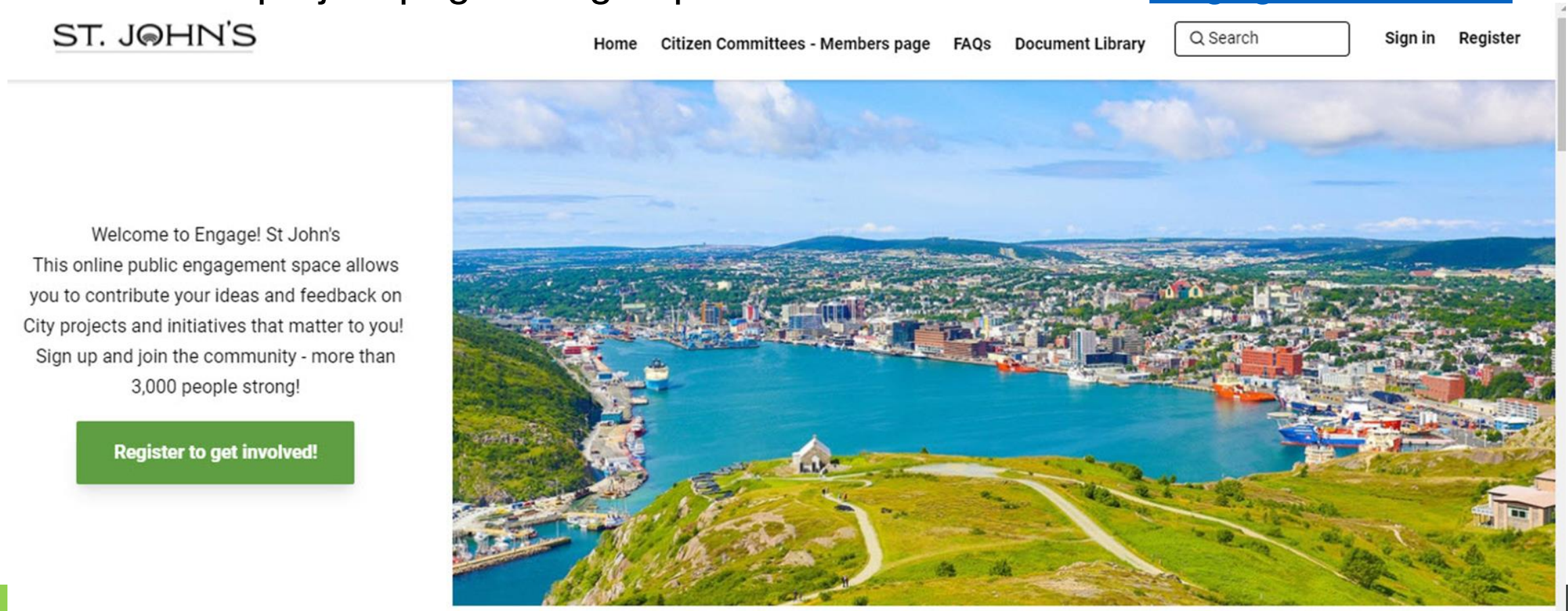
Environmental Assessment Process

Minister of Environment and Climate Change (ECC)

- 7 days to post the receipt of the EPR document following submission
- 45 days to review EPR
- 10 days to post decision after 45-day review period

To Stay Informed

Follow the project page or sign up to receive notifications EngageStJohns.ca



Notes/ comments/questions from virtual public meeting

Rennies River Flood Mitigation – Phase 2 – Portugal Cove Rd to Kings Bridge Rd

March 22, 2022

Director of Engineering reviewed the scope/previous engagement and ERP process, introduced CBCL, consultants working with the city on this project

Shared screen shots of scope including berms, flood control walls, the activities that need to take place, including the alternative to this project (presentation available at EngageStJohns.ca)

Concerns raised:

- Temporary ponding
- Concerns about implications of the "solution" and whether the situation will be made worse for properties on the Empire Side
- Stormwater management issues ongoing
- Upstream issues

Questions and answers below. (Note: These have been edited to keep the document focused on the main question/issue and response provided.)

Q. How are you going to drain the low point?

A: Run a sewer parallel to the river and discharge below the bridge across Kings Bridge Rd.

Q. Steel covers lifted off in areas due to heavy rain – will this be dealt with in project?

A. All of this would need to be looked at as part of project.

Q. Can you install stormwater retention features from the headwater all the way downstream?

A. Looked at more undeveloped areas – Kelsey Dr/Kenmount Terrace – that area was developed in a comprehensive manner and approximately 30% has been protected as wetland and open space. As part of stormwater management plan did look at options for regional retention – one could work in southwest development area but would not have significant impact because it's in the head waters; it's been proposed to construct storage on the river itself but that's prohibitive because you have to have a really big area like Long Pond. In an extreme flood situation, you would be adding about a foot of water over the whole pond. In order for this to work you need to be able to isolate a significant portion of the drainage basin and it has been looked at.

Q. What would be wrong with developing a retention pond between Kelsey Dr and Mews Place?

A. Did look at using space between exit ramps and working with Department of Transportation but could not get volume to have significant impact on the overall flows.

Q. There was infrastructure work on Portugal Cove Rd. bridge, and this has caused similar flooding. Now pouring water on Kings Bridge side, this will create further flooding. Not doing anything upstream. Problem is further up.

A. Scope was changed after last public engagement, may be looked at in future time.

Q. 42 Empire Ave. backs on to the river – juts out where river does a turn. The river comes down now and whatever has been done up to now has not helped. Berm is going to dam the water up but will push water back up to properties on Empire. This is a concern. Is there sewer infrastructure that needs to be addressed which deteriorates in this area? Where you are proposing to put the berms, there has not been water there. No buildup of water where the berms are proposed. Why putting the berms there?

A. Another significant recommendation is related to flow control structure at Long Pond – so if that is approved, that will help. The environmental reviews are in progress. That is #1 priority. Rather than wait until that one gets completely through the process, we are doing this one concurrently.

Q. 38 Empire – river comes through property and there is extensive ponding. 1). building the berms appears to be 7 feet higher than current path, haven't seen water going up that high. Water goes up higher on the Empire Side. 2). What's causing the push to accelerate the project before the information is available?

A. Appreciate that you don't see Winter Ave. properties flood, but we are designing for climate change and taking higher flows into account. That's what the purpose of the higher berms is. Empire Avenue side, homes don't flood, we can't protect back yards from flooding, but we are going to attempt to protect homes from flooding. Upstream development contributes to higher flow, but climate change is also a major issue that we need to come together on. Comment about rushing ahead – there is a still an option to do nothing. There are properties on Winter Avenue that have experienced basement flooding from the river.

Comments: Dealing with symptoms rather main issue.

Comment: Currently no flooding of homes on Empire – solving a problem that causes homes to flood is not solution. Problem in upstream.

Comment. Can see where the berms are going and can appreciate the sense of where they are going but fundamentally by damming up one side of the river you are driving more water to the other side of the river. You are creating a new channel. Rain-snow melt events are normal, and while can appreciate global warming, most flooding going on now is not related to that but rather upstream overdevelopment issues.

Q. 2014 City un-culverted Kelly's Brook – and it dispatches right on the other side of the bridge across from tennis courts while for years that discharged further downstream and

now, we get pooling, and the water stagnates since we have this dump of water coming in from Kelly's Brook. Part of this should be about re-culverting Kelly's Brook. It dumps a lot more water in, everything coming from above, impeding the water flow and then flooding properties on west side of the bridge.

A. I know the brook but don't recall that the brook overflows its bank.

Comments: Impedes the water coming down from the Portugal Cove Rd side which didn't happen before. One property owner notes she had 5 feet of water in basement in January 2022 for first time since Igor.

Comments – river was blocked up with logs and had that not been the case it might have been fine.

Q. What are the plans to hold back the debris and keep the debris out of the river? Berms should be built to height of Kings Bridge Rd. The back of the properties on lower level of Winter Ave there is a sanitary sewer and if the lids lift up a bit it is being mixed with stormwater and what are the plans to avoid that? Would it not be better to backfill the back yards there instead of having maintenance of sewers for years and years? What are the plans to keep this separate from stormwater?

A. City tries to keep ahead of debris issues and it's an operations and maintenance thing. Sewer is there and it will be dealt with as part of project. As for backfilling yards – we try to stay away from private property as much as possible but will work with people in design phase to address look of berms such as slope, etc.

q. Drainage pipes, why can't they be added upstream to other areas?

A. Throughout the city there is an extensive network of storm sewers and catch basis and they discharge at various locations along river courses. The specific problem here around ponding of water is that water won't be able to drain off the properties where the berm is located which is why drainage is needed.

Q. Does this mean they will never have water on their properties again? If you are going to put a drain in, can you say that there won't be water again, then go ahead but not sure that is the case?

A. Insurance provider does not allow us to make guarantees. I can never say that it won't pond on property. We make assumptions around what the design storm is. Comments around the wall being 7 feet high, we have done quite a bit of work around it, made assumptions and we think it is sound. There could be other opinions, it is a very difficult situation, and a lot of people have different ideas because we are in a developed areas and we are trying to live around it. We are trying to drain the water at the low point.

Q. River runs in to Quidi Vidi (QV) Lake. We are maintaining QV lower than normal with stop logs in. Water is flowing faster past my house. We have made problems for ourselves. Residents in the area know what the water situation is.

A. There is 15 feet difference in elevation from QV Lake to the trail adjacent to Pringle Place – stop logs on QV Lake have no impact on upstream flooding near Pringle Place.

Q. Water hadn't gone above the path across the street but comes quite strong through the back yard. Water could start to go up higher based on what you have said. If the water is going to be worse on Empire side in combination with global warmings issues, then what is impact to those homes?

A. CBCL has established the water elevation along the river for a flooding event, and with the modeling done, elevation of water, even though with stronger flow, is in the yards and not flooding basements. Attempting to protect buildings and not yards.

Q. Why does the berm have to be 7 feet high then? Will impact be the same on the other side?

A. Visualize water backing up in the river, it is ground elevation we are talking about. The water can build up on Empire side, but it won't hit the elevation to reach a property. Back yards drop off at a steep elevation and the buildings are higher, and the water does not reach the properties.

Q. Can in-person meetings be scheduled with people impacted by berms?

A. We are open to it. We are moving through EPR process. If the project is released then it is back to city to move ahead, and then if CBCL is involved, then that would need to happen in a preliminary design stage. City confirmed they would discuss with the property owners at that stage.

Q. Looking at where the berm is proposed, it seems to me that people on Empire Avenue, and other locations have had issues but not the people on Winter Avenue. Why is the berm proposed on the Winter Avenue Side? Would want to see what drainage proposals look like before putting up a berm.

A. Floodplain mapping details flooding in the area of Winter Ave having impact on dwellings.

Comment: Agree with XX's comments. We live in a spot that goes down to the river – we get water on the trails; our property does not get flooded. To put a berm on the edge of a ridge would add volume to the south side of the river. Leave it as a flood plain.

Q. Question about the process – how it will work?

A. As part of EPR, one of the items identified is to hear the feedback from the community and how will the concern be addressed. The engagement is a key part of the process. There is still a lot of design refinement at this stage, and it appears the city is open to those conversations.

Comment. Answer is upstream. If you slow the water upstream you won't have a problem downstream. There are options. If you raise the Sq Km of wetland 10 cm during a rainstorm you will hold back 100K cubic meters of water. Let that run down

slowly. Half a dozen small watersheds running in above this area – Long Pond, Thorburn Rd, there are a number of places to back up water collectively to work – now you are channelizing the river- it's being done before, and it wrecks it. Every time you put a drain in a tube you make the water run faster. Be concerned about the welfare of the fish and anything else that lives in the water. Enable nature to do what it should do. This is artificial and you will need to build berms higher and higher instead of solving the issue upriver.

Comments: Fish in the river – significant spanning area. There is a review required from DFO but there appears to be no consideration of the impact on the fish. Been walking this river for 30 years and the city has done significant work – some openings were reduced substantially, i.e., bridge on Portugal Cove rd. If you're putting in berms all you are doing is creating an impoundment, once you reach maximum flow, you are delaying flooding for 15 minutes – dealing with this from the wrong end altogether – flood mitigation needs to start at the top.

Q. 2003 moved in – across the bridge from #1 Portugal Cove Rd. Was told the bridge needed to be raised. Then bridge replaced. Kelly's Brook used to flood both sides – it still flows through the old city dump – bringing residue not fully broken down. Where it is open behind the ballpark and flowing into the river, it stinks. That also floods over and into the ballpark. Bridge is too small and is an issue. Area flooding for years and upstream is a major factor.

Q. Assume the trail will be on top of the berm?

A. Yes, the trail would remain on top of the berm.

Q. Status of Long Pond Weir Process?

A. Still going though EAP. Made submissions, waiting to hear back on whether it has been released or moving up to EPR assessment.

Closing comments: Consultants noted upstream has been looked at. Wetlands can be used, and we can avail of them, but it can't solve it all and berms would still be required.

OUR CITY. OUR FUTURE.

Rennies River Flood Mitigation

Portugal Cove Road to Kings Bridge Road

Engagement Session

March 22, 2022

ST. JOHN'S

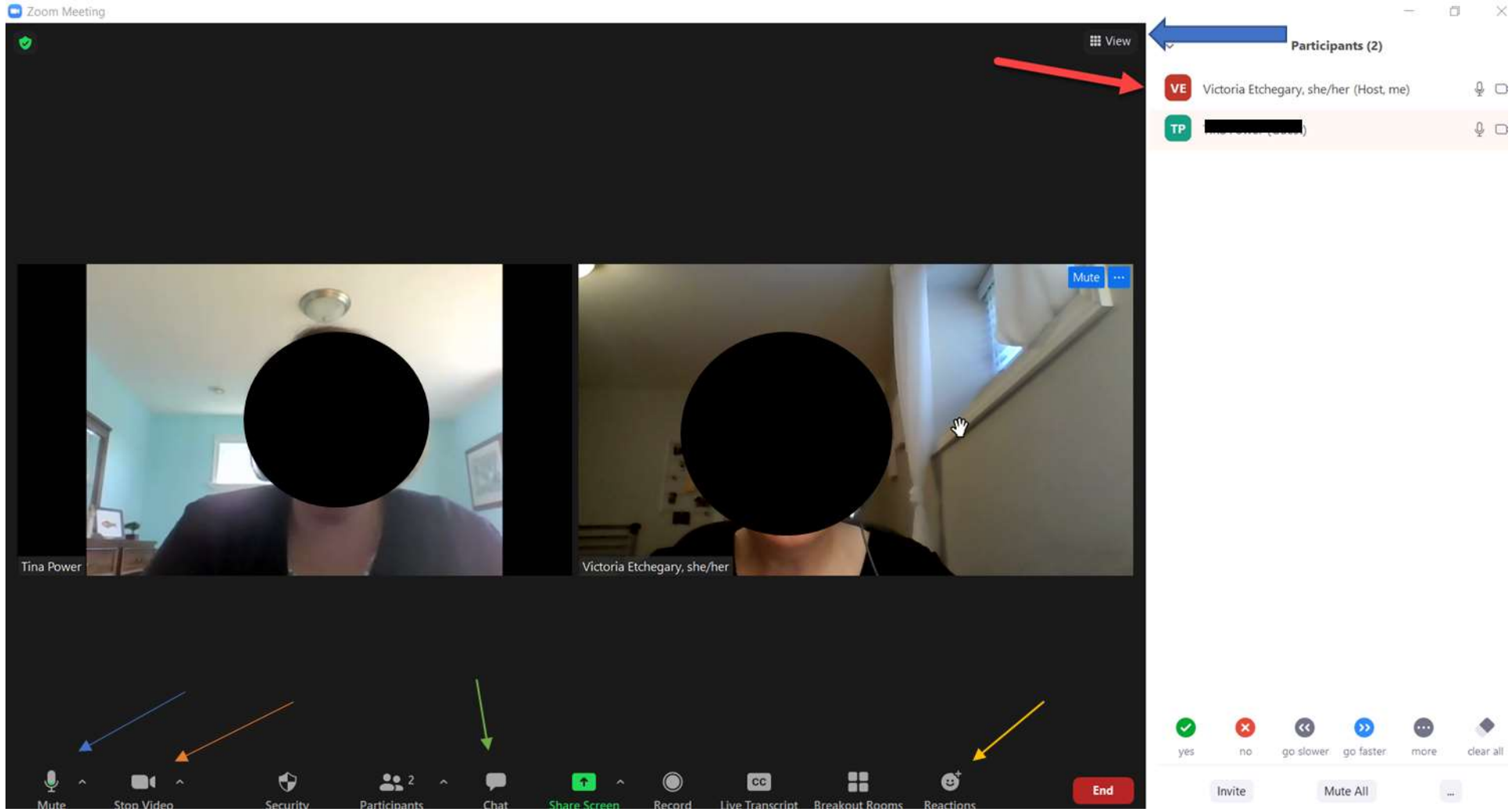
Land Acknowledgement

We respectfully acknowledge the Province of Newfoundland & Labrador, of which the City of St. John’s is the capital City, as the ancestral homelands of the Beothuk. Today, these lands are home to a diverse population of indigenous and other peoples. We would also like to acknowledge with respect the diverse histories and cultures of the Mi’kmaq, Innu, Inuit, and Southern Inuit of this Province.

Rules of Engagement

- This conversation is about Rennies River Flood Mitigation – Portugal Cove Rd to Kings Bridge Rd
- You are here to participate, learn about this project and provide your feedback; we are here to collect your feedback so that it can be used in the submission for environmental review
- Make the most of the virtual tools; chat, raise hands, etc.
- Respect the space – only one person talking at a time
- Respect the time – we have allocated 90 minutes; respect my role as facilitator
- What else do you need to have a productive conversation**?**

Using Zoom


Zoom Meeting
View
Participants (2)
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Tina Power
Victoria Etchegary, she/her
yes
no
go slower
go faster
more
clear all
Invite
Mute All
Mute
Stop Video
Security
Participants
Chat
Share Screen
Record
Live Transcript
Breakout Rooms
Reactions
End

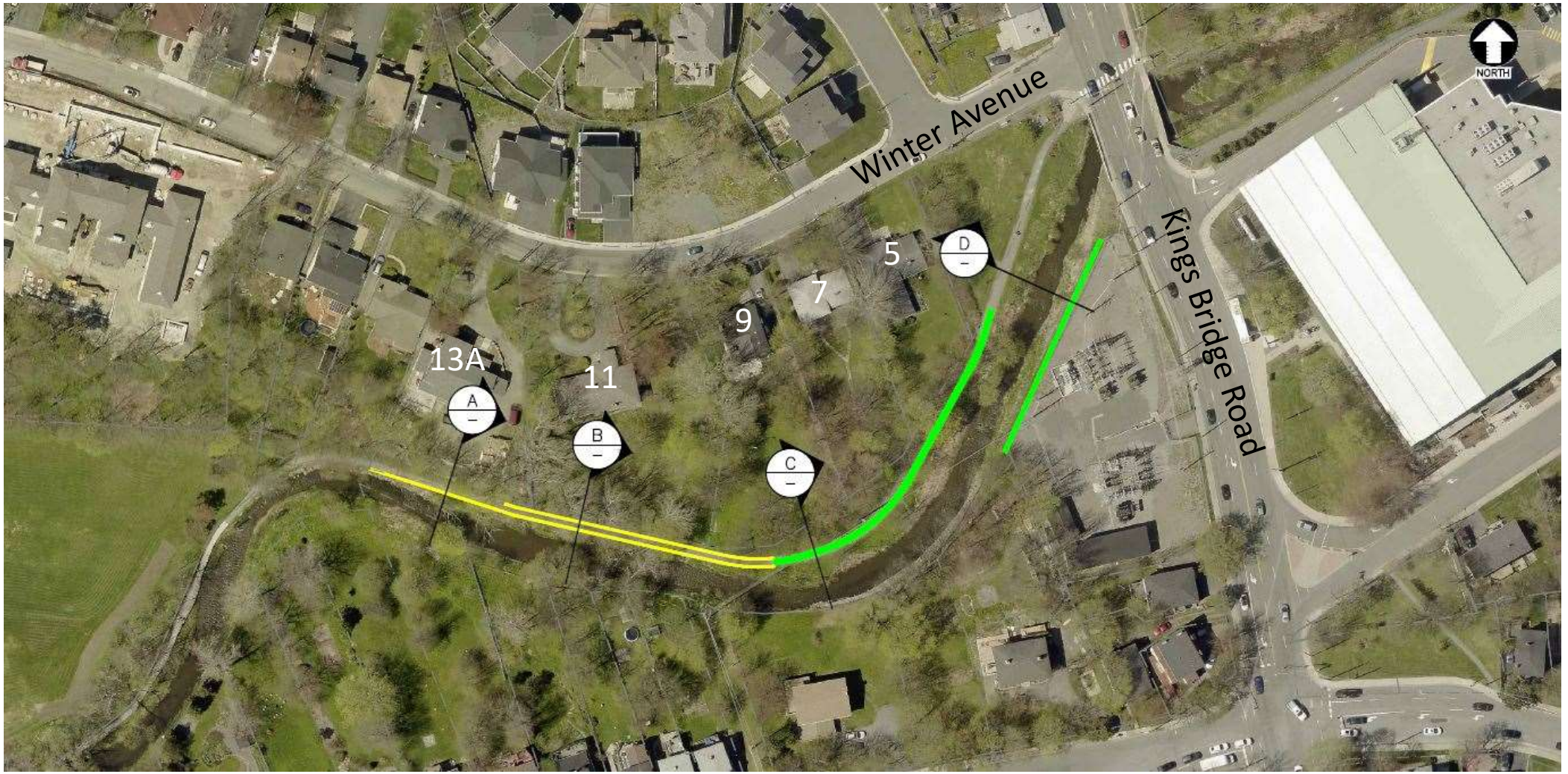
Agenda

- Background
- Project
- Surface Water Management
- Alternatives
- Approvals, Permits and Authorizations
- Closure

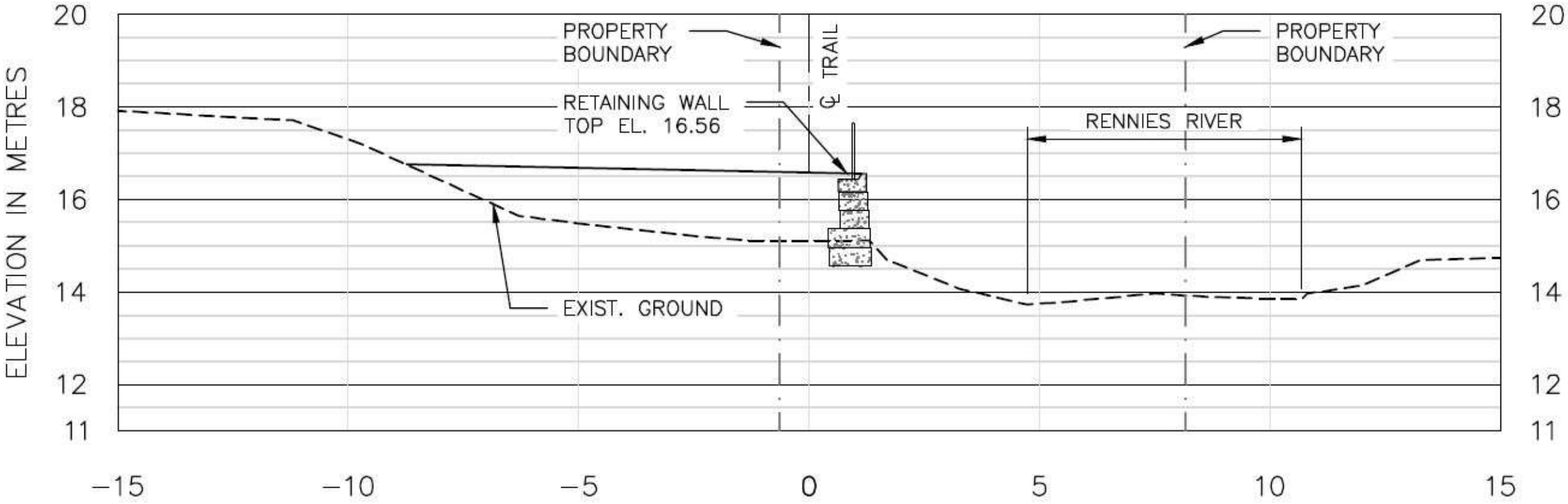
Background

- Rennies River Catchment Stormwater Management Plan (CBCL 2014)
- Prioritized list of improvements
- Some have been completed: Health Sciences Centre Berms, O’Leary Avenue Bridge

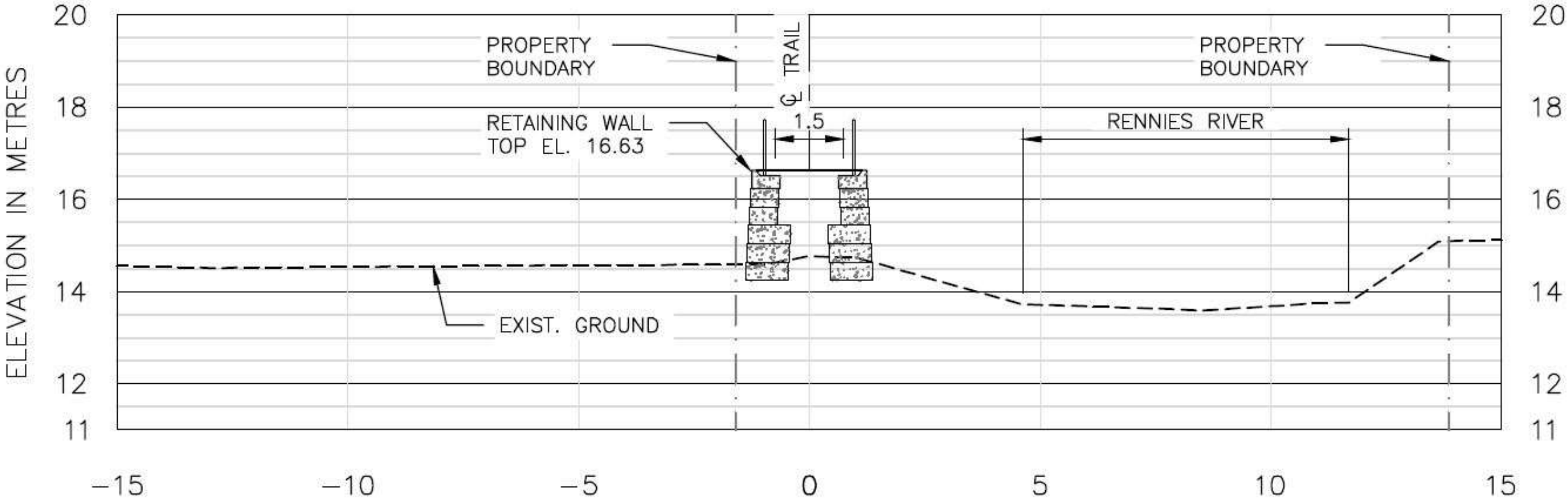
Project Location



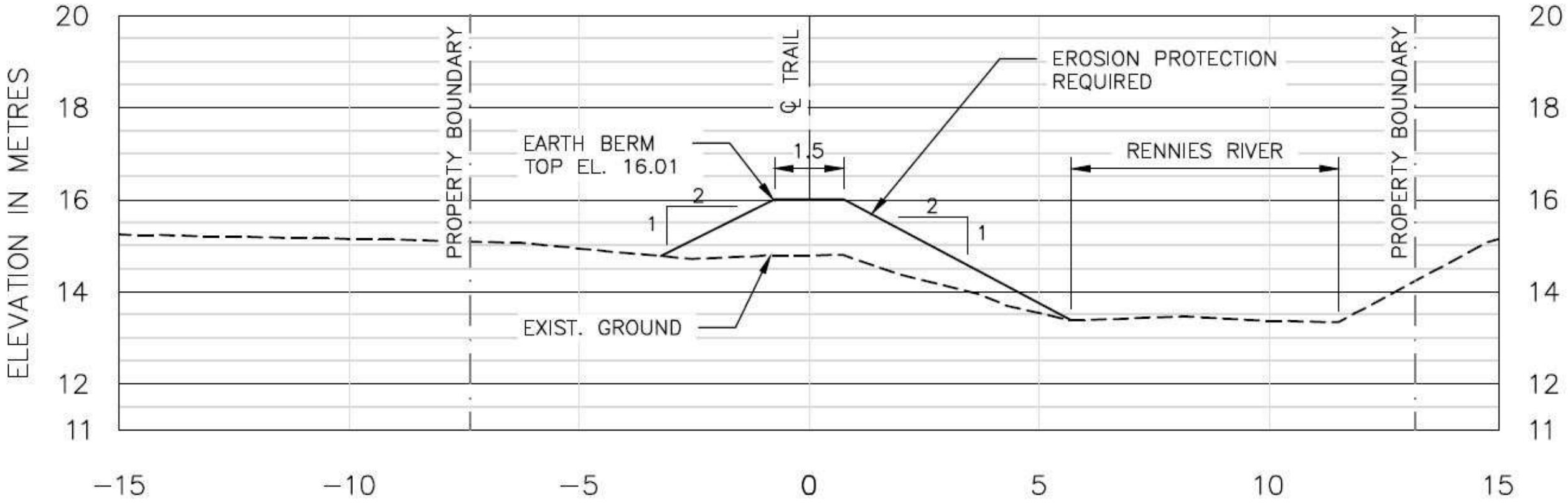
Project Location – 13A Winter Ave



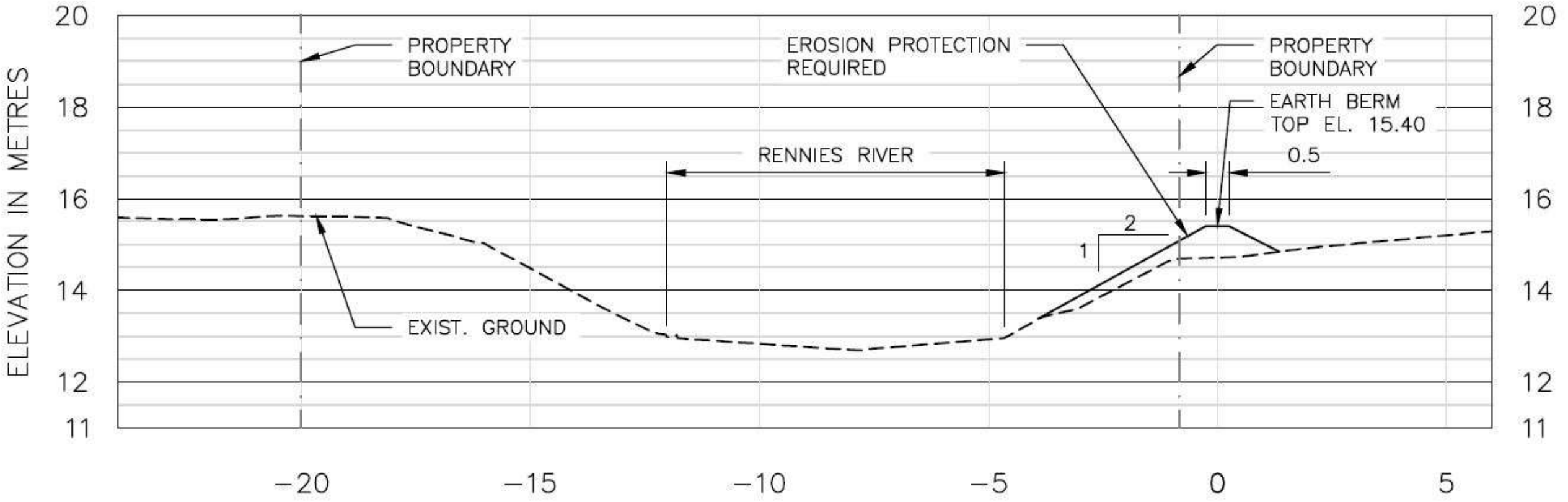
Project Location – 11 Winter Ave



Project Location – 9 Winter Ave



Project Location – NF Power Substation



Project Activities – Earth Berm

- Environmental protection, and sediment and erosion control measures, as required
- Vegetation clearing and grubbing
- Grading and shaping of berm
- Vegetation of constructed berm

Project Activities – Block Wall

- Environmental protection, and sediment and erosion control measures, as required
- Excavation for wall foundation
- Compaction of fill material for wall
- Installation of block wall
- Placement of new materials (i.e., rock fill, granular material, liner)
- Placement of new handrails

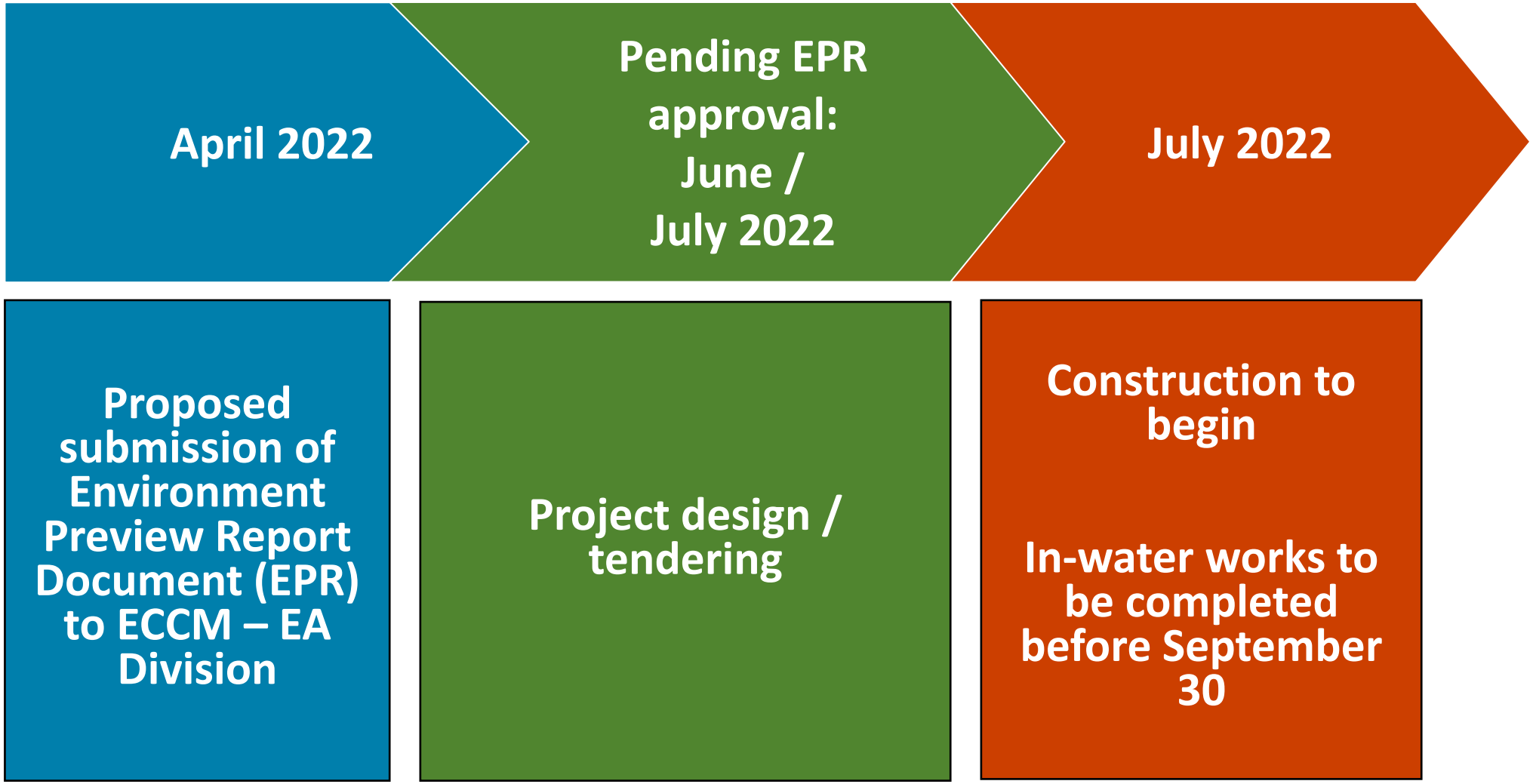
Project Activities – Bank Stabilization

- Installation of temporary environmental protection, and sediment and erosion control measures, as required
- Vegetation clearing and grubbing
- Placement of new materials (i.e., armour stone or other suitable material) as required to stabilize banks

Project Activities – Operations

- Annual inspection of berm conditions (planting and structural)
- Berm repairs including regrading and planting
- Geotechnical inspection every 5 years

Schedule

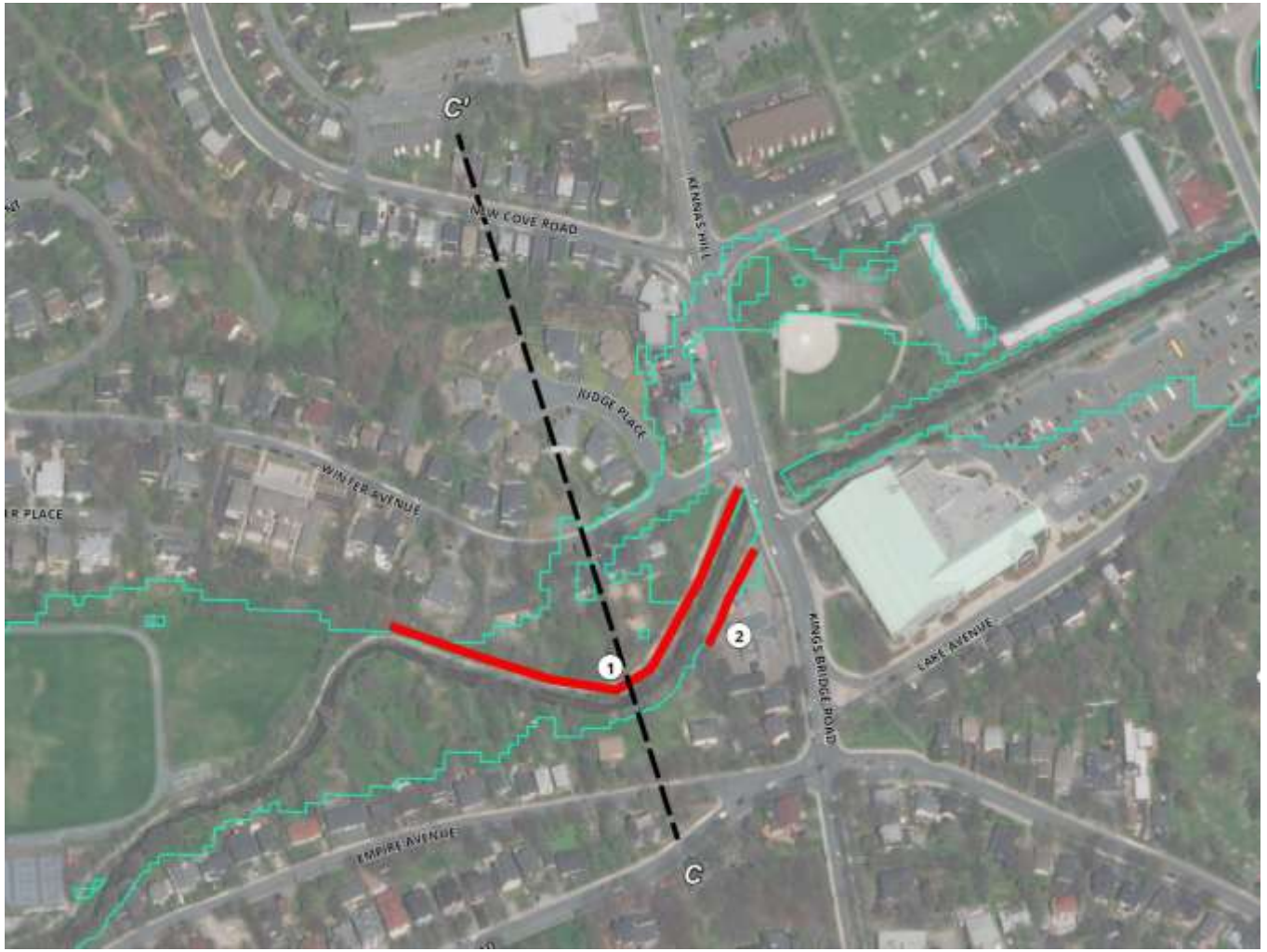

April 2022
Pending EPR approval: June / July 2022
July 2022
Proposed submission of Environment Preview Report Document (EPR) to ECCM – EA Division
Project design / tendering
Construction to begin
In-water works to be completed before September 30

Surface Water Management

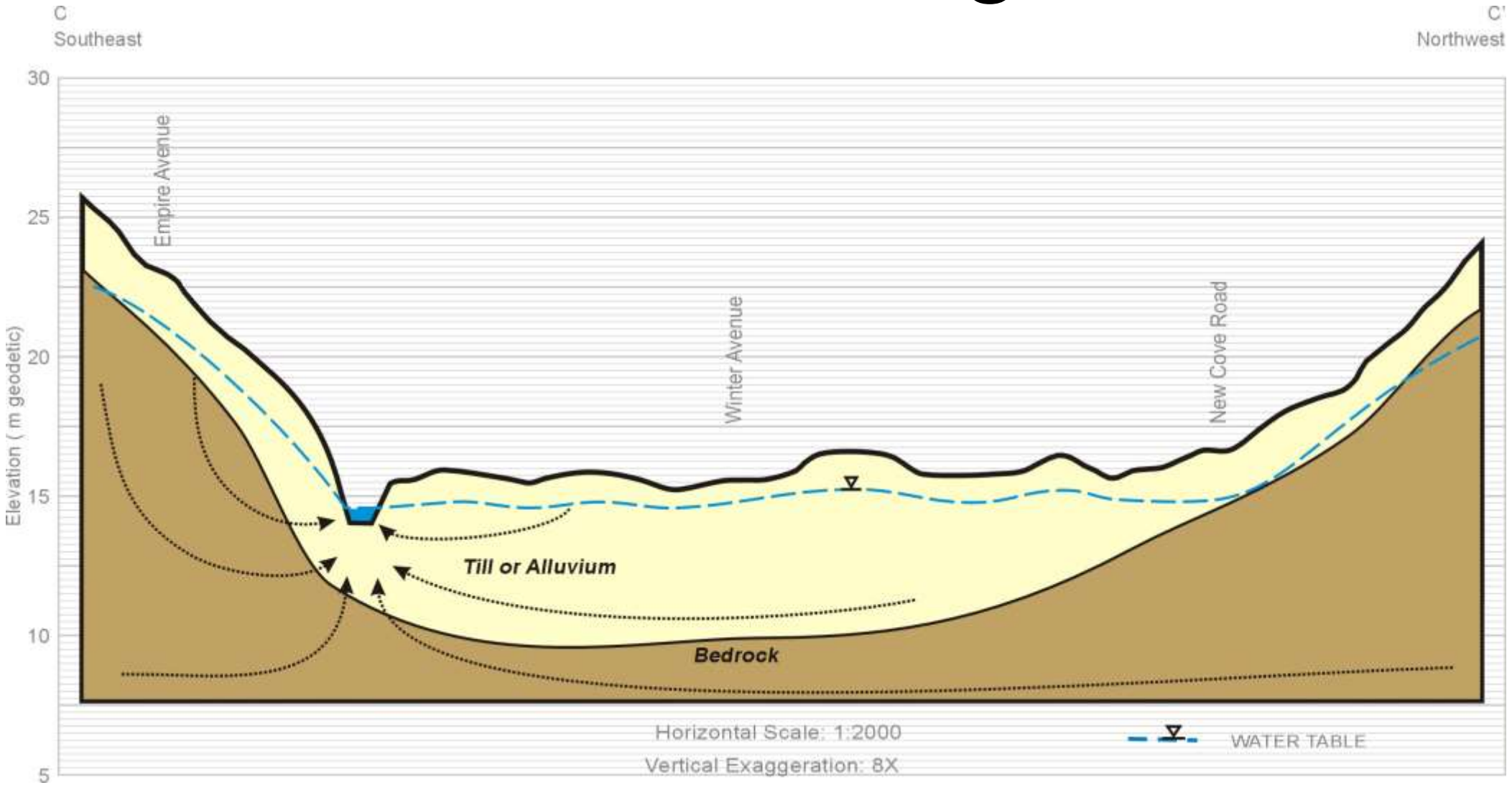
Temporary Ponding

- For yards adjacent to river:
  - Water currently ponds during a flood because yards are lower than trail
  - Construction of berms may trap water
- Drainage system consisting of piping and catch basins is proposed
- Will be further developed during detailed design

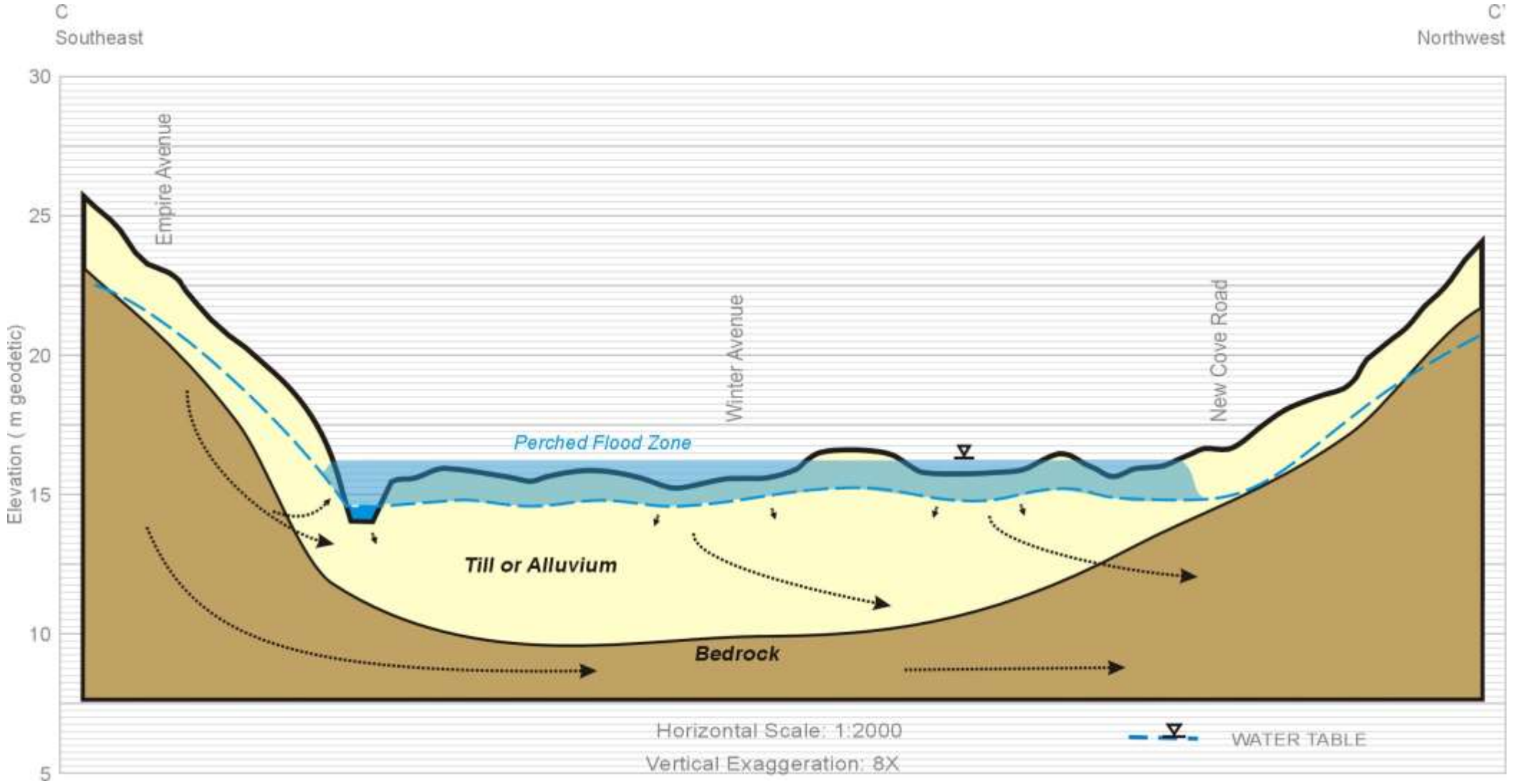
Groundwater – Existing Conditions



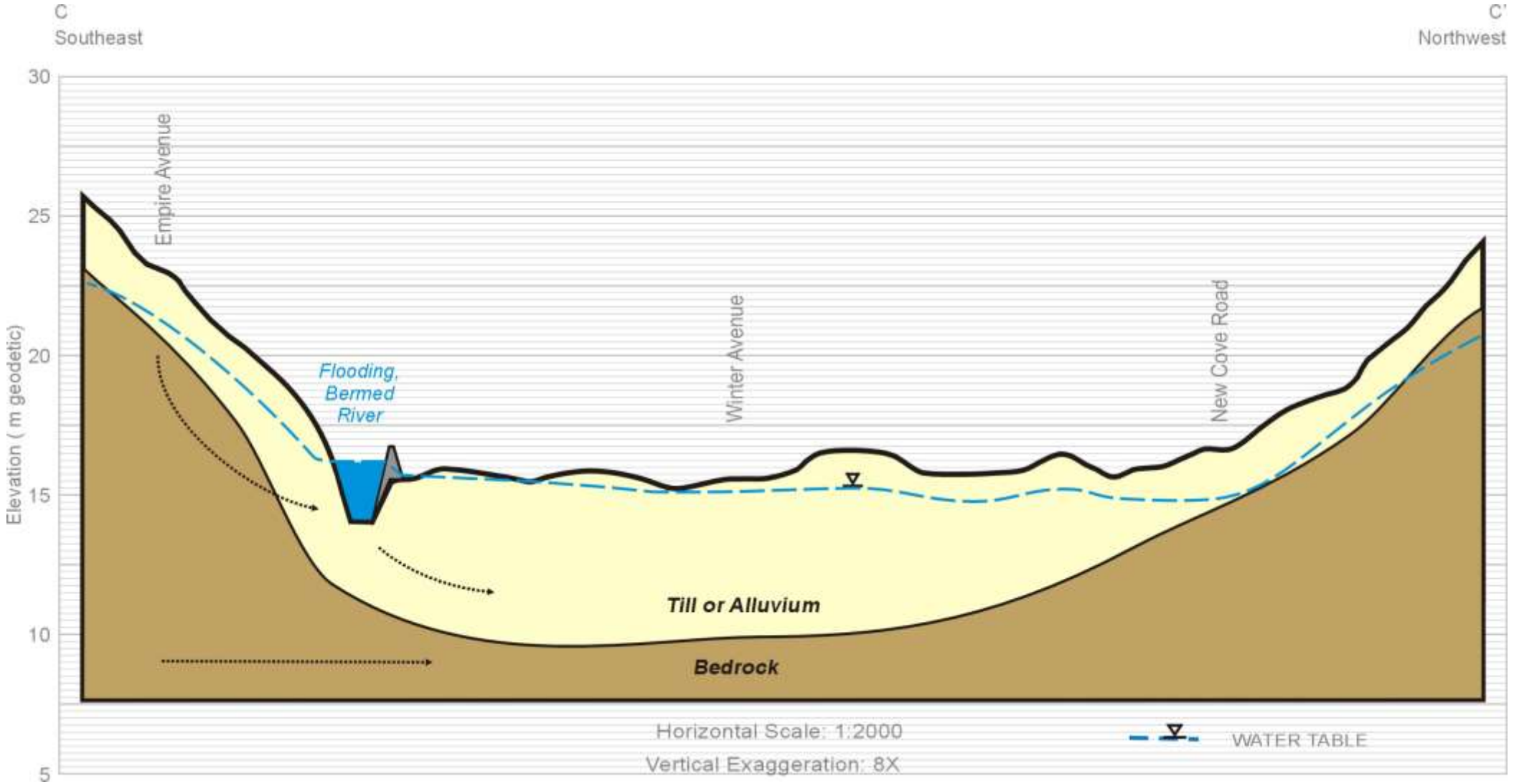
Groundwater – Existing Conditions



Groundwater – Flood Conditions



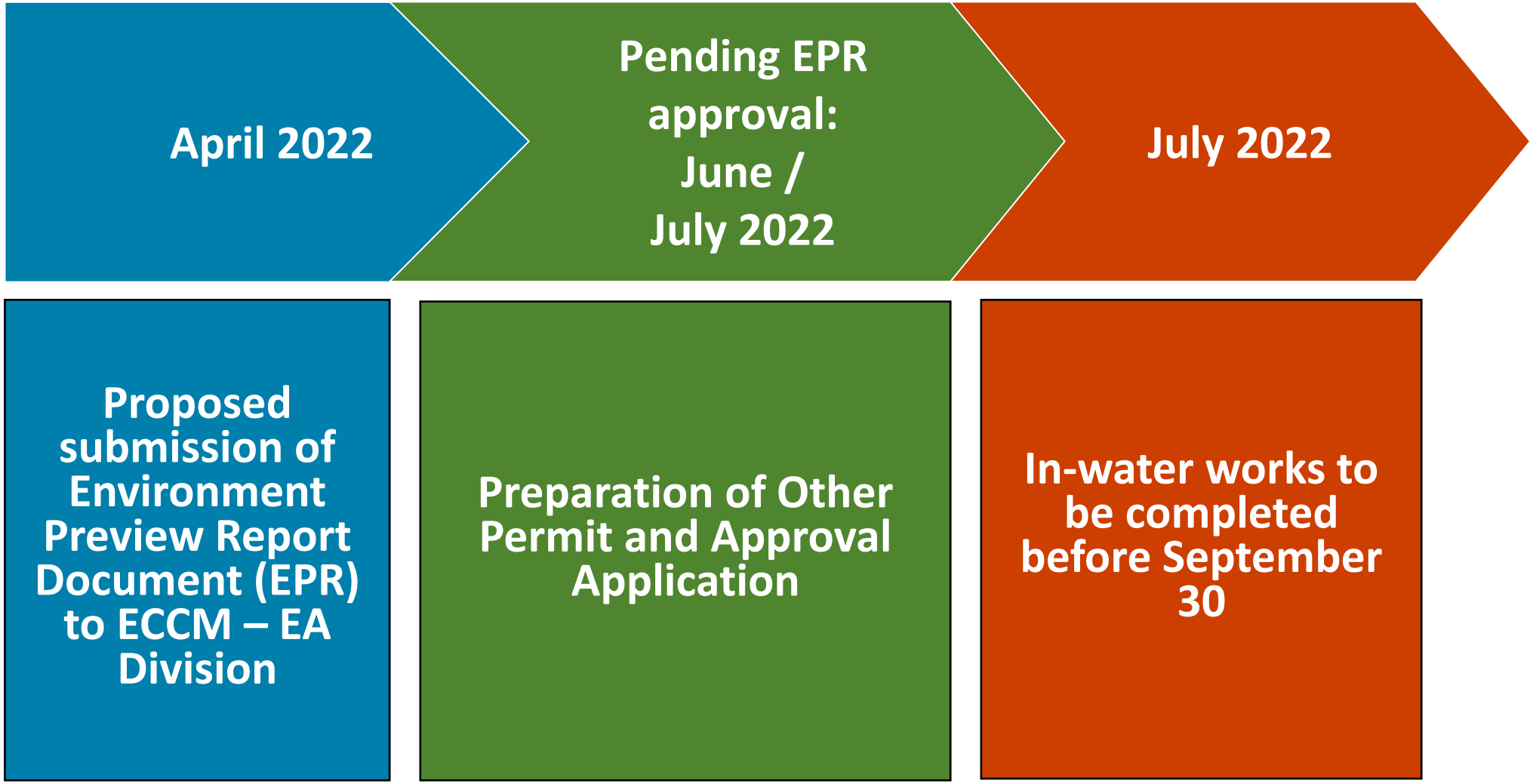
Groundwater – Flood Conditions



Alternatives

- Do nothing
- Add berms along river
- Realign Rennies River and add berms
- Raise vulnerable structures

Approvals, Authorizations and Permits



Environmental Assessment Process

Minister of Environment and Climate Change (ECC)

- 7 days to post the receipt of the EPR document following submission
- 45 days to review EPR
- 10 days to post decision after 45-day review period

Environmental Assessment Process

Public

- 35 days following posting of Environmental Preview Report (EPR) to provide comments to Minister
- EPR will be available on the ECC Environmental Assessment webpage https://www.gov.nl.ca/eccm/env-assessment/projects-list/
- Notices will be posted here: https://www.gov.nl.ca/eccm/env-assessment/public-notices/

Your Input

What questions do you have about the impact of this project or about the process?

Do you have any comments you would like to be recorded?

Everyone is asked to limit their time to 2 minutes so that everyone who wishes to speak has an opportunity.

Next Steps

You can submit other thoughts and ideas:

- Visit EngageStJohns.ca
- Email engage@stjohns.ca
- Call 311

Staff review of submissions

Develop a What we Heard document and share with Council and community

Submit the report to ECC