

Former Beaches Pub Property Environmental Site Assessments Executive Summary

September 18, 2019

Presentation to Council
Township of South Stormont

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Former Beaches Pub Property

- Formerly Beaches Pub, Closed circa
- Previously a gas bar & garage until 1970s
- Known brownfield – Preliminary Phase 1 & 2 Environmental Site Assessment (ESA) 2004
- RFEOI in 2016
- Purpose: Assess Environmental Conditions and Related Risk



(Source: HSP Engineering, preliminary Phase 1 & 2 Environmental Site Assessment, June 2004)



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Initial Site Review

- Reviewed Preliminary Phase 1 & 2 ESA by HSP (2004)
- Initial testpitting completed in 2017







Current Investigations (2018-2019)

- Phase 1 ESA
 - Assess likelihood of contamination
- Phase 2 ESA
 - Sampling and analysis to test for contamination (and delineate)
 - Obtain information to support remedial cost estimate
- Two approaches:
 - CSA standard
 - Record of Site Condition



What is a Record of Site Condition (RSC)?

- Certification made to the Ontario Ministry of the Environment, Conservation and Parks (MECP)
- Ontario Regulation 153/04, Records of Site Condition (the “Brownfields Regulation”)
- Details per the MECP...

What is a Record of Site Condition?

The screenshot shows the Ontario government website for Records of Site Condition (RSC). At the top, there is a navigation bar with the Ontario logo, a search bar, and links for 'contact us' and 'Français'. Below the navigation bar, a section titled 'Records of site condition' states that records have been filed since July 1, 2011. A message instructs users to click on an RSC number to view the full RSC and supporting documents in a printable format, or to contact the Ministry at 1-800-461-6290 for a hard copy. A note mentions that the electronic list of RSCs may take up to five business days to be updated. Below this, there is a search bar and a 'Show/hide columns' button. A table displays a list of RSCs with columns for RSC Number, Name of Submitting Owner, Name of Qualified Person, Municipal Address (if available), Municipality, Intended Property Use, and Date of Filing.

RSC Number	Name of Submitting Owner	Name of Qualified Person	Municipal Address (if available)	Municipality	Intended Property Use	Date of Filing
150001	Counsel Park Limited	Farzad Eftekhari	575 Park Road North	Brantford	Residential	10-Aug-11
200162	1204334 Ontario Inc.	Doug Ritcey	2 Bloomfield Trail	Richmond Hill	Institutional	21-Sep-11

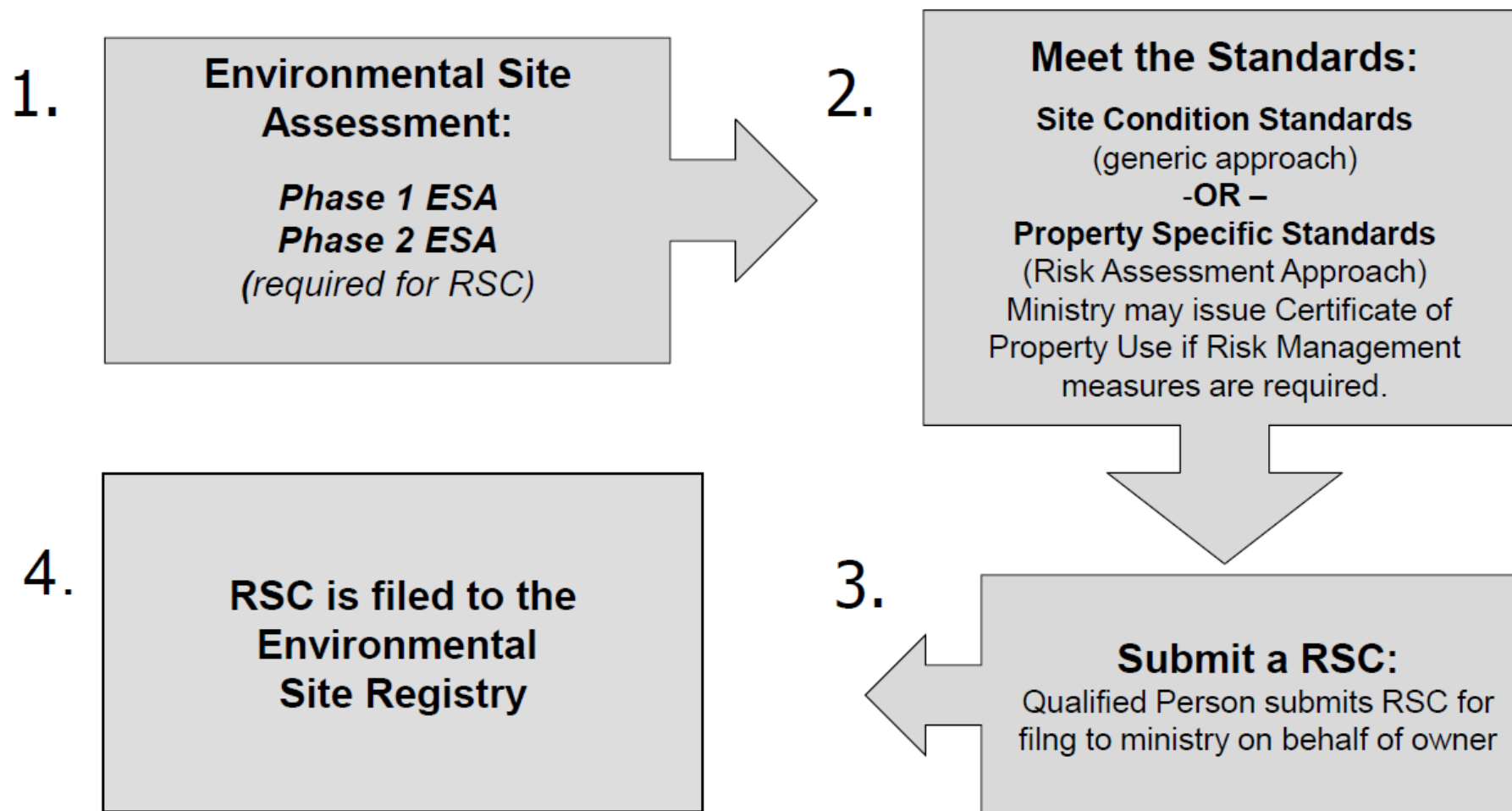
- A RSC is a document that specifies the levels of contaminants existing at a property as of a certain date, and confirms the property meets the soil, ground water and sediment standards applicable for the intended use of the property.
- The RSC provides a summary of the environmental condition of a property (in, on or under) as certified by a “*Qualified Person*” at a point in time.
- Under XV.1 of the EPA, a RSC must be filed to the Environmental Site Registry (ESR) before the use of a property can change to a more sensitive use.
- Provides limited protection from environmental clean-up orders.



Property Use Changes Triggering RSC

	RSC Required to Change to Sensitive Property Uses	Sensitive Property Uses	
Industrial		Residential	Agricultural
Commercial		Parkland	Other
Community		Institutional	
		Community use (per s. 10)	

Brownfields Remediation Framework

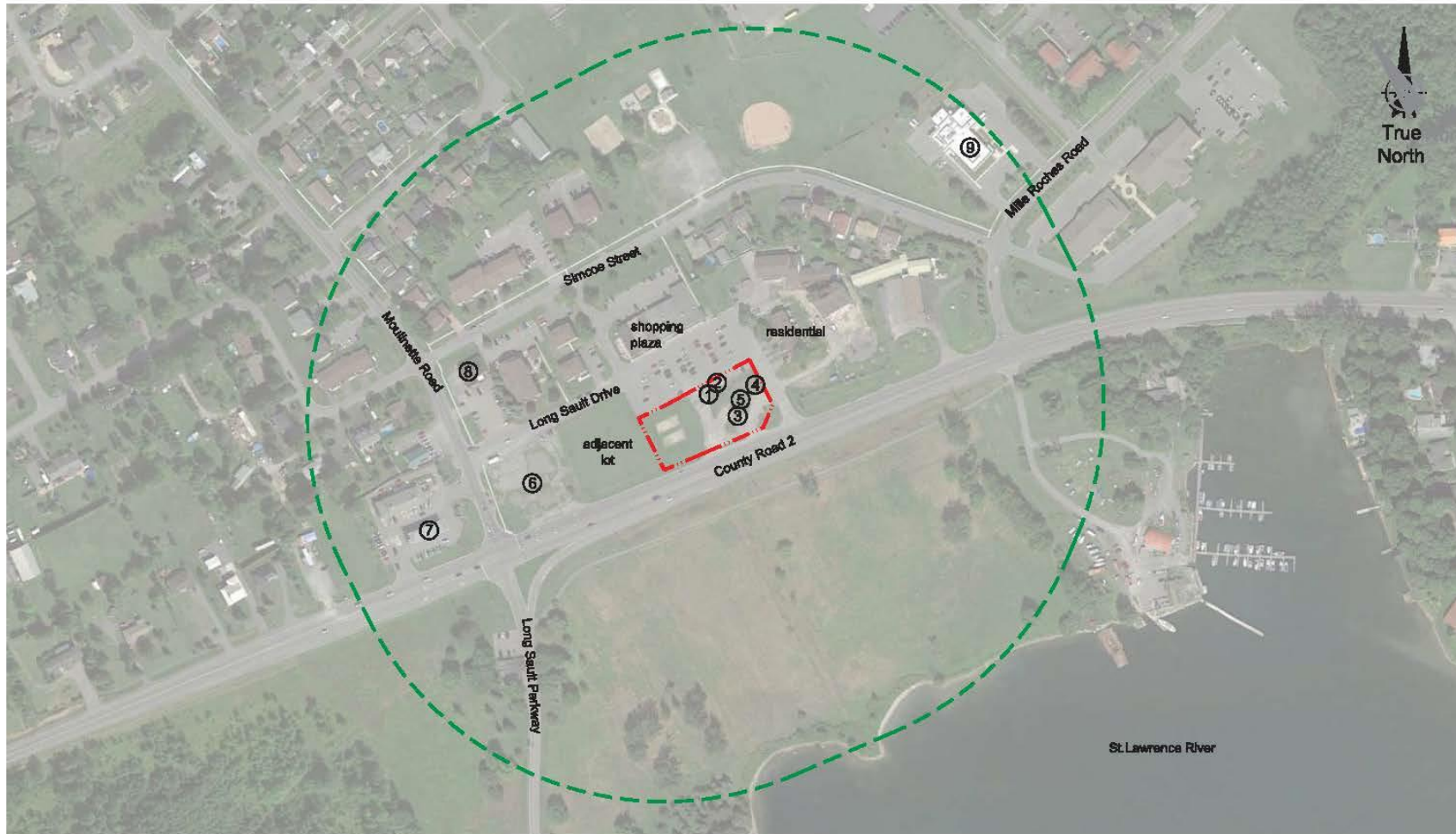


(Source: MOECC, Brownfields Overview Ontario Home Builders Association –
Workshop November 26, 2014)



Phase 1 ESA - Approach

- Scope:
 - Review historic records (MOECC databases, land title, aerial photos, etc.)
 - Site walkthrough observations
 - Interview knowledgeable personnel
- Completed to RSC Standards



Legend



- Phase One property boundary
- Phase One study area
- ① potentially contaminating activity

Note: figure based on Malroz field observations and Google Earth imagery

D0	18/10/17	for PM review	MH	EG
Rev	Date	Description	By	Chk

Potentially Contaminating Activities

Phase One ESA
15945 County Road 2, Long Sault, Ontario

File: 1022-111.03	Figure 2	
approx. scale (m) 		

1929



True
North

1958



True
North



Legend

- approximate property boundary
- boundary between east parcel and west parcel
- edge of pavement



APECs

- A former automobile service garage and fill area (PHC, VOC, PAH, Metals)
- B former UST containing oil (PHC, VOC, PAH, Metals)
- C/D former gasoline dispensers (PHC, VOC)
- E former USTs containing gasoline (PHC, VOC, Metals)
- F off-site automobile service garage, gas station, and related potentially contaminating activities (PHC, VOC, PAH, Metals)

Note: figure based on Malroz field observations and Google Earth imagery

D0	18/10/17		for PM review	MH	EG
Rev	Date		Description	By	Chkd

<h2 style="text-align: center;">Areas of Potential Environmental Concern</h2>					
<p style="text-align: center;">Phase One ESA 15945 County Road 2, Long Sault, Ontario</p>					

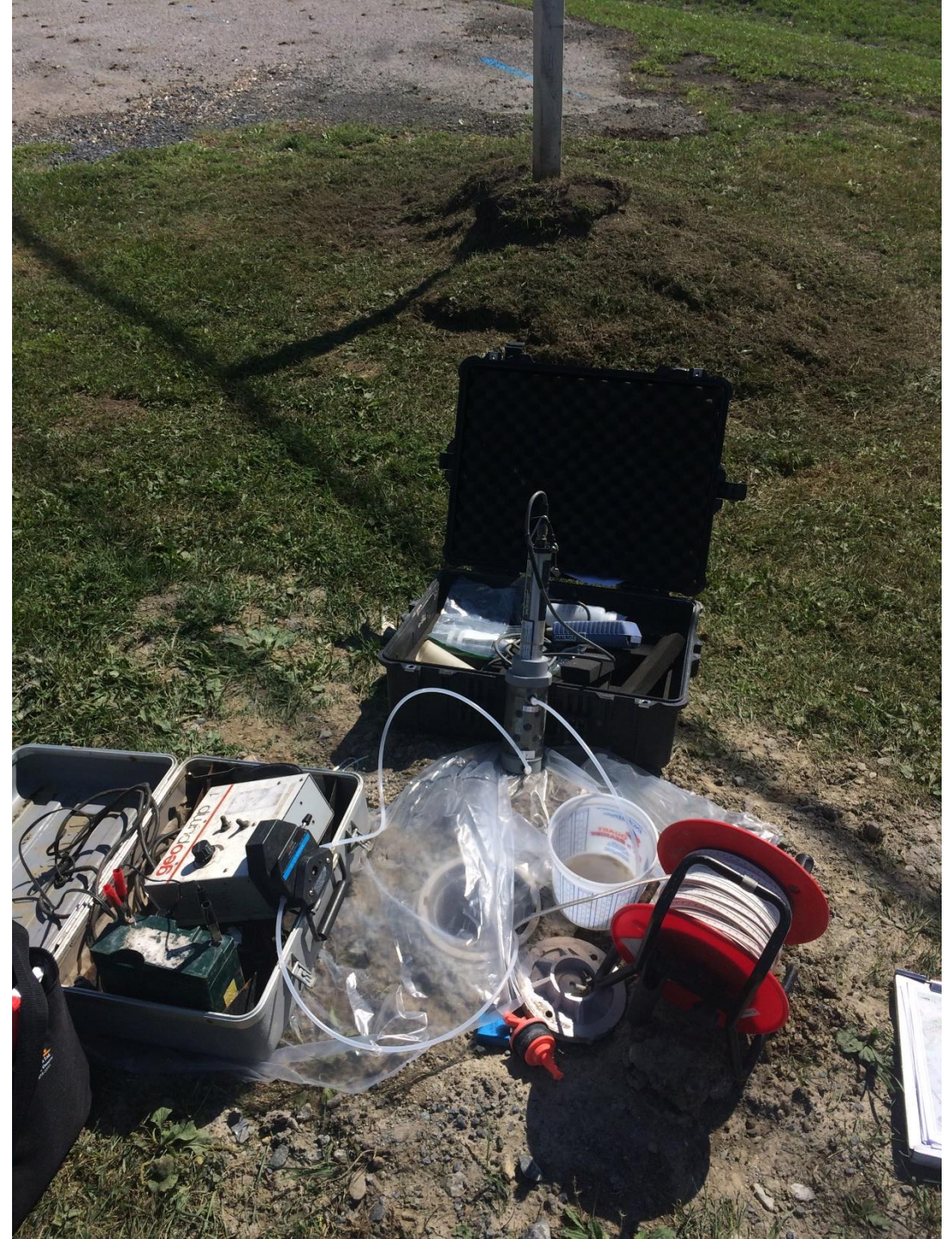
File: 1022-111.03		<h1>Figure 4</h1>	
approx. scale (m)			
			



Phase 2 ESA - Approach

- Plan was developed based on results of the Phase 1 ESA
- Scope:
 - a geophysical survey
 - boreholes for soil sampling
 - install of groundwater monitoring wells
 - soil and groundwater sampling
 - testpitting to visually assess geophysical anomalies
- Completed to RSC Standards, but some additional work will be needed to support a subsequent RSC







Phase 2 ESA - Findings

- Stringent environmental standards due to shallow groundwater encountered at the site (< 2 metres below grade)
- Soil & groundwater contamination
 - Petroleum-related impacts (PHC, BTEX, PAH)
- Four geophysical anomalies (potential tanks or other buried metal objects)

Soil



TP2	S01
10/03/2017	(2.0)
PHC F1	<
PHC F2	237
PHC F3	223
PHC F4	48
Benzene	<
Ethylbenzene	<
Toluene	<
Xylene (total)	<

TP3	S01	S02
10/03/2017	(2.0)	(DUP.)
PHC F1	40	60
PHC F2	40	21
PHC F3	17	<
PHC F4	<	<
Benzene	<	<
Ethylbenzene	0.6	0.86
Toluene	<	<
Xylene (total)	1.21	1.87

TP4	S01
10/03/2017	(2.0)
PHC F1	4260
PHC F2	330
PHC F3	23
PHC F4	<
Benzene	2.15
Ethylbenzene	99.9
Toluene	283
Xylene (total)	634

BH102	S002
08/20/2018	(1.2-1.5)
PHC F1	21
PHC F2	431
PHC F3	171
PHC F4	<
Benzene	<
Ethylbenzene	<
Toluene	<
Xylene (total)	<

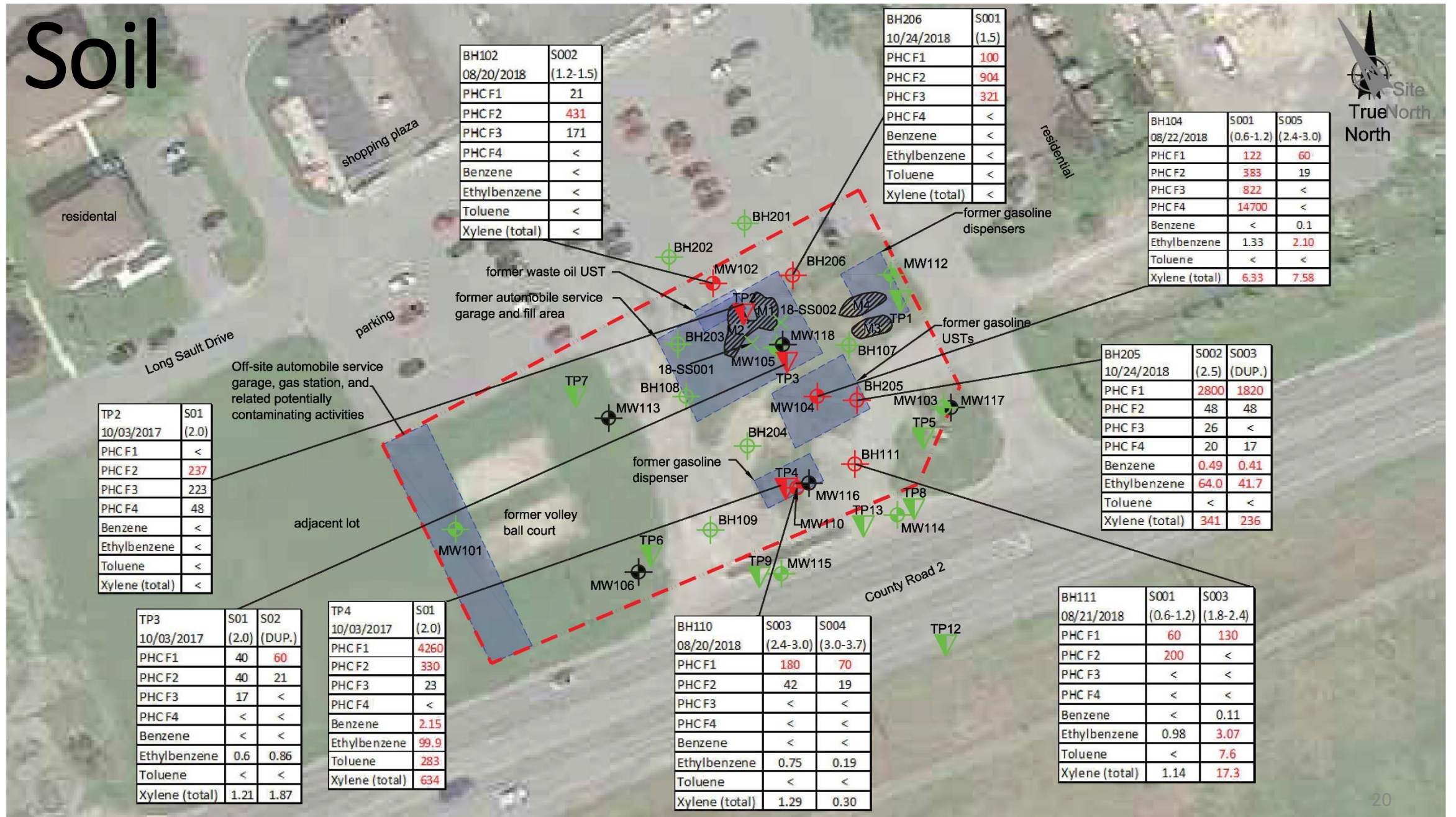
BH110	S003	S004
08/20/2018	(2.4-3.0)	(3.0-3.7)
PHC F1	180	70
PHC F2	42	19
PHC F3	<	<
PHC F4	<	<
Benzene	<	<
Ethylbenzene	0.75	0.19
Toluene	<	<
Xylene (total)	1.29	0.30

BH206	S001
10/24/2018	(1.5)
PHC F1	100
PHC F2	904
PHC F3	321
PHC F4	<
Benzene	<
Ethylbenzene	<
Toluene	<
Xylene (total)	<

BH205	S002	S003
10/24/2018	(2.5)	(DUP.)
PHC F1	2800	1820
PHC F2	48	48
PHC F3	26	<
PHC F4	20	17
Benzene	0.49	0.41
Ethylbenzene	64.0	41.7
Toluene	<	<
Xylene (total)	341	236

BH104	S001	S005
08/22/2018	(0.6-1.2)	(2.4-3.0)
PHC F1	122	60
PHC F2	383	19
PHC F3	822	<
PHC F4	14700	<
Benzene	<	0.1
Ethylbenzene	1.33	2.10
Toluene	<	<
Xylene (total)	6.33	7.58

BH111	S001	S003
08/21/2018	(0.6-1.2)	(1.8-2.4)
PHC F1	60	130
PHC F2	200	<
PHC F3	<	<
PHC F4	<	<
Benzene	<	0.11
Ethylbenzene	0.98	3.07
Toluene	<	7.6
Xylene (total)	1.14	17.3



Groundwater

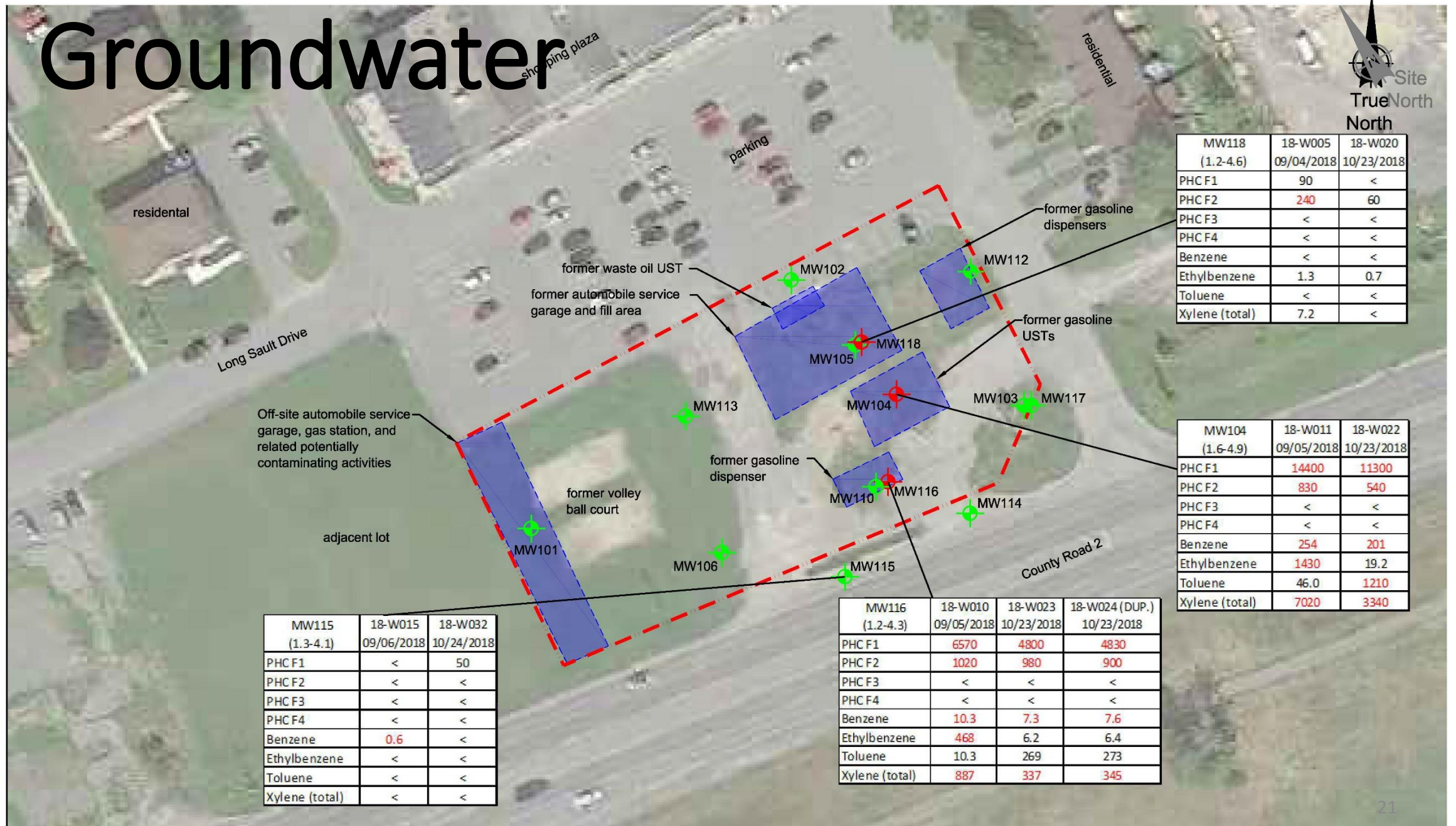
Site
True North
North

MW118 (1.2-4.6)	18-W005 09/04/2018	18-W020 10/23/2018
PHC F1	90	<
PHC F2	240	60
PHC F3	<	<
PHC F4	<	<
Benzene	<	<
Ethylbenzene	1.3	0.7
Toluene	<	<
Xylene (total)	7.2	<

MW104 (1.6-4.9)	18-W011 09/05/2018	18-W022 10/23/2018
PHC F1	14400	11300
PHC F2	830	540
PHC F3	<	<
PHC F4	<	<
Benzene	254	201
Ethylbenzene	1430	19.2
Toluene	46.0	1210
Xylene (total)	7020	3340

MW116 (1.2-4.3)	18-W010 09/05/2018	18-W023 10/23/2018	18-W024 (DUP.) 10/23/2018
PHC F1	6570	4800	4830
PHC F2	1020	980	900
PHC F3	<	<	<
PHC F4	<	<	<
Benzene	10.3	7.3	7.6
Ethylbenzene	468	6.2	6.4
Toluene	10.3	269	273
Xylene (total)	887	337	345

MW115 (1.3-4.1)	18-W015 09/06/2018	18-W032 10/24/2018
PHC F1	<	50
PHC F2	<	<
PHC F3	<	<
PHC F4	<	<
Benzene	0.6	<
Ethylbenzene	<	<
Toluene	<	<
Xylene (total)	<	<







Remedial Action Plan and Estimate

- Review potential remedial options (to obtain an RSC)
- Provide a related cost estimate
- Three approaches considered:
 1. Excavation to “clean” conditions (applicable standards)
 2. Excavation to risk-based standards
 3. “Hot-spot” excavation and remediation of residual contamination in place (*in situ*)







Remedial Action Plan and Estimate

1. Excavation to “clean” conditions (applicable standards)

➤ Estimated cost: **\$1.1M**

- Lowest environmental risk
- Highest effort and financial risk
- Shortest timeline

2. Excavation to risk-based standards

➤ Estimated cost: **\$0.5M**

- Would be most effective when cooperating with developer
- Costs were estimated assuming a specific “best-case” development scenario
- Higher long-term risk (to environment, e.g. contaminated groundwater monitoring & management)

3. “Hot-spot” excavation and remediation of residual contamination in place (*in situ*)

➤ Estimated cost: **\$1.1 M**

- Longer timeline and high financial risk

Table 2 - Summary of Remediation Cost Estimates

Remediation Option & Task Description	Estimated Cost ^a (\$)
Option 1 - Excavation and Disposal to "Table 7" Standards	
Remediation Excavation, Groundwater Management, Soil Verification Sampling, Backfilling	\$ 822,000.00
Reinstate & Develop Monitoring Wells (6 Wells)	\$ 12,000.00
Groundwater Monitoring & Sampling (2 Events)	\$ 24,000.00
Phase 2 ESA Update and other RSC Support	\$ 20,000.00
Other; Contingency (20%)	\$ 176,000.00
TOTAL COSTS	\$ 1,054,000.00
Option 2 - Excavation and Disposal to PSSs	
Remediation Excavation, Groundwater Management, Soil Verification Sampling, Backfilling	\$ 319,000.00
Reinstate & Develop Monitoring Wells (3 Wells)	\$ 6,000.00
Groundwater Monitoring & Sampling (2 Events)	\$ 24,000.00
Phase 2 ESA Update and other RSC Support	\$ 25,000.00
MGRAs	\$ 50,000.00
Other; Contingency (20%)	\$ 85,000.00
TOTAL COSTS	\$ 509,000.00
Option 3 - In Situ Remediation to "Table 7" Standards	
Remediation Excavation, Groundwater Management, Soil Verification Sampling, Backfilling; In-Situ Remediation of Remainder	\$ 877,000.00
Reinstate & Develop Monitoring Wells (3 Wells)	\$ 6,000.00
Groundwater Monitoring & Sampling (4 Events)	\$ 48,000.00
Phase 2 ESA Update and other RSC Support	\$ 20,000.00
Other; Contingency (20%)	\$ 190,000.00
TOTAL COSTS	\$ 1,141,000.00

Notes:

^a Excluding taxes



Potential Cost Savings

- Soil disposal at municipally-owned landfill
 - Reduced tipping fees
- Soil disposal completed concurrently with development
 - Reduced costs for excavation activities
 - No need to temporarily backfill
 - Shoring, if required for development, would aid remediation



FCM Green Municipal Fund

- Applied for grant under Feasibility Studies category
- Application jointly prepared by Malroz and Township Planning
 - Referenced Township planning documents
- Application was approved
- Provides grant of up to 50% of eligible costs
 - In this case, ~\$65,000

Questions?





Supplemental Slides



Community Improvement

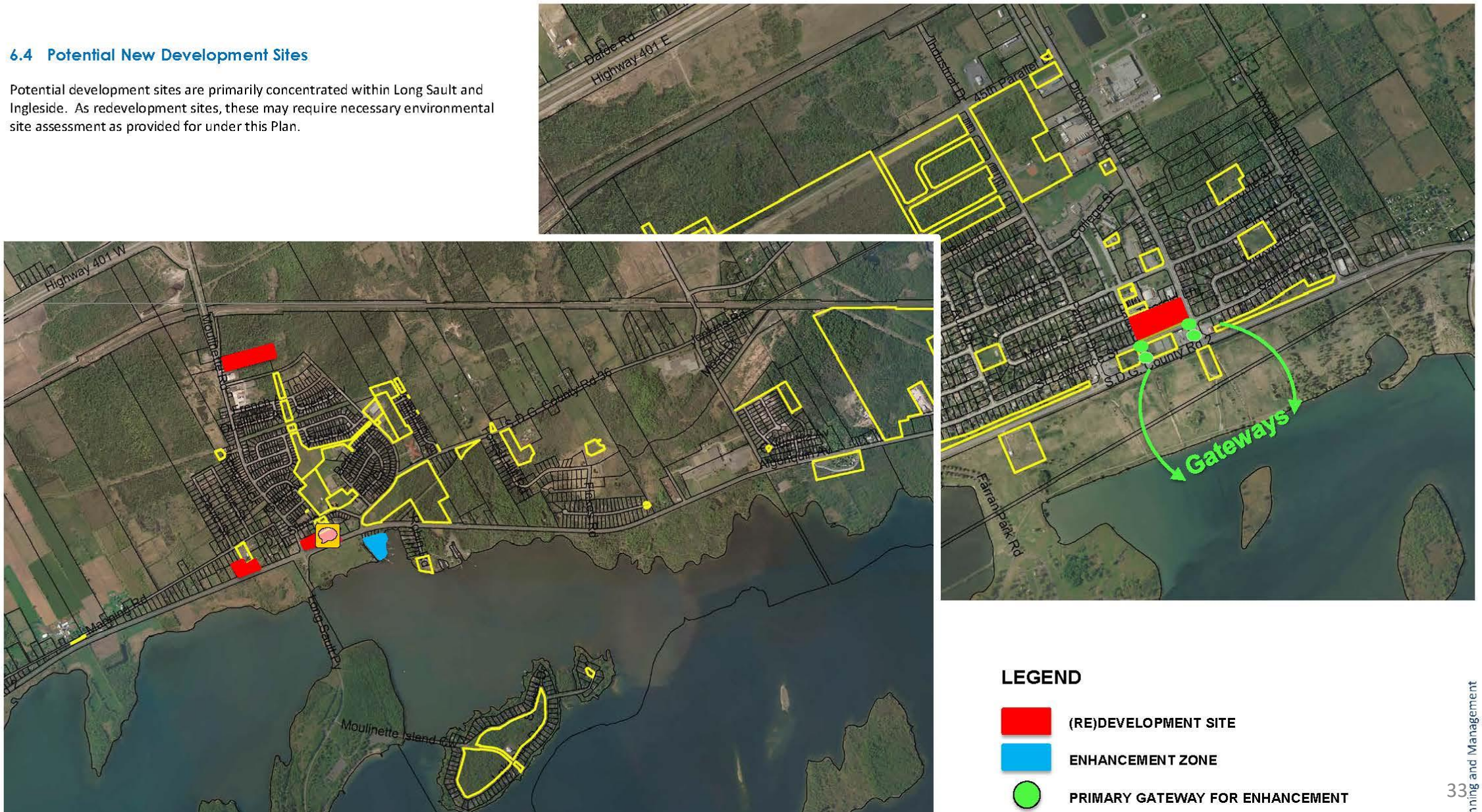
- Brownfield Redevelopment Program
 - ESA Site Assessment Grant Program
(up to \$15,000)
 - Environmental Remediation Tax Assistance Program
(annual tax deferment)



Township of South Stormont Community Improvement Plan & Brownfield Strategy

6.4 Potential New Development Sites

Potential development sites are primarily concentrated within Long Sault and Ingleside. As redevelopment sites, these may require necessary environmental site assessment as provided for under this Plan.





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Table 1 - Description of Remediation Areas

Remediation Area	Soil Depth (m)	Area (m ²)	Volume of Contaminated Soil (m ³)	Exceedances of MECP "Table 7" ^a	Notes
Option 1					
Area A	2.0	500	1,000	PHCs, PAHs	Soil depth from BH102 and TP2
Area B	3.5	1,100	3,850	PHCs, VOCs, PAHs	Soil depth from BH104, BH111, BH110, BH205 and TP3, TP4
Areas A + B (Total)	variable	1,600	4,850		
Option 2					
Area C	2.5	700	1,750	PHCs, VOCs, PAHs	Soil depth from BH104, BH110, BH205
Option 3					
Areas A + B - C (Total)	variable	1600	3,100	PHCs, VOCs, PAHs	

Notes:

^a MECP Reg 153/04 SGWS Standards 2011 Table 7 Full Depth Generic Site Condition Standards in a Non-Potable Groundwater Condition for Residential/Parkland/Institutional Property Use, coarse soils