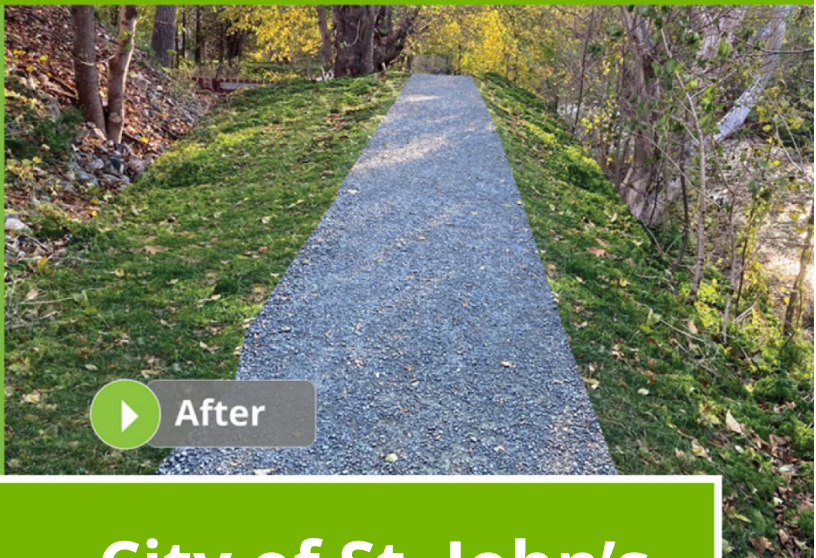


▶ Before




▶ After

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



ST. JOHN'S

	Final	Loretta Hardwick	2021/01/26	Melissa Rutherford
	Draft	Loretta Hardwick	2021/01/20	Melissa Rutherford
Issue or Revision		Reviewed By:	Date	Issued By:
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January 26, 2021

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

Dear Ms. Sweeney:

*RE: City of St. John's - Rennie's River Flood Mitigation
Environmental Assessment (EA) Registration Document
CBCL Project # 203063.00*

Enclosed is our application and associated materials required for your review of the Environmental Assessment Registration Document for the above noted project. If you have any questions or require clarification, please contact me.

Yours very truly,

CBCL Limited

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Project No: 203063.00

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- C Atlantic Canada Conservation Data Centre (AC CDC) Search Results
- D Birds Detected in Vicinity to the Project Area in Newfoundland and Labrador
- E Mitigation Measures
- F Public Meeting Documents

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Checklist for Prescribed Information

Please see the report sections indicated in the table below to find the required information for registration of an undertaking pursuant to the *Environmental Protection Act* and the *Environmental Assessment Regulations*.

Required Information	Section
Name of Undertaking	Chapter 1
Project Name	Chapter 1
Proponent	Chapter 1
(i) Name of Corporate Body	Section 1.1
(ii) Address	Section 1.1
(iii) Chief Executive Officer and contact information	Section 1.1
(iv) Principal Contact Persons for purposes of environmental assessment and contact information	Section 1.1
The Undertaking	
(i) Name of the Undertaking	Chapter 1 and Section 2.1
(ii) Purpose/Rationale/Need for the Undertaking	Section 2.2
Description of the Undertaking	Chapter 3
(i) Geographical Location	Section 3.1
a. Description of the proposed site	Section 3.1
b. Map at large scale (e.g. 1:12,500) original base map(s) and/or recent air photos. The National Topographic Survey edition should be affixed to the map(s).	Figure 3.2
(ii) Physical Features	Section 3.2
a. Major physical features of the undertaking	Section 3.2.1
b. Area to be affected by the undertaking	Section 3.2.1
c. Conceptual drawing layout	Figure 3.3
d. Physical and biological environments within the area potentially affected by the project	Section 3.2.2 Appendix A Appendix B Appendix C Appendix D
(iii) Construction	Section 3.3
a. Approximate Construction Stages and total construction period	Section 3.3
b. Date of first proposed physical construction related activity on site	Section 3.3
c. Potential sources of pollutants during the construction period(s)	Section 3.3.1
d. Potential causes of resource conflicts	Section 3.3.2
(iv) Operation	Section 3.4
a. Description of how the undertaking will operate	Section 3.4
b. Period of operation, if not a permanent facility	Section 3.4

Required Information		Section
	c. Potential sources of pollutants during the operating period	Section 3.4.1
	d. Potential causes of resource conflicts	Section 3.4.2
(v)	Occupations	Section 3.5
	a. Estimate the number of employees required for the construction and operation of the project, including the expected duration of employment	Section 3.5.1, and 3.5.2
	b. Enumeration and breakdown of occupations according to the National Occupational Classification	Section 3.5.1, and 3.5.2
	c. Identification of employment type (direct hiring and/or contracting out.)	Section 3.5.1, and 3.5.2
	d. Approach to employment equity will be addressed relative to age and gender.	Section 3.5.3
(vi)	Project Related Documents:	Section 3.7
	a. Bibliography of all project-related documents	Section 3.7.1
	b. Copies of reports on environmental studies and surveys.	Section 3.7.2
Approval of the Undertaking		
(i)	Main permits, licences, approvals and authorizations required for the undertaking, including issuing authorities	Chapter 4
Schedule		
(i)	Project Schedule including construction and operations	Chapter 5
(ii)	Rational for the selection of Project Schedule	Chapter 5
Funding		
(i)	Government agencies (federal, provincial or other) providing funding, including name and address of the department or agency from which funds have been requested.	Chapter 6
(ii)	Estimate of the capital costs of the project	Chapter 6
Additional Information		
	Descriptions of any consultations undertaken prior to application	Section 3.6
	Alternatives to the Project	Section 2.3
	Mitigation Measures	Appendix E

Chapter 1 Introduction

The City of St. John's (the City) is proposing to construct flood mitigation berms (the Project or Undertaking) as part of the overall stormwater management along Rennies River in St. John's, Newfoundland and Labrador (NL). The primary objective of the Project is to provide protection from flooding that occurs as a result of extreme precipitation events, and reduce potential damage to infrastructure and properties.

CBCL Limited (CBCL) has prepared this document for submission to NL Environment, Climate Change and Municipalities (NLECCM) as an Environmental Assessment Registration Document (EARD) to meet, or exceed, the requirements of the NL *Environmental Protection Act* (EPA) and *Environmental Assessment Regulations* (EA Regulations). The EA Regulations designate undertakings that must be registered, including construction of a dyke, levee or other flood control structure. For this Project, two berms (dykes or levees) are proposed between Portugal Cove Road and Kings Bridge Road along Rennies River.

1.1 Project and Proponent Information

The proposed Project title is the "Rennies River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road". The contact information for the proponent is provided in Table 1.1 and contact information for the consultant of this EARD is provide in Table 1.2.

Table 1.1 Proponent Contact Information

Role	Name / Title	Address/Contact Info
Proponent	City of St. John's	10 New Gower Street St. John's, NL A1C 5M2
Principal Contact Representative	Scott Winsor, P. Eng. Director of Engineering	10 New Gower Street, St. John's, NL A1C 5M2 Telephone No: 709-576-8258 Email: swinsor@stjohns.ca
Mayor	Danny Breen Mayor	10 New Gower Street, St. John's, NL A1C 5M2 Telephone No: 709-576-8477 E-mail: mayor@stjohns.ca

Table 1.2 Project Consultant Contact Information

Role	Name / Title	Address/Contact Info
CBCL Limited Project Lead	Greg Sheppard Senior Civil Engineer	187 Kenmount Rd, St. John's, NL A1B 3P9 Telephone No: 709-364-8623 Email: gregs@cbcl.ca
CBCL Limited Regulatory and Environmental Lead	Melissa Rutherford Environmental Scientist	1505 Barrington Street, Suite 901 Box 606 Halifax, NS B3J 2R7 Telephone No: 902-421-7241 x 2574 Email: mrutherford@cbcl.ca

Chapter 2 The Undertaking

The City is proposing to carry out this Undertaking to reduce flooding and associated effects along the Rennies River between Portugal Cove Road to Kings Bridge Road. This chapter identifies the purpose, rationale, and need for the Project.

2.1 Name of the Undertaking

The City of St. John's Rennies River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road.

2.2 Purpose/Rationale/Need for the Undertaking

The Undertaking consists of two earth berms and erosion control measures along Rennies River between Portugal Cove Road and Kings Bridge Road (Section 3.2.1). The Rennies River is part of the greater 32 km² Rennies River watershed. The Rennies River spans approximately 3 km through the City, connecting Long Pond to Quidi Vidi Lake, and ultimately discharges to the Atlantic Ocean.

The Rennies River watershed has been subject to major flood events caused by river flooding. One of the earlier major flood events recorded was in 1986, when 110 mm of rainfall caused flooding along Leary's Brook and Rennies River (CBCL, 2014). Increasing urbanization in the Rennies River watershed, more frequent and intense precipitation events, and anticipated increase in precipitation frequency and intensity due to climate change, are expected to result in an increase in potential risk of flood damage along Rennies River (NSECCM, 2014). To reduce flood risk, and take action to safeguard residential dwellings and community infrastructure against potential economic loss, the City is proposing to construct flood mitigation infrastructure in strategic locations along Rennies River from Portugal Cove Road to Kings Bridge Road. The proposed Project will also address concerns of stream bank erosion a key location.

In April 2014, on behalf of the City, CBCL completed the Rennies River Catchment Stormwater Management Plan (RRCSMP). The RRCSMP identified that during significant rainfall events, flooding occurs at locations along Rennies River, as well as Ken Brook and

Leary's Brook, at times resulting in major public and private property damage (CBCL, 2014). The RRCSMP identified a prioritized list of flood protection infrastructure improvements including the Long Pond Weir, flood protection berms around the Health Sciences Centre (currently under construction), and flood protection berms downstream of Long Pond. The City has elected to proceed with the implementation of flood protection works in phases. The City is in the Environmental Assessment process of the Long Pond Weir (identified as priority number 1 in the RRCSMP). Flood protection berms downstream of Long Pond were identified as priority 2 in the RRCSMP to protect properties bordering Rennie's River, and are intended to be complemented by the Long Pond weir.

Supplemental hydrodynamic analyses were conducted from 2019 through to 2021 to assess additional design solutions for flood protection along Rennie's River prior to the construction of the Long Pond Weir. The analyses identified several flood protection options, including the proposed Project which is capable of protecting residential properties on Winter Avenue.

2.3 Alternatives

The 2014 RRCSMP identified flood protection measures based on field surveys, and hydrologic and hydraulic models. Flood flows corresponding to the 1:20 and 1:100 annual exceedance probability (AEP) precipitation events, including the effects of climate change, were estimated through the use of a hydrologic model. Model inputs included watershed areas, slopes, percentage of impervious land, surface roughness, infiltration parameters, and rainfall hyetographs (precipitation time series). The physical characteristics of each sub-catchment were estimated using topographical survey data, aerial imagery, and LiDAR data.

Conceptual designs and preliminary cost estimates for optimum flood and erosion control were also identified as part of the RRCSMP. The City intends to implement the measures as identified in the RRCSMP. However, the sequencing of the measures is dependent on the construction of other flood mitigation measures, such as the Long Pond Weir, as well as available funding and overall priorities. When considering protection of residential properties and non-residential lands, such as parks, along Rennie's River, priority was given to residential properties due to safety concerns.

From Elizabeth Avenue to Kings Bridge Road, the RRCSMP identified the following potential flood protection measures:

- Earth berms and concrete walls only along the river section
- Channel realignment through Feildian Grounds, along with construction of berms and walls, and a new bridge at Portugal Cove Road
- Raising the Riverdale Tennis club parking lot, along with the construction of berms and walls

From 2019 to 2021, the City requested CBCL conducted further hydraulic analysis of Rennies River, which considered various flood mitigation scenarios. The assessments included various flood mitigation scenarios between Wicklow Street and Quidi Vidi Lake and resulted in the production of 1:100 AEP climate change floodplain maps (Appendix A). The hydraulic modelling was carried out using XP Solution's Storm Water Management Model (XPSWMM) software. The assessments considered flood protection measures currently being constructed at the Health Sciences Centre, with and without the Long Pond Weir, and various flood protection improvements downstream of Long Pond. The improvements downstream of Long Pond included the following (see Appendix A for further details):

- No flood mitigation along Rennies River.
- **Eight Berms:** Berms 1-2 (in this Registration), two berms downstream of Portugal Cove Road, two berms upstream of Portugal Cove Road, a berm upstream of Carpasian Road, and a berm at the west side of Prince Phillip Drive.
- **Four Berms:** Two berms upstream of Portugal Cove Road, a berm upstream of Carpasian Road, and a berm at the west side of Prince Phillip Drive.
- **Six Berms:** Berms 1-2 (in this Registration), two berms upstream of Portugal Cove Road, a berm upstream of Carpasian Road, and a berm at the west side of Prince Phillip Drive.
- **Two Berms:** Berms 1-2 (proposed Project in this Registration).

In total, nine scenarios were examined (Appendix A). The flood extents for each scenario for the 1:100 AEP climate change flood were prepared. A summary of the results are provided in Table 2.1.

The proposed Project was ultimately selected as it provided the largest overall reduction in floodplain area and reduced flooding to properties along Winter Avenue to the north, as well as the electrical substation adjacent to Kings Bridge Road bridge. These benefits can be achieved with or without the construction of the Long Pond Weir. In selecting this option, several of the flood protection berms proposed in the RRCSMP downstream of Elizabeth Avenue are not included within this Project. Following the approval and construction of the Long Pond Weir (at a later date), additional flood protection berms can be constructed downstream of the Long Pond Weir. Construction of these berms at the later time would provide the following advantages:

- Reduction in required berm heights and areas (i.e. footprint) for future additional berms.
- Reduce the potential of fish habitat alteration or loss.
- Reduce potential of removal of mature trees along the riverbanks.
- Reduce encroachment of berms on tennis courts.
- Eliminated the need to acquire portions of properties (rear yards) along Empire Avenue.

Table 2.1 Scenarios for Floodplain Comparison to Existing 1:100 AEP CC

Proposed Downstream Improvements	Scenario within CBCL, 2020 or 2021	Health Science Center Berms Included	Long Pond Weir Included	Results
None	1	✓		Floodplain extent is the largest of the scenarios.
	5	✓	✓	Weir alone does not reduce flow enough to prevent downstream flooding. Flooding will still occur upstream of Portugal Cove Road toward Pringle Place, and onto Feildian Grounds and Riverdale Tennis Club property.
Eight Berms: <ul style="list-style-type: none"> • Berms 1-2 (in this Registration) • Two berms downstream of Portugal Cove Road • Two berms upstream of Portugal Cove Road • One berm upstream of Carpasian Road • One berm at the west side of Prince Phillip Drive 	2	✓		Water level upstream of Portugal Cove Rd will exceed the height of the proposed improvements. Portions of the improvements downstream of Portugal Cove Road would also be overtopped.
	6	✓	✓	Floodplain remains within riparian zone. Residential and non-residential lands protected.
Four Berms: <ul style="list-style-type: none"> • Two berms upstream of Portugal Cove Road • One berm upstream of Carpasian Road • One berm at the west side of Prince Phillip Drive 	3	✓		Feildian Grounds and Riverdale Tennis Club flooded. Floodplain extends north toward Winter Avenue, over Kings Bridge Road and onto the King George V Soccer field.
	7	✓	✓	Feildian Grounds and Riverdale Tennis Club flooding, as well as flooding toward Winter Avenue.
Six Berms: <ul style="list-style-type: none"> • Berms 1-2 (in this Registration) • Two berms upstream of Portugal Cove Road • One berm upstream of Carpasian Road • One berm at the west side of Prince Phillip Drive 	4	✓		Feildian Grounds and Riverdale Tennis Club flood. Residential properties protected along Vaughan Place, Pringle Place, Winter Avenue, and Judge Place.
	8	✓	✓	Feildian Grounds and Riverdale Tennis Club flood. Residential properties protected along Vaughan Place, Pringle Place, Winter Avenue, and Judge Place.
Two Berms: <ul style="list-style-type: none"> ○ Berms 1-2 (in this Registration) 	9	✓		Feildian Grounds and Riverdale Tennis Club flood. Residential properties protected along Winter Avenue, and Judge Place.

Chapter 3 Description of the Undertaking

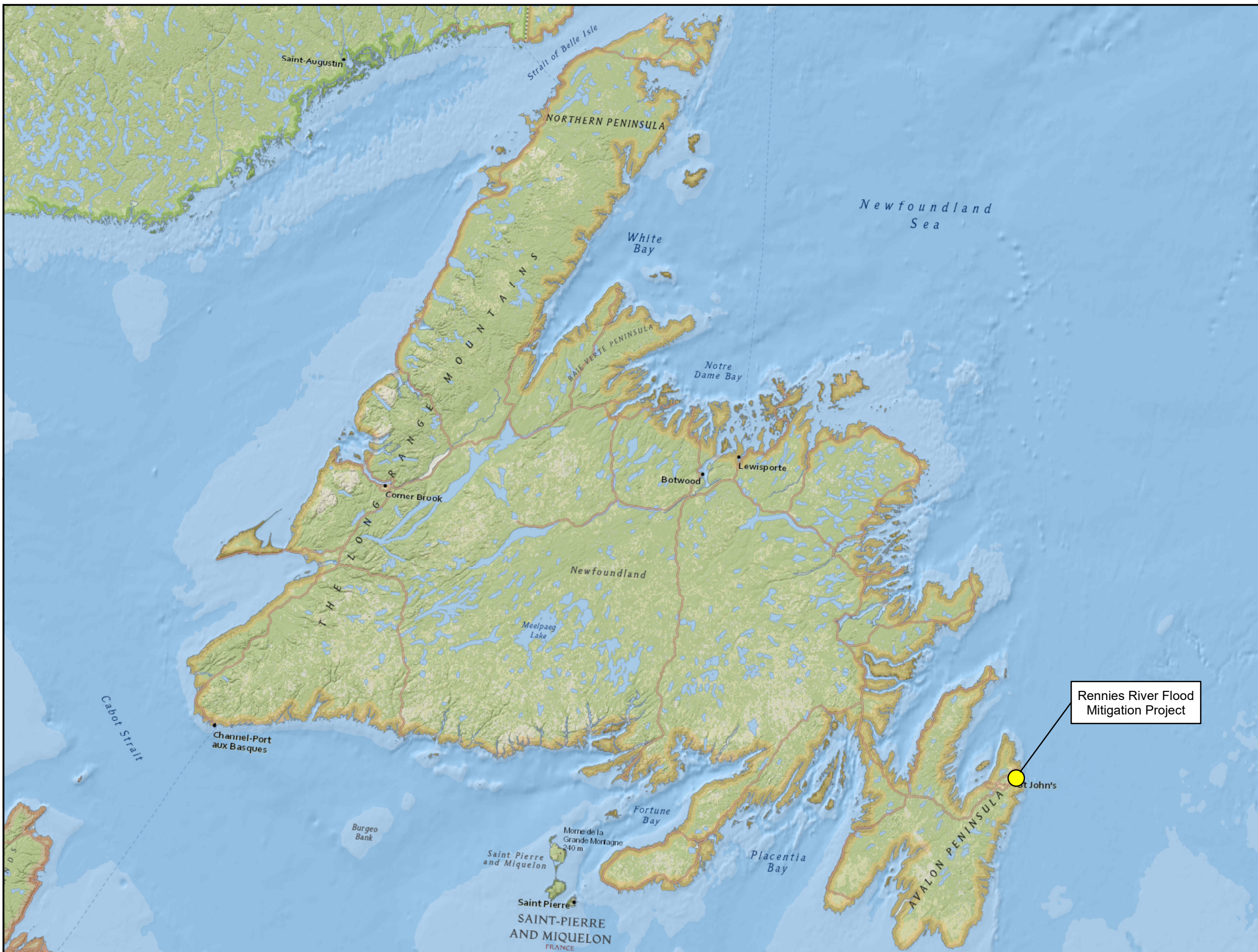
The Undertaking represents the selected flood mitigation option along Rennies River as identified as Scenario 9 in Chapter 2. The Project consists of two earth berms upstream of Kings Bridge Road, and erosion control measures placed between Portugal Cove Road and Kings Bridge Road (Section 3.2.1). The berm locations were selected based on the results of hydraulic modelling.

3.1 Geographic Location

The Project is located along Rennies River in St. John's, NL (Figure 3.1). The Project area (Figure 3.2) extends along the north and south banks of Rennies River from the east side of Portugal Cove Road to the west side of Kings Bridge Road, approximately 500 m. The area is classified as medium density residential, with vegetation areas primarily within the riparian zone of the river (CBCL, 2014).

Between Portugal Cove Road and Kings Bridge Road, the Rennies River Trail runs adjacent to the north bank of the river and is maintained by the Grand Concourse Authority, a local non-profit charitable based organization. Positioned on the north side of Rennies River Trail and the south side of the river are several residential homes with vegetated riparian areas separating their property lines from the river. Two parks are located adjacent to Project area: Feildian Grounds and the Riverdale Tennis Club on the east side of Portugal Cove Road (Figure 3.2).

The geographical coordinates of the two berms are provided in Table 3.1. The design of the berms reflects the natural curvature of the river banks, on which the berms are to be placed (Figure 3.2). Berm 1 will be located on the west side of Kings Bridge Road and extend approximately 300 m upstream at the rear of properties on Winter Avenue, along the north bank of Rennies River. Berm 2 will be located in the south river bank, beginning at Kings Bridge Road and extending approximately 60 m upstream.



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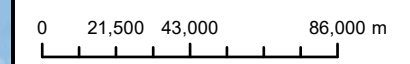
Rennie's River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

Figure 3.1: Project Location

Drawn: SF	Date: 2021-01-22
Checked:	Project #: 203063.00
Approved:	Scale @ 11"x17" 1:2,200,000

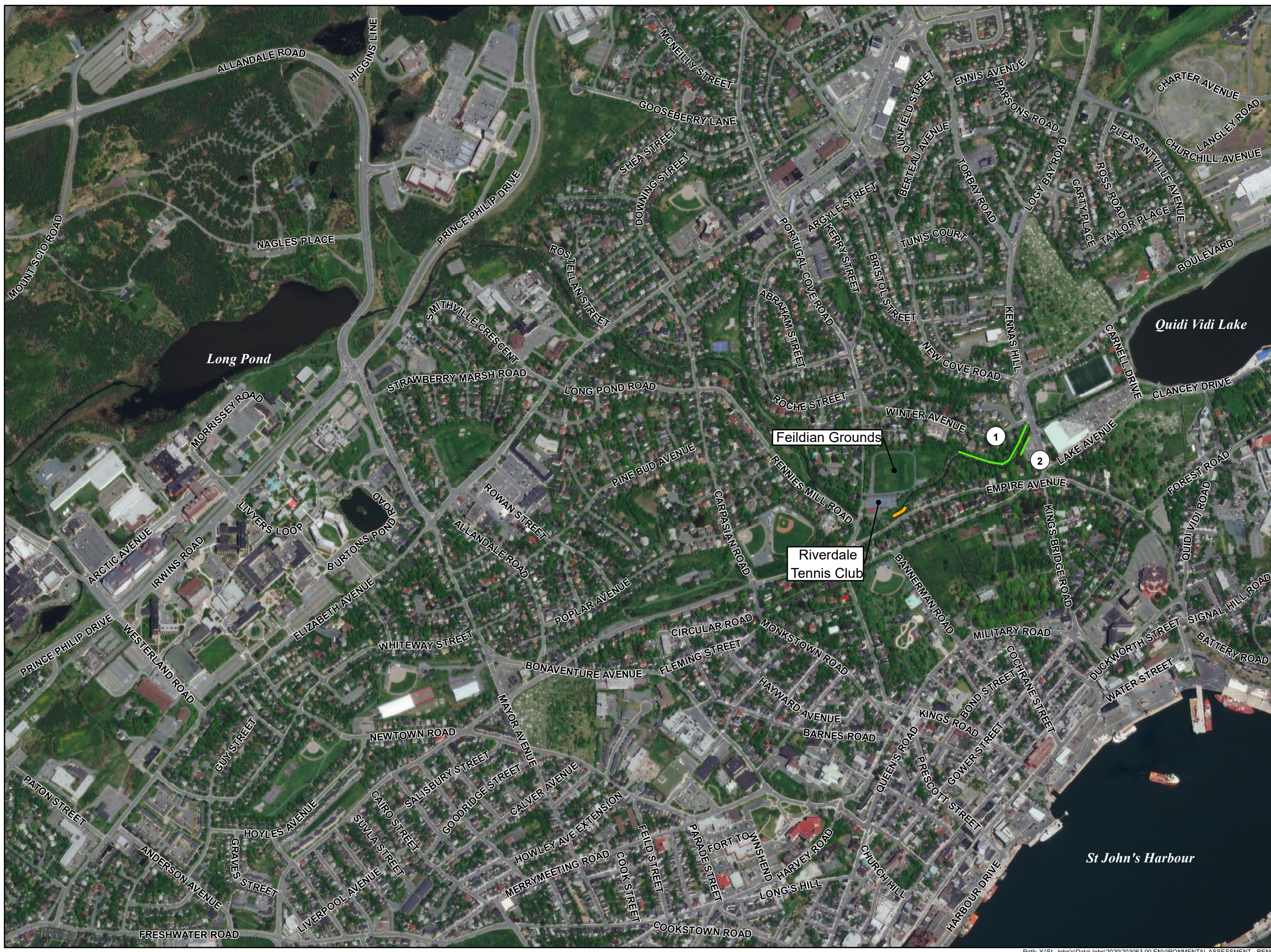
Sheet: of

Notes:



Coordinate System: NAD 1983 UTM Zone 22N
Units: Meter





LEGEND

- Erosion Control Improvements
- Proposed Earth Berm
- Approximate Location of Berms

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Rennie's River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

Figure 3.2: Project Area



Notes:

Drawn: SF	Date: 2021-01-22
Checked:	Project #:203063.00
Approved:	Scale @ 11"x17" : 1:10,000

Coordinate System: NAD 1983 UTM Zone 22N
Units: Meter

Table 3.1 Berm Coordinates

Berm ID	Berm Type	Coordinates NAD 1983 MTM 1 (End 1)	Coordinates NAD 1983 MTM 1(End 2)
1	Earth	326908.15 m E 5270774.57 m N	327094.69 m E 5270774.57 m N
2	Earth	327082.12 m E 5270771.93 m N	327104.61 m E 5270821.54 m N

The Project includes bank stabilization and erosion protection measures. Approximately 350 m upstream of Berm 2, river bank stabilization by means of armour stone is proposed to be installed. The armour stone will be approximately 45 m in length; the height of the armour stone structure will be determined during further design.

3.2 Physical Features of the Undertaking

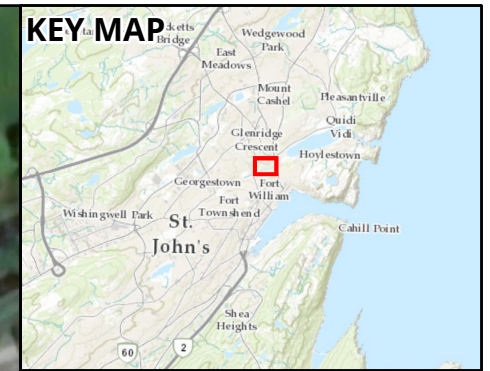
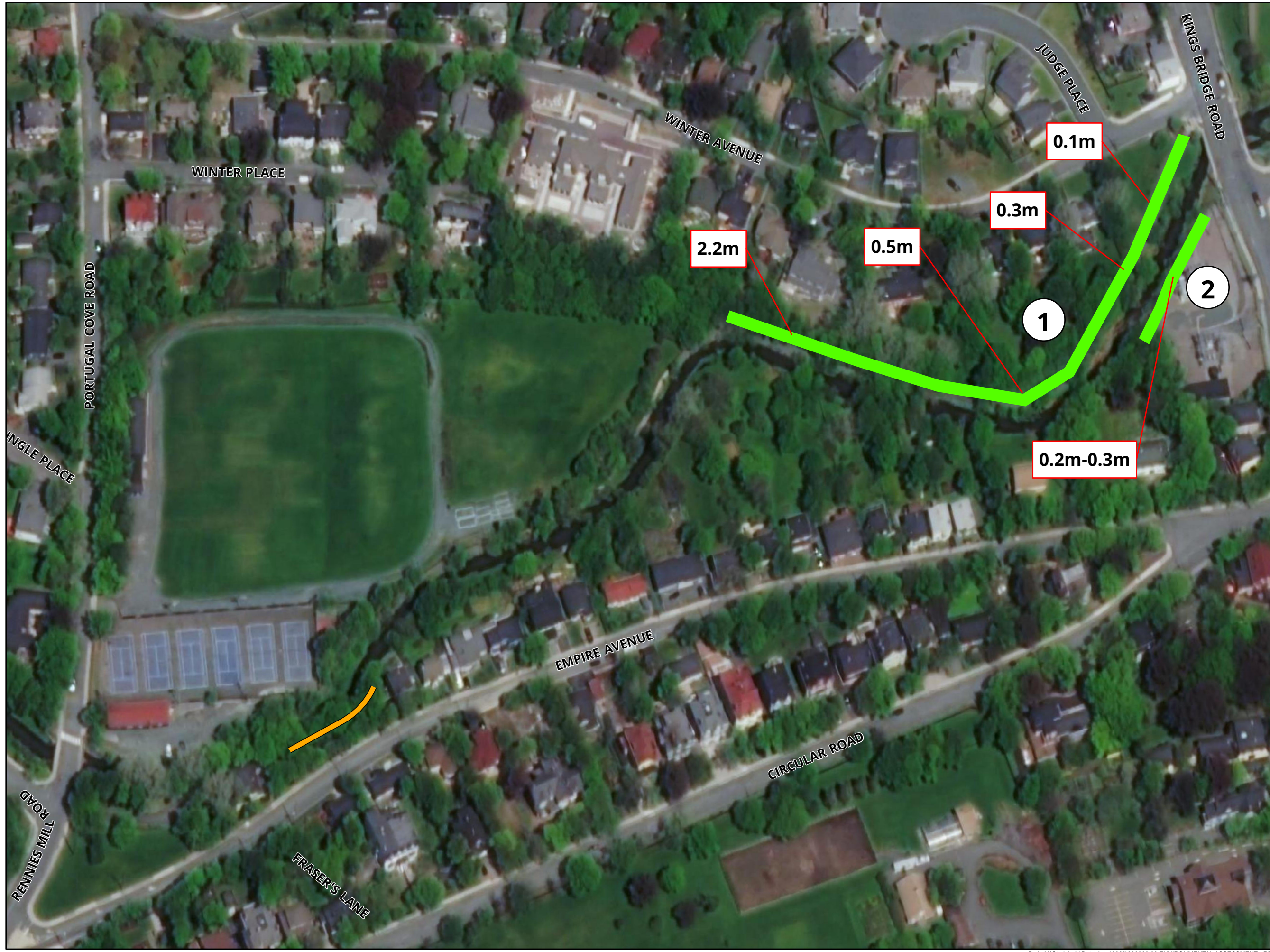
The following section outlines the physical features of the undertaking including a description of the Project, and physical and biological setting of the Project area.

3.2.1 Description of the Project

The two flood mitigation berms are designed to accommodate a 1:100 AEP flood flow including the effects of climate change (Figure 3.3 and Table 3.2). The berms are designed to prevent erosion of the berms and the release of material that may harm fish and fish habitat. These designs will include an engineered slope, landscaping, and rock stabilization techniques. An Environmental Protection Plan (EPP), including erosion and sediment control, will be implemented during construction (Appendix A).

The type of berm was selected to preserve the natural waterline, accommodate available space, and optimize effectiveness and aesthetics. Earthen berms are most preferred to blend into existing conditions, while not compromising structural integrity. The dimensions of each individual berm will vary laterally and vertically due to differences in the natural topography of the riparian zone; a summary of the lengths and sizes are provided in Table 3.2.

The area required for each berm will be determined following further design. Berm 1 will be designed such that it is contained within the existing trail alignment, as much as possible.



LEGEND

	Erosion Control Improvements
	Proposed Earth Berm
	Height (m)

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Rennie's River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

Figure 3.3: Project Layout



Notes:

Drawn: SF	Date: 2021-01-22
Checked:	Project #:203063.00
Approved:	Scale @ 11"x17" : 1:1,500

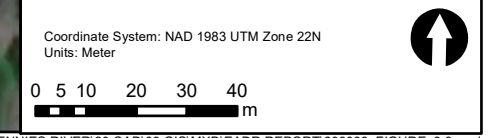


Table 3.2 Conceptual Berm Specifications

Berm ID	Structure / Berm Type	Proposed Materials	Approximate Length (m)	Approximate Height of Structure (m)
1	Earth	Granular Fill	~260 m	0.1 m – 2.2 m
2	Earth	Granular Fill	~58 m	0.2 m – 0.5 m

Earth berms will generally be constructed of a typical sand and gravel mixture containing approximately 10 to 15% fines content, when the berm is greater than 15 m away from the watercourse. Where work adjacent to a watercourse is required (within 15 m) earth berms will be constructed with clean rockfill. The size of the material will be determined in future stages of design. The berms will be constructed with an approximately 2:1 side slope. However, depending on the final design, slopes may vary and could be installed with additional stabilization techniques. Following construction of the berm, the side slopes of the earth berms will be covered using topsoil and a mix of hydroseed and/or sod. The Rennies River Trail overlaps with the location of Berm 1. The design of the raised trail will accommodate safety/accessibility requirements of trail users.

During the 2014 RRCSMP study, erosion areas were identified along the length of the river. The Project will include the stabilization of the river bank in one of the locations identified in the RRCSMP. The erosion control improvements will complement the flood mitigation that is offered by the construction of berms. The river bank will be stabilized using armour stone for an approximate length of 45 m. Additional material may be required behind the armour stone to further stabilize the bank. The final configuration will be determined in future design.

3.2.2 Physical and Biological Setting

The following section identifies the physical and biological setting within the Project area.

3.2.2.1 Setting and Vegetation

The existing environment is set within the Southeastern Barrens Subregion of the Maritime Barrens Ecoregion (NLFFA, 2020a). The area is within the City and has largely been developed, therefore does not reflect the original ecoregion characteristics.

The Project area is within the Rennies River watershed and construction will take place within the riparian zone and the existing trail corridor. A site reconnaissance was completed in October 2020 and identified native and non-native vegetation species in the Project area (Appendix B and C). Past the river banks, just outside of the Project area, upstream vegetation primarily consists of mature trees such as birch, alder, maple and spruce (CBCL, 2014). During the site reconnaissance, mature trees were observed within close proximity of the proposed berms. Areas around road crossings are sparsely

populated with vegetation aside from non-native grasses, and occasional small shrubs and immature trees (CBCL, 2014). Mature trees will be avoided whenever possible during construction.

The area is highly disturbed and the proportion of native species is low (NAACAP, 2015). Native species identified within the Project area included red maple (*Acer rubrum*), spotted Joe Pye weed (*Euthrichium maculatum*), meadowsweet (*Spiraea alba*), sweet gale (*Myrica gale*), and fireweed (*Chamaenerion angustifolium*). Sedges and grasses were abundant, though most were not identifiable. Non-native species identified include black knapweed (*Centaurea nigra*), bittersweet nightshade (*Solanum dulcamara*), Canada thistle (*Cirsium arvense*), hedge bindweed (*Calystegia sepium*), ragwort (*Jacobea vulgaris*), snowberry (*Symphoricarpos albus*), wild chervil (*Anthriscus sylvestris*), and what appears to be Sycamore maple (*Acer pseudoplanatus*). The invasive Japanese knotweed (*Reynoutria japonica*), was abundant on the site, particularly along the riverbanks.

3.2.2.2 Forestry

The Project area is within Forest Management District 1 of the Eastern Region of Newfoundland (NLFFA, 2020b). There are no known timber harvest rights on the property.

3.2.2.3 Soils and Surficial Geology

The surficial geology of the region is composed of a thin, discontinuous sheet of poorly sorted sediment containing a mixture of grain-sizes from clay to boulders (Government of Newfoundland and Labrador Industry, Energy and Technology, 1994). Assessments upstream of the Project area identified that surficial soils are composed of fill underlain with a layer of compacted till, which ranges from well-graded sand with gravel to a silty sand with gravel, with occasional cobbles and boulders (Stantec, 2016). Soils downstream along the river at Carnell Drive are similar to those upstream (NLECCM, 2020a). The site reconnaissance conducted in October 2020 confirmed that the soil and surficial geology in the Project area are consistent with observations made upstream and downstream.

3.2.2.4 Climate

The Maritime Barrens ecoregion has the lowest summer temperatures of the Newfoundland ecoregions (Government of Newfoundland and Labrador, 2020b) and many days are accompanied by fog and strong winds. The winters are generally mild with intermittent snow cover. The coldest month on average is February (daily average of - 4.9°C), with the highest average summer temperature observed in August (16.1°C, Government of Canada, 2020). Average annual precipitation is 1,534.2 mm, with most precipitation occurring as rain. The highest precipitation is recorded in December with an average of 164.8 mm and the lowest precipitation is recorded in July with an average of 91.6 mm (Government of Canada, 2020). Average monthly rain was recorded to be in excess of 120 mm from September to November, with the highest monthly average of rain occurring in October with 153.7 mm (Government of Canada, 2020). Within Newfoundland, hurricanes can occur from June 1st to November 30th, however tropical storms may occur in other months as well (Wood, 2019).

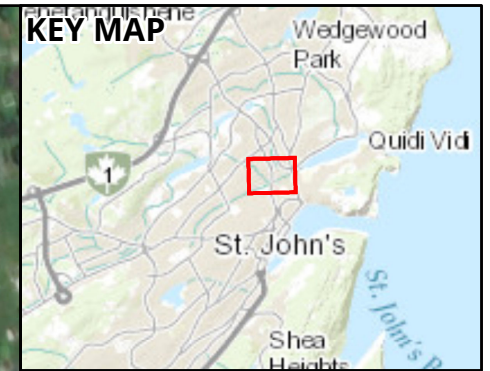
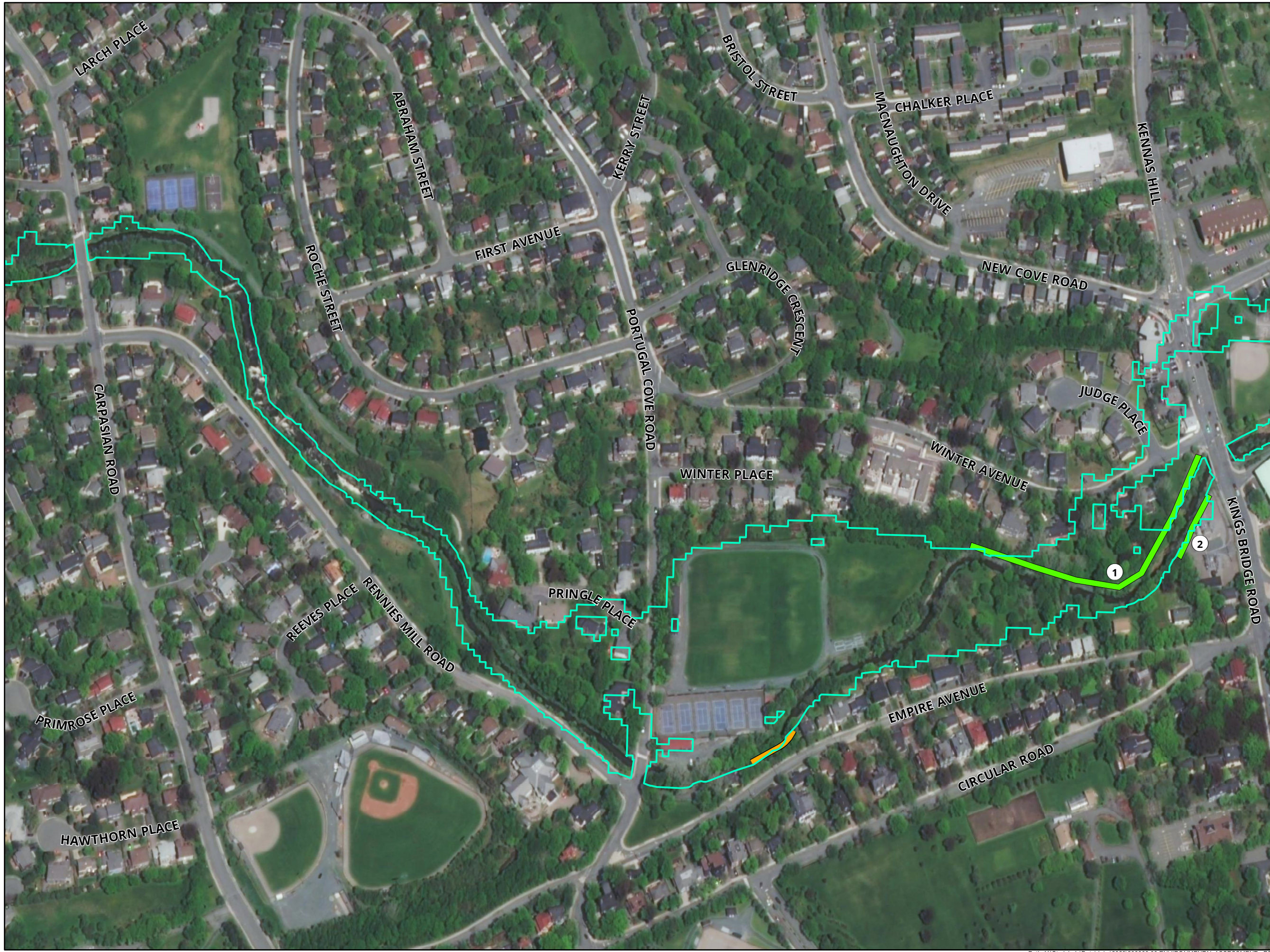
3.2.2.5 Hydraulics of Rennies River

The Rennies River watershed is one of the largest drainage basins in St. John's. It joins many tributaries including Ken Brook, Yellow Marsh Stream, Leary's Brook, Cartys Stream, Nagels Brook, and other unnamed streams (NAACAP, 2015). Rennies River is the most downstream river in the watershed, and joins Long Pond, a 4,000 m² waterbody, at its upstream end, to Quidi Vidi Lake downstream, and ultimately discharges to the Atlantic Ocean.

Hydraulic modelling of Rennies River was performed using the stormwater modelling software, XPSWMM. The hydraulic model was used to estimate water levels in the river channel, through structures (i.e., culverts and bridges) along the river reach, and in the overbanks. The 1:100 AEP climate change floodplain for the existing condition of the river (i.e., without mitigative measures in place) was prepared during the RRCSMP and updated during the 2020/2021 assessment to include berms at the HSC, by CBCL. The floodplain demonstrates anticipated flooding impacts to adjacent lands.

Inputs consisted of river channel invert elevations, channel and floodplain roughness coefficients, LiDAR information, hydraulic structure dimensions and inflow hydrographs. The model structure is a 1D network representing the hydraulic structures (and the channel for the 2020/2021 assessment) nested within a 2D domain (grid) representing the floodplain. Hurricane Igor (September 2010) was used as the calibration event for the hydraulic model.

The model predicted that the Project area is susceptible to localized flooding during 1:100 AEP CC events (as illustrated in Figure 3.4). From Carpasian Road to north of Pringle Place, the floodplain is mainly contained to the river channel and riparian areas of the river and trail, with the exception of a few properties along Vaughan Place. At the upstream end of Portugal Cove Road bridge flooding is observed over the residential properties at Pringle Place and over several roads including Pringle Place, Portugal Cove Road, and Rennies Mill Road. Downstream of Portugal Cove Road, extensive flooding is anticipated over Feildian Grounds and the Riverdale Tennis Club properties, residential properties along the south side of Winter Place, and Winter Avenue towards Kings Bridge Road. Additionally, the flood boundary extends into the backyards of the residential properties along Empire Avenue and the electrical substation located at Kings Bridge Road. The floodplain also extends to portions of Winter Avenue, Judge Place, Kings Bridge Road, and onto the King George V soccer field and park.



- LEGEND**
- 1:100 AEP Climate Change
 - Boundaries (Existing Conditions)
 - Erosion Control Improvements
 - Proposed Earth Berm

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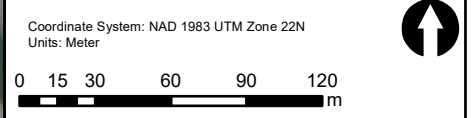
Rennie's River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

Figure 3.4:
1:100 AEP Climate Change Boundaries



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3.2.2.6 Fish and Fish Habitat

The Rennies River watershed provides habitat for salmonids. Species confirmed as present within the Rennies River watershed include brown trout (*Salmo trutta*; D. Keefe. NLECCM, pers comm. September 20, 2017, NAACAP, 2015), brook trout (*Salvelinus fontinalis*), and Atlantic salmon (*Salmo salar*; NAACAP, 2015). The Rennies River is not designated as a Scheduled Salmon or Brown Trout River (Fisheries and Oceans Canada (DFO), 2020a,b); however, the system was included in a Salmon Enhancement Program which consisted of the incubation of salmon eggs dispersed within the river (Government of Newfoundland and Labrador, 2020b). Other species that may be present in Rennies River watershed include American eel (*Anguilla rostrata*), and three-spined stickleback (*Gasterosteus aculeatus*).

3.2.2.7 Wildlife

The Project area is located within an urban setting (St. John's, NL). Therefore, the likelihood of the presence of common mammal wildlife typically present within the Ecoregion, where suitable conditions occur, is low. Species that may be present in the ecoregion include black bear (*Ursus americanus*), red fox (*Vulpes vulpes*), caribou (*Rangifer tarandus*), moose (*Alces alces*), lynx (*Lynx canadensis*), and other small fur bearing mammals (NLFFA, 2020c; Heritage Newfoundland and Labrador, 2002). Likely species within the Project area include small fur bearing mammals; however, mammal wildlife species were not observed during the site reconnaissance.

The Project site primarily consists of a riparian area, which could be used by many bird species for breeding, feeding, and resting for at least part of the year. Over 373 bird species (including 204 native and 166 irregular visitors) have been found in NL (NLFFA, 2020d). The regional nesting period for the Project area is mid-April to mid-August (ECCC, 2020); however, it is possible for some species to breed outside of this period. The Project is located in Bird Conservation Region 8 (BCR 8): the Boreal Softwood Shield. Priority bird species associated with BCR 8 are primarily located within wetlands, coniferous forests, inland waterbodies and riparian habitats (Environment Canada, 2013). During Newfoundland Breeding Bird Surveys, which were conducted in proximity to the Project area, 55 breeding species were recorded (Newfoundland Breeding Bird Atlas, Appendix D). Using citizen reported occurrences, approximately 96 species have been observed within the Project area (eBird 2020, Appendix D).

3.2.2.8 Species at Risk and Species of Concern

Nineteen species at risk (18 fauna and 1 flora) were identified as potentially occurring within the Project area from the Atlantic Canada Conservation Data Centre (AC CDC) database and the AC CDC's Expert Opinion Maps (Table 3.3). Of note was the single observation of a polar bear (*Ursus maritimus*) recorded in 1993, which has not been reported since that initial observation.

The AC CDC indicated that 1,055 rare fauna observations and 27 rare flora observations have been recorded within ± 5 km of the Project area (Appendix C). An assessment of the AC CDC Expert Opinion Maps of provincially and federally listed species suggest that boreal felt lichen (*Erioderma pedicellatum*) may be present, while banded killifish (*Fundulus diaphanous*), and Newfoundland marten (*Martes americana atrata*) are possible, but unlikely. The Project is also identified within the Barrow's Goldeneye (*Bucephala islandica*) range (A. Durocher, ACCDC, *pers comm.* September 30, 2020).

Table 3.3 Results of AC CDC Search

Species	NL <i>Endangered Species Act Status</i>	<i>Canadian Species at Risk Act (SARA)</i>	Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
Bird			
Bank Swallow <i>Riparia riparia</i>	No Status	Schedule 1 - Threatened	Threatened
Barn Swallow <i>Hirundo rustica</i>	No Status	Schedule 1 - Threatened	Threatened
Barrow's Goldeneye <i>Bucephala islandica</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern
Bobolink <i>Dolichonyx oryzivorus</i>	Vulnerable	Schedule 1 - Threatened	Threatened
Chimney Swift <i>Chaetura pelagica</i>	Threatened	Schedule 1 - Threatened	Threatened
Common Nighthawk <i>Chordeiles minor</i>	Threatened	Schedule 1 - Threatened	Special Concern
Evening Grosbeak <i>Coccothraustes vespertinus</i>	No Status	Schedule 1 - Special Concern	Special Concern
Newfoundland Gray-cheeked Thrush <i>Catharus minimus</i>	Threatened	No Status	No Status
Harlequin Duck <i>Histrionicus histrionicus</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern
Ivory Gull <i>Pagophila eburnea</i>	Endangered	Schedule 1 - Endangered	Endangered
Peregrine Falcon <i>Falco peregrinus subsp. anatum</i>	Vulnerable	Schedule 1 - Special Concern	Not at Risk
Red Crossbill <i>Loxia curvirostra</i>	Endangered	Schedule 1 - Threatened	Threatened
Rusty Blackbird <i>Euphagus carolinus</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern
Short-eared Owl <i>Asio flammeus</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern

Species	NL <i>Endangered Species Act Status</i>	<i>Canadian Species at Risk Act (SARA)</i>	Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
Insects			
Monarch <i>Danaus plexippus</i>	No Status	Schedule 1 - Special Concern	Special Concern
Mammal			
Polar Bear <i>Ursus maritimus</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern
Newfoundland Marten <i>Martes americana atrata</i>	Threatened	Schedule 1 - Threatened	Threatened
Fish			
Banded Killifish <i>Fundulus diaphanous</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern
Plant			
Boreal Felt Lichen <i>Erioderma pedicellatum</i>	Vulnerable	Schedule 1 - Special Concern	Special Concern

3.2.2.9 Protected Areas

There are no existing provincial protected areas, such as provincial parks, wilderness reserves, wildlife reserves, wildlife parks, ecological reserves, provisional ecological reserves, public reserves, special management, or Canadian Heritage Rivers within the Project area. There are also no federal parks/reserves such as national parks, national historic sites, migratory bird sanctuaries or marine protected areas on the property.

3.3 Construction

The Project includes construction of earth berms and the stabilization of the river bank. Berm construction includes two major components, site preparation and earth works. Site preparation will include clearing of vegetation and grubbing of organic materials to prepare a base for construction. Following site preparation, the berms can be constructed via earth works. The stabilization of the river bank will include the removal of vegetation as required, prior to the placement of materials for stabilization. Anticipated activities associated with construction include the following:

Berm Construction

Site preparation

- Vegetation clearing
- Grubbing
- Environmental protection, and sediment and erosion control measures, as required

Earth Works

- Excavation for foundation of the berm, as required
- Placement of new materials (rock fill, granular material, and handrails)
- Grading and shaping of berm
- Stabilization of berm slopes
- Placement of topsoil
- Revegetation of the constructed berm
- Environmental protection, and sediment and erosion control measures

Bank Stabilization and Erosion Protection

Site preparation

- Vegetation clearing
- Installation of temporary environmental protection, and sediment and erosion control measures, as required

Bank Stabilization

- Placement of new materials (armour stone, and an additional granular material, as required to stabilize the bank)

Construction will occur only between the hours of 07:00 and 18:00 from Monday to Friday, and from 08:00 to 17:00 on Saturdays, Sundays, and statutory holidays (if required). This aligns with the requirements of the St. John's Noise By-law, which states that construction equipment needs to cease between 11:00pm and 7:00am (City of St. John's. 1998). Approval will be required from the City to work outside of regular hours/days for construction of the Project. Request for approval must be issued to the City at least 72 hours in advance if work is scheduled outside of the above noted times, and must follow the City by-laws.

Potential impacts and sources of pollutants as a result of the Project and associated activities are provided in Section 3.3.1. Potential causes of resource conflicts are provided in Section 3.3.2. Mitigation measures to address potential impacts, pollutants and resources conflicts are described in the following sections and a summary of proposed mitigation measures is provided in Appendix E.

3.3.1 Environmental Impacts and Potential Sources of Pollutants

The Project will be constructed with mitigation measures to minimize risk, and potential environmental impacts, as well as potential sources of pollutants. Potential impacts and sources of pollutants as a result of construction are identified in Table 3.4.

Table 3.4 Potential Concerns, Environmental Impact and/or Source of Pollutants that may Arise as a Result of Construction

Possible Concern	Potential Environmental Impact	Potential Source of Pollutants
Additional flooding as a result of the berms	✓	
Removal of vegetation and some mature tree branches	✓	
Disruption of wildlife, including birds and fish	✓	
Silt and sediment runoff	✓	✓
Generation of construction debris	✓	✓
Risk of release of fuel, lubricant, and hydraulic fluid from construction vehicles	✓	✓
Dust generation	✓	✓
Airborne emissions from construction equipment	✓	✓
Noise pollution from construction activities	✓	✓
Temporary disruption of traffic or trail use	✓	

3.3.2 Potential Causes of Resource Conflict During Construction

Mitigation measures and best management procedures will be established and monitored to minimize potential resource conflicts. The following sections outline potential causes of resource conflict.

Land or Soil Disturbance: During site preparation and construction activities, such as excavation activities or removal of existing soil materials, there is a potential to affect soils, surrounding lands, and accidental release of fuels and other contaminants from equipment.

Construction equipment will not be permitted to operate outside the construction zone to prevent damaging adjacent areas. Standard safety and environmental practices will be enforced to reduce and prevent potential conflicts caused by construction equipment and tasks. Adjacent properties will be avoided as much as possible, though Rennies River trail will require alteration in the form of earthworks as a result of the Project. Due to limited space between the riverbanks and the trail, the trail will be raised in some places to accommodate the berms underneath.

Where possible, surface soil will be reused. Material that cannot be reused on site will be disposed of offsite following applicable regulations and guidelines. In the event an accidental spill occurs to land, spills will be cleaned up and reported to NLECCM. An Emergency Spill Response Plan and measures for proper handling, storage and disposal of hazardous and other waste materials are outlined in Section 3.5. Following these requirements, minimal conflicts are expected.

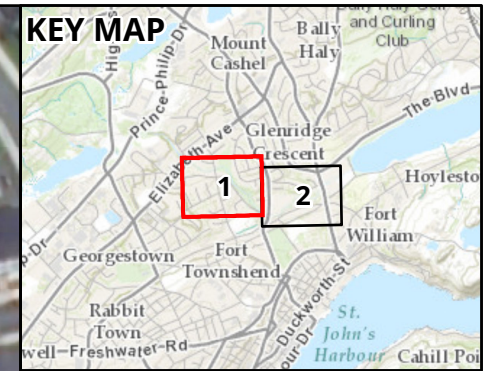
Surface Water and Surface Water Management: The berms are designed to accommodate a 1:100 AEP CC flow event (Figure 3.5). Following the implementation of the berms the floodplain for a 1:100 AEP CC flow decreases by approximately 14,910 m² versus the floodplain with no mitigation measures. A summary of the changes is provided in Table 3.5.

Table 3.5 Summary of the Hydrologic and Hydraulic Conditions for Flood Protection Berms and the pre and post Construction 1:100 AEP CC

Summary of Changes between Existing Conditions and Post- Construction		Areas showing Additional Floods
Maximum Change in Water Level along the berms (m)	0.4 m	Downstream of Portugal Cove Road <ul style="list-style-type: none"> • North Side of Rennies River (Upstream of Berm 1) some backyard properties at Winter Place (up to 5 m), and vegetated area adjacent to Rennies River. • South Side of Rennies River (Upstream of Berm 2) vegetated area and to some backyards along Empire Avenue (average of 5 m, up to 10 m)
Average width of additional flooding (m)	5	
Additional Area Flooded (m ²)	880	

Downstream of Portugal Cover Road, the Feildian Grounds and the Riverdale Tennis Club are still expected to experience flooding during the design flow, similar to that predicted for the existing conditions. The floodplain does extend approximately 5 m further post berm construction vs existing conditions along the properties at Winter Place. On the south side of the river, the floodplain extends on average approximately 5 m, and up to 10 m in some places, and is confined to the vegetated areas and backyards along Empire Avenue. With the construction of Berm 1, the flood extents protect properties on Winter Avenue, portions of Winter Avenue, Judge Place, Kings Bridge Road, and the Wyatt Park on the east side of Kings Bridge Road. Berm 2 provides localized benefit by reducing the extend of flooding at the electrical substation.

Project activities will also occur within the riparian area and adjacent to the watercourse. The proposed berms will be constructed as much as possible within the footprint of the existing trails. The excavation of river banks will be limited to selected areas, and only when required for structure stability. Any alterations of the watercourse will be reinstated. For areas where erosion protection is required there may be some excavation of the river bank. However, the erosion protection design will minimize the amount of required excavation.



LEGEND

- 1:100 AEP Climate Change Boundaries (Existing Conditions)
- 1:100 AEP Climate Change Boundaries (Post Berm Conditions)

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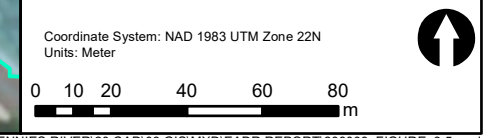
Rennies River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

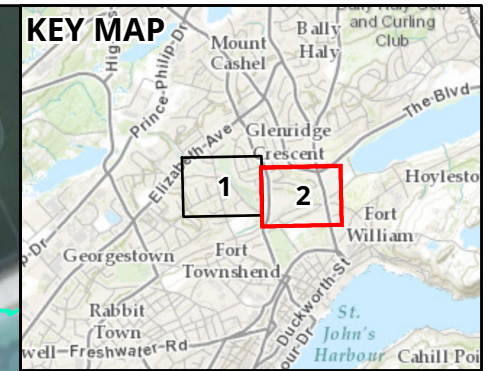
Figure 3.5:
1:100 AEP Climate Change Boundaries and Post Berm Construction



Page 1 of 2

Drawn: SF	Date: 2021-01-22
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Approved:	Scale @ 11"x17" : 1:2,000





LEGEND

- 1:100 AEP Climate Change Boundaries (Existing Conditions)
- 1:100 AEP Climate Change Boundaries (Post Berm Conditions)
- Erosion Control Improvements
- Proposed Earth Berm

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Rennies River Flood Mitigation Project - Portugal Cove Road to Kings Bridge Road

Figure 3.5:
1:100 AEP Climate Change Boundaries and Post Berm Construction



Page 2 of 2

Drawn: SF	Date: 2021-01-22
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Approved:	Scale @ 11"x17" : 1:2,000

Coordinate System: NAD 1983 UTM Zone 22N
Units: Meter

An Erosion and Sediment Control Plan will be implemented prior to construction and will describe measures to:

- Prevent loss of soil during construction by stormwater runoff or wind erosion, including protecting topsoil by stockpiling for reuse
- Prevent sedimentation of storm sewers or receiving streams
- Prevent pollution of the air with dust and particulate matter

Standard practices, including the use of temporary erosion and pollution control devices such as silt fences will be used to mitigate the possible sources of pollutants and protect Rennie's River from potential effects. Following these requirements, minimal conflicts are expected.

There is also the potential that construction of the berms will result in localized changes to surface water drainage, particularly in areas behind the proposed structures. Areas where drainage is altered will be assessed during detailed design. The design will consider alternatives to minimize stormwater build up behind the berms.

Groundwater: During excavation activities or removal of existing soil materials, there is a potential for interactions with groundwater. Dewatering plans and associated measures will be implemented to control the inflow of groundwater. Discharge of water from the site will be conducted in accordance with applicable environmental guidelines.

Whenever possible, construction, particularly including work in wet areas, should be completed during dry or low-flow periods.

Improper disposal and treatment of potentially contaminated soils during construction could also lead to contaminated groundwater. An Emergency Spill Response Plan and measures for proper handling, storage and disposal of hazardous and other waste materials are outlined in Section 3.5. Following these requirements, minimal conflicts are expected.

Fish and Fish Habitat: Due to the proximity of the Project to Rennie's River, the following potential effects may occur as a result of construction:

- Bank erosion and sediment loading
- Changes to channel morphology and water flow
- Alteration to riparian habitat through vegetation removal
- Release of deleterious substances associated with accidental spills/leaks, improper disposal of waste materials, or the use of chemical-based dust suppressants

The Project will be designed, and construction activities executed, to minimize impacts to Rennie's River, thereby minimizing the effects on fish or fish habitat areas. Prior to construction in the river, NLECCM and Fisheries and Oceans Canada (DFO) will be consulted, and applicable regulatory permits and authorizations will be obtained. Existing watercourses will not be disturbed other than the areas indicated, and only clean rock fill

materials will be used directly adjacent to the watercourse. Earthen berms will be seeded and covered with sod and/or hydroseed and/or native vegetation once topsoil cover is added to enhance stabilization.

As outlined in Section 3.5, further mitigation measures to address the above-mentioned effects will be prepared, including the development of an Erosion and Sediment Control Plan and Emergency Spill Response Plan, both of which will be incorporated into an EPP. Following these requirements, minimal conflicts are expected.

Wildlife: Potential effects to wildlife are expected during the construction period. Effects include:

- Habitat loss or alteration
- Deposition of harmful substances into areas utilized by wildlife
- Noise associated with machinery
- Human presence as a deterrent
- Improper disposal of refuse
- Construction lighting

Loss or alteration of habitat may disturb wildlife that use the riparian area for cover, foraging, breeding, and nesting. To minimize effects to wildlife species, such as breeding birds and their nests, whenever possible, vegetation clearing will occur outside the breeding bird period (mid-April to mid-August). If vegetation clearing outside the breeding bird nesting period is unavoidable, breeding bird /nest surveys will be completed prior to removal of vegetation or disturbance of potential habitat to identify evidence of nesting activities. Nests and neighbouring vegetation will be left undisturbed until nesting is complete. If nests containing eggs, or young, of migratory birds are discovered during construction, disruptive activities in the nesting area should cease until nesting is completed. A buffer zone should be established at an appropriate set-back distance surrounding the nest. Appropriate set back distances should be based on setbacks identified in the literature or in consultation with a provincial or federal wildlife biologist.

Deposition of harmful substances into waterbodies or areas utilized by wildlife could potentially occur due to accidental spills or leaks. An EPP with an emergency response plan will be developed to mitigate the likelihood of accidental spills.

Operation of machinery, equipment, human presence, and noise may result in temporary avoidance behaviours by animals in the vicinity of the berm construction areas. Clearing activities are proposed to occur prior to sensitive timing windows such as the nesting period. Construction activities will be limited as to reduce the overall time of noise and disturbance.

Domestic refuse from construction crews may act as an attractant for wildlife. Best management practices (BMPs) will be implemented for the handling of domestic refuse

generated during construction. Implementation of BMPs will reduce potential for wildlife to opportunistically forage on these materials.

Construction lighting also has the potential to attract wildlife, specifically migratory birds, to the area, increasing the likelihood of wildlife interactions with machinery and subsequent injury. Any lighting for construction will follow BMPs to reduce the potential effects to wildlife.

With implementation of mitigation measures, such as vegetation clearing, noise and waste management, the potential effects to wildlife and species at risk are expected to be minimal.

Vegetation and Forestry: The Project area is located within a riparian zone in which several native and non-native plant species exist. Clearing and grubbing, as part of site preparation, will result in the direct loss or alteration of vegetation and mature trees or mature tree branches. The use of heavy machinery during construction may inadvertently introduce additional invasive or exotic species to the existing environment.

As stated, berms will be covered with topsoil, hydroseed and/or sod as well as revegetated with native vegetation wherever possible. Non-native species that are non-invasive may be planted in specific instances to enhance reinforcement or structural durability that would otherwise not be provided by native species. Additionally, if native species cannot be sourced, non-native species and non-invasive may also be planted as a replacement. A mixture of hydroseed may be planted in areas that are the closest to the river, and sod may be used where there is reasonable distance between the berm and the watercourse. Following these requirements, minimal conflicts are expected.

Air Emissions and Quality: The use of heavy equipment may result in disturbance to wildlife and adjacent properties. Disturbance could include noise and dust emissions. Air emissions and air quality measures will be implemented into the EPP to prevent pollution of the air with dust and particulate matter. Equipment and construction activities on site will occur during approved working hours and equipment used on site will be in good working order to reduce effects of noise. Following these requirements, minimal conflicts are expected.

Human Activities: The intent of the Project is to provide positive benefits to the community. While the Project is located within a residential community, construction will mostly take place on open space municipal land. Existing trees will buffer property lines from the installment of the berms, where applicable. The berms will be designed in accordance with applicable engineering standards and will be constructed by a qualified contractor.

Impacts to human activities will involve temporary blockage of the Rennies Rivers Trail, as in many places the berms will border or be built into the trail. Temporary safety fences will

be installed to isolate the construction area and to inhibit the entry of unauthorized persons in the Project areas.

Additionally, construction may result in temporary restriction of traffic along King Bridge Road during mobilization and demobilization of equipment, and construction. Traffic controls will be implemented following the City of St. John's requirements; however, effects are expected to be infrequent and short in duration. Following these requirements, minimal conflicts are expected.

3.4 Operations

The berms will require periodic maintenance activities following construction, including routine upkeep. Activities may include:

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

The berms are to remain in-situ indefinitely or until they require decommissioning or rehabilitation. When the need to decommission or rehabilitate one or both berms arises, the berms will either be revised or incorporated into additional flood water control structures along the river, removed and replanted with vegetation, or left in place and integrated into plans for more extensive water management of Rennie's River watershed.

3.4.1 Environmental Impacts during Operation

The berms will be constructed to minimize risk and potential environmental impacts, as well as to minimize possible effects during the life of the structure.

Potential environmental impacts that have been identified include:

- Flooding
- Silt and sedimentation runoff from erosion/increased slopes

A care and maintenance program will be implemented to assess berm conditions annually, at a minimum. Following the yearly assessment, the berms will be rehabilitated, as required, to maintain the berms aesthetics and function. Items will be repaired and cleaned as required to maintain the function of the infrastructure.

3.4.2 Potential Causes of Resource Conflict During Operation

Any resource conflicts that may arise as part of this Project are assessed as part of the construction phase given the intended purpose of the berms is strictly for flood protection. Repairs and inspections will be conducted on an as-needed basis and potential causes of resource conflict will be similar to the those described in Section 3.3.2 for construction during this time.

3.5 Occupations

Design and construction will be the responsibility of the contractor with input from the City, the City's Project Manager, and the City's Consultant. The contractor will ultimately decide on the numbers and types of employees working on the project following final design. Anticipated project estimates have been provided below for evaluation.

Employment equity will be the responsibility of the successful contractor during construction. The City of St. John's has employment equity policies that will be followed in any employment opportunities.

3.5.1 Employees During Construction Phase

It is projected that the following occupations will be required for employment during the construction phase of the project. Table 3.6 displays the approximate anticipated number of positions during construction and their associated National Occupational Classification (NOC) codes.

3.5.2 Employees During Operations Phase

The only staff that will be employed during the Operations Phase of the project are those who are required to conduct as-needed maintenance activities. The berms will otherwise not be staffed post-construction.

3.5.3 Employment Equity

The City is committed to the employment of a qualified workforce that reflects the community's diversity. The City has established employment equity policies within their Corporate and Operational Policy Manual. The policies identifies their commitments to achieve fair and equal access to municipal employment opportunities for citizens; encourages the participation in City employment by all sectors; and foster an environment where employees and candidates for employment are treated with fairness, respect and dignity, without discrimination on the basis of gender, race, colour, religion, ethnic origin, ancestry, sexual orientation, age, disability, marital status or the need for accommodations. Employment decisions will be based on job related knowledge, qualifications, skills, abilities, and fairness. The City encourages companies hired to complete the proposed works to have similar policies and will be an equal opportunity employer.

Additionally, the City has implemented the Workplace Human Rights Policy & Procedure Bylaw as a mechanism for the investigation of alleged violations of individual rights, ensuring that alleged violations of the Policy are investigated.

Table 3.6 Anticipated Positions / Occupations Required during Construction Phase

Position	National Occupational Classification Group Title Code	Type of Employment Full / Part-time	Duration of Employment (months)	Number Positions Anticipated	Hiring Method Contracted Out, Direct Hire, Existing Staff	Estimated Quarterly Occupational Requirements			
						2021			
						Q1	Q2	Q3	Q4
Construction Manager	0711	Full Time	4	1	Contracted Out		1	1	
Heavy Equipment Operators	7521	Full Time	4	2	Contracted Out		2	2	
Construction and Trades Contractors and Supervisors	7205	Full Time	4	1	Contracted Out		1	1	
Construction Trades Labourers	7611	Full Time	4	4	Contracted Out		4	4	
Land Surveyors	2154	Part Time	6	1	Contracted Out	1	1	1	
Construction Inspectors	2264	Full Time	4	1	Contracted Out		1	1	
Geological Engineer	2113	Part Time	6	1	Contracted Out	1	1	1	
Civil Engineer	2131	Part Time	6	1	Contracted Out	1	1	1	

3.6 Public Consultation

The City of St. John's provided opportunities for public engagement and involvement throughout the process, including a Project specific webpage and a virtual public engagement session. The City of St. John's has prepared a "What We Heard" document outlining a summary of the engagement activities. This document is included in Appendix F.

The City of St. John's prepared a Project-specific webpage on the 'Engage St. John's' website, which provided a Project description, available information for the Project, and question submission form. The Project description on the Engage St. John's website included the identification of five potential berms located from Elizabeth Avenue to Kings Bridge Road. The public was encouraged to ask questions throughout the engagement process. Question submitted were posted, and responses were provided from the City of St. John's. The questions and responses are provided in Appendix F.

The City of St. John's held a virtual public engagement session on November 17, 2020 to provide information on the proposed Project to the people whose environment may be affected, and to respond to questions and seek feedback from the local community. Virtual public engagement session announcements were posted on the 'Engage St. John's' website to ensure maximum exposure to participants. Approximately 40 people attended the virtual public engagement session. The session provided project details on five potential structures and described the process for the registration of the Undertaking in accordance with the provincial *Environment Protection Act* and *Environmental Assessment Regulations*. Presented materials included:

- Purpose of the engagement session
- Background
- The Project
 - Location / Project Design
 - Project Activities
 - Project Schedule
- Flooding and Surface Water Management
- Permits and Authorizations
 - Environmental Assessment Process
 - Other Permit Requirements

Participants were able to express concerns and issues with the Project via the engagement pages and at the public session. Key concerns and issues with this Project included the following which are integrated into this EARD:

- Environmental assessment process for this project, and timelines
- Health and beauty of the river
- Use and design of berms
- Project costs
- Sequencing of this Project with other projects
- Effects of climate change

- Effects of flooding and to hydrology
- Effects to the water table/surface water, ground water
- Impact on surrounding properties, such as Empire Avenue, Feildian Grounds and Riverdale area
- How the public will be engaged and how will feedback will be incorporated

As a result of the engagement activities and public feedback, the City Council on December 14, 2020 decided to proceed with a reduced selection of two flood protection berms: one earth berm located adjacent to Winter Avenue, one earth berm located adjacent to the power substation berm, and erosion protection along Rennie's River downstream from Portugal Cove Road. The other structures discussed in the Virtual Engagement Session may be designed and developed as part of future flood mitigation efforts; however, were not included as part of the Undertaking for the EARD.

A summary of key questions and concern themes are outlined in Table 3.7, a full list of questions is provided in Appendix F. Questions asked about other undertakings are not included within this assessment.

Table 3.7 Summary of Questions and Concerns from Public Information Meetings and Location Addressed in the EA Registration

Theme	Topic	Response Summary
Environmental Assessment Process	Environmental Assessment Timeline	The Minister has 45 days to review the registration document and 10 days to post the decision after the 45 days. The Public will be provided a 35-day review period. Public are encouraged to participate in the process and a link will be provided to the NLECCM Project website on the engage page.
Project	How were the heights of the berm determined?	The berm heights were determine based on the 1:100 AEP CC with allowing for approximately 30 cm of freeboard.
	Will the berms be designed to be impermeable?	The Project design in underway, this will be consider as required, and as not to effect surface water drainage.
	Does the Project consider other infrastructure such as bridges?	Yes, the size and capacity of bridges has been considered in the development of the Project.
Flooding Concerns	Has the Project considered Hydraulic flows?	The modelling has been completed for various conditions (Appendix A).
	Does the Project include run-offs from other areas in the	Yes, the watershed has been included in this assessment.

Theme	Topic	Response Summary
	<p>watershed, such as upstream of Kelsey Drive?</p> <p>How will the other projects effect the Project, such as the Health Science Centre Berms and Long Pond Weir?</p> <p>Does the Project result in additional flooding?</p>	<p>The modelling has been completed for various conditions (Appendix A). The proposed project can be completed prior to the construction of the Long Pond Weir.</p> <p>Following the implementation of the berms during a 1:100 AEP CC event, the floodplain decreases approximately 14,910 m² compared to the floodplain without mitigation measures.</p> <p>The Project will result in the extension of the flood plain by approximately 880 m² along the backyard of properties at Winter Place (up to 5 m width), vegetated area adjacent to north side of the Rennies River, and the vegetated area along the south side of the river and to some backyards along Empire Avenue (average 5 m, up to 10 m)</p>
Other Environmental Concerns	<p>How will this Project affect the riparian areas and the river?</p> <p>Will the Project change groundwater level?</p>	<p>As much as possible, the berms will be constructed within the existing trail alignment. The types of berms were selected to preserve the natural waterline, accommodate available space and optimize effectiveness and aesthetics. Earthen berms are most preferred to blend into existing conditions, while not compromising structural integrity, when space allows.</p> <p>The Project is proposed as a mitigation measure for surface water from acute flooding events.</p>
Approvals	Pippy Park Approvals	The Project is not located within the Pippy Park managed areas, and will not anticipated to require a Pippy Park Approval.

3.7 Project Related Documents

The following section includes a summary of the documents used to generate this EARD.

3.7.1 Reference Documents

CBCL. 2014. Rennie's River Catchment Stormwater Management Plan (RRCSWMP): Final Report. File No. 123097.00. Report prepared for City of St. John's by CBCL, St. John's, NL. Dated April 15, 2014. Available: http://www.stjohns.ca/sites/default/files/files/publication/Rennie's%20River%20Catchment%20Stormwater%20Management%20Plan_0.pdf. Accessed September 25, 2020.

CBCL. 2020. Rennie's River Flood Mitigation – Phase 2A – Additional Analysis. Draft Final Report. File No. 193030.00. Report prepared for City of St. John's by CBCL, St. John's NL. Dated March 2, 2020.

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Government of Newfoundland and Labrador, Department of Fisheries, Forestry and Agriculture (NLFFA). 2020b. District Planning Information. Available: <https://www.gov.nl.ca/ffa/programs-and-funding/forestry-programs-and-funding/managing/district/> Accessed: September 23, 2020.

Government of Newfoundland and Labrador, Department of Fisheries, Forestry and Agriculture (NLFFA). 2020a. Maritime Barrens Ecoregion. Available: <https://www.gov.nl.ca/ffa/gis/maps/mbarrens-eco/>. Accessed: September 28, 2020.

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3.7.2 Project Specific Studies

The City has undertaken Project specific studies since 2013. The following Project related documents have been completed and are provided for further information to this EARD. The locations of the studies are provided below:

Available Online: CBCL. 2014. Rennie's River Catchment Stormwater Management Plan (RRCSWMP): Final Report. File No. 123097.00. Report prepared for City of St. John's by CBCL, St. John's, NL. Dated April 15, 2014. Available Online: http://www.stjohns.ca/sites/default/files/files/publication/Rennies%20River%20Catchment%20Stormwater%20Management%20Plan_0.pdf

Appendix A – Flood Mitigation Studies

CBCL. 2020. Rennie's River Flood Mitigation – Phase 2A – Additional Analysis. Draft Final Report. File No. 193030.00. Report prepared for City of St. John's by CBCL, St. John's NL. Dated March 2, 2020.

CBCL. 2021. Rennies River Flood Mitigation - Winter Avenue. Report prepared for City of St. John's by CBCL, St. John's NL. Dated January 19, 2021.

Appendix B – Site Visit Photographs

Appendix F – Public Consultation Documents

Chapter 4 Approval of Undertaking

After completion of the environmental assessment process, the Project is anticipated to require federal and provincial environmental permits, approvals, and authorizations. Table 4.1 provides a list of the anticipated permits, approvals, authorizations or reviews that may be required, the enabling legislation, and the regulatory agency responsible for administration. Respective approvals, permits, authorizations or reviews will be in place prior to the commencement of construction activities, such as Permit to Alter a Body of Water and Request for Review, prior to in water works.

Table 4.1 List of Permits, Approvals, Authorization or Reviews for the Project

Permit, Approval, Authorization or Review	Applicable Legislation	Issuing Body
Approval for the Undertaking	<i>Environmental Protection Act / Environmental Assessment Regulation</i>	Minister of Environment Climate Change and Municipalities
Permit to Alter a Body of Water Schedule J - Miscellaneous Works in a Freshwater Body i.e. Other works not specific to above schedules	<i>Water Resources Act, SNL 2002 and NSECCM Policy for Development in Wetlands</i>	NSEECM Water Resources Management Division
Request for Review	<i>Fisheries Act</i>	Fisheries and Oceans Canada (DFO)
Development, Building, and Occupancy Permits	<i>City of St. John's Act, RSNL 1990</i>	St. John's City Council

Chapter 5 Schedule

The preliminary design activities such as topographic surveys are scheduled to take place in the winter of 2021 and detailed design will continue through the winter of 2021. Upon receipt of required approvals and authorizations, site preparation activities, such as vegetation clearing may occur in the spring of 2021. Construction of berms will follow in spring/summer of 2021. The construction is expected to occur over a six-month period including site preparation and construction. The construction of the berms is likely to take place over a three-month period including mobilization to demobilization.

The schedule reflects vegetation clearing occurring outside the breeding bird period (mid-April to mid-August, ECCC, 2020). If vegetation clearing outside the breeding bird nesting period is unavoidable, breeding bird/nest surveys will be completed prior to removal of vegetation or disturbance of potential habitat. Appropriate set back distances should be based on setbacks identified in the literature or in consultation with a provincial or federal wildlife biologist.

Any in-water works will occur during the summer low flow period (June 1 to September 30) to avoid sensitive life stages of aquatic life (from October 1 to May 31). Mitigation measures will be employed as to minimize effects to brown trout, such as avoiding construction from October 1 to November 30 (DFO, 2019).

Chapter 6 Funding

The City received funding for the Rennies River flood Mitigation Project from Infrastructure Canada under the New Building Canada Fund - Provincial-Territorial Infrastructure Component. The estimated capital cost for the design and construction is in the range of \$1.0 to 1.2 million.

APPENDIX A

Flood Mitigation Study

Rennies River Flood Mitigation – Phase 2A Additional Analysis
Rennies River Flood Mitigation - Winter Avenue



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March 2, 2020

Scott Winsor, P.Eng.
Director of Engineering
Planning, Engineering and Regulatory Services
City of St. John's
P.O. Box 908
St. John's, NL A1C 1J3

Dear Mr. Winsor:

*RE: Rennie's River Flood Mitigation – Phase 2A Additional Analysis
DRAFT REPORT*

Background

In 2014 CBCL completed the Rennie's River Catchment Stormwater Management Plan (RRCSMP) Study for the City of St. John's. The study included hydrologic modelling of the catchment to determine flood flows for existing and future land uses, considering up-to-date rainfall data as well as rainfall representative of climate change conditions. A hydraulic model was then created to examine the extent of the floodplain resulting from the flood flows. The flood selected for design of flood protection improvements was the 1:100 annual exceedance probability (AEP) flow associated with future land development and climate change conditions.

Scope of Work

The scope of work for this current assignment includes hydraulic modelling of Rennie's River from Wicklow Street to Quidi Vidi Lake for the following scenarios:

1. Without the Long Pond weir in place, determine the effect on flooding if the improvements downstream of Portugal Cove Road bridge, as identified in Figure 2 of the Rennie's River Flood Mitigation – Phase 2A Draft Final Report, dated September 17, 2019, are removed.
2. Determine the climate change design storm that can be accommodated by the existing river.
3. Determine the climate change design storm that can be accommodated without the Long Pond weir in place and with downstream improvements as recommended in Figure 2 of the September 17, 2019 Report.
4. Compare the floodplain for the existing river system (i.e. without improvements) to floodplains with the proposed berms at the Health Sciences, with and without Long Pond weir, and with and without the proposed downstream improvements as presented in Figure 2 and Figure 7 of the September 17, 2019 Report.

Analysis

This scope of work builds on the analysis presented in the September 17, 2019 Report. It should be noted that, during the course of the hydraulic modeling for the scope of work listed above, a software bug was identified. It was noticed that a road which did not overtop in previous versions of the software did overtop in XPSWMM version 2018.2.1 (and version 2019.1). This software bug was brought to the attention of XPSolutions, the supplier of the XPSWMM software. XPSolutions determined that the problem was related to the bridge links. When the bridge geometry is entered in XPSWMM through the bridge link the

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Mr. Scott Winsor

March 2, 2020

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program creates tables of depth, area, wetted perimeter, and surface width. There were errors in these tables which lead to the program incorrectly determining the amount of water through the bridge links. XPSolutions recommended changing the bridge links to multilinks, creating the depth, area, wetted perimeter and surface width tables outside of XPSWMM, and entering this data in the multilinks. These changes were made to the model and the 1:100 AEP Climate Change (CC) flow was simulated. The results were compared to the original RRCSMP study floodplain. In general, the 1:100 AEP CC floodplain produced from the 1D-2D model compared well to the original 2D-2D RRCSMP 1:100 AEP CC floodplain. However, the water level upstream of Clinch Crescent West is higher than modeled in the RRCSMP study and results in Clinch Crescent west being overtopped to the north of the bridge.

For item 1, the improvements proposed downstream of Portugal Cove Road in Figure 2 of the September 17, 2019 Report were removed, and the 1:50 AEP without climate change flow was simulated. The resulting floodplain was compared to Figure 2 of the September 17, 2019 Report. This comparison is presented in Figure 1. Without the downstream improvements the peak water level just upstream of Portugal Cove Road is reduced by approximately 0.3m. Therefore, the height of the proposed segmental concrete block wall and cast-in-place concrete wall just upstream of Portugal Cove Road may be reduced. However, further upstream the difference in peak water level is negligible.

For item 2, the hydrologic model which was created for the RRCSMP study was used to simulate climate change hyetographs for 2, 5, 10, 20, 50 and 100 year return periods. The peak flows from each of the sub-watersheds (identified in Figure 2) were extracted and compared to the peak flows corresponding to the 20, 50 and 100 year return periods without climate change. This data is presented in Table 1. It should be noted that the flows presented are **not** river flows (i.e. are not cumulative and do not include the attenuating effects of Long Pond), but rather runoff from each sub-watershed. It was found that a 1:2 AEP CC event cannot be fully contained by the existing river system, particularly at Portugal Cove Road. This is not surprising when the 1:2 AEP CC flows are compared to other storm events. As can be seen from the table the 1:2 and 1:5 AEP CC flows are similar to the 1:20 AEP without climate change flows. The RRCSMP study illustrated that the 1:20 AEP flow for existing climate conditions cannot be contained in the river. The floodplain for the 1:2 AEP CC flow is presented in Figure 3.





Mr. Scott Winsor

March 2, 2020

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Table 1: Peak Flows by Sub-Watershed

Sub-Watershed #	Peak Sub-Watershed Flow (m ³ /s)								
	1:2 CC	1:5 CC	1:10 CC	1:20 CC	1:50 CC	1:100 CC	1:20	1:50	1:100
1	3.1	4.3	5.2	6.1	7.3	8.2	4.2	5.1	5.8
2	4.8	6.7	8.1	9.4	11.2	12.6	6.5	7.7	8.7
3	2.4	3.5	4.2	4.9	6.0	6.8	3.4	4.2	5.0
4	5.9	8.2	9.8	11.5	13.7	15.4	7.9	9.4	10.6
5	9.2	13.0	15.7	18.4	22.0	24.9	12.7	15.3	17.3
6	8.9	12.6	15.2	17.8	21.3	24.1	12.6	15.2	17.2
7	8.6	12.0	14.4	16.9	20.2	22.7	11.6	13.9	15.7
8	4.0	5.5	6.6	7.6	9.1	10.1	5.2	6.2	7.0
9	9.0	12.9	15.6	18.4	22.1	25.0	13.9	16.9	19.2
10	11.0	15.5	18.5	21.6	25.7	28.9	15.0	17.9	20.1

The analysis for the Rennies River Flood Mitigation – Phase 2A Draft Final Report, dated September 17, 2019 found that the 1:50 AEP flow without climate change could be accommodated without the Long Pond weir in place and with downstream improvements. For item 3, various return period climate change flows were simulated in the model. The 1:20 AEP CC can be accommodated with berm and concrete wall heights less than those proposed in Figure 2 of the September 17, 2019 report. The 1:50 AEP CC event can be accommodated by increasing berm and wall heights proposed in Figure 2 of the September 17, 2019 Report by approximately 0.2-0.4 m. Figure 4 presents the improvements required to accommodate the 1:50 AEP CC event without Long Pond weir in place. Berm heights may change from those presented in Figure 4 during detailed design when survey of the alignment is collected.

For item 4, the scenarios described in Table 2 were simulated for the 1:100 AEP CC event and compared to the 1:100 AEP CC existing conditions. The following sections describe the results of the simulation runs. Figures 5 to 12 present the floodplain for each scenario compared to the existing 1:100 AEP CC floodplain.





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Table 1: Scenarios for Floodplain Comparison to Existing 1:100 AEP CC

Scenario	Figure No.	Health Science Centre	Long Pond Weir	Downstream Improvements
1	5	HSC Berms	No Long Pond weir	No D/S improvements
2	6	HSC Berms	No Long Pond weir	D/S improvements as per figure 2 of the Sept 17, 2019 report
3	7	HSC Berms	No Long Pond weir	D/S improvements as per figure 2 of the Sept 17, 2019 report - deleting improvements D/S of Portugal Cove Road Bridge
4	8	HSC Berms	No Long Pond weir	D/S improvements as per figure 7 of the Sept 17, 2019 report
5	9	HSC Berms	With Long Pond weir	No D/S improvements
6	10	HSC Berms	With Long Pond weir	D/S improvements as per figure 2 of the Sept 17, 2019 report
7	11	HSC Berms	With Long Pond weir	D/S improvements as per figure 2 of the Sept 17, 2019 report - deleting improvements D/S of Portugal Cove Road Bridge
8	12	HSC Berms	With Long Pond weir	D/S improvements as per figure 7 of the Sept 17, 2019 report

Scenario 1, Figure 5: 1:100 AEP CC Health Sciences Berms

As expected, the floodplain for scenario 1 is similar to the floodplain for the 1:100 AEP CC existing river conditions, with the exception of the and floodplain extent between Clinch Crescent West and Clinch Crescent East where the proposed Health Sciences Centre (HSC) Berms are to be constructed. It should be noted that although there is flooding on Prince Philip Drive in the vicinity of the south HSC berm, this flow is not due to overtopping the south berm, but rather flow which overtops the right bank upstream of Clinch Crescent west.

Scenario 2, Figure 6: 1:100 AEP CC Health Sciences Berms and Downstream Berms

The floodplain for scenario 2 cannot be contained by the improvements as proposed in Figure 2 of the September 17, 2019 Report. The water level upstream of Portugal Cove Road will exceed the height of the proposed improvements. Similarly, portions of the proposed downstream improvements will be overtopped.

Scenario 3, Figure 7: 1:100 AEP CC Health Sciences Berms and Berms Downstream of Portugal Cove Road Removed

Removing the berms downstream of Portugal Cove Road will result in the Fieldian Grounds & Riverdale Tennis Club being flooded during the 1:100 AEP CC event. Without berms in the left bank upstream of Kings Bridge Road the floodplain will extend north toward Winter Avenue, over Kings Bridge Road and onto the King George V soccer field.

Scenario 4, Figure 8: 1:100 AEP CC Health Sciences Berms and Alternative Flood Protection Scheme

With the berms downstream of Portugal Cove Road removed but maintaining the berms upstream of King’s Bridge Road, the Fieldian Grounds & Riverdale Tennis Club will be





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Mr. Scott Winsor

March 2, 2020

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flooded during the 1:100 AEP CC event. However residential property will be protected during the 1:100 AEP CC event.

Scenario 5, Figure 9: 1:100 AEP CC Health Sciences Berms and Long Pond Weir

Including the weir at Long Pond does not reduce the flow enough to prevent flooding downstream. Flooding will still occur upstream of Portugal Cove Road toward Pringle Place, and onto Fieldian Grounds & Riverdale Tennis Club.

Scenario 6, Figure 10: 1:100 AEP CC Health Sciences Berms, Long Pond Weir and Downstream Berms

The 1:100 AEP CC event was simulated with the HSC berms and Long Pond weir in place with the downstream improvements as presented in Figure 2 of the September 17, 2019 report. The resulting floodplain is presented in Figure 10.

Scenario 7, Figure 11: 1:100 AEP CC Health Sciences Berms & Long Pond Weir – Berms Downstream of Portugal Cove Road Removed

With this configuration there will still be some flooding toward Winter Avenue for the 1:100 AEP CC event.

Scenario 8, Figure 12: 1:100 AEP CC Health Sciences Berms, Long Pond Weir and Alternative Flood Protection Scheme

The resulting floodplain for scenario 8 is similar to that for scenario 4. The Fieldian Grounds & Riverdale Tennis Club property will be flooded, however, the residential properties will be protected.

Yours truly,

CBCL Limited

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Reviewed by:
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Senior Civil Engineer

Project No: 193030.00

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Figure 1: Comparison of 1:50 AEP Floodplains With and Without Improvements Downstream of Portugal Cove Road



Figure 2: Subcatchment Delineation

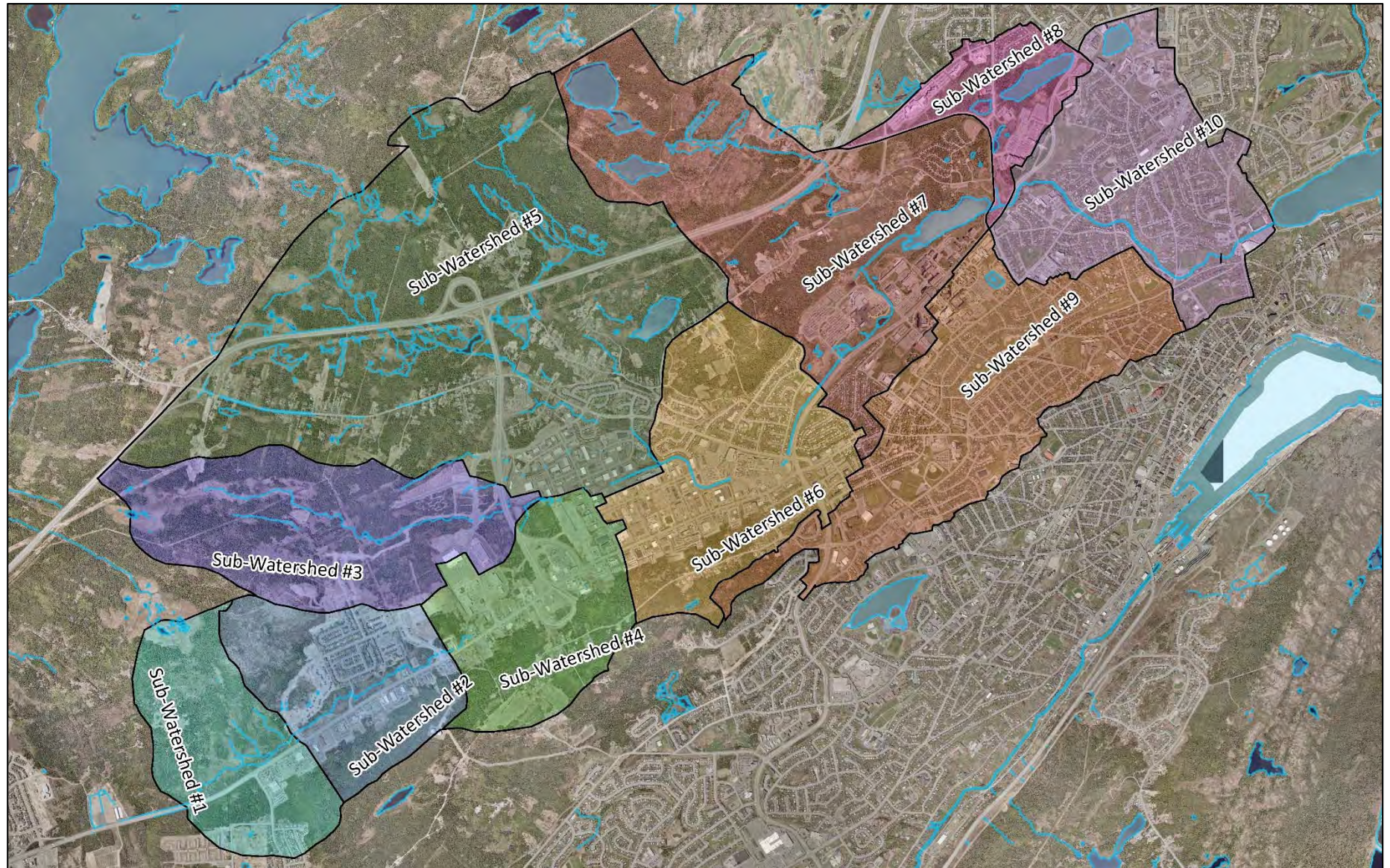


Figure 3: 1:2 AEP Climate Change Floodplain for Existing River System

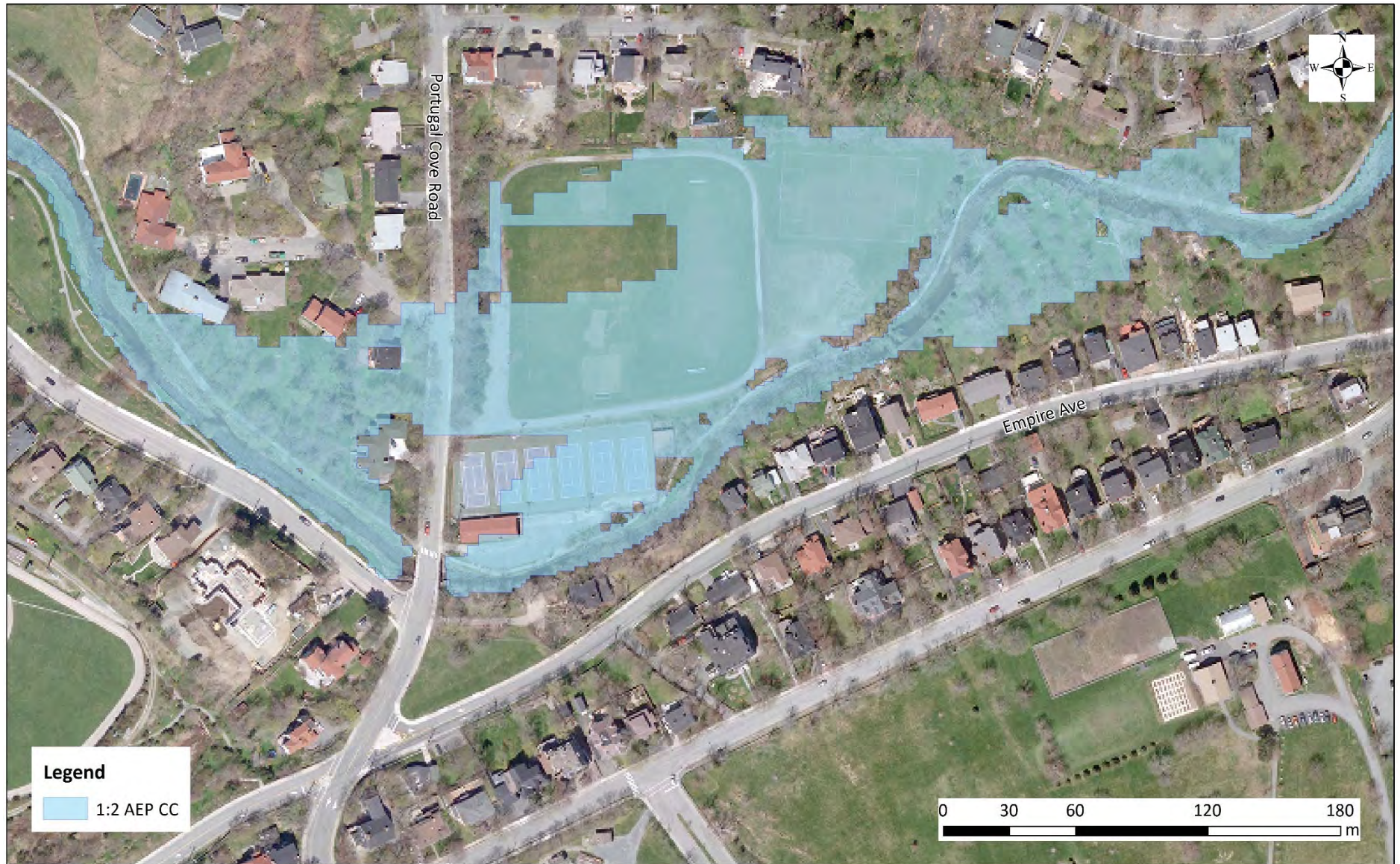
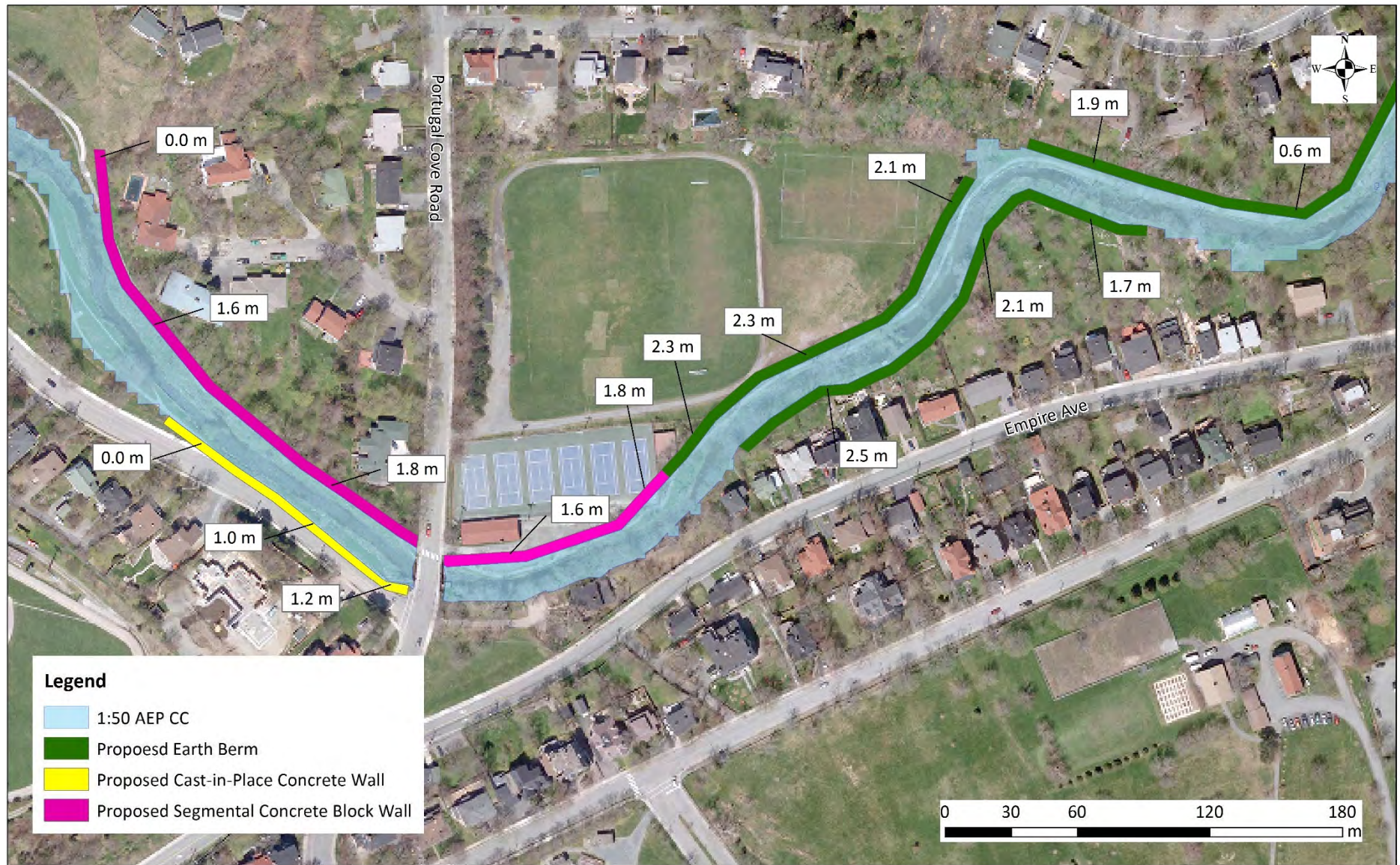
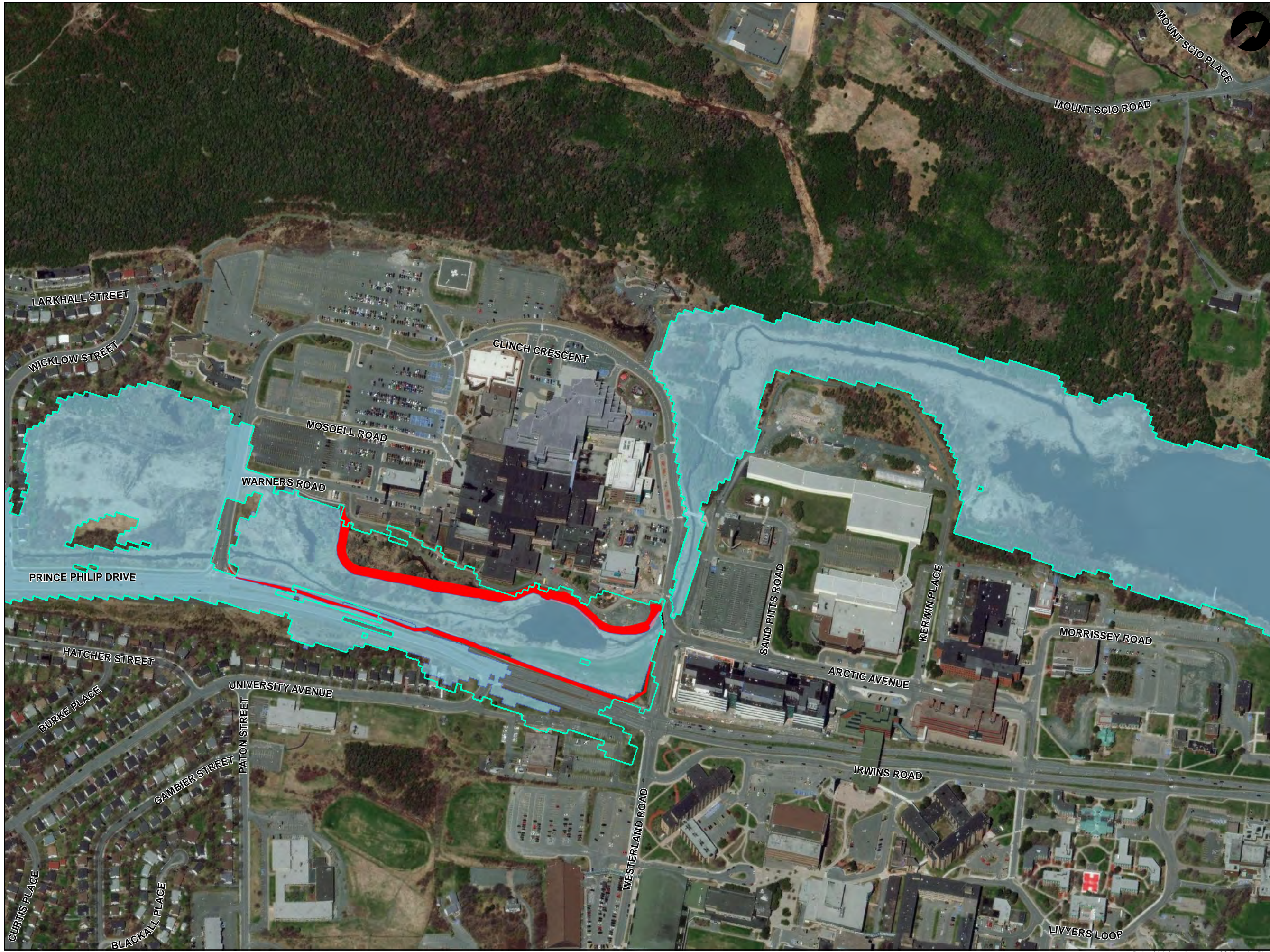


Figure 4: Proposed Heights of Flood Protection Without Long Pond Weir – 1:50 AEP Climate Change





- Legend:
- 100 AEP CC Existing
 - 100 AEP CC HSC Berms
 - Proposed Earth Berm
 - Proposed HSC Berms

ST. JOHN'S

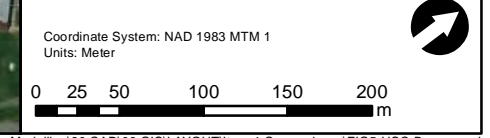
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**Rennies River Flood Mitigation
 Phase 2A Additional Analysis**

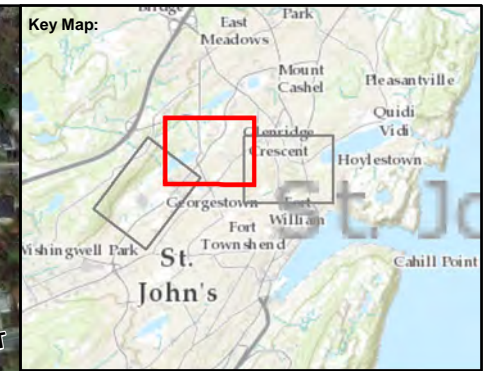
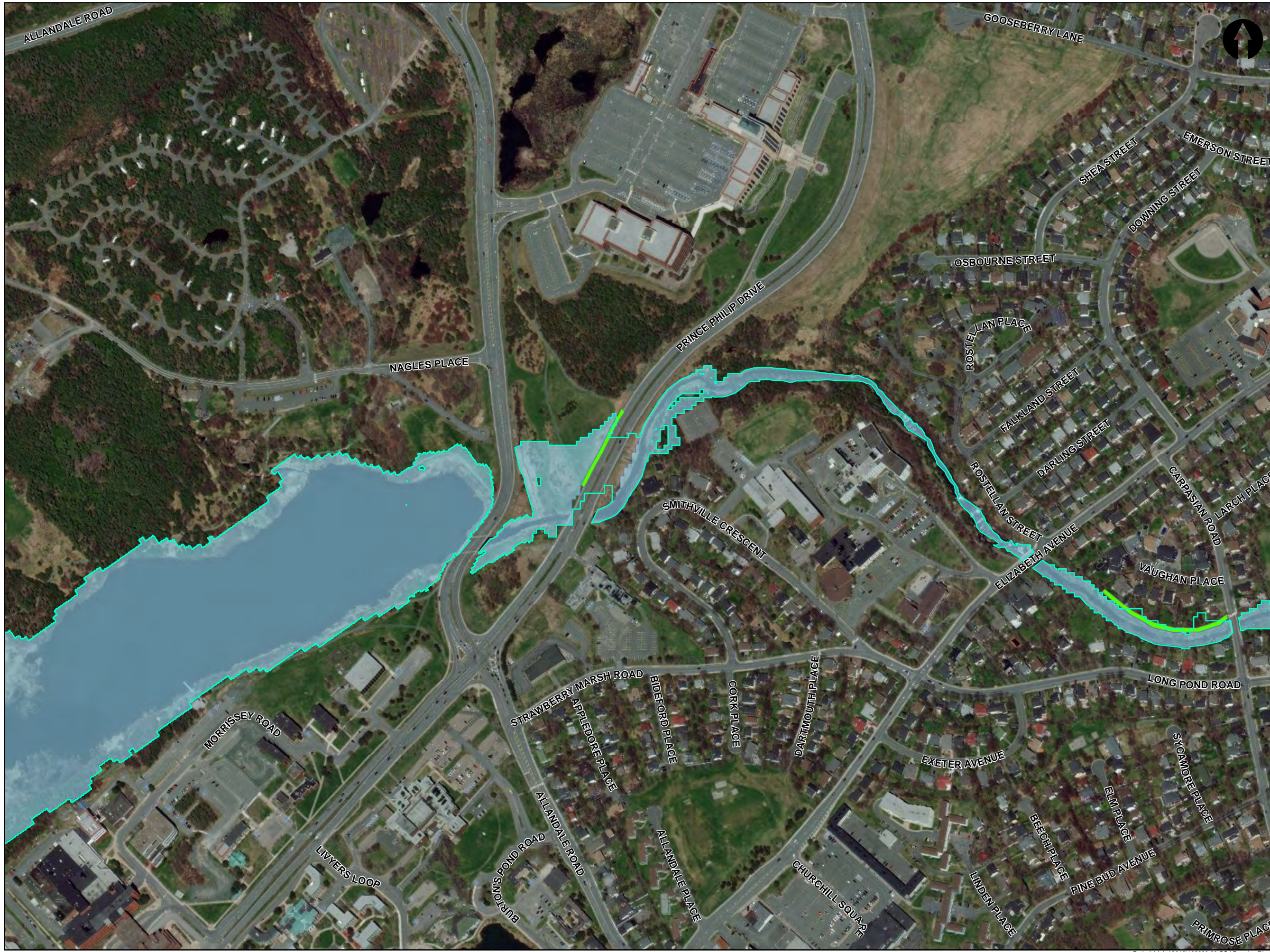
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 Figure 5:
 1:100 AEP CC Health Sciences Berms



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:
- 100 AEP CC Existing
 - 100 AEP CC HSC Berms
 - Proposed Earth Berm
 - Proposed HSC Berms

ST. JOHN'S

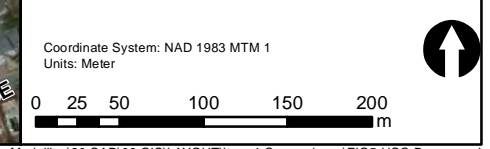
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 Phase 2A Additional Analysis**

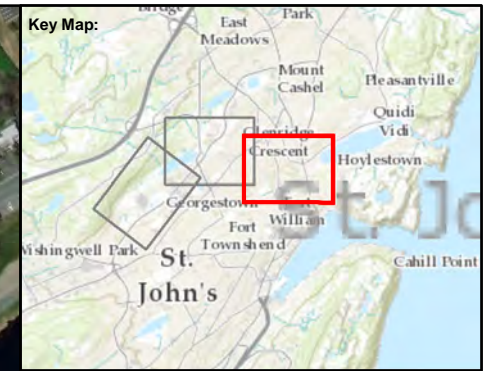
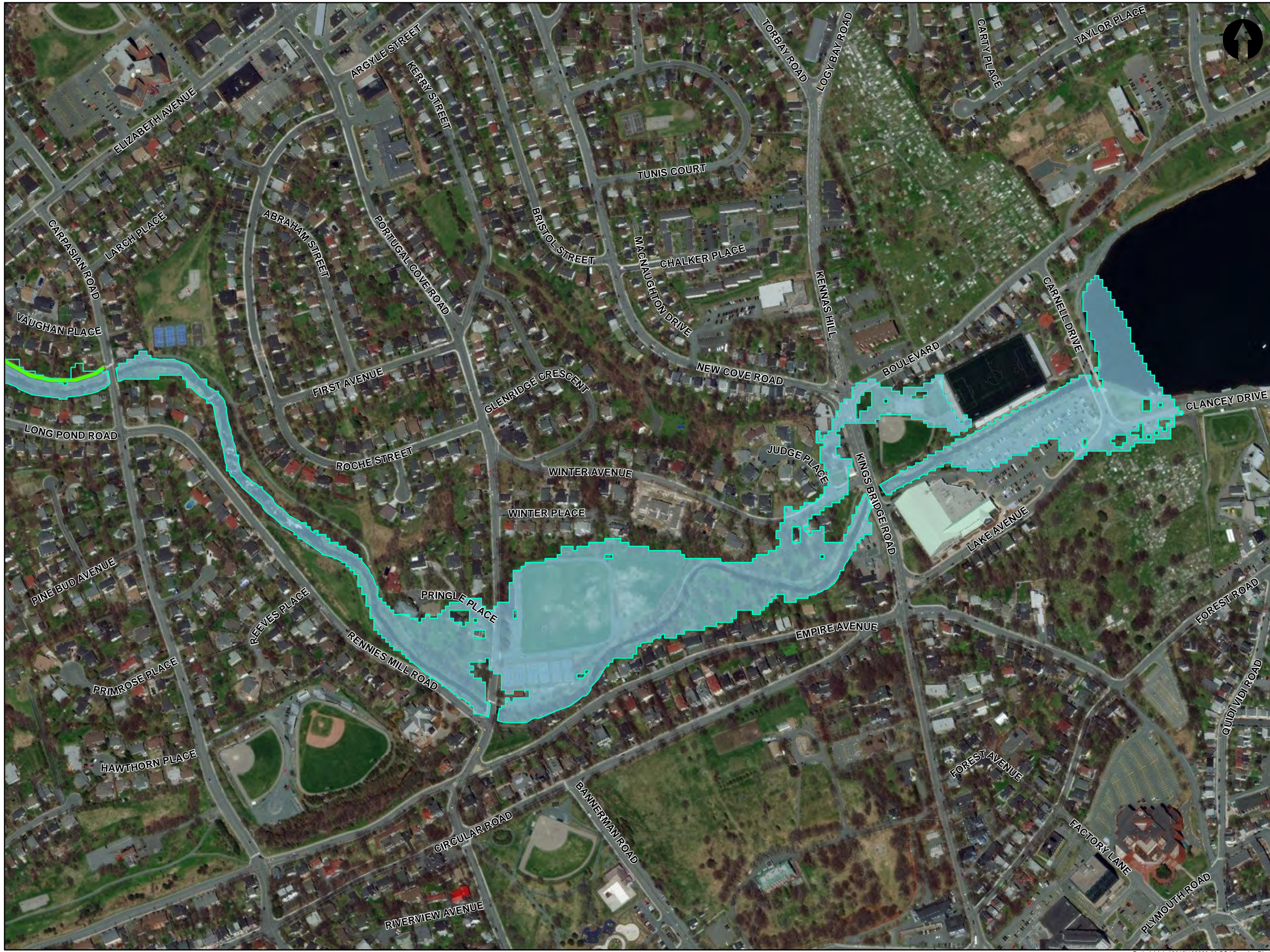
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 1:100 AEP CC Health Sciences Berms



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
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- Legend:
- 100 AEP CC Existing
 - 100 AEP CC HSC Berms
 - Proposed Earth Berm
 - Proposed HSC Berms

ST. JOHN'S

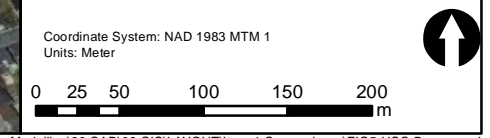
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 Phase 2A Additional Analysis**

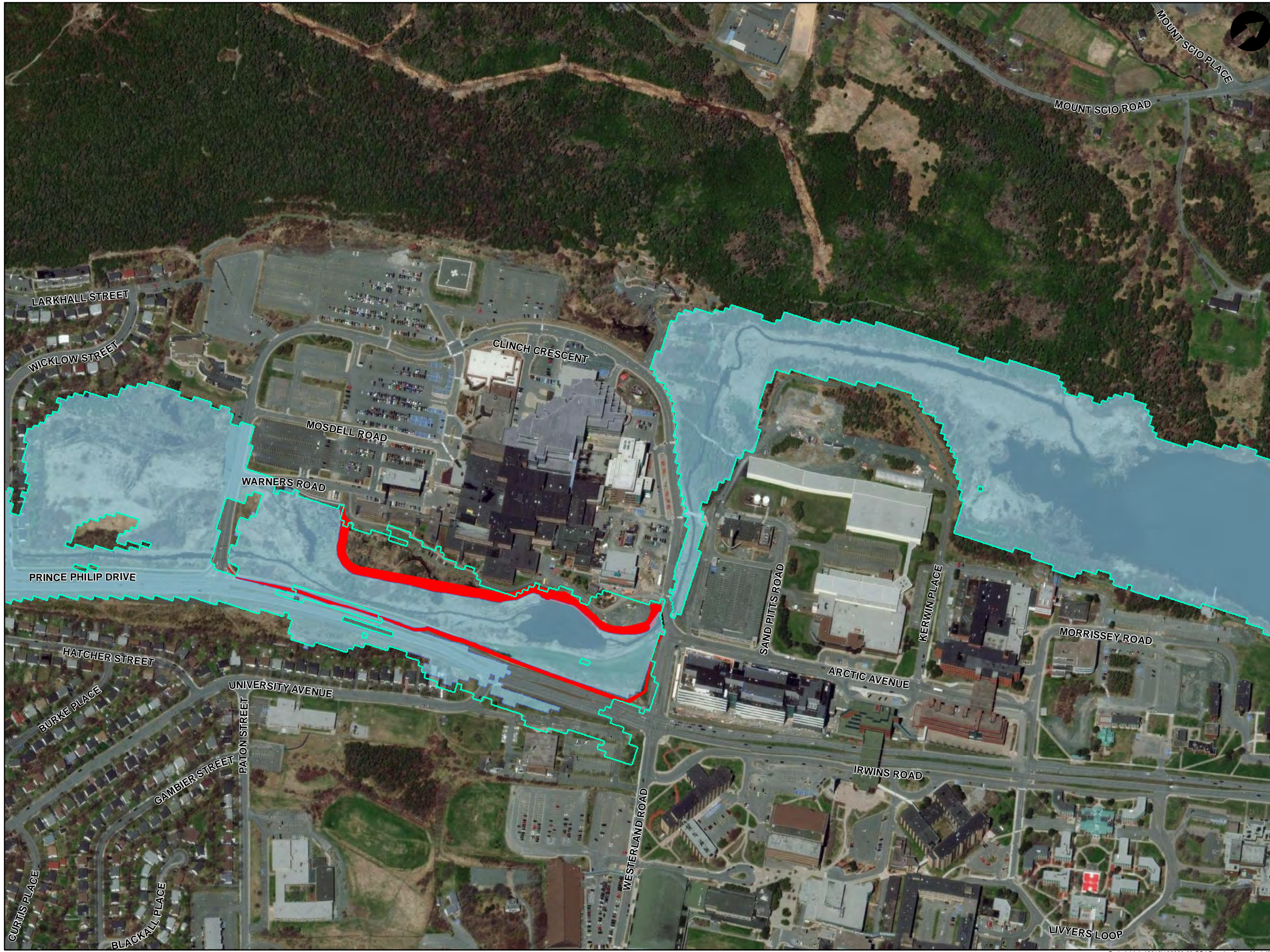
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 Figure 5:
 1:100 AEP CC Health Sciences Berms



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Drawn: JB	Date: 02/03/2020
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Approved: GS	Scale @ 11"x17" : 1:4,500





Legend:

- 100 AEP CC Existing
- 100 AEP CC HSC and Downstream Berms
- Proposed HSC Berms
- Proposed Cast-in-Place Concrete Wall
- Proposed Segmental Concrete Block Wall
- Proposed Earth Berm

ST. JOHN'S

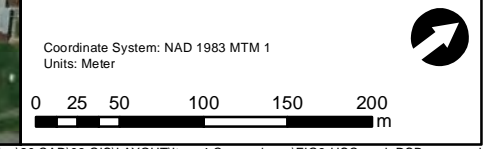
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 Phase 2A Additional Analysis**

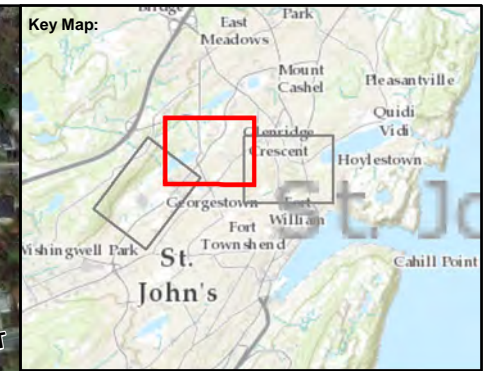
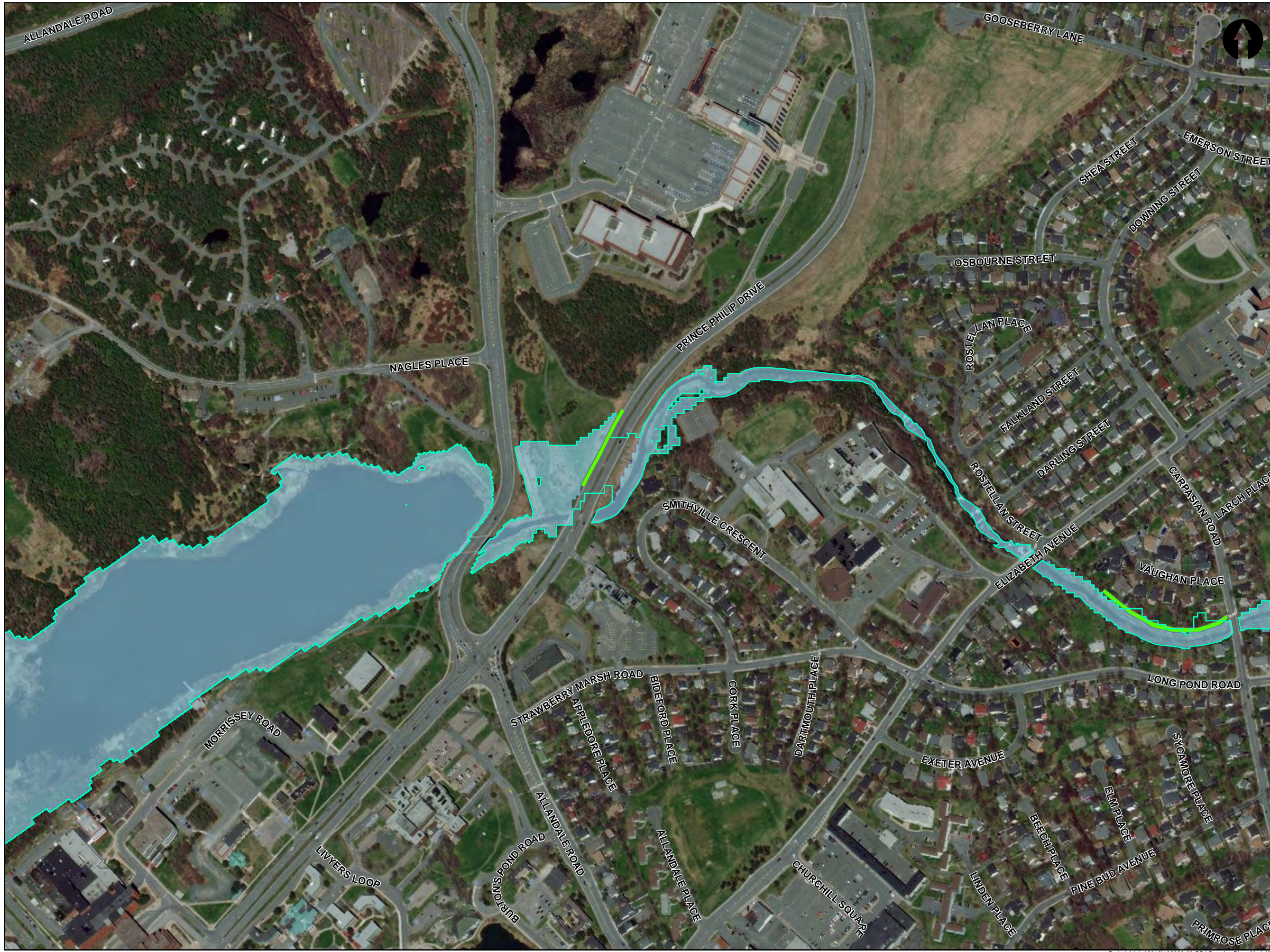
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 Figure 6:
 1:100 AEP CC Health Sciences Berms
 and Downstream Berms



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Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC and Downstream Berms
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

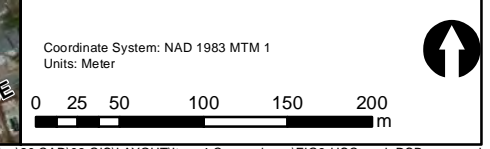
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 Phase 2A Additional Analysis**

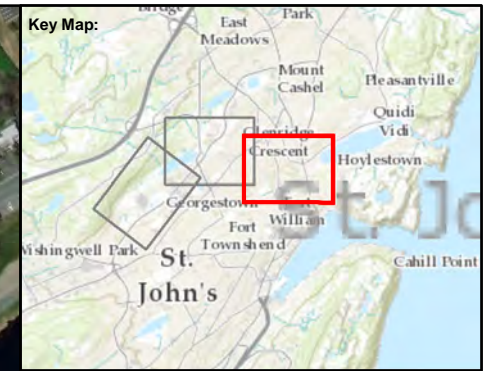
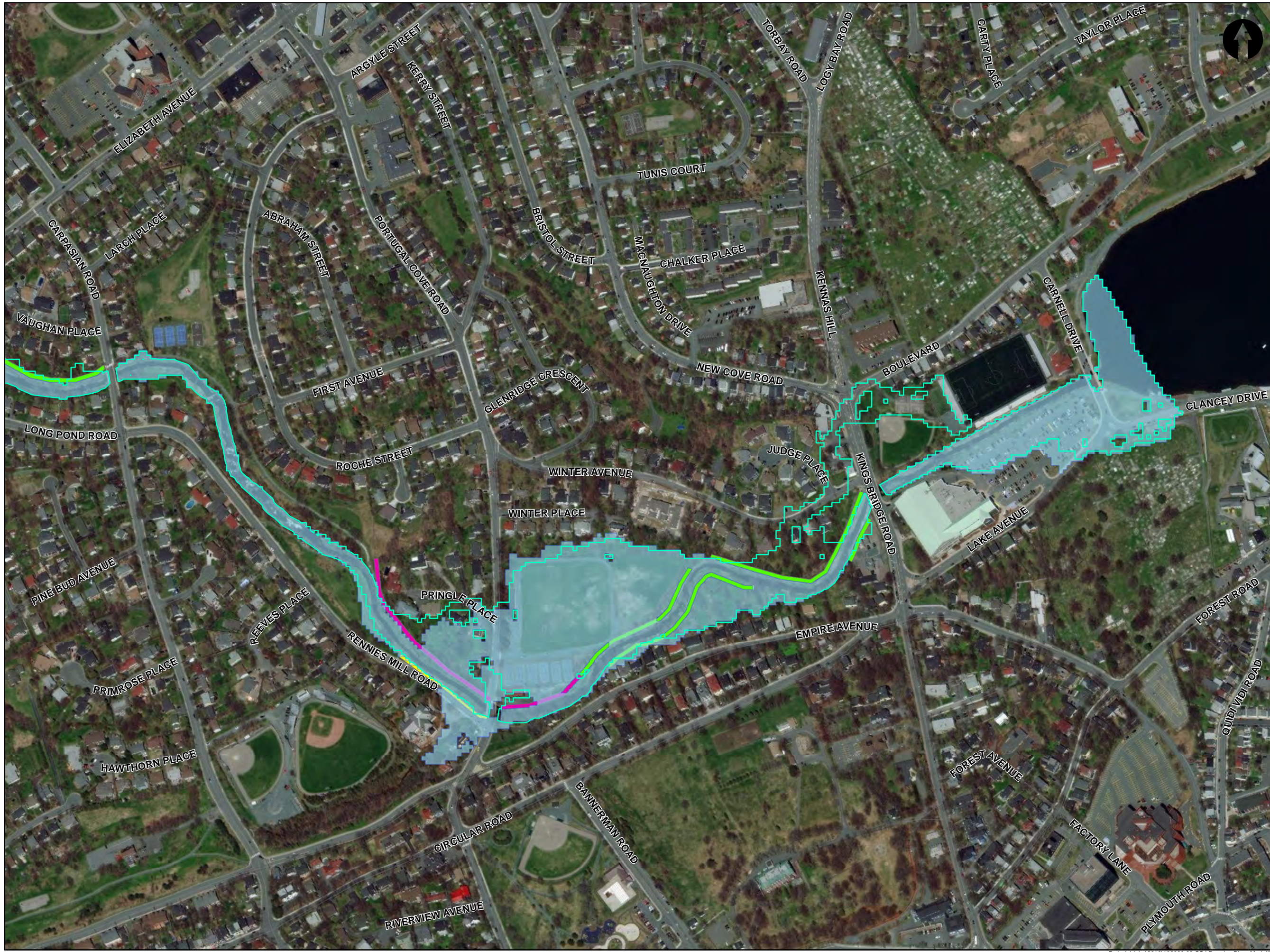
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 1:100 AEP CC Health Sciences Berms
 and Downstream Berms



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Drawn: JB	Date: 02/03/2020
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Legend:

- 100 AEP CC Existing
- 100 AEP CC HSC and Downstream Berms
- Proposed HSC Berms
- Proposed Cast-in-Place Concrete Wall
- Proposed Segmental Concrete Block Wall
- Proposed Earth Berm

ST. JOHN'S

Project:
Rennie's River Flood Mitigation Phase 2A Additional Analysis

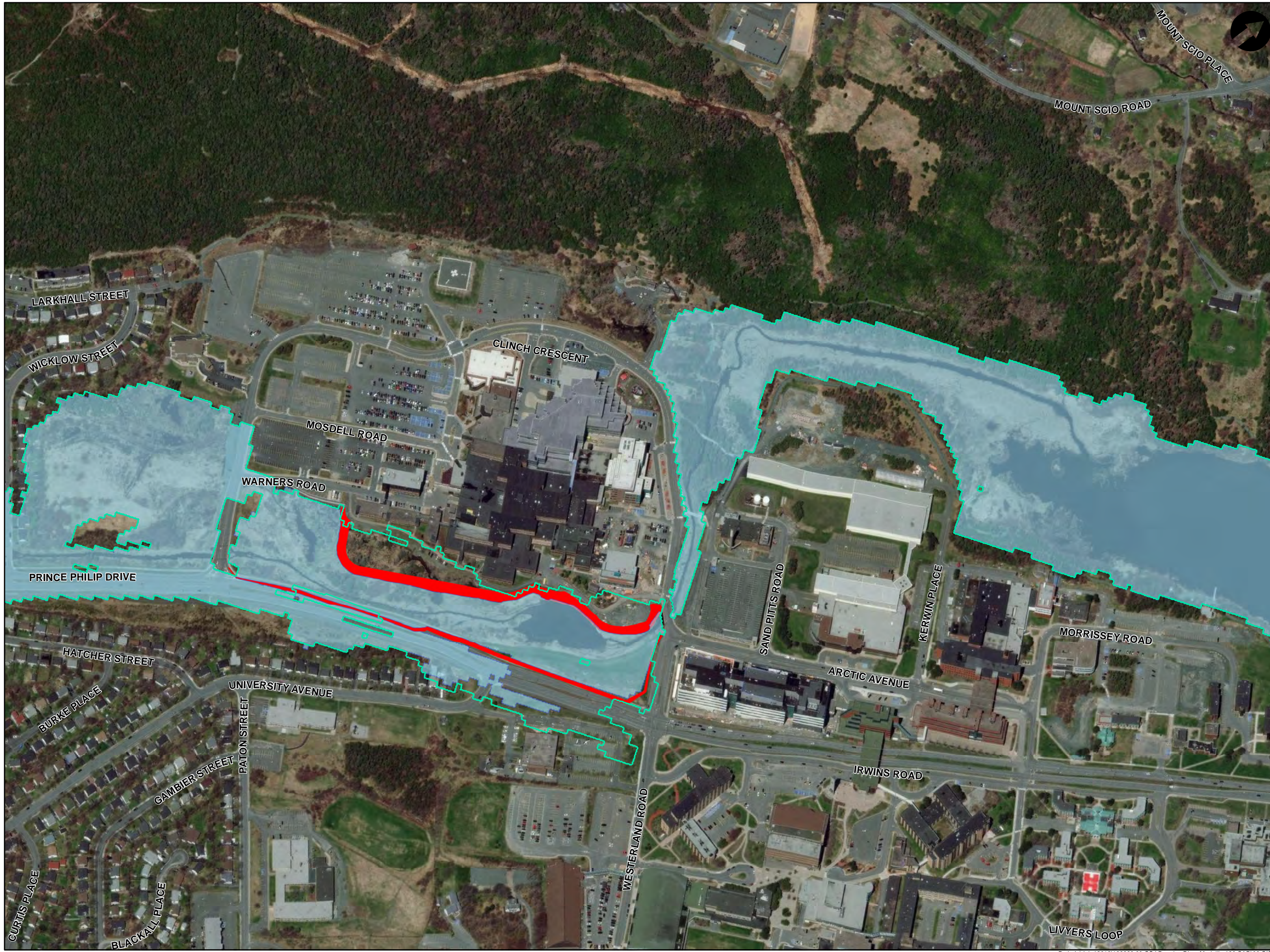
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Approved: GS	Scale @ 11"x17" : 1:4,500

Coordinate System: NAD 1983 MTM 1
 Units: Meter



Legend:

	100 AEP CC Existing
	100 AEP CC HSC Berms - No Berms DS of Portugal Cove Road
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

ST. JOHN'S

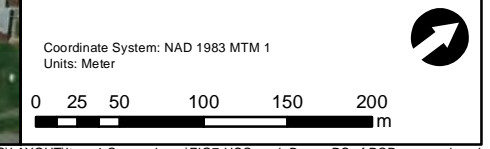
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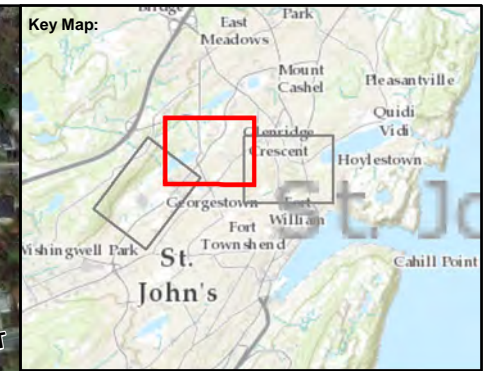
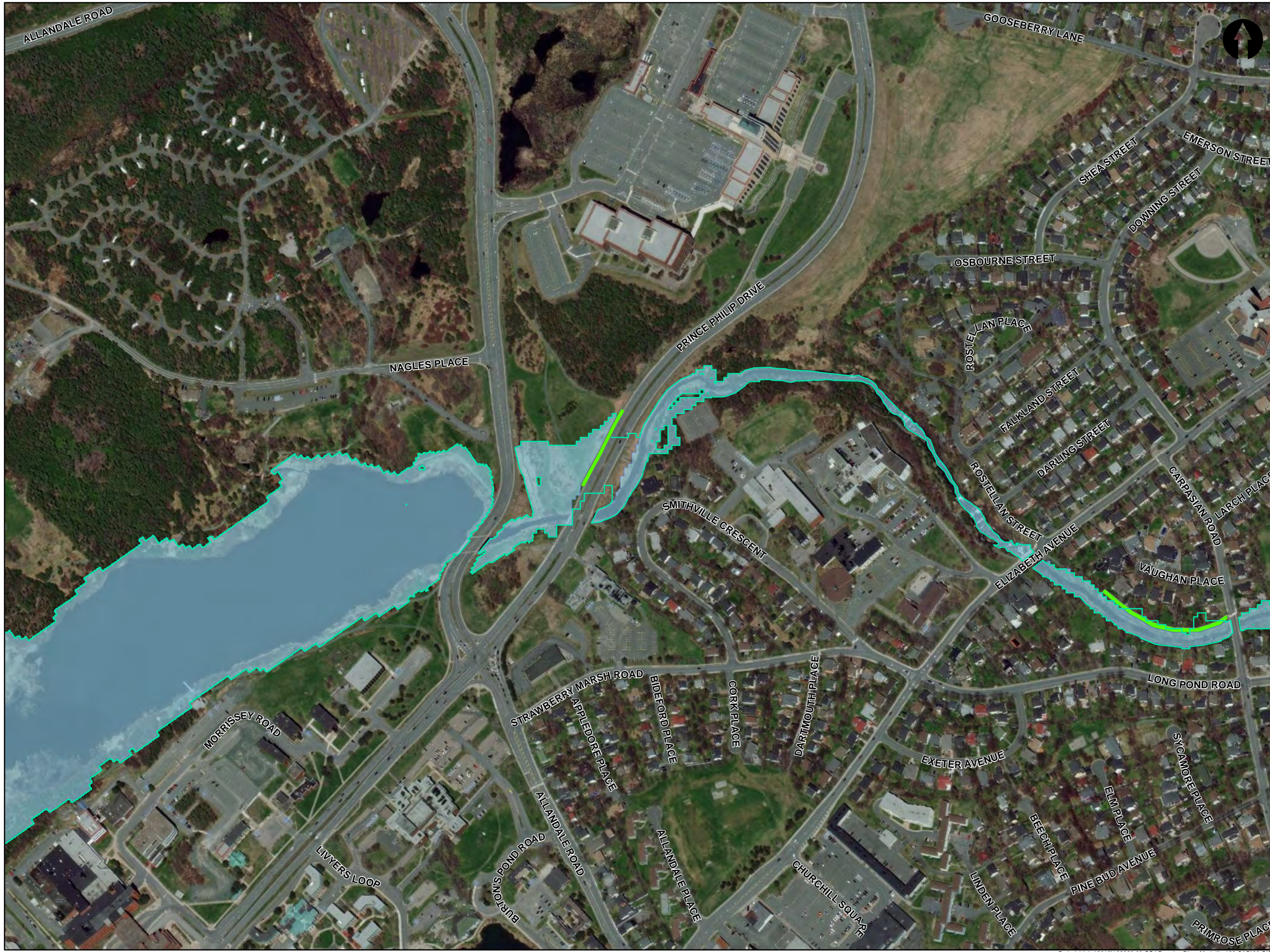
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 Figure 7:
 1:100 AEP CC Health Sciences Berms and Berms Downstream of Portugal Cove Road Removed



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





Legend:

	100 AEP CC Existing
	100 AEP CC HSC Berms - No Berms DS of Portugal Cove Road
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

ST. JOHN'S

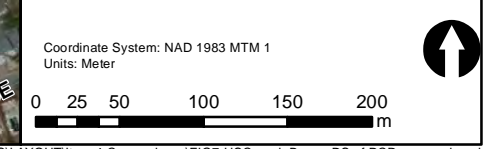
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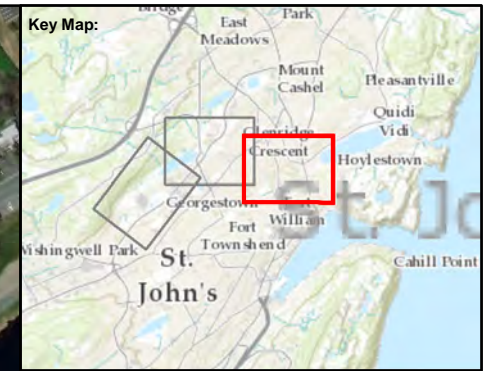
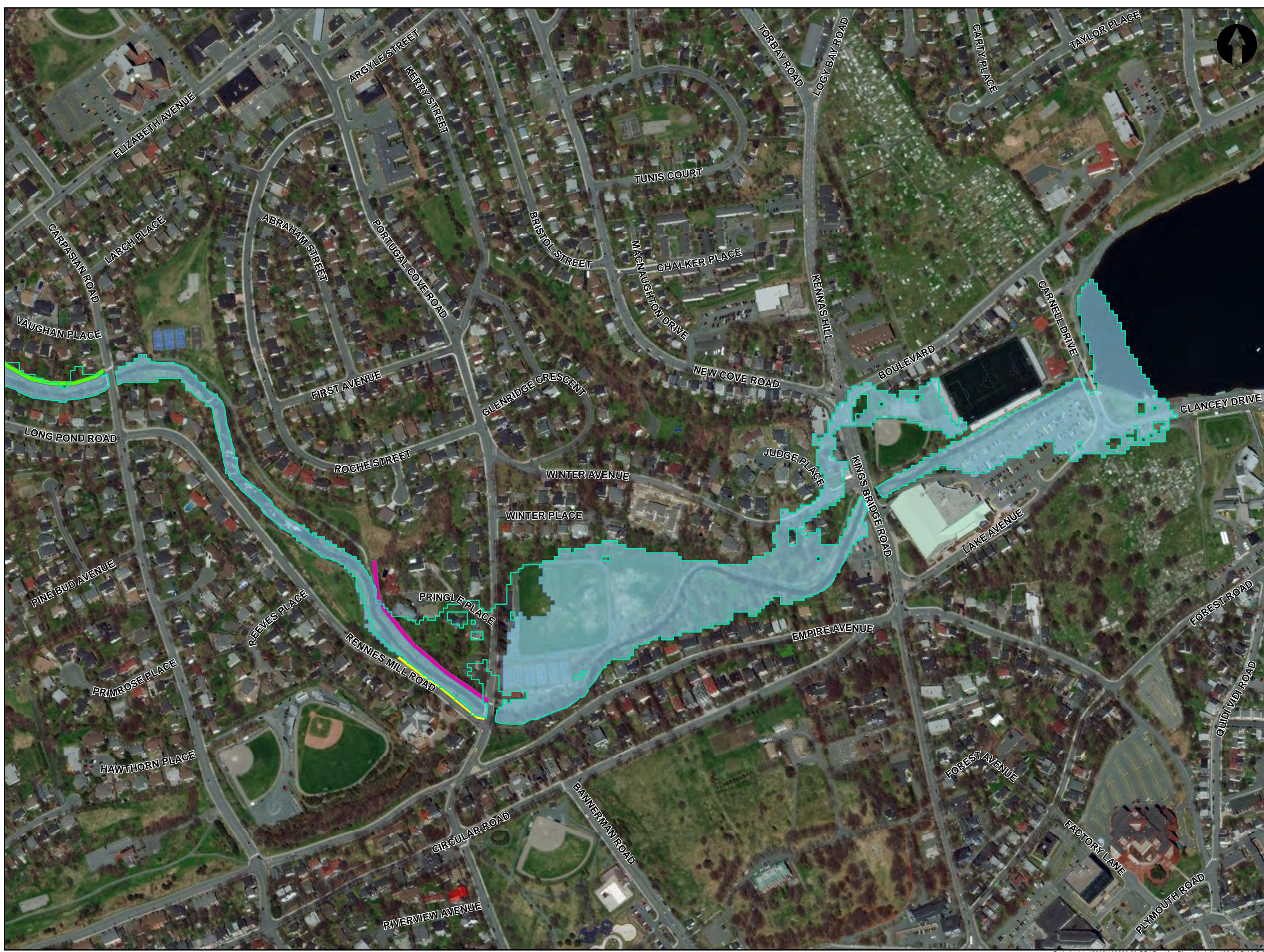
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 1:100 AEP CC Health Sciences Berms and Berms Downstream of Portugal Cove Road Removed



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC Berms - No Berms DS of Portugal Cove Road
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

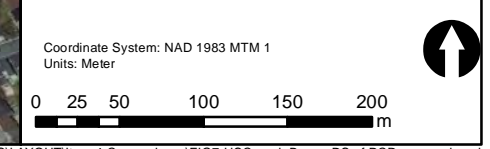
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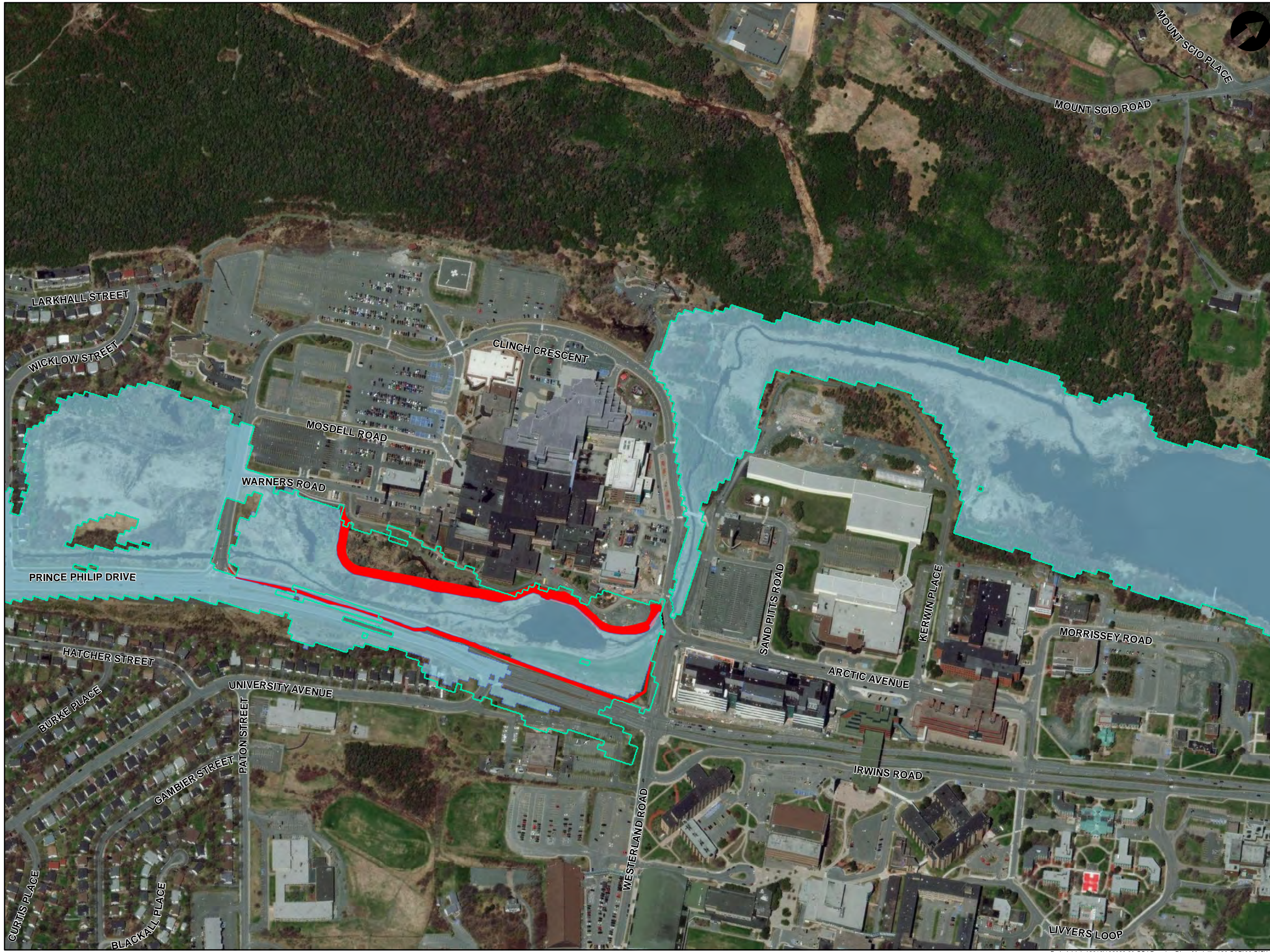
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




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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





Legend:

	100 AEP CC Existing
	100 AEP CC HSC - Alternative Flood Protection DS
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

ST. JOHN'S

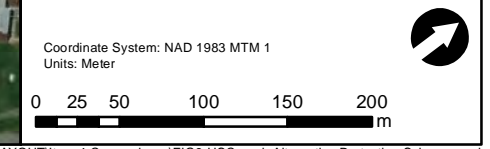
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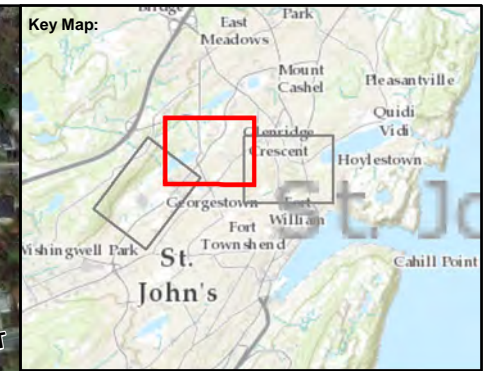
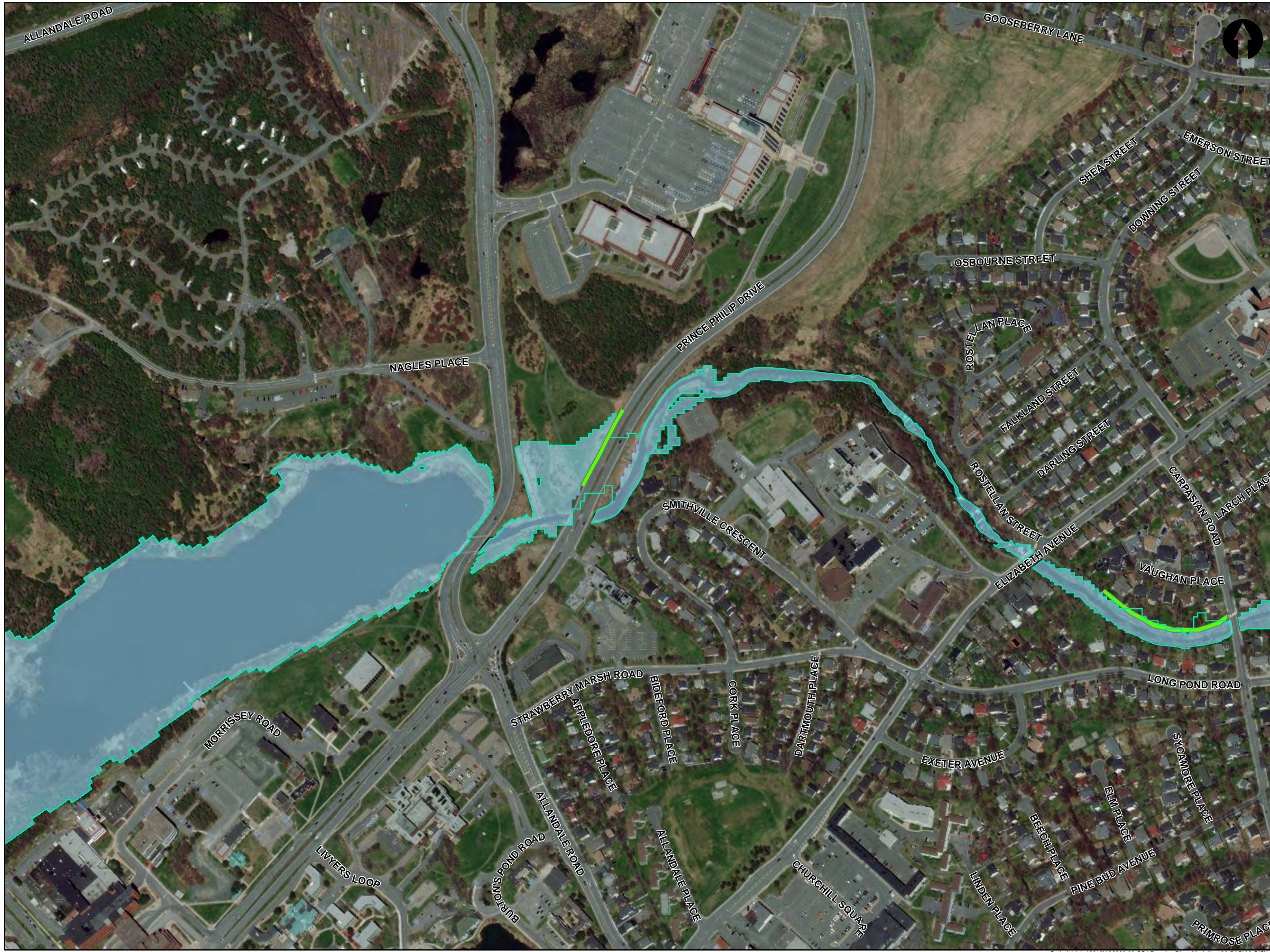
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 1:100 AEP CC Health Sciences Berms and Alternative Flood Protection Scheme



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





Legend:

	100 AEP CC Existing
	100 AEP CC HSC - Alternative Flood Protection DS
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

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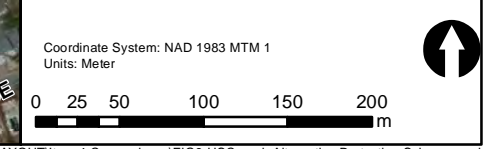
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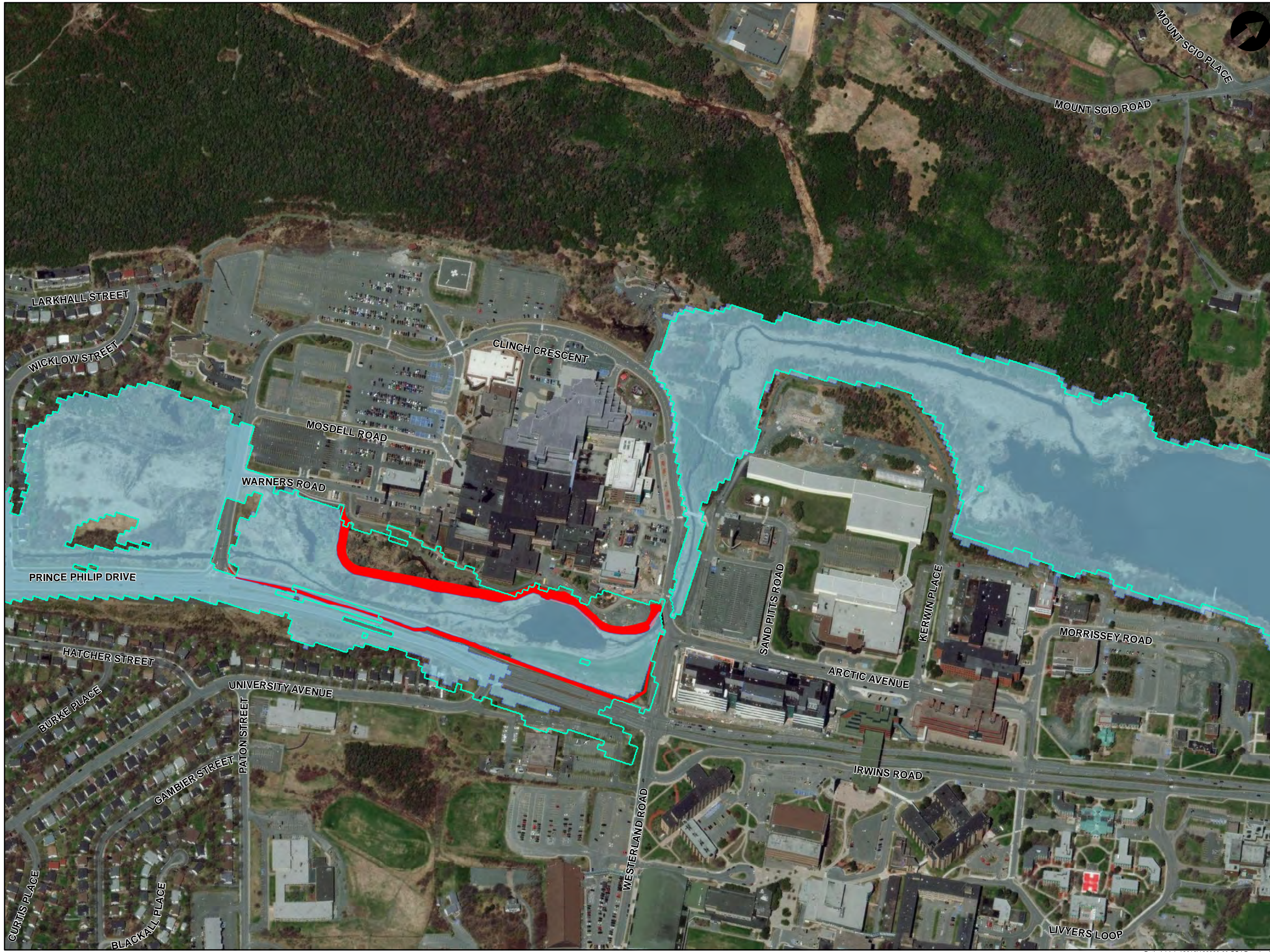
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 1:100 AEP CC Health Sciences Berms and Alternative Flood Protection Scheme



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Drawn: JB	Date: 02/03/2020
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- Legend:
- 100 AEP CC Existing
 - 100 AEP CC HSC and Long Pond Weir
 - Proposed HSC Berms
 - Proposed Earth Berm

ST. JOHN'S

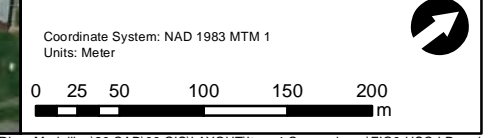
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 Phase 2A Additional Analysis**

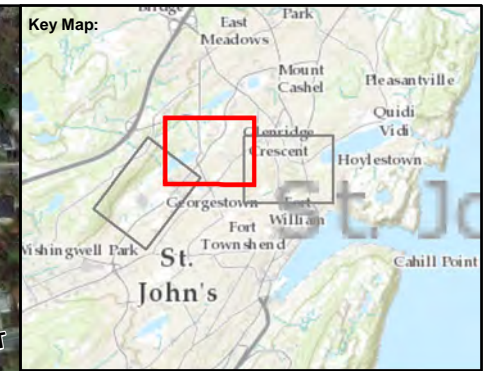
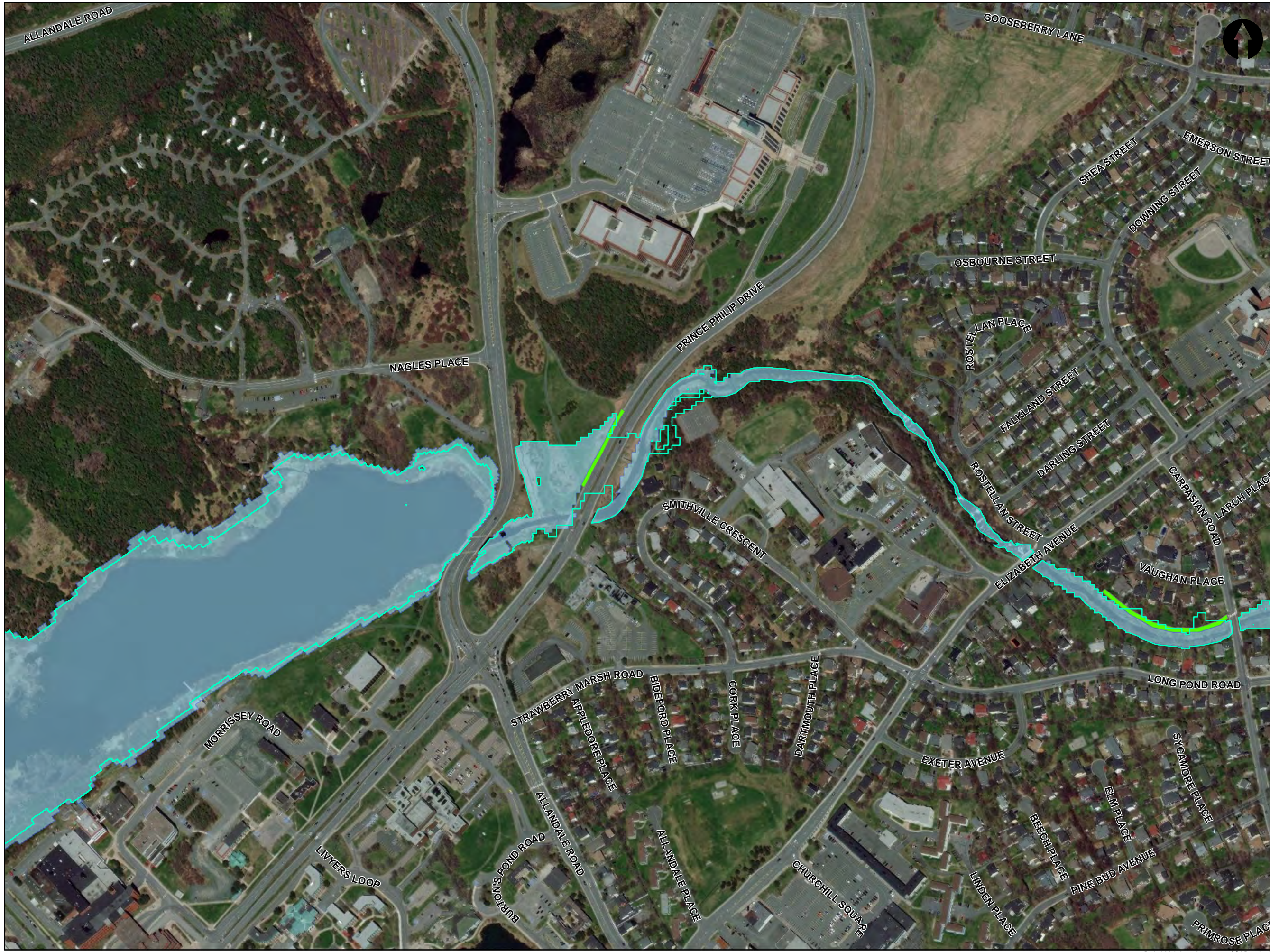
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 1:100 AEP CC Health Sciences Berms
 and Long Pond Weir



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:
- 100 AEP CC Existing
 - 100 AEP CC HSC and Long Pond Weir
 - Proposed HSC Berms
 - Proposed Earth Berm

ST. JOHN'S

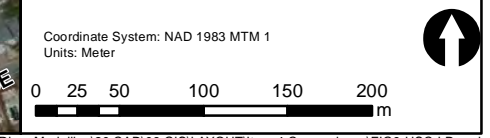
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**Rennie's River Flood Mitigation
 Phase 2A Additional Analysis**

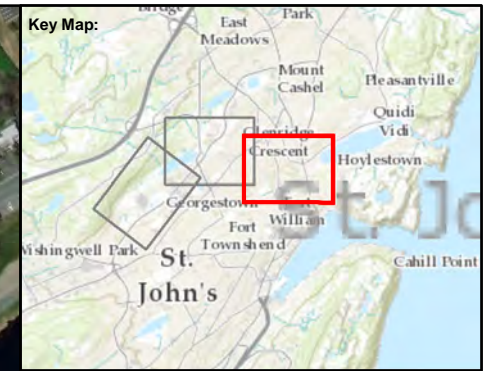
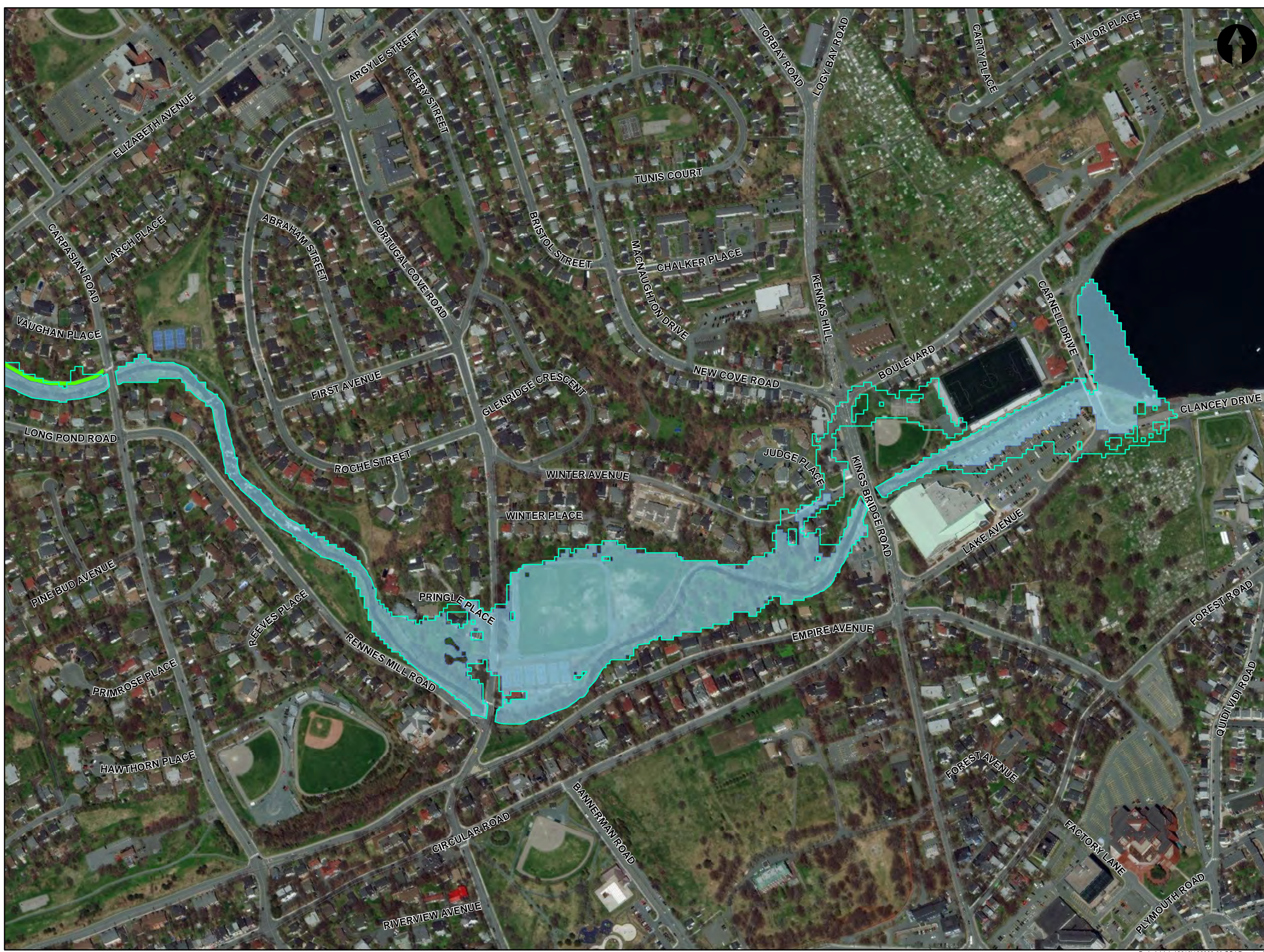
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 1:100 AEP CC Health Sciences Berms
 and Long Pond Weir



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Drawn: JB	Date: 02/03/2020
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- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC and Long Pond Weir
 - Proposed HSC Berms
 - Proposed Earth Berm

ST. JOHN'S

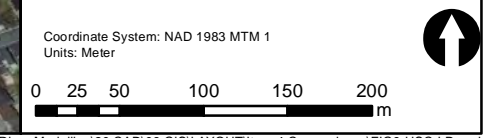
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 Phase 2A Additional Analysis**

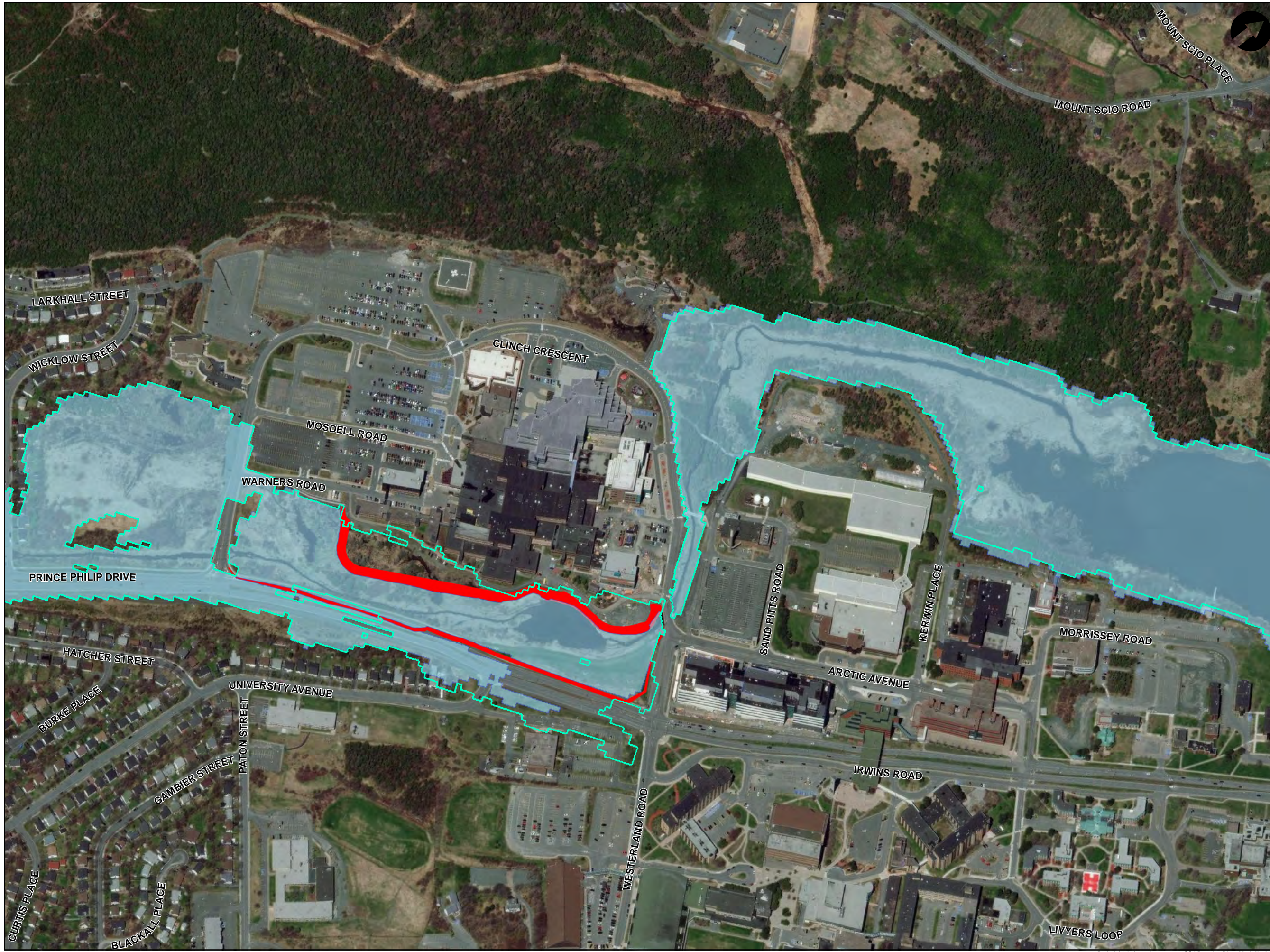
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 1:100 AEP CC Health Sciences Berms
 and Long Pond Weir



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Drawn: JB	Date: 02/03/2020
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- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC, Long Pond Weir & Downstream Berms
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

Project:
**Rennies River Flood Mitigation
 Phase 2A Additional Analysis**

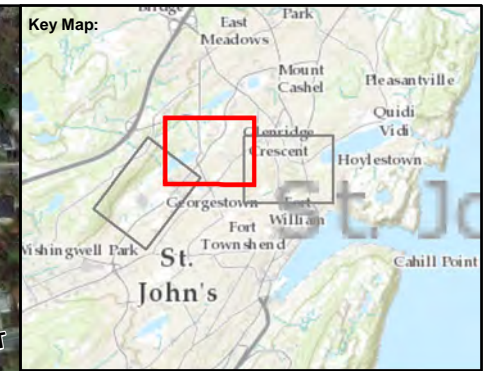
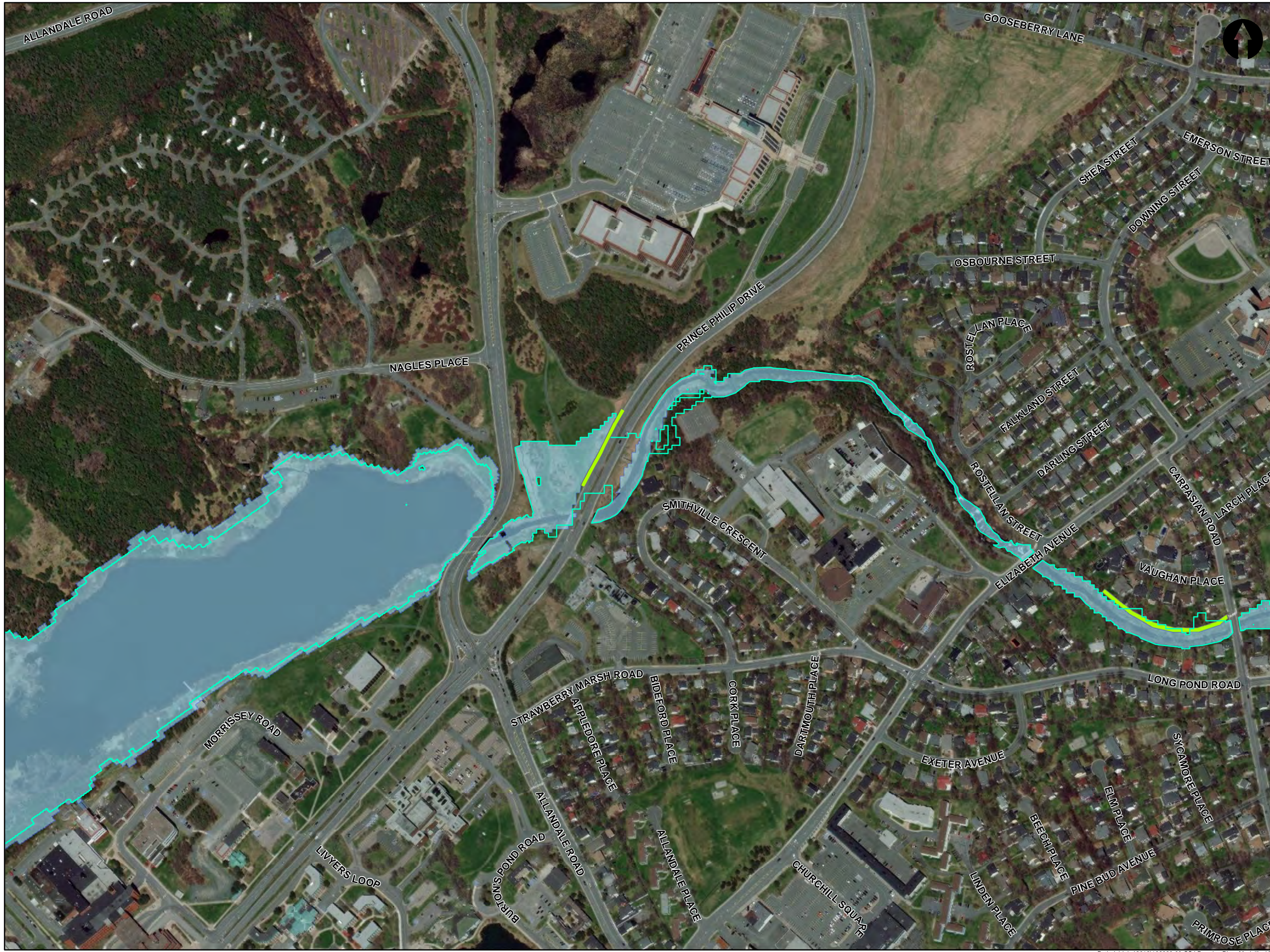
Figure Title:
 Figure 10:
 1:100 AEP CC Health Sciences Berms,
 Long Pond Weir and Downstream
 Berms



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500

Coordinate System: NAD 1983 MTM 1
 Units: Meter



Legend:

	100 AEP CC Existing
	100 AEP CC HSC, Long Pond Weir & Downstream Berms
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

ST. JOHN'S

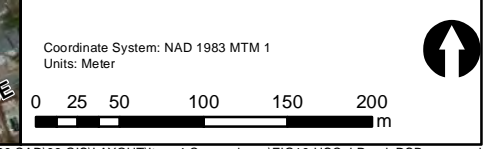
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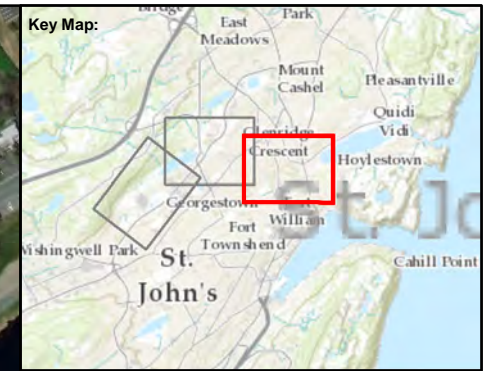
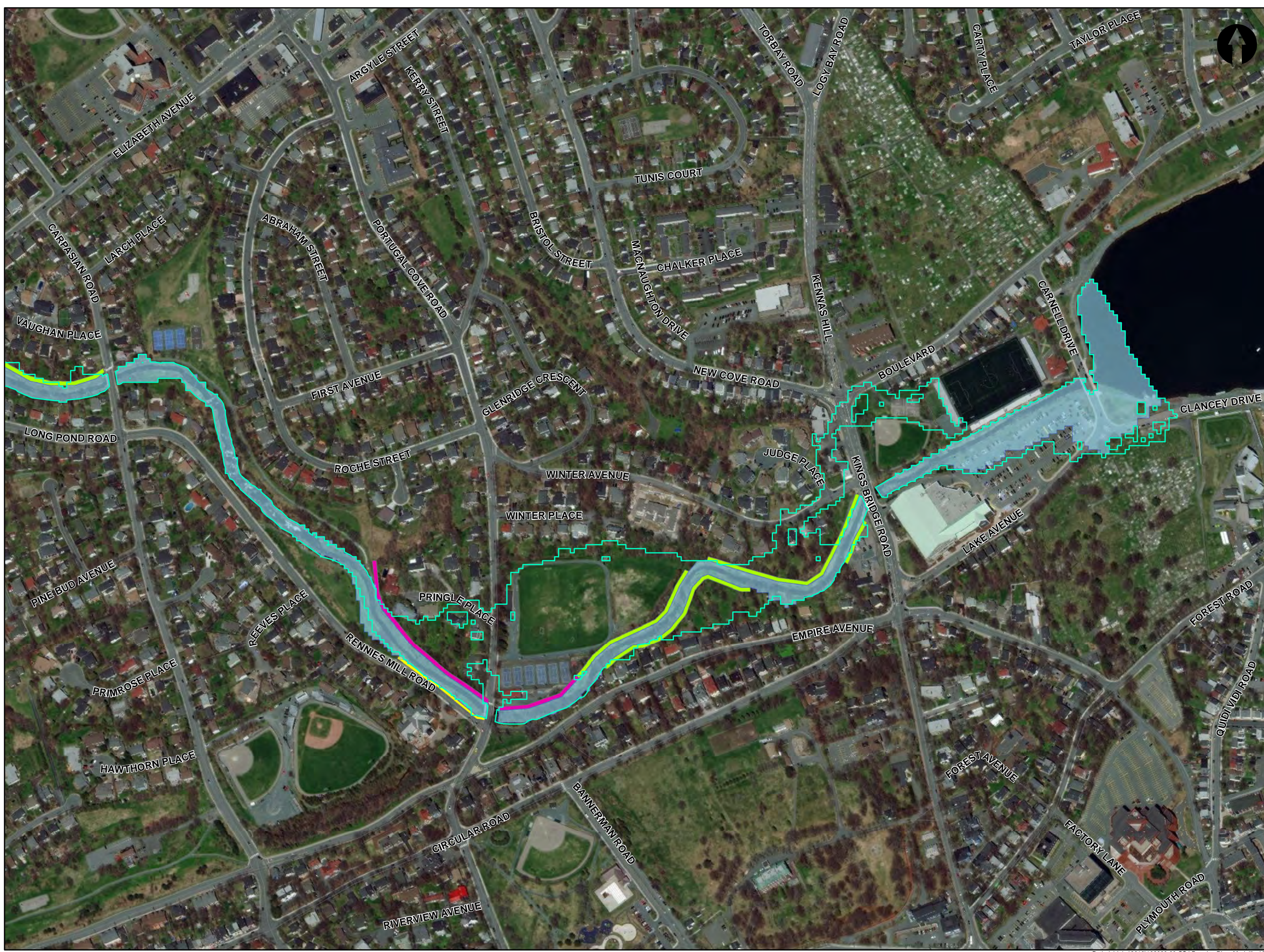
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 1:100 AEP CC Health Sciences Berms, Long Pond Weir and Downstream Berms



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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC, Long Pond Weir & Downstream Berms
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

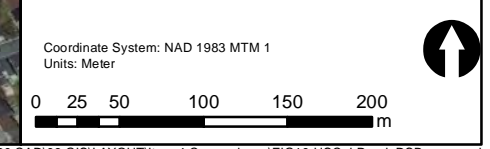
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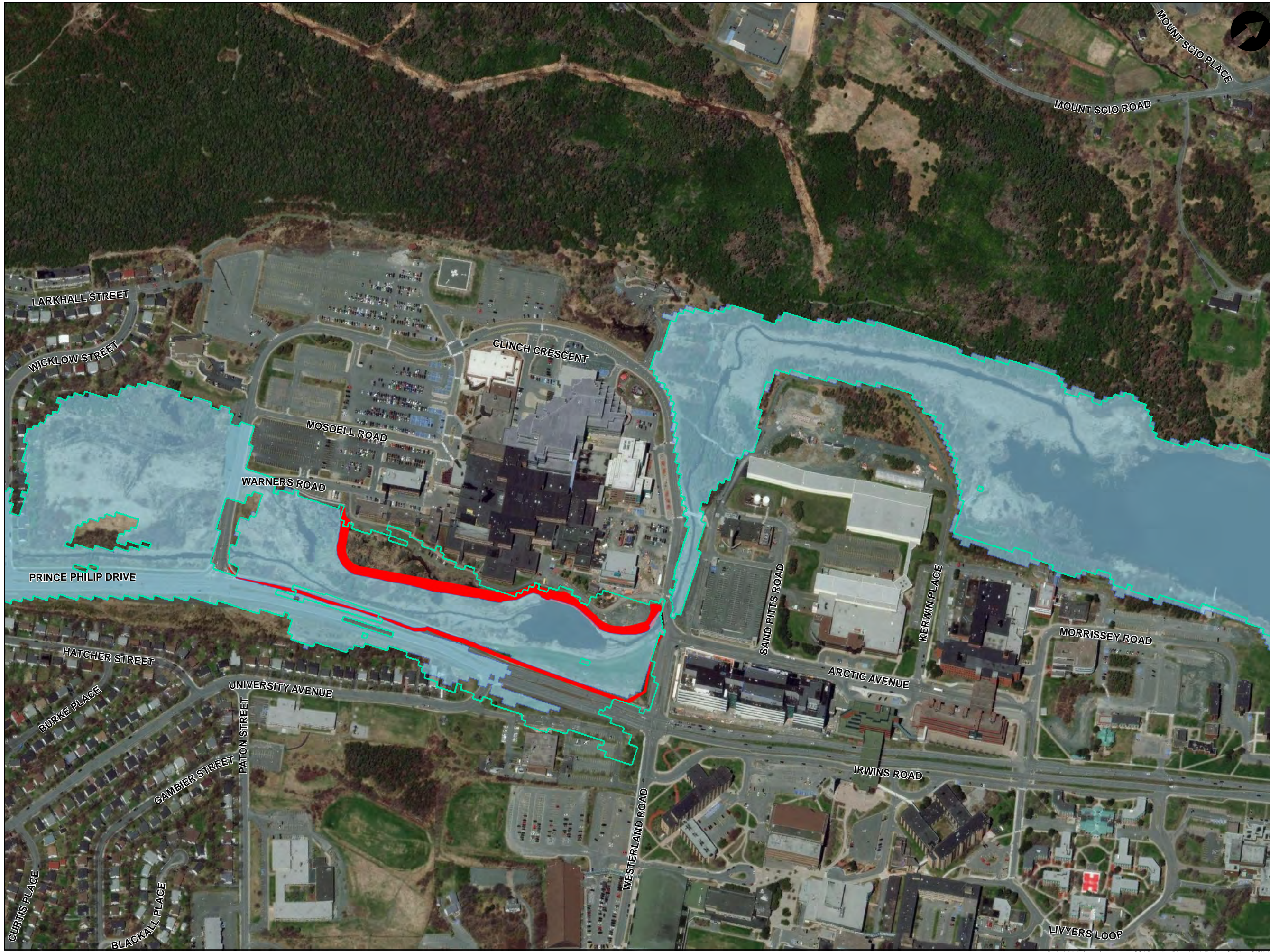
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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC & Long Pond Weir - No Berms DS of Portugal Cove Road
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

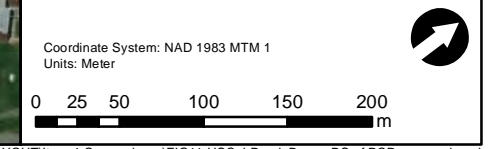
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 Phase 2A Additional Analysis**

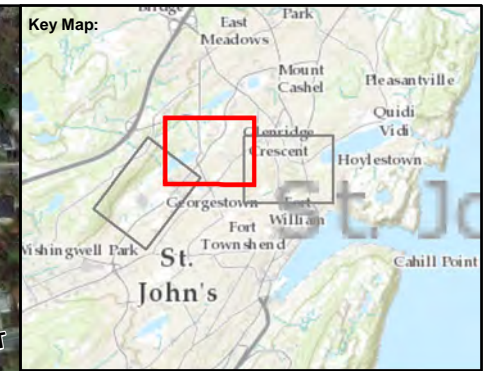
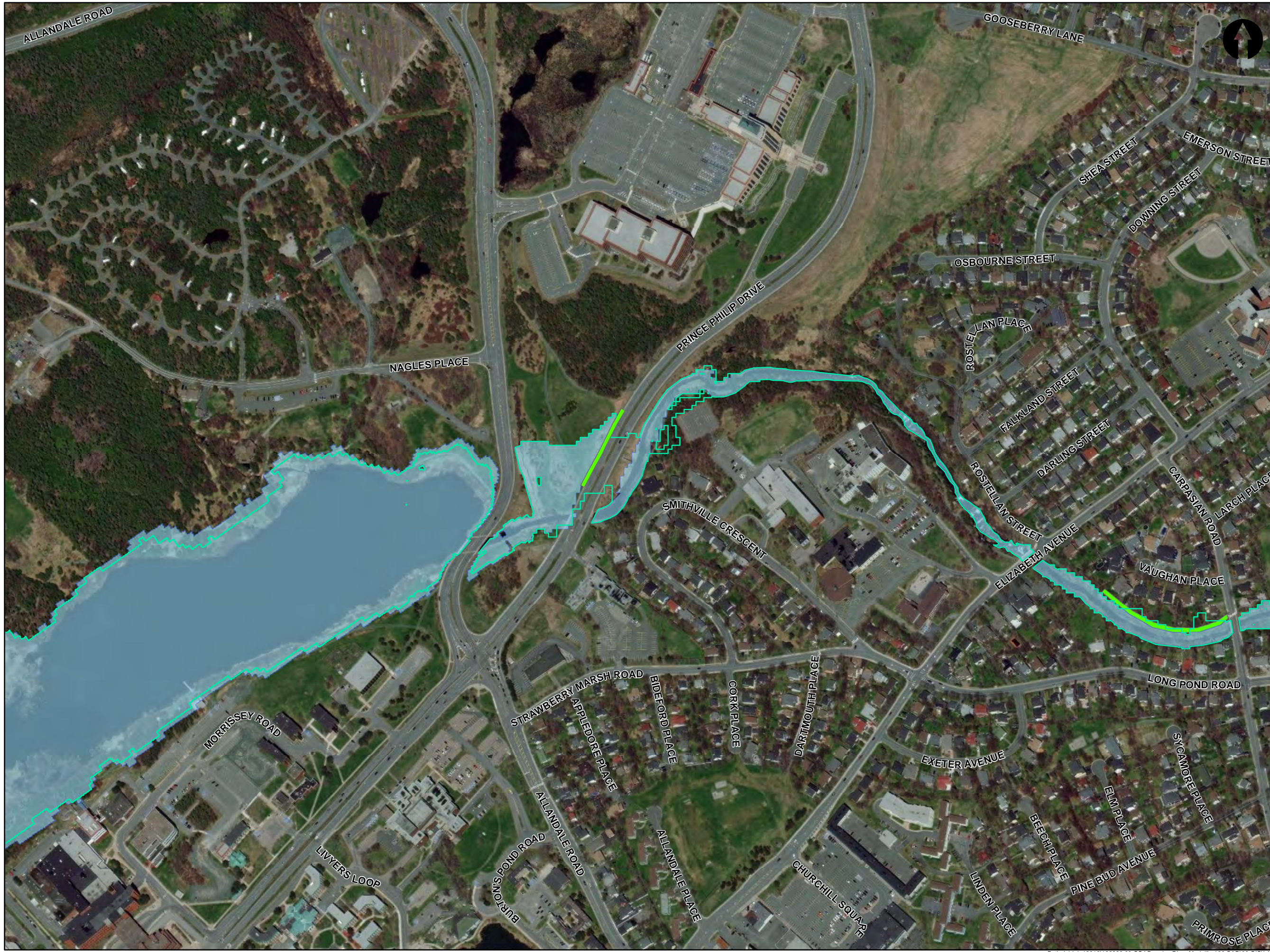
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 Figure 11:
 1:100 AEP CC Health Sciences Berms
 & Long Pond Weir - Berms Downstream
 of Portugal Cove Road Removed



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Drawn: JB	Date: 02/03/2020
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Approved: GS	Scale @ 11"x17" : 1:4,500





Legend:

	100 AEP CC Existing
	100 AEP CC HSC & Long Pond Weir - No Berms DS of Portugal Cove Road
	Proposed HSC Berms
	Proposed Cast-in-Place Concrete Wall
	Proposed Segmental Concrete Block Wall
	Proposed Earth Berm

ST. JOHN'S

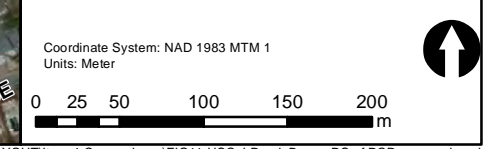
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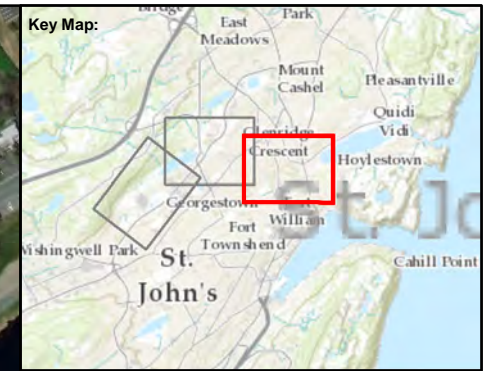
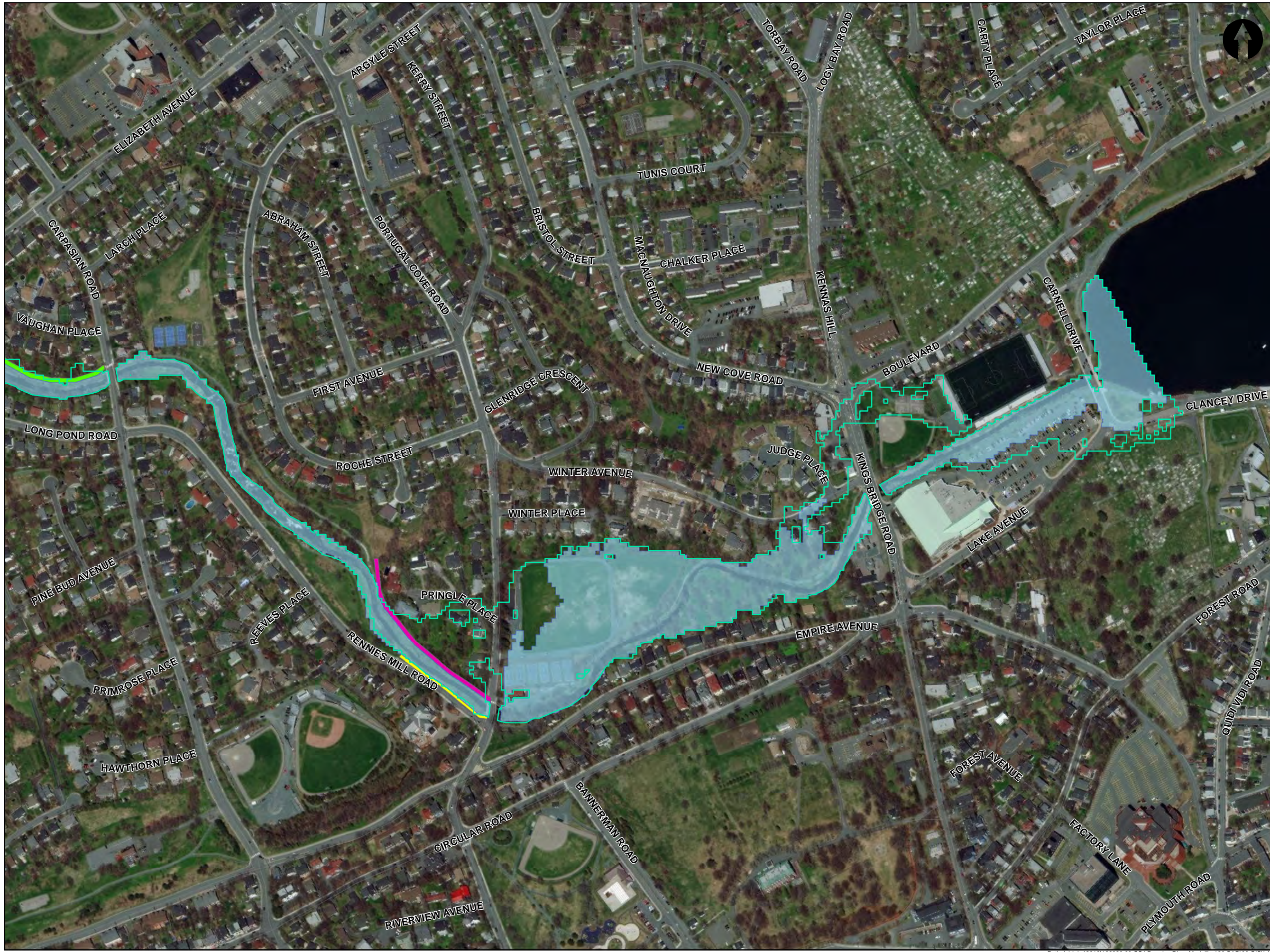
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 1:100 AEP CC Health Sciences Berms & Long Pond Weir - Berms Downstream of Portugal Cove Road Removed



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- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC & Long Pond Weir - No Berms DS of Portugal Cove Road
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

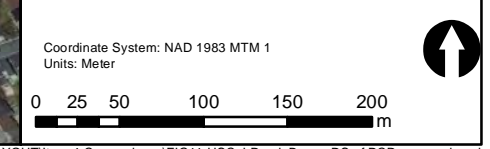
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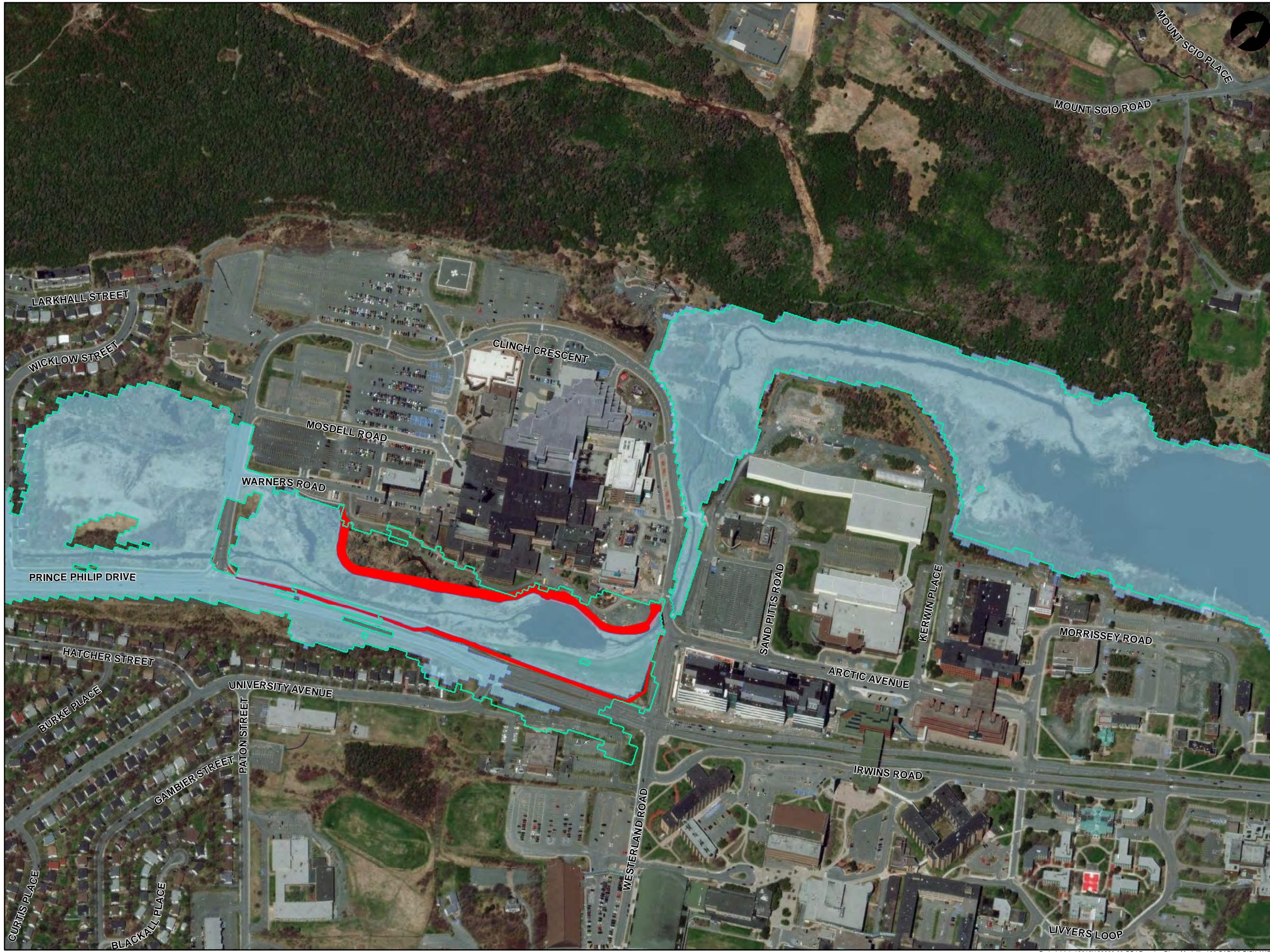
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Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
 - 100 AEP CC HSC & Long Pond Weir - Alternative Flood Protection DS
 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

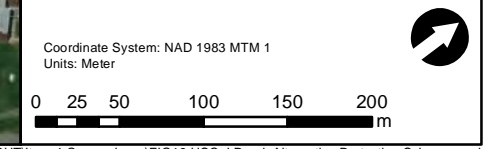
Project:
**Rennie's River Flood Mitigation
 Phase 2A Additional Analysis**

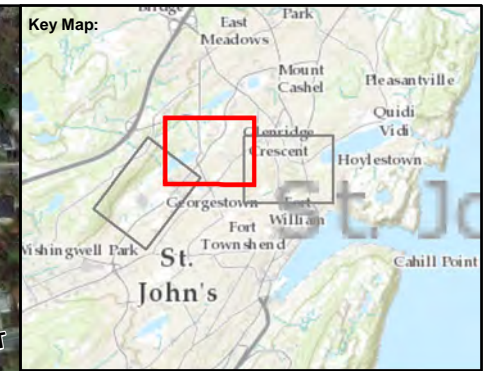
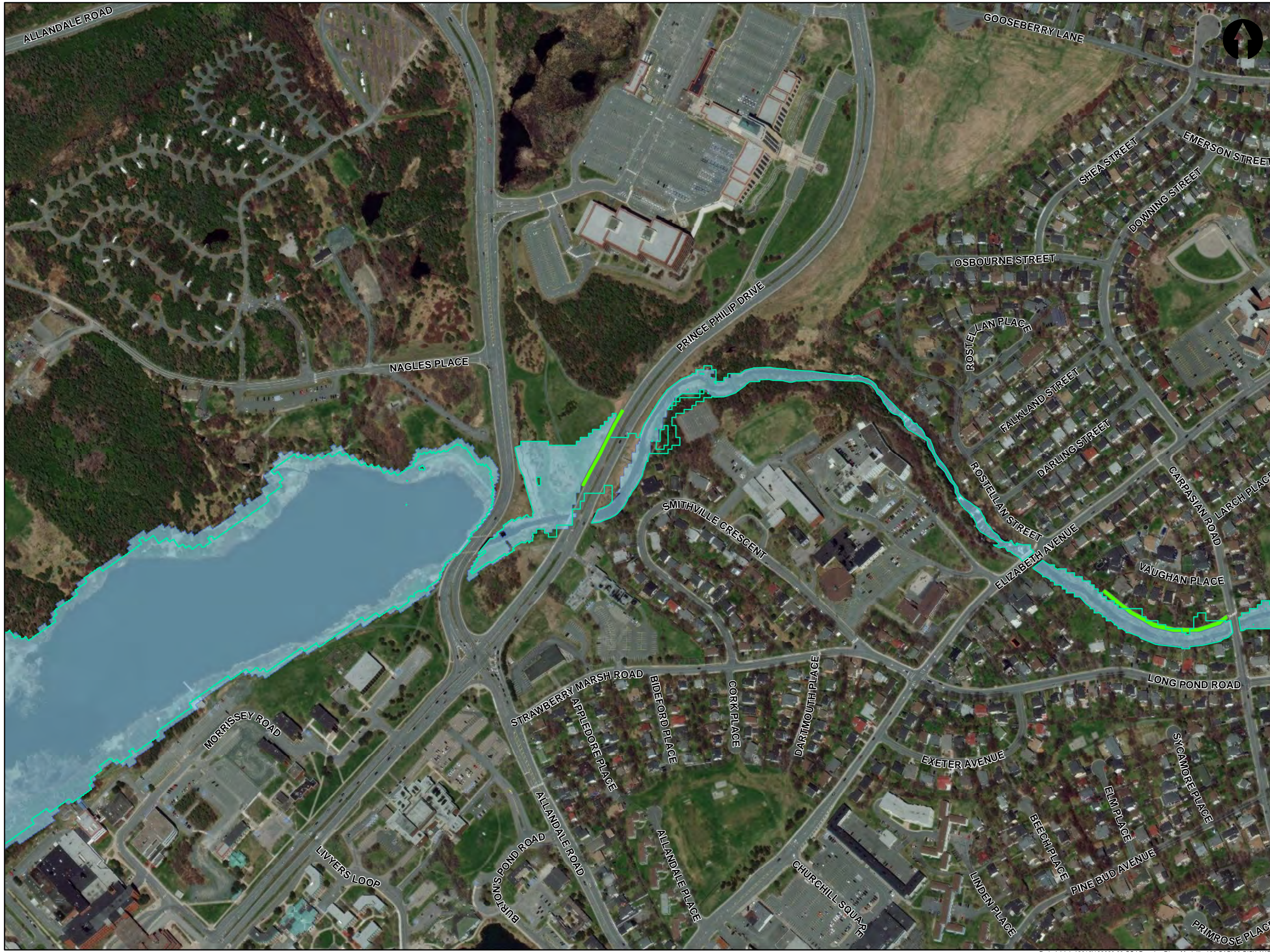
Figure Title:
 Figure 12:
 1:100 AEP CC Health Sciences Berms,
 Long Pond Weir and Alternative Flood
 Protection Scheme



Page 1 of 3

Drawn: JB	Date: 02/03/2020
Checked: JB	Project #: 193030.00
Approved: GS	Scale @ 11"x17" : 1:4,500





- Legend:**
- 100 AEP CC Existing
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 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

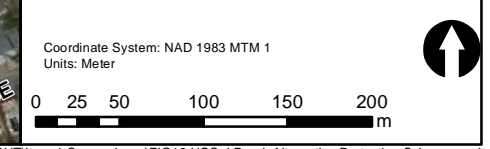
Project:
Rennie's River Flood Mitigation Phase 2A Additional Analysis

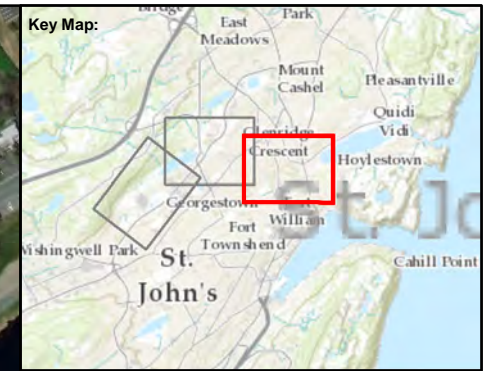
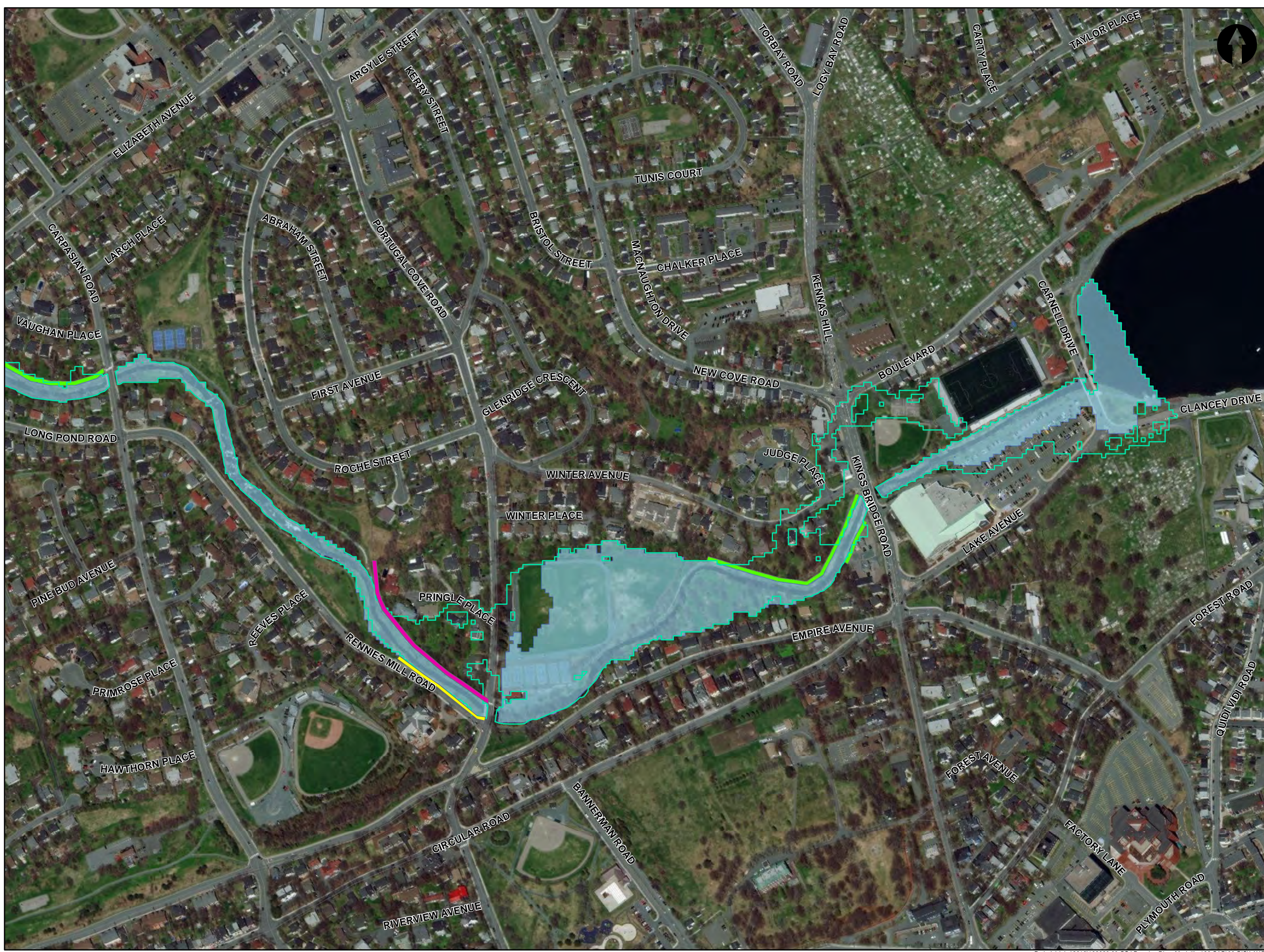
Figure Title:
 Figure 12:
 1:100 AEP CC Health Sciences Berms, Long Pond Weir and Alternative Flood Protection Scheme



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Drawn: JB	Date: 02/03/2020
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- Legend:**
- 100 AEP CC Existing
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 - Proposed HSC Berms
 - Proposed Cast-in-Place Concrete Wall
 - Proposed Segmental Concrete Block Wall
 - Proposed Earth Berm

ST. JOHN'S

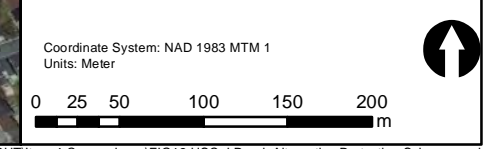
Project:
Rennie's River Flood Mitigation Phase 2A Additional Analysis

Figure Title:
 Figure 12:
 1:100 AEP CC Health Sciences Berms, Long Pond Weir and Alternative Flood Protection Scheme



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Drawn: JB	Date: 02/03/2020
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Approved: GS	Scale @ 11"x17" : 1:4,500





Memo

Date	01/19/2021
Memo to	Scott Winsor
Project name	Rennies River Flood Mitigation Environmental Assessment Registration Document
Subject	Rennies River Flood Mitigation - Winter Avenue
From	Jennifer Bursey
Copies to	Melissa Rutherford and Greg Sheppard

On December 10, 2020 the City of St. John's (City) requested that CBCL Limited (CBCL) examine the extent of flooding resulting from a 1:100 annual exceedance probability (AEP) climate change (CC) flood if berms are constructed between Kings Bridge Road and Portugal Cove Road. This scope of work builds on the analysis presented in the March 2, 2020 Report; therefore, the flood protection scenario presented in this memo is referred to as Scenario 9. Scenario 9 examines the following flood protection measures:

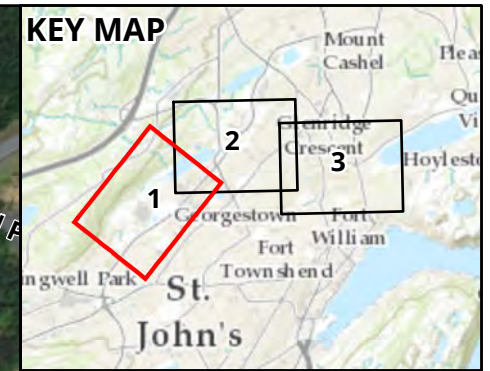
- ▶ Without Long Pond weir, with Health Sciences flood protection berms, and with flood protection berms along Rennies River between Kings Bridge Road and Portugal Cove Road.

The analysis was carried out using the XSPWMM model created for the March 2, 2020 analysis. The flood protection berms upstream of Kings Bridge Road will consist of berms in the left (i.e. North) and right (i.e. South) river banks. The north berm as entered in the model, extends approximately 260 m upstream of Kings Bridge Road, and varies in height from approximately 0.1 m to 2.2 m. The south berm is shorter than the north berm, extending upstream from Kings Bridge Road roughly 58 m varying in height from 0.2 m to 0.5 m. The south berm will protect the electrical substation from flooding during a 1:100 AEP CC flood. The north berm will prevent flooding onto Winter Avenue and Kings Bridge Road, as well as onto the King George the V soccer field during flow corresponding to a 1:100 AEP CC event.

Flood protection berms were proposed for these locations during the RRCSWMP in 2014, as priority 2. The objective of the improvements proposed in the RRCSWMP were to protect all properties along Rennies River by containing flood levels in the channel. The Long Pond Weir was presented as priority 1, as constructing the weir first would reduce the flow downstream, thereby reducing the height of berms required downstream of Long Pond.

The City is moving through the Environmental Preview Report process for the Long Pond Weir. In the interim, the flood protection berms presented for this project will provide protection to the residential properties on Winter Avenue.

The expected floodplain for Scenario 9 is presented in Figure 1. As discussed in the September 17, 2019, report the model results indicated that Prince Philip Drive, north of the bridge at Rennies River is overtopped during the 1:100 AEP CC flow. To address flow over Prince Philip Drive, an earth berm could be constructed in the location indicated on Figure 1. The structure would be approximately 115 m long, and range in height up to approximately 0.6 m.



LEGEND

- 1:100 AEP Climate Change Boundaries (Existing Conditions)
- 1:100 AEP Climate Change Boundaries (Post Berm Conditions)
- HSC Berms

ST. JOHN'S

**Rennies River Flood Mitigation:
Winter Avenue**

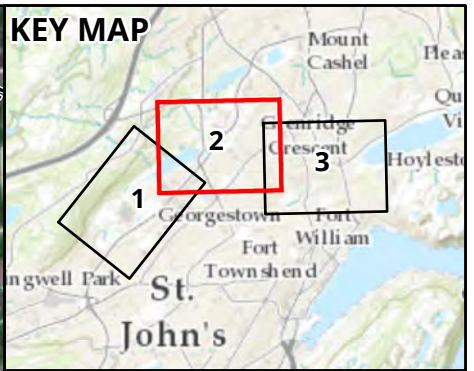
Figure 1:
1:100 AEP CC Health Sciences Berms & Berms Between Kings Bridge Road & Portugal Cove Road



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Drawn: SF	Date: 2021-01-20
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Approved: GS	Scale @ 11"x17" : 1:4,600

Coordinate System: NAD 1983 UTM Zone 22N
Units: Meter



- LEGEND**
- 1:100 AEP Climate Change Boundaries (Existing Conditions)
 - 1:100 AEP Climate Change Boundaries (Post Berm Conditions)
 - Proposed Earth Berm

ST. JOHN'S

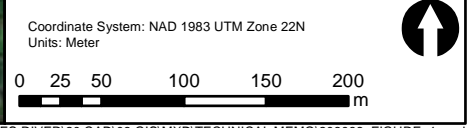
**Rennie's River Flood Mitigation:
Winter Avenue**

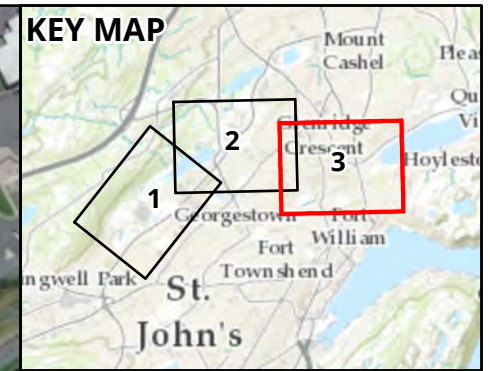
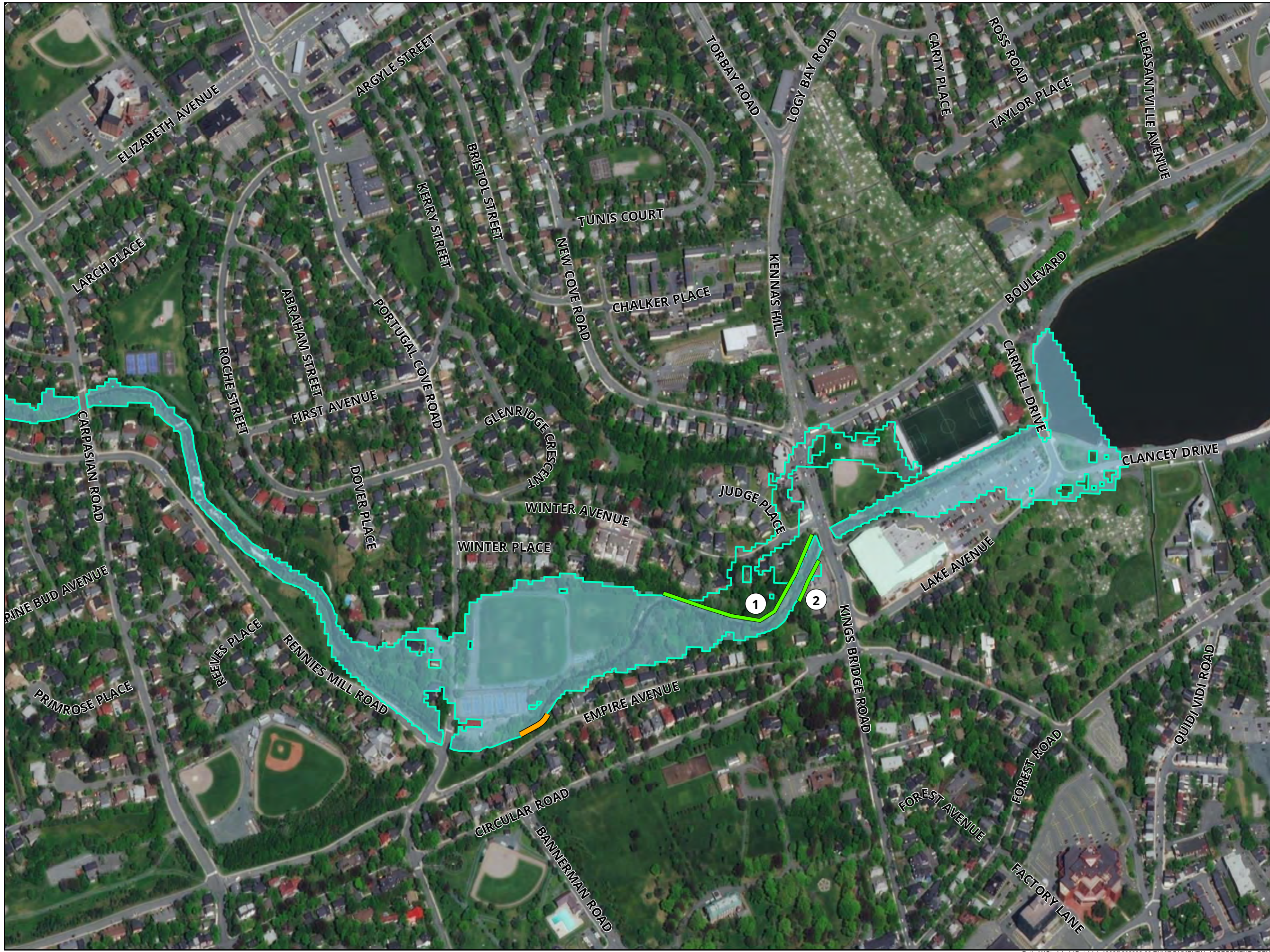
Figure 1:
1:100 AEP CC Health Sciences Berms & Berms Between Kings Bridge Road & Portugal Cove Road



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Drawn: SF	Date: 2021-01-20
Checked: JB	Project #: 203063.00
Approved: GS	Scale @ 11"x17" : 1:4,600





- LEGEND**
- 1:100 AEP Climate Change Boundaries (Existing Conditions)
 - 1:100 AEP Climate Change Boundaries (Post Berm Conditions)
 - Erosion Control Improvements
 - Proposed Earth Berm

ST. JOHN'S

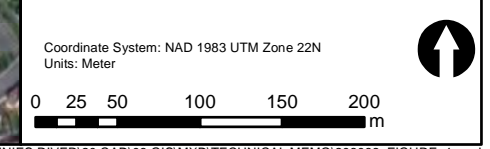
Rennie's River Flood Mitigation: Winter Avenue

Figure 1:
1:100 AEP CC Health Sciences Berms & Berms Between Kings Bridge Road & Portugal Cove Road



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Drawn: SF	Date: 2021-01-20
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Approved: GS	Scale @ 11"x17" : 1:4,600



APPENDIX B

Site Photographs

Appendix B: Photo Log



Photo 1: Berm 1 - Two mallards (*Anas platyrhynchos*) in Rennie's River.



Photo 2: Berm 1 - Various shrubs and mature trees, facing east towards Kings Bridge Road.



Photo 3: Berm 1 - Rennie's River Trail facing west.



Photo 4: Berm 2 - Rennie's River looking west and fence line of electrical substation adjacent to Kings Bridge road.



Photo 5: Berm 2 - Black knapweed (*Centaurea nigra*) and electrical substation.



Photo 6: Berm 2 - Across Rennie's River towards proposed location of Berm 4.



Photo 7: Armour stone wall erosion control improvements on south side of Rennies River across from tennis courts.

APPENDIX C

Atlantic Canada Conservation Data Centre (AC CDC) Results

Rutherford, Melissa

From: Durocher, Adam <AdamDurocher@gov.nl.ca>
Sent: August 30, 2017 3:13 PM
To: Rutherford, Melissa
Cc: Bryson, Ian; Sheppard, Greg
Subject: RE: New Data Request: 2017-08-22 15:18:20
Attachments: Map.jpg; RareFauna.xls; RareFlora.xls; RQ0623.pdf; Caveats.doc; DATA DICTIONARY.doc; herbaria.xls; RANKING.rtf

Hi Melissa,

Attached are your data request results for the HSC Berm in St. John's, Newfoundland & Labrador.

Summary: Within 5km of your point of interest, there were 759 rare animal records and 36 rare plant records found. Of the 759 rare animal records, there were 29 Ivory Gull records, 70 Red Crossbill records (both are listed as *Endangered* under both COSEWIC and our province's Endangered Species Act (ESA)), 21 Bank Swallow, 10 Barn Swallow records (*Threatened* under COSEWIC), 10 Gray-cheeked Thrush records (*Threatened* under the ESA), 17 Bobolink records (*Vulnerable* under our ESA, *Threatened* under COSEWIC), 1 Polar Bear record, 13 Harlequin Duck, 15 Rusty Blackbird, 14 Short-eared Owl records (all listed as *Special Concern* under COSEWIC, *Vulnerable* under our ESA), 2 Monarch records (*Special Concern* under our ESA), 4 Chimney Swift and 7 Common Nighthawk records (both listed as *Threatened* under both COSEWIC and our ESA). The remaining rare animal records are for species which are not on the provincial ESA or federal COSEWIC lists, and outside of Newfoundland & Labrador they are not considered globally rare.

As for the 36 rare plant records, none of these plants are COSEWIC or provincially listed, but Hump-backed Elves (*Buxbaumia minakatae*), Fernald's Chuckleyppear (*Amelanchier fernaldii*) and Woodland Cudweed (*Omalotheca sylvatica*) are considered globally rare.

Secondly, a new addition to our standard data requests is the use of Expert Opinion Maps. These maps are the result of our work with species-specific experts to gather suggestions about locations where species at risk - either provincially, SARA or COSEWIC listed - may be found. While we don't have observations in our database for these species within your study area, our Expert Opinion Maps suggest that Boreal Felt Lichen is *possible*, while Newfoundland Marten and Banded Killifish are *possible, but unlikely*. Your study area is also said to be within the Barrow's Goldeneye *range*.

For more information, including a map of the area showing the locations of the rare fauna, rare flora and the area of interest, please refer to the following attached documents:

Map.jpg - shows the locations of the rare fauna, rare flora, and the 5 km buffer around the point of interest.

RareFauna.xlsx – a list of rare animal records, including their SRANK, NRANK, GRANK and habitats.

RareFlora.xlsx – a list of rare plant records, including their SRANK, NRANK, GRANK and habitats.

Data Dictionary.doc - explains the various columns in RareFauna.xlsx and RareFlora.xlsx.

Ranking.rtf - explains the S, N and GRANKS.

Herbaria.xls - A list of herbariums in case you would like to follow up on the specimens included in this request.

Caveats.doc - The fine print - please read. This is also included at the end of this email.

RQ0623.pdf - Invoice for the data request.

Please do not hesitate to contact me if you have any questions.

Adam Durocher
Data Manager
Atlantic Canada Conservation Data Centre
Corner Brook, NL

DATA SOURCES:

All data housed at Atlantic Canada Conservation Data Centre (ACCDC). Refer to the 'CITATION' field for data sources.

CAVEATS:

ACCDC rare taxa occurrence records are offered as a guide recognizing that the ability to find plants and animals will depend upon the season. The ACCDC makes a strong effort to verify the accuracy of all the data it obtains, generates and manages, but it will not be held responsible for inaccuracies in data that it provides.

PLEASE NOTE:

- * ACCDC data is restricted for use by the specified data user only; any third party requiring data must make its own request to the ACCDC.
- * Specified data users may not publish any information provided by the ACCDC or its partners without prior permission.
- * To ensure the currency of the data, the ACCDC requires Data Users to destroy all copies of data 18 months after the date of receipt.
- * ACCDC data reports are restricted to that data in our Data System at the time of the request.
- * Data accuracy is qualified as to location (Accuracy) and time (Date)
- * ACCDC data reports are not to be constructed as exhaustive inventories of taxa in an area.
- * The non-occupancy of a taxon cannot be inferred by its absence in an ACCDC data report.
- * Museum databases, which are the basis for more accessible public databases, such as those of the ACCDC, are works in progress. Essentially, they are finding aids and dynamic data records, constructed primarily to serve scientists engaged in the continuing, active process of plant systematics and taxonomy. Ongoing additions of new collections, and frequent upgrades to the identifications of all plant specimens housed in museum herbaria, may not always be reflected, in real time, by databases such as those of the ACCDC. Specifically, the conservation status of individual species recorded in the ACCDC database may not be absolutely current. It is therefore the responsibility of the data user to contact the relevant museums directly, in order to check for the most current identifications of specimens of interest, and to ascertain from the scientists concerned, their current understanding of the conservation status of individual species in question. The absolute conservation status of any given species is dynamic, and subject to change over short periods of time.

From: James Churchill [mailto:james.churchill@accdc.ca]

Sent: Tuesday, August 22, 2017 12:56 PM

To: Durocher, Adam

Subject: Fwd: New Data Request: 2017-08-22 15:18:20

----- Forwarded message -----

From: **Apache** <apache@webserv2.mta.ca>

Date: Tue, Aug 22, 2017 at 12:18 PM

Subject: New Data Request: 2017-08-22 15:18:20

To: jlchurchill@mta.ca

New Data Request:

name: Melissa Rutherford

company: CBCL Limited

phone: [9027178487](tel:9027178487)

email: mrutherford@cbcl.ca

email2: gregs@cbcl.ca

jobnum: 173056.01

area: St. John's

details: HSC Berm

lat: 47.570393

lon: -52.741472

comment: Please send results to the following emails mrutherford@cbcl.ca caianb@cbcl.ca gregs@cbcl.ca

asap: standard

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.....

UPDATES (www.accdc.com/en/updates.html)

December 6, 2016. [S-rank updates](#)

December 23, 2015. [Database release 151223 and S-rank updates](#)

November 12, 2015. [Updates to 100 km species lists \(Data Report Section 5.0\)](#)

July, 2015. [Updated Data Request Cost Structure](#)

June 10, 2015. [NEW - Submit Data Requests online](#)

June 10, 2015. [Our new website is live](#)

May, 2014. [Location Sensitive Species \(Data Report Section 4.3\)](#)

.....



James Churchill

Data Manager

Atlantic Canada Conservation Data Centre (AC CDC)

james.churchill@accdc.ca

P: (902) 679-6146

.....

“This email and any attached files are intended for the sole use of the primary and copied addressee(s) and may contain privileged and/or confidential information. Any distribution, use or copying by any means of this information is strictly prohibited. If you received this email in error, please delete it immediately and notify the sender.”

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Pagophila eburnea	Ivory Gull	Laridae	Hugh Whitney	1	1		2007	S1N,SUM	S2N	N1B,N1N,N1	G4	At Risk	Endangered	Endangered	Endangered		100		Dr. Hugh Whitney, NL Dep	mstr1020871
Loxia curvirostra	Red Crossbill	Fringillidae		1	5	27	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	en Pond Botanical Garden; St. Joh	100		NF Birds	mstr1007387
Loxia curvirostra	Red Crossbill	Fringillidae		1	3	28	1999	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Pippy Park; St. John's NL	100		NF Birds	mstr1007388
Catharus minimus	Gray-Cheeked Thrush	Turdidae	Howard Clase	1	10	7	2002	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	Indeterminate (Mid Prior)	Threatened		Oxen Pond	1000		NF Birds	mstr1004311
Loxia curvirostra	Red Crossbill	Fringillidae	Greg Stroud	7	5	10	2007	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		100		Canadian Wildlife Service	mstr1009311
Chordeiles minor	Common Nighthawk	Caprimulgidae	Todd Boland	1	7	31	2006	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened			100		Canadian Wildlife Service	mstr1009367
Loxia curvirostra	Red Crossbill	Fringillidae		1	5	31	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	ical Garden; Mount Scio Road; St. .	100		NF RBA	mstr1007389
Loxia curvirostra	Red Crossbill	Fringillidae		1	4	28	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's; NL	100		Email correspondence	mstr1007390
Loxia curvirostra	Red Crossbill	Fringillidae		1	4	25	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's; NL	100		NF RBA	mstr1007391
Loxia curvirostra	Red Crossbill	Fringillidae		1	4	28	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's	1000		NF Birds	mstr1007440
Loxia curvirostra	Red Crossbill	Fringillidae		1	5	14	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's	1000		NF Birds	mstr1007441
Loxia curvirostra	Red Crossbill	Fringillidae		1	4	17	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's	1000		NF Birds	mstr1007442
Loxia curvirostra	Red Crossbill	Fringillidae		1	5	6	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	MUN Campus; St. John's	1000		NF Birds	mstr1007443
Loxia curvirostra	Red Crossbill	Fringillidae	Peter Thomas	1	11	24	2006	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban forest Pippy Park; St. John's	10		Canadian Wildlife Service	mstr1007371
Loxia curvirostra	Red Crossbill	Fringillidae	Todd Boland	1	11	20	2006	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban park Mundy Pond; St. John's	100		NF Birds	mstr1007428
Loxia curvirostra	Red Crossbill	Fringillidae	Bruce Mactavish	12	4	11	2007	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban forest	1000		Canadian Wildlife Service	mstr1009289
Loxia curvirostra	Red Crossbill	Fringillidae	Michael Parmentie	5	4	13	2007	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Larch Forest	1000		Canadian Wildlife Service	mstr1009314
Euphagus carolinus	Rusty Blackbird	Icteridae	John Wells	1	5	17	2000	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Long Pond; St. John's	1000		NF Birds	mstr1007606
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	1	11	19	2006	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban forest Long Pond; St. John's	1000		Email correspondence	mstr1007455
Loxia curvirostra	Red Crossbill	Fringillidae	Jean-Guy Landry;	1	6	20	1971	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban forest St. John's	10000		Nest Record Card	mstr1007487
Loxia curvirostra	Red Crossbill	Fringillidae	Todd Boland	10	4	6	2007	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	European Larch	1000		Canadian Wildlife Service	mstr1009288
Euphagus carolinus	Rusty Blackbird	Icteridae	Brian Dalzell	1	3	18	2000	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St. John's; Fox Avenue	100		NatureNB	mstr1007567
Pagophila eburnea	Ivory Gull	Laridae		1	12	27	1999	S1N,SUM	S2N	N1B,N1N,N1	G4	At Risk	Endangered	Endangered	Endangered	St. John's CBC;	1000		NF Birds	mstr1006586
Pagophila eburnea	Ivory Gull	Laridae		1	12	28	1999	S1N,SUM	S2N	N1B,N1N,N1	G4	At Risk	Endangered	Endangered	Endangered	St. John's CBC;	1000		NF Birds	mstr1006587
Pagophila eburnea	Ivory Gull	Laridae		1	1	0	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At Risk	Endangered	Endangered	Endangered	John's harbour and lower Waterford \	1000		NF Birds	mstr1006588
Pagophila eburnea	Ivory Gull	Laridae		1	2	1	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At Risk	Endangered	Endangered	Endangered	St. John's;	1000		NF Birds	mstr1006589
Loxia curvirostra	Red Crossbill	Fringillidae		1	3	21	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Strawberry Marsh Road; St. John's	100		NF RBA	mstr1007392
Loxia curvirostra	Red Crossbill	Fringillidae		1	5	5	1967	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	urban forest Kents Pond; St. John's	1000		Nest Record Card	mstr1007457
Asio flammeus	Short-eared Owl	Strigidae		1	12	27	2002	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	unknown	10000		Canadian Wildlife Service	mstr1009255
Asio flammeus	Short-eared Owl	Strigidae	Todd Boland	1	2	25	2004	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	urban	100		Canadian Wildlife Service	mstr1009227
Loxia curvirostra	Red Crossbill	Fringillidae	Dan	1	1	2	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	backyard feeder	1000		Canadian Wildlife Service	mstr1009441
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	10	3	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/		1000		Canadian Wildlife Service	mstr1009460
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	12	26	1979	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's	10000		The Osprey, Christmas Birc	mstr1004643
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	12	26	1976	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's	10000		The Osprey, Christmas Birc	mstr1005030
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	12	26	1980	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's	10000		The Osprey, Christmas Birc	mstr1005031
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	12	26	1988	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's	10000		Am Birds, Christmas Birc C	mstr1005032
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	12	26	1968	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's	10000		Am Birds, Christmas Birc C	mstr1006372
Chroicocephalus ridibundus	Black-headed Gull	Laridae		44	0	0	1967	S1B, S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive				St John's	10		Christmas Bird Count	mstr1016213
Charadrius vociferus	Killdeer	Charadriidae		1	0	0	1967	S3B,SUM	S2B	N5B,N4N5N,	G5	Sensitive	Indeterminate (Low Prior)				10		Christmas Bird Count	mstr1016227
Anas acuta	Northern Pintail	Anatidae		1	0	0	1967	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016229
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1967	S1B,SUM	S1B	N5B,N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1016230
Loxia curvirostra	Red Crossbill	Fringillidae		59	0	0	1967	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016233
Plectrophenax nivalis	Snow Bunting	Emberizidae		7	0	0	1967	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016235
Troglodytes troglodytes	Winter Wren	Troglodytidae		1	0	0	1967	S3B,SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1016238
Certhia americana	Brown Creeper	Certhiidae		5	0	0	1968	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016247
Chroicocephalus ridibundus	Black-headed Gull	Laridae		48	0	0	1968	S1B, S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016248
Zenaidura macroura	Mourning Dove	Columbidae		3	0	0	1968	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016259
Plectrophenax nivalis	Snow Bunting	Emberizidae		2	0	0	1968	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016263
Megasceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1969	S4B, S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low)				10		Christmas Bird Count	mstr1016267
Chroicocephalus ridibundus	Black-headed Gull	Laridae		52	0	0	1969	S1B, S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016272
Acanthis flammea	Common Redpoll	Fringillidae		480	0	0	1969	S2S3B, S4N,SUM	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016275
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		400	0	0	1969	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016280
Histrionicus histrionicus	Harlequin Duck	Anatidae		4	0	0	1969	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1016285
Loxia curvirostra	Red Crossbill	Fringillidae		110	0	0	1969	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016294
Plectrophenax nivalis	Snow Bunting	Emberizidae		10	0	0	1969	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016296
Megasceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1970	S4B, S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low)				10		Christmas Bird Count	mstr1016300
Certhia americana	Brown Creeper	Certhiidae		4	0	0	1970	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016306
Chroicocephalus ridibundus	Black-headed Gull	Laridae		100	0	0	1970	S1B, S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016307
Acanthis flammea	Common Redpoll	Fringillidae		23	0	0	1970	S2S3B, S4N,SUM	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016310
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		220	0	0	1970	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016314
Accipiter gentilis	Northern Goshawk	Accipitridae		1	0	0	1970	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1016323
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1970	S1B,SUM	S1B	N5B,N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1016325
Plectrophenax nivalis	Snow Bunting	Emberizidae		150	0	0	1970	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016332
Troglodytes troglodytes	Winter Wren	Troglodytidae		8	0	0	1970	S3B,SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1016335
Megasceryle alcyon	Belted Kingfisher	Alcedinidae																		

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Chroicocephalus ridibundus	Black-headed Gull	Laridae		26	0	0	1974	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016456
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		111	0	0	1974	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016465
Charadrius vociferus	Killdeer	Charadriidae		1	0	0	1974	S3B, SUM	S2B	N5B, N4N5N,	G5	Sensitive	ndidate (Low Prior				10		Christmas Bird Count	mstr1016472
Somateria spectabilis	King Eider	Anatidae		0	0	0	1974	S2N, SUM	S3N	NUB, NUN, NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1016473
Zenaida macroura	Mourning Dove	Columbidae		25	0	0	1974	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016475
Alca torda	Razorbill	Alcidae		1	0	0	1974	S3B, S3M	S3B	N5B, N4N, N5	G5	Secure					10		Christmas Bird Count	mstr1016479
Loxia curvirostra	Red Crossbill	Fringillidae		25	0	0	1974	S1S2	S2S3	N5B, N5N, N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016480
Troglodytes troglodytes	Winter Wren	Troglodytidae		1	0	0	1974	S3B, SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1016485
Chroicocephalus ridibundus	Black-headed Gull	Laridae		11	0	0	1975	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016494
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		104	0	0	1975	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016502
Plectrophenax nivalis	Snow Bunting	Emberizidae		6	0	0	1975	S5M, S2N	S5N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016517
Porzana carolina	Sora	Rallidae		1	0	0	1975	S2B, SUM	S1B	N5B, N5M	G5	Undetermined					10		Christmas Bird Count	mstr1016518
Spizella arborea	American Tree Sparrow	Emberizidae		1	0	0	1976	S3B, SUM	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016522
Megasceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1976	S4B, S3N, SUM	S5B	N5B, N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1016523
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1976	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016528
Chroicocephalus ridibundus	Black-headed Gull	Laridae		4	0	0	1976	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016529
Acanthis flammea	Common Redpoll	Fringillidae		3	0	0	1976	S2S3B, S4N, SU	S5	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016532
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		317	0	0	1976	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016537
Accipiter gentilis	Northern Goshawk	Accipitridae		1	0	0	1976	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1016546
Loxia curvirostra	Red Crossbill	Fringillidae		2	0	0	1976	S1S2	S2S3	N5B, N5N, N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016551
Chroicocephalus ridibundus	Black-headed Gull	Laridae		3	0	0	1977	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016567
Quiscalus quiscula	Common Grackle	Icteridae		2	0	0	1977	S5B, S3?N, SUM	S5B	N5B, NUN, N5	G5	Secure					10		Christmas Bird Count	mstr1016569
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		90	0	0	1977	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016575
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	0	0	1977	S3B, S2N, SUM	S3B, S2N	N4B, N3N, N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1016580
Zenaida macroura	Mourning Dove	Columbidae		0	0	0	1977	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016584
Loxia curvirostra	Red Crossbill	Fringillidae		20	0	0	1977	S1S2	S2S3	N5B, N5N, N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016591
Megasceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1978	S4B, S3N, SUM	S5B	N5B, N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1016601
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1978	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016607
Chroicocephalus ridibundus	Black-headed Gull	Laridae		34	0	0	1978	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016608
Quiscalus quiscula	Common Grackle	Icteridae		4	0	0	1978	S5B, S3?N, SUM	S5B	N5B, NUN, N5	G5	Secure					10		Christmas Bird Count	mstr1016610
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		145	0	0	1978	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016616
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1978	S3N, SUM	S3N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016627
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1978	S1B, SUM	S1B	N5B, N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1016629
Loxia curvirostra	Red Crossbill	Fringillidae		41	0	0	1978	S1S2	S2S3	N5B, N5N, N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016632
Troglodytes troglodytes	Winter Wren	Troglodytidae		1	0	0	1978	S3B, SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1016639
Chroicocephalus ridibundus	Black-headed Gull	Laridae		5	0	0	1979	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016648
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		334	0	0	1979	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016656
Accipiter gentilis	Northern Goshawk	Accipitridae		1	0	0	1979	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1016668
Plectrophenax nivalis	Snow Bunting	Emberizidae		21	0	0	1979	S5M, S2N	S5N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016676
Falco sparverius	American Kestrel	Falconidae		0	0	0	1980	S2B, SUM	S2B	N5B, N1N, N5	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1016682
Certhia americana	Brown Creeper	Certhiidae		2	0	0	1980	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016688
Chroicocephalus ridibundus	Black-headed Gull	Laridae		13	0	0	1980	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016690
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		664	0	0	1980	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016700
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	0	0	1980	S3B, S2N, SUM	S3B, S2N	N4B, N3N, N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1016704
Zenaida macroura	Mourning Dove	Columbidae		0	0	0	1980	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016709
Porzana carolina	Sora	Rallidae		1	0	0	1980	S2B, SUM	S1B	N5B, N5M	G5	Undetermined					10		Christmas Bird Count	mstr1016718
Certhia americana	Brown Creeper	Certhiidae		2	0	0	1981	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016730
Chroicocephalus ridibundus	Black-headed Gull	Laridae		62	0	0	1981	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016732
Quiscalus quiscula	Common Grackle	Icteridae		0	0	0	1981	S5B, S3?N, SUM	S5B	N5B, NUN, N5	G5	Secure					10		Christmas Bird Count	mstr1016734
Acanthis flammea	Common Redpoll	Fringillidae		2	0	0	1981	S2S3B, S4N, SU	S5	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016737
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		471	0	0	1981	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016744
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	0	0	1981	S3B, S2N, SUM	S3B, S2N	N4B, N3N, N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1016749
Somateria spectabilis	King Eider	Anatidae		1	0	0	1981	S2N, SUM	S3N	NUB, NUN, NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1016753
Zenaida macroura	Mourning Dove	Columbidae		3	0	0	1981	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016754
Agelaius phoeniceus	Red-winged Blackbird	Icteridae		16	0	0	1981	S1B, SUM	S1S2B	N5B, N5N, N5	G5	Sensitive					10		Christmas Bird Count	mstr1016761
Euphagus carolinus	Rusty Blackbird	Icteridae		1	0	0	1981	S2S3B, SUM	S3B	N4B, NUN, N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1016764
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1982	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016784
Chroicocephalus ridibundus	Black-headed Gull	Laridae		46	0	0	1982	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016786
Acanthis flammea	Common Redpoll	Fringillidae		3	0	0	1982	S2S3B, S4N, SU	S5	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016790
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		369	0	0	1982	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016796
Charadrius vociferus	Killdeer	Charadriidae		7	0	0	1982	S3B, SUM	S2B	N5B, N4N5N,	G5	Sensitive	ndidate (Low Prior				10		Christmas Bird Count	mstr1016805
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1982	S3N, SUM	S3N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1016809
Loxia curvirostra	Red Crossbill	Fringillidae		6	0	0	1982	S1S2	S2S3	N5B, N5N, N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016814
Chroicocephalus ridibundus	Black-headed Gull	Laridae		25	0	0	1983	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016828
Quiscalus quiscula	Common Grackle	Icteridae		5	0	0	1983	S5B, S3?N, SUM	S5B	N5B, NUN, N5	G5	Secure					10		Christmas Bird Count	mstr1016830
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		2	0	0	1983	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1016837
Accipiter gentilis	Northern Goshawk	Accipitridae		5	0	0	1983	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1016846
Pod																				

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Accipiter gentilis	Northern Goshawk	Accipitridae		6	0	0	1985	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1016955
Anas acuta	Northern Pintail	Anatidae		1	0	0	1985	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016956
Seiurus aurocapilla	Ovenbird	Parulidae		0	0	0	1985	S3B,SUM	S5B	N5B,N5M	G5	Secure					10		Christmas Bird Count	mstr1016958
Calidris maritima	Purple Sandpiper	Scolopacidae		3	0	0	1985	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1016963
Loxia curvirostra	Red Crossbill	Fringillidae		13	0	0	1985	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1016964
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1985	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016966
Plectrophenax nivalis	Snow Bunting	Emberizidae		12	0	0	1985	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016969
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		4	0	0	1986	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1016979
Certhia americana	Brown Creeper	Certhiidae		4	0	0	1986	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016988
Chroicocephalus ridibundus	Black-headed Gull	Laridae		42	0	0	1986	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1016990
Acanthis flammea	Common Redpoll	Fringillidae		38	0	0	1986	2S3B,S4N,SUJ	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1016993
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		436	0	0	1986	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017000
Larus fuscus	Lesser Black-backed Gt	Laridae		1	0	0	1986	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017010
Accipiter gentilis	Northern Goshawk	Accipitridae		3	0	0	1986	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017014
Calidris maritima	Purple Sandpiper	Scolopacidae		0	0	0	1986	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1017021
Loxia curvirostra	Red Crossbill	Fringillidae		10	0	0	1986	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1017022
Agelaius phoeniceus	Red-winged Blackbird	Icteridae		4	0	0	1986	S1B,SUM	S1S2B	N5B,N5N,N5	G5	Sensitive					10		Christmas Bird Count	mstr1017024
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1986	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017027
Euphagus carolinus	Rusty Blackbird	Icteridae		1	0	0	1986	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1017028
Plectrophenax nivalis	Snow Bunting	Emberizidae		2	0	0	1986	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017030
Falco sparverius	American Kestrel	Falconidae		1	0	0	1987	S2B,SUM	S2B	N5B,N1N,N5	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1017040
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	1987	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017043
Certhia americana	Brown Creeper	Certhiidae		0	0	0	1987	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017049
Chroicocephalus ridibundus	Black-headed Gull	Laridae		32	0	0	1987	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017050
Quiscalus quiscula	Common Grackle	Icteridae		1	0	0	1987	S5B,S37N,SUM	S5B	N5B,NUN,N5	G5	Secure					10		Christmas Bird Count	mstr1017052
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		721	0	0	1987	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017061
Falco rusticolus	Gyrfalcon	Falconidae		1	0	0	1987	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure					10		Christmas Bird Count	mstr1017067
Somateria spectabilis	King Eider	Anatidae		5	0	0	1987	S2N,SUM	S3N	NUN,NUN,NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1017072
Larus fuscus	Lesser Black-backed Gt	Laridae		1	0	0	1987	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017073
Anas platyrhynchos	Mallard	Anatidae		3	0	0	1987	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017074
Zenaidura macroura	Mourning Dove	Columbidae		1	0	0	1987	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017077
Accipiter gentilis	Northern Goshawk	Accipitridae		5	0	0	1987	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017079
Calidris maritima	Purple Sandpiper	Scolopacidae		1	0	0	1987	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1017084
Loxia curvirostra	Red Crossbill	Fringillidae		0	0	0	1987	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1017085
Agelaius phoeniceus	Red-winged Blackbird	Icteridae		1	0	0	1987	S1B,SUM	S1S2B	N5B,N5N,N5	G5	Sensitive					10		Christmas Bird Count	mstr1017086
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1987	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017089
Plectrophenax nivalis	Snow Bunting	Emberizidae		43	0	0	1987	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017092
Bubo scandiacus	Snowy Owl	Strigidae		7	0	0	1987	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017093
Spizella arborea	American Tree Sparrow	Emberizidae		0	0	0	1988	S3B,SUM	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017104
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1988	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017107
Chroicocephalus ridibundus	Black-headed Gull	Laridae		93	0	0	1988	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017115
Acanthis flammea	Common Redpoll	Fringillidae		0	0	0	1988	2S3B,S4N,SUJ	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017118
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		2279	0	0	1988	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017127
Larus fuscus	Lesser Black-backed Gt	Laridae		1	0	0	1988	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017136
Anas platyrhynchos	Mallard	Anatidae		3	0	0	1988	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017138
Zenaidura macroura	Mourning Dove	Columbidae		4	0	0	1988	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017140
Accipiter gentilis	Northern Goshawk	Accipitridae		10	0	0	1988	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017142
Anas acuta	Northern Pintail	Anatidae		0	0	0	1988	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017143
Lanius excubitor	Northern Shrike	Laniidae		3	0	0	1988	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017144
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		0	0	0	1988	S1B,SUM	S1B	N5B,N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1017145
Buteo lagopus	Rough-legged Hawk	Accipitridae		3	0	0	1988	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017152
Bubo scandiacus	Snowy Owl	Strigidae		12	0	0	1988	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017156
Calidris fuscicollis	White-rumped Sandpiper	Scolopacidae		0	0	0	1988	S3M	S5N	N5B,N5M	G5	Secure					10		Christmas Bird Count	mstr1017161
Troglodytes troglodytes	Winter Wren	Troglodytidae		1	0	0	1988	S3B,SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1017165
Anthus rubescens	American Pipit	Motacillidae		1	0	0	1989	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1017173
Anas americana	American Wigeon	Anatidae		1	0	0	1989	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1017175
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		4	0	0	1989	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017176
Melanitta nigra	Black Scoter	Anatidae		1	0	0	1989	S2B,S2N,SUM	S2B,S3M,S1N	N4B,N4N	G5	Secure					10		Christmas Bird Count	mstr1017178
Chroicocephalus ridibundus	Black-headed Gull	Laridae		71	0	0	1989	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017185
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		110	0	0	1989	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017197
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	0	0	1989	S3B,S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1017202
Larus fuscus	Lesser Black-backed Gt	Laridae		1	0	0	1989	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017207
Anas platyrhynchos	Mallard	Anatidae		5	0	0	1989	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017208
Zenaidura macroura	Mourning Dove	Columbidae		12	0	0	1989	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017212
Fulmarus glacialis	Northern Fulmar	Procellariidae		1	0	0	1989	S1B,S1M	S1B,S5M	N5B,N5N,N5	G5	Sensitive					10		Christmas Bird Count	mstr1017214
Accipiter gentilis	Northern Goshawk	Accipitridae		5	0	0	1989	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017215
Anas acuta	Northern Pintail	Anatidae		1	0	0	1989	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017218
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1989	S1B,SUM	S1B	N5B,N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1017220
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1989	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017227
Bubo scandiacus	Snowy Owl	Strigidae		1	0	0	1989	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017230
Anthus rubescens	American Pipit	Motacillidae		1	0	0	1990	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1017242
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	1990	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017246
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1990	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017252
Chroicocephalus ridibundus	Black-headed Gull	Laridae		79	0	0	1990	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017254
Quiscalus quiscula	Common Grackle	Icteridae		0	0	0	1990	S5B,S37N,SUM	S5B	N5B,NUN,N5	G5	Secure					10		Christmas Bird Count	mstr1017256
Acanthis flammea	Common Redpoll	Fringillidae		2	0	0	1990	2S3B,S4N,SUJ	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017259
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		701	0	0	1990	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017266
Somateria spectabilis	King Eider	Anatidae		2	0	0	1990	S2N,SUM	S3N	NUN,NUN,NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1017277
Larus fuscus	Lesser Black-backed Gt	Laridae		2	0	0	1990	S3N,SUM	S3N	NUN,N4N5M	G5	Secure								

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Chroicocephalus ridibundus	Black-headed Gull	Laridae		70	0	0	1991	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017325
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		432	0	0	1991	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017339
Falco rusticolus	Gyr Falcon	Falconidae		1	0	0	1991	S2S3N, SUM	S2S3N	N4N5B, N5N,	G5	Secure					10		Christmas Bird Count	mstr1017345
Somateria spectabilis	King Eider	Anatidae		1	0	0	1991	S2N, SUM	S3N	NUB, NUN, NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1017350
Larus fuscus	Lesser Black-backed Gull	Laridae		3	0	0	1991	S3N, SUM	S3N	NUN, N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017351
Anas platyrhynchos	Mallard	Anatidae		39	0	0	1991	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017352
Zenaidura macroura	Mourning Dove	Columbidae		1	0	0	1991	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017356
Accipiter gentilis	Northern Goshawk	Accipitridae		7	0	0	1991	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017359
Anas acuta	Northern Pintail	Anatidae		21	0	0	1991	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017360
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1991	S3N, SUM	S3N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017361
Seiurus aurocapilla	Ovenbird	Parulidae		1	0	0	1991	S3B, SUM	S5B	N5B, N5M	G5	Secure					10		Christmas Bird Count	mstr1017362
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1991	S1B, SUM	S1B	N5B, N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1017363
Calidris maritima	Purple Sandpiper	Scolopacidae		2	0	0	1991	S3N, SUM	S3N	N3N4B, N3N4	G5	Secure					10		Christmas Bird Count	mstr1017367
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1991	S2S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017372
Aythya fuligula	Tufted Duck	Anatidae		2	0	0	1991	S1N, SUM	SNA	N1N, NUM	G5	'agrant/ Accident					10		Christmas Bird Count	mstr1017378
Anthus rubescens	American Pipit	Motacillidae		1	0	0	1992	S3B, S4M	S3B, S5M	N5B, N4N, N5	G5	Secure					10		Christmas Bird Count	mstr1017386
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		0	0	0	1992	S4B, S3N, SUM	S5B	N5B, N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017391
Spizella passerina	Chipping Sparrow	Emberizidae		0	0	0	1992	S2S3B, SUM	S2B	N5B, N5M	G5	Secure					10		Christmas Bird Count	mstr1017396
Chroicocephalus ridibundus	Black-headed Gull	Laridae		62	0	0	1992	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017397
Acanthis flammea	Common Redpoll	Fringillidae		65	0	0	1992	S2S3B, S4N, SU1	S5	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017401
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		1	0	0	1992	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017408
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		3	0	0	1992	S3B, S3M, S3N	S3B	N3N4B, N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1017414
Falco rusticolus	Gyr Falcon	Falconidae		1	0	0	1992	S2S3N, SUM	S2S3N	N4N5B, N5N,	G5	Secure					10		Christmas Bird Count	mstr1017415
Larus fuscus	Lesser Black-backed Gull	Laridae		2	0	0	1992	S3N, SUM	S3N	NUN, N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017420
Anas platyrhynchos	Mallard	Anatidae		25	0	0	1992	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017421
Zenaidura macroura	Mourning Dove	Columbidae		0	0	0	1992	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017423
Accipiter gentilis	Northern Goshawk	Accipitridae		15	0	0	1992	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017425
Anas acuta	Northern Pintail	Anatidae		19	0	0	1992	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017427
Calidris maritima	Purple Sandpiper	Scolopacidae		77	0	0	1992	S3N, SUM	S3N	N3N4B, N3N4	G5	Secure					10		Christmas Bird Count	mstr1017432
Plectrophenax nivalis	Snow Bunting	Emberizidae		4	0	0	1992	S5M, S2N	S5N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017438
Bubo scandiacus	Snowy Owl	Strigidae		3	0	0	1992	S3N, SUM	SNA	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017439
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1993	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017459
Chroicocephalus ridibundus	Black-headed Gull	Laridae		23	0	0	1993	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017460
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		44	0	0	1993	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017472
Somateria spectabilis	King Eider	Anatidae		1	0	0	1993	S2N, SUM	S3N	NUB, NUN, NU	G5	Undetermined	ate (Group 3, Low				10		Christmas Bird Count	mstr1017484
Larus fuscus	Lesser Black-backed Gull	Laridae		0	0	0	1993	S3N, SUM	S3N	NUN, N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017485
Aythya affinis	Lesser Scaup	Anatidae		2	0	0	1993	S3N, SUM	S2N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017486
Anas platyrhynchos	Mallard	Anatidae		64	0	0	1993	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017488
Zenaidura macroura	Mourning Dove	Columbidae		17	0	0	1993	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017489
Accipiter gentilis	Northern Goshawk	Accipitridae		10	0	0	1993	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017491
Circus cyaneus	Northern Harrier	Accipitridae		1	0	0	1993	S3B, SUM	S37B	N5B, N4N	G5	Secure					10		Christmas Bird Count	mstr1017492
Anas acuta	Northern Pintail	Anatidae		39	0	0	1993	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017493
Calidris maritima	Purple Sandpiper	Scolopacidae		22	0	0	1993	S3N, SUM	S3N	N3N4B, N3N4	G5	Secure					10		Christmas Bird Count	mstr1017499
Agelaius phoeniceus	Red-winged Blackbird	Icteridae		0	0	0	1993	S1B, SUM	S1S2B	N5B, N5N, N5	G5	Sensitive					10		Christmas Bird Count	mstr1017501
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1993	S2S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017504
Plectrophenax nivalis	Snow Bunting	Emberizidae		1	0	0	1993	S5M, S2N	S5N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017508
Bubo scandiacus	Snowy Owl	Strigidae		0	0	0	1993	S3N, SUM	SNA	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017509
Anthus rubescens	American Pipit	Motacillidae		1	0	0	1994	S3B, S4M	S3B, S5M	N5B, N4N, N5	G5	Secure					10		Christmas Bird Count	mstr1017522
Anas americana	American Wigeon	Anatidae		2	0	0	1994	S3B, SUM	S3B	N5B, N5N, N5	G5	Undetermined					10		Christmas Bird Count	mstr1017524
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1994	S4B, S3N, SUM	S5B	N5B, N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017527
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1994	S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017535
Dendroica tigrina	Cape May Warbler	Parulidae		1	0	0	1994	S2B, SUM	S2B	N5B, N5M	G5	Secure					10		Christmas Bird Count	mstr1017537
Chroicocephalus ridibundus	Black-headed Gull	Laridae		9	0	0	1994	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017539
Acanthis flammea	Common Redpoll	Fringillidae		8	0	0	1994	S2S3B, S4N, SU1	S5	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017542
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		481	0	0	1994	S4	S4B, S5N	N4B, N4N, NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017548
Larus fuscus	Lesser Black-backed Gull	Laridae		1	0	0	1994	S3N, SUM	S3N	NUN, N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017556
Aythya affinis	Lesser Scaup	Anatidae		2	0	0	1994	S3N, SUM	S2N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017557
Anas platyrhynchos	Mallard	Anatidae		161	0	0	1994	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017558
Zenaidura macroura	Mourning Dove	Columbidae		6	0	0	1994	S3	S2B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017559
Accipiter gentilis	Northern Goshawk	Accipitridae		8	0	0	1994	S3	S3B	N4B, N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017561
Anas acuta	Northern Pintail	Anatidae		59	0	0	1994	S3B, SUM	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017562
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1994	S3N, SUM	S3N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017563
Calidris maritima	Purple Sandpiper	Scolopacidae		33	0	0	1994	S3N, SUM	S3N	N3N4B, N3N4	G5	Secure					10		Christmas Bird Count	mstr1017571
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1994	S2S3	S3B	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017575
Plectrophenax nivalis	Snow Bunting	Emberizidae		1	0	0	1994	S5M, S2N	S5N	N5B, N5N, N5	G5	Secure					10		Christmas Bird Count	mstr1017579
Anas americana	American Wigeon	Anatidae		1	0	0	1995	S3B, SUM	S3B	N5B, N5N, N5	G5	Undetermined					10		Christmas Bird Count	mstr1017593
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		1	0	0	1995	S4B, S3N, SUM	S5B	N5B, N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017594
Chroicocephalus ridibundus	Black-headed Gull	Laridae		14	0	0	1995	S1B, S3N, SUM	S1B, S3N	N3B, N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017602
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		1																

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Accipiter gentilis	Northern Goshawk	Accipitridae		15	0	0	1996	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017699
Anas acuta	Northern Pintail	Anatidae		120	0	0	1996	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017700
Lanius excubitor	Northern Shrike	Laniidae		4	0	0	1996	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017701
Calidris maritima	Purple Sandpiper	Scolopacidae		14	0	0	1996	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1017706
Anas americana	American Wigeon	Anatidae		0	0	0	1997	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1017722
Certhia americana	Brown Creeper	Certhiidae		1	0	0	1997	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017730
Chroicocephalus ridibundus	Black-headed Gull	Laridae		90	0	0	1997	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017733
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		15	0	0	1997	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017743
Larus fuscus	Lesser Black-backed Gull	Laridae		4	0	0	1997	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017752
Aythya affinis	Lesser Scaup	Anatidae		1	0	0	1997	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017753
Anas platyrhynchos	Mallard	Anatidae		230	0	0	1997	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017754
Zenaidura macroura	Mourning Dove	Columbidae		0	0	0	1997	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017757
Accipiter gentilis	Northern Goshawk	Accipitridae		13	0	0	1997	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017759
Anas acuta	Northern Pintail	Anatidae		202	0	0	1997	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017760
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1997	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017761
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	1997	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)		10		Christmas Bird Count	mstr1017762
Alca torda	Razorbill	Alcidae		1	0	0	1997	S3B,S3M	S3B	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1017766
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1997	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017771
Plectrophenax nivalis	Snow Bunting	Emberizidae		1	0	0	1997	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017776
Bubo scandiacus	Snowy Owl	Strigidae		4	0	0	1997	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017778
Aythya fuligula	Tufted Duck	Anatidae		1	0	0	1997	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:					10		Christmas Bird Count	mstr1017781
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		5	0	0	1998	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017792
Certhia americana	Brown Creeper	Certhiidae		2	0	0	1998	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017800
Chroicocephalus ridibundus	Black-headed Gull	Laridae		64	0	0	1998	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017803
Acanthis flammea	Common Redpoll	Fringillidae		0	0	0	1998	S2S3B,S4N,SUM	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017807
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		213	0	0	1998	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017816
Ardea herodias	Great Blue Heron	Ardeidae		0	0	0	1998	S2B,SUM	S2B	N5B,N3N,N5	G5	Secure					10		Christmas Bird Count	mstr1017820
Charadrius vociferus	Killdeer	Charadriidae		1	0	0	1998	S3B,SUM	S2B	N5B,N4N5N,	G5	Sensitive	ndidate (Low Prior				10		Christmas Bird Count	mstr1017826
Larus fuscus	Lesser Black-backed Gull	Laridae		1	0	0	1998	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017827
Aythya affinis	Lesser Scaup	Anatidae		0	0	0	1998	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017828
Anas platyrhynchos	Mallard	Anatidae		299	0	0	1998	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017830
Zenaidura macroura	Mourning Dove	Columbidae		15	0	0	1998	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017831
Accipiter gentilis	Northern Goshawk	Accipitridae		9	0	0	1998	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017833
Anas acuta	Northern Pintail	Anatidae		283	0	0	1998	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017834
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	1998	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)		10		Christmas Bird Count	mstr1017837
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae		1	0	0	1998	S1B,SUM	S1B	N5B,N4N5N,	G5	Undetermined					10		Christmas Bird Count	mstr1017838
Alca torda	Razorbill	Alcidae		1	0	0	1998	S3B,S3M	S3B	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1017842
Aythya fuligula	Tufted Duck	Anatidae		2	0	0	1998	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:					10		Christmas Bird Count	mstr1017852
Anas americana	American Wigeon	Anatidae		2	0	0	1999	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1017864
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		3	0	0	1999	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017867
Melanitta nigra	Black Scoter	Anatidae		1	0	0	1999	S2B,S2N,SUM	S2B,S3M,S1N	N4B,N4N	G5	Secure					10		Christmas Bird Count	mstr1017869
Chroicocephalus ridibundus	Black-headed Gull	Laridae		77	0	0	1999	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017872
Certhia americana	Brown Creeper	Certhiidae		2	0	0	1999	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017876
Bucephala albeola	Bufflehead	Anatidae		1	0	0	1999	S2N,SUM	S1S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017877
Quiscalus quiscula	Common Grackle	Icteridae		0	0	0	1999	S5B,S3?N,SUM	S5B	N5B,NUN,N5	G5	Secure					10		Christmas Bird Count	mstr1017880
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		13	0	0	1999	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017891
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		9	0	0	1999	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1017896
Larus fuscus	Lesser Black-backed Gull	Laridae		2	0	0	1999	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017902
Anas platyrhynchos	Mallard	Anatidae		240	0	0	1999	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017904
Zenaidura macroura	Mourning Dove	Columbidae		14	0	0	1999	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017906
Accipiter gentilis	Northern Goshawk	Accipitridae		5	0	0	1999	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017908
Circus cyaneus	Northern Harrier	Accipitridae		1	0	0	1999	S3B,SUM	S3?B	N5B,N4N	G5	Secure					10		Christmas Bird Count	mstr1017909
Anas acuta	Northern Pintail	Anatidae		249	0	0	1999	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017910
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	1999	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017911
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	1999	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)		10		Christmas Bird Count	mstr1017913
Buteo lagopus	Rough-legged Hawk	Accipitridae		1	0	0	1999	S2S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017919
Aythya fuligula	Tufted Duck	Anatidae		1	0	0	1999	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:					10		Christmas Bird Count	mstr1017926
Anas americana	American Wigeon	Anatidae		2	0	0	2000	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1017937
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		7	0	0	2000	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1017940
Melanitta nigra	Black Scoter	Anatidae		2	0	0	2000	S2B,S2N,SUM	S2B,S3M,S1N	N4B,N4N	G5	Secure					10		Christmas Bird Count	mstr1017942
Chroicocephalus ridibundus	Black-headed Gull	Laridae		56	0	0	2000	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1017945
Certhia americana	Brown Creeper	Certhiidae		4	0	0	2000	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017950
Acanthis flammea	Common Redpoll	Fringillidae		115	0	0	2000	S2S3B,S4N,SUM	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017957
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		208	0	0	2000	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1017967
Pagophila eburnea	Ivory Gull	Laridae		1	0	0	2000	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered		10		Christmas Bird Count	mstr1017975
Larus fuscus	Lesser Black-backed Gull	Laridae		6	0	0	2000	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1017976
Aythya affinis	Lesser Scaup	Anatidae		1	0	0	2000	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017977
Anas platyrhynchos	Mallard	Anatidae		440	0	0	2000	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017978
Zenaidura macroura	Mourning Dove	Columbidae		31	0	0	2000	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017981
Accipiter gentilis	Northern Goshawk	Accipitridae		3	0	0	2000	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1017983
Anas acuta	Northern Pintail	Anatidae		318	0	0	2000	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017985
Lanius excubitor	Northern Shrike	Laniidae		2	0	0	2000	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1017987
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	2000	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)		10		Christmas Bird Count	mstr1017989
Calidris maritima	Purple Sandpiper	Scolopacidae		65	0	0	2000	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1017993
Loxia curvirostris	Red Crossbill	Fringillidae		0	0	0	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1017994
Aythya fuligula	Tufted Duck	Anatidae		6	0	0	2000	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:					10		Christmas Bird Count	mstr1018007
Troglodytes troglodytes	Winter Wren	Troglodytidae		1	0	0	2000	S3B,SUM	S3S4B	N5B	G5	Secure					10		Christmas Bird Count	mstr1018012
Anthus rubescens	American Pipit	Motacillidae		0	0	0	2001	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018021
Anas americana	American Wigeon	Anatidae		4	0	0	2001	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018023
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		10	0	0														

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Anas platyrhynchos	Mallard	Anatidae		419	0	0	2001	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018068
Zenaida macroura	Mourning Dove	Columbidae		6	0	0	2001	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018071
Accipiter gentilis	Northern Goshawk	Accipitridae		2	0	0	2001	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018073
Anas acuta	Northern Pintail	Anatidae		243	0	0	2001	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018074
Lanius excubitor	Northern Shrike	Laniidae		3	0	0	2001	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018075
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	2001	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/		10		Christmas Bird Count	mstr1018076
Calidris maritima	Purple Sandpiper	Scolopacidae		40	0	0	2001	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018080
Alca torda	Razorbill	Alcidae		1	0	0	2001	S3B,S3M	S3B	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018081
Aythya fuligula	Tufted Duck	Anatidae		7	0	0	2001	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accidentt					10		Christmas Bird Count	mstr1018092
Anthus rubescens	American Pipit	Motacillidae		1	0	0	2002	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018102
Anas americana	American Wigeon	Anatidae		2	0	0	2002	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018104
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		3	0	0	2002	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1018106
Chroicocephalus ridibundus	Black-headed Gull	Laridae		17	0	0	2002	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1018110
Certhia americana	Brown Creeper	Certhiidae		3	0	0	2002	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018116
Quiscalus quiscula	Common Grackle	Icteridae		1	0	0	2002	S5B,S3?N,SUM	S5B	N5B,NUN,N5	G5	Secure					10		Christmas Bird Count	mstr1018120
Acanthis flammea	Common Redpoll	Fringillidae		14	0	0	2002	?S3B,S4N,SUI	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018123
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		173	0	0	2002	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1018128
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		0	0	0	2002	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1018133
Larus fuscus	Lesser Black-backed Gull	Laridae		4	0	0	2002	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1018141
Aythya affinis	Lesser Scaup	Anatidae		2	0	0	2002	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018142
Anas platyrhynchos	Mallard	Anatidae		415	0	0	2002	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018145
Zenaida macroura	Mourning Dove	Columbidae		59	0	0	2002	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018147
Accipiter gentilis	Northern Goshawk	Accipitridae		1	0	0	2002	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018149
Anas acuta	Northern Pintail	Anatidae		295	0	0	2002	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018151
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		0	0	0	2002	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/		10		Christmas Bird Count	mstr1018152
Calidris maritima	Purple Sandpiper	Scolopacidae		12	0	0	2002	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018156
Aythya fuligula	Tufted Duck	Anatidae		11	0	0	2002	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accidentt					10		Christmas Bird Count	mstr1018165
Anthus rubescens	American Pipit	Motacillidae		1	0	0	2003	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018175
Anas americana	American Wigeon	Anatidae		8	0	0	2003	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018177
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	2003	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1018179
Chroicocephalus ridibundus	Black-headed Gull	Laridae		42	0	0	2003	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1018182
Quiscalus quiscula	Common Grackle	Icteridae		1	0	0	2003	S5B,S3?N,SUM	S5B	N5B,NUN,N5	G5	Secure					10		Christmas Bird Count	mstr1018188
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		34	0	0	2003	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1018196
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		6	0	0	2003	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1018201
Larus fuscus	Lesser Black-backed Gull	Laridae		4	0	0	2003	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1018208
Aythya affinis	Lesser Scaup	Anatidae		2	0	0	2003	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018209
Anas platyrhynchos	Mallard	Anatidae		422	0	0	2003	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018212
Zenaida macroura	Mourning Dove	Columbidae		2	0	0	2003	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018213
Accipiter gentilis	Northern Goshawk	Accipitridae		3	0	0	2003	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018215
Anas acuta	Northern Pintail	Anatidae		188	0	0	2003	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018216
Calidris maritima	Purple Sandpiper	Scolopacidae		45	0	0	2003	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018220
Asio flammeus	Short-eared Owl	Strigidae		1	0	0	2003	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern		10		Christmas Bird Count	mstr1018227
Aythya fuligula	Tufted Duck	Anatidae		10	0	0	2003	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accidentt					10		Christmas Bird Count	mstr1018230
Anas americana	American Wigeon	Anatidae		10	0	0	2004	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018242
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	2004	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1018244
Chroicocephalus ridibundus	Black-headed Gull	Laridae		108	0	0	2004	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1018248
Certhia americana	Brown Creeper	Certhiidae		2	0	0	2004	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018252
Acanthis flammea	Common Redpoll	Fringillidae		12	0	0	2004	?S3B,S4N,SUI	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018258
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		180	0	0	2004	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1018266
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		9	0	0	2004	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1018272
Larus fuscus	Lesser Black-backed Gull	Laridae		10	0	0	2004	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1018279
Aythya affinis	Lesser Scaup	Anatidae		4	0	0	2004	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018280
Anas platyrhynchos	Mallard	Anatidae		434	0	0	2004	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018283
Zenaida macroura	Mourning Dove	Columbidae		1	0	0	2004	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018286
Accipiter gentilis	Northern Goshawk	Accipitridae		7	0	0	2004	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018288
Anas acuta	Northern Pintail	Anatidae		346	0	0	2004	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018289
Lanius excubitor	Northern Shrike	Laniidae		1	0	0	2004	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018290
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	2004	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/		10		Christmas Bird Count	mstr1018293
Calidris maritima	Purple Sandpiper	Scolopacidae		47	0	0	2004	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018297
Aythya fuligula	Tufted Duck	Anatidae		7	0	0	2004	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accidentt					10		Christmas Bird Count	mstr1018307
Anthus rubescens	American Pipit	Motacillidae		0	0	0	2005	S3B,S4M	S3B,S5M	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018319
Anas americana	American Wigeon	Anatidae		10	0	0	2005	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018321
Megaceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	2005	S4B,S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1018323
Chroicocephalus ridibundus	Black-headed Gull	Laridae		108	0	0	2005	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1018327
Certhia americana	Brown Creeper	Certhiidae		2	0	0	2005	S3	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018333
Acanthis flammea	Common Redpoll	Fringillidae		12	0	0	2005	?S3B,S4N,SUI	S5	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018339
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		180	0	0	2005	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1018347
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		9	0	0	2005	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1018353
Larus fuscus	Lesser Black-backed Gull	Laridae		10	0	0	2005	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1018360
Aythya affinis	Lesser Scaup	Anatidae		4	0	0	2005	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018361
Anas platyrhynchos	Mallard	Anatidae		434	0	0	2005	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018364
Zenaida macroura	Mourning Dove	Columbidae		1	0	0	2005	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018367
Accipiter gentilis	Northern Goshawk	Accipitridae		7	0	0	2005	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018369
Anas acuta	Northern Pintail	Anatidae		346	0	0	2005	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018370
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae		1	0	0	2005	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/		10		Christmas Bird Count	mstr1018372
Calidris maritima	Purple Sandpiper	Scolopacidae		47	0	0	2005	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018376
Calidris alba	Sanderling	Scolopacidae		0	0	0	2005	S3M	S4N	N3B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018383
Plectrophenax nivalis	Snow Bunting	Emberizidae		0	0	0	2005	S5M,S2N	S5N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018386
Aythya fuligula	Tufted Duck	Anatidae		7	0	0	2005	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accidentt					10		Christmas Bird Count	mstr1018390
Anas americana	American Wigeon																			

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Zenaid macroura	Mourning Dove	Columbidae		1	0	0	2006	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018449
Accipiter gentilis	Northern Goshawk	Accipitridae		3	0	0	2006	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018451
Anas acuta	Northern Pintail	Anatidae		252	0	0	2006	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018452
Calidris maritima	Purple Sandpiper	Scolopacidae		6	0	0	2006	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018457
Alca torda	Razorbill	Alcidae		1	0	0	2006	S3B,S3M	S3B	N5B,N4N,N5	G5	Secure					10		Christmas Bird Count	mstr1018458
Aythya fuligula	Tufted Duck	Anatidae		9	0	0	2006	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident					10		Christmas Bird Count	mstr1018468
Anas americana	American Wigeon	Anatidae		3	0	0	2007	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					10		Christmas Bird Count	mstr1018481
Megasceryle alcyon	Belted Kingfisher	Alcedinidae		2	0	0	2007	S4B, S3N,SUM	S5B	N5B,N4N5N,	G5	Secure	ate (Group 3, Low				10		Christmas Bird Count	mstr1018485
Chroicocephalus ridibundus	Black-headed Gull	Laridae		50	0	0	2007	S1B, S3N,SUM	S1B,S3N	N3B,N3N4N,	G5	Sensitive					10		Christmas Bird Count	mstr1018488
Anas discors	Blue-winged Teal	Anatidae		1	0	0	2007	SUB, S1M	S2B	N5B,N5M	G5	Sensitive					10		Christmas Bird Count	mstr1018490
Bucephala albeola	Bufflehead	Anatidae		1	0	0	2007	S2N,SUM	S1S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018493
Coccothraustes vespertina	Evening Grosbeak	Fringillidae		42	0	0	2007	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				10		Christmas Bird Count	mstr1018503
Phalacrocorax carbo	Great Cormorant	Phalacrocoracidae		18	0	0	2007	S3B,S3M,S3N	S3B	N3N4B,N3N4	G5	Sensitive					10		Christmas Bird Count	mstr1018508
Falco rusticolus	Gyr Falcon	Falconidae		1	0	0	2007	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure					10		Christmas Bird Count	mstr1018511
Larus fuscus	Lesser Black-backed Gull	Laridae		7	0	0	2007	S3N,SUM	S3N	NUN,N4N5M	G5	Secure					10		Christmas Bird Count	mstr1018517
Aythya affinis	Lesser Scaup	Anatidae		2	0	0	2007	S3N,SUM	S2N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018518
Anas platyrhynchos	Mallard	Anatidae		387	0	0	2007	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018520
Zenaid macroura	Mourning Dove	Columbidae		2	0	0	2007	S3	S2B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018523
Accipiter gentilis	Northern Goshawk	Accipitridae		2	0	0	2007	S3	S3B	N4B,N4N5N,	G5	Secure					10		Christmas Bird Count	mstr1018525
Anas acuta	Northern Pintail	Anatidae		212	0	0	2007	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018526
Lanius excubitor	Northern Shrike	Laniidae		2	0	0	2007	S3N,SUM	S3N	N5B,N5N,N5	G5	Secure					10		Christmas Bird Count	mstr1018527
Calidris maritima	Purple Sandpiper	Scolopacidae		65	0	0	2007	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure					10		Christmas Bird Count	mstr1018531
Loxia curvirostra	Red Crossbill	Fringillidae		10	0	0	2007	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10		Christmas Bird Count	mstr1018532
Agelaius phoeniceus	Red-winged Blackbird	Icteridae		1	0	0	2007	S1B,SUM	S1S2B	N5B,N5N,N5	G5	Sensitive					10		Christmas Bird Count	mstr1018534
Aythya fuligula	Tufted Duck	Anatidae		10	0	0	2007	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident					10		Christmas Bird Count	mstr1018541
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	20	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's Harbour	100		NF Birds	mstr1006898
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	3	9	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	River outflow	10		NF Birds	mstr1006817
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	12	11	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	urban lake	100		Canadian Wildlife Service	mstr1009469
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Paul Lingear	1	10	2	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's	10000		The Osprey	mstr1007003
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Vars. Obs.	1	0	0	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's	10000		The Osprey	mstr1007005
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Jytte Selno	1	3	2	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's	10000		NF Birds	mstr1007007
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	12	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's	10000		The Osprey	mstr1007008
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Vars. Obs.	1	12	26	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	St. John's	10000		The Osprey	mstr1007010
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Jared Clarke	1	1	26	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	urban lake	1000		Canadian Wildlife Service	mstr1009471
Chordeiles minor	Common Nighthawk	Caprimulgidae	Todd Boland	0	6	2	1998	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened	Lake	100		Canadian Wildlife Service	mstr1009369
Chaetura pelagica	Chimney Swift	Apodidae	Todd Boland	1	5	31	1998	SNR	SNR	N4B,N3M	G4G5	'agrant/ Accident	Threatened	Threatened	Threatened	Lake	1000		Canadian Wildlife Service	mstr1009339
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	1	5	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	Quidi Vidi Lake	100		NF Birds	mstr1006863
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Doug Phelan	1	1	7	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	Quidi Vidi Lake	100		NF Birds	mstr1006896
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dwayne Sabine	1	1	13	2004	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	Virginia River Trail	1000		Canadian Wildlife Service	mstr1006979
Asio flammeus	Short-eared Owl	Strigidae	John Wells	1	1	7	2008	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	scrub	100		Canadian Wildlife Service	mstr1009456
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	10	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	freshwater lake	1000		Canadian Wildlife Service	mstr1009239
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	8	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	freshwater lake	1000		Canadian Wildlife Service	mstr1009240
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	22	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	freshwater lake	1000		Canadian Wildlife Service	mstr1009242
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	14	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	freshwater lake	1000		Canadian Wildlife Service	mstr1009244
Histrionicus histrionicus	Harlequin Duck	Anatidae	Doug Hynes	1	12	22	2005	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Freshwater Bay	5000		NF Birds	mstr1006158
Histrionicus histrionicus	Harlequin Duck	Anatidae	Bill Montevecchi;	1	3	1	1998	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Freshwater Bay	5000		NF Birds	mstr1006168
Pagophila eburnea	Ivory Gull	Laridae		1	1	16	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi;	1000		NF Birds	mstr1006590
Pagophila eburnea	Ivory Gull	Laridae		1	1	15	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	of Virginia River; Quidi Vidi Lake; St	1000		NF Birds	mstr1006591
Pagophila eburnea	Ivory Gull	Laridae		1	1	12	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi ;	1000		NF Birds	mstr1006592
Pagophila eburnea	Ivory Gull	Laridae		1	1	0	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut	1000		NF Birds	mstr1006593
Pagophila eburnea	Ivory Gull	Laridae		1	2	2	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut;	1000		NF Birds	mstr1006594
Pagophila eburnea	Ivory Gull	Laridae		1	2	5	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut;	1000		NF Birds	mstr1006595
Pagophila eburnea	Ivory Gull	Laridae		1	2	5	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut;	1000		NF Birds	mstr1006596
Pagophila eburnea	Ivory Gull	Laridae		1	1	0	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Lake	1000		NF Birds	mstr1006597
Pagophila eburnea	Ivory Gull	Laridae		1	1	12	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Lake; St. John's	1000		NF Birds	mstr1006598
Pagophila eburnea	Ivory Gull	Laridae		1	1	30	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Lake; St. John's	1000		NF Birds	mstr1006599
Euphagus carolinus	Rusty Blackbird	Icteridae	Jared Clarke	1	4	27	2003	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Lundrigan's Marsh	100		NF Birds	mstr1007570
Euphagus carolinus	Rusty Blackbird	Icteridae	Ken Knowles	1	5	19	2002	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Lundrigan's Marsh	100		NF Birds	mstr1007572
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	11	27	1977	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's Narrows	1000		Montevecchi list	mstr1005033
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	11	27	1988	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St John's Narrows; Chain Rock	100		The Osprey	mstr1005034
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	5	21	1988	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Cape Spear QV Lake	10000		The Osprey	mstr1006208
Chordeiles minor	Common Nighthawk	Caprimulgidae	Dave Brown	1	9	24	2002	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened		100		Canadian Wildlife Service	mstr1009366
Loxia curvirostra	Red Crossbill	Fringillidae		1	8	13	2004	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	East End; St. John's	100		NF Birds	mstr1007438
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Jared Clarke	1	11	25	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/	municipal dump	1000		Canadian Wildlife Service	mstr1009466
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	John Wells	2	3	11	2007	S3M, S2N	S2M	N3B	G4T4									

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Danaus plexippus	Monarch	Nymphalidae	Ross					SNA	SNA	N3B,NNRM	G4	'agrant/ Accident	Special Concern		Special Concern	South Side Hill, St. Johns	1000		Ross Newfoundland Data.x mstr1041939	
Danaus plexippus	Monarch	Nymphalidae	Ross					SNA	SNA	N3B,NNRM	G4	'agrant/ Accident	Special Concern		Special Concern	St. Johns	10000		Ross Newfoundland Data.x mstr1041941	
Danaus plexippus	Monarch	Nymphalidae	Ross					SNA	SNA	N3B,NNRM	G4	'agrant/ Accident	Special Concern		Special Concern	en Pond Botanical Garden, St. Joh	1000		Ross Newfoundland Data.x mstr1041942	
Catharus minimus	Gray-cheeked Thrush	Turdidae	R. Burrows	1	7	17	1988	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Oxen Pond, St. John's	1000		Gray-Cheeked Thrush, SS/ mstr1042098	
Catharus minimus	Gray-cheeked Thrush	Turdidae	R. Burrows	1	5	28	1988	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Oxen Pond, St. John's	1000		Gray-Cheeked Thrush, SS/ mstr1042099	
Catharus minimus	Gray-cheeked Thrush	Turdidae	R. Burrows	1	5	28	1989	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Oxen Pond, St. John's	1000		Gray-Cheeked Thrush, SS/ mstr1042100	
Catharus minimus	Gray-cheeked Thrush	Turdidae	B. Mactavish, J. F	1	5	29	1988	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		St. John's	10000		Gray-Cheeked Thrush, SS/ mstr1042101	
Catharus minimus	Gray-cheeked Thrush	Turdidae	B. S. Jackson	1	5	27	1980	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Long Pond	1000		Gray-Cheeked Thrush, SS/ mstr1042102	
Catharus minimus	Gray-cheeked Thrush	Turdidae	R. Burrows	1	5	28	1988	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Long Pond	1000		Gray-Cheeked Thrush, SS/ mstr1042103	
Catharus minimus	Gray-cheeked Thrush	Turdidae	R. Burrows	1	6	2	1990	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		Kents Pond, St. John's	1000		Gray-Cheeked Thrush, SS/ mstr1042104	
Catharus minimus	Gray-cheeked Thrush	Turdidae	B. Mactavish	2	5	25	1989	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened		White Hills, St. John's	1000		Gray-Cheeked Thrush, SS/ mstr1042106	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Gene Herzberg	1	5	17	2009	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		Nf. Birds, Data Entry by WD mstr1028337	
Euphagus carolinus	Rusty Blackbird	Icteridae	Harry B.	1	5	21	2002	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	St. John's Area	10000		Nf. Birds, Data Entry by WD mstr1027838	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	7	2009	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		5000		Nf. Birds, Data Entry by WD mstr1027946	
Circus cyaneus	Northern Harrier	Accipitridae	Jytte Selno	1	9	30	2001	S3B,SUM	S3?B	N5B,N4N	G5	Secure				Cuckhold Cove Trail	1000		Nf. Birds, Data Entry by WD mstr1028925	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Jytte Selno	1	5	29	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		5000		Nf. Birds, Data Entry by WD mstr1028234	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	John Pratt	1	10	15	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		5000		Nf. Birds, Data Entry by WD mstr1028235	
Accipiter gentilis	Northern Goshawk	Accipitridae	Doug Hynes	1	11	27	2005	S3	S3B	N4B,N4N5N,	G5	Secure				Conifer Tree	1000		Nf. Birds, Data Entry by WD mstr1029594	
Histrionicus histrionicus	Harlequin Duck	Anatidae	Doug Hynes	1	12	22	2005	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern		1000		Nf. Birds, Data Entry by WD mstr1029595	
Histrionicus histrionicus	Harlequin Duck	Anatidae	Todd Boland	1	3	2	1998	S3B, S2N,SUM	S3B,S2N	N4B,N3N,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Near St. John's Bay	1000		Nf. Birds, Data Entry by WD mstr1029592	
Falco rusticolus	Gyr Falcon	Falconidae	David Shepherd	1	10	24	2006	S2S3N,SUM	S2S3B	N4N5B,N5N,	G5	Secure				25 Anderson Avenue, St. John's	1000		Nf. Birds, Data Entry by WD mstr1027881	
Catharus minimus	Gray-Cheeked Thrush	Turdidae	Howard Clase	1	10	7	2002	S2B,SUM	S2S3B	N5B,N5M	G5	Secure	indicate (Mid Prior)	Threatened			1000		Nf. Birds, Data Entry by WD mstr1027917	
Circus cyaneus	Northern Harrier	Accipitridae	Jared Clarke	1	1	4	2012	S3B,SUM	S3?B	N5B,N4N	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027829	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	12	26	1998	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		10000		Nf. Birds, Data Entry by WD mstr1027839	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	1	24	1999	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027840	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	12	27	1999	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		10000		Nf. Birds, Data Entry by WD mstr1027842	
Pagophila eburnea	Ivory Gull	Laridae	Paul Linegar	1	12	28	1999	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027843	
Loxia curvirostra	Red Crossbill	Fringillidae	Anne Hughes	2	3	18	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027844	
Accipiter gentilis	Northern Goshawk	Accipitridae	Dirk Hilbers	1	5	26	2003	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027851	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Libby Creelman	1	12	31	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		10000		Nf. Birds, Data Entry by WD mstr1027854	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	1	11	2004	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027855	
Falco rusticolus	Gyr Falcon	Falconidae	Paul Linegar	1	12	28	2004	S2S3N,SUM	S2S3B	N4N5B,N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027857	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	1	2	5	2006	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027860	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Paul Linegar	2	12	29	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		10000		Nf. Birds, Data Entry by WD mstr1027869	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	10	24	2009	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027871	
Falco sparverius	American Kestrel	Falconidae	Ken Knowles	1	10	5	2995	S2B,SUM	S2B	N5B,N1N,N5	G5	Undetermined	ate (Group 3, Low				10000		Nf. Birds, Data Entry by WD mstr1027873	
Accipiter gentilis	Northern Goshawk	Accipitridae	Mark Maffei	1	3	22	2011	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027833	
Pagophila eburnea	Ivory Gull	Laridae	Todd Boland	1	12	27	1999	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027790	
Loxia curvirostra	Red Crossbill	Fringillidae	Anne Hughes	2	4	10	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027791	
Pagophila eburnea	Ivory Gull	Laridae	Bruce Mactavish	5	2	2	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027795	
Asio flammeus	Short-eared Owl	Strigidae	Paul Linegar	1	12	27	2002	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern		10000		Nf. Birds, Data Entry by WD mstr1027798	
Aegolius acadicus	Northern Saw-Whet Owl	Strigidae	Neighbour of Paul	1	4	21	2003	S3?	S1?	N5B,N5N,N5	G5	Undetermined					10000		Nf. Birds, Data Entry by WD mstr1027800	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Paul Linegar	1	12	28	2004	S2S3	S3B	N5B,N5N,N5	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027805	
Bubo scandiacus	Snowy Owl	Strigidae	Paul Linegar	1	12	28	2004	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027806	
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	10	12	27	2006	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027811	
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	25	2	17	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	ine and spruce tr	10000		Nf. Birds, Data Entry by WD mstr1027812	
Accipiter gentilis	Northern Goshawk	Accipitridae	Paul Linegar	1	12	29	2008	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027817	
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	-99	12	29	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		10000		Nf. Birds, Data Entry by WD mstr1027818	
Accipiter gentilis	Northern Goshawk	Accipitridae	Paul Linegar	1	12	30	2011	S3	S3B	N4B,N4N5N,	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027825	
Circus cyaneus	Northern Harrier	Accipitridae	Paul Linegar	1	12	30	2011	S3B,SUM	S3?B	N5B,N4N	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027826	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Jared Clarke	-99	1	2	2012	S2S3	S3B	N5B,N5N,N5	G5	Secure					10000		Nf. Birds, Data Entry by WD mstr1027827	
Bubo scandiacus	Snowy Owl	Strigidae	golman_otto@ya	1	12	5	2008	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				115 Forest Road	1000		Nf. Birds, Data Entry by WD mstr1027971	
Bubo scandiacus	Snowy Owl	Strigidae	Wayne Tucker	1	11	12	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				23 Oakridge Drive	1000		Nf. Birds, Data Entry by WD mstr1028258	
Loxia curvirostra	Red Crossbill	Fringillidae	Dave Brown	2	3	30	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	45 Smithville Crescent	1000		Nf. Birds, Data Entry by WD mstr1027985	
Loxia curvirostra	Red Crossbill	Fringillidae	Ian Jones	6	12	31	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	30m West of Inco Innovation Centre	1000		Nf. Birds, Data Entry by WD mstr1027922	
Accipiter gentilis	Northern Goshawk	Accipitridae	John Wells	1	3	24	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Above Long Pond	1000		Nf. Birds, Data Entry by WD mstr1028048	
Bubo scandiacus	Snowy Owl	Strigidae	Anne Hughes	1	11	26	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				Culture Centre near Memorial Uni	1000		Nf. Birds, Data Entry by WD mstr1027965	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Chris Brown	1	1	3	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		Nf. Birds, Data Entry by WD mstr1028188	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	12	16	2007	S3	S3B	N4B,N4N5N,	G5	Secure				Bally Hall Golf Course	1000		Nf. Birds, Data Entry by WD mstr1028231	
Bubo scandiacus	Snowy Owl	Strigidae	John Pratt	1	11	11	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				Bally Hally Estates Area	1000		Nf. Birds, Data Entry by WD mstr1028199	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	15	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		Nf. Birds, Data Entry by WD mstr1028191	
Bubo scandiacus	Snowy Owl	Strigidae	golman_otto@ya	1	2	21	2010	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				Bally Hally Golf Course	1000		Nf. Birds, Data Entry by WD mstr1028192	
Accipiter gentilis	Northern Goshawk	Accipitridae	Doug Ph																	

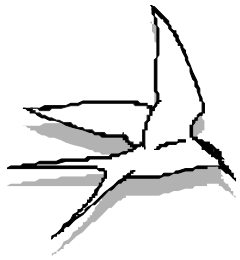
GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Bruce Mactavish	1	1	11	2004	S2S3	S3B	N5B,N5N,N5	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027801	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Bruce Mactavish	1	3	6	2005	S2S3	S3B	N5B,N5N,N5	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027807	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Jared Clarke	1	1	1	2006	S2S3	S3B	N5B,N5N,N5	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027808	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Jared Clarke	1	2	5	2006	S2S3	S3B	N5B,N5N,N5	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027809	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Bruce Mactavish	1	1	11	2009	S2S3	S3B	N5B,N5N,N5	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027820	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jytte Selno	1	3	16	2001	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1027876	
Falco rusticolus	Gyr Falcon	Falconidae	Dave Brown	1	11	28	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028096	
Accipiter gentilis	Northern Goshawk	Accipitridae	Todd Boland	4	1	24	1998	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028263	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	12	13	1998	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028264	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	2	13	1999	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028266	
Accipiter gentilis	Northern Goshawk	Accipitridae	Todd Boland	1	3	28	1999	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028267	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	12	6	1999	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028268	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	3	1	18	2000	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028269	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	6	2000	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028270	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	18	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028272	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	4	8	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028273	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	3	12	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028275	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	3	24	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028277	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	John Wells & Bruce Mactavish	1	3	24	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028278	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	11	5	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028281	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	1	2	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028282	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	2	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028283	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	-99	1	1	2004	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028285	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	29	2004	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028287	
Falco rusticolus	Gyr Falcon	Falconidae	Jared Clarke	1	11	28	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028288	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	1	9	2005	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028289	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	2	20	2005	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028291	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	20	2005	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028292	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	2	27	2005	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028294	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	27	2005	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028295	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	3	6	2005	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028296	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	3	6	2005	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028297	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	2	1	1	2006	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028304	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	3	5	2006	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028311	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	5	2006	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028312	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	1	12	10	2006	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028315	
Falco rusticolus	Gyr Falcon	Falconidae	Paul Linegar	1	12	28	2006	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028316	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	25	2007	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028318	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	25	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028319	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	2	3	11	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028322	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	1	11	25	2007	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028323	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Jared Clarke	1	11	25	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028324	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	3	1	2	2008	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028326	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	3	1	6	2008	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028328	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	4	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028330	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	25	2008	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028331	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	25	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028332	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	1	1	2009	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028333	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	3	8	2009	S3	S3B	N4B,N4N5N,	G5	Secure				Dump	1000		Nf.Birds, Data Entry by WD mstr1028334	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	8	2009	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028335	
Accipiter gentilis	Northern Goshawk	Accipitridae	Doug Hynes	1	8	23	2007	S3	S3B	N4B,N4N5N,	G5	Secure				East Coast Trail	5000		Nf.Birds, Data Entry by WD mstr1027864	
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	-99	7	7	2011	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	East End	5000		Nf.Birds, Data Entry by WD mstr1027823	
Loxia curvirostra	Red Crossbill	Fringillidae	Libby Creelman	-99	8	13	2004	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	East End	5000		Nf.Birds, Data Entry by WD mstr1028240	
Pagophila eburnea	Ivory Gull	Laridae	Bruce Mactavish	1	1	30	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	East End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028061	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	18	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028079	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	golfman otto_yah	1	2	26	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Dump	1000		Nf.Birds, Data Entry by WD mstr1028120	
Pagophila eburnea	Ivory Gull	Laridae	Kenneth Knowles	-99	1	16	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Lake at Chicken Proces	1000		Nf.Birds, Data Entry by WD mstr1028186	
Falco rusticolus	Gyr Falcon	Falconidae	Jared Clarke	1	12	11	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				East of Virginia River Outflow	1000		Nf.Birds, Data Entry by WD mstr1028143	
Loxia curvirostra	Red Crossbill	Fringillidae	John Wells	1	5	6	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Pine Clump.	1000		Nf.Birds, Data Entry by WD mstr1027912	
Falco rusticolus	Gyr Falcon	Falconidae	Jared Clarke	1	5	19	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Building, Memorial University of Ne	1000		Nf.Birds, Data Entry by WD mstr1027913	
Falco sparverius	American Kestrel	Falconidae	Howard Clase	1	12	2	2011	S2B,SUM	S2B	N5B,N1N,N5	G5	Undetermined	ate (Group 3, Low		Avenue/Alandale Road Insector	1000		Nf.Birds, Data Entry by WD mstr1027942		
Accipiter gentilis	Northern Goshawk	Accipitridae	Anne-Marie McElr	1	3	2	2001	S3	S3B	N4B,N4N5N,	G5	Secure				Flower Hill	1000		Nf.Birds, Data Entry by WD mstr1027788	
Euphagus carolinus	Rusty Blackbird	Icteridae	Marion Gregory</																	

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT_SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Euphagus carolinus	Rusty Blackbird	Icteridae	Bruce Mactavish	1	5	5	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Maddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027063	
Euphagus carolinus	Rusty Blackbird	Icteridae	Catherine Barrett	1	5	6	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Maddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027064	
Euphagus carolinus	Rusty Blackbird	Icteridae	j.williams@nf.sym	2	5	7	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Maddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027065	
Euphagus carolinus	Rusty Blackbird	Icteridae	Gene & Karen He	2	5	9	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Maddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027066	
Euphagus carolinus	Rusty Blackbird	Icteridae	Ed Hayden	2	5	14	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	On the hydro wireMaddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027067	
Euphagus carolinus	Rusty Blackbird	Icteridae	M. Roche	2	5	20	2012	S2S3B,SUM	S3B	N4B,NUN,N4	G4	Secure	Special Concern	Vulnerable	Special Concern	Maddox Cove Road - Beaver Pond	1000		Nf.Birds, Data Entry by WD mstr1027068	
Accipiter gentilis	Northern Goshawk	Accipitridae	Ken Knowles	1	1	24	2004	S3	S3B	N4B,N4N5N,	G5	Secure				Marine Drive	1000		Nf.Birds, Data Entry by WD mstr1028357	
Bubo scandiacus	Snowy Owl	Strigidae	Ken Knowles	1	3	22	2012	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				' Queen of Peace Church, Torbay f	1000		Nf.Birds, Data Entry by WD mstr1028255	
Loxia curvirostra	Red Crossbill	Fringillidae	Dave Brown	12	4	16	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	rial University of Newfoundland Ca	1000		Nf.Birds, Data Entry by WD mstr1027929	
Loxia curvirostra	Red Crossbill	Fringillidae	Jared Clarke	1	4	17	2002	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	rial University of Newfoundland Ca	1000		Nf.Birds, Data Entry by WD mstr1027931	
Circus cyaneus	Northern Harrier	Accipitridae	Jared Clarke	1	5	17	2002	S3B,SUM	S3?B	N5B,N4N	G5	Secure				Mount Scio Road	1000		Nf.Birds, Data Entry by WD mstr1027959	
Accipiter gentilis	Northern Goshawk	Accipitridae	Anne Hughes	1	9	8	2002	S3	S3B	N4B,N4N5N,	G5	Secure				MUN Botanical Gardens	1000		Nf.Birds, Data Entry by WD mstr1028180	
Bubo scandiacus	Snowy Owl	Strigidae	Jared Clarke	1	11	26	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				N Daycare Centre near Burton's Pt	1000		Nf.Birds, Data Entry by WD mstr1027958	
Loxia curvirostra	Red Crossbill	Fringillidae	Todd Boland	1	11	20	2006	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027770	
Dolichonyx oryzivorus	Bobolink	Icteridae	Dave Fifield	1	9	19	2000	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027764	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	4	5	2003	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027767	
Falco rusticolus	Gyr Falcon	Falconidae	Dave Brown	1	11	7	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027769	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	2	25	2008	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027771	
Accipiter gentilis	Northern Goshawk	Accipitridae	John Wells	1	11	27	2011	S3	S3B	N4B,N4N5N,	G5	Secure				Mundy Pond	1000		Nf.Birds, Data Entry by WD mstr1027778	
Dolichonyx oryzivorus	Bobolink	Icteridae	stlorenz@mail.com	1	10	4	2007	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Mundy Pond Towards Soccer Field	1000		Nf.Birds, Data Entry by WD mstr1027760	
Pagophila eburnea	Ivory Gull	Laridae	Todd Boland	2	2	7	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Near Quidi Vidi Brewery	1000		Nf.Birds, Data Entry by WD mstr1028148	
Asio flammeus	Short-eared Owl	Strigidae	John Wells	1	1	7	2008	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	Near the Geo Centre	1000		Nf.Birds, Data Entry by WD mstr1027928	
Falco rusticolus	Gyr Falcon	Falconidae	Karen Herzberg	1	2	1	2005	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Near Virginia River End of Lake	1000		Nf.Birds, Data Entry by WD mstr1028100	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	1	1	16	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Newfoundland Drive	5000		Nf.Birds, Data Entry by WD mstr1028247	
Loxia curvirostra	Red Crossbill	Fringillidae	Gene Herzberg	1	6	12	2011	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	North East	5000		Nf.Birds, Data Entry by WD mstr1027757	
Loxia curvirostra	Red Crossbill	Fringillidae	Gene & Karen He	3	2	22	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	North East	5000		Nf.Birds, Data Entry by WD mstr1027813	
Loxia curvirostra	Red Crossbill	Fringillidae	Gene Herzberg	4	1	11	2009	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	North East	5000		Nf.Birds, Data Entry by WD mstr1027819	
Loxia curvirostra	Red Crossbill	Fringillidae	Gene Herzberg	11	1	31	2009	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	North East	5000		Nf.Birds, Data Entry by WD mstr1027821	
Accipiter gentilis	Northern Goshawk	Accipitridae	Anne Hughes	2	6	24	2004	S3	S3B	N4B,N4N5N,	G5	Secure				North Side of Long Pond	1000		Nf.Birds, Data Entry by WD mstr1028009	
Accipiter gentilis	Northern Goshawk	Accipitridae	Anne Hughes	1	3	24	2008	S3	S3B	N4B,N4N5N,	G5	Secure				North Side of Long Pond	1000		Nf.Birds, Data Entry by WD mstr1028823	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	12	2003	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	North Side of Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1028187	
Bubo scandiacus	Snowy Owl	Strigidae	Cliff Doran	1	11	2	2010	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				orthern Radar - 25 Anderson Avenu	1000		Nf.Birds, Data Entry by WD mstr1027882	
Loxia curvirostra	Red Crossbill	Fringillidae	Michael Parmente	3	5	27	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Oxen Pond Botanical Garden	1000		Nf.Birds, Data Entry by WD mstr1027914	
Loxia curvirostra	Red Crossbill	Fringillidae	John Wells	1	4	3	2009	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	al Education Building, Memorial Un	1000		Nf.Birds, Data Entry by WD mstr1027908	
Accipiter gentilis	Northern Goshawk	Accipitridae	Dirk Hilbers	1	4	15	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Pippy Park	1000		Nf.Birds, Data Entry by WD mstr1028183	
Accipiter gentilis	Northern Goshawk	Accipitridae	Chris Brown	1	1	10	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Pleasantville	1000		Nf.Birds, Data Entry by WD mstr1028197	
Accipiter gentilis	Northern Goshawk	Accipitridae	Martin Renner	1	2	15	2000	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028144	
Accipiter gentilis	Northern Goshawk	Accipitridae	Dave Brown	1	1	5	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028147	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	John Pratt	1	2	27	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028149	
Falco rusticolus	Gyr Falcon	Falconidae	Howard Clase	1	2	6	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028151	
Falco rusticolus	Gyr Falcon	Falconidae	Bruce Mactavish	1	2	16	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028152	
Loxia curvirostra	Red Crossbill	Fringillidae	Paul Linegar	10	2	27	2008	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	In larch trees	1000		Nf.Birds, Data Entry by WD mstr1028154	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	12	4	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028158	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	1	4	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028159	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	1	5	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028161	
Falco rusticolus	Gyr Falcon	Falconidae	David Shepherd	1	4	14	2005	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028169	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	11	10	2009	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028174	
Pagophila eburnea	Ivory Gull	Laridae	Bruce Mactavish	2	2	1	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1027889	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jytte Selno	1	2	11	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1027890	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	1	12	2003	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1027891	
Pagophila eburnea	Ivory Gull	Laridae	Howard Clase	1	1	12	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1027892	
Pagophila eburnea	Ivory Gull	Laridae	Bruce Mactavish	2	2	5	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1028082	
Pagophila eburnea	Ivory Gull	Laridae	Bruce Mactavish	2	2	9	2002	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Gut	1000		Nf.Birds, Data Entry by WD mstr1028084	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	12	2	2002	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1027847	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	1	25	1998	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028060	
Chordeiles minor	Common Nighthawk	Caprimulgidae	Todd Boland	1	6	2	1998	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028063	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	12	21	1999	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028064	
Accipiter gentilis	Northern Goshawk	Accipitridae	Dave Brown	1	1	15	2000	S3	S3B	N4B,N4N5N,	G5	Secure				Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028065	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	1	15	2000	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028066	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	2	21	2000	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028070	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	3	18	2000	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/)	Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028071	
Falco peregrinus subsp.																				

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT_SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Buteo lagopus	Rough-Legged Hawk	Accipitridae	John Wells	1	1	23	2011	S2S3	S3B	N5B,N5N,N5	G5	Secure				Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028137	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Ken Knowles	1	3	11	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	i Vidi Lake - Virginia River Inflow to	1000		Nf.Birds, Data Entry by WD mstr1028218	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	golman_otto_yah	1	2	16	2010	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	idi Vidi Lake by Virginia River Outfl	1000		Nf.Birds, Data Entry by WD mstr1028135	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Todd Boland	1	3	20	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Vidi Lake next to Rennies River O	1000		Nf.Birds, Data Entry by WD mstr1028086	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	1	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	ji Vidi Lake off the Virginia River M	1000		Nf.Birds, Data Entry by WD mstr1028072	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	30	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Quidi Vidi Lake West	1000		Nf.Birds, Data Entry by WD mstr1028077	
Pagophila eburnea	Ivory Gull	Laridae	Todd Boland	1	2	1	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Quidi Vidi Lake/St. John's Harbour	1000		Nf.Birds, Data Entry by WD mstr1028062	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Gene Herzberg	1	2	11	2012	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Quidi Vidi toward the Cemetery	1000		Nf.Birds, Data Entry by WD mstr1028155	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	10	2	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Road South of Shea Heights	1000		Nf.Birds, Data Entry by WD mstr1027753	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	1	24	2001	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Sewer Outlet	1000		Nf.Birds, Data Entry by WD mstr1027793	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	2	1	5	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Signal Hill	1000		Nf.Birds, Data Entry by WD mstr1027902	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	12	31	2007	S3	S3B	N4B,N4N5N,	G5	Secure				Signal Hill	1000		Nf.Birds, Data Entry by WD mstr1027956	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Jytte Selno	1	4	18	2001	S2S3	S3B	N5B,N5N,N5	G5	Secure				Signal Hill Road	1000		Nf.Birds, Data Entry by WD mstr1027925	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	10	5	2005	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Signal Hill	1000		Nf.Birds, Data Entry by WD mstr1027899	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	1	5	2008	S3	S3B	N4B,N4N5N,	G5	Secure				Signal Hill	1000		Nf.Birds, Data Entry by WD mstr1027901	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	4	17	2004	S3	S3B	N4B,N4N5N,	G5	Secure				Soccer Pitch	1000		Nf.Birds, Data Entry by WD mstr1027803	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	2	1	5	2003	S3	S3B	N4B,N4N5N,	G5	Secure				South Side of the Harbour	1000		Nf.Birds, Data Entry by WD mstr1027835	
Bubo scandiacus	Snowy Owl	Strigidae	Vincent	1	12	17	2009	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				George's Court off Merrymeeting R	1000		Nf.Birds, Data Entry by WD mstr1027886	
Falco rusticolus	Gyrfalcon	Falconidae	Bruce Mactavish	1	11	9	2004	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				Pat's Ball Park next to Caspian R	1000		Nf.Birds, Data Entry by WD mstr1027941	
Loxia curvirostra	Red Crossbill	Fringillidae	Dave Fifield	1	3	19	2000	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	Sycamore Place	1000		Nf.Birds, Data Entry by WD mstr1027966	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Alex Bond	1	11	2	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	The Gut at Quidi Vidi Harbour	1000		Nf.Birds, Data Entry by WD mstr1028157	
Asio flammeus	Short-eared Owl	Strigidae	Todd Bolan	1	4	6	1998	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	Torbay Road	5000		Nf.Birds, Data Entry by WD mstr1028252	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Howard Clase	1	3	8	2005	S2S3	S3B	N5B,N5N,N5	G5	Secure				Torbay Road	5000		Nf.Birds, Data Entry by WD mstr1028254	
Asio flammeus	Short-eared Owl	Strigidae	Chris Brown	1	5	28	2002	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	oad side of the Airport near the PAI	1000		Nf.Birds, Data Entry by WD mstr1028256	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Bill Tucker	1	3	1	2003	S2S3	S3B	N5B,N5N,N5	G5	Secure				Tracey Place	1000		Nf.Birds, Data Entry by WD mstr1028233	
Chordeiles minor	Common Nighthawk	Caprimulgidae	Bruce Mactavish	1	6	9	2008	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened	Tunis Court	1000		Nf.Birds, Data Entry by WD mstr1028054	
Buteo lagopus	Rough-Legged Hawk	Accipitridae	Jared Clarke	1	4	6	2012	S2S3	S3B	N5B,N5N,N5	G5	Secure				University Avenue	1000		Nf.Birds, Data Entry by WD mstr1027894	
Pagophila eburnea	Ivory Gull	Laridae	Bill Montevecchi	1	1	15	1998	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Virginia River at Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028217	
Pagophila eburnea	Ivory Gull	Laridae	Gene Herzberg	1	1	28	2007	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Virginia River Outlet	1000		Nf.Birds, Data Entry by WD mstr1028220	
Pagophila eburnea	Ivory Gull	Laridae	Paul Linegar	1	2	1	2007	S1N,SUM	S2N	N1B,N1N,N1	G4	At risk	Endangered	Endangered	Endangered	Virginia River Outlet	1000		Nf.Birds, Data Entry by WD mstr1028221	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Doug Phelan	1	1	13	2004	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	Virginia River Trail	1000		Nf.Birds, Data Entry by WD mstr1027920	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	2	15	2001	S3	S3B	N4B,N4N5N,	G5	Secure				Waterford Bridge Road	5000		Nf.Birds, Data Entry by WD mstr1027738	
Accipiter gentilis	Northern Goshawk	Accipitridae	Bruce Mactavish	1	1	30	2001	S3	S3B	N4B,N4N5N,	G5	Secure				Waterford River	1000		Nf.Birds, Data Entry by WD mstr1027794	
Accipiter gentilis	Northern Goshawk	Accipitridae	Jared Clarke	1	6	1	2004	S3	S3B	N4B,N4N5N,	G5	Secure				West End of Long Pond	1000		Nf.Birds, Data Entry by WD mstr1028006	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Dave Brown	1	12	11	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi	1000		Nf.Birds, Data Entry by WD mstr1028153	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	27	2002	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028047	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	2	14	2000	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028068	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	8	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028113	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	10	2007	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028114	
Falco rusticolus	Gyrfalcon	Falconidae	Bruce Mactavish	1	2	22	2008	S2S3N,SUM	S2S3N	N4N5B,N5N,	G5	Secure				West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028117	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	golman_otto_yah	1	4	13	2008	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End of Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028125	
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Bruce Mactavish	1	3	4	2011	S3M, S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t	West End Quidi Vidi Lake	1000		Nf.Birds, Data Entry by WD mstr1028138	
Bubo scandiacus	Snowy Owl	Strigidae	Jared Clarke	1	11	23	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				/Window at Sobeys on Torbay Roac	1000		Nf.Birds, Data Entry by WD mstr1028198	
Accipiter gentilis	Northern Goshawk	Accipitridae	John Wells	2	1	6	2003	S3	S3B	N4B,N4N5N,	G5	Secure				en's Compensation Building, Fores	1000		Nf.Birds, Data Entry by WD mstr1027970	
Circus cyaneus	Northern Harrier	Accipitridae	Vincent	1	5	25	2009	S3B,SUM	S3?B	N5B,N4N	G5	Secure					10000		Nf.Birds, Data Entry by WD mstr1027875	
Bubo scandiacus	Snowy Owl	Strigidae	Todd Boland	1	4	13	1998	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure					10000		Nf.Birds, Data Entry by WD mstr1028599	
Bubo scandiacus	Snowy Owl	Strigidae	Wayne Tucker	1	11	12	2001	S3N,SUM	SNA	N5B,N5N,N5	G5	Secure				th Face on Roof of 23 Oakridge Di	1000		Nf.Birds, Data Entry by WD mstr1028259	
Accipiter gentilis	Northern Goshawk	Accipitridae	Todd Boland	1	11	12	2000	S3	S3B	N4B,N4N5N,	G5	Secure					1000		Nf.Birds, Data Entry by WD mstr1030071	
Loxia curvirostra	Red Crossbill	Fringillidae	J Wells	3	5	21	1971	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	St. John's	10000		Montevecchi B, & Wren S. mstr1045456	
Loxia curvirostra	Red Crossbill	Fringillidae	J Landry	4	6	14	1971	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	St. John's	10000		Montevecchi B, & Wren S. mstr1045458	
Loxia curvirostra	Red Crossbill	Fringillidae	G Greenlee	1	5	13	1969	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered	St. John's	10000		Montevecchi B, & Wren S. mstr1045459	
Dolichonyx oryzivorus	Bobolink	Icteridae	B. Mactavish	9	24	1984	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		KentA's Pond	1000		The Status of Bobolink (Dol mstr1047821)		
Dolichonyx oryzivorus	Bobolink	Icteridae	C. Brown, M. Parr	6	25	1985	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047822)		
Dolichonyx oryzivorus	Bobolink	Icteridae	fide B. Mactavish	5	31	1986	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047823)		
Dolichonyx oryzivorus	Bobolink	Icteridae	M. Parmenter	0	0	1986	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047824)		
Dolichonyx oryzivorus	Bobolink	Icteridae	J. Pratt, D. Lemor	5	29	1988	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047825)		
Dolichonyx oryzivorus	Bobolink	Icteridae	D. Phelan	7	5	1988	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047826)		
Dolichonyx oryzivorus	Bobolink	Icteridae	P. Linegar, B. Ma	5	31	1989	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047827)		
Dolichonyx oryzivorus	Bobolink	Icteridae	B. Mactavish, K. F	7	25	1991	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Kilbride	1000		The Status of Bobolink (Dol mstr1047828)		
Dolichonyx oryzivorus	Bobolink	Icteridae	R. Burrows	6	2	1989	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Threatened	Vulnerable		Larry's Bog, St. John's	100		The Status of Bobolink (Dol mstr1047830)		
Dolichonyx oryzivorus	Bobolink	Icteridae	R. Burrows	9	0	1992	S1B,SUM	S2B	N5B,N4N5M	G5	May be at risk	Th								

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day	Year	SRANK_2015	SRANK_2010	NRANK	GRANK	GeneralStatus	COSEWIC_ST	PROVINCIAL	SARA	DESCR_HABIT/SITE_NAME	Accuracy	SYNAME	CITATION	IDNUM
Anas americana	American Wigeon	Anatidae	iNaturalist user: s:	11	11	10	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					12372		iNaturalist record export 20	MSTR1051708
Anas americana	American Wigeon	Anatidae	iNaturalist user: s:	11	11	17	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					968		iNaturalist record export 20	MSTR1051709
Anas americana	American Wigeon	Anatidae	iNaturalist user: s:	11	11	21	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					968		iNaturalist record export 20	MSTR1051710
Anas americana	American Wigeon	Anatidae	iNaturalist user: s:	11	11	21	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Undetermined					968		iNaturalist record export 20	MSTR1051711
Megasceryle alcyon	Belted Kingfisher	Alcedinidae	iNaturalist user: s:	2	2	3	2018	S4B,S3N,SUM	S5B	N5B,N4N5N,N5	G5	Secure	ate (Group 3, Low			nies River Trail, St. John's, NL, Car	180		iNaturalist record export 20	MSTR1051805
Chroicocephalus ridibundus	Black-headed Gull	Laridae	iNaturalist user: le	1	1	1	2013	S1B,S3N,SUM	S1B,S3N	N3B,N3N4N,N5	G5	Sensitive				1000		iNaturalist record export 20	MSTR1051844	
Anas acuta	Northern Pintail	Anatidae	iNaturalist user: s:	1	1	7	2018	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure				1000		iNaturalist record export 20	MSTR1051971	
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	12	12	13	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				i Vidi Lake, St. John's, NL A1A, Ca	968		iNaturalist record export 20	MSTR1052200
Tringa melanoleuca	Greater Yellowlegs	Scolopacidae	iNaturalist user: s:	8	8	27	2017	S3B,S4M	S4B,S5M	N5B,N4N,N5	G5	Secure				St. John's, NL, Canada	12372		iNaturalist record export 20	MSTR1052289
Anas platyrhynchos	Mallard	Anatidae	iNaturalist user: u/	5	5	28	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					8		iNaturalist record export 20	MSTR1052471
Anas platyrhynchos	Mallard	Anatidae	iNaturalist user: le	12	12	25	2012	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure				Quidi Vidi Lake	1000		iNaturalist record export 20	MSTR1052472
Anas platyrhynchos	Mallard	Anatidae	iNaturalist user: s:	11	11	19	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					367		iNaturalist record export 20	MSTR1052480
Anas platyrhynchos	Mallard	Anatidae	iNaturalist user: tc	12	12	23	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					122		iNaturalist record export 20	MSTR1052483
Xanthoria parietina	Maritime Sunburst Liche	Teloschistaceae	iNaturalist user: jp	10	10	21	2017	S1S3	SNR	N5	G5	Secure				Division No. 1, CA-NF, CA	8		iNaturalist record export 20	MSTR1052491
Ondatra zibethicus	Muskrat	Muridae	iNaturalist user: h:	7	7	14	2016	S3S4	S5	N5	G5	Secure				Pippy Park	5000		iNaturalist record export 20	MSTR1052575
Morus bassanus	Northern Gannet	Sulidae	iNaturalist user: h:	7	7	10	2016	S2B,S2M	S1B	N4B,N5N	G5	Secure				Cape Spear	1000		iNaturalist record export 20	MSTR1052615
Anas acuta	Northern Pintail	Anatidae	iNaturalist user: s:	12	12	7	2017	S3B,SUM	S3B	N5B,N5N,N5	G5	Secure					968		iNaturalist record export 20	MSTR1052637
Usnea longissima	Old Man's Beard	Parmeliaceae	iNaturalist user: k:	10	10	22	2017	S3S5	SNR	N5	G5	Secure				C A Pippy Park, St. John's, NL, CA	1000		iNaturalist record export 20	MSTR1052652
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae	iNaturalist user: s:	12	12	13	2017	S1B,SUM	S1B	N5B,N4N5N,N5	G5	Undetermined					968		iNaturalist record export 20	MSTR1052689
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae	iNaturalist user: s:	1	1	7	2018	S1B,SUM	S1B	N5B,N4N5N,N5	G5	Undetermined					968		iNaturalist record export 20	MSTR1052692
Calidris maritima	Purple Sandpiper	Scolopacidae	iNaturalist user: le	12	12	24	2012	S3N,SUM	S3N	N3N4B,N3N4	G5	Secure				Cape Spear	1000		iNaturalist record export 20	MSTR1052731
Asio flammeus	Short-eared Owl	Strigidae	iNaturalist user: h:	7	7	10	2016	S3B,SUM	S3B	N4B,N3N,N4	G5	Secure	Special Concern	Vulnerable	Special Concern	Cape Spear	1000		iNaturalist record export 20	MSTR1052848
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: n:	2	2	7	2018	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				W/41-ÅtÆ98 Burtons Pond Rd, St. .	36		iNaturalist record export 20	MSTR1052965
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: p:	3	3	5	2008	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				Quidi Vidi, St. John's, NL, Canada	1000		iNaturalist record export 20	MSTR1052966
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: le:	12	12	30	2012	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				n's, Newfoundland and Labrador, C	1000		iNaturalist record export 20	MSTR1052967
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: u/	10	10	9	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				2ond Walk, St. John's, NL A1A 0E4	10		iNaturalist record export 20	MSTR1052968
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	10	10	29	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				St. John's, NL, Canada	12372		iNaturalist record export 20	MSTR1052969
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	11	11	7	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				St. John's, NL, Canada	12372		iNaturalist record export 20	MSTR1052970
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	11	11	17	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				i Vidi Lake, St. John's, NL A1A, Ca	968		iNaturalist record export 20	MSTR1052971
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	11	11	21	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				i Vidi Lake, St. John's, NL A1A, Ca	968		iNaturalist record export 20	MSTR1052972
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	12	12	2	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				rdy Pond, St. John's, NL A1E, Can	367		iNaturalist record export 20	MSTR1052973
Aythya fuligula	Tufted Duck	Anatidae	iNaturalist user: s:	12	12	8	2017	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:				nts Pond, St. John's, NL A1B, Can	314		iNaturalist record export 20	MSTR1052974
Chaetura pelagica	Chimney Swift	Apodidae	Seb from Chile, fri	1	1	9	2017	SNR	SNR	N4B,N3M	G4G5	'agrant/ Accident:	Threatened	Threatened	Threatened		100		nf.birds, sept 7, 2017	MSTR1053224
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Lancy Cheng	1	1	9	2017	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		nf.birds, sept 29, 2017	MSTR1053263
Aythya fuligula	Tufted Duck	Anatidae	Howard Clase	25	25	10	2018	S1N,SUM	SNA	N1N,NUM	G5	'agrant/ Accident:					1000		nf.birds, feb 10, 2018	MSTR1053294
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Shawn Inikon	1	1	2	2018	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		10000		nf.birds, feb 10, 2018	MSTR1053295
Loxia curvirostra	Red Crossbill	Fringillidae	Andrea Dicks, We	3	3	2	2018	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		1000		nf.birds, feb 17, 2018	MSTR1053297
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Ed Hayden	2	2	8	2017	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, August 11, 2017	MSTR1053310
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Gene Herzberg	1	1	8	2016	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, August 25, 2016	MSTR1053347
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Lancy Cheng	1	1	8	2016	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, August 25, 2016	MSTR1053353
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Gene Herzberg	2	2	9	2016	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, September 17, 2016	MSTR1053358
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Ed Hayden, Chris	1	1	4	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, Apr 25, 2018	MSTR1053361
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Alvan Buckley	2	2	4	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, Apr 25, 2018	MSTR1053362
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Bruce Mactavish	1	1	4	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, Apr 25, 2018	MSTR1053363
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Shawn Fitzpatrick	1	1	5	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, May 9, 2018	MSTR1053365
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Gene Herzberg	1	1	9	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, Sept 9, 2018	MSTR1053389
Tringa flavipes	Lesser Yellowlegs	Scolopacidae	Gene Herzberg	5	5	9	2018	S3M	S3N	N4N5B,N5M	G5	Secure					1000		nf.birds, Sept 21, 2018	MSTR1053391
Riparia riparia	Bank Swallow	Hirundinidae	Alvan Buckley, Cz	-99	-99	5	2016	S1S2B,SUM	S3B	N5B,N5M	G5	Secure	Threatened			Virginia Lake	1000		Nf.birds, May 28, 2016	MSTR1051625
Riparia riparia	Bank Swallow	Hirundinidae	Bruce Mactavish	1	1	8	2016	S1S2B,SUM	S3B	N5B,N5M	G5	Secure	Threatened			Quidi Vidi Lake	10000		Nf.birds, August 30, 2016	MSTR1051632
Riparia riparia	Bank Swallow	Hirundinidae	Alvan Buckley	1	1	5	2017	S1S2B,SUM	S3B	N5B,N5M	G5	Secure	Threatened			QV Lake, near boathouse	1000		Nf.birds, May 22, 2017	MSTR1051636
Accipiter gentilis	Northern Goshawk	Accipitridae	Shawn Inikon	4	4	10	2018	S3	S3B	N4B,N4N5N,N5	G5	Secure					1000		nf.birds, April 10, 2018	MSTR1053846
Chordeiles minor	Common Nighthawk	Caprimulgidae	Todd Boland	4	4	10	2018	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened		1000		nf.birds, April 10, 2018	MSTR1053847
Loxia curvirostra	Red Crossbill	Fringillidae	Todd Boland	1	1	7	2019	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		1000		nf.birds, Jan 7, 2018	MSTR1053929
Loxia curvirostra	Red Crossbill	Fringillidae	Geoff Smith	4	4	28	2019	S1S2	S2S3	N5B,N5N,N5	G5	At Risk	Threatened	Endangered	Endangered		1000		nf.birds, Apr 28, 2019	MSTR1054328
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Geoff Smith	2	2	8	2019	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		nf.birds, Feb 8, 2019	MSTR1054298
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Chris Brown	4	4	6	2019	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		nf.birds, Apr 6, 2019	MSTR1054315
Falco peregrinus subsp. a	Peregrine Falcon	Falconidae	Andrea Dicks	4	4	2	2017	S3M,S2N	S2M	N3B	G4T4	Sensitive	Special Concern	Vulnerable	Concern (anatum/t		1000		nf.birds, april 2, 2017	mstr1055294
Chordeiles minor	Common Nighthawk	Caprimulgidae	Les Sweetapple	9	9	18	2019	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened		1000		nf.birds, Sep 18, 2019	mstr1056739
Chordeiles minor	Common Nighthawk	Caprimulgidae	Les Sweetapple, l	9	9	20	2019	SNA	SNA	N4B,N3M	G5	May be at risk	Special Concern	Threatened	Threatened		1000		nf.birds, Sep 20, 2019	mstr1056740
Vermivora ruficapilla	Nashville Warbler	Parulidae	Bruce Mactavish	11	11	10	2019	S2B,SUM	S1B	N5B,N5M	G5	Undetermined					1000		nf.birds, Nov 10, 2019	mstr1056816
Coccothraustes vespertin	Evening Grosbeak	Fringillidae	Todd Boland, Ann	12	12	1	2019	S4	S4B,S5N	N4B,N4N,NU	G5	Secure	Special Concern				1000		nf.birds, Dec 1, 2019	mstr1056830
Quiscalus quiscula	Common Grackle	Icteridae	Todd Boland, Ann	12	12	1	2019	S5B,S3?N,SUM	S5B	N5B,NUN,N5	G5	Secure					1000		nf.birds, Dec 1, 2019	mstr1056831
Circus cyaneus	Northern Harrier	Accipitridae	Bruce Mactavish																	

GNAME	GCOMNAME	OBSERVER	MONTH	DAY	YEAR	Verification	SRANK_2010	SRANK_2015	NRANK	GRANK	FAMILY	PROV_END_A	COSEWIC	DESCR_HABITAT	ACCURACY_ME	SYNAME	SITE_NAME	SURVEYSITE	ACRONYMS_O	COLLECTION	SOURCES	IDNUM	EST_NF_ID
Sparganium fluctuans	Floating Bur-Reed	Robinson, B.L. & H. Schre			0	v	S2	S2S3	N5	G5	Sparganiaceae				1000	Sparganium and	Virginia Waters	Virginia Waters	GH: CAN	200	Bouchard, A. D	SP26251	476097
Diphasiastrum digitatum	southern running-pine	Fernald, M.L., K.M. Wiega	8	7	1911	v	S2	S2	N5	G5	Lycopodiaceae			Dry humus on ex	100	Lycopodium digi	St John's	St John's, south of.	GH, DAO	4393	Bouchard, A. D	SP26426	376418
Potamogeton amplifolius	Large-Leaf Pondweed	Ayre, A.M.			1929	v	S2	S2S3	N5	G5	Potamogetonace				1000		Quidi Vidi	Quidi Vidi	NFLD	s.n.	Bouchard, A. D	SP26202	628848
Juncus militaris	Bayonet Rush	Maunder, John E.	8	22	1967	v	S3	S3	N5	G5	Juncaceae			Dry, grassy area	10		Rennies River	St. John's, Rennies R	NFM			SP43691	603241
Amelanchier fernaldii	Fernald Serviceberry	Maunder, John E.	6	6	1967	v	S1	S1	N3N4	G3?	Rosaceae		Candidate (Priority 3)	Dry, open woods	1000	Amelanchier sar	Kent's Pond	St. John's, Kent's Poi	NFM		Herbarium Data	SP22199	619703
Carex rostrata	Beaked Sedge	Maunder, John E.	9	20	1967	v	S3S5	S3S4	N5	G5	Cyperaceae			Side of pond, we	100	Carex rostrata v	Long Pond	St. John's, Long Pond	NFM		Herbarium Data	SP22232	504185
Prunella vulgaris	Self-Heal	Maunder, John E.	7		1967	v	S3S4	S3S5	N5	G5	Lamiaceae				100		Kent's Pond	St. John's, Kent's Poi	NFM		Herbarium Data	SP22125	544712
Hordeum jubatum subsp. jubatum	foxtail barley, squirreltail	Olsen, O.A.	9	10	1973	v	S1S2	S2S3	N5	G5T5	Poaceae			Gravelly roadsid	1000	Critesion jubatur	Memorial Univer	St. John's, MUN Cam	NFM		Herbarium Data	SP22228	273772
Sparganium natans	Small Bur-Reed	Peter J. Scott	8	8	1968	v	S3S4	S3S4	N5	G5	Sparganiaceae			In water, just the	100	Sparganium min	Penetanguishen	St. John's, end of Fir	NFLD	566	Jane Ayre Herba	SP21916	470969
Carex viridula subsp. brachyrrhyncha	rocky shore sedge	Olsen, O.A.	8	3	1973	v	S1	S1	N1	G5T1	Cyperaceae		Candidate (Priority 3)		1000	Carex saxillitora	Memorial Univer	St. John's, M.U.N. Ca	NFM	CW 028	Herbarium Data	SP42694	299269
Omalotheca sylvatica	Woodland Cudweed	Joanna Shannon	10	4	1991	v	S3S4	S3S4	N4N5	G4G5	Asteraceae			Grassy area, un	10	Gnaphalium sylv	Memorial Univer	St. John's, MUN cam	NFLD	s.n.	Jane Ayre Herba	SP21619	451915
Persicaria amphibia	water smartweed	Botanical Garden			1999	v	S2	S2	N5	G5	Polygonaceae			Bog habitat.	1000	Polygonum amp	Juniper Ponds /	St. Johns Outer Ring			MUN Botanical	SP21832	414337
Ribes hirtellum	Smooth Gooseberry	Botanical Garden			1999	v	S3S4	S3S4	N5	G5	Grossulariaceae			Wetland/riparian	1000	Grossularia hirt	Juniper Ponds /	St. Johns Outer Ring			MUN Botanical	SP21765	468865
Eriophorum russeolum	Russet Cotton-Grass	Hanel, C., Parsons, M., ar	6	12	2002	v	S3	S3	N5	G5	Cyperaceae			Bog patch in hur	10		Golf Course, N c	St. John's, C.A. Pippy	NFM	CH 020612-16	Field work.	SP22316	567005
Nymphaea odorata subsp. odorata	fragrant waterlily, water n	Horwood, C.			2002	v	S3	S3	N5	G5	Nymphaeaceae			Standing water a	100	Castalia odorata	Fogarty's Wetlar	St. John's, C.A. Pippy			Horwood, C. 20	SP22438	533381
Prunella vulgaris	Self-Heal	Hanel, C., Parsons, M., ar	6	7	2002	v	S3S4	S3S5	N5	G5	Lamiaceae			Mature Picea an	10		Mount Scio Esca	St. John's, C.A. Pippy			Field work.	SP22451	544712
Eleocharis ovata	Ovate Spikerush	Ayre, A.M.			1.9E+07	v	S1	S1	N5	G5	Cyperaceae			Marsh.	1000	Scirpus ovatus;	Quidi Vidi	Quidi Vidi	GH: NFLD	s.n.	Bouchard, A. D	SP25534	518908
Hordeum jubatum subsp. jubatum	foxtail barley, squirreltail	Maunder, John E.	8	3	1967	v	S1S2	S2S3	N5	G5T5	Poaceae				1000	Critesion jubatur		St. John's, near Arts	NFM		Herbarium Data	SP22227	273772
Arabis alpina	Alpine Rockcress	Maunder, John E.	6	14	1968	v	S3	S3	N5	G5	Brassicaceae				50	Arabis alpina for		St. John's, in garden	NFM		Herbarium Data	SP47657	298324
Aralia hispida	Bristly Sarsaparilla	Maunder, John E.	9	20	1967	v	S4S5	S3S4	N5	G5	Araliaceae				50			St. John's, Torbay ro	NFM		Herbarium Data	SP49265	592087
Fraxinus nigra	Black Ash	Maunder, John E.	7	18	1967	v	S3	S3	N5	G5	Oleaceae				50			St. John's, Kenny's P	NFM		Herbarium Data	SP50050	455413
Diphasiastrum sitchense	Sitka clubmoss, tufted gr	Tuomikoski, R.	6	3	1949	v	S3	S3S4	N5	G5	Lycopodiaceae				1000	Lycopodium sitc	Signal Hill(NF)	Signal Hill	CAN		Herbarium Data	SP53229	561120
Warnstorfia fluitans	a Moss	Tuomikoski, R.	6	3	1949	v		S3S4	N5	G5	Calliergonaceae				1000		Signal Hill(NF)	Signal Hill	CAN		Herbarium Data	SP55395	942313
Poa pratensis subsp. irrigata	spreading bluegrass	Robinson, B.L.; Schrenk, J	8	4	1894	v	S3	S3	NNA	G5TU	Poaceae			Open woods	1000	Poa irrigata; P. g	St. John's(NF)		CAN		Herbarium Data	SP52295	424365
Rhinanthus minor	Little Yellow-Rattle	Robinson, B.L.; Schrenk, J	7	31	1894	v	S3	S3	N5	G5	Scrophulariaceae			Fields	1000		St. John's(NF)		CAN		Herbarium Data	SP54458	483438
Sphagnum strictum	a Peatmoss	Damman, A.W.H.; Tusko,	7	14	1964	v	S2	S3S4	N4N5	G5	Sphagnaceae			Small boggy poc	1000		St. John's(NF)	Soldiers Pond, SW o	CAN		Herbarium Data	SP55075	257282
Buxbaumia minakatae	Hump-Backed Elves	R. Tuomikoski			0	v	S1	S2?	N1N3	G2G4	Buxbaumiaceae		Candidate (Group 1, H		10000			Waterford Bridge, St.			Email Communi	SP70694	255674



Part I. Conservation Data Centre Subnational Rarity Ranks

Biological diversity or biodiversity can be described at a number of levels, from molecules to ecosystems. Biodiversity is a combination of species diversity (the variety of species), genetic diversity (the genetic variability among individuals of that species), and ecological diversity (the variety of ecosystems/habitats in which they live). Conservation Data Centres (CDCs), as part of The NatureServe* international network, track biodiversity at two levels: species and ecological communities. Species and ecological communities are referred to as **elements** of biodiversity. Elements are ranked in each jurisdiction (province or state) and at global and national levels in order to help prioritize conservation efforts.

NatureServe and all CDCs (called Heritage Programs in the US) use a standardized element ranking system that has evolved over some 30 years, with input from hundreds of scientists, managers and conservationists. The following material describes this element ranking system at the subnational (S) or provincial level and explains how ranks are assigned for species elements of biodiversity. (The community ranking process is slightly different.)

* Formerly known as The Nature Conservancy (TNC)

Definitions of Provincial (subnational) ranks - SRANKS

- S1 Critically Imperiled**—Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2 Imperiled**—Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3 Vulnerable**—Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 Secure**—Common, widespread, and abundant in the jurisdiction.
- SX Presumed Extirpated**—Species or ecosystem is believed to be extirpated from the jurisdiction (i.e., nation or state/province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

- SH Possibly Extirpated**— Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
- S#S# Range Rank** — A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).
- SU Unrankable**—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
- SNR Unranked**—National or subnational conservation status not yet assessed.
- SNA Not Applicable** —A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities.

Not applicable cases:

Hybrid – Element represents an interspecific hybrid without conservation value. (Note that hybrids may be assigned a numeric rank if they do have a conservation value.)

Exotic Origin – Element is not native to the nation or subnation.

Accidental/Nonregular – Element is not regularly found in the nation or subnation, in other words, infrequent and outside of normal range.

Not Confidently Present – Element’s presence in the nation or subnation has been reported, but the report is unconfirmed or doubtful; Element has been falsely reported, and may or may not potentially occur; Element may potentially occur (e.g., habitat is suitable); Element was never present in the nation or subnation despite presence in surrounding areas.

No Definable Occurrences – Element is native and appears regularly but lacks practical conservation concern in the subnation because it is transient or occurs in a dispersed, unpredictable manner.

Synonym – Element reported as occurring in the nation or subnation, but the national or provincial data center does not recognize this taxon; therefore the Element is not assigned a national or subnational rank.

Rank Qualifier

- S#?** **Inexact Numeric Rank**—Denotes inexact numeric rank. This designation should not be used with any of the variant national or subnational conservation status ranks or NX, SX, NH, or SH.

Breeding Status Qualifiers⁴

- B Breeding**—Conservation status refers to the breeding population of the species in the nation or state/province.
- N Nonbreeding**—Conservation status refers to the non-breeding population of the species in the nation or state/province.
- M Migrant**—Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the nation or state/province.

⁴ 4A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the nation or state/province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the nation or state/province. In addition, a breeding-status S-rank can also be coupled with a migrant-status S-rank if, on migration, the species occurs regularly at particular staging areas or concentration spots where it might warrant conservation attention. Multiple conservation status ranks (typically two, or rarely three) are separated by commas (e.g., S2B,S3N or SHN,S4B,S1M).

Part II. The Ranking Process

To rank species elements, 8-10 different biological criteria are assessed for each species. The ten factors considered in assigning status ranks are described below.

Ranking Matrix Eight ranking criteria and value of letter scores for each criterion.

	MATRIX SCORE								
	A	B	C	D	E	F	G	H	I
CRITERIA									
Population size	1-50	50-250	250-1000	1000-2500	2500-10000	10000-100000	100000-1000000	>1000000	
Range Extent	<100km ²	100-250km ²	250-1000km ²	1000-5000km ²	5000-20000 km ²	20000-200000 km ²	200000 – 2500000 km ²		
Short-term Trend	Decline >90%	Decline of 80-90%	Decline of 70-80%	Decline of 50-70%	Decline of 30-50%	Decline of 10-30%	Relatively Stable (<10% change)	Increase of 10-25%	Increase of >25%
Long-term Trend	Decline >90%	Decline of 80-90%	Decline of 70-80%	Decline of 50-70%	Decline of 30-50%	Decline of 10-30%	Relatively Stable (<10% change)	Increase of 10-25%	Increase of >25%
Area of Occupancy	<0.4km ²	0.4-4km ²	4-20km ²	20-100km ²	100-500km ²	500-2000km ²	2000-20000km ²	>20000 km ²	
Number of Element Occurrences (EOs)	0-5	6-20	21-100	>100					
Number of EOs with Good Viability	No occurrences with excellent or good viability or ecological integrity	Very few (1-3) occurrences with excellent or good viability or ecological integrity	Few (4-12) occurrences with excellent or good viability or ecological integrity	Some (13-40) occurrences with excellent or good viability or ecological integrity	Many (41-125) occurrences with excellent or good viability or ecological integrity	Very Many (>125) occurrences with excellent or good viability or ecological integrity			
Environmental Specificity	Very Narrow	Narrow	Moderate	Broad					
Threat Scope	Pervasive (71-100%)	Large (31-70%)	Restricted (11-30%)	Small (1-10%)					
Threat Severity	Pervasive (71-100%)	Large (31-70%)	Restricted (11-30%)	Small (1-10%)					

1. Population Size

Population size is the estimated current total population of the species which is naturally occurring and wild within the area of interest (globe, nation, or subnation), and that is of reproductive age or stage (at an appropriate time of the year), including mature but currently non-reproducing individuals, which should be included in counts or estimates. Abundance is measured in different ways depending on the biology of the species. For animal populations it is usually measured by the number of individuals, for plants it may be measured by the area occupied by a distinct population, and for aquatic invertebrates it may be measured by the stream length that the species occupies:

Z = Zero, no individuals believed extant (i.e., species presumed extinct)

A = 1–50 individuals

B = 50–250 individuals

C = 250–1,000 individuals

D = 1,000–2,500 individuals

E = 2,500–10,000 individuals

F = 10,000–100,000 individuals

G = 100,000–1,000,000 individuals

H = >1,000,000 individuals

U = Unknown

Null = Factor not assessed

*A value range (e.g., DE) can also be used to indicate uncertainty.
(DE would indicate between 1000 – 10000 individuals).

2. Range Extent

This denotes the approximate range of the species as a percentage of the province's area. It is defined as the current area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of occurrence, but, *excluding* significant areas where the species does not occur due to unsuitable habitat. Thus the estimate of range for a species exhibiting a linear use of coastal forests or riverine habitats would not consider tracts of unsuitable habitat in the interior of the polygon.

Z = Zero (no occurrences believed extant; species presumed extinct or ecosystem believed eliminated throughout its range)

A = <100 km²

(less than about 40 square miles)

B = 100–250 km²

(about 40–100 square miles)

C = 250–1,000 km²

(100–400 square miles)

D = 1,000–5,000 km²

(400–2,000 square miles)

E = 5,000–20,000 km²

(2,000–8,000 square miles)
F = 20,000–200,000 km²
(8,000–80,000 square miles)
G = 200,000–2,500,000 km²
(80,000–1,000,000 square miles)
H = >2,500,000 km²
(greater than 1,000,000 square miles)

3. Short-term Trend

The rating code that best describes the observed, estimated, inferred, or suspected degree of change in population size, extent of occurrence (range extent), area of occupancy, number of occurrences, and/or number of occurrences or percent area with good viability or ecological integrity over the short term, whichever most significantly affects the conservation status assessment in the area of interest (globe, nation, or subnation). Consider short-term historical trend within ten years or three generations (for long-lived taxa), whichever is the longer (up to a maximum of 100 years), or, for communities and systems, typically 30 years, depending on the characteristics of the type.

The trend may be recent or current, and the trend may or may not be known to be continuing. Trends may be smooth, irregular, or sporadic. Fluctuations will not normally count as trends, but an observed change should not be considered as merely a fluctuation rather than a trend unless there is evidence for this. Conservation Status Assessments: Factors for Assessing Extinction Risk 25
In considering trends, do not consider newly discovered but presumably long existing occurrences, nor newly discovered individuals in previously poorly known areas.

Also, consider fragmentation of previously larger occurrences into a greater number of smaller occurrences to represent a decreasing area of occupancy as well as decreasing number of good occurrences or populations.

A = Decline of >90%
B = Decline of 80–90%
C = Decline of 70–80%
D = Decline of 50–70%
E = Decline of 30–50%
F = Decline of 10–30%
G = Relatively Stable (≤10% change)
H = Increase of 10–25%
I = Increase of >25%
U = Short-term trend unknown
Null = Factor not assessed

4. Long-term Trend

The rating code that best describes the observed, estimated, inferred, or suspected degree of change in population size, extent of occurrence (range extent), area of occupancy, number of occurrences, and/or number of occurrences or percent area with

good viability or ecological integrity over the long term (ca. 200 years) in the area of interest (globe, nation, or subnation).

- A = Decline of >90%**
- B = Decline of 80–90%**
- C = Decline of 70–80%**
- D = Decline of 50–70%**
- E = Decline of 30–50%**
- F = Decline of 10–30%**
- G = Relatively Stable ($\leq 10\%$ change)**
- H = Increase of 10–25%**
- I = Increase of >25%**
- U = Long-term trend unknown**
- Null = Factor not assessed**

5. Area of Occupancy

Area of occupancy for taxa can be defined as (modified from the International Union for the Conservation of Nature 2001):

“...the area within its ‘extent of occurrence’, which is occupied by a taxon or ecosystem type, excluding cases of vagrancy. The measure reflects the fact that a taxon or type will not usually occur throughout the area of its extent of occurrence, which may contain unsuitable or unoccupied habitats. In some cases, (e.g., irreplaceable colonial nesting sites, crucial feeding sites for migratory taxa) the area of occupancy is the smallest area essential at any stage to the survival of existing populations of a taxon. The size of the area of occupancy will be a function of the scale at which it is measured, and should be at a scale appropriate to relevant biological or ecological aspects of the taxon or type, the nature of threats and the available data.”

- A = <0.4km²**
- B = 0.4-4**
- C = 4-20 km²**
- D = 20-100 km²**
- E = 100-500 km²**
- F = 500-2000 km²**
- G = 2000-20000 km²**
- H = >20000 km²**

5b. Linear Distance of Occupancy

Ecosystems that occur as linear strips. They are often ecotonal between terrestrial and aquatic ecosystems. In undisturbed conditions, typical occurrences range in linear distance from 0.5 to 100 km.

- A = <4km²**
- B = 4-40**
- C = 40-200 km²**

D =	200-1000 km ²
E =	1000-5000 km ²
F =	5000-20000 km ²
G =	20000-200000 km ²
H =	>200000 km ²

6. Number of Element Occurrences (EOs)

An “element occurrence” is the mapping unit of CDC methodology. It is generally defined as an area of land or water on which an “element of biodiversity” (plant and animal species or natural community) is or was present. It is a physical location important to the conservation of a species or community, an area worth preserving to insure the survival of a community or species at risk. For a species it is generally the habitat occupied by a local population, for a community it is the area containing a stand or patch. What constitutes an occurrence also varies between species (e.g. hibernacula, den sites, breeding ponds where adults, egg masses and/or larvae have been identified, breeding colonies, etc.). Some species can have more than one type of occurrence, for example breeding and wintering occurrences.

A single letter code (below) represents the number of estimated occurrences believed extant for the species in the province. When a species’ distribution is extremely limited and there are very few site occurrences, it is very susceptible to any number of ecological disturbances, both predictable and unpredictable. This criteria is therefore an important factor influencing SRANK when the number of occurrences is few. If the letter code for this field is A or B, the species usually qualifies for a rank of S1 or S2.

A =	0 - 5 occurrences
B =	6 - 20 occurrences
C =	21 - 100 occurrences
D =	101+ occurrences

7. Number of EOs with Good Viability

For species, an occurrence with at least good (i.e., excellent-to-good) viability exhibits favorable characteristics with respect to population size and/or quality and quantity of occupied habitat; and, if current conditions prevail, the occurrence is likely to persist for the foreseeable future (i.e., at least 20–30 years) in its current condition or better. See Hammerson et al. (2008) for more details. For ecosystems, an occurrence has excellent-to-good ecological integrity when it exhibits favorable characteristics with respect to reference conditions for structure, composition, and function, operating within the bounds of natural or historic disturbance regimes, and is of exemplary size (Faber-Langendoen et al. 2008). One would expect only minor to moderate alterations to these characteristics for an occurrence to maintain good ecological integrity.

For many occurrences, viability or ecological integrity assessments or ranks have been applied by biologists and ecologists throughout the NatureServe network. For species, these Element Occurrence (EO) ranks estimate the probability of persistence of the occurrence. For ecosystems, the rank is a succinct assessment of the degree to which,

under current conditions, an occurrence of an ecosystem matches reference conditions for that system, without any presumptions made about future status or persistence. Ranks for species and ecosystems are based on a set of “occurrence rank factors,” namely size (including population size and/or occupied area), abiotic and biotic condition, and landscape context. These factors may be further refined to specific indicators or metrics. The overall ranks range from A = Excellent viability/integrity, to D = Poor viability/integrity

A = No occurrences with excellent or good (assessed as A or B) viability or ecological integrity

B = Very few (1–3) occurrences with excellent or good viability or ecological integrity

C = Few (4–12) occurrences with excellent or good viability or ecological Integrity

D = Some (13–40) occurrences with excellent or good viability or ecological integrity

E = Many (41–125) occurrences with excellent or good viability or ecological integrity

F = Very many (>125) occurrences with excellent or good viability or ecological integrity

U = Unknown number of occurrences with excellent or good viability or ecological integrity

Null = Factor not assessed

8. Environmental Specificity

Environmental Specificity is the degree to which a species or ecosystem depends on a relatively scarce set of habitats, substrates, food types, or other abiotic and/or biotic factors within the overall range. Relatively narrow requirements are thought to increase the vulnerability of a species or ecosystem. This factor is most important when the number of occurrences, and the range extent or area of occupancy, are largely unknown.

A = Very Narrow. Specialist or ecosystem with key requirements scarce. For species, specific habitat(s), substrate(s), food type(s), hosts, breeding/non-breeding microhabitats, or other abiotic and/or biotic factor(s) are used or required by the species or ecosystem in the area of interest, with these habitat(s) and/or other requirements furthermore being scarce within the generalized range of the species or ecosystem within the area of interest, and the population (or the number of breeding attempts) expected to decline significantly if any of these key requirements become unavailable. For ecosystems, environmental requirements are both narrow

and scarce (e.g., calcareous seepage fens).

B = Narrow. Specialist or ecosystem with key requirements common. Specific habitat(s) or other abiotic and/or biotic factors (see above) are used or required by the species or ecosystem, but these key requirements are common and within the generalized range of the species or ecosystem within the area of interest. For ecosystems, environmental requirements

- are narrow but common (e.g., floodplain forest, alpine tundra).
- C =** Moderate. Generalist or community with some key requirements scarce. Broad-scale or diverse (general) habitat(s) or other abiotic and/or biotic factors are used or required by the species or ecosystem, but some key requirements are scarce in the generalized range of the species or ecosystem within the area of interest. For ecosystems, environmental requirements are broad but scarce (e.g., talus or cliff forests and woodlands, alvars, many rock outcrop communities dependent more on thin, droughty soils per se than specific substrate factors).
- D =** Broad. Generalist or community with all key requirements common. Broad-scale or diverse (general) habitat(s) or abiotic and/or biotic factors are used or required by the species or ecosystem, with all key requirements common in the generalized range of the species or ecosystem in the area of interest. For animals, if the preferred food(s) or breeding/non-breeding microhabitat(s) become unavailable, the species switches to an alternative with no resulting decline in numbers of individuals or number of breeding attempts. For ecosystems, environmental requirements are broad and common (e.g., forests or prairies on glacial till, or forests and meadows on montane slopes).

9. Threat Severity

Within the scope (as defined spatially and temporally in assessing the scope of the Threat), severity is the level of damage to the species or ecosystem from the Threat that can reasonably be expected with continuation of current circumstances and trends (including potential new threats) (Table 7). Note that severity of Threats is assessed within a ten-year or three-generation time frame, whichever is longer (up to 100 years).

For species, severity is usually measured as the degree of reduction of the species' population. Surrogates for adult population size (e.g., area) should be used with caution, as occupied areas, for example, will have uneven habitat suitability and uneven population density. For ecosystems, severity is typically measured as the degree of degradation or decline in integrity (of one or more key characteristics).

Extreme	Within the scope, the Threat is likely to destroy or eliminate the occurrences of an ecological community, system or species, or reduce the species population by 71–100%
Serious	Within the scope, the Threat is likely to seriously degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 31–70%
Moderate	Within the scope, the Threat is likely to moderately degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 11–30%
Slight	Within the scope, the Threat is likely to only slightly degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 1–10%

10. Threat Scope

Scope is defined herein as the proportion of the species or ecosystem that can reasonably be expected to be affected (that is, subject to one or more stresses) by the Threat within ten years with continuation of current circumstances and trends (Table 6). Current circumstances and trends include both existing as well as potential new threats. The ten-year time frame can be extended for some longer-term threats, such as global warming, that need to be addressed today. For species, scope is measured as the proportion of the species' population in the area of interest (globe, nation, or subnation) affected by the Threat. For ecosystems, scope is measured as the proportion of the occupied area of interest (globe, nation, or subnation) affected by the Threat. If a species or ecosystem is evenly distributed, then the proportion of the population or area affected is equivalent to the proportion of the range extent affected by the Threat; however, if the population or area is patchily distributed, then the proportion differs from that of range extent.

Pervasive	Affects all or most (71–100%) of the total population or occurrences
Large	Affects much (31–70%) of the total population or occurrences
Restricted	Affects some (11–30%) of the total population or occurrences.
Small	Affects a small (1–10%) proportion of the total population or occurrences.

11. Intrinsic Vulnerability

Note that this factor is not used if the Threats status factor has been assessed.

Intrinsic Vulnerability is the observed, inferred, or suspected degree to which characteristics of the species or ecosystem (such as life history or behavior characteristics of species, or likelihood of regeneration or recolonization for ecosystems) make it vulnerable or resilient to natural or anthropogenic stresses or catastrophes. For ecosystems, Intrinsic Vulnerability is most readily assessed using the dominant species and vegetation structure that characterize the ecosystem, but it can also refer to ecological processes that make an ecosystem vulnerable or lack resiliency (e.g., shoreline fens along estuarine and marine coasts subject to rising sea levels).

Since geographically or ecologically disjunct or peripheral occurrences may show additional vulnerabilities not generally characteristic of a species or ecosystem, characteristics of Intrinsic Vulnerability are to be assessed for the species or ecosystem throughout the area of interest, or at least for its better occurrences. Information on population size, number of occurrences, area of occupancy, extent of occurrence, or environmental characteristics that affect resiliency should not be considered when assessing Intrinsic Vulnerability; these are addressed using other status factors.

Note that the Intrinsic Vulnerability characteristics exist independent of human influence, but may make the species or ecosystem more susceptible to disturbance by human activities. The extent and effects of current or projected extrinsic influences themselves should be addressed in the comments field of the Threats status factor.

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently, and/or has low fecundity such that populations are very slow (>20 years or five generations) to recover from decreases in abundance; or species

has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (>100 years).

B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5–20 years or 2–5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10–100 years).

C = Not Intrinsicly Vulnerable. Species matures quickly, reproduces frequently, and/or has high fecundity such that populations recover quickly (<5 years or 2 generations) from decreases in abundance; or species has high dispersal capability such that extirpated populations soon become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences are resilient or resistant to irreversible changes in composition and structure and quickly recover (within 10 years).

U = Unknown

Null = Factor not assessed

12. Other Considerations

Other considerations in determining the rank that are not apparent from the letter codes selected for the above criteria. Generally, these considerations will raise rather than lower the rank, e.g., "Never sexually reproduces" or "All occurrences are in areas under development".

References

Master, L., D. Faber-Langendoen, R. Bittman, G. A. Hammerson, B. Heidel, J. Nichols, L. Ramsay, and A. Tomaino. 2009. NatureServe Conservation Status Assessments: Factors for Assessing Extinction Risk. NatureServe, Arlington, VA.

DATA DICTIONARY

GNAME	Scientific Name of taxon
GCOMNAME	Common name of taxon
FAMILY	Family of taxon
OBSERVER	Person or persons who observed the taxon
TOTAL NUMBER	The number of specimens at a given observation.
MONTH	Month of survey
DAY	Day of survey
YEAR	Year of survey
SRANK_2010	Subnational rank - CDC ranking system
SRANK_2015	Subnational rank - CDC ranking system
NRANK	National Rank - CDC ranking system
GRANK	Global Rank - CDC ranking system
GeneralStatusRanks	General Status text for the province
COSEWIC_STATUS	Denotes the COSEWIC status.
PROVINCIAL_STATUS	Denotes if the species is on the provincial endangered species list.
SARA	Denotes if the species is on the federal SARA list.
HABITAT	Description of the habitat where plant or animal was found
SITE_NAME	The name of the place where the occurrence occurred
ACCURACY	The accuracy in metres of the location.
SYNAME	Synonym for the plant or animal name in cases it is known by more than one scientific name.
ACRONYM OF HERBARIA	Acronym of the herbarium where this specimen is kept, see the complete definitions of the acronyms in the HERBARIA.xls
COLLECTION NUMBER	The collection number assigned to the specimen by the collector, this should be used to refer to the specimen when contacting the herbarium
CITATION	Primary source of the data
IDNUM	Field Office Number: Internal ACCDC record reference (not the EONUM)

ACRONYM	HERBARIUM	ADDRESS	PO_BOX	CITY	PROVINCE	POSTALCODE	COUNTRY	URL	PHONE	CORRESPONDENT	TITLE	EMAIL
ACAD	Acadia University	32 University Avenue	P.O. Box 48	Wolfville	Nova Scotia	B4P 2R6	Canada		[1] 902/ 585-1335	Ruth Newell	Curator	ruth.newell@acadiau.ca
ALTA	University of Alberta			Edmonton	Alberta	T6G 2E9	Canada	http://museums.ualberta.ca/vascularplants/index.aspx	[1] 780/ 492-5523	Jocelyn Hall	Curator of Vascular Plant Herbarium	jocelyn.hall@ualberta.ca
CAN	Canadian Museum of Nature		P.O. Box 3443 Station D	Ottawa	Ontario	K1P 6P4	Canada		[1] 613/ 364-4076.	Jennifer Doubt	Chief Collection Manager	jdoubt@mus-nature.ca
CO	Museum National d'Histoire Naturelle		B.P. 225	Concarneau		F-29125	France		[33] 2/ 98 97 0659	Marie Le Gal	Curator	ylegal@sb-roscoff.fr
DAO	Eastern Cereal and Oilseed Research Centre, Agriculture and Agri-Food Canada	Wm. Saunders Building, Central Experimental Farm		Ottawa	Ontario	K1A 0C6	Canada	http://res2.agr.ca/eorc/dao/index_e.htm	[1] 613/ 759-1373	Paul Catling	Curator	catlingp@agr.gc.ca
FFB	Atlantic Forestry Centre	1350 Regent Street Centre, Canadian Forest Service	P. O. Box 4000	Fredricton	New Brunswick	E3B 5P7	Canada	http://www.Atl.cfs.NRCan.gc.ca	[1] 506/ 452-3515	J. Hurley	Curator	J.Edward.Hurley@NRCan.gc.ca
GH	Gray Herbarium, Harvard University	22 Divinity Avenue		Cambridge	Massachusetts	02138-2020	USA	http://www.huh.harvard.edu	[1] 617/ 495-2365	Emily Wood	Manager of Systematics Collections	ewood@oeb.harvard.edu
GMNP	Gros Morne National Park		P.O. Box 130	Rocky Harbour	Newfoundland	A0K 4N0	Canada		Contact [1] 709/ 458-2418	Michael Burzunski	Chief Park Interpreter	Michael.Burzunski@pc.gc.ca
H	University of Helsinki		P.O. Box 7	Helsinki		FIN-00014	Finland	http://www.fmnh.helsinki.fi/english/botany/index.htm	[358] 9/ 1911	Pertti Uotila	Director, Head Curator of Phanerogams	pertti.uotila@helsinki.fi
LD	Botanical Museum	Östra Vallgatan 18		Lund		S-223 61	Sweden	http://www.biomus.lu.se/indexBe.html	[46] 46/ 222 95 58	Ingvar Kärnefelt	Director	ingvar.karnefelt@botmus.lu.se
MB	Herbarium für Spezielle Botanik, Philipps Universität			Marburg		D-35032	Germany	http://staff-www.uni-marburg.de/	[49] 6421/ 282 2091	Hans Weber	Curator	weberh@mail.uni-marburg.de
MO	Missouri Botanical Gardens		P.O. Box 299	St. Louis	Missouri	63166-0299	USA	http://www.mobot.org/	[1] 314/ 577-5169	James Solomon	Curator of Vascular Plants	jim.solomon@mobot.org
MT	Herbier Marie-Victorin, Université de Montréal	4101, rue Sherbrooke est		Montréal	Quebec	H1X 2B2	Canada	http://www.irbv.umontreal.ca/francais/herbier/accueil.htm	[1] 514/ 872-8496	Luc Brouillet	Curator	brouille@irbv.umontreal.ca; luc.brouillet@umontreal.ca
NASC	Massachusetts College of Liberal Arts	375 Church Street		North Adams	Massachusetts	01247-4100	USA		[1] 413/ 662-5342	C. Hellquist	Curator of Vascular Plants	bhellqui@mcla.mass.edu
NFLD	Ayre Herbarium, Memorial University of Newfoundland			St. John's	Newfoundland	A1B 3X9	Canada		[1] 709/ 737-7498	Peter Scott	Curator	pscott@mun.ca
NFM	Provincial Museum of Newfoundland and Labrador	9 Bonaventure Avenue	P.O. Box 1800	St. John's	Newfoundland	A1C 5P9	Canada	http://www.therooms.ca/museum/	[1] 709/ 729-5007	Nathalie Djan-Chekar	Curator	nathaliedjanchekar@therooms.ca
NY	New York Botanical Garden	William and Lynda Steere Herbarium		Bronx	New York	10458-5126	USA	http://www.nybg.org/	[1] 718/ 817-8626	Barbara Thiers	Director	bthiers@nybg.org
OAC	Univeristy of Guelph			Guelph	Ontario	N1G 2W1	Canada	http://www.uoguelph.ca/lib/facilities/herbarium.shtml	[1] 519/ 824-4120, ext. 58581	Carole Ann Lacroix	Curator of Phanerogam Collections	botcal@uoguelph.ca
QFA	Herbier Louis-Marie, Université de Laval	Pavillon C.-E. Marchand Sainte-Foy		Quebec	Quebec	G1V 0A6	Canada	www.herbier.ulaval.ca	[1] 418/ 656-7538	Serge Payette	Curator	serge.payette@herbier.ulaval.ca
SLRO	Slippery Rock University	Herbarium Biology Department		Slippery Rock	Pennsylvania	16057-1326	USA		[1] 724/ 738-2489	Jerry Chmielewski	Curator	jerry.chmielewski@sru.edu
SWGC	Sir Wilfred Grenfell College			Corner Brook	Newfoundland		Canada			Henry Mann		hmann@swgc.mun.ca
TNNP	Terra Nova National Park			Terra Nova	Newfoundland		Canada			Greg Stroud		Greg.Stroud@pc.gc.ca
TRTE	Erindale College	Herbarium Department of Biology, 3359 Mississauga Road, N		Mississauga	Ontario	L5L 1C6	Canada		[1] 905/ 828-3984	Peter Ball	Curator	pball@credit.erin.utoronto.ca

ACRONYM	HERBARIUM	ADDRESS	PO_BOX	CITY	PROVINCE	POSTALCODE	COUNTRY	URL	PHONE	CORRESPONDENT	TITLE	EMAIL
TSM	Museo Civico di Storia Naturale	Piazza Hortis 4		Trieste		I-34123	Italy		[39] 040/ 6758658	Sergio Dolce	Director	dolces@comune.trieste.it
UAC	University of Calgary	Department of Biological Sciences		Calgary	Alberta	T2N 1N4	Canada		[1] 403/ 220-5262	C. Chinnappa	Curator	ccchinna@acs.ucalgary.ca
UBC	UBC Herbarium, Beaty Biodiversity Museum	3529-6270 University Boulevard		Vancouver	British Columbia	V6T 1Z4	Canada	http://www.beatymuseum.ubc.ca/herbarium/index.html	[1] 604/ 822-3344; 822-2133.	Jeannette Whitton	Director and Curator of Vascular Plants	jwhitton@interchange.ubc.ca
UNB	University of New Brunswick	Connell Memorial Herbarium Biology Department	P.O. Box 4400	Fredricton	New Brunswick	E3B 5AE	Canada	http://www.unb.ca/herbarium/	[1] 506/ 452-6205	Bev Benedict	Curator of Vascular Plants	bbenedic@unb.ca
US	Smithsonian Institute	United States National Herbarium Department of Botany NMNH, MRC-	P.O. Box 37012	Washington	District of Columbia	20013-7012	USA	http://www.nmnh.si.edu/sysbiology/	[1] 202/ 633-0920.	George Russell	Collections Manager	russellr@si.edu
UWO	University of Western Ontario	Herbarium, Department of Biology		London	Ontario	N6A 5B7	Canada		[1] 519/ 661-2111	Jane Bowles	Curator	jbowles@uwo.ca
WAT	University of Waterloo	Herbarium, Biology Department		Waterloo	Ontario	N2L 3G1	Canada	http://www.science.uwaterloo.ca/biology/	[1] 519/ 888-4567, ext. 3751	John Semple	Director	jcsemp@sciborg.uwaterloo.ca

NOTE: All contact information presented here has been extracted from the online Herbaria of the World Index, url: <http://sweetgum.nybg.org/lh/index.php> for more information please visit the url provided.

DATA SOURCES:

All data housed at Atlantic Canada Conservation Data Centre (ACCDC). Refer to 'CITATION' field for data sources.

CAVEATS:

ACCDC rare taxa occurrence records are offered as a guide recognizing that the ability to find plants and animals will depend upon the season. The ACCDC makes a strong effort to verify the accuracy of all the data it obtains, generates and manages, but it will not be held responsible for inaccuracies in data that it provides.

PLEASE NOTE:

- * ACCDC data is restricted for use by the specified data user only; any third party requiring data must make its own request to the ACCDC.
- * Specified data users may not publish any information provided by the ACCDC or its partners without prior permission.
- * To ensure the currency of the data, the ACCDC requires Data Users to destroy all copies of data 18 months after the date of receipt.
- * ACCDC data reports are restricted to that data in our Data System at the time of the request.
- * Data accuracy is qualified as to location (Accuracy) and time (Date)
- * ACCDC data reports are not to be constructed as exhaustive inventories of taxa in an area.
- * The non-occupancy of a taxon cannot be inferred by its absence in an ACCDC data report.
- * Museum databases, which are the basis for more accessible public databases, such as those of the ACCDC, are works in progress. Essentially, they are finding aids and dynamic data records, constructed primarily to serve scientists engaged in the continuing, active process of plant systematics and taxonomy. Ongoing additions of new collections, and frequent upgrades to the identifications of all plant specimens housed in museum herbaria, may not always be reflected, in real time, by databases such as those of the ACCDC. Specifically, the conservation status of individual species recorded in the ACCDC database may not be absolutely current. It is therefore the responsibility of the data user to contact the relevant museums directly, in order to check for the most current identifications of specimens of interest, and to ascertain from the scientists concerned, their current understanding of the conservation status of individual species in question. The absolute conservation status of any given species is dynamic, and subject to change over short periods of time.

APPENDIX D

Birds Detected in Vicinity to the Project Area in Newfoundland and Labrador

D.1 Breeding Birds Detected on Newfoundland and Labrador's BBS Square Summary 22TCT77

D.2 Species observed within the Project area and submitted to eBird

Appendix D.1: Breeding Birds Detected on Newfoundland and Labrador's BBS Square Summary 22TCT77 (Newfoundland Breeding Bird Atlas, 2020)

Species Reported in the Newfoundland Breeding Bird Survey	
American Bittern	Pine Grosbeak
American Black Duck	Pine Siskin
American Crow	Purple Finch
American Goldfinch	Red Crossbill
American Pipit	Red-breasted Nuthatch
American Redstart	Rock Pigeon (Feral Pigeon)
American Robin	Ruby-crowned Kinglet
Bald Eagle	Savannah Sparrow
Belted Kingfisher	Song Sparrow
Black Guillemot	Sora
Black-and-white Warbler	Spotted Sandpiper
Black-capped Chickadee	Swamp Sparrow
Black-legged Kittiwake	Tree Swallow
Blackpoll Warbler	White-throated Sparrow
Blue Jay	Wilson's Snipe
Boreal Chickadee	Wilson's Warbler
Cedar Waxwing	Yellow Warbler
Common Grackle	Yellow-bellied Flycatcher
Common Loon	Yellow-rumped Warbler
Common Raven	
Common Tern	
Dark-eyed Junco	
European Starling	
Fox Sparrow	
Golden-crowned Kinglet	
Greater Yellowlegs	
Green-winged Teal	
Herring Gull	
House Sparrow	
Mallard	
Northern Flicker	
Northern Pintail	
Northern Shoveler	
Northern Waterthrush	
Olive-sided Flycatcher	
Osprey	

**Appendix D.2: Species observed within the Project area and submitted to eBird.
(eBird, 2020)**

Species Observed in the Project Area	
American Black Duck	Lesser Black-backed Gull
American Crow	Mallard
American Goldfinch	Merlin
American Redstart	Mew Gull
American Robin	Mourning Dove
Bald Eagle	Nashville Warbler
Baltimore Oriole	Northern Flicker
Belted Kingfisher	Northern Goshawk
Black-and-white Warbler	Northern Harrier
Black-capped Chickadee	Northern Mockingbird
Black-crowned Night-Heron	Northern Pintail
Black-headed Gull	Northern Waterthrush
Blackpoll Warbler	Orange-crowned Warbler
Black-throated Green Warbler	Osprey
Blue Jay	Philadelphia Vireo
Blue-gray Gnatcatcher	Pine Grosbeak
Blue-headed Vireo	Pine Siskin
Bohemian Waxwing	Pine Warbler
Boreal Chickadee	Purple Finch
Brown Creeper	Red-bellied Woodpecker
Canada Goose	Red-breasted Nuthatch
Cedar Waxwing	Red-eyed Vireo
Cerulean Warbler	Redwing
Common Grackle	Ring-billed Gull
Common Merganser	Rock Pigeon
Common Raven	Rose-breasted Grosbeak
Common Yellowthroat	Savannah Sparrow
Dark-eyed Junco	Sharp-shinned Hawk
Dickcissel	Song Sparrow
Downy Woodpecker	Sora
Eastern Kingbird	Spotted Sandpiper
European Starling	Swamp Sparrow
Evening Grosbeak	Tennessee Warbler
Glaucous Gull	Townsend's Solitaire
Golden-crowned Kinglet	Townsend's Warbler
Gray Catbird	Tree Swallow
Great Black-backed Gull	White-throated Sparrow
Great Cormorant	White-winged Crossbill
Great Horned Owl	White-winged Dove
Greater Scaup	Wilson's Warbler
Green-winged Teal	Yellow Warbler
Hermit Thrush	Yellow-bellied Flycatcher
Herring Gull	Yellow-billed Cuckoo
House Sparrow	Yellow-breasted Chat
House Wren	Yellow-crowned Night-Heron
Iceland Gull	Yellow-rumped Warbler
Indigo Bunting	Yellow-throated Vireo
Killdeer	Yellow-throated Warbler

APPENDIX E

Mitigation Measures

Appendix E: Mitigation Measures

During construction (and where upgrades or repairs are scheduled throughout infrastructure lifespan), the City and their contractors will comply with all relevant federal, provincial and municipal acts and regulations such as the *Environmental Protection Act* (SNL 2002: Chapter E-14.2), *Wild Life Act*, *Occupational Health and Safety Act*, *Fisheries Act*, *Migratory Birds Convention Act*, *Species at Risk Act* and their respective regulations. Most mitigation measures to be implemented during construction will be outlined in a series of project specific plans that will serve as guidelines to ensuring due diligence. Other mitigation measures that will be abided by include BMPs and the following:

- ▶ The berms will be constructed as part of the mitigation measures for surface water management and land users. The berms will be constructed to the design criteria for a 1:100 AEP climate change event.
- ▶ A site-specific Environmental Protection Plan (EPP) will be prepared and followed. The EPP will include requirements and responsibilities for training and mitigation measures to reduce effects to terrestrial, aquatic and human health such as accidental spills/leaks and release of fuel and mechanical fluids, hazardous materials, dust, and deleterious substances. At a minimum, the following topics will be included:
 - Emergency Response Plan
 - Emergency Spill Response Plan including locations of spill response equipment
 - Erosion and Sediment Control Plan
 - Handling and storage of fuel, gasoline and associated products
 - Waste management strategy
 - Invasive Species Mitigation Plan
 - Operation and maintenance of machinery
- ▶ The Erosion and Sediment Control Plan will be implemented prior to construction and will describe the measures implemented to prevent loss of soil during construction. The plan will include protecting topsoil by stockpiling for reuse; preventing sedimentation of storm sewer or receiving streams; and preventing air pollution by dust and particulate matter. Temporary erosion and pollution control devices such as silt fences will be used to mitigate possible sources of pollutants. The plan at a minimum will address the following:
 - Site dewatering
 - Protecting topsoil by stockpiling for reuse
 - Preventing sedimentation to receiving streams
 - Preventing air pollution by dust and particulate matter
 - Temporary erosion and pollution control devices such as silt fences will be used to mitigate possible sources of pollutants and their removal at completion of the Project
- ▶ In the event of a spill or leak, the operator must immediately notify NLECCM and the Environmental Emergencies 24 Hour Report Line (1-800-563-9089), abate the discharge and restore the affected area to the satisfaction of the NLECCM.
- ▶ Any quarried materials required for the proposed Project shall be purchased from a supplier permitted under the *Quarry Materials Act* (1998).

- ▶ All soils and water impacted via spills and releases will be disposed of off-site in accordance with applicable environmental legislation.
- ▶ All debris and waste materials will be disposed of in accordance with the provisions of the *Environmental Protection Act* and latest regulations, guidelines and policies. Non-hazardous construction and demolition debris will be either recycled or salvaged. Items may include cardboard, metal, concrete, plastic, clean wood, and glass. The disposal of waste materials not reused, resold or recycled will be at an approved waste disposal site.
- ▶ On completion of the Project, construction equipment, surplus materials and temporary works will be removed from the site.
- ▶ On completion of the Project, any disturbed areas will be restored to the original conditions or better.
- ▶ Only new or reused, clean materials will be used for the purposes of the berm construction, backfill, and grading.
- ▶ All construction activities will occur during working hours as defined in the permit, and in compliance with local by-laws.
- ▶ All heavy machinery should be in good working order and operated in a manner to maximize fuel efficiency, thereby reducing greenhouse gas emissions and effects to air quality, such as emission and noise.
- ▶ Fueling and storage of gasoline and associated products (e.g. oils, greases, diesel, hydraulic and transmission fluids), should occur in a designated refueling/storage area at least 30 m from any waterbody and on flat, paved terrain.
- ▶ All maintenance of equipment should occur at least 30 m from any waterbody on flat, paved terrain.
- ▶ Heavy machinery will not be permitted to enter existing watercourses (i.e., Rennies River).
- ▶ All in-water works will be completed within periods of low flow to further reduce the risk to fish and fish habitat. Further information regarding the schedule is provided in Chapter 5.
- ▶ Adjacent to watercourses only clean rock fill materials (minimal fines) will be used to reduce the potential of release of sediments, or any other materials considered deleterious, to fish and fish habitat.
- ▶ Erosion and sediment control measures shall be implemented to reduce effects to fish and fish habitat. Such measures may include, but are not limited to, isolation measures (e.g., silt fences, and sand bags), minimizing the removal of vegetation and natural debris (e.g., rocks, logs, sand), and shoreline stabilization with appropriate materials (e.g., native vegetation, rip-rap or armour stone).
- ▶ Fish passage and flow should be maintained at all times.
- ▶ All guidance and mitigation measures issued from DFO will be followed.
- ▶ The Project will be designed to minimize disruption to existing natural areas. Removal and disposal of trees, brush, stumps, surface litter, boulders and grubbing will follow applicable legislation, permits and BMPs. Vegetation, such as trees, and shrubs, should be retained when possible.

- ▶ All equipment must be devoid of soils, seeds, and residual debris prior to use on-site. Undercarriages, wheels, tracks and blades/buckets should be cleaned (i.e. pressure washed) prior to use on the site.
- ▶ The berms will be covered with topsoil, hydroseed and/or sod as well as revegetated with preference to native vegetation, trees and shrubs. A hydroseed mixture will be used in areas directly adjacent to watercourses. Sod will not be placed in locations directly adjacent to watercourse.
- ▶ Whenever possible, vegetation clearing will occur outside the breeding bird period (mid-April to mid-August). If this is not avoidable, and without implementation of mitigation measures, there could be a risk of impacting breeding birds and their nests. If vegetation clearing outside the breeding bird nesting period (mid-April to mid-August) is unavoidable, breeding bird /nest surveys will be completed prior to removal of vegetation or disturbance of potential habitat. A trained biologist should complete surveys to confirm the present of breeding birds and their nests. Nests and neighbouring vegetation will be left undisturbed until nesting is complete. If nests containing eggs, or young, of migratory birds are discovered during construction, disruptive activities in the nesting area should cease until nesting is completed. A buffer zone should be established at an appropriate set-back distance surrounding the nest. Appropriate set-back distances should be based on set-backs identified in the literature or in consultation with a provincial or federal wildlife biologist.
- ▶ The contractor shall develop a management plan encompassing measures to mitigate effects to migratory birds and incorporate this plan into the EPP. These measures shall include ways to avoid disturbing birds' nests or eggs.
- ▶ Mitigation measures to deter migratory birds from nesting in stockpiles during the breeding season shall also be implemented.
- ▶ Contractors should implement management practices to reduce the effects to migratory birds as a result of human induced light, such as reducing the number of site illuminating lights in the project area, where possible, and low intensity strobe lights at night.
- ▶ Best management practices for wildlife protection during construction will be incorporated into the EPP, such as proper waste management to deter wildlife from entering the Project area.
- ▶ Traffic control, where required, will be provided by certified traffic control personnel in accordance with the Traffic Control Manual issued by the NL Transportation and Infrastructure.
- ▶ Berm repairs will be completed, including regrading and planting, to maintain berm conditions and aesthetic.
- ▶ Geotechnical inspection will be completed every 5 years including review of annual inspections.

APPENDIX F

Public Consultation Documents



Home » Rennie's River Flood Mitigation

Key Dates

17 November 2020

Virtual Public Meeting 7 to 8:30 p.m.

To register for this meeting, [click here](#).

Registration closes at 4:30 p.m. Nov. 17. After that time, please email engage@stjohns.ca directly to express your interest.

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FAQs

- ❓ What is the scope and status of Phase 1 of this project?
 - ❓ What is included in Phase 2?
 - ❓ Why are you proceeding with Phase 2 when Phase 1 has not been completed?
 - ❓ I live along the river, how will I be impacted by the proposed Phase 2 work?
 - ❓ What happens after you collect feedback on Phase 2?
 - ❓ Why are you doing this project?
 - ❓ What are the pros and cons of proceeding with Phase 2 work?
 - ❓ How will this project be funded?
 - ❓ When would this project be completed?
 - ❓ The Bike Master Plan and its recommended multi-use trail projects are within the scope of this project. How will the city ensure the two projects connect?
-

❓ What is the scope and status of Phase 1 of this project?

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.

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❓ What is included in Phase 2?

After completing various modelling scenarios, 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. The alternate scenario being presented would see the flood mitigation measures completed upstream of the Portugal Cove Rd bridge, as well as, the berming required

along the rear of some Winter Ave properties and the NF Power substation upstream of the Kings Bridge Rd bridge. This approach will remove the properties along Pringle Place, Vaughan Place, Winter Ave, Kings Bridge Rd and The Boulevard from the floodplain; however the Fieldian Grounds, Riverdale Tennis Courts and some of the rear yards of properties along Empire Ave will remain in the floodplain.



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Why are you proceeding with Phase 2 when Phase 1 has not been completed?

With funding approved for the construction of the Long Pond Weir in 2014, the City has been working through the provincial Environmental Approval process for the Long Pond Weir Project since that time. The process is still ongoing.

In the meantime, we have determined that we can proceed with the second priority areas prior to Phase 1 being completed.

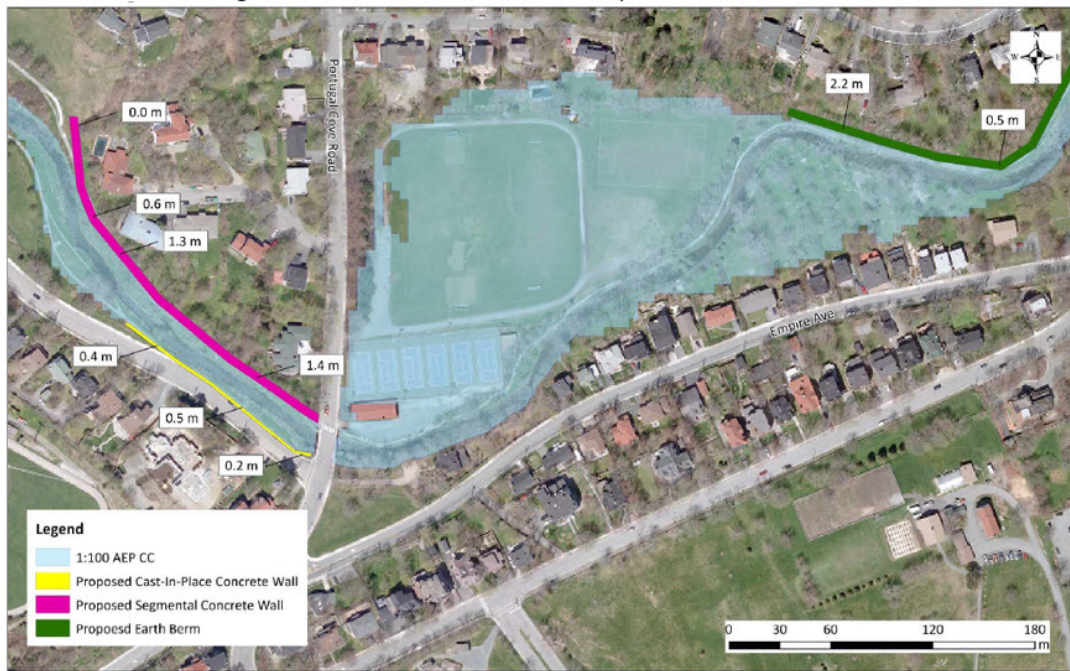
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I live along the river, how will I be impacted by the proposed Phase 2 work?

The impact is dependent on where your property is located.

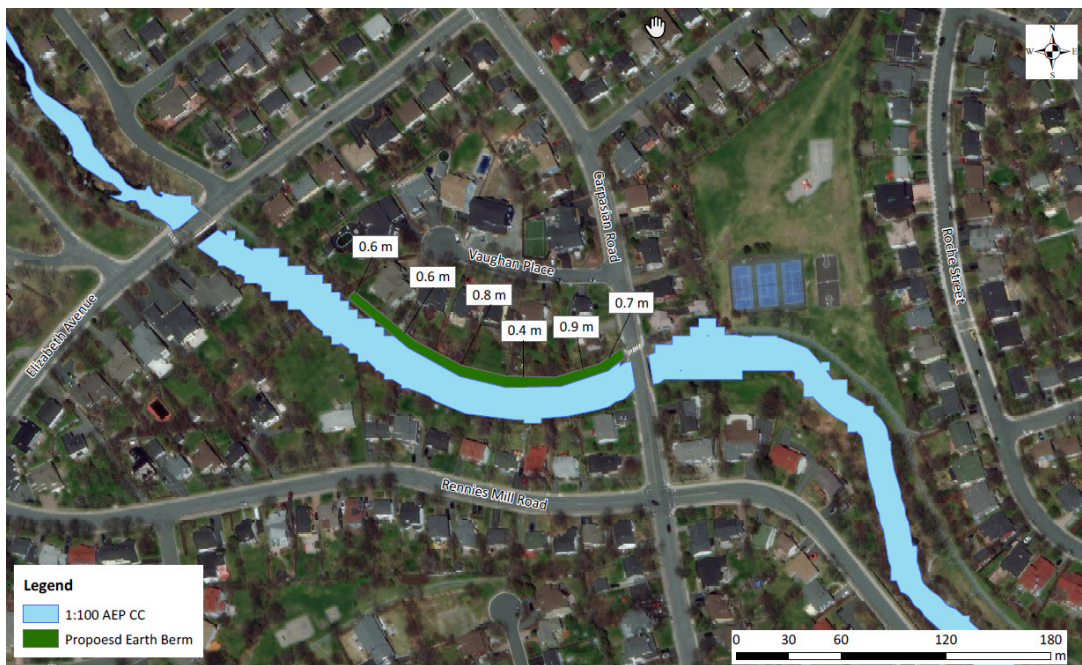
Berm/retaining wall heights along Winter Ave. and Pringle Place are noted on the sketch below.

Heights noted are above the existing trail elevation or back of sidewalk grade. Some overhanging tree branches to be trimmed to suit new trail elevations.



Berm height along Vaughan Place, shown below.

Height noted is above the existing trail elevation or back of sidewalk grade. Some overhanging tree branches to be trimmed to suit new trail elevations.



top of the page

🔗 What happens after you collect feedback on Phase 2?

Once we have collected all of the feedback, we will be completing all of our documentation including what we heard throughout this process and sending it to the provincial government as a part of the Environmental Assessment registration documentation.

top of the page

🔍 Why are you doing this project?

Issues with overland flooding have been a concern in this area for several years and in the absence of meaningful progress on the weir, we are planning to proceed with the second phase to address some of those concerns.

top of the page

🔍 What are the pros and cons of proceeding with Phase 2 work?

Alternative Project Sequencing (Modified downstream flood mitigation improvements completed as first priority, before the Long Pond Weir)

Pros	Cons
Provides flood protection for houses & backyards along Vaughan Pl, Pringle Pl, Winter Ave, Kings Bridge Rd, and The Boulevard. As well as, flood protection for houses along Empire Ave.	Flood protection not provided to Feildian Grounds, Riverdale Tennis Courts and rear yards of Empire Ave properties.
Construction of berms will not result in removal of mature trees.	
Berms do not encroach onto Riverdale Tennis Courts.	
No property acquisition required.	
This approach will allow downstream flood mitigation projects to proceed while waiting for the Long Pond Weir to be approved	
Long Pond Weir could be constructed at a later date with necessary regulatory approvals in place for the Long Pond Weir. Flood protection measures for Feildian Grounds, Riverdale Tennis Courts and rear yards of Empire Ave properties could also proceed at a later date if negative impacts are deemed acceptable to Council, property stakeholders and regulatory authorities.	

top of the page

🔍 How will this project be funded?

The project is funded under the New Building Canada Fund (\$1.9M).

top of the page

🔍 When would this project be completed?

If approved, the project will be designed during winter 2021 with construction to follow in spring/summer 2021.

top of the page

🔍 The Bike Master Plan and its recommended multi-use trail projects are within the scope of this project. How will the city ensure the two projects connect?

The Kelly's Brook Shared Use Path project will take the flood mitigation work into account as part of the design work and the public consultation work for the multi-use trail. The City will also work to incorporate the multi-use trail project into flood mitigation work if it is found to be needed. There are several different ways the projects could overlap so it is impossible to say exactly how one will influence the other until we are a bit further along with the design.

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DECISION/DIRECTION NOTE

Title: Rennie's River Flood Mitigation
Alternate Project Phasing Sequence

Date Prepared: August 24, 2020

Report To: His Worship the Mayor and Members of Council

Councillor and Role: Mayor and Council

Ward: 4

Decision/Direction Required:

Council Decision to approve an alternate project phasing sequence for implementation of the Rennie's River flood mitigation measures downstream of Long Pond. This will allow flood mitigation to proceed while awaiting Provincial approval of the Long Pond weir.

Discussion – Background and Current Status:

The Rennie's River Catchment Stormwater Management Plan (RRCSWMP - April 2014) was issued for implementation of the project recommendations per Council Directive CD# R2014-05-26/5. The list below is an excerpt of the recommended projects in the noted study.

ST. JOHN'S

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

The report recommended that the weir at Long Pond be given first priority and the two problem areas located downstream of Long Pond be given second priority.

With funding approved for the construction of the Long Pond Weir in 2014, the City has been working through the provincial Environmental Approval process for the Long Pond Weir Project since that time. 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. 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.

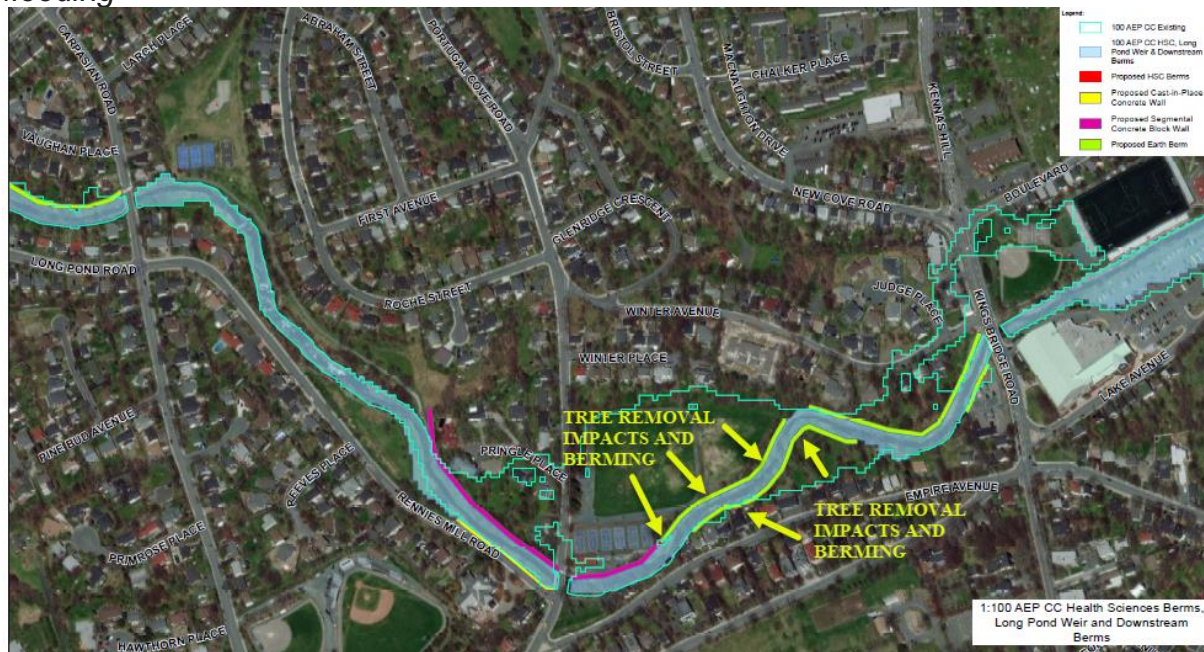
In 2018, the City received funding for Phase 2A under the New Building Canada Fund. The scope of work was presented to the COTW meeting on December 19, 2018. One of the concerns raised during that meeting was what would be the affect with proceeding with Phase 2A flood mitigation works prior to the completion of the Long Pond Weir Project. CBCL were subsequently hired to undertake additional storm water modelling to review the impact of the downstream phasing sequence in the absence of the Long Pond Weir being completed.

Revised Modelling Output

The flood mitigation measures presented in the RRCSWMP were based on the premise that the floodwater would be entirely contained within the Rennie's River corridor in an effort to protect private properties and rear yards from flooding. To proceed in this manner would require the removal for many large mature trees that provide shade to the river ecosystem, as

well, it could have a negative effect on the enjoyment on some properties rear yards, due to the removal of large private trees and the construction of large earthen berms. See Figure 1 below.

Figure 1: Feildian Grounds, Riverdale Tennis Courts & Empire Ave rear yards protected from flooding



After completing various modelling scenarios, 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. The alternate scenario being presented would see the flood mitigation measures completed upstream of the Portugal Cove Rd bridge, as well as, the berming required along the rear of some Winter Ave properties and the NF Power substation upstream of the Kings Bridge Rd bridge. This approach will remove the properties along Pringle Place, Vaughan Place, Winter Ave, Kings Bridge Rd and The Boulevard from the floodplain; however the Fieldian Grounds, Riverdale Tennis Courts and some of the rear yards of properties along Empire Ave will remain in the floodplain until such time as the Long Pond Weir receives provincial approval and is subsequently constructed.

Figure 2: Feildian Grounds, Riverdale Tennis Courts & Empire Ave rear yards allowed to flood (Maintain Status Quo)



By allowing the Fieldian Grounds and Riverdale Tennis Courts to continue flooding, this alternate sequencing will substantially reduce the wall and berming heights by comparison of Figures 3 and 4 below. After the Long Pond Weir is approved and constructed, the remaining flood control measures downstream of Long Pond could be undertaken if Council, local area stakeholders and regulatory authorities (ie. DFO) are accepting of the required tree removals and additional berming / retaining walls required. An increase to the wall heights for the flood mitigation measures upstream of Portugal Cove Rd bridge would also be required for this subsequent phase, per Figure 3 below.

Figure 3: Wall / Berms Heights Per Original Project Sequencing (After Long Pond Weir Constructed)

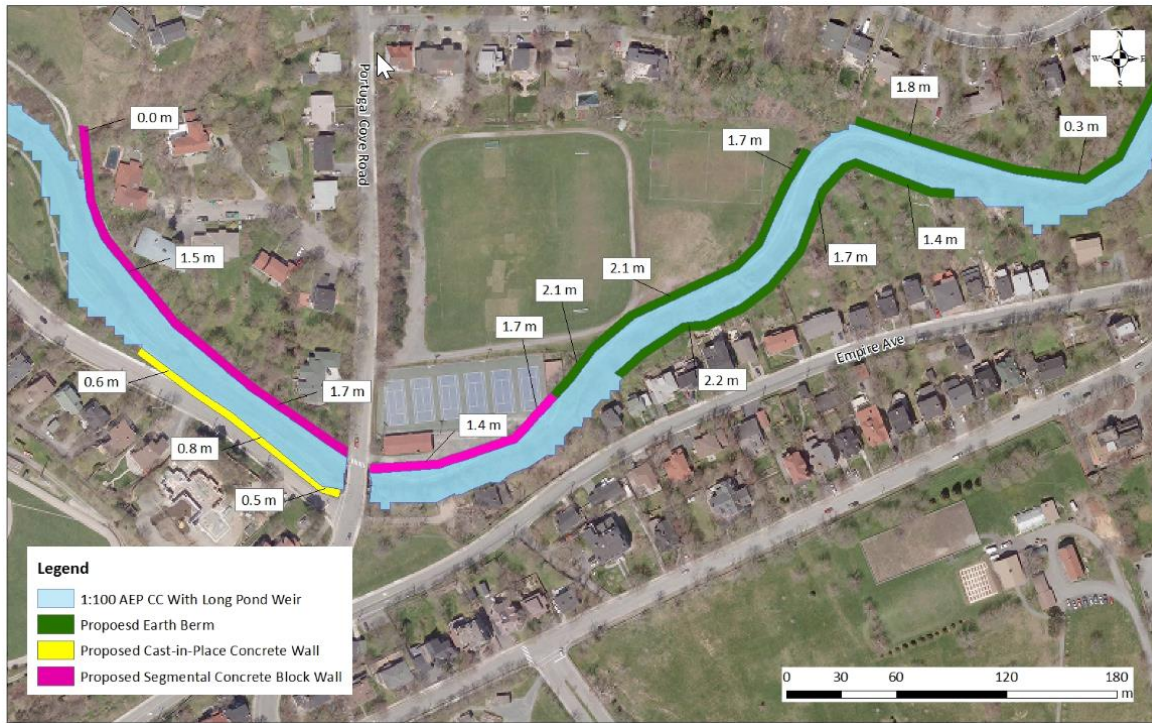


Figure 4: Wall / Berm Heights Per Alternate Project Phase Sequence (Maintain Status Quo – Long Pond Weir Not Constructed)



Current Project Sequence (Long Pond Weir to be constructed, followed then by downstream flood mitigation improvements below Long Pond)

Pros	Cons
Provides flood protection for houses & backyards along Vaughan Pl, Pringle Pl, Winter Ave, Empire Ave, Kings Bridge Rd, The Boulevard, Feildian Grounds and Riverdale Tennis Courts.	Earthen berms encroach onto one of the Riverdale Tennis Courts.
	Mature trees must be removed to accommodate berms (loss of fish habitat and trail enjoyment).
	Property must be acquired at backyards along Empire Ave properties to accommodate berming.
	Provincial EA approval has been ongoing since 2014. It is unknown when, or if, the Long Pond Weir will be approved; thus, preventing any downstream flood mitigation work from proceeding.

Alternative Project Sequencing (Modified downstream flood mitigation improvements completed as first priority, before the Long Pond Weir)

Pros	Cons
Provides flood protection for houses & backyards along Vaughan Pl, Pringle Pl, Winter Ave, Kings Bridge Rd, and The Boulevard. As well as, flood protection for houses along Empire Ave.	Flood protection not provided to Feildian Grounds, Riverdale Tennis Courts and rear yards of Empire Ave properties.
Construction of berms will not result in removal of mature trees.	
Berms do not encroach onto Riverdale Tennis Courts.	
No property acquisition required.	
This approach will allow downstream flood mitigation projects to proceed while waiting for the Long Pond Weir to be approved	
Long Pond Weir could be constructed at a later date with necessary regulatory approvals in place for the Long Pond Weir. Flood protection measures for Feildian Grounds, Riverdale Tennis Courts and rear yards of Empire Ave properties could also proceed at a later date if negative impacts are deemed acceptable to Council, property stakeholders and regulatory authorities.	

Key Considerations/Implications:

1. Budget/Financial Implications:

The project is funded under the New Building Canada Fund (\$1.9M). Additional funding would be required for the subsequent phase of construction after the Long Pond Weir is completed.

2. Partners or Other Stakeholders:

- Residents along Empire Ave, Pringle Place, Vaughn Place and Winter Ave
- Feildians Athletic Association
- Riverdale Tennis Club

3. Alignment with Strategic Directions/Adopted Plans:

The Rennies River Flood Mitigation Project aligns with the Strategic Goal:
- A Sustainable City

4. Legal or Policy Implications:

The Development Regulations generally prohibits development in the floodplain and restricts development in the buffer. Implementation of this project may result in the removal of properties from the identified floodplain or buffer, potentially allowing development in those areas that are removed.

5. Engagement and Communications Considerations:

Stakeholders to be engaged during the planning and construction phase of the project.

6. Human Resource Implications: N/A

7. Procurement Implications:

Public Procurement Act to be followed for the design and construction stages of the project as per standard procedure.

8. Information Technology Implications: N/A

9. Other Implications: Environmental Assessment Process

The Department of Municipal Affairs & Environment (MAE) has advised that The Environmental Assessment Regulations, 2003, Section 35 (4b) define this project as an undertaking requiring environmental review pursuant to the Environmental Protection

Act, SNL 2002, cE-14.2. Following through with the Environmental Assessment review process, it will need to be determined by MAE what level of environmental assessment is required. Depending on the Ministers decision, the following are the four options:

- i) The undertaking may be released from further environmental review.
- ii) An Environmental Preview Report (EPR) may be required.
- iii) An Environmental Impact Statement (EIS) may be required.
- iv) The undertaking may be rejected.

This approval process could add months or years to the completion of the proposed flood mitigation works.

Recommendation:

It is recommended, to approve the alternate project phasing sequence for implementation of the Rennies River flood mitigation measures downstream of Long Pond prior to the construction of the Long Pond Weir.

Prepared by/Date:

Approved by/Date:

Scott Winsor, P. Eng.
Director of Engineering

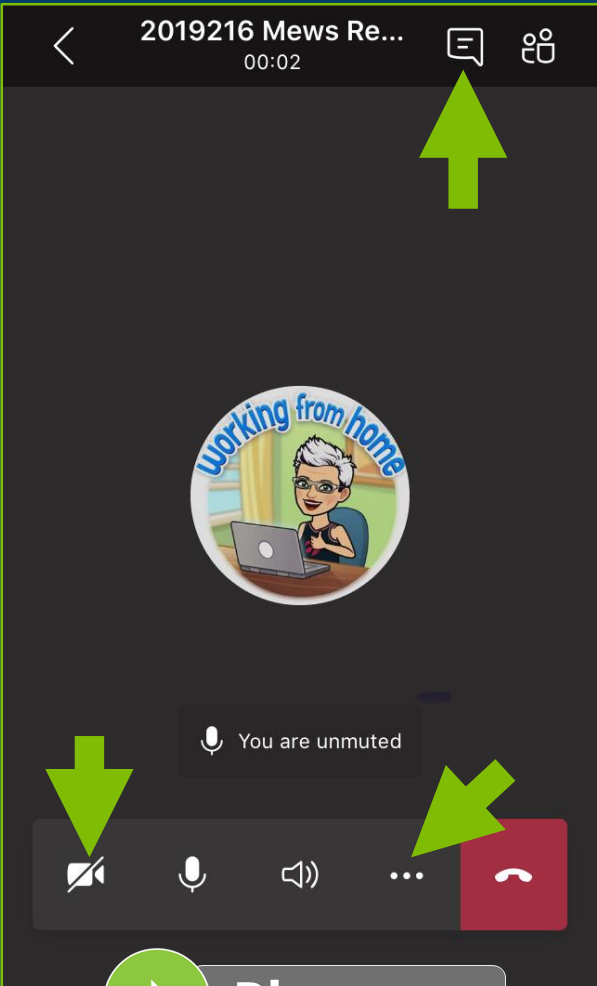
Jason Sinyard, P. Eng.
Deputy City Manager PERS

SW/

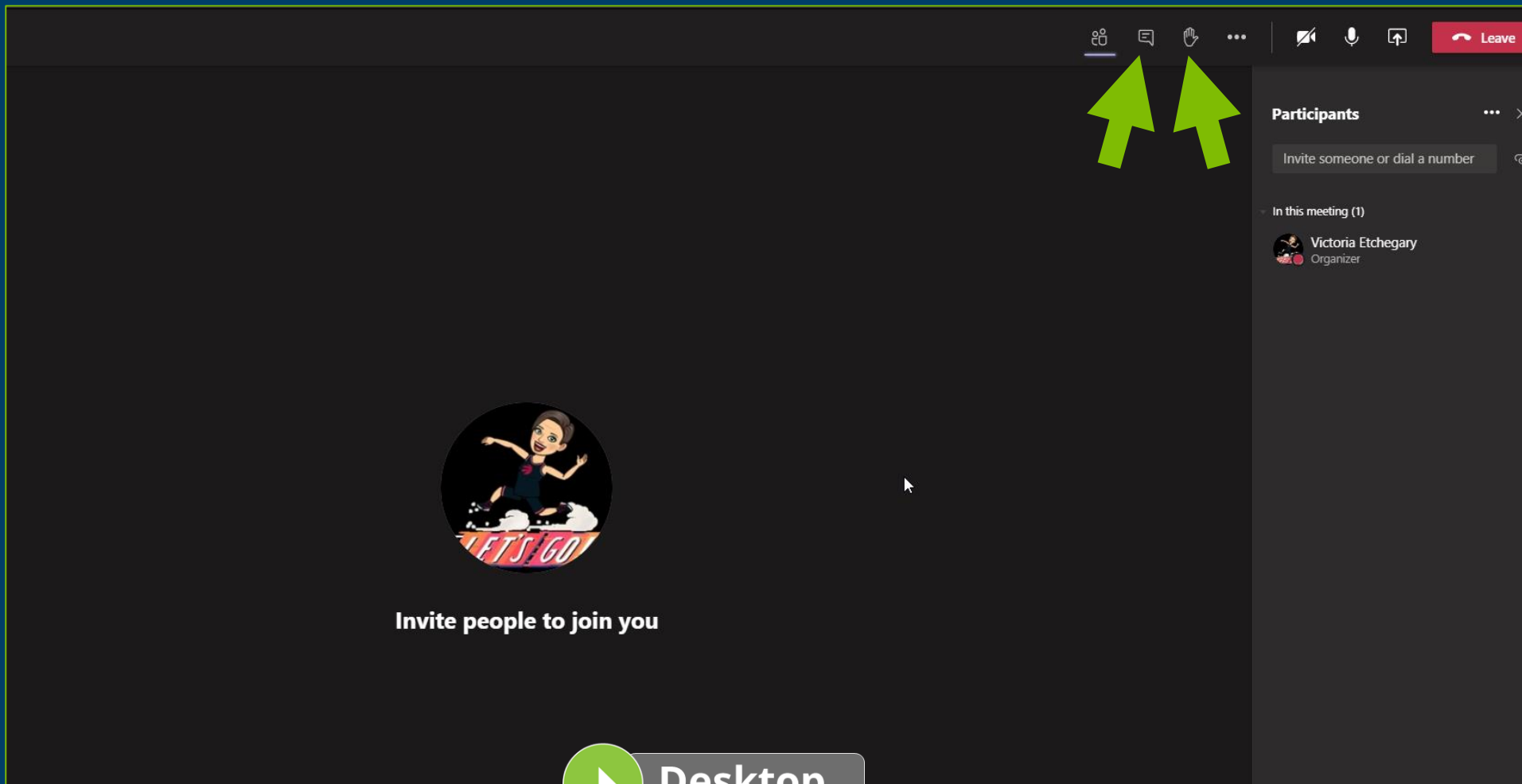


Rennie's River Flood Mitigation ST. JOHN'S





▶ Phone



▶ Desktop



Using Microsoft Teams

This conversation is about Flood Protection Berms

Make the most of the virtual tools; chat, raise hands, etc.

Ask questions/speak; use chat or raise hands

Respect the time; we have allocated one and a half hours

Respect the space; only one person talking at a time

What else do you need to have a productive conversation?

You are here to participate and provide your feedback as residents within the project area. We are here to collect your feedback in a meaningful way.

▶ **Purpose of the Public Meeting**

▶ **Background**

▶ **The Project**

- **Location / Project Design**
- **Project Activities**
- **Project Schedule**

▶ **Flooding and Surface Water Management**

▶ **Permits and Authorizations**

- **Environmental Assessment Process**
- **Other Permits**



Purpose of the Public Meeting

- To provide information on the proposed project to the people whose environment may be affected.
- To respond to questions and seek feedback from the local community.



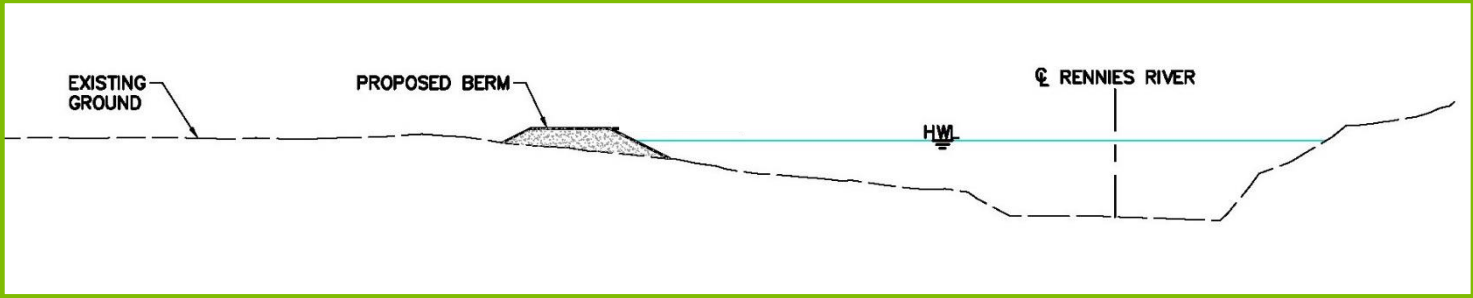
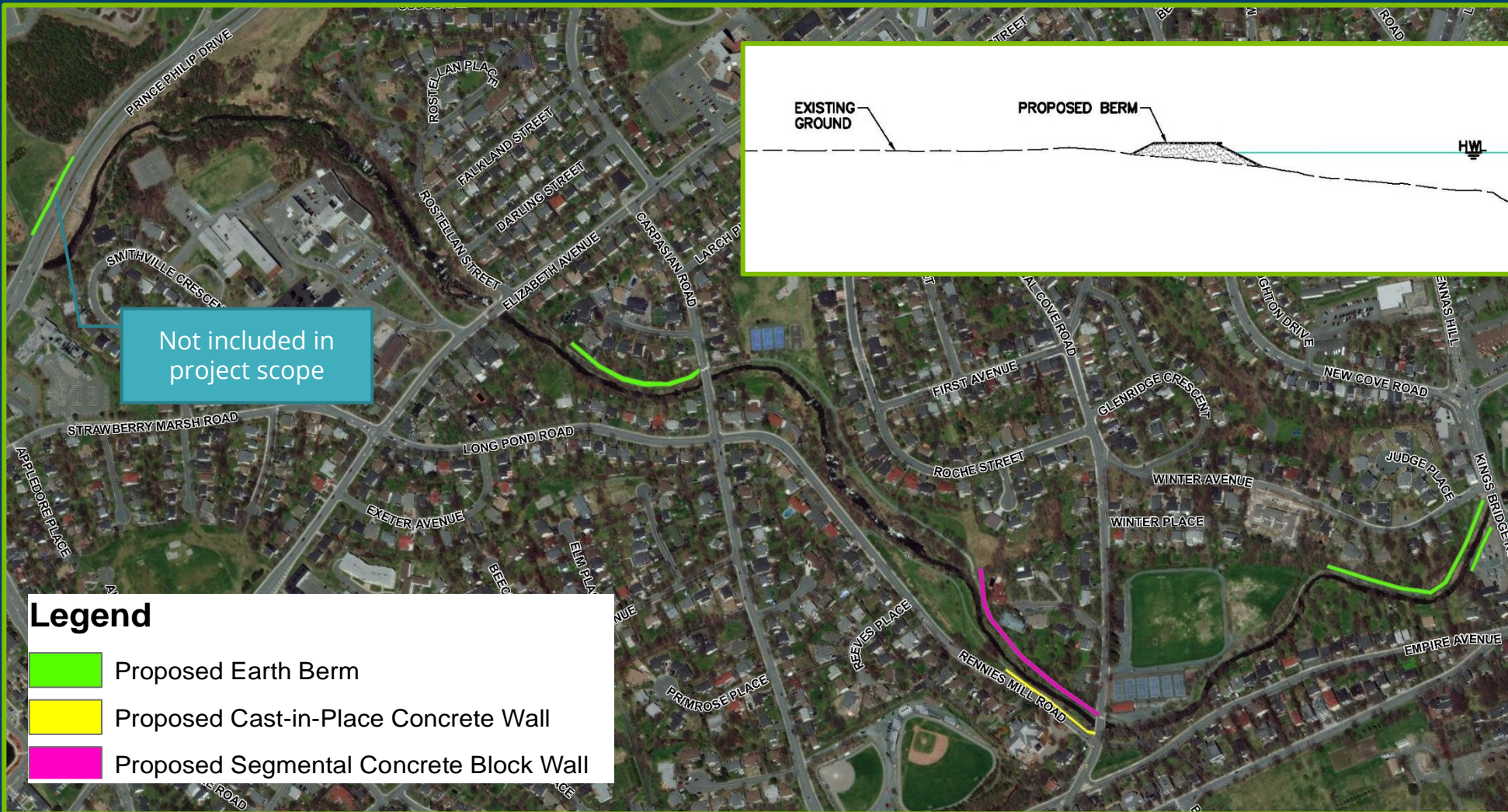
Background

Priority	Description of Location
1	Location 3: Weir at outlet of Long Pond
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5	Location 7: O'Leary Avenue Bridge
6	Location 8: Downstream of Mews Place

Rennie's River Catchment Stormwater Management Plan (RRCSMP) completed April 2014.



The Project



Legend

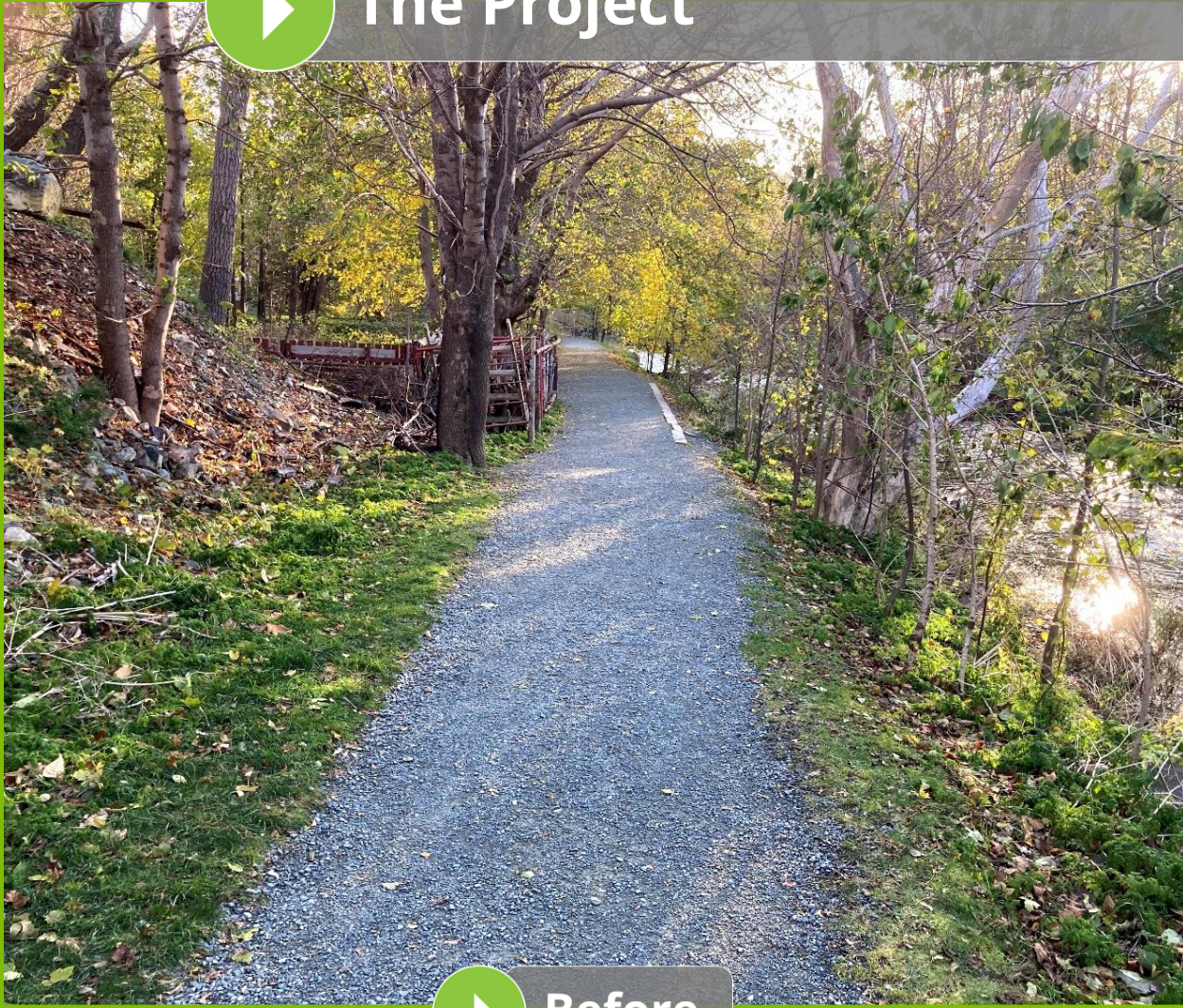
- Proposed Earth Berm
- Proposed Cast-in-Place Concrete Wall
- Proposed Segmental Concrete Block Wall



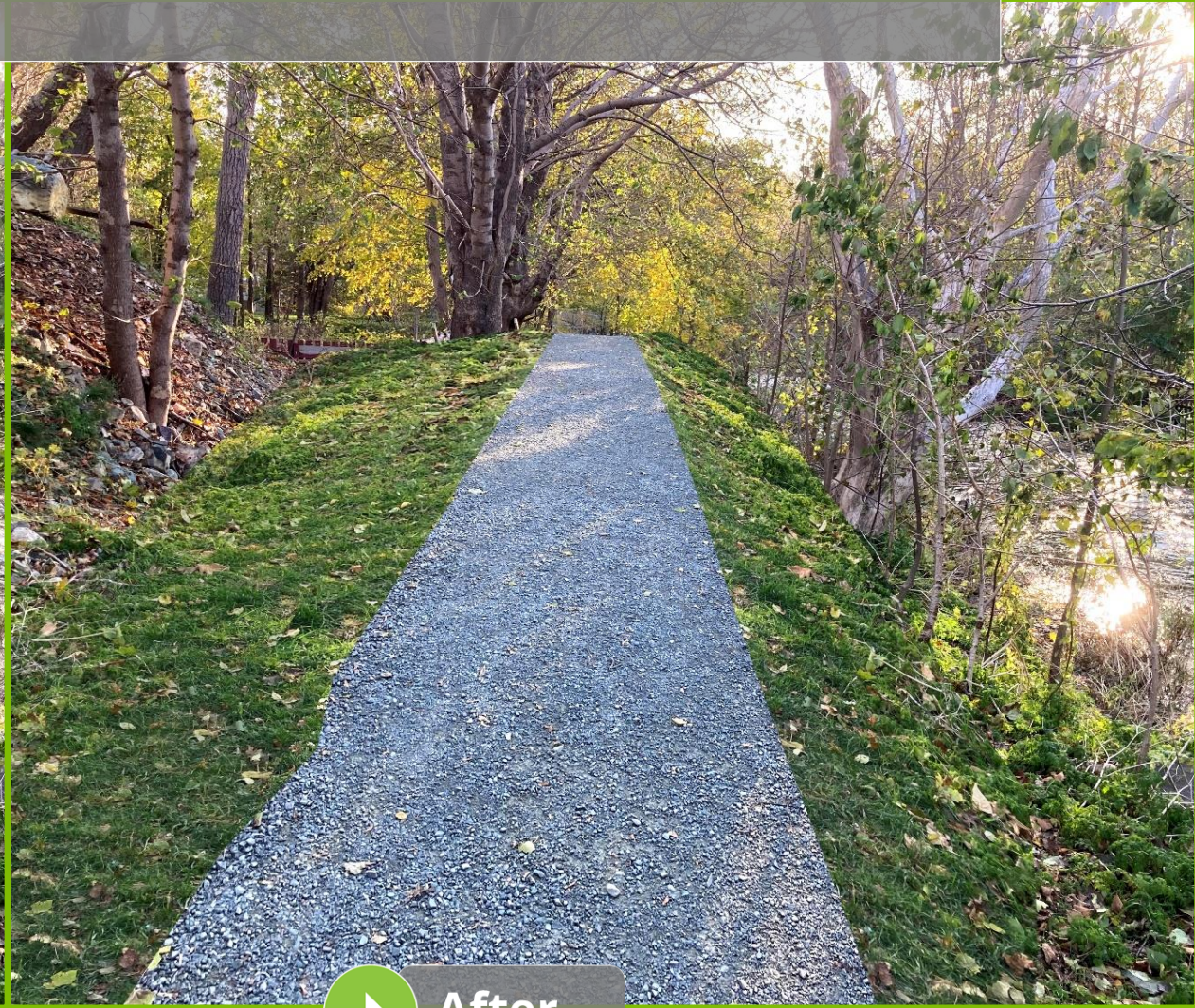
Project Location



The Project



Before



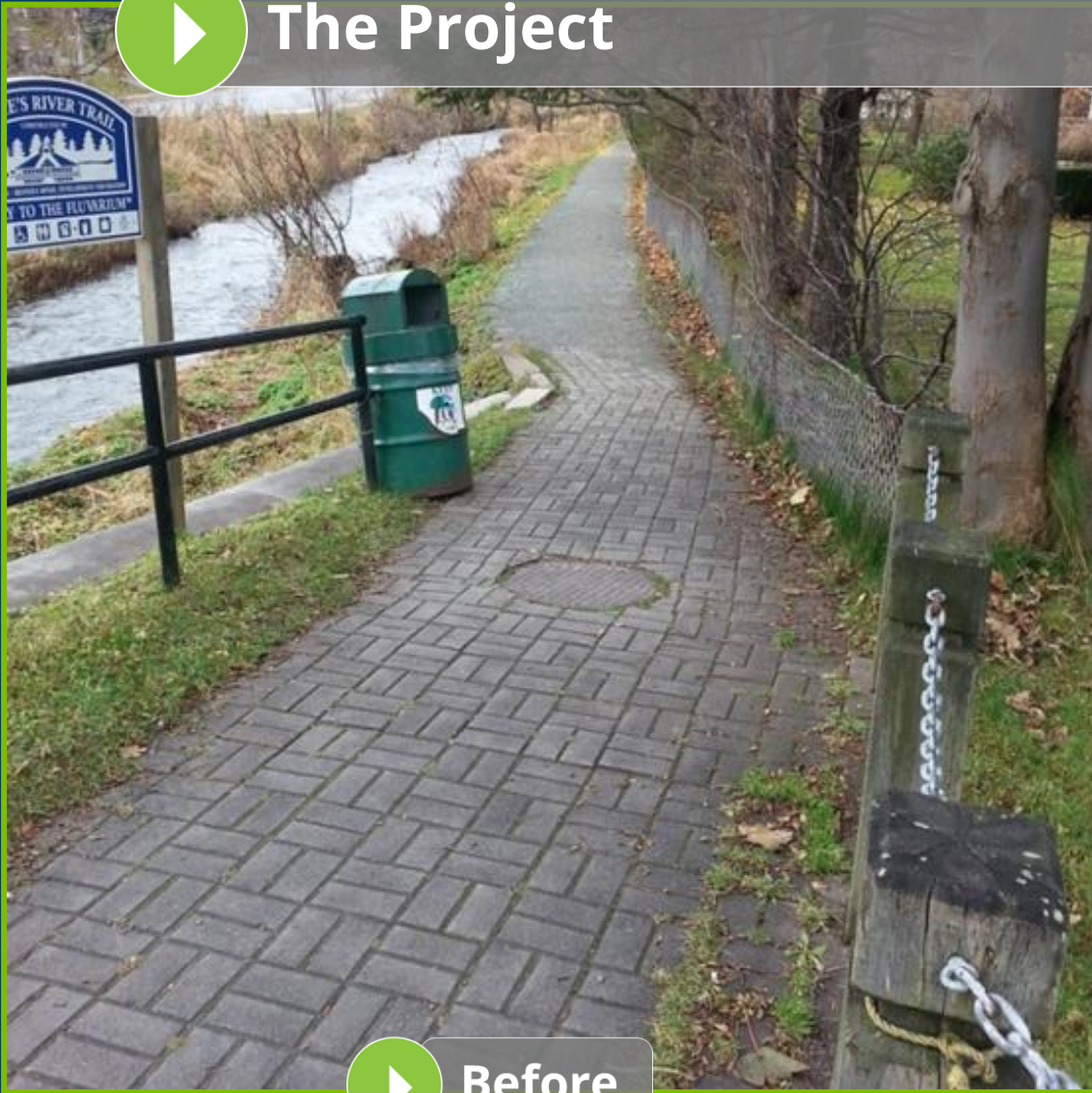
After



South of Winter Avenue



The Project



▶ Before

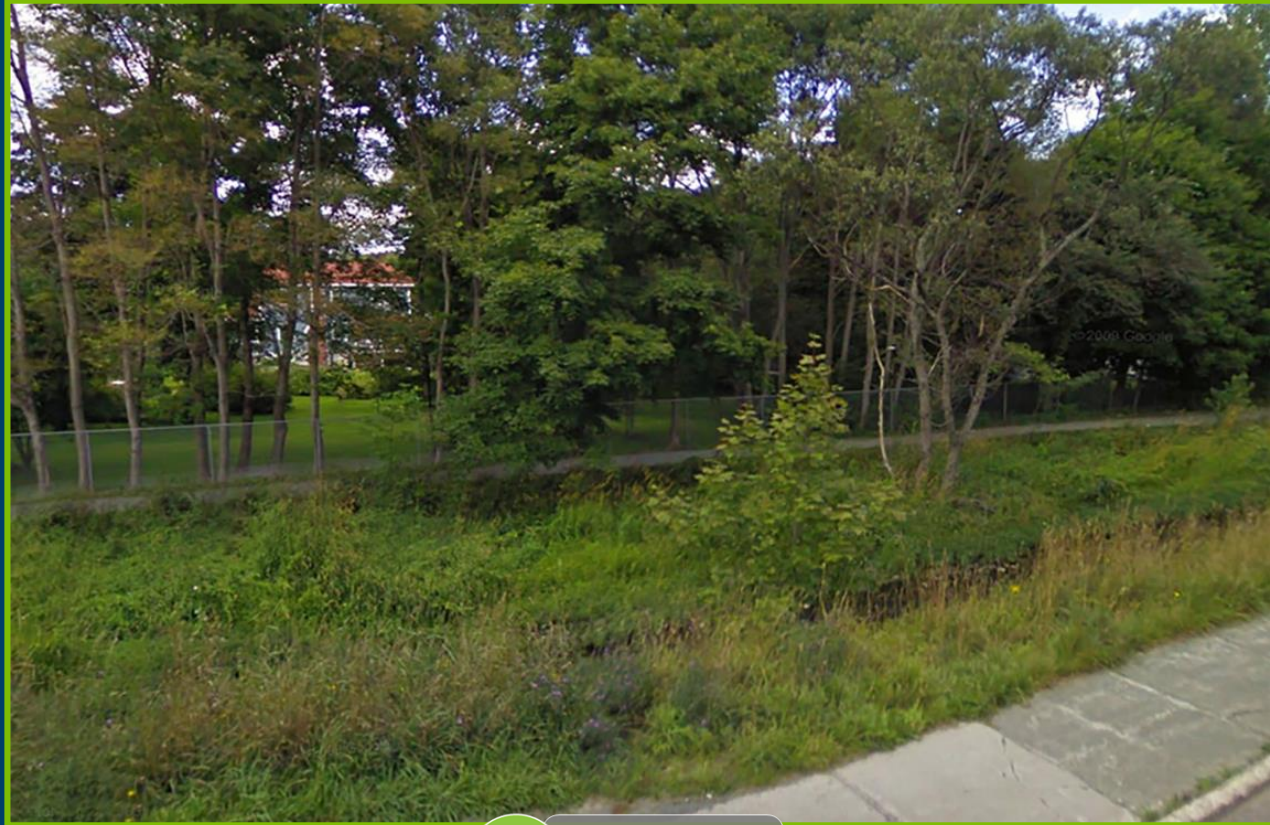


▶ After

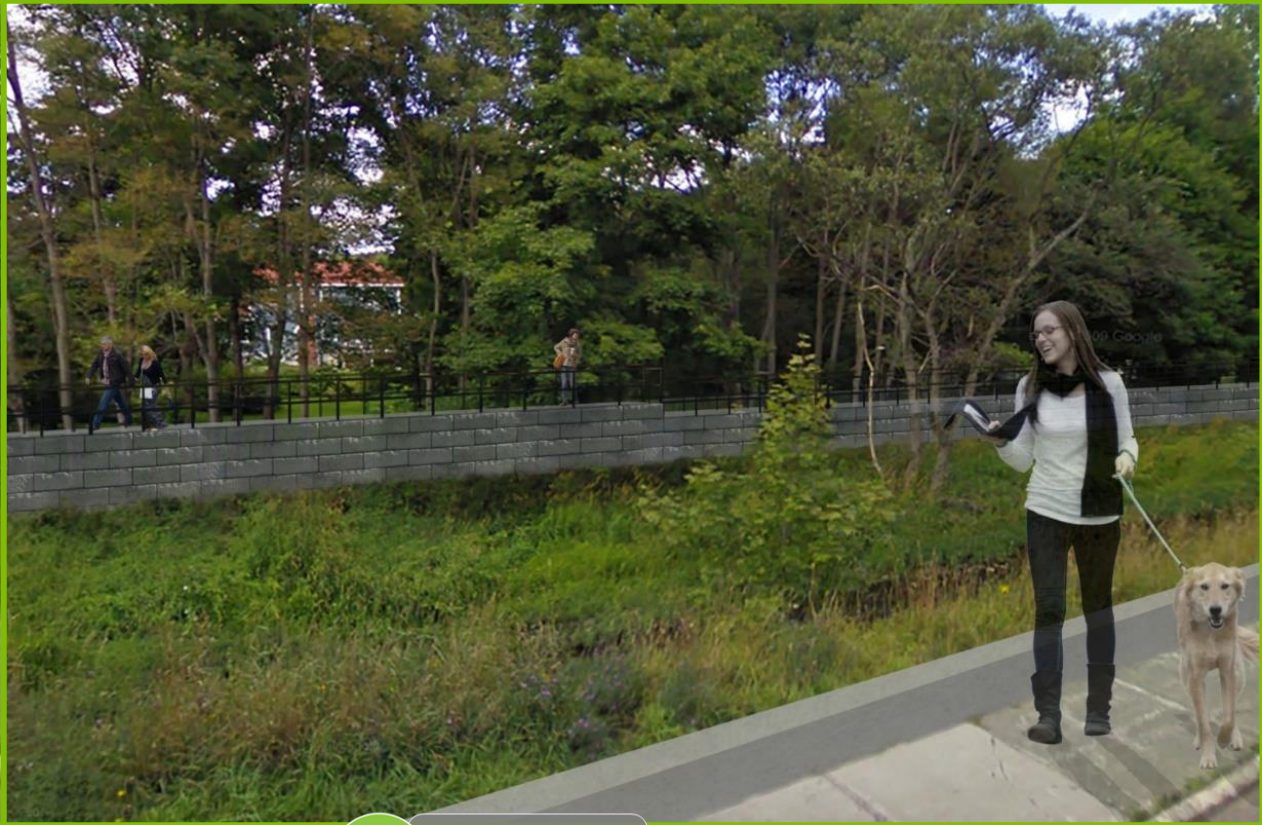
Stairs shown for illustrative purposes only. Accessibility requirements will be considered during detailed design.



The Project



Before



After



The Project

Site Preparation

- Vegetation clearing and grubbing

Construction of the berm

- Excavation for foundations
- Placement of new materials (pre-cast concrete blocks, concrete cast-in-place wall, rock fill, granular material)
- Grading and shaping of berm
- Stabilization of berm slopes
- Placement of topsoil
- Revegetation of the constructed berm
- Environmental protection, and sediment and erosion control measures



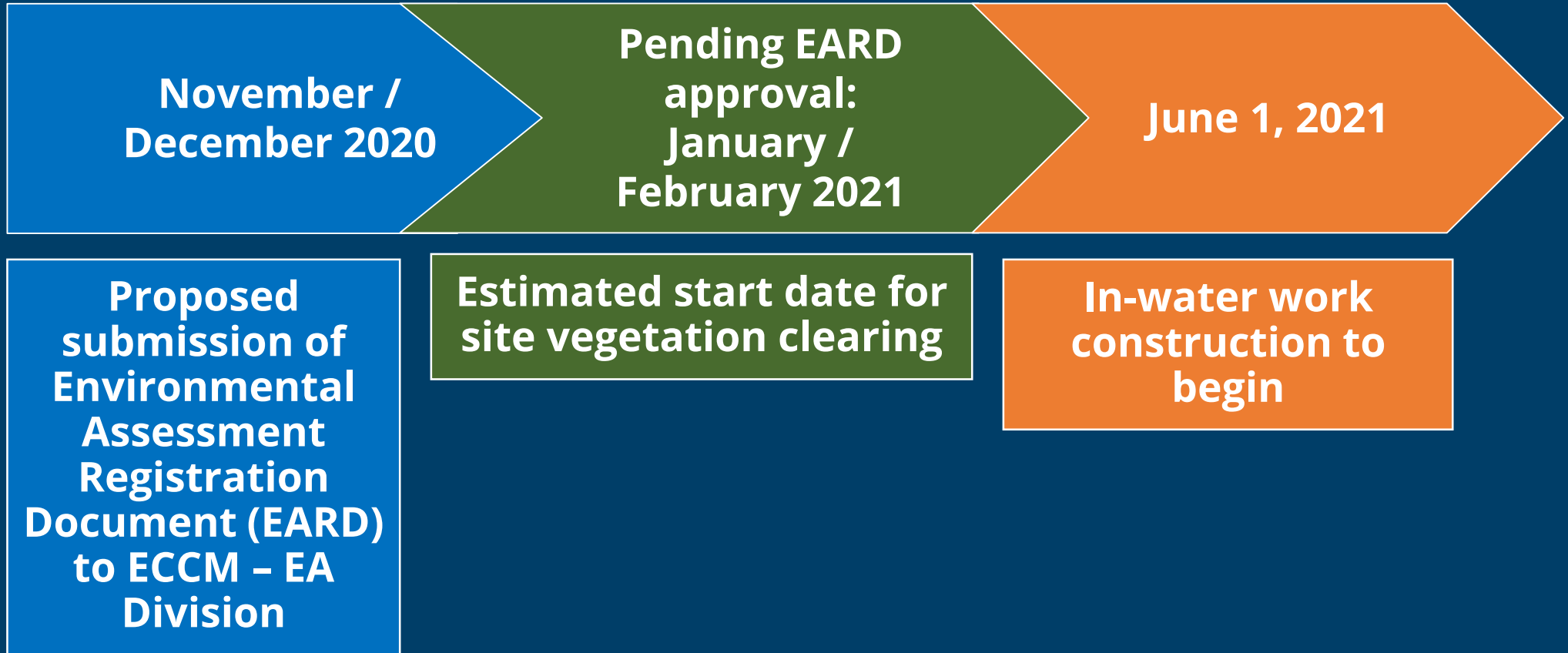
The Project

Project Activities

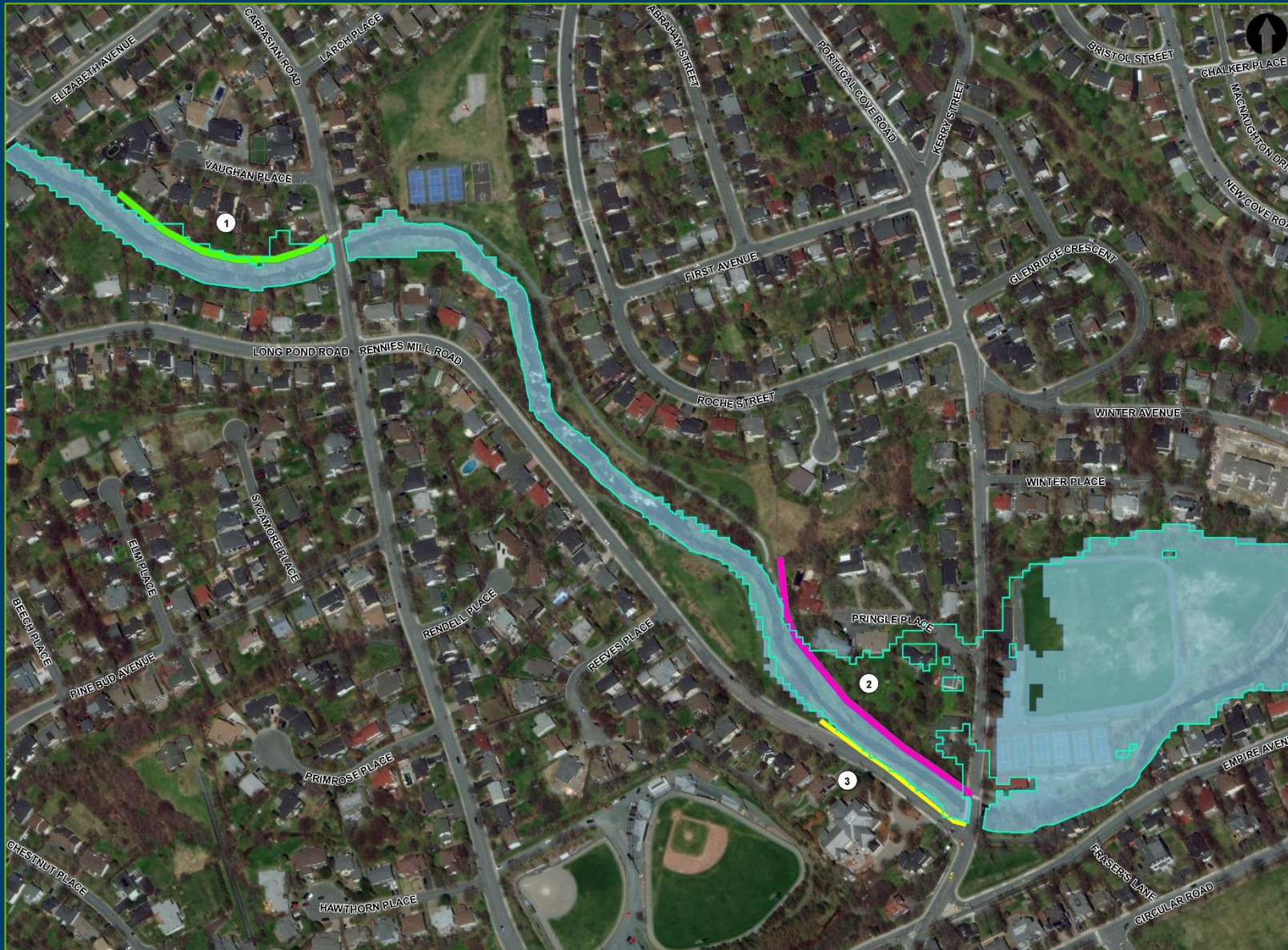
- **Operations and Maintenance**
 - Annual inspection of berm conditions (planting and structural)
 - Berm repairs including regrading and planting
 - Geotechnical inspection every 5 years



The Project

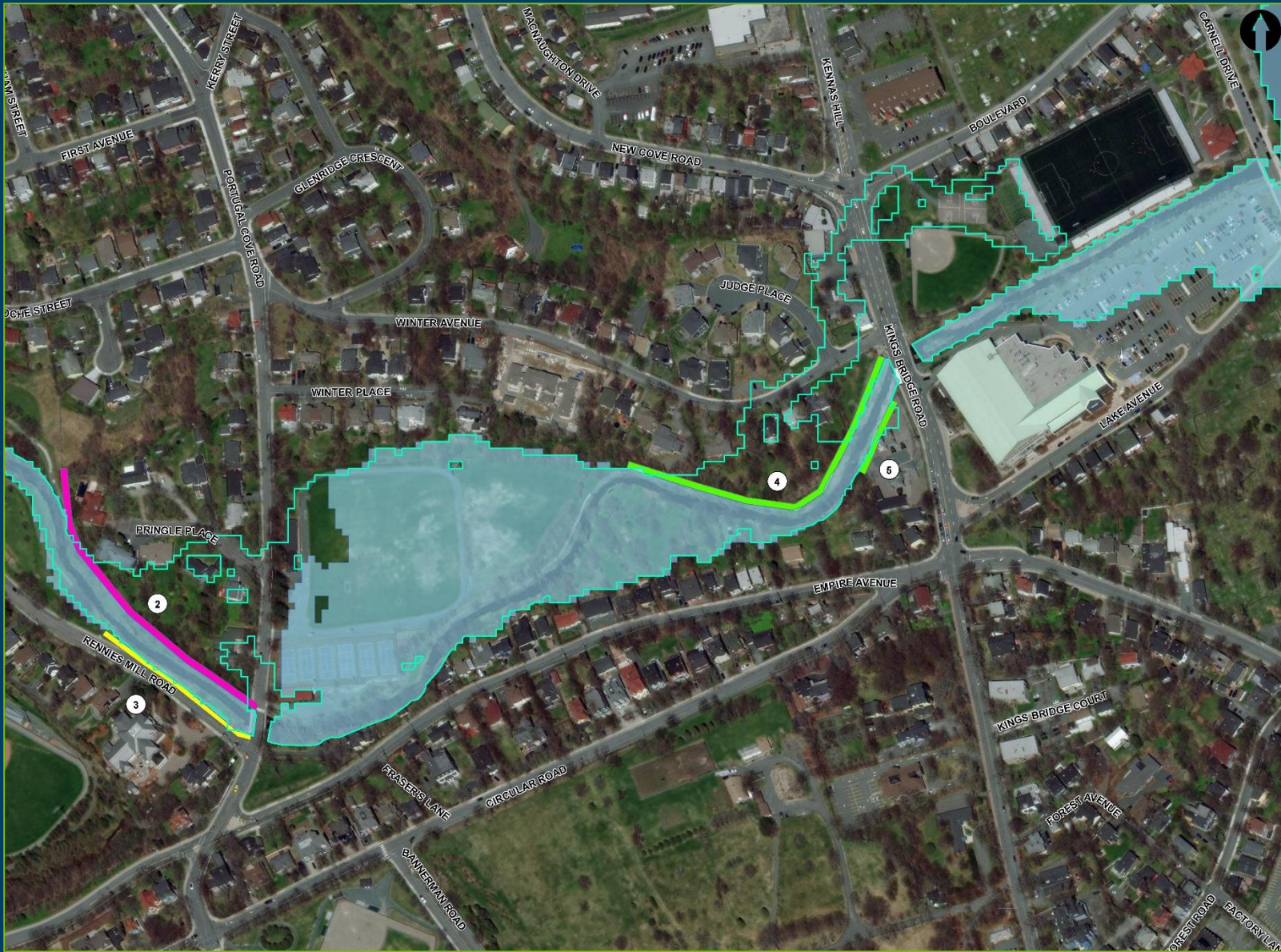


Project Schedule



Legend

- Proposed Earth Berm
- Proposed Cast-in-Place Concrete Wall
- Proposed Segmental Concrete Block Wall
- 100 AEP CC Existing
- 100 AEP CC Post Berm Construction

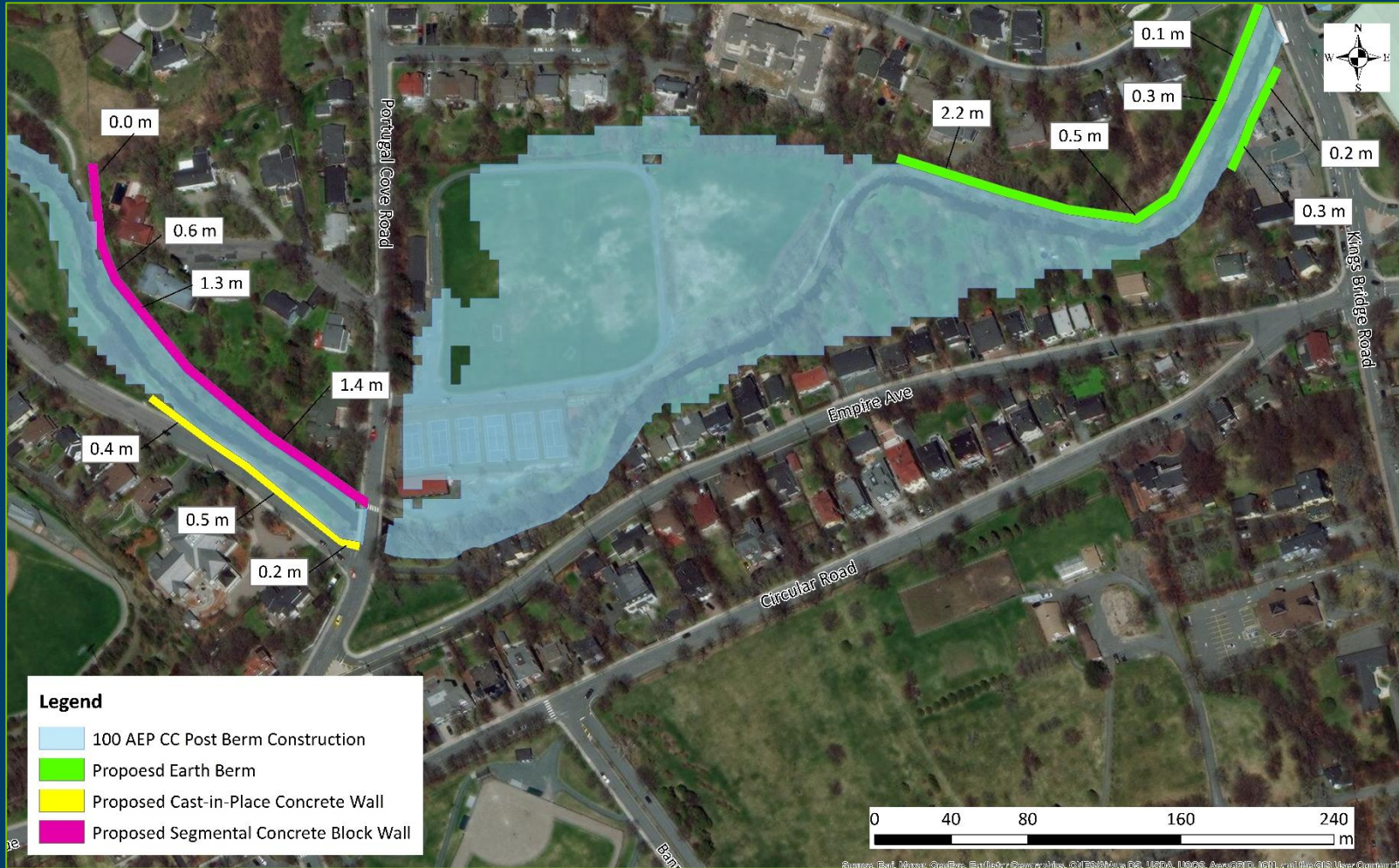


Legend

- Proposed Earth Berm
- Proposed Cast-in-Place Concrete Wall
- Proposed Segmental Concrete Block Wall
- 100 AEP CC Existing
- 100 AEP CC Post Berm Construction



Flooding and Surface Water Management



CBCCL Flooding and Surface Water Management



Permits and Authorizations

Minister of Environment, Climate Change and Municipalities

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

Public

- 35 days following posting of EADR to provide comments to Minister
- EADR will be available on the ECCM 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/>

The EADR document will also be reviewed by the City's Environment & Sustainability Experts Panel.



Permits and Authorizations

Permit, Approval, or Authorization	Applicable Legislation	Issuing Body
Approval for the Undertaking	Environmental Protection Act / Environmental Assessment Regulation	Minister of Environment, Climate Change and Municipalities
Development, Building, and Occupancy Permits	City of St. John's Act, RSNL 1990	St. John's City Council
Permit to Alter a Body of Water Schedule J - Miscellaneous Works in a Freshwater Body i.e. Other works not specific to above schedules	Water Resources Act, SNL 2002 and MAE Policy for Development in Wetlands	Department of Environment and Climate Change. Water Resources Management Division
Request for Review	Fisheries Act	Fisheries and Oceans Canada (DFO)



Thank you



Project Website

<https://www.engagestjohns.ca/rennie-s-river-flood-mitigation>



**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 completed. 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

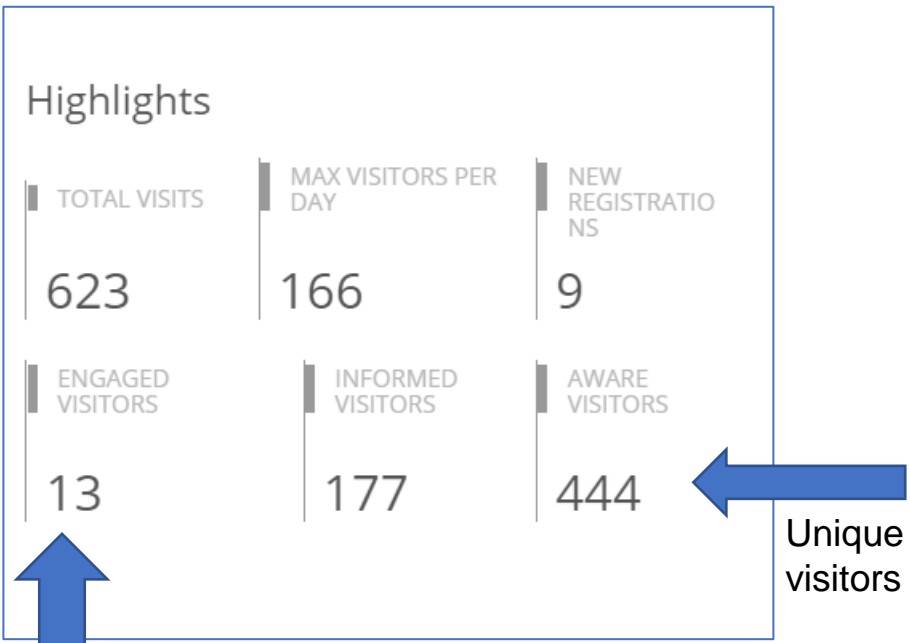
If you do not have online access you can call 311 or 754-CITY (2489)



Who Engaged



On engagestjohns.ca



Virtual Public session

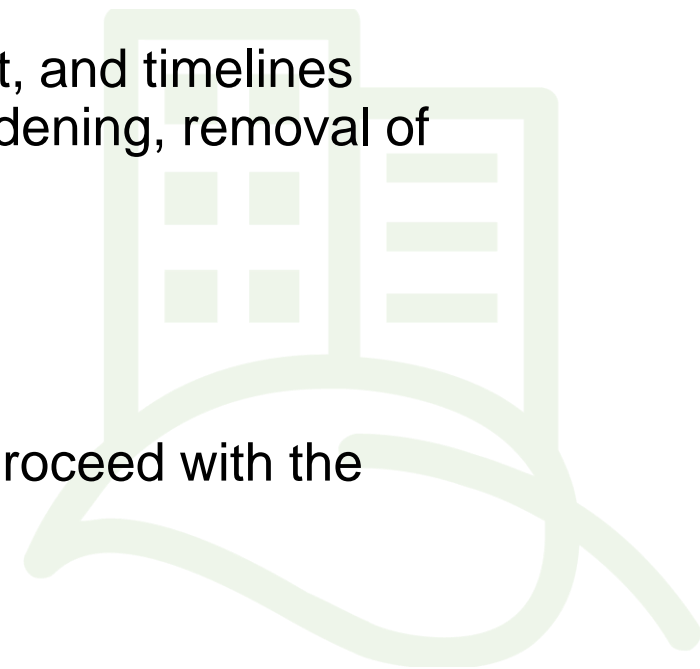
41 people – many of whom live in the immediate area

E-mail – two submissions

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

What we Heard Highlights

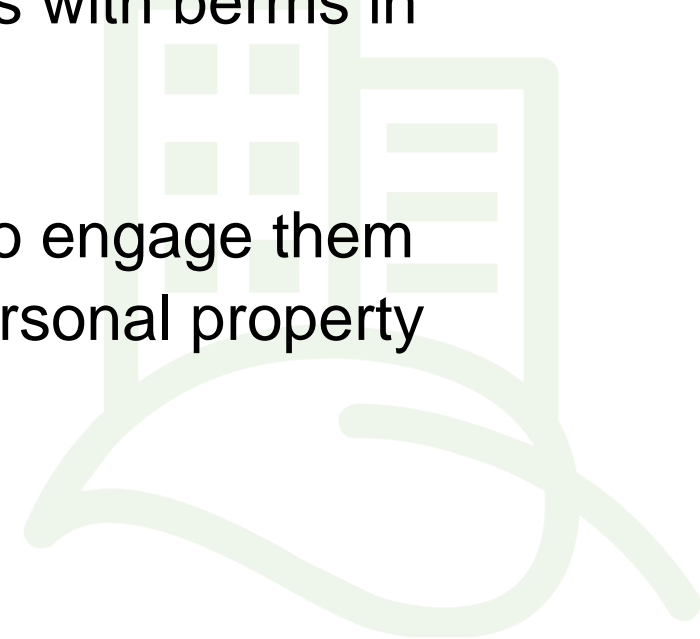
- A list of ALL questions/comments captured throughout the engagement process is at the end of this document. Answers to these questions can be found at engagestjohns.ca
- Key concerns/issues from all feedback were as follows:
 - health and beauty of the river
 - project proceeding without the weir project 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

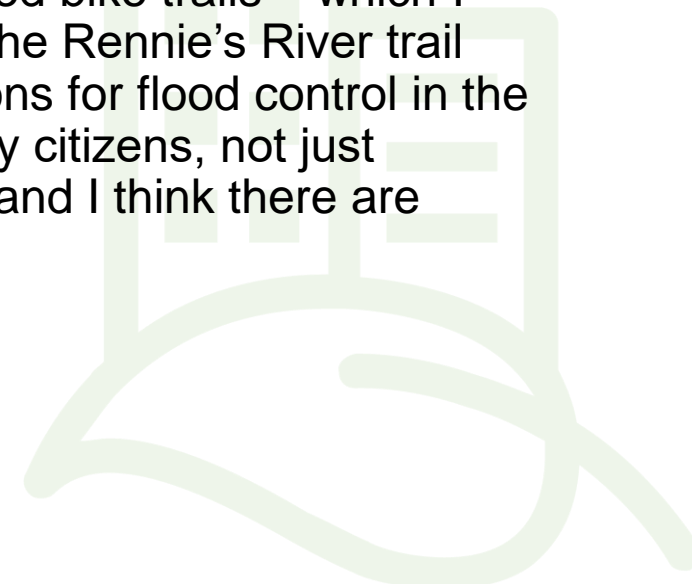
Key concerns/issues were as follows:

- 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 relocate 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

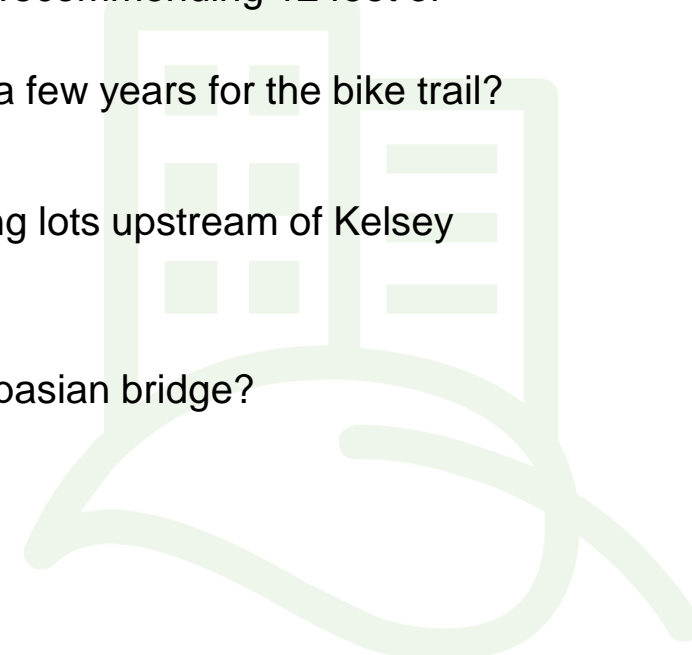
- I live across the river from Riverdale and the riverbank (city property) adjacent to my property has suffered significant erosion over the past number of years. The city remediated a portion of the riverbank in 2008 but the remainder continues to erode. How will building berms on the Riverdale side 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



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Lifecycle

- Public engagement
- Feedback collected & for what we heard do
- Provincial Environme

Rennies River Flood Mitigation Project

Phase II Information Session

November 17, 2020

Summary of Questions and Answers

Q. 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?

A. We have considered the hydrology of the river and are confident in what we are proposing, we understand where the question of elevation is coming from. It may appear the water will go over, but in fact as the water builds up a head and will go underneath the bridge. The water is contained with these measures in place.

Q. What has been done with the ground water flow study in the areas?

A. The hydrology was considered and “we” are confident in what we are proposing. It may appear that the water will go over, but as the water builds up it will go underneath. Water is contained with these measures in place.

Q. Is there risk that the assessment this needs to go through will be held up by the Province?

A. There is always a risk, this will be determined after feedback is received from the first submission and whether it needs to go to the next level of environmental assessment.

Q. 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?

A. Additional modelling was completed that reflects where the adult mental health facility is going to be constructed. There is a wet area there that has been backfilled and flood protection berm on both sides of Leary’s Brook upstream from Long Pond South of the Health Sciences Centre. All these facts have been taken into account in the design of these current improvements.

Q. How have you done the flood volume underneath the bridge with the amount of water seen in the past such as Igor with a pipe that is 2 inches thick and feeding an 8 inch pipe, only 2 inches can come through as the rest stays in the pipe or goes back? How can this bridge accommodate this flow?

A. The water builds up and it changes how it behaves. We can get more water through the bridge opening if it builds up a head at the bridge.

Q. 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?

A. Considered this based on good engineering and science. In terms of removing materials, the City has on occasion had to remove materials beneath bridges and culverts. This is a regular and ongoing process completed by the City. In an urban environment it is common that this occurs. We have also taken into account the various items including roughness of the river and vegetation in establishing the hydraulics of the river.

Q. 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?

A. An impermeable liner on the riverside will be tied to the ground and come up behind the back of the wall so water wouldn't get through. Where we have the liner there is that impermeability. Our purpose of the flood protection system is to control surface water levels, not ground water levels. It is in a flood event we want to control water.

Q. Is there any plan to mediate the riverbank across from the Riverdale Tennis Courts?

A. We haven't shown that work in the presentation, it will be included the environmental assessment registration document and plan to continue with an armour stone protection and will have to look at the detailed design and have to extend down 30-40 ft downstream. It is being looked at.

Q. 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?

A. The design for the bike trail is ongoing.

Q. How long has the City been waiting for the weir?

The City is not waiting on the province to build the weir, the City is planning on building the weir once we get the environmental approval. The process is still ongoing, and it is hard to put a timeframe on when or if it will ever be released for construction.

Construction of the weir, where it doesn't impact the effectiveness of the downstream flood mitigation works because the CBCL has modelled that, these flood mitigation measures that are proposed are constructed sort of alleviates the flooding concerns down in that area even without the weir in place. Even just building the weir and not doing the downstream improvements doesn't solve the problem down there. The downstream walls and berming need to happen to solve the overland flooding.

Q. Will the berm be wide enough for multiuse trails? Will you use the draft design for the bike plan to develop the design?

A. The proposed multi use trail width will be given consideration when designing the berms.

Q. 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?

A. The projects are interrelated, we will know more once we get the plan finalized. The bike plan is ongoing. It is difficult to know until we get more into the detailed design and start to make decisions on what we will do with those locations.

Q. What has changed since the 2014 study? Why would we now proceed without the weir that was recommended in Phase I at the time?

A. The City is still moving ahead with the weir, that has not changed. The process is still ongoing. The City has funding for this project. We are still of the opinion that the weir is an integral part. This project is looking to contain flood waters for very short periods of time when we have peak flooding. If there are lengthy technical comments, anyone who has a background and wants to make a technical comment should do so for consideration.

Q. Have you considered head waters?

A. It has been considered and dealt with through hydraulic modelling.

Q. Is the proposed infrastructure sufficient to handle projected climate change impacts?

A. It is a tricky business, but yes we have addressed climate change. A 1:100 Year Design Storm including Climate Change, was utilized for the modelling and design.

Q. Did we adjust estimates based on the Province's decision to fill in the wetland by the Health Sciences Centre?

A. Yes, we had to go back and redo our modelling based on that area being filled in and changed from a wetland to dryland. Some of the figures reported in the 2014 tables are not accurate now as we had to change the modelling. The recommendations are still valid.

Q. Where will the width come from for the trail to be expanded for multiuse? The bike plan is recommending 12 feet of space.

A. The design work hasn't started yet. The section mentioned is not a part of the current Kelly's Brook alignment. Based on work in the bike master plan this is a challenging section to make accessible because of the stairs further upstream near Larch Park. One option is taking the multiuse trail and putting it on the opposite side of the river, not part of the work we are currently doing for the Kelly's Brook Trail. Options will be investigated, but we are still a couple of years out.

Q. 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?

A. During the design process we will figure out what can go there, that may inform the decision on whether the trail goes through that area or if we bring the trail up on the street to Empire Avenue.

Q. How long have we been waiting on results for the weir project?

A. We received comments back from the province mid-summer, looking at revised EPR submission to the province that will kick start the EPR process again.

Q. 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?

A. With the design of these flood protection measures we have considered the head waters which is Kelsey Drive area and Kenmount Terrace area, north of Kenmount Road has been considered and will be dealt with.

Q. Can Pippy Park stall this project further?

A. Pippy Park is a commission of government and is a large stakeholder and yes they could delay completion of the Long Pond Weir.

Q. Will the river back up and flow over the land of the homes opposite the berms? At the Carpasian bridge.

A. Upstream from the bridge the land is high enough on that side. The yards along the river near Empire Avenue have been considered. The homes are higher than the projected flood levels. The homes would be okay in a peak flood situation, consideration was given to the yards and it was decided to not add berms on that side.

Q. How will we know when the environmental assessment is submitted?

A. We can make an update to the engage page when we make a submission.

Q. Did you consider alternatives to putting the weir dam in Pippy Park?

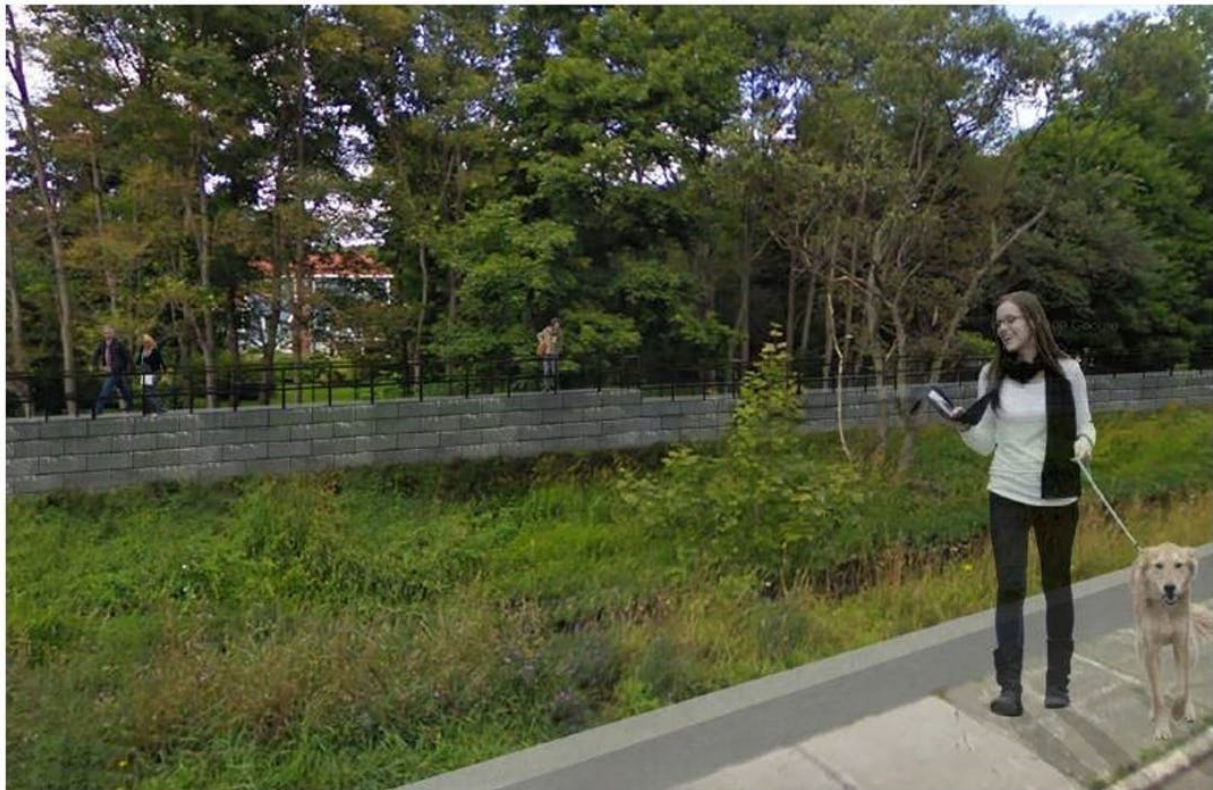
A. We looked at different options and studied it extensively. The challenge is the need for a large area, we need an existing body of water like Long Pond to add water to the top of that pond. We need a big area to have any significant effect on controlling flood water and reducing the peak in a flood event.

Other note: Residents on 3, 5 and 6 Pringle Place would like to see things left alone until such time that something is done to control the amount of water coming into the river.



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Rennie's River Flood Mitigation



The consultation has concluded and a what we heard document is in development.

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 completed. 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.





Review the materials on this page, sign up for the virtual public session or post a question related to the project below. Feedback gathered through this project will be included in the City's submission to the Government of NL.

QUESTIONS

CLOSED: This discussion has concluded.

Review the FAQs. Can't find what you are looking for? Post your question here and someone will get back to you soon.





- Climate Impacts (1)
- Environment Assessment (1)
- Natural Environment (1)
- Berming (1)
- Pringle Place (2)
- Water Table (1)
- Empire Avenue (1)
- Riverdale (2)
- Fieldian Grounds (1)
- Flooding Riverdale (1)
- Flooding Feildian (1)
- Kellys Brook Trail (1)
- Trees (2)
- Runoff (1)
- Environmental Assessment (1)
- Berm (1)
- Berms (2)
- Retaining Wall (1)
- Fence (1)
- Costs (1)
- Budget (1)

Q **What is the estimated cost to construct the berm upstream from Portugal Cove Road to the bottom of the Larch Place Park steps?**    

David Winter asked, 11 days ago

The flood mitigation works behind Pringle Place must also include the work along Rennie's Mill Rd, as well as, on the upstream side of the bridge parapet at Portugal Cove Rd. The estimate to complete the flood mitigation in this area (which includes costs for engineering, construction and HST) is \$1.5M.

#Costs #Budget

Q **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. Rennies 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.**    

Fred Hubley asked, 12 days ago

Thank you for your question. During detailed design, special attention will be given to areas where water could become trapped; the design solution will ensure that excessive amounts of water does not build up in isolated areas during significant rainfall events. The proposed berms will be constructed on existing trails; therefore, excavation of river banks will be limited. Any excavation that does occur will be reinstated. For areas where erosion protection is required, there will be some excavation in the river; however, the erosion protection design will minimize the amount of required excavation. Standard practices, including the use of silt fences, will be employed during construction to protect the Rennie's River.

Q 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.
Walker and biologist asked, 5 days ago



Your comments are duly noted. Thank you for providing your feedback.

Q Some of my concerns were addressed at your meeting. Put my hand up but did not get called. The resident of Pringle Place, Brian I believe, hit on a major issue I have. 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.
Fred Hubley asked, 13 days ago



Concerns raised are duly noted. Not sure why your raise hand did not work effectively in Teams. We can certainly test that out for a future session in advance. The river system has been hydraulically modelled incorporating the proposed flood mitigation measures. The berms will be designed in consideration of water levels that would be experienced during a significant runoff event. For the Portugal Cove Road bridge, it is proposed that the existing safety rail on the upstream side of the bridge be raised by approximately 0.2 m by constructing a concrete wall. The elevation of the top of this new wall will match the elevation of the berms on either side of the river at the bridge. Project funding budget is noted in the FAQs.



What's the opinion of the Grand Concourse Authority on your project?

Fred Hubley asked, 10 days ago



Council directed staff to engage with area residents prior to the environmental assessment submission to the province. Any other stakeholders, including the Grand Concourse, would get an opportunity to comment through the Province's process.



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 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.

Riverleigh asked, 13 days ago



As part of the current flood protection work, the City is planning to provide erosion protection for this section of river bank. It is likely that armour stone, similar to the stone currently in place along this river bank, will be placed along the unprotected section. The intention is not to remove mature trees.

#Berms #Riverdale #Trees



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, ie 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? - posted on behalf of David Winter

15 days ago



At the rear of 3 Pringle Place there will be a concrete retaining wall structure along the trail alignment. Canadian Building code requires a minimum 1,050mm high handrail / fence along the top of the retaining wall adjacent to the elevated walking trail. The detailed design for the handrail / fence have not been started. Homeowners will be consulted on their preference of the fence height adjacent to their property. The concrete retaining wall design can accommodate a 1,800mm high fence at the top of the wall. Adding a 1,800mm high fence to the top of this retaining wall will increase the overall structure height (retaining wall 1,350mm plus fence 1,800mm) to 3,150mm at the rear of 3 Pringle Place.

#Retaining Wall #Fence



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?

David Winter asked, 17 days ago

As noted in the August 24, 2020 Decision Note, one of the concerns raised during the December 19, 2018, Committee of the Whole meeting was what would be the affect with proceeding with Phase 2A flood mitigation works prior to the completion of the Long Pond Weir Project. (This issue was raised through Council via email from area residents.) CBCL were subsequently hired to undertake additional storm water modelling to review the impact of the downstream phasing sequence in the absence of the Long Pond Weir being completed. Completion of the Long Pond Weir alone will not offer flood protection to accommodate the 1:100 AEP Climate Change design storm. The recent modelling completed by CBCL, as the alternative project phasing sequence, allows for the Phase 2 works to be completed in advance of completion of the Long Pond Weir and provide the necessary 1:100 AEP Climate Change flood mitigation to properties at Pringle Place, Winter Ave, Vaughan Place, Kings Bridge Road and The Boulevard.

#Berms

Q Why didn't the City register the entire project (i.e. Phases 1 and 2) under provisions of the Environmental Assessment Regulations, 2003?



mwawrzkow asked, 24 days ago

The Rennie's River Flood Mitigation effort is being carried out over several years. As funding becomes available to address one of the priority areas, the particular area becomes a project. An environmental assessment will be carried out for each project in accordance with the Province's requirements.

#Environmental Assessment

Q 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.



Runner biker asked, 25 days ago

While this page is dedicated to the Rennie's River Flood Mitigation Project – Phase 2, there is a separate engagement page for the Kelly's Brook Shared Use Path Project.
<https://www.engagestjohns.ca/kelly-s-brook-trail-catalyst-project-1-bike-master-plan>

Nonetheless, there are no plans to remove a significant number of trees. There is, in fact, a tree protection plan required as part of the detailed design work for the Kelly's Brook Shared Use Path Project. The surface material selected for this multi-use trail will be informed by public feedback and a technical evaluation of the costs, impacts, and benefits of different options. Runoff from a pavement surface will be considered as part of this evaluation.

#Kellys Brook Trail #Trees #Runoff

1

2

Lifecycle



Public engagement



Feedback collected and being prepared for what we heard document



Provincial Environmental Assessment Process

FAQs

What is the scope and status of Phase 1 of this project?

What is included in Phase 2?

Why are you proceeding with Phase 2 when Phase 1 has not been completed?

I live along the river, how will I be impacted by the proposed Phase 2 work?

What happens after you collect feedback on Phase 2?

Why are you doing this project?



What are the pros and cons of proceeding with Phase 2 work?

How will this project be funded?

When would this project be completed?

The Bike Master Plan and its recommended multi-use trail projects are within the scope of this project. How will the city ensure the two projects connect?

Documents

-  Rennie's River EA Presentation Nov 17 2020.pdf (5.31 MB) (pdf)
-  Decision Note to Council with Maps (872 KB) (pdf)

Important Links

-  [Rennies River Catchment Stormwater Management Plan](#)

Who's Listening

Councillor Ian Froude

Council lead - Public Works & Sustainability

Phone 576-8217

Email ifroude@stjohns.ca



Scott Winsor, P. Eng.

Director, Engineering

Department of Planning, Engineering & Regulatory Services

Email swinsor@stjohns.ca



Key Dates

Virtual Public Meeting 7 to 8:30 p.m.

17 November 2020

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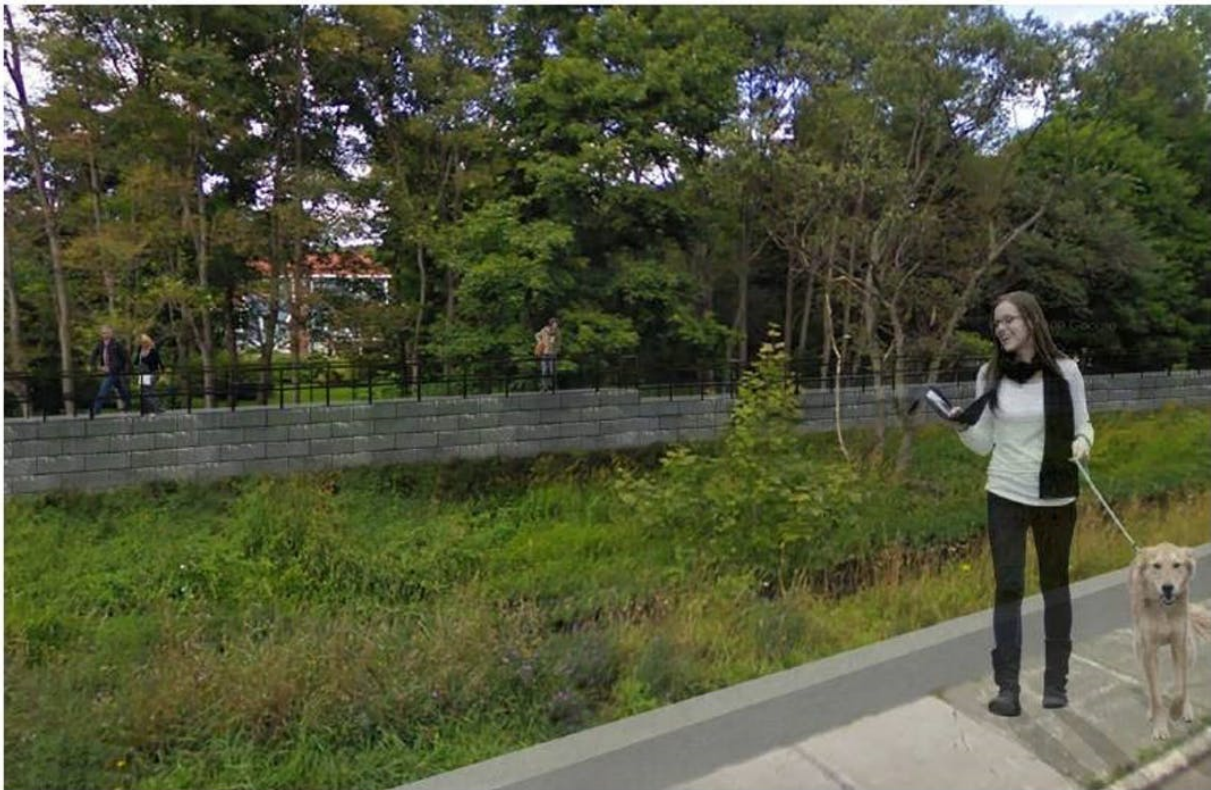
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Rennie's River Flood Mitigation



The consultation has concluded and a what we heard document is in development.

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.

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	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 completed. 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.

Review the materials on this page, sign up for the virtual public session or post a question related to the project below. Feedback gathered through this project will be included in the City's submission to the Government of NL.

QUESTIONS

CLOSED: This discussion has concluded.

Review the FAQs. Can't find what you are looking for? Post your question here and someone will get back to you soon.

- Climate Impacts (1)
- Environment Assessment (1)
- Natural Environment (1)
- Berming (1)
- Pringle Place (2)
- Water Table (1)
- Empire Avenue (1)
- Riverdale (2)
- Fieldian Grounds (1)
- Flooding Riverdale (1)
- Flooding Feildian (1)
- Kellys Brook Trail (1)
- Trees (2)
- Runoff (1)
- Environmental Assessment (1)
- Berm (1)
- Berms (2)
- Retaining Wall (1)
- Fence (1)
- Costs (1)
- Budget (1)

Q 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?
David Winter asked, 20 days ago

A review of available elevation data indicates that there are existing low points in the rear yard of 3 Pringle Place that are lower than the elevation of the existing trail. Therefore, during a heavy rain event, it appears that water would be trapped in the yard until in seeps into the ground. The rear yard and trail elevations will be checked during detailed design.

#Pringle Place

Q What is the plan to mitigate flood risk for Feildian Grounds and Riverdale? Why was this not included?
Brett Williams asked, 27 days ago

Flood mitigation measures (berming) adjacent to Feildian Grounds and Empire Ave properties will have an ecological impact to the river system by the removal of large mature trees in the area. In addition, the Riverdale Tennis Club would be impacted by the flood mitigation measure (retaining walls) causing the loss of some of the playing surface on the eastern end of the property.



It is possible that the flood mitigation measures could be completed in the future if property owners, residents, Council and regulatory authorities, ie. Department of Environment and DFO, are agreeable to allowing these impacts. As well, the flood mitigation structure (Weir) at Long Pond would need to be constructed prior to completing this work.

#Riverdale #Feildian Grounds



What is the flooding history in the Riverdale/Feildian Grounds area?

Jim Vivian asked, 26 days ago



The City does not keep flood history records specific to private properties. However, you may be able to access some archival photos or newspaper clippings from past flood events from City Archives. Attached for information are some photos of the area taken on September 21, 2010 during Hurricane Igor.



Feildian Grounds - Igor



Riverdale - Igor



Pringle Place - Igor

#Flooding Riverdale #Flooding Feildian

Q

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?

bojanfurst asked, 27 days ago



The City is presently in the process of preparing and submitting an Environmental Assessment Registration Document (EARD) to the Newfoundland and Labrador Department of Environment, Climate Change, and Municipalities. As part of the EARD, an assessment of effects to vegetation, wildlife and flood reduction is being completed. The assessment includes predictive flood models based on topography and predicted water flow for 1:100 annual exceedance probability (AEP) with climate change. The potential flood protection berms have been identified at locations along Rennie's River to provide protection to areas, homes, and infrastructure within the floodplain. The sizes of the structures have been designed to balance minimizing areas of effects within riparian areas of the river, while attempting to maximize areas of flood protection. The flood protection berms will be integrated into the public trail system. Three types of berm are being considered. Where earthen berms are proposed they will be reseeded with non-invasive vegetation to provide stability to the slopes. When limited space is available between the riverbank and other adjacent

infrastructure, cast-in-place concrete wall or segmental concrete block wall will be considered to minimize effects to adjacent properties and reduce overall space required for the berm. Further, the impacts of the new Adult Mental Health and Addictions Facility (NAMHAF) site have been accounted for in the development of proposed flood protection measures.

The flood mitigation infrastructure on Rennie's River is being designed to a 1:100 AEP storm incorporating the Climate Change projections for the City of St. John's. This means that even with the projected impacts of climate change in mind, the probability of flooding would be about 1% in any given year. The Climate Change plan is conducting a high level risk assessment (HLRA) to various hazards with internal and external stakeholders including various infrastructure systems in our community. This HLRA will help identify areas where similar risks to the ones being addressed in Rennie's River exist currently or could exist in the future and identify an approach to begin addressing them. This may lead to studies to better understand the hazards or recommendations for specific projects that are already well understood. To become engaged or to share your experience on the climate plan please visit <https://www.engagestjohns.ca/planning-for-sustainable-future/maps/map-hazards-you-have-seenexperienced>.

#Climate Impacts #Environment Assessment



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?

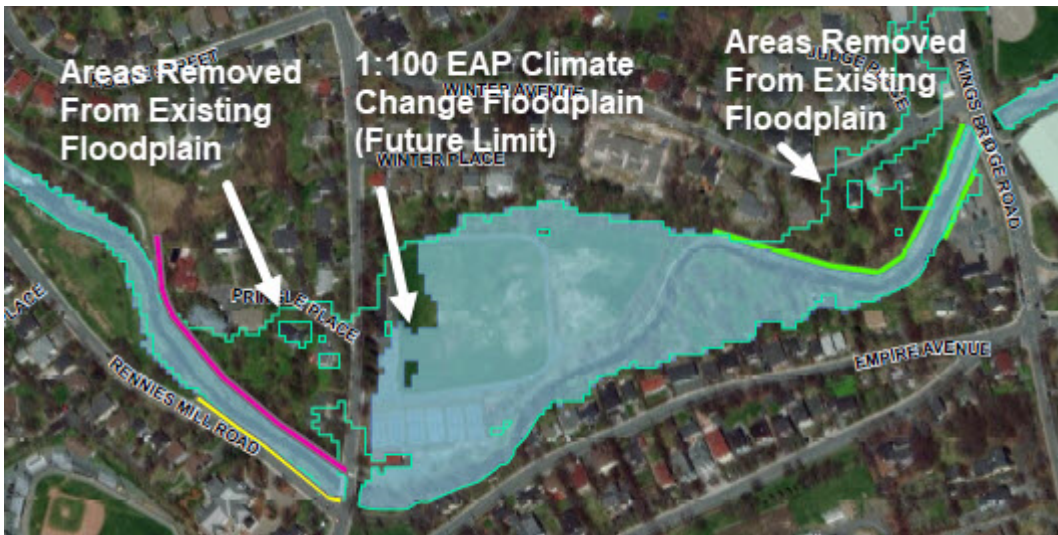


David Winter asked, 27 days ago

The proposed berm located at the rear of 3 Pringle Place will reduce the likelihood of flooding from Rennie's River on this property. The sketches below show the existing 1:100 AEP Climate Change Floodplain mapping for the Existing and Future conditions.



Existing



Future

For your second question: No, the flood plain mapping does not take the water table into account. Flood plain mapping shows the limits of over land flooding from a surface water body such as a brook or river. For properties constructed adjacent to a river or other bodies of water, groundwater is in inherent issue based on location. Protection of private property from groundwater issues is not within the City's purview and is not a part of the scope for this project.

#Pringle Place #Water Table

Q 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?



JonDuke asked, 27 days ago

The scope of the project is what was recommended as the alternative sequencing per the August 24, 2020 Decision Note to Council. The City will consider the feedback received through the consultation process prior to making the Environmental Assessment submission to the Province. Furthermore, the "What We Heard" feedback from the Virtual Public Meeting will be compiled and included with our documentation to the Province. At anytime during the process, Council could decide to not proceed with the project based on the engagement or other factors.

Q Will the work completed increase the frequency and/or severity to flooding to the homes on Empire Avenue?



mconway asked, 27 days ago

No, the proposed work will not increase the frequency or severity of flooding along Empire Avenue.

#Empire Avenue



Will the natural beauty of the trail along the river be affected?

Jean R asked, 27 days ago



The earthen berming and retaining walls will elevate the river trail and give trail users some better views of the river ecosystem. The earthen berming will maintain the existing trail alignment and will have naturalized side slopes that will blend naturally into the existing environment.

#Natural Environment #Berming



At present I have a 6 ft. Chain Link (placed at my cost) security fence at the rear of my property on 3 Pringle Place as separation from the existing Rennies River Trail and will it be removed?. Can you provide to me an artist view of what I will look at from my property if the 1.3m berm is constructed and will there be an appropriate security fence provided for my property?

David Winter asked, 20 days ago



It is not likely that the fence will have to be removed in order to accommodate the construction of the wall (berm). If it becomes apparent during the detailed design stage of the project that the fence may need to be removed, the property owner will be consulted before plans are finalized.

The look of the wall will resemble that which is shown on the main page of the Engage web-site.

#Berm

Lifecycle



Public engagement



Feedback collected and being prepared for what we heard document



Provincial Environmental Assessment Process

FAQs

What is the scope and status of Phase 1 of this project?

What is included in Phase 2?

Why are you proceeding with Phase 2 when Phase 1 has not been completed?

I live along the river, how will I be impacted by the proposed Phase 2 work?

What happens after you collect feedback on Phase 2?

Why are you doing this project?


What are the pros and cons of proceeding with Phase 2 work?

How will this project be funded?

When would this project be completed?

The Bike Master Plan and its recommended multi-use trail projects are within the scope of this project. How will the city ensure the two projects connect?

Documents

 Rennie's River EA Presentation Nov 17 2020.pdf (5.31 MB) (pdf)

 Decision Note to Council with Maps (872 KB) (pdf)

Important Links

 [Rennies River Catchment Stormwater Management Plan](#)

Who's Listening

Councillor Ian Froude

Council lead - Public Works & Sustainability



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Key Dates

Virtual Public Meeting 7 to 8:30 p.m.

17 November 2020

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