













MEMORANDUM OF UNDERSTANDING

BETWEEN:

MUNICIPALITY OF THE DISTRICT OF LUNENBURG, a municipal body corporate, pursuant to the <u>Municipal Government Act</u>, S.N.S., 1998, chapter 18, with its office in the Town of Bridgewater, in the County of Lunenburg and Province of Nova Scotia;

(hereinafter called "MODL")

OF THE FIRST PART

- and -

MUNICIPALITY OF THE DISTRICT OF CHESTER, a municipal body corporate, pursuant to the <u>Municipal Government Act</u>, S.N.S., 1998, chapter 18, with its office in Chester, in the County of Lunenburg and Province of Nova Scotia;

(hereinafter called "MODC")

OF THE SECOND PART

Request For Proposals

Sherbrooke Lake Park Design

Closing May 30, 2018, 2:00 p.m. local time

Mandatory Site Visit – May 14, 2018, 11:00 a.m. local time

Municipal Administration Building 210 Aberdeen St. Bridgewater NS B4V 2S9

Consultation:

Deep Cove and Wil-Dor Park Representatives Fire Services and RCMP MODL and MODC Adjacent Neighbours Sherbrooke Lake Stewardship Committee















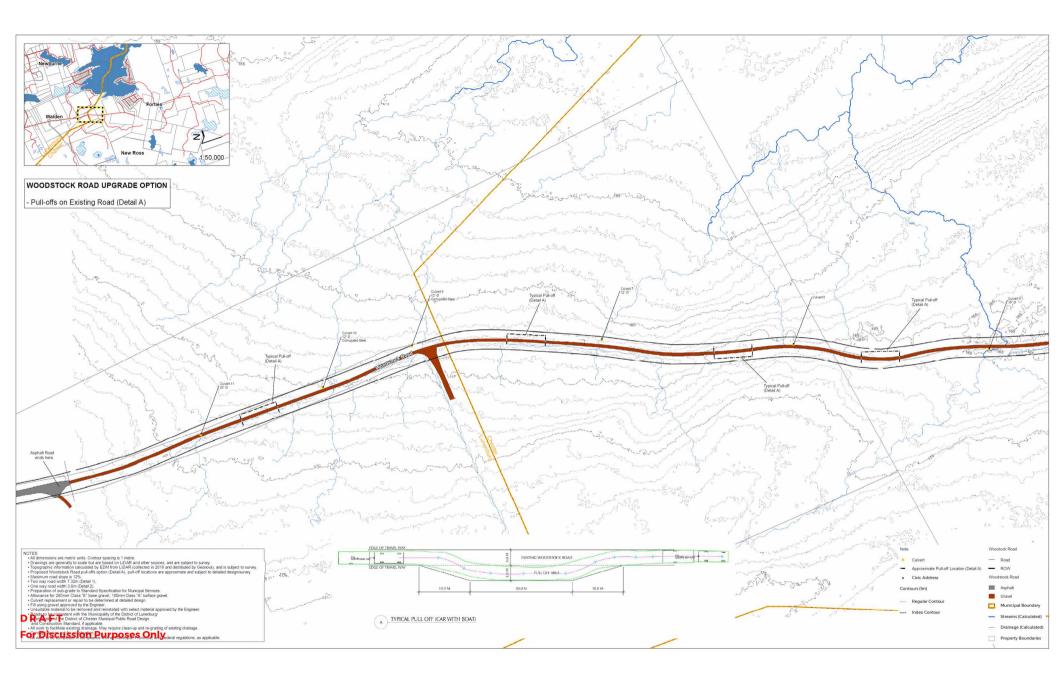






















Project Sheets

7.0

Picnic Area



Project Description and Budget Estimate

- · Area to share meals and congregate.
- · Picnic tables nested in the large trees along the shoreline.
- · Large trees to be retained and sand to be used where needed to create sites for
- Shoreline swimming, natural play and washroom pavilion visible from picnic areas and connected by shoreline trail.

Estimated Value: \$5,000















Hiking Trails

Project Description and Budget Estimate

- Trails connect park features, guide user's through the forest and span the entire prop-
- Includes a range of types from foot paths to paved accessible trails.
- Trailhead signage at entrance points.
- Convert a portion of existing north driveway to lower trail.
- Boulders used to limit access of ATVs.
- Hiking trails
- Backwoods trail (400 m): \$4,300
- Road conversion (150 m) and trail construction (100 m): \$8,500
- Pave trail in shoreline park (100 m): \$16,000

Estimated Value: \$28,800











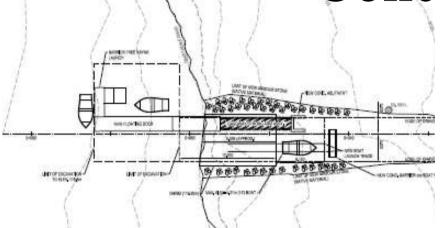


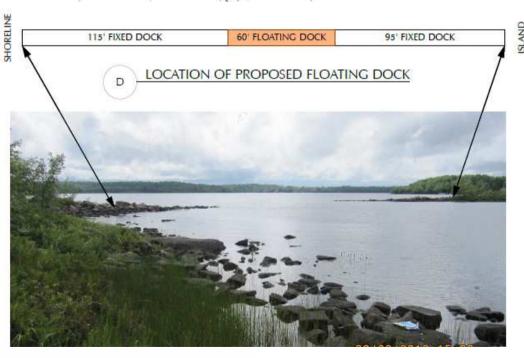


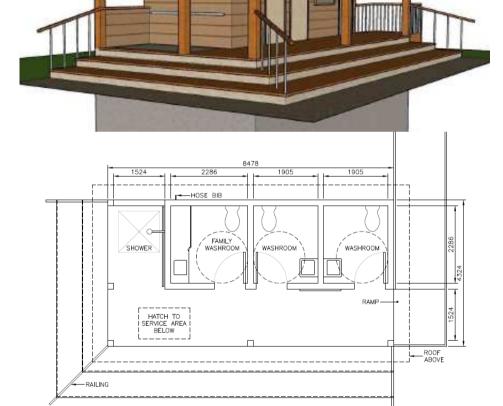




Concept Details









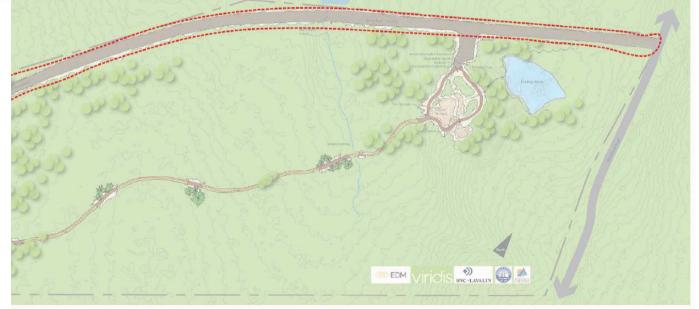












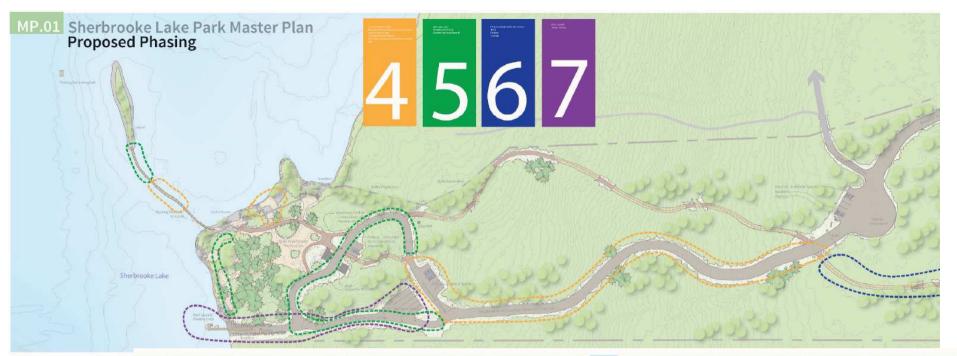




































Draft Report Presentation

• MODC

- Woodstock Road Fire Access
- Liability re Buoys

• MODL

- Navigable Waters
- Fire
- Parking
- Safety
- Phasing of Boat Launch











Fire Concerns

- Woodstock Road
- Pull offs every 200 m
- Road bed width wider than travel width
- Trimming Vegetation
- Boat Launch Water Access < 30 ft
- Dry Hydrant
- Beaver/Fire Pond











Buoys and Navigation

- Deep Cove → Wil-Dor Park
- Sherbrooke Lake → No standard convention
- Signage → Use at your own risk
- Swimming and Boating
- Navigable Water Protection Act
 - Sherbrooke Lake not listed
 - Consultation with Transport Canada











Parking, Boat Launch and Safety

- Parking → Adaptive Management Plan
- Boat Launch Phase
 - Buffer to Adjacent Lands
- Floating Walkway to Shoal Island Safety
 - Adaptive Management Plan











Next Steps

- Adaptive Management Plan
 - Sherbrooke Lake Advisory Committee
 - First Draft of Detailed Plan
 - Baseline Conditions
- Phased Plan
 - Phase 0 Risk Management
 - Phase 1 Woodstock Road Engineered Design
 - Report and Project Sheets
- Digital Data Delivery





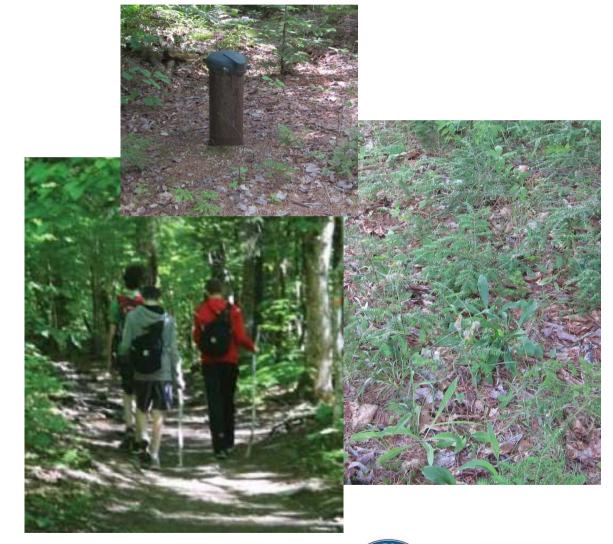






Next Steps

- Identify projects which reduce risk to later phases and seek to engage the community
- Water tested in wells
- Vegetated Buffers
- Signage
- Boat launch route to deep water







































Sherbrooke Lake
Water Quality Report
2013



D. Barrie Clarke (clarke@dal.ca)

LaHave River Watershed Committee

Sherbrooke Lake
Water Quality Report
2015



D. Barrie Clarke (clarke@dal.ca)
LaHave River Watershed Committee

Sherbrooke Lake
Water Quality Report
2017



D. Barrie Clarke (clarke@dal.ca)

*** FINAL REPORT IN THIS SERIES ***

Final Report

Of the

Sherbrooke Lake Access Advisory Committee

June 2016

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(hereinafter called "MOOC")

OF THE SECOND PART

Public Access should have an environmental focus

Public Access should be safe, clean and secure Public Access should be accessible for the general public

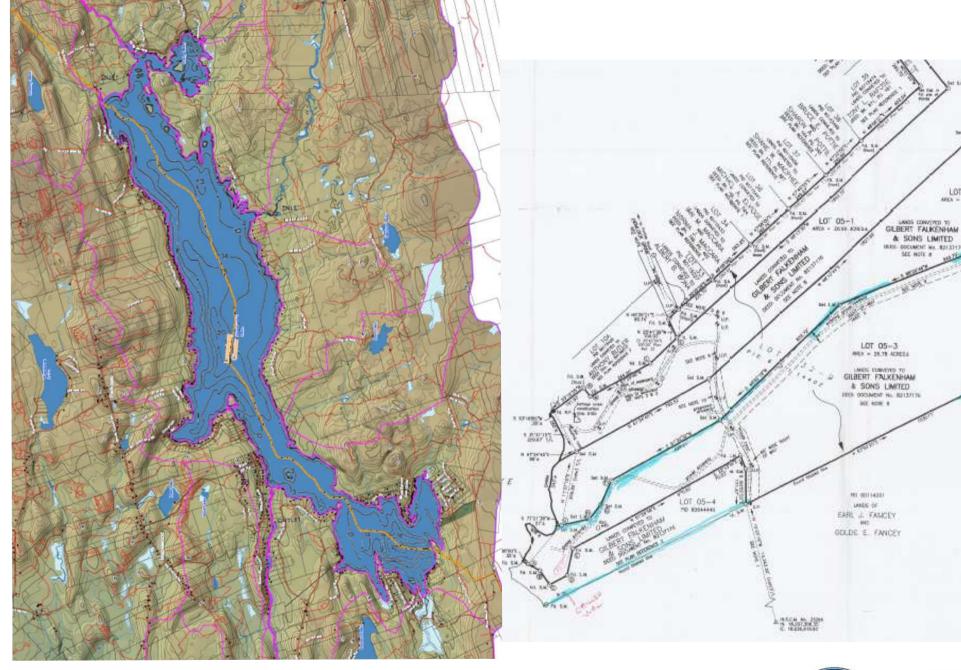














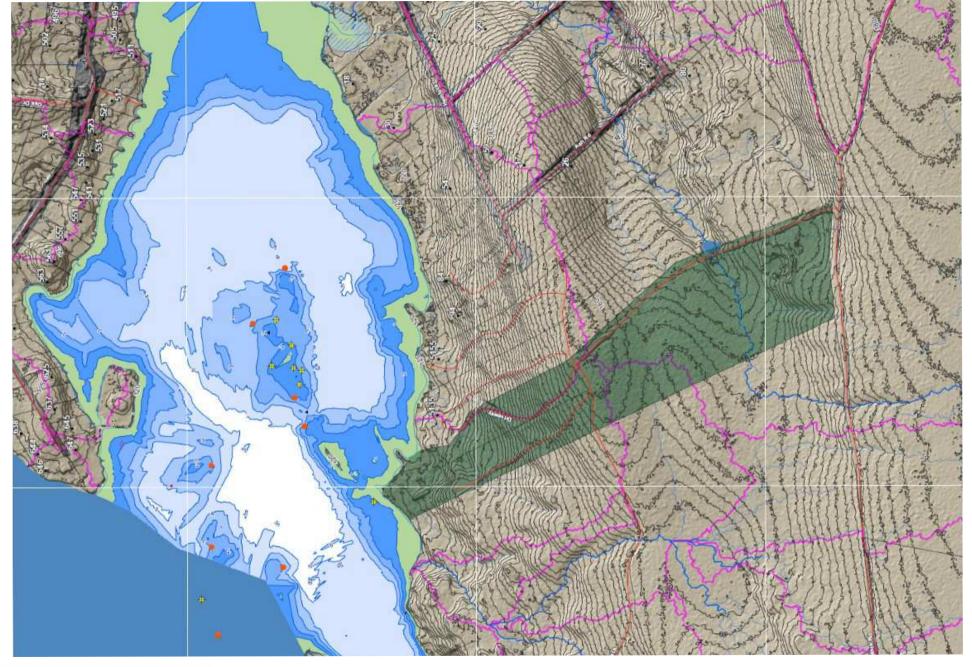








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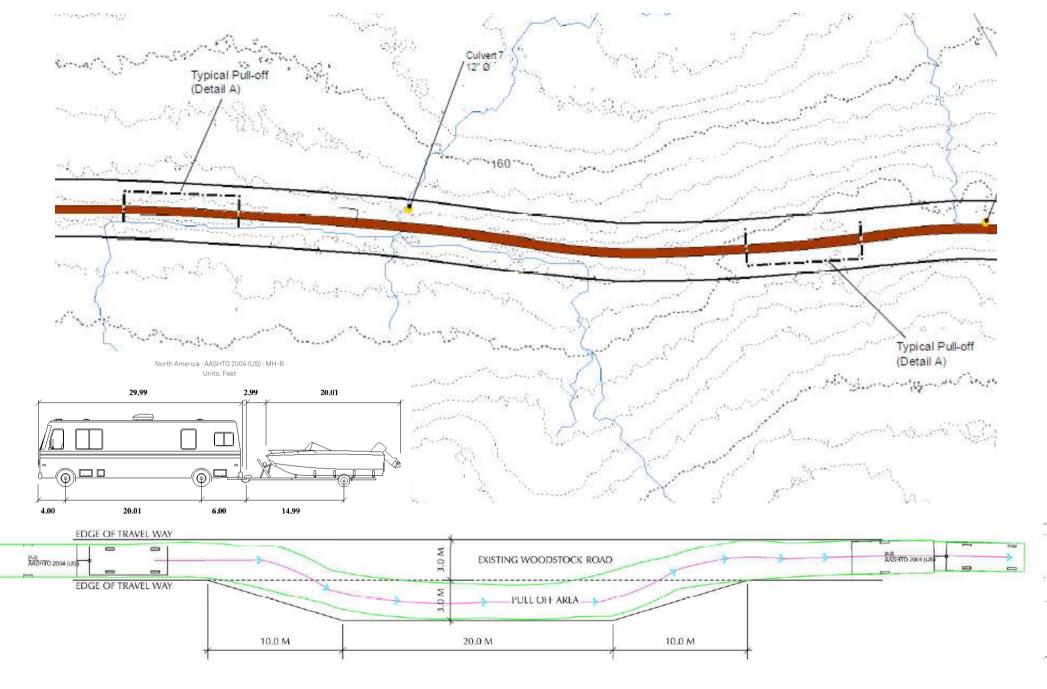












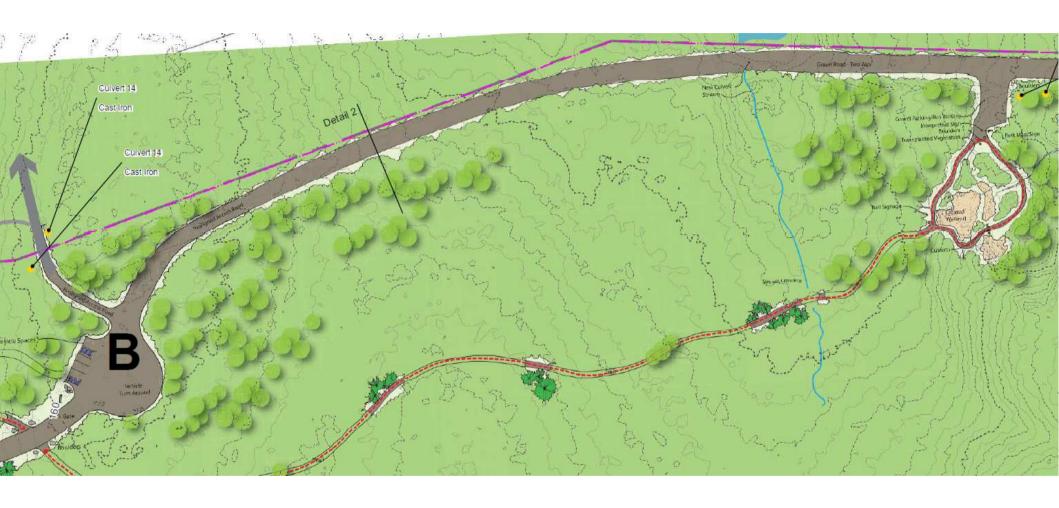












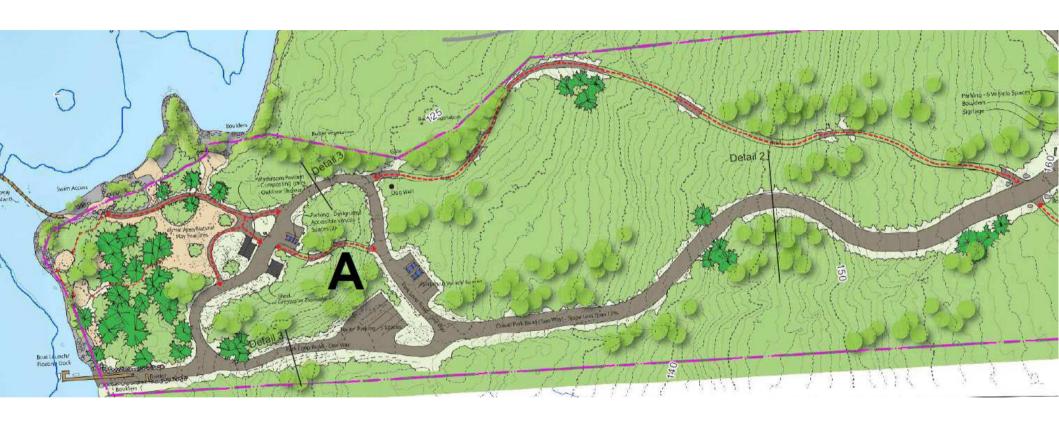
















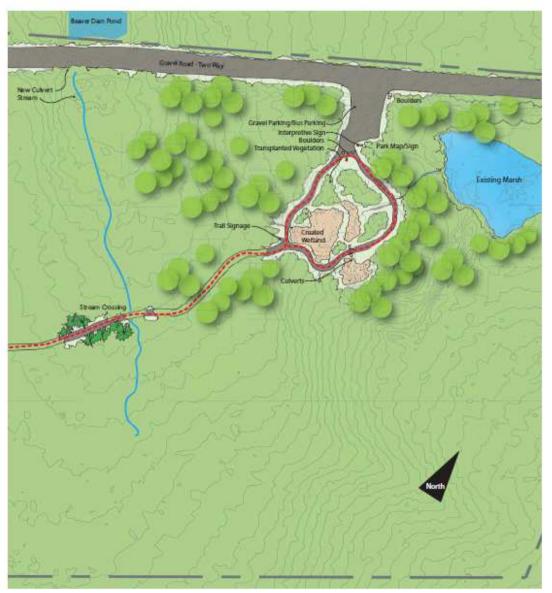






10.0

Pit Restoration & Wetland Creation



Project Description and Budget Estimate

- · Restore the sand/gravel pit area by enhancing a wet area to a wetland.
- · Bus Parking at the entrance to the restoration area.
- · Interpretive signage and map of the park.
- Trail system loops through the restoration area and serves as the start of the backwoods trail.
- Area to be used as a source of sand/gravel during construction of picnic areas, shoreline swim and other park elements.
- During construction any wetland and upland vegetation to be cleared can be transplanted to the restoration/wetland area.
- Opportunity for children's/community groups to participate in planting vegetation.
- Trails to include culverts to ensure drainage to wetland.

Estimated Value: \$7,000



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5.0

Gate(s)

Project Description and Budget Estimate

- The property will be gated.
- Gate keeper employed by MODL
- · Park open from 8 am to 9 pm, May to October.
- Additional gate to block entrance to neighbouring driveway, moved according to phasing.
- Gate access (keys or code) to be provided to neighbouring property owner for emergency access.

Estimated Value: \$6,000



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Hiking Trails

Project Description and Budget Estimate

- Trails connect park features, guide user's through the forest and span the entire property.
- · Includes a range of types from foot paths to paved accessible trails.
- Trailhead signage at entrance points.
- Convert a portion of existing north driveway to lower trail.
- Boulders used to limit access of ATVs.
- Hiking trails
- Backwoods trail (400 m): \$4,300
- Road conversion (150 m) and trail construction (100 m): \$8,500
- Pave trail in shoreline park (100 m): \$16,000









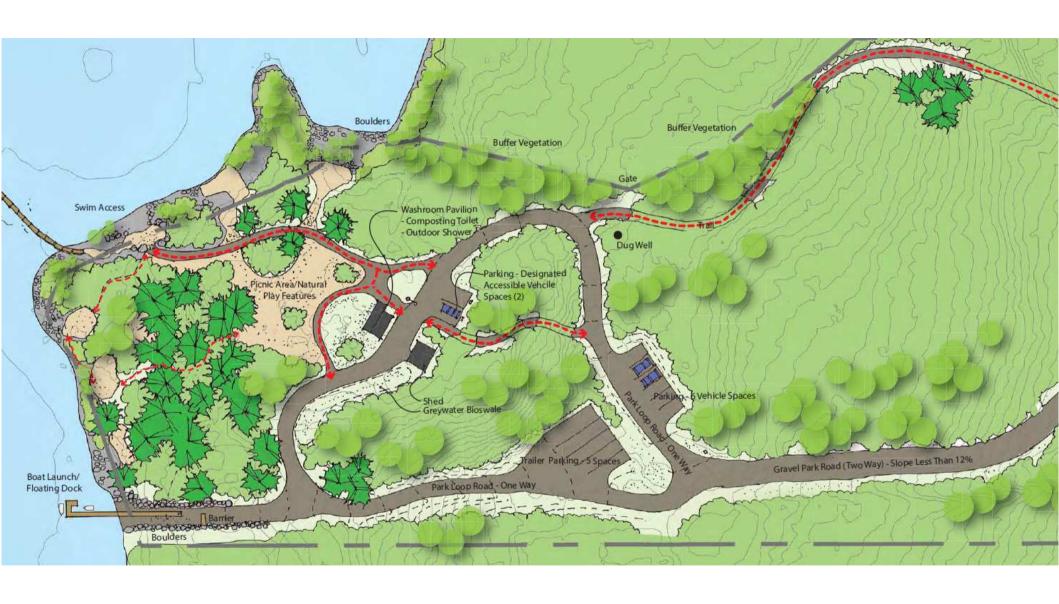






































Picnic Area

Project Description and Budget Estimate

- · Area to share meals and congregate.
- Picnic tables nested in the large trees along the shoreline.
- Large trees to be retained and sand to be used where needed to create sites for tables.
- Shoreline swimming, natural play and washroom pavilion visible from picnic areas and connected by shoreline trail.

Estimated Value: \$5,000





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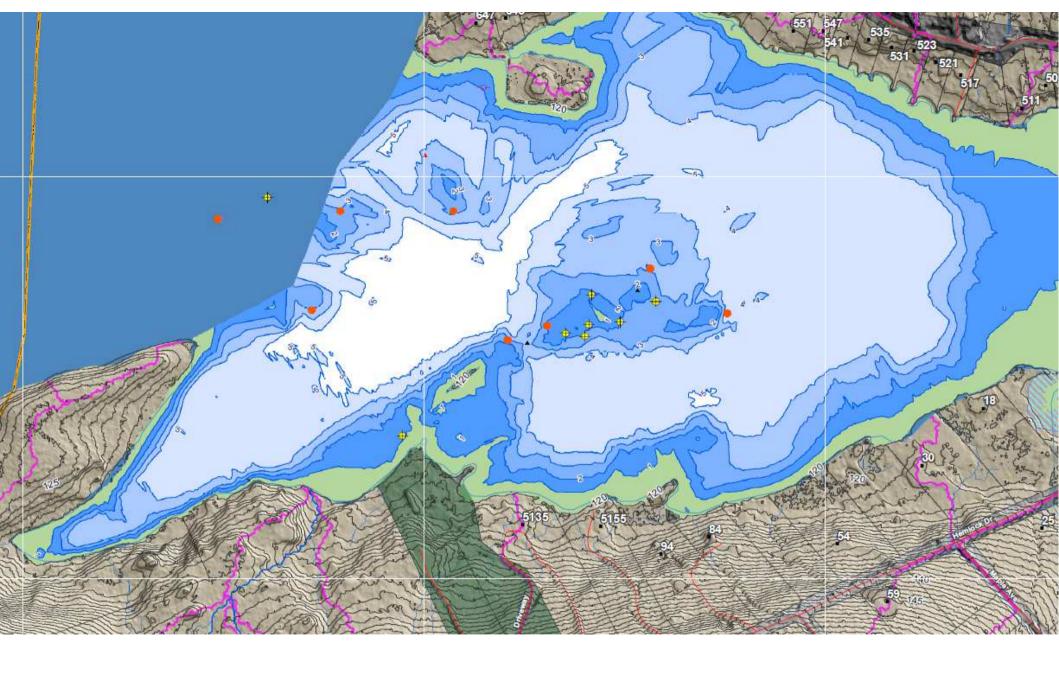






















Swimming Raft Floating Swimming Raft Island Swim Access Floating Walkway Sherbrooke Lake Boat Launch/ Floating Dock

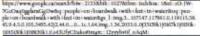
Floating Walkway

Project Description and Budget Estimate

- Safe access to deeper water for swimming.
- Access to the island for swimmers and non swimmers.
- 70 meter long dock made up of anchored and floating section depending on depth (Concept design in Appendix X).
- Wood or composite
- Phased in sections, moving from the shoreline to the island.
- Serves as canoe and kayak launch site before the boat launch is built.
- Heavy equipment likely needed to move boulders.
- · Permitting Consideration: Watercourse Application with Nova Scotia Environment for floating walkway attachment points to shoreline and to island and for any alteration to rocks below the ordinary high water mark.

Estimated Value - \$75,000







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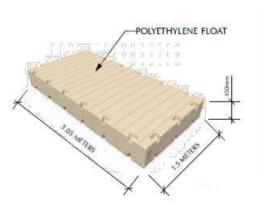






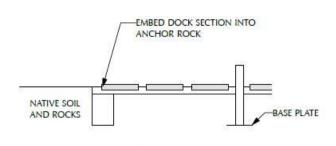




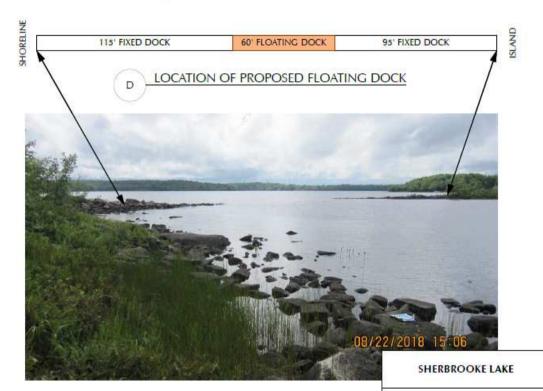




TYPICAL FLOATING DOCK SECTION



TYPICAL BOARDWALK ABUTMENT





FLOATING WALKWAY DETAILS

Date: 18-9-24

File name: Cross Sections.vwx

SCALE:

DATE: 2018-09-24











Shoreline Swimming



Project Description and Budget Estimate

- · Areas to wade in shallow water.
- Trails lead to a pathway made through the shoreline boulders. Pathways are lined with sand and transition to the lake.
- Provide access to the water without clearing the entire length of the shoreline.
- Two areas along the western shore.
- Additional areas built in phases.
- Require heavy equipment to rearrange boulders above and below the shoreline.
- Reuse sand from the pit area.
- Permitting Consideration: Watercourse Application with Nova Scotia Environment for moving rocks/materials below the ordinary high water mark.

Estimated Value: \$6,000





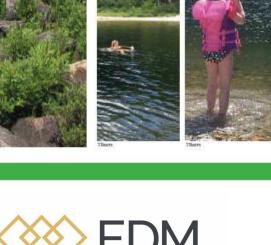














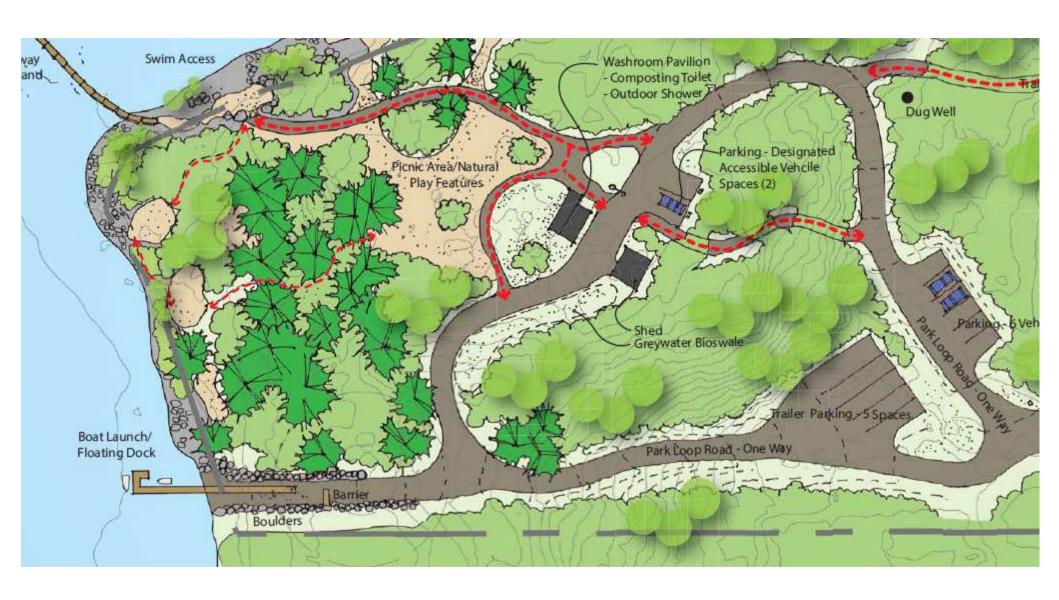












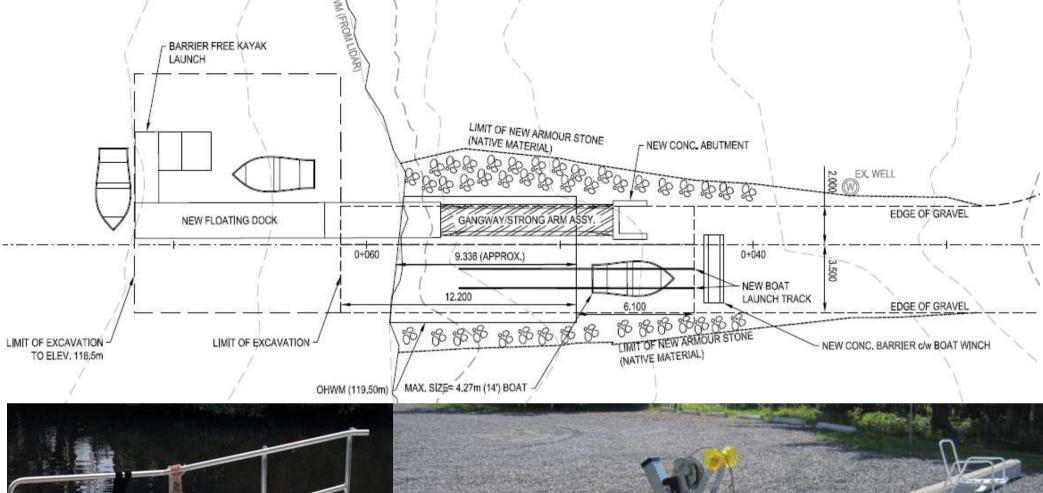


















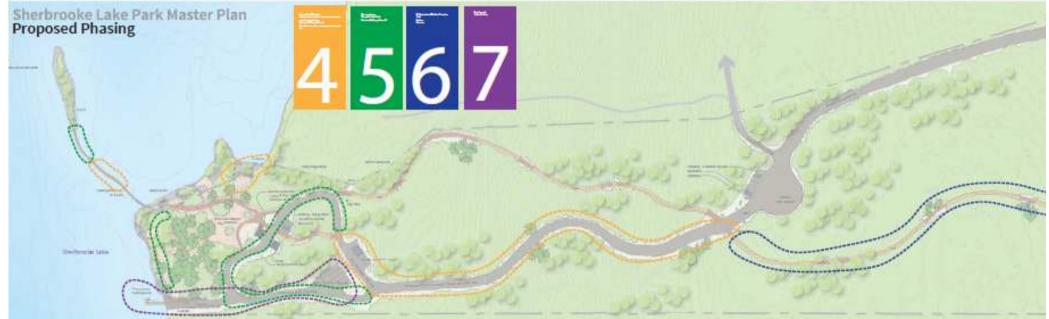






















Phase	Elements and Description	Estimate	With Contingency
Phase 0 – Risk Management	"Use at your own risk" signage, Information about the park and contact information, Block access to lower driveways with consideration for neighbouring property		
Phase 1 – Woodstock	Upgrades to Woodstock Road	\$90,000	
Road	Subtotal	\$90,000	\$103,500
Phase 2 – Private Park Roads	Upper driveway and entrance intersection including parking,turning circle, and gate	\$120,405	
	Bus parking	\$2,700	
	Gated lower south drive to prevent usage	\$4,000	
	North beach decommission and vegetative buffer planting	\$1,000	
111vate 1 ark Roads	West shoreline improvement start	\$2,250	
	Picnic area start	\$2,150	
	Floating walkway phase 1	\$19,645	
	Subtotal	\$152,150	\$174,973
Phase 3 – Washroom Pavilion	Construction of washroom pavilion	\$82,900	
	Composting treatment system	\$20,000	
	Septic system removal and grey water system construction	\$6,000	
	Storage Shed	\$18,000	
	Picnic area completion	\$2,150	
	Subtotal	\$129,050	\$148,408











Phase	Elements and Description	Estimate	With Contingency
Phase 4 – Lower Road	Lower drive way widened for two-way traffic First lower parking area	\$40,000	
	Lower south driveway convert to trail and move gate to bottom	\$10,000	
	Floating walkway phase 2	\$21,600	
	Shoreline improvements completion	\$2,250	
	Natural play area	\$40,000	
	Subtotal	\$113,850	\$130,928
	One-way loop to complete road network	\$67,500	
	Shoreline paved trails	\$16,000	
Phase 5 – One-way Loop	Floating walkway phase 3	\$19,645	
One-way Loop	Floating swimming raft	\$2,800	
	Subtotal	\$105,945	\$121,837
Phase 6 –	Pit restoration/wetland creation including trail in pit	\$6,400	
Pit Restoration/ Wetland Creation	Backwoods trail system	\$4,300	
	Subtotal	\$10,700	\$12,305
	Boat launch	\$82,875	
Phase 7 – Boat Launch	Boat trailer parking area	\$8,500	
	Subtotal	\$91,375	\$105,081
	Total	\$693,070	\$797,032























What could change?	How its been considered in the design	Monitoring and evaluation tools	Other considerations
Lake Water Quality Bacteria (E.coli) Nutrients (Phosphorus and Nitrogen)	Composting toilet; Limited shoreline vegetation clearing; Road runoff off takes; Boat size limited by launch design.	Stewardship Committee water and sediment monitoring results. Guidelines for Canadian Recreational Water Quality outline acceptable E. coli concentrations for recreational water quality. Nutrient guidelines are presented as ranges associated with lake trophic status. An increase in nutrient load can be linked to algal blooms. The Stewardship Committee should be consulted on an annual basis to assess changes to nutrient concentrations and whether changes can be linked to park land uses.	Baseline data is very important in assessing change. Anecdotal observations can also be useful. These could include observations of algal masses within the lake and growing on rocks. Clarke (2015) outlines how to make the most out of recording a suspected algae bloom.
Fish	Use of floating docks to limit lake bottom disturbance.	Consider participating in/funding fauna inventory of Sherbrooke Lake.	Small-mouthed bass and chain pickerel are already in the lake (<i>Clarke</i> , 2013).
Ducks	No grass at the shoreline Signage to include no feeding animals.	Visual inspection by park maintenance.	Duck were observed by EDM in Deep Cove, but not at the Park Shoreline.











What could change?	How its been considered in the design	Monitoring and evaluation tools	Other considerations
Visual Nuisance	Limited shoreline clearing.	Before/during after photos of the shoreline for the purpose of assessing change.	Photos are useful taken around the same time every year from the same location.
Noise Nuisance	Park gate closed during the evening.	Formalized process for neighbours to provide their observations. Summary report of incidences from RCMP.	Assessment of change likely limited to anecdotal accounts.
Road Traffic	Upgrades to accommodate access.	Traffic counters, before and after development of park phases.	Park usage is linked to the recreational amenities provided. While usage may warrant proceeding to the next park development phase, the phrase "if you build it, they will come" should also be considered.
Boat Traffic	Boat size limited by launch design. Buoys to aid navigation.	Motion activated cameras to track use. Formalized process to comment on launch. Summary report of incidences from RCMP, boater accidents/ deaths.	There are many boats on Sherbrooke Lake already and baseline stats on boating accidents would be useful.























