



re: Environmental Remedial Action Plan
Proposed Site Redevelopment
178 – 200 Isabella Street - Ottawa
to: Minto Communities – Mr. Kevin Harper – kharper@minto.com
date: August 4, 2023
file: PE4710-RAP.01

Further to your request and authorization, Paterson Group (Paterson) has prepared a remedial action plan for the Phase II Property addressed, 178 – 200 Isabella Street, in the City of Ottawa. The impacted area included in this remedial action plan is shown on Drawing PE4710-9 – Contaminated Area, appended to this remedial action plan.

Environmental Site Conditions

Background Information

Based on the findings of the Phase I ESA Update completed in 2019, the historical use of the site was considered to present PCAs and as such, resulted in APECs as well as fill material of unknown quality. As a result, Paterson conducted a Phase II ESA to address the aforementioned APECs on the subject site.

Based on the 2019 Phase II ESA, fill material in the area of BH2-19 was identified as impacted with lead and several PAHs in excess of the selected MECP Tab 3 residential standards. All of the groundwater test results were in compliance with the selected MECP standards.

Paterson recently completed a Phase II ESA updated to resample and test the current groundwater quality. A groundwater sample was collected and submitted for BTEX and PHCs (F1-F4) in July of 2023. No BTEX or PHC concentrations were identified. Groundwater beneath the subject site is considered to be clean.

Contaminated Fill Material

Based on the findings of the Phase II ESAs, fill material in the area of BH2-19 is contaminated with metals (lead) and several PAHs in excess of the selected MECP Table 3 Residential Standards. The impact is considered to be confined in the upper layer of fill at a depth of approximately 0 to 0.63mbgs.



The fill material in the impacted area consisted of sand with silt and gravel. It is expected that some demolition debris may be encountered, however, the amount of non-granular material such as brick or pieces of asphalt, present on-site is less than 10%, as such, any non-granular material identified during the soil remediation program will be removed from the subject site as contaminated soil.

Soil testing will be required in conjunction with the excavation program to segregate clean soil/fill from impacted fill and for final confirmatory purposes.

Groundwater

Based on the findings of the Phase II ESAs, groundwater data available to date did not identify any impact. Due to the highly variability of the groundwater table during seasonal fluctuations, additional groundwater monitoring will be required post-remediation.

If any free groundwater is encountered during construction it will require testing to confirm the appropriate method of disposal.

Remedial Action Plan Summary

The suggested remedial action plan is as follows:

- A soil remediation program to separate impacted fill from the underlying clean soil will be conducted. Additional testing will be completed to segregate impacted material from clean material (fill/soil). This approach will be used in conjunction with the site development.
 - All overburden soils in the impacted areas will be stripped, segregated from clean soil and disposed off site at an approved waste disposal facility. A TCLP analysis will be carried out on a representative sample.
 - Excavated soil will be screened using visual and olfactory observations and a portable soil vapour analyser. Impacted soil will be placed in trucks and hauled to an approved waste disposal facility. Non-impacted soil will be assessed to determine where it can be taken to.
 - Final confirmatory soil testing will be conducted to verify that the subject site is clean, and a final remediation report will be prepared and incorporated in the Phase II-ESA report.
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We trust this satisfies your immediate requirements.

Best Regards,

Paterson Group Inc.

Mandy Witteman, M.A.Sc., P.Eng.

Mark D'Arcy, P.Eng, QP_{ESA}



Attachments:

- Drawing PE4710-9 – Contaminated area

Report Distribution:

- Minto Communities
- Paterson Group Inc.

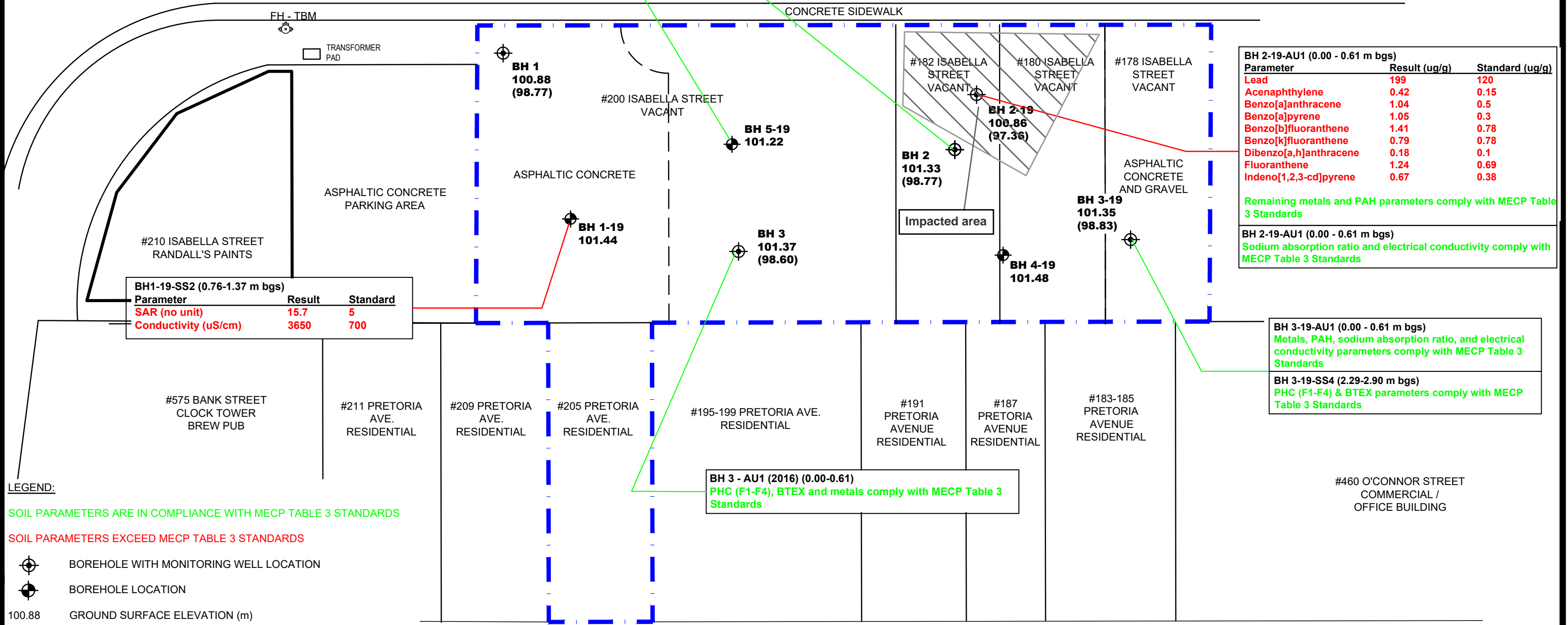
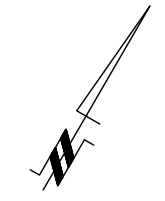


BH 2 - SS5 (2016) (3.04-3.66 m)
PHC (F1-F4) & BTEX comply with MECP Table 3 Standards

BH 5-19-SS1 (0.00 - 0.61 m bgs)
Metals parameters comply with MECP Table 3 Standards

HIGHWAY 417

ISABELLA STREET



BH 2-19-AU1 (0.00 - 0.61 m bgs)

Parameter	Result (ug/g)	Standard (ug/g)
Lead	199	120
Acenaphthylene	0.42	0.15
Benzo[a]anthracene	1.04	0.5
Benzo[a]pyrene	1.05	0.3
Benzo[b]fluoranthene	1.41	0.78
Benzo[k]fluoranthene	0.79	0.78
Dibenzo[a,h]anthracene	0.18	0.1
Fluoranthene	1.24	0.69
Indeno[1,2,3-cd]pyrene	0.67	0.38

Remaining metals and PAH parameters comply with MECP Table 3 Standards

BH 2-19-AU1 (0.00 - 0.61 m bgs)
 Sodium absorption ratio and electrical conductivity comply with MECP Table 3 Standards

BH1-19-SS2 (0.76-1.37 m bgs)

Parameter	Result	Standard
SAR (no unit)	15.7	5
Conductivity (uS/cm)	3650	700

BH 3-19-AU1 (0.00 - 0.61 m bgs)
 Metals, PAH, sodium absorption ratio, and electrical conductivity parameters comply with MECP Table 3 Standards

BH 3-19-SS4 (2.29-2.90 m bgs)
 PHC (F1-F4) & BTEX parameters comply with MECP Table 3 Standards

BH 3 - AU1 (2016) (0.00-0.61)
PHC (F1-F4), BTEX and metals comply with MECP Table 3 Standards

LEGEND:

SOIL PARAMETERS ARE IN COMPLIANCE WITH MECP TABLE 3 STANDARDS

SOIL PARAMETERS EXCEED MECP TABLE 3 STANDARDS

⊕ BOREHOLE WITH MONITORING WELL LOCATION
 ⊙ BOREHOLE LOCATION

100.88 GROUND SURFACE ELEVATION (m)
 (98.36) GROUNDWATER SURFACE ELEVATION (m)

TBM - TEMPORARY BENCHMARK - TOP OF FIRE HYDRANT SPINDLE. ASSIGNED AN ASSUMED ELEVATION OF 100.00 m ABOVE SEA LEVEL (ASL)

9 AURIGA DRIVE
 OTTAWA, ON
 K2E 7T9
 TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
0			

MINTO COMMUNITIES INC.
REMEDIAL ACTION PLAN
 178, 180, 182 & 200 ISABELLA STREET

OTTAWA, ONTARIO

Title: **ANALYTICAL TESTING PLAN - SOIL**

Scale:	1:400	Date:	08/2023
Drawn by:	MPG	Report No.:	PE4710-RAP.01
Checked by:	MW	Dwg. No.:	PE4710-9
Approved by:	MSD	Revision No.:	0

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