patersongroup Remedial Action Plan

consulting engineers

to:	Barwood Limited Partnership **Mr. Kevin Harper** – KHarper@minto.com
re:	**Environmental Remedial Action Plan** **78, 84, 86, and 88 Beechwood Avenue & 69, 73, 77, 81, 85, 89 and 93 Barrette Street, Ottawa, ON**
date:	December 9, 2020
file:	PE4614-RAP.01
from:	Lauren Kratz

Further to your request and authorization, Paterson Group (Paterson) completed a remedial action plan for the properties addressed 78, 84, 86 and 88 Beechwood Avenue & 69, 73, 77, 81, 85, 89 and 93 Barrette Street in the City of Ottawa (subject site).

Environmental Site Conditions

Historical Background

Paterson completed a Phase I – Environmental Site Assessment (Phase I ESA) in September 2020 for the subject site.

Based on the findings of the Phase I ESA, four Potentially Contaminating Activities (PCAs) were considered to result in Areas of Potential Environmental Concern (APECs) with respect to the subject site. APECs for the subject site are described as follows:

- ❑ APEC 1: A former autobody shop and service garage at 89 Barrette Street on the central portion of the subject site;
- ❑ APEC 2: The presence of a former landfill site located beneath the subject site and surrounding area;
- ❑ APEC 3: An off-site dry cleaners, at the property addressed 110 Beechwood Avenue, located approximately 20 m to the east of the subject site;
- ❑ APEC 4: An off-site former retail fuel outlet, located at the property addressed 64 Beechwood Avenue, adjacent to the west of the subject site.

A Phase II ESA was recommended to address the APECs identified in the Phase I ESA. Paterson completed a Phase II ESA for the subject site in September 2020.

Impacted Soil

Paterson completed a Phase II ESA for the subject site to address the aforementioned APECs. Based on the results of the Phase II ESA, concentrations of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and Metals in soil exist at the subject site in excess of the selected Ontario Ministry of the Environment, Conservation and Parks (MECP) Table 3 standards.

The Phase II ESA recommended an environmental site remediation program be completed in conjunction with site redevelopment. This will require the segregation of clean soil from impacted soil, the latter of which will require disposal at an approved waste disposal facility.

Groundwater

Based on the results of the Phase II ESA, the detected parameter concentrations in the groundwater samples analyzed were in compliance with the selected MECP Table 3 residential standards.

Remedial Action Plan Summary

The suggested remedial action plan consists of a generic approach, where the excavation and subsequent disposal of contaminated soil at an approved waste disposal facility would be undertaken during the redevelopment of the subject site.

Due to a change in land use, the proposed residential development will require a Record of Site Condition (RSC) to be filed with the MECP. To meet the conditions of an RSC, the suggested remedial action plan is as follows:

- Existing groundwater monitoring wells are required to be decommissioned by a licenced well driller in accordance with Ontario Regulation (O. Reg.) 903.

- A remediation program using a full depth generic approach will be implemented. This will involve an excavation to depths up to approximately 7 m below grade, to remove the impacted soil.

- During the excavation of impacted soil, soil will be screened using visual and olfactory observations as well as a portable soil vapour analyser. Field observations will be used in combination with the collection and analysis of verification samples to determine the excavation limits.

- Impacted soil will be placed in trucks and hauled to an approved waste disposal facility. Excess non-impacted soil to be removed from the property will be placed in trucks and hauled off-site for possible re-use as clean material or disposal.

- ❑ Excess soil is required to be handled in accordance with O.Reg. 406/19 – On-Site and Excess Soil Management.

- ❑ Based on the results of the Phase II ESA, the groundwater is in compliance with the MECP Table 3 Standards. However, if impacted groundwater is encountered, a portable treatment system could be installed to treat on-site accumulated groundwater by means of granular activated carbon. Alternatively, impacted groundwater could be removed by a licenced pumping contractor for off-site disposal. Groundwater treatment will continue until the on-site groundwater concentrations are compliant with the MECP Table 3 standards and/or City of Ottawa sewer use by-law. If groundwater treatment is required, post-remediation groundwater monitoring wells will be installed to confirm groundwater quality.

- ❑ Prior to pumping 50,000 L/day, a permit to take water (PTTW) from the MECP is required.

- ❑ Prior to discharging groundwater to the municipal sewer system, an Approval or Agreement from the City of Ottawa Sewer Use Program is required. Testing, reporting and discharge requirements need to be carried out in compliance with the agreement.

- ❑ A confirmatory soil sampling program will be completed to ensure that the site meets the MECP Table 3 standards.

- ❑ A remediation report will be prepared and an RSC will be submitted to the MECP for acknowledgement.

Soil exceeding the MECP Table 3 Standards below the proposed residential building will be removed during construction. As such, there is no anticipated potential for future soil vapour intrusion at the proposed residential development.

We trust that this information satisfies your requirements,

Best Regards,

Paterson Group Inc.

Lauren Kratz, P.Eng.

Report Distribution

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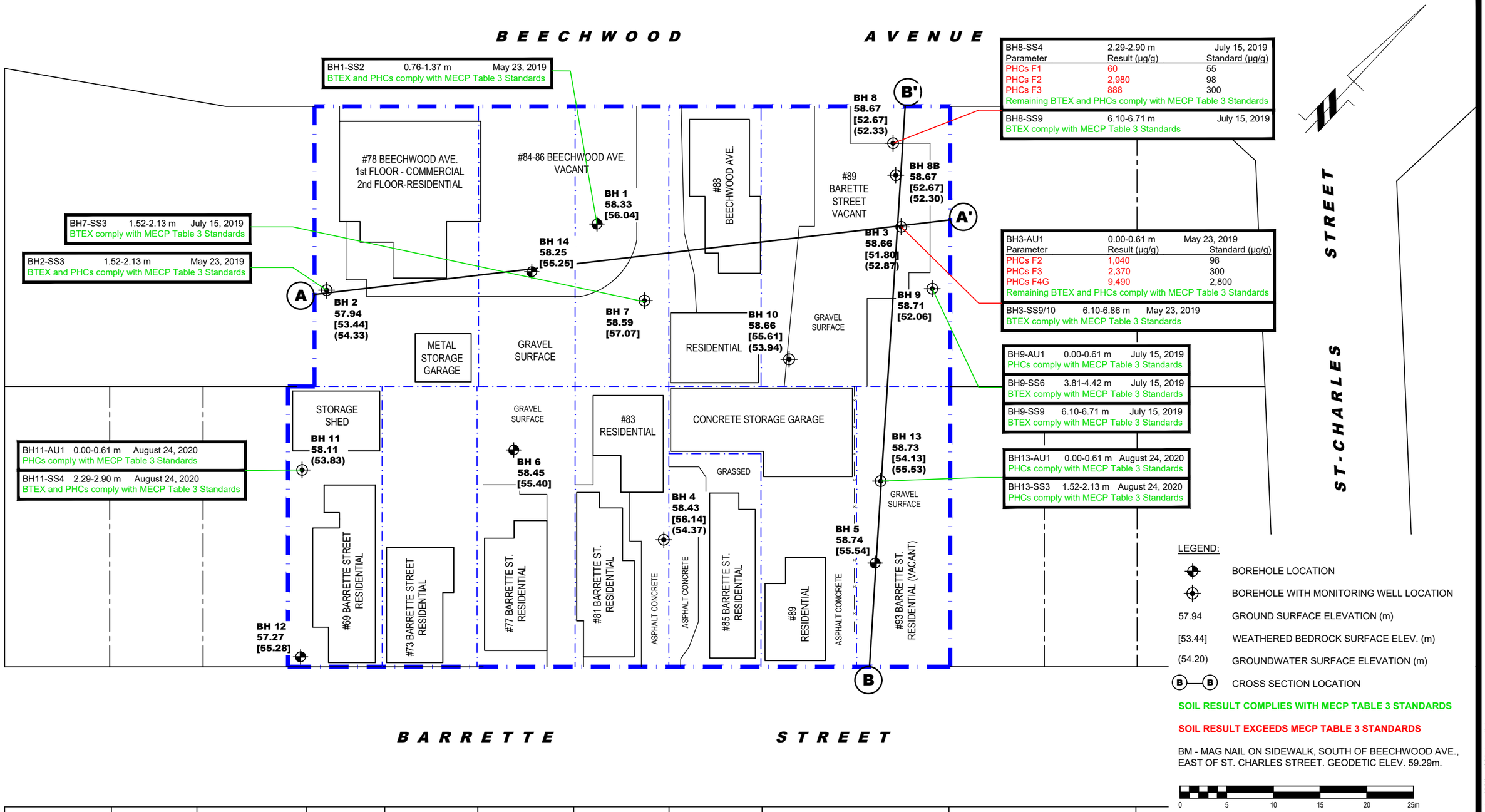

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NO.	REVISIONS	DATE	INITIAL
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MINTO COMMUNITIES INC.

PHASE II - ENVIRONMENTAL SITE ASSESSMENT

78, 84, 86 & 90 BEECHWOOD AVE. AND 77, 83, 85, 89 & 93 BARRETTE ST.

OTTAWA, ONTARIO

Title:

ANALYTICAL TESTING PLAN - SOIL (BTEX, PHCs)

Scale: 1:400	Date: 09/2020
Drawn by: RCG	Report No.: PE4614-2
Checked by: NS	PE4614-5
Approved by: MSD	Revision No.:

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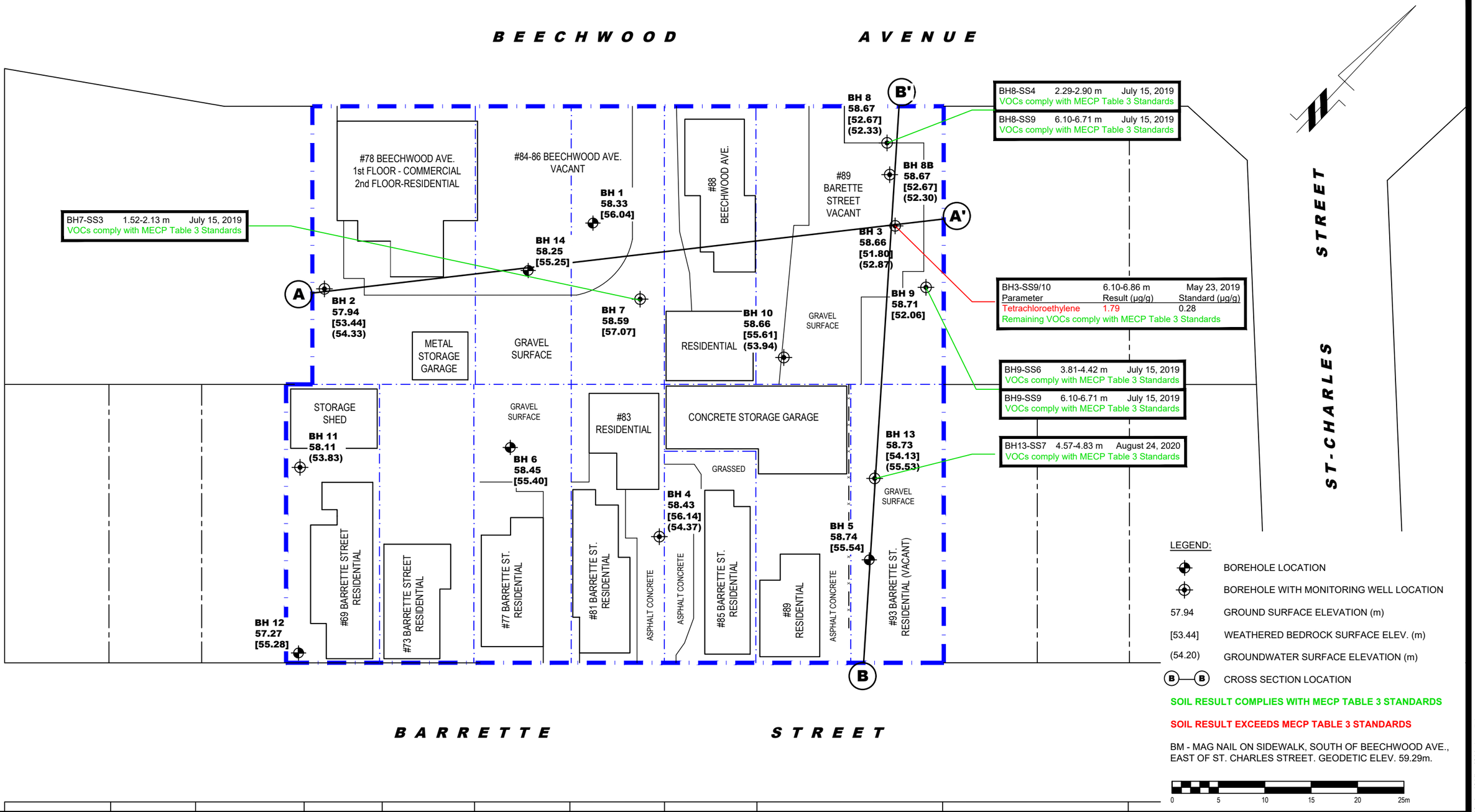

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PHASE II - ENVIRONMENTAL SITE ASSESSMENT
78, 84, 86 & 90 BEECHWOOD AVE. AND 77, 83, 85, 89 & 93 BARRETTE ST.
OTTAWA, ONTARIO

Title:

ANALYTICAL TESTING PLAN - SOIL (VOCs)

Scale: 1:400	Date: 09/2020
Drawn by: RCG	Report No.: PE4614-2
Checked by: NS	PE4614-6
Approved by: MSD	Revision No.:

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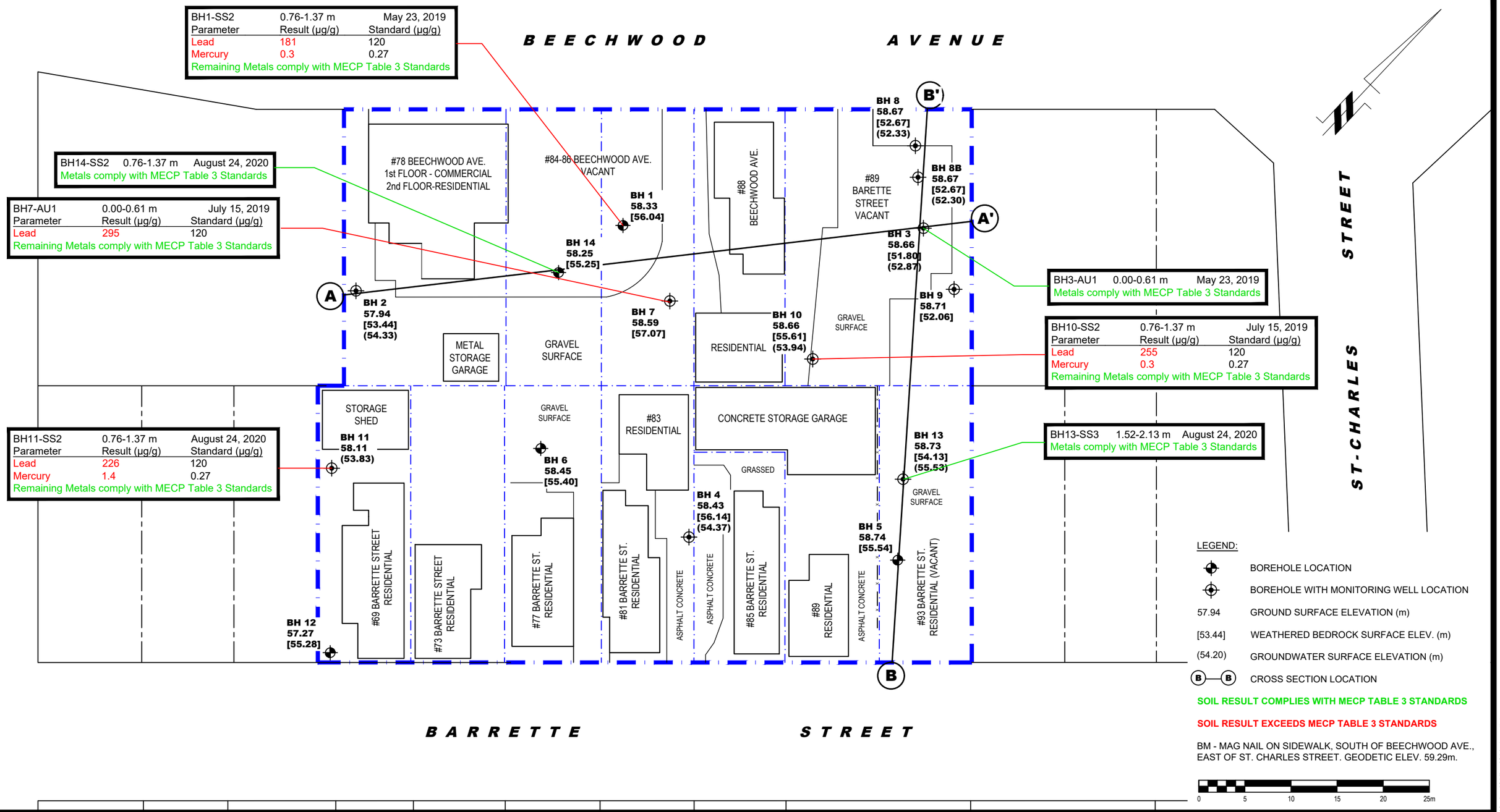

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78, 84, 86 & 90 BEECHWOOD AVE. AND 77, 83, 85, 89 & 93 BARRETTE ST.
OTTAWA, ONTARIO

Title:
ANALYTICAL TESTING PLAN - SOIL (METALS)

Scale: 1:400	Date: 09/2020
Drawn by: RCG	Report No.: PE4614-2
Checked by: NS	PE4614-7
Approved by: MSD	Revision No.:

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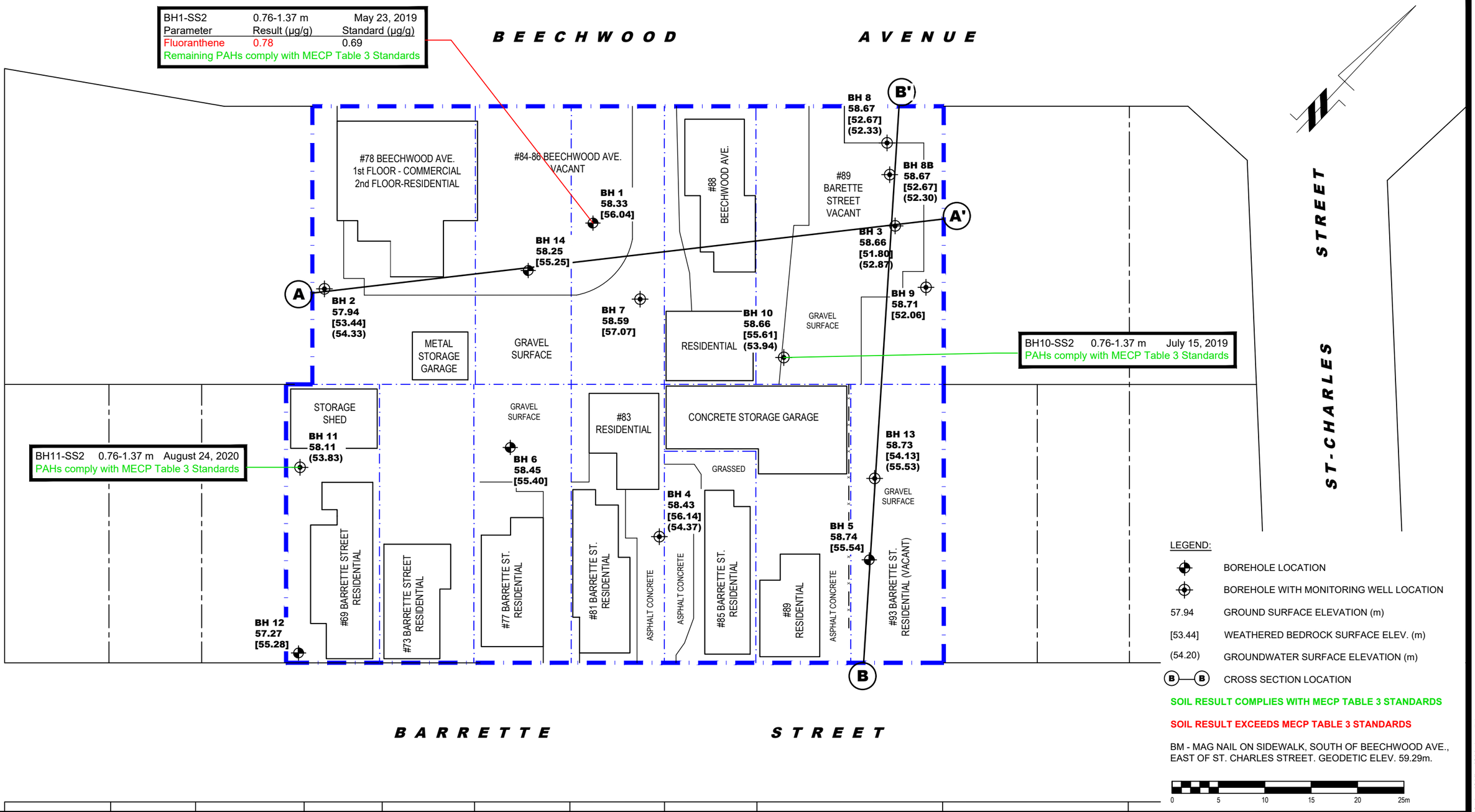

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78, 84, 86 & 90 BEECHWOOD AVE. AND 77, 83, 85, 89 & 93 BARRETTE ST.
OTTAWA, ONTARIO

Title:
ANALYTICAL TESTING PLAN - SOIL (PAHs)

Scale: 1:400	Date: 09/2020
Drawn by: RCG	Report No.: PE4614-2
Checked by: NS	PE4614-8
Approved by: MSD	Revision No.:

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