APPENDIX A: FIELDWORK AND GIS METHODOLOGY

SITE VISITS

The initial visit (May 14, 2018) was the mandatory site visit required in the Request for Proposals. This site visit was in the spring before the majority of the leaves had come out. The tour of the site was guided by Municipality of the District of Lunenburg (MODL) staff who pointed out important features such as the gravel pit, wells, on site system, power, etc..

Upon award of the contract, EDM visited the site (July 16, 2018) to conduct an initial inventory with Margot Young. Stands of important trees were noted as well as views from the existing roads. EDM also attended the project kick-off meeting with the Committee to outline our approach and to accept feedback, set lines of communication and expectation around deliverables.

Depth soundings were collected in Deep Cove (July 26-27, 2018) using a Garmin EchoMap 50dv. EDM swam the shoreline and on land mapped the location of large trees, wells, power poles and other features. Larry Haggel gave EDM a boat tour of Sherbrooke Lake in his boat in order to view the entire lake as well as informed the team of high water levels. By chance, EDM also met with Heather Dyment and discussed access and privacy concerns.

On August 16, 2018, EDM presented the results of the Deep Cove Bathymetry mapping and the draft park program to the Committee.

EDM met with inspectors from Nova Scotia Environment (Jesse Mclean, Inspector Specialist, NSE) on August 23, 2018 to discuss the boat launch and swimming areas as part of a client request. Wetlands and a watercourse were identified and delineated during this visit and culverts in the Woodstock Road were identified. EDM swam the shoreline again during this visit to confirm the general location of shallow and deeper zones. We are currently waiting for a client request report from NSE.

EDM presented the draft park plan to the Committee and the Sherbrooke Lake Stewardship Committee September 13, 2018. Both committee provided EDM with comments which have been incorporated into the final report.

EDM consulted with Mike Morrison, September 21, 2018, representative of Wil-Dor Park. A meeting with Uwe and Petra Graemer and Ron MacDonald, representatives of the Deep Cove residents (September 27, 2018) took place to discuss their concerns, including access issues. Heather Dyment, Mitchell Fancey and Rowan Rafuse-Kell were also consulted with as adjacent land owners.

EDM presented the draft Master Plan to MODC and MODL Councils, October 4 and 9, 2018, respectively.

The final Master Plan is scheduled to be presented to MODL Council on November 13, 2018.

DIGITAL MAPPING AND ANALYSIS USING GEOGRAPHIC INFORMATION SYSTEMS (GIS)

A large amount of digital mapping exists for the study area, and one of the first tasks completed was to assemble this data from publicly available sources, as well as the two Municipalities. This also included a recent survey of the Woodstock Road, which we had access to through MODL. The following table is a list of the data layers used for this project.

Digital Mapping Layer	Source
NS Civic Address File	GeoNova
Geographic Names (Places and Features)	GeoNova
NS Topographic Database (1:10,000): • Buildings • Roads • Elevation Contours • Waterbodies and Streams	GeoNova
GSA (Community) Boundries	GeoNova
NS Forest Inventory	NS Lands and Forestry
NS Old Forest Stands	NS Lands and Forestry
Municipal Boundaries	GeoNova
NS Surficial Geology	NS Department of Energy and Mines
NS Bedrock Geology	NS Department of Energy and Mines
Soil Survey	Canadian Soil Information Service
NS Watersheds	GeoNova
Property Records Database	MODL and MODC
2016 LiDAR Point Cloud (LAS)	NS Geomatics Centre

Derived Data

There are five datasets that were produced by EDM for this project which provide important insight and context for the Park Plan:

1. A Digital Elevation Model (DEM) from the LiDAR point cloud;
2. Elevation Contours from the DEM;
3. Catchments and Drainage modelled from the DEM;
4. Depth mapping (Bathymetry) extrapolated from a sounding survey of Deep Cove;
5. GPS locations of large trees and site features, such as wells, power poles, culverts, wetlands, and watercourses.

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1. DEM

LiDAR, which stands for *Light Detection and Ranging*, works much like radar or sonar, only using light instead to radio waves or sound. Laser light is beamed at the ground from an aircraft, and the light that bounces back to the sensor is collected. Each reflected pulse is recorded and becomes a point in the point cloud. Millions of pulses are recorded, and the cloud file is processed by special software that can determine if the point is from a leaf, part way down a tree trunk, or the ground. It can also differentiate houses and built structures from trees and the ground surface.

The LiDAR point cloud was processed to construct a “bare earth” DEM, as it is possible to extract just those pulses recorded in the file that correspond to the ground surface.

2. Elevation Contours

Contour elevations were available for the study area from the 1:10,000 Provincial mapping, but these show detail appropriate for an overview, and do no provide topographic details on the shape of the land sufficient for the Park Plan. The Provincial contours show the land shape using a five metre spacing (vertically) between contours. This means that any ground feature that is less than five metres in height or depth will not show up on the map. Using the DEM constructed from the LiDAR data, we generated elevation contours a 0.5 metre vertical spacing, which is a vast improvement and shows the terrain in great detail. It is this data that was used in Park Planning.

3. Catchments and Drainage

Also created from the LiDAR DEM was mapping showing drainage channels and streams, along with their associated catchments. We used an extension the ArcGIS called ArcHydro to process the DEM and extract drainage patterns and catchments. As the Provincially mapped streams and water bodies are created from aerial photography at a 1:10,000 scale, and similar to the elevation contours, this mapping lacks the detail on smaller streams and drainage sufficient for the project. Using ArcHydro, we were able to map, and in many cases field verify, drainage on the site.

4. Depth mapping (Bathymetry)

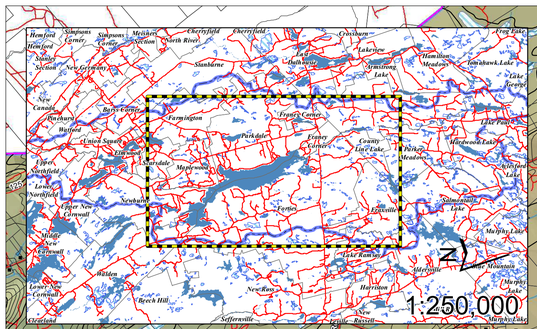
One of the deliverables that was of particular interest to the Project Committee was the creation of a more detailed bathymetric map of Deep Cove. The Nova Scotia Department of Fisheries & Aquaculture had completed a bathymetric map for Sherbrooke Lake many years ago, but it is generalized and does not show Deep Cove in the required detail, and therefore could be misleading to someone using the mapping for a better understanding of the lake prior to boating. We completed a survey of deep dove using a *Garmin EchoMap 50dv* mounted on a small boat equipped with an electric trolling motor. Over two days in July, over 23,400 soundings were collected, and a three dimensional model of the lake depths was created. Using

this model, one metre depth contours were interpolated. These contours show Deep Cove in much greater detail. Caution should be used when using this mapping, as the bottom of Deep Cove has many un-mapped, large boulders that do not show up in the mapping, and are a hazard to even canoes. We mapped a number of these boulders, but there are large sections of Deep Cove that we were not able to access as it was too shallow or dangerous to survey. A number of marker buoys (general location) were collected in Deep Cove as part of the data collection.

5. GPS Location of Site Trees and Features

Locations of large trees and important site features (wells, culverts, existing pull-offs, etc.) were collected using a Magellan MobileMapper. A total of 176 GPS points were collected as part of this exercise.

APPENDIX B: MAPS



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4

Kilometres

1:25,000

Data Source: EDM, MDOL, MDOC, Service NS

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

The following is a graphical representation and although care has been taken to ensure the best possible quality, EDM does not guarantee the accuracy of this document.

THE MUNICIPALITY OF CHESTER

DISTRICT OF LUNENBURG INC. 1879

EDM PLANNING SERVICES LTD

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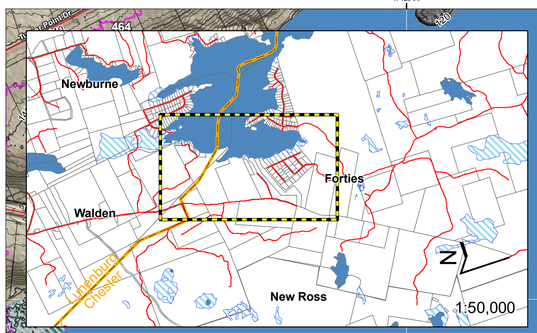
SNC·LAVALIN

SHERBROOKE LAKE PARK WATERSHED MAPPING

July 2018

N



4942500 4943000 4943500 4944000 4944500 4945000

370500 370000 369500

Maple Crea
Spruce Close
Oak Dr
Brookfield
Larchfield
Tremaine Dr
Ash Rd
Shubenacadie Trail
Woodstock Rd
Drywater
Drywater
Lunenburg Chester

Civic Address

Contours (1m)
- Regular Contour
- Index Contour
- Roads
- Streams
- Approx. Park Property
- Municipal Boundary

Survey Point
- Buoy
- Channel
- Open Fetch
- Powerline Crossing
- Rock/Shoal
- 1m Depth Contours

Depth (m)
- 0 - 1
- 2
- 3
- 4
- 5
- 6
- Water Body
- Swamp Area polygon
- Streams (Calculated)
- Drainage (Calculated)
- Catchment (Calculated)
- Property Boundaries

Path: W:\18-870 Sherbrooke Lake Park Plan\ArcGIS\Maps\10.5\Final\20180716\ArcDoc\hydro.mxd - 2018-11-07@9:39:40 AM

540

Metres

1:3,500

Data Source: EDM, MDOL, MODC, Service NS

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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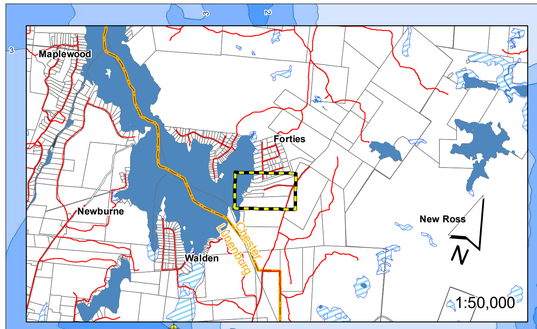
SHERBROOKE LAKE PARK DRAINAGE AND CATCHMENTS September 2018

N



Civic Address
DrivewaySections
DrivewaySections
Shoreline
Roads
Municipal Boundary

Survey Point
Buoy
Channel
Rock/Shoal
1m Depth Contours
Subject Property
Property Boundaries

Depth (m)
0 - 1
2
3
4
5
6
Streams (Calculated)
Drainage (Calculated)

Percent Slope
0 - 3
4 - 7
8 - 10
11 - 12
13 - 15
16 - 20
>= 21

Ash Rd
Hemlock Dr
84
94
5155
5135
Driveway
Track
Woodstock Rd

Path: W:\18-870 Sherbrooke Lake Park Plan\ArcGIS\Maps\10.5\Feb2019\7\16AnchDSite.mxd - 2018-11-07@10:02:37 AM

610
Feet
1 inch equals 100 feet

Data Source: EDM, MDOL, MODC, Service NS

Coordinate System: NAD 1983 CSRS MTM 5 Nova Scotia
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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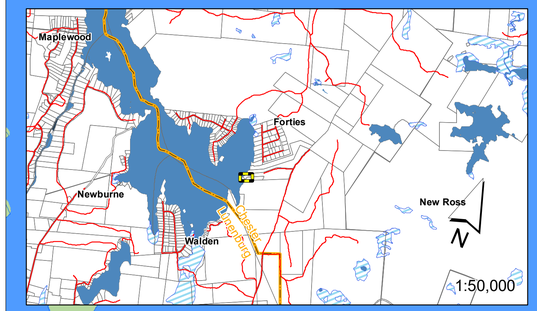
SHERBROOKE LAKE PARK
SLOPE
September 2018

N



Field Observation
- Power Pole
- Dug Well
- Drilled Well
- Other
- Birch
- Maple
- Hemlock
- White Pine
- Hemlock Seedlings
- Tree, other
- Path
- Rock

DrivewaySections
LiDAR Shoreline

Contours (0.5m)
- Regular Contour
- Index Contour
- Roads

Survey Point
- Rock/Shoal
- 1m Depth Contours

Depth (m)
- 0 - 1
- 2
- Property Boundaries

r21 Rock, Line of large rocks edge opposite r20a) Distance between r21 and r20a is 3.3 ft.
r15 Rock, Large boulder in water, among a cluster of large boulders.
r17a Rock, Top of Boulders on land
r17b Rock, Bottom of Boulders by water
r17 Rock, Edge of medium rocks by shore, 15'6" wide from exposed lower rocks in water.
r5 Rock, Cluster of 4 smaller boulders/ rocks by shore
r12 Rock, Two Boulders by Shore
r16 Rock
r7 Rock, Boulder by Shore
r11 Rock, Two Boulders by Shore
r3 Rock, Boulder by Shore
r10 Rock, Boulder by Shore
r13 Rock, Among a cluster of smaller big rocks.
r9 Rock, Boulder by Shore
r11 Rock, Two Boulders by Shore
r8 Rock, Boulder by Shore
r4 Rock, Boulder by Shore
r6 Rock, Boulder by Shore
s1
t29 Maple, Maple tree by property line, split into two trunks. 37" (1.092m) and 35" (1.06m).
t1 White Pine, White Pine, Damaged at top
truck Other
Hemlock, Hemlock, twisty near base on top of large rock Hemlock, twisty near base on top of large rock.
r2 Rock, Cluster of Rocks cut by man.
t2 Hemlock, Hemlock
t3 Hemlock, Hemlock, light green mossy stuff
pa2a
r23 Rock, Big boulder, 7' long, 3'5" wide.
well Dug Well
road entrance Other
c1 Other, Culvert opposite power pole on grass road.
r18 Rock, Boulder between power pole and culvert, by edge of the road.
c4-culvert Other
pa1a
p1 Power Pole
s2 Other, Shrubby thin shore tree line
t14 White Pine, White Pine sitting on large rock
t15 White Pine, White Pine, no needles on lower branches.
s3 Other, Shrubby thin shore tree line
t9 White Pine, White Pine, no needles on lower branches.
t16 Tree, other
t8 White Pine, White Pine, no needles on lower branches.
t13 Tree, other
survey point Other
t11 Tree, other
t12 Tree, other
pa2bc Path, Path by Truck
pa2c Path, Path by Truck
pa1b
t44 Hemlock, Hemlock, blue line around circle.
t37 Hemlock, Hemlock, blue line around circle.
t107 Tree, other
s4 Other, Shrubby thin shore tree line
t38 Hemlock, Hemlock, lots of lower branches with no needles.
t7 Hemlock
t6 Birch, Birch, close to Hemlock (t5)
t5 Hemlock, Hemlock, close to Birch
t20 Blank White Pine, White Pine, little to no lower branches.
o2 Other, Unknown, rock cover with handle and electrical wire with box on top.
t18 Hemlock, Hemlock, branches broken off near bottom, little needles near bottom.
t41 Hemlock, Hemlock, lower branches broken off with little needles.
Hemlock Seedlings Hemlock Seedlings
t36 pa2d Path, End of Path by Truck, bevertries quite bumpy, going between trees
t21 Tree, other
o1 Other, Open area, low shrubs
t40 Hemlock, Hemlock, large branches on one side, little to no needles near bottom.
t17 Tree, other
t39 Hemlock, Hemlock, large overhead branches, little to no needles on lower branches.
r1 Rock, Rocks by bilgeid septic
survey marker Other
t43 Hemlock, Hemlock, little to no needles on lower branches, branches are mostly on one side.
pa1d
t34 White Pine, White Pine
better launch Potential Boat Launch
t23 Hemlock, Hemlock
t22 Tree, other
t28 Hemlock, Hemlock, lots of long lower branches, little to no needles.
r26 Rock, Edge of rocks by shore
t32 Hemlock, Hemlock, lower branches broken off.
r26 Rock, Edge of rocks by shore
r25 Rock, Edge of rocks by shore
s4 Other, Shrubby thin shore tree line
t35 Maple, Maple, split into 5 trunks. Three largest trunks are 2'11", 2'4".
t42 Hemlock, Hemlock, lower branches broken off with little needles.
t33 White Pine, White Pine, little needles on lower branches.
t26 Maple, Maple, mossy base, trunk split into two trunks. 4'1" (1.24m) and 2'6" (0.76m).
t25 White Pine, White Pine, lost many lower branches, mossy broken off.
r22 Rock, Pile of rocks
t31 Birch, Birch(?), by edge of slope, leads to a boulder area.
t30 Maple, Maple, moss on bark on a slope/ to cluster of rocks.
r20a Rock, Large cluster of rocks, edge opposite r21.
r20b Rock, Edge of cluster/ line of rocks
r20c Rock, Edge of cluster/ line of rocks.
r20d Rock, Edge of cluster/ line of rocks
r19b Rock, Large rocks extend further into edge of road.
Edge of shore, by old picnic table
water well Drilled Well
t24 Tree, other
r24 Rock, Edge of rocks by shore
t27 White Pine, White Pine, long branches over lake.
r19a Rock, Large rocks by edge of grassy road
Driveway

120 120 125 125 127.5 130 132.5 132.5 132.5

Path: W:\16-870 Sherbrooke Lake Park Plan\ArcGIS\Maps\10.5\ArcInDS\ParkProgram20180815.mxd - 2018-11-07@10:10:31 AM

120
Feet
1 inch equals 20 feet

Data Source: EDM, MDOL, MODC, Service NS

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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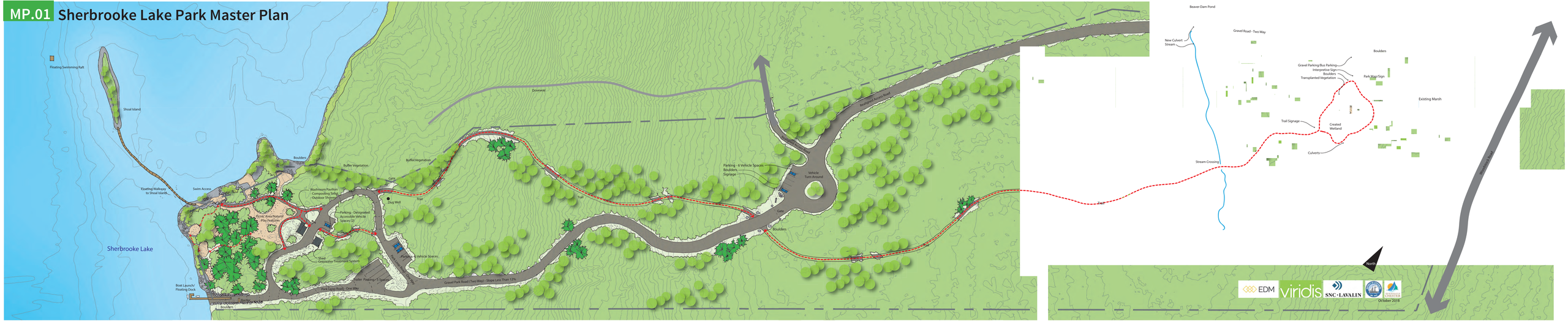
SHERBROOKE LAKE PARK
FIELD WORK POINTS OF INTEREST
September 2018

N

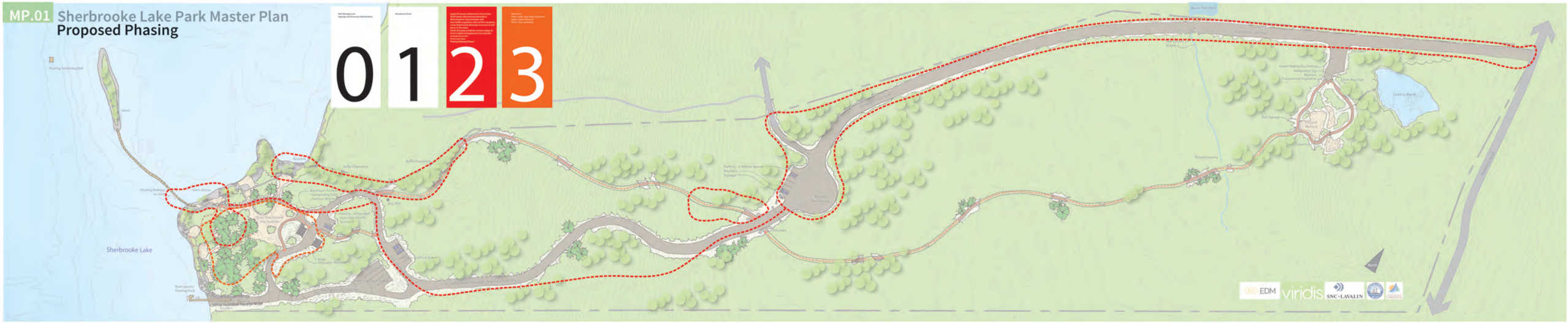
APPENDIX C: MASTER PLAN AND PHASING

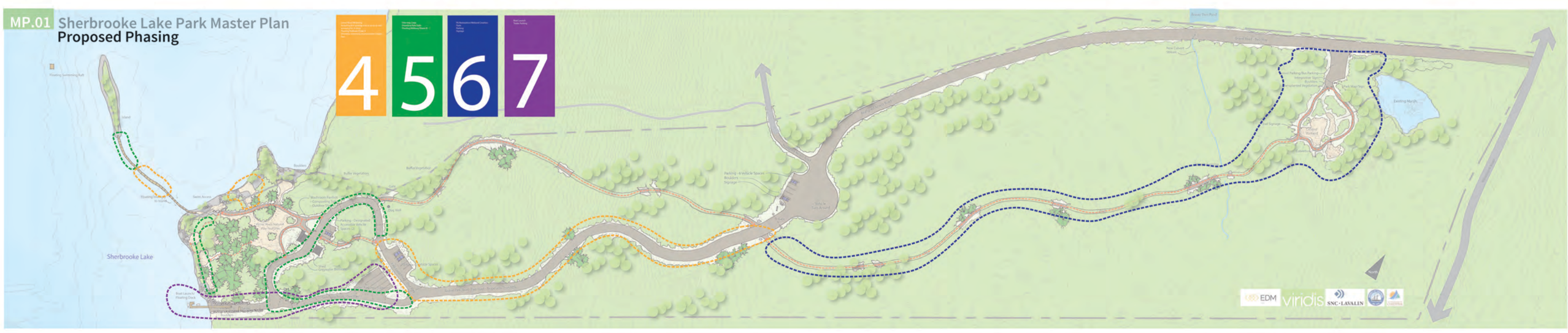
MP.01 Sherbrooke Lake Park Master Plan



MP.01

Sherbrooke Lake Park Master Plan
Proposed Phasing





APPENDIX D: PROJECT SHEETS

1.0 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

Image Source: EDM

Image Source: TBeers

Image Source: EDM

Image Source: TBeers

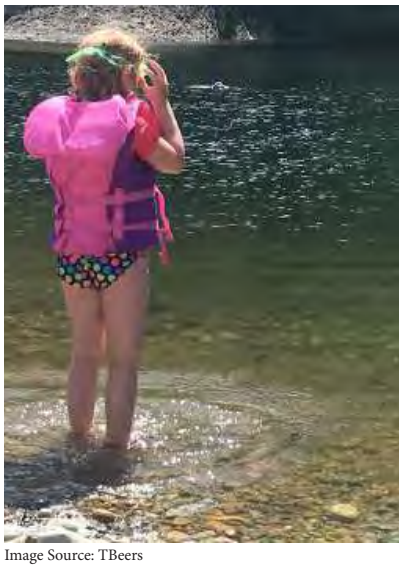


Image Source: TBeers

Image Source: TBeers

1.0 Shoreline Swimming

2.0 Floating Walkway

Image Source: EDM

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 Shoal 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

Photo Source: https://www.google.ca/search?biw=2133&bih=1027&tbm=isch&sa=1&ei=sD-JW7GcOaq0ggfaraGgDw&q=people+on+boardwalk+with+feet+in+water&oq=people+on+boardwalk+with+feet+in+water&gs_l=img.3...107147.117961.0.118115.58.45.9.4.5.0.105.3495.42j2.44.0....0...1c.1.64.img..1.36.2033.0..0j35i39k1j0i67k1j0i30k1j0i5i30k1j0i8i30k1.0.s43UfyCEuko#imgrc=12yyyh-v0f_oAqM:

Photo Source: https://www.google.ca/search?biw=2133&bih=1027&tbm=isch&sa=1&ei=sD-JW-7GcOaq0ggfaraGgDw&q=people+on+boardwalk+with+feet+in+water&oq=people+on+boardwalk+with+feet+in+water&gs_l=img.3...107147.117961.0.118115.58.45.9.4.5.0.105.3495.42j2.44.0....0...1c.1.64.img..1.36.2033.0..0j35i39k1j0i67k1j0i30k1j0i5i30k1j0i8i30k1.0.s43UfyCEuko#imgdii=BDpzN-RcuiNrp-M:&imgrc=mX8IJ2F-C9P69M:

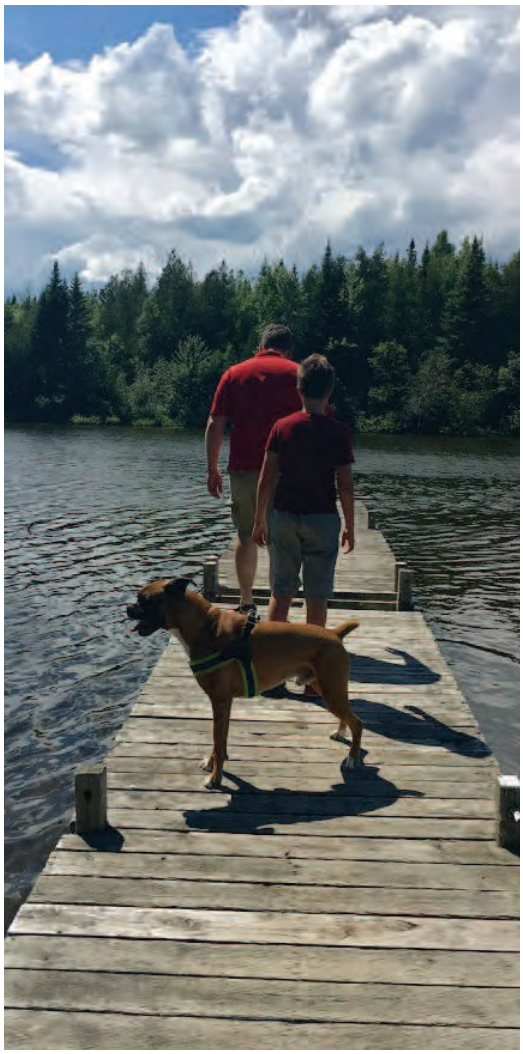


Image Source: TBeers

2.0 Floating Walkway

Photo Source: https://www.boatdealers.ca/boats-for-sale/322691/whitewater-floating-dock-midland-ontario

3.0 Swimming Raft

Image Source: EDM

Project Description and Budget Estimate

- Swimming destination.
- Raft located in deeper waters off the west side of Shoal Island.
- Materials wood or composite.
- Anchored to the bottom of the lake and removed for the winter.
- Permit Consideration: Raft anchor to be included in the floating walkway application.

Estimated Value: $3,000

Image Source: http://vermilionbaylodge.com/gallery/vermilion-bay-lodge-images/attachment/tn_swimming-raft-at-vbl/

Image Source: https://thedockdoctors.com/aluminum-swim-floats.html

Image Source: https://greatnortherndocks.com/swim-rafts-3/

3.0 Swimming Raft

4.0 Washroom Pavilion

Image Source: EDM

Project Description and Budget Estimate

- Central location in the Shoreline Park.
- Accessible ramp.
- Outdoor shower and tap.
- 3 Washroom stalls.
- Clivus Multrum composting toilet treatment technology.
- One M12 (to service 2 toilets) and one M10 (service one toilet).
- Power and water both needed and located nearby.
- Treatment system can be closed and unheated for the winter.
- Does require periodic maintenance to optimize composting.
- Hand washing sinks and shower serviced with non potable water from existing dug well (first choice) or drilled well (second choice). Wells require testing for volume and quality prior to use.
- Wastewater from sinks and shower treated by grey water system built using materials from the unused, existing septic system.
- Change rooms could be added to the building in the future on the south end.
- Permitting Consideration: Composting toilets and the grey water systems require an on-site approval from Nova Scotia Environment.
- Building Permit required by MODC.

Estimated Value: $125,000

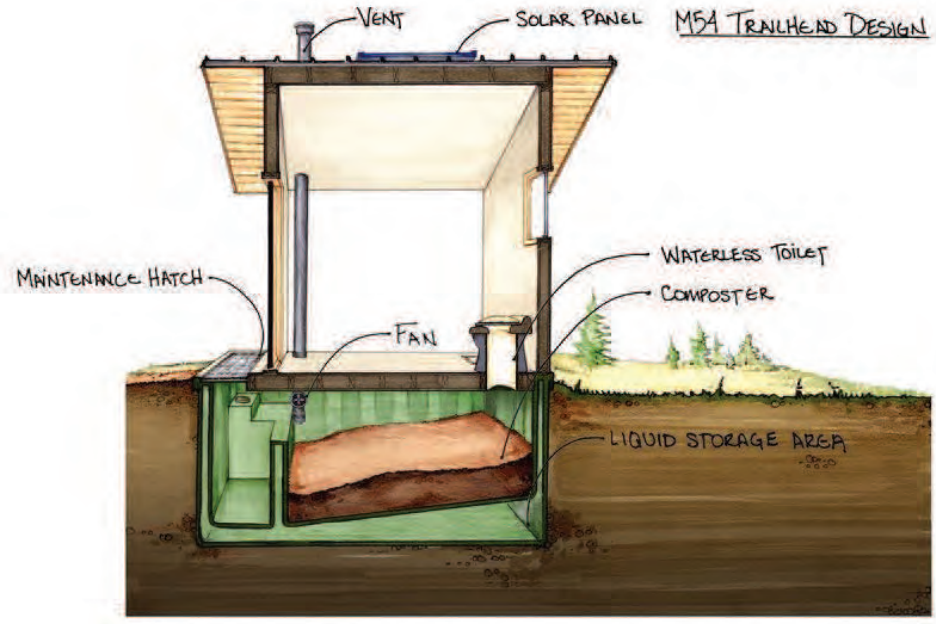


Image Source: http://www.clivusmultrum.com/index.php

4.0 Washroom Pavilion

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

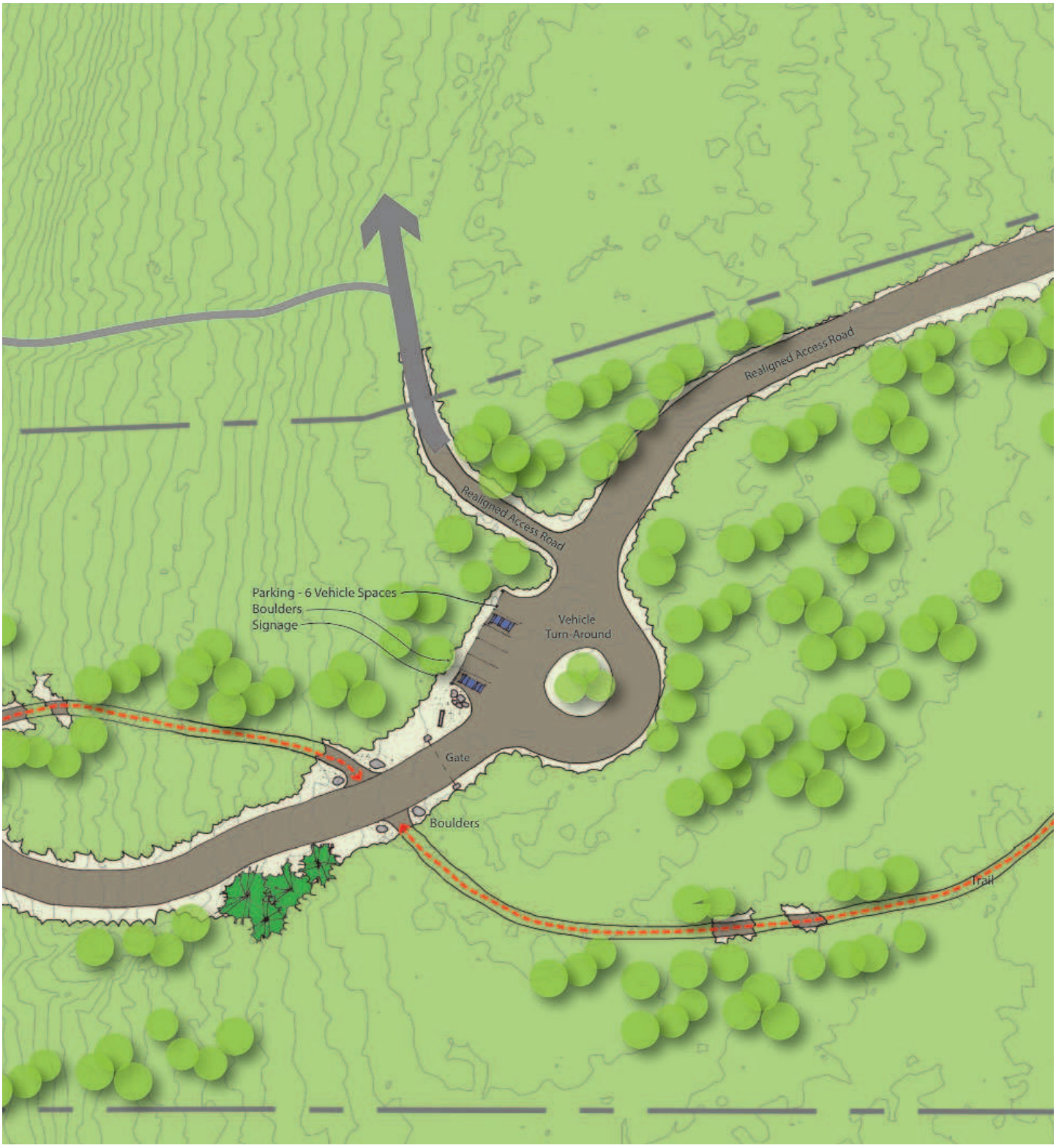
Image Source: EDM

Image Source: TBeers

Image Source: https://highpeaksalliance.org/people-and-wildlife-2/wildlife-refuge/people-and-wildlife-the-basics/

5.0

Gate(s)


Realigned Access Road
Realigned Access Road
Parking - 6 Vehicle Spaces
Boulders
Signage
Vehicle
Turn-Around
Gate
Boulders
Trail

6.0 Boat Launch

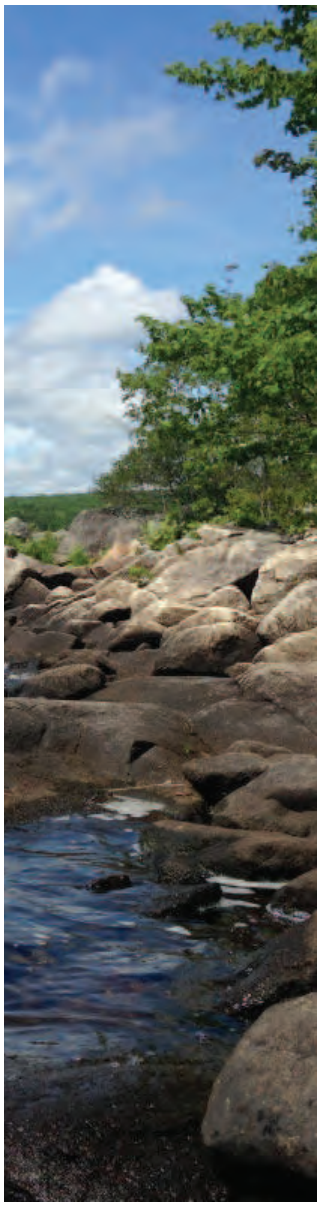


Image Source: EDM

Project Description and Budget Estimate

- Launch for canoes, kayaks and small motor boats.
- Design prevents launch of larger boats based on concrete barrier which prevents trailers driving into the lake and through the use of a winch with a weight restriction of 600 lbs.
- Foreshore excavation needed to create calm sheltered area to launch boat and desired approach/slope.
- Fixed and floating dock to load/unload supplies which will be removed in October.
- Accessible kayak launch.
- Signage and buoys needed safely direct boaters into Deep Cove and warning of hazards in the lake.
- Concept engineering design prepared by SNC Lavalin.
- Permit Consideration: NSE Watercourse Application required. Application will be circulated by NSE to DFO if required.

Estimated Value: $95,000

Image Source: MDNR, https://howardmeyerson.com/2013/05/23/state-recreation-areas-add-handicap-canoe-kayak-launches/

Image Source: EDM

Image Source: EDM

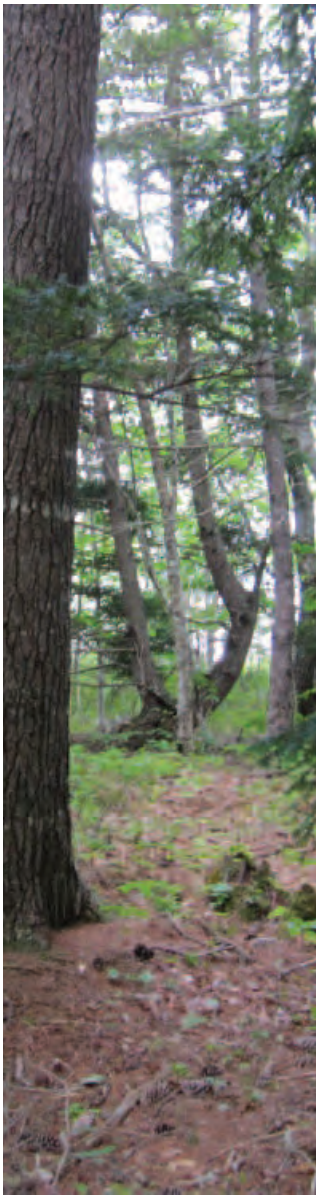
7.0

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 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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Images Souce: EDM

7.0 Picnic Area

8.0

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

Estimated Value: $28,800

Image Source: EDM

Image Source: TBeers

Image Source: TBeers

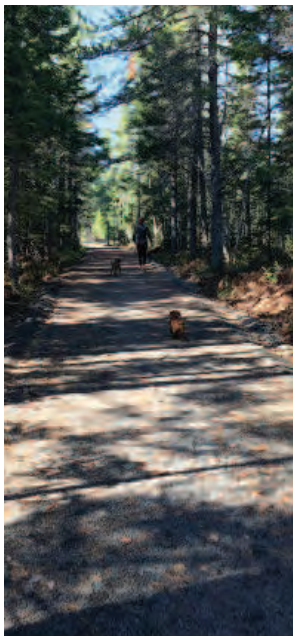
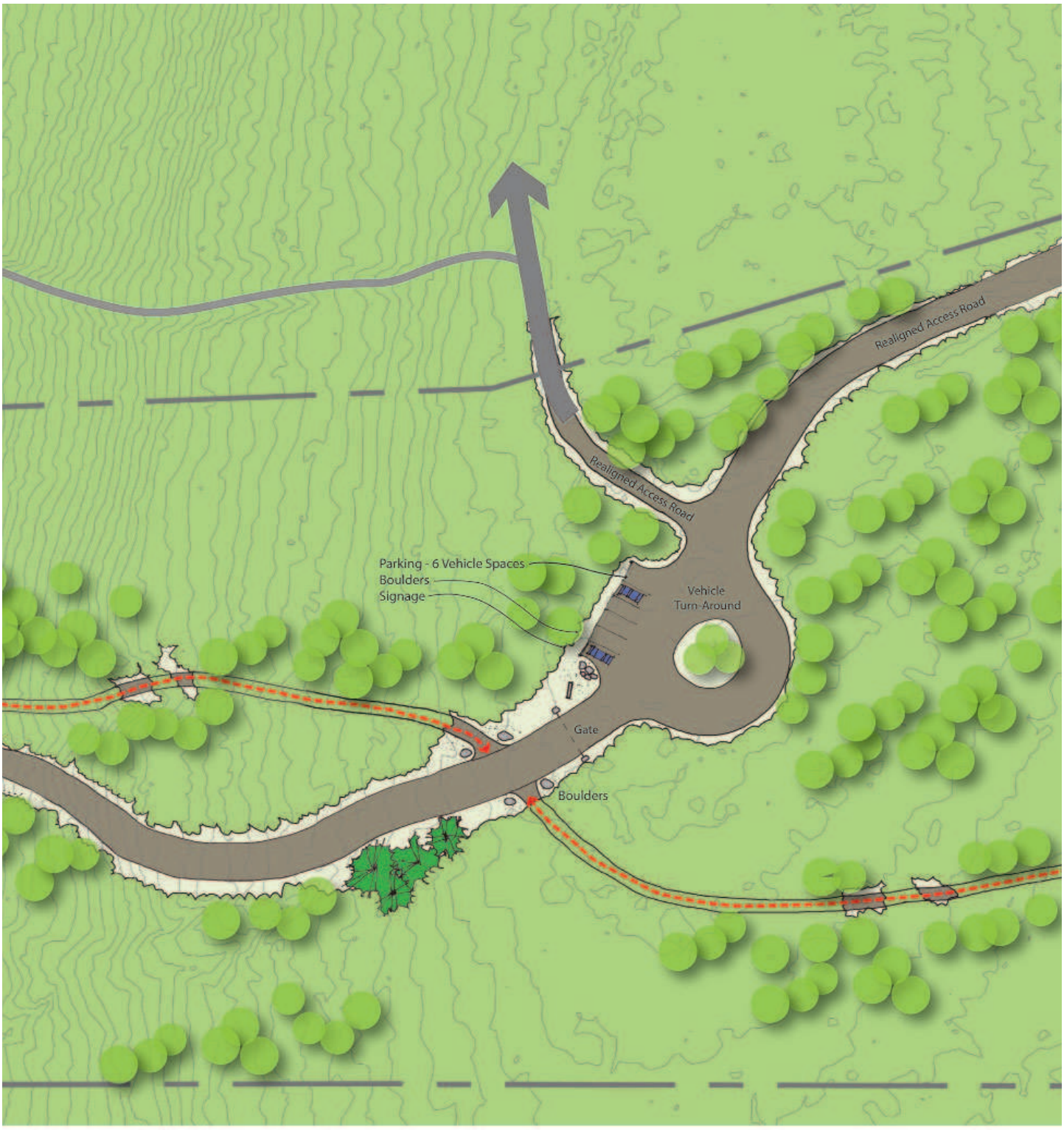


Image Source: TBeers

Image Source: TBeers

8.0 Hiking Trails

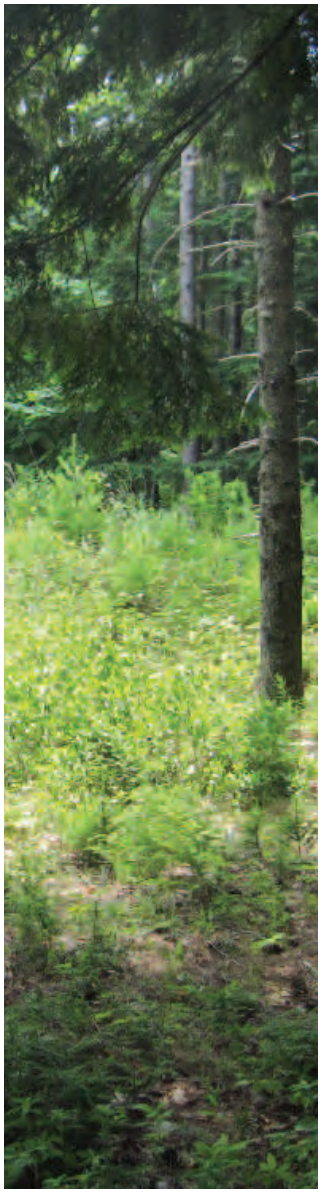


9.0 Natural Play Features

Project Description and Budget Estimate

- Area for children to play.
- Play structure made of natural materials (wood/boulders/mulch/sand).
- Located within view of the picnic area, shoreline swim and the washroom pavilion.
- Features and protective surfacing in compliance with CSA standards and guidelines

Estimated Value: $40,000



Images Souce: EDM

Images Souce: TBeers

9.0 Natural Play Features

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 back-woods trail.
- Area to be used as a source of sand/gravel during construction of picnic areas, shore-line swim and other park elements.
- During construction any wetland and upland vegetation to be cleared can be trans-planted 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

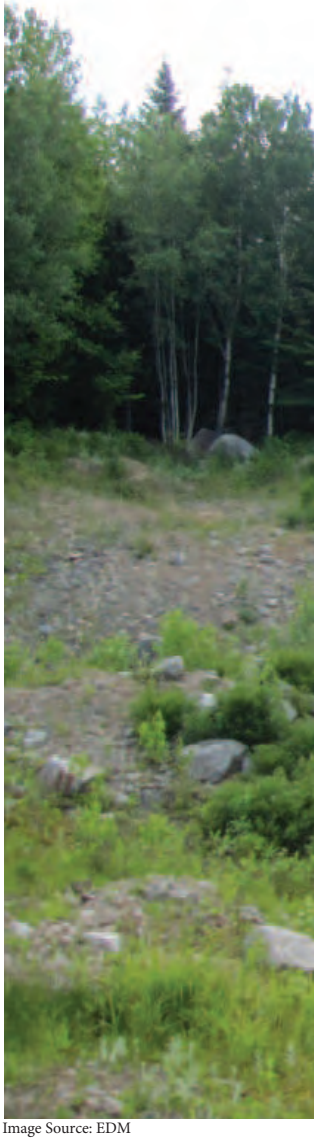


Image Source: EDM

Image Source: TBeers

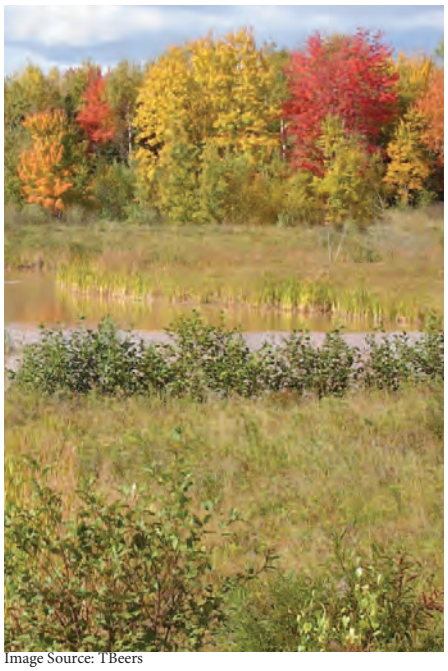
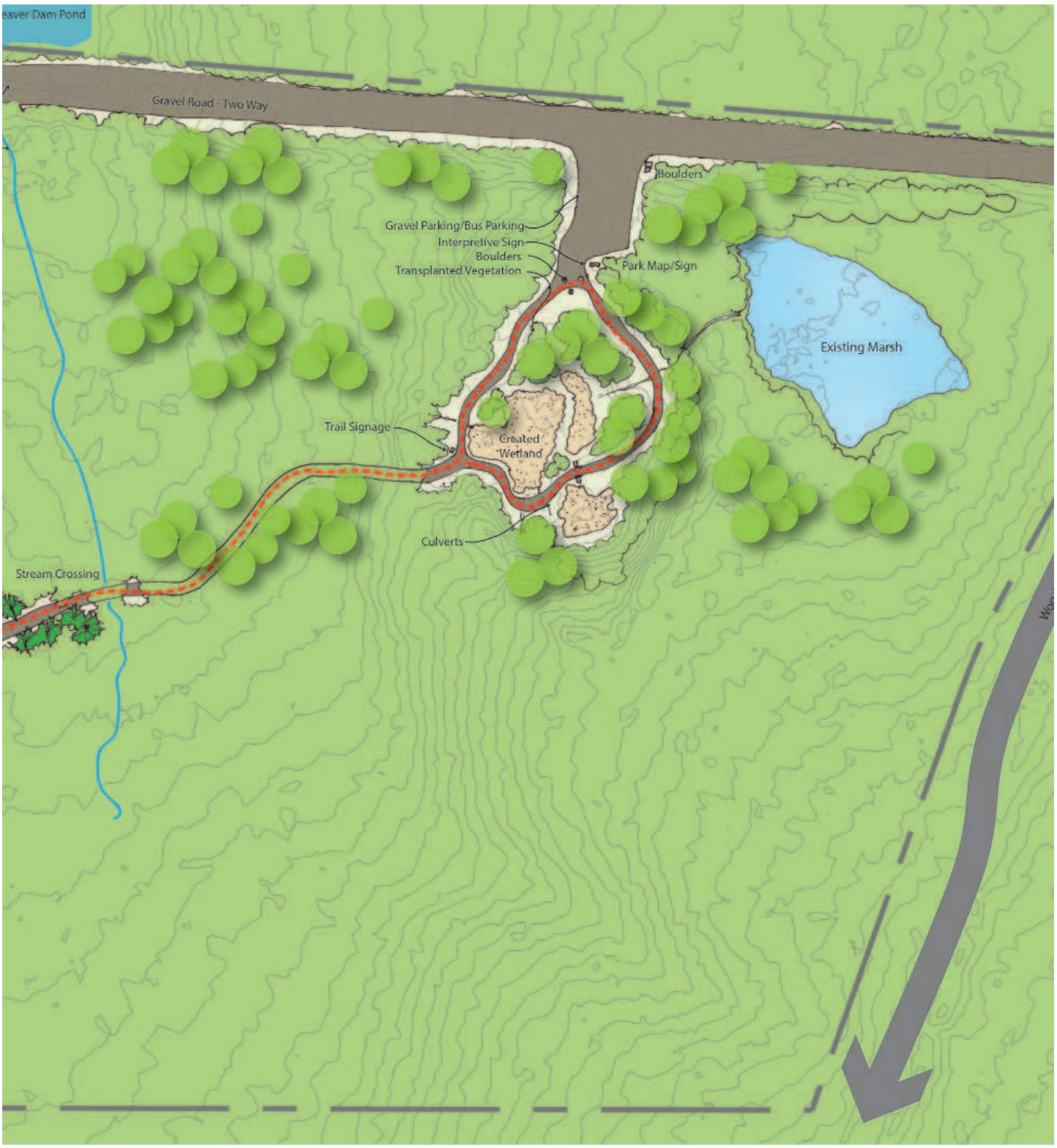


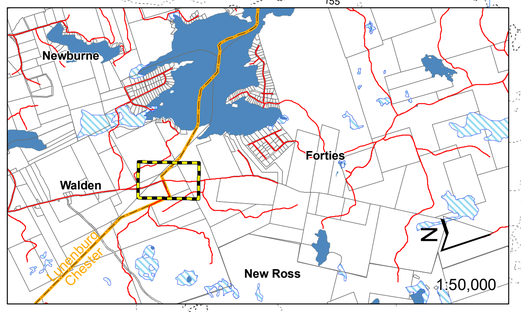
Image Source: TBeers

Image Source: http://hopemountain.org/education/wetlands/

10.0 Pit Restoration & Wetland Creation



APPENDIX E: CONCEPT ROAD DESIGN



WOODSTOCK ROAD UPGRADE OPTION

- Pull-offs on Existing Road (Detail A)

Culvert 9
12" Ø
Corrugated Steel

Typical Pull-off
(Detail A)

Culvert 7
12" Ø

Culvert 6

Typical Pull-off
(Detail A)

Culvert 5
16" Ø

Culvert 10
12" Ø
Corrugated Steel

Typical Pull-off
(Detail A)

Woodstock Road

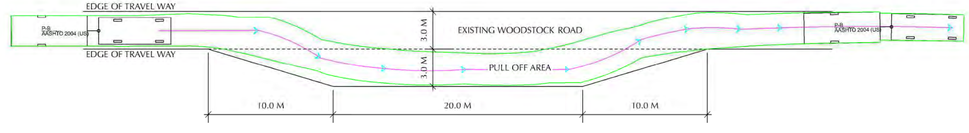
Culvert 11
20" Ø

Typical Pull-off
(Detail A)

Asphalt Road
ends here.

Chester
Lunenburg

155 160 165 170 175



A TYPICAL PULL OFF (CAR WITH BOAT)

NOTES
- All dimensions are metric units. Contour spacing is 1 metre.
- Drawings are generally to scale but are based on LiDAR and other sources, and are subject to survey.
- Topographic information calculated by EDM from LiDAR (collected in 2016 and distributed by Geonova), and is subject to survey.
- Proposed Woodstock Road pull-offs option (Detail A), pull-off locations are approximate and subject to detailed design/survey.
- Maximum road slope is 12%.
- Two way road width 7.32m (Detail 1).
- One way road width 3.0m (Detail 2).
- Preparation of sub-grade to Standard Specification for Municipal Services.
- Allowance for 200mm Class "E" base gravel, 100mm Class "A" surface gravel.
- Culvert replacement or repair to be determined at detailed design.
- Fill using gravel approved by the Engineer.
- Unsuitable material to be removed and reinstated with select material approved by the Engineer.
- Roads to be consistent with the Municipality of the District of Lunenburg/ Municipality of the District of Chester Municipal Public Road Design and Construction Standard, if applicable.
- All work to facilitate existing drainage. May require clean-up and re-grading of existing drainage.
- Concept design not for construction.
- All work to be completed in compliance with all Municipal, Provincial, and Federal regulations, as applicable.

Note
- Culvert
- Approximate Pull-off Location (Detail A)
- Civic Address

Contours (1m)
- Regular Contour
- Index Contour

Woostock Road
- Road
- ROW

Woodstock Road
- Asphalt
- Gravel
- Municipal Boundary
- Streams (Calculated)
- Drainage (Calculated)
- Property Boundaries

180

Metres

1:1,200

Data Source: EDM, MDOL, MODC, Google, Service NS

Coordinate System: NAD 1983 CSRS MTM 5 Nova Scotia
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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DISTRICT OF LUNENBURG INC. 1879
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SHERBROOKE LAKE PARK
Woodstock Road Section 1
Sheet 1 of 3
September 2018

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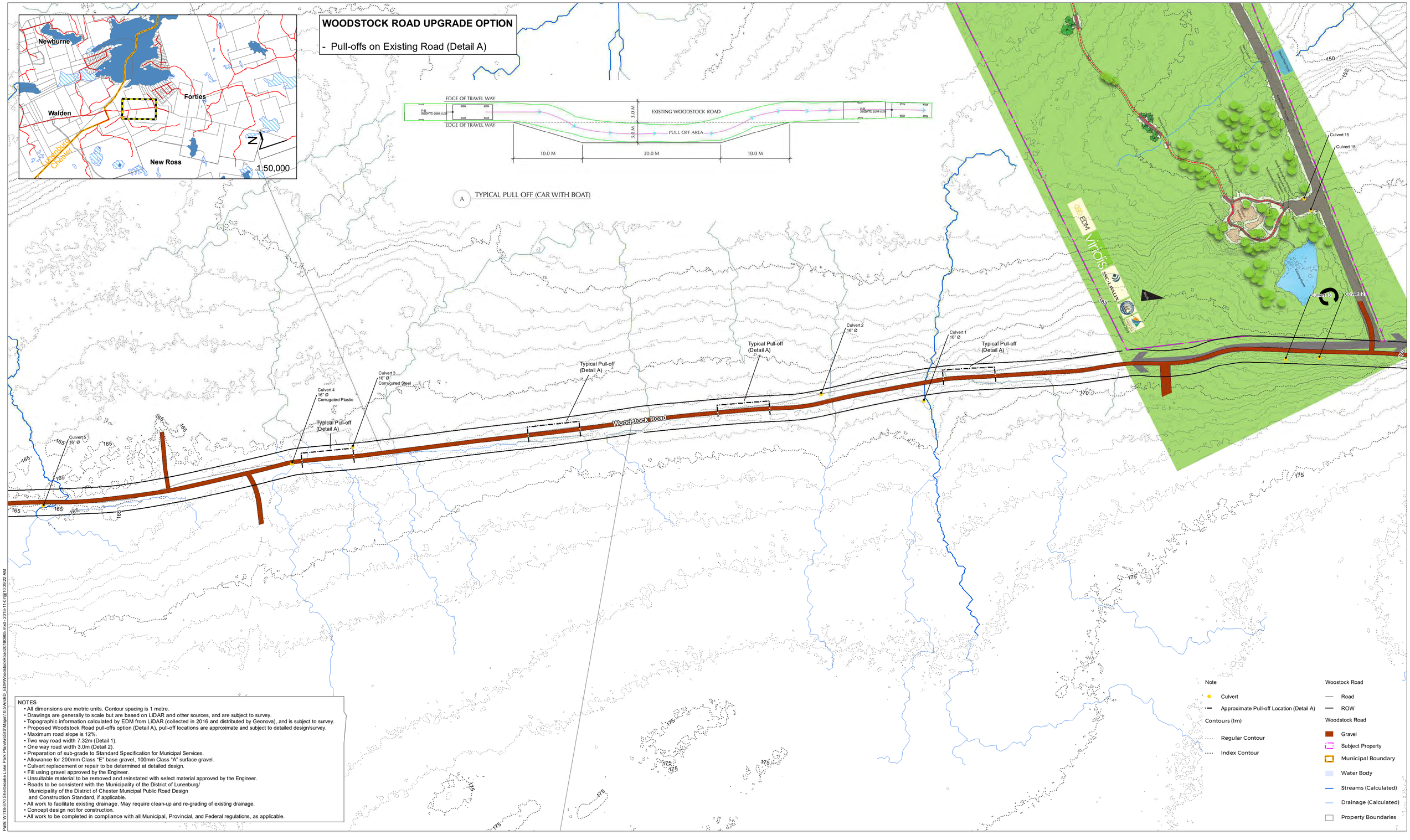
WOODSTOCK ROAD UPGRADE OPTION

- Pull-offs on Existing Road (Detail A)

A TYPICAL PULL OFF (CAR WITH BOAT)



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Note
- Culvert
- Approximate Pull-off Location (Detail A)

Contours (1m)
- Regular Contour
- Index Contour

Woostock Road
- Road
- ROW

Woostock Road
- Gravel
- Subject Property
- Municipal Boundary
- Water Body
- Streams (Calculated)
- Drainage (Calculated)
- Property Boundaries

180

Metres

1:1,200

Data Source: EDM, MDOL, MODC, Google, Service NS

Coordinate System: NAD 1983 CSRS MTM 5 Nova Scotia
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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SHERBROOKE LAKE PARK
Woodstock Road Section 2
Sheet 2 of 3
September 2018

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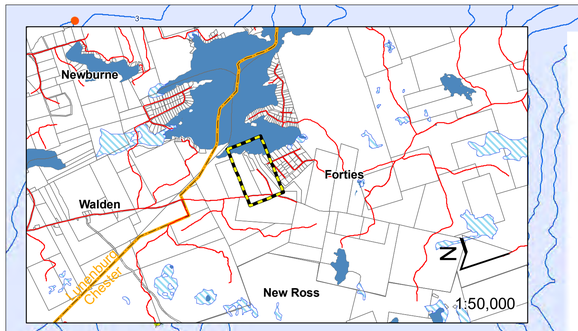
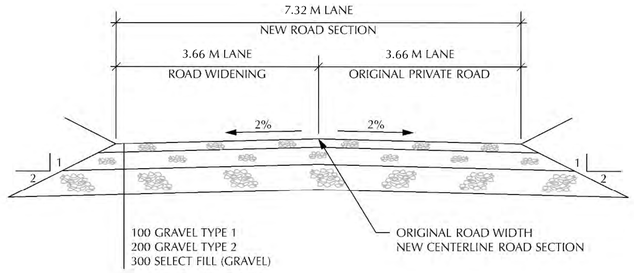
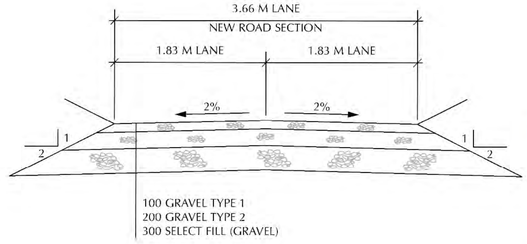


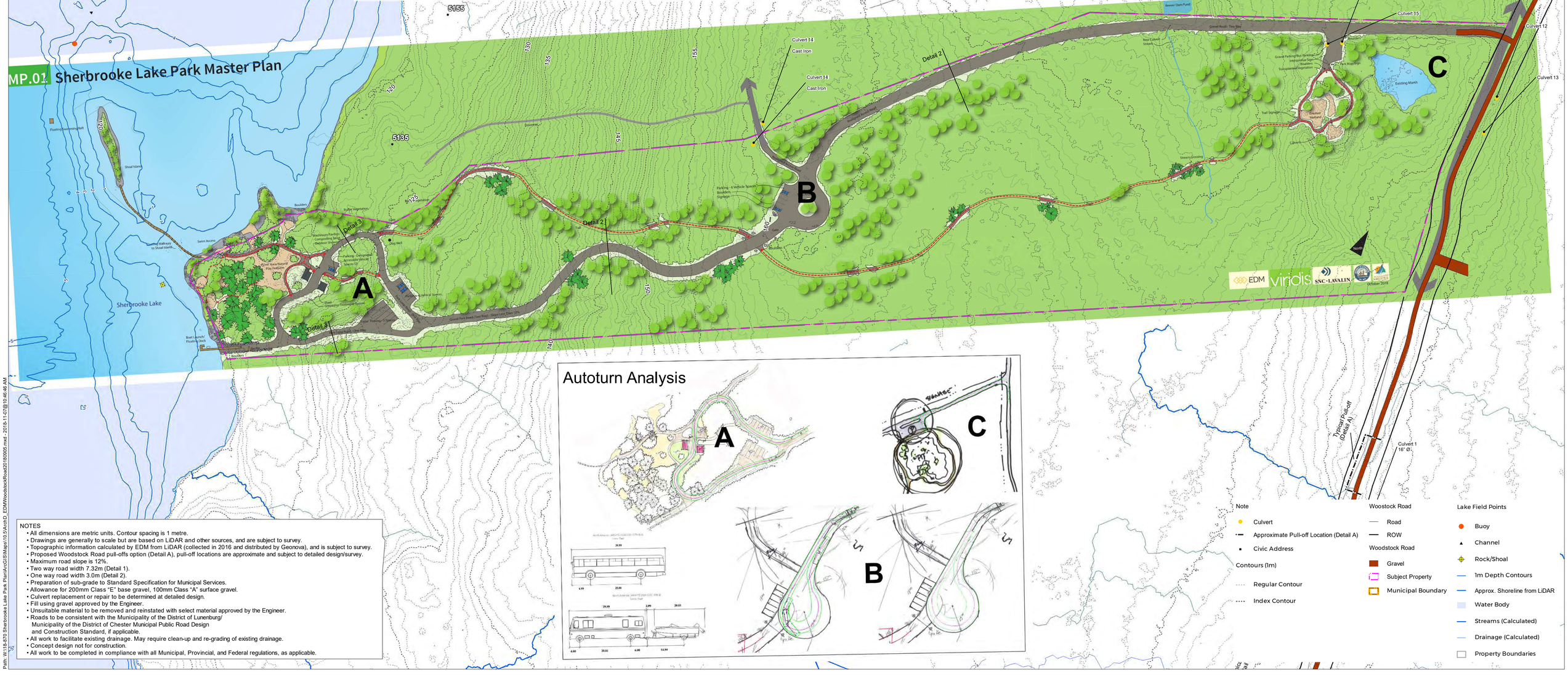


2 TWO-WAY TRAFFIC ROAD CROSS SECTION (PRIVATE ROAD)



3 ONE-WAY ROAD CROSS SECTION

MP.01 Sherbrooke Lake Park Master Plan



Autoturn Analysis

NOTES
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- All work to facilitate existing drainage. May require clean-up and re-grading of existing drainage.
- Concept design not for construction.
- All work to be completed in compliance with all Municipal, Provincial, and Federal regulations, as applicable.

Note
- Culvert
- Approximate Pull-off Location (Detail A)
- Civic Address

Contours (1m)
- Regular Contour
- Index Contour

Woostock Road
- Road
- ROW

Woodstock Road
- Gravel
- Subject Property
- Municipal Boundary

Lake Field Points
- Buoy
- Channel
- Rock/Shoal
- 1m Depth Contours
- Approx. Shoreline from LiDAR
- Water Body
- Streams (Calculated)
- Drainage (Calculated)
- Property Boundaries

180
Metres
1:1,200

Data Source: EDM, MDOL, MODC, Google, Service NS

Coordinate System: NAD 1983 CSRS MTM 5 Nova Scotia
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Metres
September 2018

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SHERBROOKE LAKE PARK
Park Concept Area
Sheet 3 of 3
September 2018

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APPENDIX F: CONCEPTUAL DETAILS

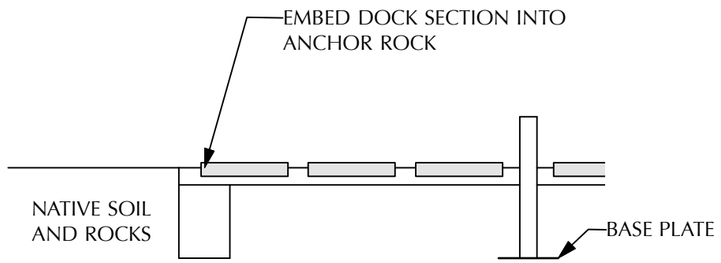
- FLOATING WALKWAY

- WASHROOM PAVILION

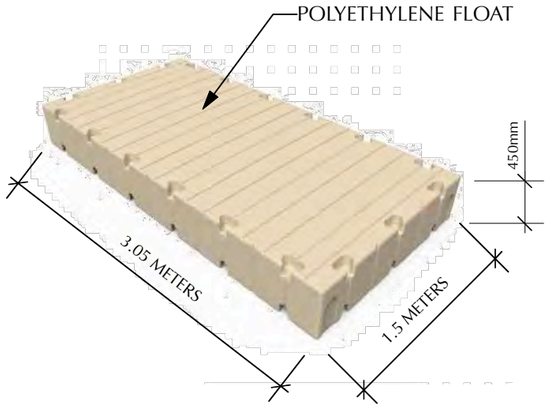
- BOAT LAUNCH

FEATURES:
- ALUMINUM FRAME AND HARDWARE
- GALVANIZED STEEL POSTS 1-11/16" DIAMETER
- CEDAR PLANKS

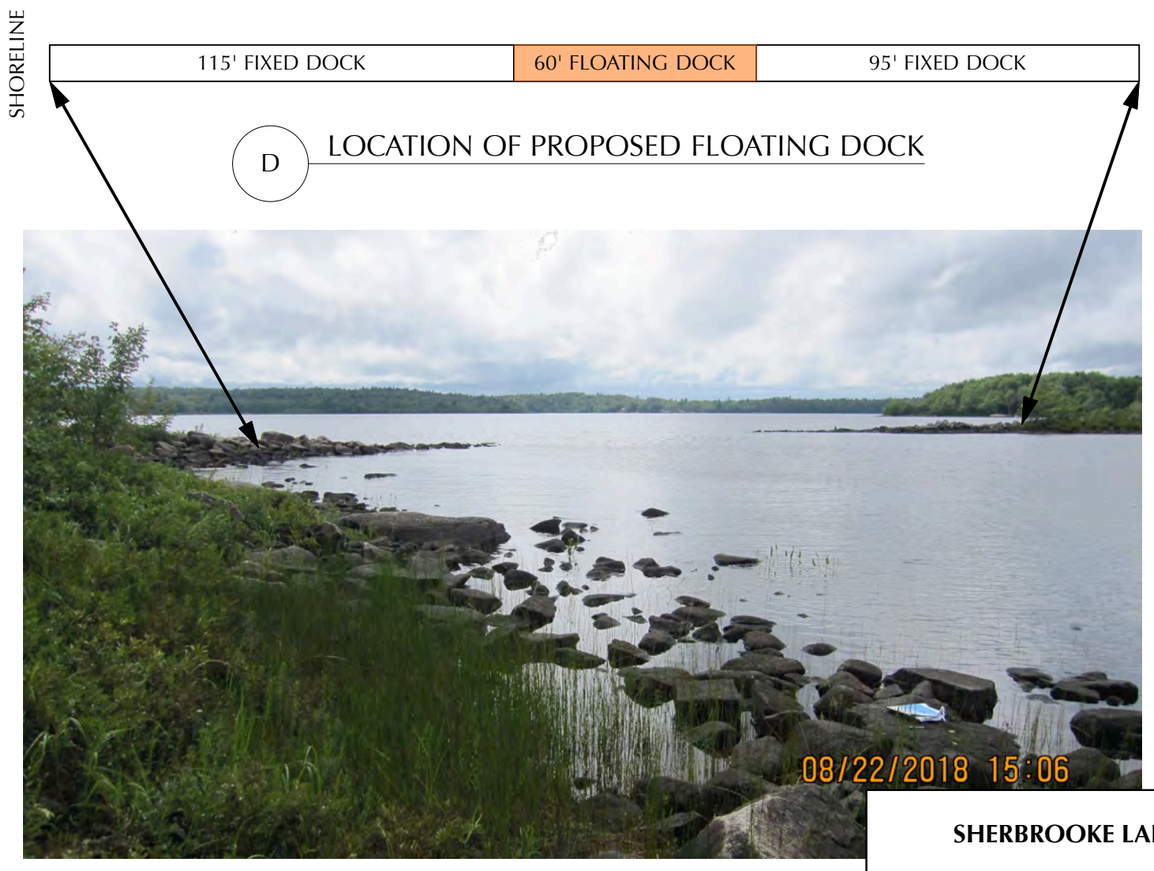
A TYPICAL DOCK SECTION



B TYPICAL BOARDWALK ABUTMENT



C TYPICAL FLOATING DOCK SECTION



D LOCATION OF PROPOSED FLOATING DOCK

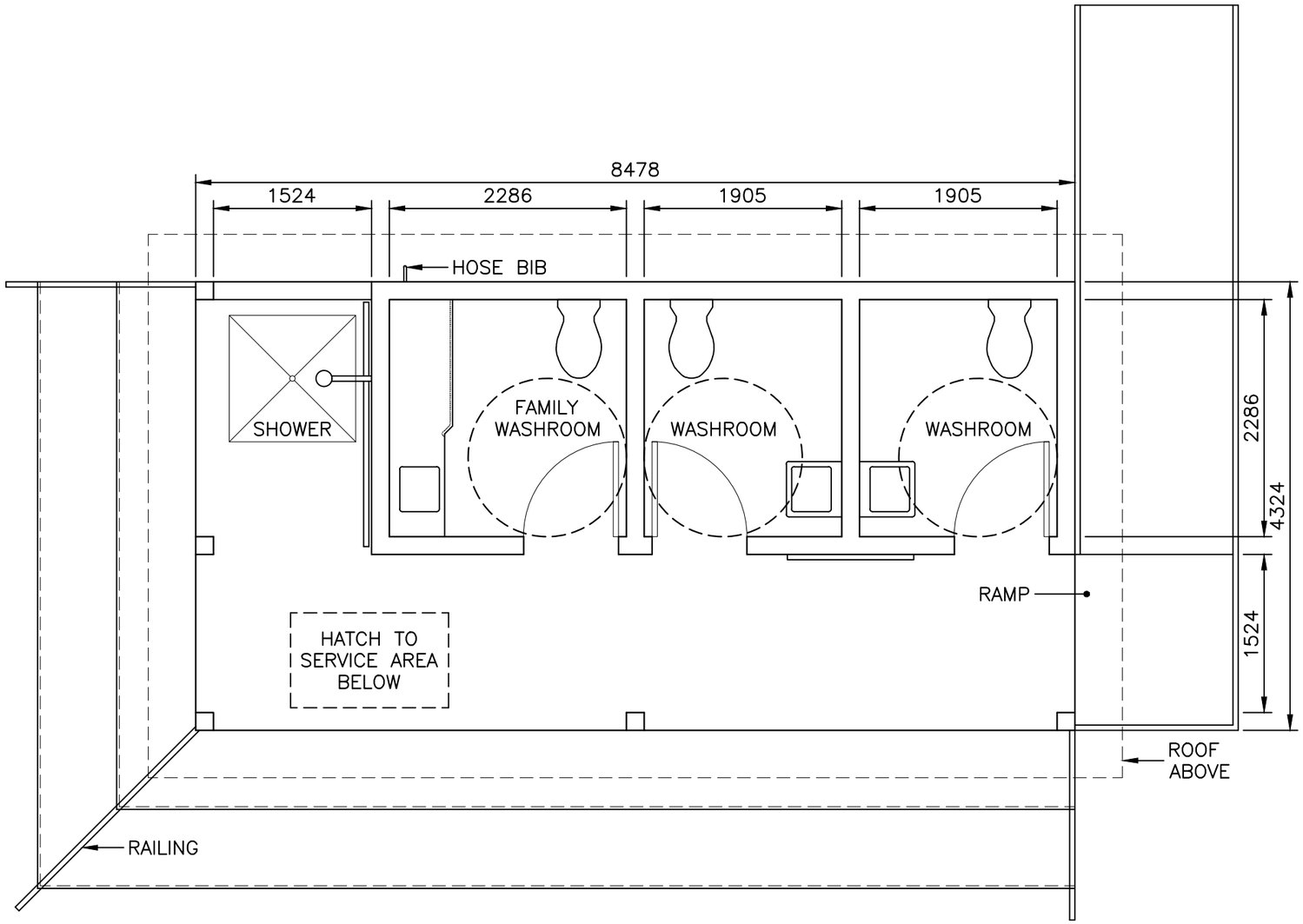
EDM
PLANNING SERVICES LTD

SHERBROOKE LAKE

FLOATING WALKWAY
DETAILS

Date: **18-9-24**
File name: **Cross Sections.vwx**

SCALE:	DATE:
NTS	2018-09-24



659039-0001-D-44-SKT-000-0001-01 / 21 Sep, 2018 - 8:42am - mathm8

REV.	DATE	DESCRIPTION	BY
B01	2018-09-21	Issued For Concept Review	

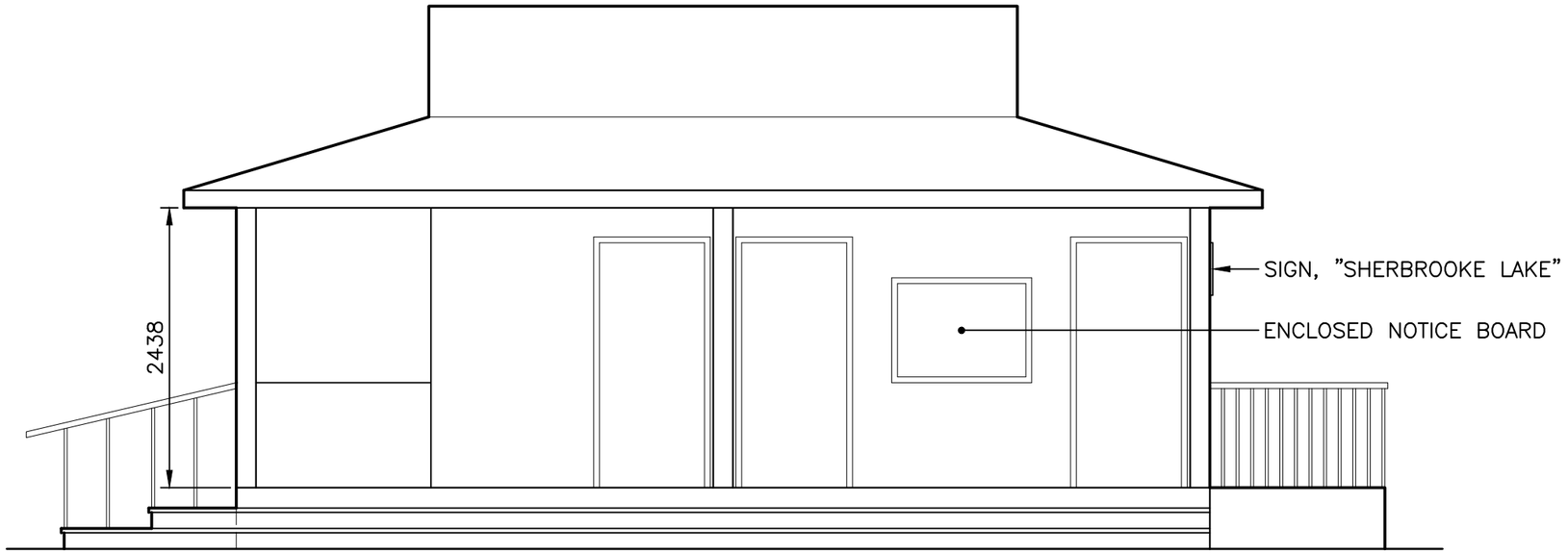
SNC•LAVALIN
SNC•LAVALIN Inc.
Antigonish, Nova Scotia, Canada
Telephone: 902-863-1220
Fax: 902-863-3225
Member of the SNC•LAVALIN Group

CLIENT
DISTRICT OF LUNENBURG INC. 1879
THE MUNICIPALITY OF CHESTER

PROJECT TITLE
SHERBROOKE LAKE PARK
LUNENBURG COUNTY, NS

DESIGNED: MM	PROJECT MANAGER: RL
DRAWN: MM	CHECKED: GH
SCALE: NTS	DATE: 2018-09-05

DRAWING TITLE: CONCEPT PLAN
DRAWING No: 659039 ASK-01



RENDERING INTENDED FOR MATERIALS ONLY.
COLOURS AS SELECTED BY OWNER

REV.	DATE	DESCRIPTION	BY
B01	2018-09-21	Issued For Concept Review	

SNC•LAVALIN
SNC•LAVALIN Inc.
Antigonish, Nova Scotia, Canada
Telephone: 902-863-1220
Fax: 902-863-3225
Member of the SNC•LAVALIN Group

CLIENT: DISTRICT OF LUNENBURG INC. 1879 — THE MUNICIPALITY OF CHESTER

PROJECT TITLE: SHERBROOKE LAKE PARK
LUNENBURG COUNTY, NS

DESIGNED: MM	PROJECT MANAGER: RL
DRAWN: MM	CHECKED: GH
SCALE: NTS	DATE: 2018-09-05

DRAWING TITLE: CONCEPT ELEVATION, RENDERING

DRAWING No: 659039 ASK-02

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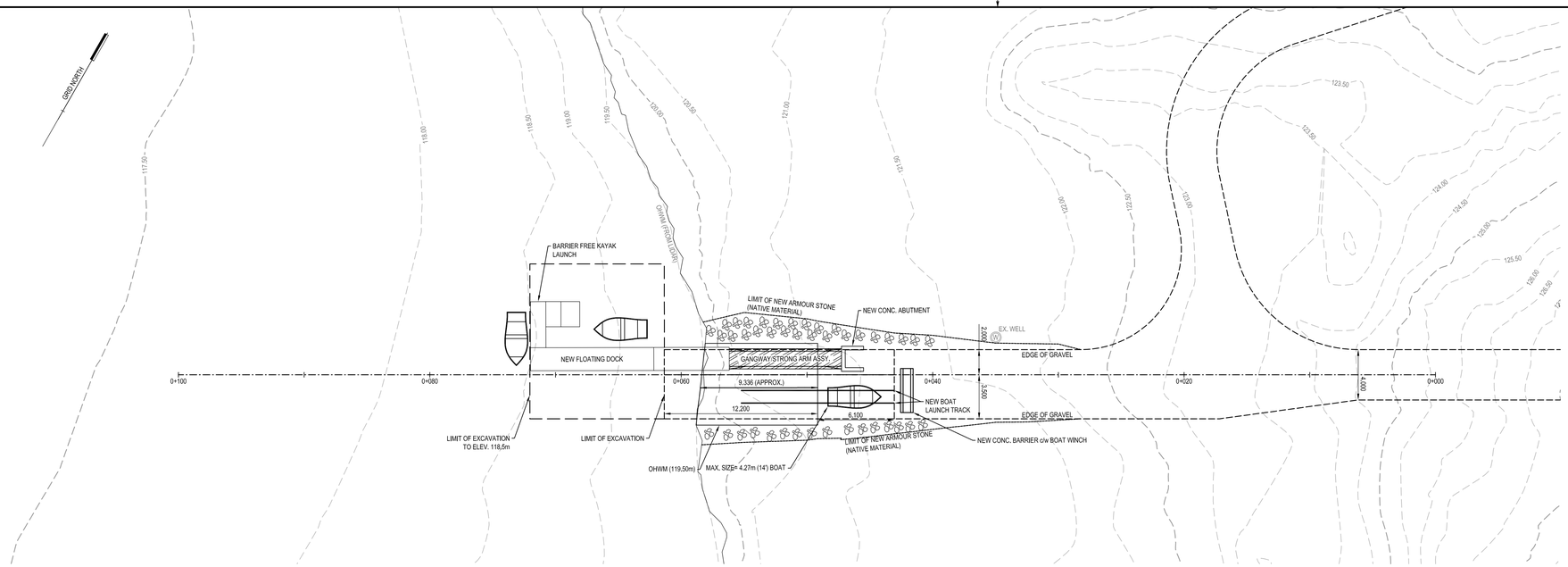
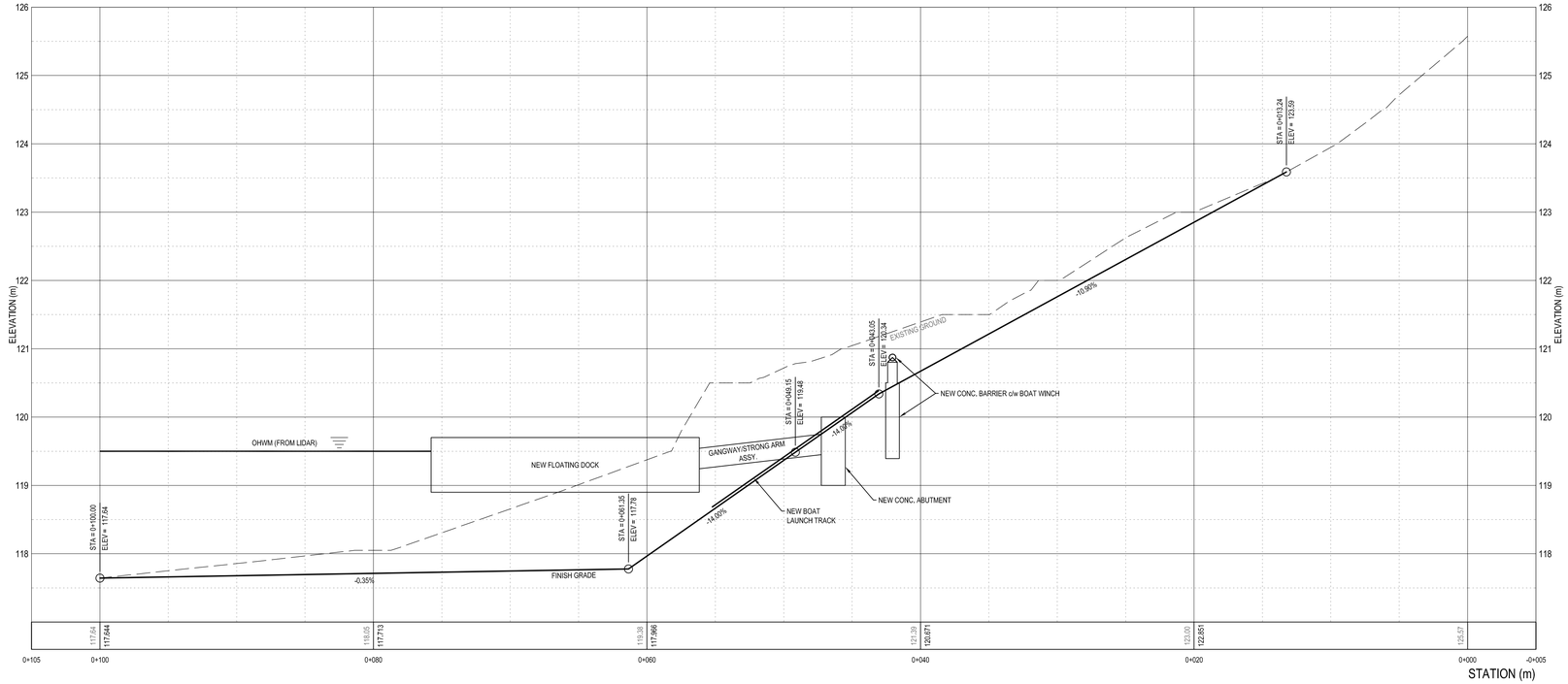


BOAT LAUNCH PROFILE



NOT FOR CONSTRUCTION

REV.	DATE	REVISION DESCRIPTION	BY
B01	11-09-2018	ISSUED FOR REVIEW	

SEAL

REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF NOVA SCOTIA — DATE 11/9/18 — R.A. LISSING — 8029

DESIGNED: RAL	PROJECT MANAGER: TW
DRAWN: DAM	CHECKED: RAL
SCALE: HORZ.:1:200, VERT.: 1:40	DATE: 2018-09-11

SNC•LAVALIN
SNC•LAVALIN Inc.
Antigonish, Nova Scotia, Canada
Telephone: 902-863-1220
Fax: 902-863-3225
Member of the SNC•LAVALIN Group

PROJECT TITLE:

SHERBROOKE LAKE PARK CONCEPT PLAN

SHERBROOKE LAKE, LUNENBURG CO., NS

DRAWING TITLE:

PROPOSED BOAT LAUNCH PLAN & PROFILE

DRAWING NUMBER:

C01

11-Sep-2018, 13:37 MDSS03
658039-0001-0-41-DWG-0001-01, B01