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09 October 2025

Brovi Investments Ltd.
10533 Keele Street
Maple, Ontario L6A 3Y9

Risk Evaluation
10533 Keele Street, Vaughan, Ontario

Dear Brovi Investments Ltd.,

1. Introduction

GHD Limited (GHD) was retained by Brovi Investments Ltd. (Brovi), to complete a Risk Evaluation (RE) to support the proposed redevelopment of 10533 Keele Street in Vaughan, Ontario (Site or Property). GHD understands that as part of a Site Plan Approval (SPA) application, the City of Vaughan (the City) has requested a RE be completed for the Site. A Record of Site Condition (RSC) for the Site under Ontario Regulation (O. Reg.) 153/04 is not currently required for the Site, given no change in land use is currently proposed. GHD understands that if the Risk Evaluation adequately addresses City questions regarding environmental conditions on the Site, that a RSC will not be requested by the City.

GHD recently completed a Phase Two Environmental Site (ESA) (GHD, 2024a)[1] to support the redevelopment of the Site. The Phase Two ESA identified lead and benzo(a)pyrene soil impacts above the applicable Ministry of the Environment, Conservation and Parks (MECP) Table 3: Full Depth Generic Site Condition Standards in Non-Potable Groundwater Condition (Table 3 SCSs) for industrial/commercial/community land use, medium-fine textured soil [2]. The lead and benzo(a)pyrene impacted soils were identified in two locations, and there was no evidence of widespread impact identified. None of the measured groundwater concentrations were above the Table 3 SCSs. However, the minimum depth to groundwater at the Site is less than the MECP default of 3 metres below ground surface (mBGS) that is used to develop the Table 3 SCS. Therefore, to address the shallow depth to groundwater and the potential effect on the vapour intrusion pathway, the volatile parameters in groundwater analytical data were also compared to the MECP Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition (Table 7 SCS) (Table A.1 in **Attachment A**). Based on this additional comparison, no groundwater COCs were identified.

The purpose of this RE is to assess the potential human health and ecological risks associated with potential exposure to the identified soil impacts following the redevelopment of the Site and identify appropriate management strategies, where applicable. The RE was completed based on the assumption that the Site will be redeveloped for industrial purposes, consistent with the development proposal included with the SPA submission. The RE was conducted using the risk-based methodology presented in O. Reg. 153/04; however,

1 GHD, 2024a. Phase Two Environmental Site Assessment, 10533 Keele Street, Vaughan, Ontario. June 11, 2024.
2 MOE, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the "Environmental Protection Act", dated April 15, 2011.

the RE is not intended to represent a comprehensive Risk Assessment that would undergo a formal, comprehensive MECP technical review under O. Reg. 153/04.

A brief overview of the Site is provided in Section 2. A summary of the environmental investigations completed at the Site to date is provided in Section 3. An exposure pathway analysis is provided in Section 4, while the RE results are summarized in Section 5. The summary and conclusions are provided in Section 6.

2. Site Description

The Site is a commercial property fronting onto Keele Street and is currently occupied by a vacant two-story structure (former residence) constructed in 1890, with an addition completed in the 1970s. The exterior surfaces of the Site primarily consist of a grassy yard, asphalt and gravel parking areas and a concrete patio. Vegetated areas (i.e., grassy yard) are limited to the western Property boundary along Keele Street. Since 2009 the Site has been owned by Brovi and has been used as a commercial office space. It is GHD's understanding that the Site is proposed for redevelopment, which will include commercial land use.

The Site is bounded by industrial properties to the north, east, and south and Keele Street to the west (community land use). No waterbodies or Areas of Natural Significance are located on or within 30 m of the Property boundaries. The closest water body to the Site is a tributary of the West Don River, which is located approximately 2 km south of the Site. The Site obtains its potable water from the City of Vaughan's water distribution system, which obtains its raw water supply from Lake Ontario. Based on this, non-potable groundwater conditions are considered applicable to the Site.

3. Summary of Environmental Investigations

GHD completed a Phase One ESA (GHD, 2024b)[3] and Phase Two ESA (GHD, 2024a) at the Site. A summary of these investigations is provided below.

3.1 Phase One ESA

GHD was retained by Keele Street (10533) Ltd. to conduct a Phase One ESA for the Site. The Site is part of PIN 03343-0323 (LT) described as Part of Lot 24, Concession 3, City of Vaughan, Regional Municipality of York. The Site is currently owned by Brovi and is occupied by a vacant residential structure, built in 1890 with an addition completed in the 1970s.

The purpose of the Phase One ESA was to identify, through a non-intrusive investigation, the existence of any Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs) associated with the Site. PCAs and APECs are defined in O. Reg. 153/04. It is GHD's understanding that the Phase One ESA was completed in support of the redevelopment of the Site.

The Site is located in an area of Vaughan, Ontario that has been developed for mixed industrial, commercial, residential and/or agricultural purposes since the late 1800s. The Site is approximately 0.21 hectares (0.52 acres) in size and fronts onto Keele Street opposite of a low-rise residential subdivision.

Based on the results of the Phase One ESA, including the Site inspection, information provided by Site representatives and regulatory agencies, documents reviewed, the review of Site history, and review of information from the regulatory agencies, the following APECs were identified to be associated with the Site:

– **APEC #1 – Historical Adjacent Land Use:** From the 1980s to 1990s, a property located at 10547 Keele Street, approximately 30 metres (m) north of the Site, was utilized as a concrete manufacturing facility. In

[3] GHD, 2024b. Phase One Environmental Site Assessment, 10533 Keele Street, Vaughan, Ontario. April 30, 2024.

June 2021, approximately 360,000 litres (L) of douse water was applied to a waste fire at 10525 Keele Street, adjacent to the east of the Site. In January 2010, approximately 200 L of diesel fuel spilled onto the ground at 10525 Keele Street, adjacent to the east of the Site. Waste management systems were registered to 7346646 Canada Inc. operating as Maple Logistic Solutions, Maple Logistic Solutions, Waste Excellence Holdings Corp., Jonathan Logistic Inc. and KNR Equipment Inc., located adjacent to the east of the Site at 10525 Keele Street. The presence of waste transfer, cement manufacturing and spill incidents adjacent to the east of the Site was identified as PCAs (#12 – Concrete, Cement and Lime Manufacturing; #58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners; and PCA B – Spill Incidents) in accordance with O. Reg. 153/04. As such, the entire Site was identified as **APEC #1**.

– **APEC #2 – Application of De-Icing Agents:** Road salt has been applied on the parking areas at the Site as well as along adjacent/nearby roadways during winter months for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Bulk salt has not been stored at the Site. The application of road salt on Site and in the vicinity of the Site has the potential to result in elevated sodium adsorption ratio (SAR) and electrical conductivity (EC) in soil, and sodium and chloride in groundwater, and would have the potential to contribute to an APEC at the Site and was identified as **APEC #2**. However, in accordance with paragraph 1 of Section 49.1 of O. Reg. 153/04, any potential on Site exceedances of SAR, EC, sodium, or chloride associated with the application of the road salt would be deemed as having met the applicable Site Condition Standards (SCS) for RSC filing purposes.

3.2 Phase Two ESA

GHD was subsequently retained by Keele Street (10533) Ltd. to conduct a Phase Two ESA for the Site. It is The Phase Two ESA was completed to document environmental conditions in support of the redevelopment of the Site, with the assumption that a RSC is not anticipated to be required for the Site.

GHD completed a Phase One ESA of the Site in April 2024. The Phase One ESA identified the following APECs to be associated with the Site:

– APEC #1 – Historical Adjacent Land Use
– APEC #2 – Application of De-Icing Agents

The purpose of the Phase Two ESA was to investigate the above-noted APECs identified during the Phase One ESA. The Phase Two ESA included the advancement of four (4) overburden boreholes and installation of four (4) monitoring wells. Soil and groundwater samples were collected and analyzed for specific parameters, which included metals and inorganics, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbon fractions (PHC) F1 to F4 and volatile organic compounds (VOCs). Inorganics analyses for soil samples included electrical conductivity (EC), pH, and sodium adsorption ratio (SAR). Inorganics analyses for groundwater samples included chloride.

The following parameters had concentrations above the Table 3 SCS and are identified as COCs in soil at the Site:

– **Metals:** Lead
– **PAHs:** Benzo(a)pyrene

A summary of the soil analytical data with respect to the APECs investigated as part of the Phase Two ESA is provided below:

– **Metals:** Lead was detected at concentrations above the Table 3 Standards in a soil sample collected between 0.32 and 0.61 mBGS at MW1-24. Fill material was encountered between approximately 0.0 and 3.05 mBGS at MW1-24. The lead impact is inferred to be localized to the fill present at the Site. Lead impacts were not identified in any of the other borehole locations. The lead impacts to soil could be attributed to APEC #1 or the importation of fill material of unknown quality.

– **PAHs:** Benzo(a)pyrene was detected at concentrations above the Table 3 Standards in a soil sample collected between 0.76 and 1.52 mBGS at MW4-24. Fill material was encountered between approximately 0.0 and 1.37 mBGS at MW4-24. The PAH impact is localized to the fill present at the Site. PAH impacts were not identified in any of the other borehole locations. The PAH impacts to soil could be attributed to APEC #1 or the importation of fill material of unknown quality.

Based on the investigations completed, there is no evidence of soil impacts related to any other APECs identified at the Site.

All groundwater samples submitted for chemical analysis met the applicable standard. Based on the investigations completed, there is no evidence of groundwater impacts related to any other APECs identified at the Site.

4. Exposure Pathway Analysis

As the Site will continue to be used for commercial land use (industrial/commercial/community), the human and ecological receptors and exposure pathways identified for the Site were based on this current and future land use. Human health receptors at the Site may consist of indoor workers, outdoor workers (e.g., maintenance worker, landscaper), and construction/utility workers (e.g., subsurface worker). The human health receptors considered in the RE are consistent with those considered in the derivation of the Table 3 SCSs. Ecological receptors at the Site include terrestrial community (plants and soil organisms) and wildlife (mammals and birds). Off-site aquatic receptors in the nearest off-Site water body were also considered.

GHD selected risk-based concentration values (RBCVs) from MECP's Modified Generic Risk Assessment (MGRA) Model (Ministry of the Environment and Climate Change [MOECC], 2016[4] with recent toxicity updates included) that are protective of human and ecological health based on the Table 3 SCS and the continued industrial use of the Site. The RBCVs for lead were obtained from MECP (2024) [5].

The potentially complete human and ecological soil exposure pathways that were considered (with the corresponding MECP RBCV in parentheses) based on the commercial land use are summarized as follows:

Human Exposure Pathways

– Outdoor worker direct contact exposure to soil (S2 Risk)
– Construction/utility worker direct contact exposure to soil (S3 Risk)
– Indoor worker exposure to volatile soil COCs migrating to indoor air (S-IA)
– Outdoor worker and construction/utility worker inhalation exposure to outdoor air (from soil) (S-OA)

Ecological Exposure Pathways

– Direct contact with soil for plants and soil organisms (Plants & Soil Organisms)
– Soil and food ingestion for mammals and birds (Mammals & Birds)
– Soil leaching to groundwater and groundwater discharging to surface water for aquatic life (S-GW3)

The MECP has calculated component values protective of soil leaching to groundwater and groundwater discharging to surface water for aquatic life (S-GW3); however, S-GW3 values assume a default distance of 36.5 m to the closest downgradient water body and are not calculated for metals (MOE, 2011b)[6]. Groundwater can also be used to qualitatively evaluate the potential leaching of soil to groundwater and subsequent transport exposure pathway. Therefore, although there are no available S-GW3 component values for lead, this exposure pathway can be evaluated directly using the groundwater data.

[4] MOECC, 2016. Modified Generic Risk Assessment (MGRA) (Tier 2) Approved Model (Version 2), dated November 2016.
[5] MECP, 2024. Technical Update: Dealing with Lead in Soil in Human Health Risk Assessments under O. Reg. 153/04. March 2024.
[6] MOE, 2011b. Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, dated April 25, 2011.

As noted previously, there were no groundwater COCs, therefore the groundwater exposure pathways were not considered further within the RE.

5. Risk Evaluation Results

The following presents a summary of the RBCVs assuming commercial land use and compares the commercial RBCVs to the maximum detected concentrations at the Site for the soil COCs identified in the Phase Two ESA (GHD, 2024). The results are summarized for each exposure pathway in the sections below.

Figures from the Phase Two ESA that illustrate the sample locations (Figure 5) and extent of soil impacts (Figures 7 and 8) have been included in the RE, in **Attachment B**, to aid in the interpretation of the results.

5.1 Soil

The following in-text Table A presents a comparison of the maximum soil concentrations to the soil RBCVs protective of direct contact exposure to soil for outdoor workers (S2 Risk), construction/utility workers (S3 Risk), plants and soil organisms (Plants & Soil Organisms), and mammals and birds (Mammals & Birds). Table A also presents the MECP RBCVs protective of soil leaching to groundwater discharging to surface water (S-GW3), inhalation of indoor air (from soil) (S-IA), and inhalation of outdoor air (from soil) (S-OA). The soil RBCVs for lead, protective of terrestrial wildlife direct contact with soil, is less than the Ontario background concentration of 120 micrograms per gram (µg/g); therefore, the Ontario background concentrations was applied.

Table A ***MECP RBCVs Protective of Human Health and the Environment for the Soil Contaminants of Concern Compared to the Maximum Soil Concentrations***

Parameter	Maximum Soil Concentration	Soil Contact		Plants & Soil Org.	Mammals & Birds	Soil Leaching (S-GW3)	Indoor Air (S-IA)	Outdoor Air (S-OA)
		S2 Risk	S3 Risk					
Benzo(a)pyrene	0.46	0.7	17	90	46,000	4.2E+13	32,000	68
Lead	228	420	420	1,400	**120**	NV	NV	NV

Note:
All units are presented as µg/g
Bold – Maximum soil concentration exceeds the indicated RBCV
NV – No component value provided from the MECP

Benzo(a)pyrene

Benzo(a)pyrene was detected above the Table 3 SCS in a single soil sample collected between 0.76 and 1.52 mBGS at MW4-24. As noted in the table above (in-text Table A), while benzo(a)pyrene in soil is above the Table 3 SCS, which is based on the Ontario background soil concentration, the benzo(a)pyrene soil concentration is not above any of the soil RBCVs protective of outdoor workers, construction/utility workers, terrestrial plants and soil organisms, mammals and birds, and off-Site aquatic life. Therefore, the benzo(a)pyrene concentration in soils is not expected to be a concern at the Site.

Lead

Lead was detected above the Table 3 SCS in a single soil sample collected between 0.32 and 0.61 mBGS at MW1-24. As noted in in-text Table A, the maximum soil concentration of lead (228 µg/g) is above the soil RBCV protective of terrestrial wildlife receptors (mammals and birds) exposure to soil (120 µg/g). The maximum concentration of lead detected at the Site is not a concern for outdoor workers, construction/utility workers, and plants and soil organisms. As noted in Section 4, the MECP does not provide a S-GW3 RBCV for lead. Therefore, groundwater was used to qualitatively evaluate the potential leaching of soil to groundwater

and subsequent transport exposure pathway. As noted in Table A.1 in **Attachment A**, lead concentrations measured in groundwater were not above the groundwater Table 3 SCS, therefore, no unacceptable risks to aquatic receptors from soil leaching to groundwater discharging to surface water are expected.

Lead is also not expected to be a concern for terrestrial wildlife receptors (mammals and birds) for the following reason:

– Only one (1) soil sample (MW1-24; 0.32 – 0.61 mBGS) collected for lead analysis from a total of four (4) sample locations across the entire Property has a concentration that is greater than the soil RBCV protective of terrestrial community receptor direct contact with soil and the MECP Table 3 Standard. Lead was detected in all the other soil samples collected at the Site with concentrations ranging from 25 to 55 µg/g which are less than the soil RBCV for protective of terrestrial wildlife receptors and the Ontario background soil concentration for lead. Receptors such as mammals and birds are mobile and potentially exposed to average COC concentrations in soils across the entire Property rather than a single data point. Furthermore, during the redevelopment of the Site soils may be redistributed; therefore, ecological receptors will be exposed to an average concentration in soils rather than a single data point. Therefore, it is unlikely that soils at the Site will result in unacceptable risks to terrestrial wildlife receptors at the Site. However, given the limited number of soil samples collected at the Site a more representative exposure concentration, such as a 95 percent upper confidence limit of the mean could not be calculated.
– Based on the Phase Two ESA (GHD, 2024) the soil impact at MW1-24 is located within a gravel parking area. The area surrounding MW1-24 is covered by the building slab of the adjacent building or gravel parking lot. The gravel material and other surrounding hard caps (e.g., building foundation) eliminate habitat for the terrestrial wildlife receptors and will act as a suitable physical barrier, preventing terrestrial wildlife receptor (mammals and birds) direct contact with the impacted soils.
– As noted in Section 3, the Site is bounded by industrial properties to the north, east, and south and Keele Street to the west (community land use). Vegetation at the Site is limited to a small, grassed area on the western Property boundary along Keele Street. Vegetation on the adjacent industrial properties consist of grasses with shrubs and/or trees, and are limited to thin strips of grassed areas or natural vegetation growing along the various property boundaries. Therefore, the Site and surrounding area is not expected to offer significant ecological habitat for terrestrial wildlife receptors (mammals and birds). The MECP has developed a "modified ecological protection" option within the MGRA Model, which is intended to promote brownfield redevelopment and preserve existing and promote future ecological habitat on these types of properties. When modified ecological protection is considered, the RBCV protective of terrestrial wildlife receptors is multiplied by a factor of 1,000 resulting in a soil RBCV of 32,000 µg/g, which is greater than the maximum lead concentration at the Site (228 µg/g). Consideration of modified ecological protection allows for the maintenance of or the creation of new natural habitat on industrial/commercial properties that may not be equivalent to ecological habitat on an unimpacted site. However, it will provide ecological habitat for species that are less sensitive to or adapted to the identified COCs in soil.

Based on the discussion above, benzo(a)pyrene and lead are not expected to be a concern for on-Site human health or ecological receptors. Therefore, no risk management measures (RMMs) are required for the Site under the current Site conditions. If the soils in the vicinity of MW1-24 will be displaced (and not removed from the Site) during the redevelopment of the Site, as a conservative measure, they can be placed under a physical barrier (fill cap or hard-cap) or utilized at depth (greater than 0.5 mBGS) following the redevelopment of the Site. The soils may be utilized in areas that will be landscaped in the future, based on the consideration of modified ecological protection. Alternatively, the soils may be placed under a shallow fill cap (0.5 m) in landscaped areas.

6. Conclusions

GHD was retained by Brovi to provide an overview of potential risks and implications associated with the proposed redevelopment of the Site related to soil impacts identified in environmental investigations completed at the Site.

Based on the discussions presented in Section 5, no RMMs are required for the Site under current Site conditions other than the continued maintenance of the existing physical barriers (e.g., gravel and building foundation) present at the Site. If soils in the vicinity of MW1-24 will be displaced (and not removed from the Site) during the redevelopment of the Site, as a conservative measure these soils may be placed under a physical barrier (fill cap or hard-cap) or utilized at depth (greater than 0.5 mBGS). Hard caps at the Site may consist of building foundations, asphalt, or concrete. Based on the consideration of modified ecological protection, these soils may be used in areas that may be landscaped (e.g., grassed areas, ornamental gardens) in the future; which will offer habitat for species that are adapted or less sensitive to the soil COCs identified at the Site. Alternatively, a fill cap, consisting of 0.5 m of unimpacted soil immediately on top of a geotextile material (optional), may be considered if these soils will be placed in landscaped areas.

Appropriate soil management strategies should be developed for the Site to ensure that any impacted soil excavated from the Site during any future ground intrusive activities is appropriately and safely managed. The RE did not identify any potential risks to subsurface workers based on the soil impacts at the Site; therefore, no additional measures (e.g., personal protective equipment) are required within a health and safety plan to address the impacted soil during future ground intrusive activities.

Should you have any questions on the above, please do not hesitate to contact us.

Regards

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Encl.

Attachments

Attachment A

Identification of Groundwater Contaminants of Concern (COC) for Consideration in the Risk Evaluation

Table A.1

Occurrence, Distribution, and Identification of Contaminants of Concern (COC) in Groundwater
Risk Evaluation
10533 Keele Street, Vaughan, Ontario

Medium: Groundwater
Exposure Medium: Groundwater

CAS Number	Contaminant	Minimum Concentration (1, 2)	Maximum Concentration (1, 2)	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection Limits (2)	Maximum Concentration Used for Screening (3)	Applicable Site Condition Standard (SCS) (4)		Contaminant Retained for RE Y - Yes	Rationale for Contaminant Deletion or Selection (5)
									Table 3	Table 7		
	Volatile Organic Compounds (VOCs)											
67-64-1	Acetone	ND	ND	µg/L	--	0/4	1	1	130,000	100,000		DLBSS
71-43-2	Benzene	ND	ND	µg/L	--	0/4	0.2	0.2	430	0.5		DLBSS
75-27-4	Bromodichloromethane	ND	ND	µg/L	--	0/4	0.2	0.2	85,000	67,000		DLBSS
75-25-2	Bromoform	ND	ND	µg/L	--	0/4	0.1	0.1	770	5		DLBSS
74-83-9	Bromomethane	ND	ND	µg/L	--	0/4	0.2	0.2	56	0.89		DLBSS
56-23-5	Carbon Tetrachloride	ND	ND	µg/L	--	0/4	0.2	0.2	8.4	0.2		DLBSS
108-90-7	Chlorobenzene	ND	ND	µg/L	--	0/4	0.1	0.1	630	140		DLBSS
67-66-3	Chloroform	0.87	0.87	µg/L	MW1-24 (4/5/2024)	1/4	0.2	0.87	22	2		BSS; DLBSS
124-48-1	Dibromochloromethane	ND	ND	µg/L	--	0/4	0.1	0.1	82,000	65,000		DLBSS
95-50-1	Dichlorobenzene, 1,2-	ND	ND	µg/L	--	0/4	0.1	0.1	9,600	150		DLBSS
541-73-1	Dichlorobenzene, 1,3-	ND	ND	µg/L	--	0/4	0.1	0.1	9,600	7,600		DLBSS
106-46-7	Dichlorobenzene, 1,4-	ND	ND	µg/L	--	0/4	0.1	0.1	67	0.5		DLBSS
75-71-8	Dichlorodifluoromethane	ND	ND	µg/L	--	0/4	0.4	0.4	4,400	3,500		DLBSS
75-34-3	Dichloroethane, 1,1-	ND	ND	µg/L	--	0/4	0.3	0.3	3,100	11		DLBSS
107-06-2	Dichloroethane, 1,2-	ND	ND	µg/L	--	0/4	0.2	0.2	12	0.5		DLBSS
75-35-4	Dichloroethylene, 1,1-	ND	ND	µg/L	--	0/4	0.3	0.3	17	0.5		DLBSS
156-59-2	Dichloroethylene, 1,2-cis-	ND	ND	µg/L	--	0/4	0.2	0.2	17	1.6		DLBSS
156-60-5	Dichloroethylene, 1,2-trans-	ND	ND	µg/L	--	0/4	0.2	0.2	17	1.6		DLBSS
78-87-5	Dichloropropane, 1,2-	ND	ND	µg/L	--	0/4	0.2	0.2	140	0.58		DLBSS
10061-01-5/ 10061-02-6	Dichloropropene, 1,3- (cis & trans)	ND	ND	µg/L	--	0/4	0.3	0.3	45	0.5		DLBSS
100-41-4	Ethylbenzene	ND	ND	µg/L	--	0/4	0.1	0.1	2,300	54		DLBSS
106-93-4	Ethylene dibromide	ND	ND	µg/L	--	0/4	0.1	0.1	0.83	0.2		DLBSS
110-54-3	Hexane (n)	ND	ND	µg/L	--	0/4	0.2	0.2	520	5		DLBSS
78-93-3	Methyl Ethyl Ketone	ND	ND	µg/L	--	0/4	1	1	1,500,000	21,000		DLBSS
108-10-1	Methyl Isobutyl Ketone	ND	ND	µg/L	--	0/4	1	1	580,000	5,200		DLBSS
1634-04-4	Methyl tert-Butyl Ether (MTBE)	ND	ND	µg/L	--	0/4	0.2	0.2	1,400	15		DLBSS
75-09-2	Methylene chloride	ND	ND	µg/L	--	0/4	0.3	0.3	5,500	26		DLBSS
100-42-5	Styrene	ND	ND	µg/L	--	0/4	0.1	0.1	9,100	43		DLBSS
630-20-6	Tetrachloroethane, 1,1,1,2-	ND	ND	µg/L	--	0/4	0.1	0.1	28	1.1		DLBSS
79-34-5	Tetrachloroethane, 1,1,2,2-	ND	ND	µg/L	--	0/4	0.1	0.1	15	0.5		DLBSS
127-18-4	Tetrachloroethylene	ND	ND	µg/L	--	0/4	0.2	0.2	17	0.5		DLBSS
108-88-3	Toluene	ND	ND	µg/L	--	0/4	0.2	0.2	18,000	320		DLBSS
71-55-6	Trichloroethane, 1,1,1-	ND	ND	µg/L	--	0/4	0.3	0.3	6,700	23		DLBSS

Table A.1

Occurrence, Distribution, and Identification of Contaminants of Concern (COC) in Groundwater
Risk Evaluation
10533 Keele Street, Vaughan, Ontario

Medium: Groundwater
Exposure Medium: Groundwater

CAS Number	Contaminant	Minimum Concentration (1, 2)	Maximum Concentration (1, 2)	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection Limits (2)	Maximum Concentration Used for Screening (3)	Applicable Site Condition Standard (SCS) (4)		Contaminant Retained for RE Y - Yes	Rationale for Contaminant Deletion or Selection (5)
									Table 3	Table 7		
	VOCs (Cont'd.)											
79-00-5	Trichloroethane, 1,1,2-	ND	ND	µg/L	--	0/4	0.2	0.2	30	0.5		DLBSS
79-01-6	Trichloroethylene	ND	ND	µg/L	--	0/4	0.2	0.2	17	0.5		DLBSS
75-69-4	Trichlorofluoromethane	ND	ND	µg/L	--	0/4	0.4	0.4	2,500	2,000		DLBSS
75-01-4	Vinyl Chloride	ND	ND	µg/L	--	0/4	0.17	0.17	1.7	0.5		DLBSS
1330-20-7	Xylenes, Total	ND	ND	µg/L	--	0/4	0.2	0.2	4,200	72		DLBSS
	Polycyclic Aromatic Hydrocarbons											
83-32-9	Acenaphthene	ND	ND	µg/L	--	0/4	0.2	0.2	1,700	17		DLBSS
208-96-8	Acenaphthylene	ND	ND	µg/L	--	0/4	0.2	0.2	1.8	1		DLBSS
120-12-7	Anthracene	ND	ND	µg/L	--	0/4	0.1	0.1	2.4	1		DLBSS
56-55-3	Benz[a]anthracene	ND	ND	µg/L	--	0/4	0.2	0.2	4.7	1.8		DLBSS
50-32-8	Benzo[a]pyrene	ND	ND	µg/L	--	0/4	0.01	0.01	0.81	0.81		DLBSS
205-99-2	Benzo[b]fluoranthene	ND	ND	µg/L	--	0/4	0.1	0.1	0.75	0.75		DLBSS
191-24-2	Benzo[ghi]perylene	ND	ND	µg/L	--	0/4	0.2	0.2	0.2	0.2		DLBSS
207-08-9	Benzo[k]fluoranthene	ND	ND	µg/L	--	0/4	0.1	0.1	0.4	0.4		DLBSS
218-01-9	Chrysene	ND	ND	µg/L	--	0/4	0.1	0.1	1	0.7		DLBSS
53-70-3	Dibenz[a h]anthracene	ND	ND	µg/L	--	0/4	0.2	0.2	0.52	0.4		DLBSS
206-44-0	Fluoranthene	ND	ND	µg/L	--	0/4	0.2	0.2	130	44		DLBSS
86-73-7	Fluorene	ND	ND	µg/L	--	0/4	0.2	0.2	400	290		DLBSS
193-39-5	Indeno[1 2 3-cd]pyrene	ND	ND	µg/L	--	0/4	0.2	0.2	0.2	0.2		DLBSS
90-12-0/ 91-57-6	Methylnaphthalene, 2-(1-)	ND	ND	µg/L	--	0/4	0.2	0.2	1,800	1,500		DLBSS
91-20-3	Naphthalene	ND	ND	µg/L	--	0/4	0.2	0.2	6,400	7		DLBSS
85-01-8	Phenanthrene	ND	ND	µg/L	--	0/4	0.1	0.1	580	380		DLBSS
129-00-0	Pyrene	ND	ND	µg/L	--	0/4	0.2	0.2	68	5.7		DLBSS

Table A.1

Occurrence, Distribution, and Identification of Contaminants of Concern (COC) in Groundwater
Risk Evaluation
10533 Keele Street, Vaughan, Ontario

Medium: Groundwater
Exposure Medium: Groundwater

CAS Number	Contaminant	Minimum Concentration (1, 2)	Maximum Concentration (1, 2)	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection Limits (2)	Maximum Concentration Used for Screening (3)	Applicable Site Condition Standard (SCS) (4)		Contaminant Retained for RE Y - Yes	Rationale for Contaminant Deletion or Selection (5)
									Table 3	Table 7		
	Metals											
7440-36-0	Antimony	ND	ND	µg/L	--	0/4	1	1	20,000	16,000		DLBSS
7440-38-2	Arsenic	1.7	1.7	µg/L	MW1-24 (4/5/2024)	1/4	1	1.7	1,900	1,500		BSS; DLBSS
7440-39-3	Barium	56.5	240	µg/L	MW3-24 (4/5/2024)	4/4	--	240	29,000	23,000		BSS
7440-41-7	Beryllium	ND	ND	µg/L	--	0/4	0.5	0.5	67	53		DLBSS
7440-42-8	Boron (total)	126	321	µg/L	MW4-24 (4/5/2024)	4/4	--	321	45,000	36,000		BSS
7440-43-9	Cadmium	ND	ND	µg/L	--	0/4	0.2	0.2	2.7	2.1		DLBSS
7440-47-3	Chromium Total	ND	ND	µg/L	--	0/4	2	2	810	640		DLBSS
18540-29-9	Chromium VI	ND	ND	µg/L	--	0/4	2	2	140	110		DLBSS
7440-48-4	Cobalt	4.18	11.6	µg/L	MW1-24 (4/5/2024)	4/4	--	11.6	66	52		BSS
7440-50-8	Copper	1.2	1.4	µg/L	MW3-24 (4/5/2024)	2/4	1	1.4	87	69		BSS; DLBSS
57-12-5	Cyanide (CN-)	ND	ND	µg/L	--	0/4	2	2	66	52		DLBSS
7439-92-1	Lead	ND	ND	µg/L	--	0/4	0.5	0.5	25	20		DLBSS
7439-97-6	Mercury	ND	ND	µg/L	--	0/4	0.02	0.02	2.8	0.1		DLBSS
7439-98-7	Molybdenum	0.58	10.1	µg/L	MW4-24 (4/5/2024)	3/4	0.5	10.1	9,200	7,300		BSS; DLBSS
7440-02-0	Nickel	6.4	12.2	µg/L	MW4-24 (4/5/2024)	4/4	--	12.2	490	390		BSS
7782-49-2	Selenium	2.3	3.4	µg/L	MW1-24 (4/5/2024)	4/4	--	3.4	63	50		BSS
7440-22-4	Silver	ND	ND	µg/L	--	0/4	0.2	0.2	1.5	1.2		DLBSS
7440-23-5	Sodium	56,200	174,000	µg/L	MW4-24 (4/5/2024)	4/4	--	174000	2,300,000	1,800,000		BSS
7440-28-0	Thallium	ND	ND	µg/L	--	0/4	0.3	0.3	510	400		DLBSS
7440-61-1	Uranium	0.96	1.59	µg/L	MW1-24 (4/5/2024)	4/4	--	1.59	420	330		BSS
7440-62-2	Vanadium	0.45	0.48	µg/L	MW1-24 (4/5/2024)	2/4	0.4	0.48	250	200		BSS; DLBSS
7440-66-6	Zinc	9.8	25.1	µg/L	MW2-24 (4/5/2024)	2/4	5	25.1	1,100	890		BSS; DLBSS

Table A.1

Occurrence, Distribution, and Identification of Contaminants of Concern (COC) in Groundwater
Risk Evaluation
10533 Keele Street, Vaughan, Ontario

Medium: Groundwater
Exposure Medium: Groundwater

CAS Number	Contaminant	Minimum Concentration (1, 2)	Maximum Concentration (1, 2)	Units	Location of Maximum Concentration	Detection Frequency (2)	Range of Detection Limits (2)	Maximum Concentration Used for Screening (3)	Applicable Site Condition Standard (SCS) (4)		Contaminant Retained for RE Y - Yes	Rationale for Contaminant Deletion or Selection (5)
									Table 3	Table 7		
	Petroleum Hydrocarbons (PHCs)											
PHC F1	PHC F1 (C6-C10)	ND	ND	µg/L	--	0/4	25	25	750	420		DLBSS
PHC F2	PHC F2 (C10-C16)	ND	ND	µg/L	--	0/4	100	100	150	150		DLBSS
PHC F3	PHC F3 (C16-C34)	ND	ND	µg/L	--	0/4	100	100	500	500		DLBSS
PHC F4	PHC F4 (C34-C50)	ND	ND	µg/L	--	0/4	100	100	500	500		DLBSS
	General Chemistry											
--	Chloride	70,200	314,000	µg/L	MW4-24 (4/5/2024)	4/4	--	314000	2,300,000	1,800,000		BSS

Notes:

µg/L Micrograms per litre
ND Not detected
-- Not available

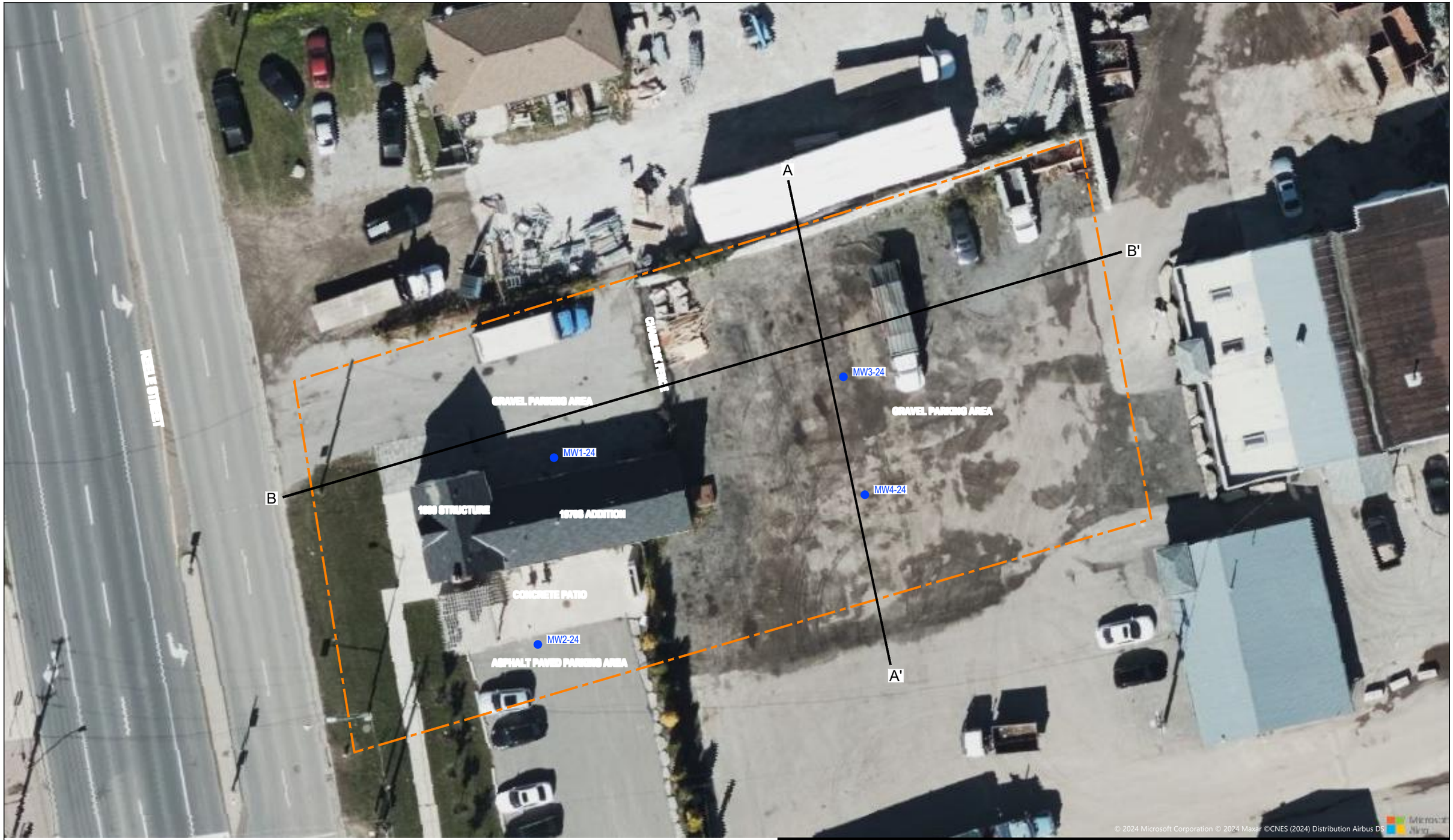
(1) Minimum/maximum detected concentration.
(2) Based on data collected from sampling locations: MW1-24, MW2-24, MW3-24, MW4-24, presented in the Phase Two Environmental Site Assessment (GHD, 2024).
(3) Maximum concentration used for screening is the maximum detected concentration or the maximum detection limit, whichever is higher.
(4) MOE, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011 and updates.
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, All Types of Property Use, Medium-Fine Textured Soils.
Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition, All Types of Property Use, Medium-Fine Textured Soils.
(5) Rationale Codes
Deletion Reason: Maximum detected below Screening Standard (BSS)
Maximum Detection Limit below Screening Standard (DLBSS)

References:

GHD, 2024. Phase Two Environmental Site Assessment, 10533 Keele Street, Vaughan, Ontario. June 11, 2024.

Attachment B

Phase Two Environmental Site Assessment (ESA) Figures



LEGEND

PROPERTY BOUNDARY

MONITORING WELL LOCATION

A — A' LOCATION OF CROSS-SECTION

0 3 6 9m

1:300

Coordinate System: UTM83-17

N

GHD

10533 KEELE STREET, VAUGHAN, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

MONITORING WELL LOCATION PLAN

Project No. **12636323**
Date **May 2024**

FIGURE 5

Filename: N:\CA\Mississauga\Projects\662\12636323\Digital_Design\ACAD\Figures\RPT003-PhaseTWO\12636323-GHD-00-00-RPT-EN-D104_WA-003-PhaseTWO.dwg
Plot Date: 24 May 2024 7:29 AM

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL LOCATION
- SAMPLE LOCATION
- SAMPLE DATE
- SAMPLE DEPTH
- RESULT
- PARAMETER
- DUPLICATE SAMPLE
- EXCEEDS STANDARDS
- MEETS STANDARDS

MW1-24	3/28/2024
	0.32 - 0.61 m BGS
Lead	228

25/27

228

PARAMETER	TABLE 3 (ICC) MEDIUM FINE	UNITS
LEAD	120.0	µg/g



NOTE:

"SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011. TABLE 2: FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A POTABLE GROUND WATER CONDITION FOR COARSE-TEXTURED SOILS AND INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE.

0 3 6 9m

1:300

Coordinate System: UTM83-17

N

GHD

10533 KEELE STREET, VAUGHAN, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HORIZONTAL EXTENT OF SOIL IMPACTS (METALS)

Project No. 12636323
Date May 2024

FIGURE 7

Filename: N:\CA\Mississauga\Projects\662\12636323\Digital_Design\ACAD\Figures\RPT003-PhaseTWO\12636323-GHD-00-00-RPT-EN-D106_WA-003-PhaseTWO.dwg
Plot Date: 24 May 2024 7:29 AM

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL LOCATION
- SAMPLE LOCATION
- SAMPLE DATE
- SAMPLE DEPTH
- RESULT
- PARAMETER
- DUPLICATE SAMPLE
- EXCEEDS STANDARDS
- MEETS STANDARDS

MW1-24	3/28/2024
	1.67 - 2.28 m BGS
Benzo(a)pyrene	ND (0.05)

0.08/0.07

0.46

PARAMETER	TABLE 3 (ICC) MEDIUM FINE	UNITS
BENZO(A)PYRENE	0.3	µg/g



NOTE:

"SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011. TABLE 2: FULL DEPTH GENERIC SITE CONDITION STANDARDS IN A POTABLE GROUND WATER CONDITION FOR COARSE-TEXTURED SOILS AND INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE.

0 3 6 9m

1:300

Coordinate System: UTM83-17

N

GHD

10533 KEELE STREET, VAUGHAN, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

HORIZONTAL EXTENT OF SOIL IMPACTS (PAHs)

Project No. **12636323**
Date **May 2024**

FIGURE 8

Filename: N:\CA\Mississauga\Projects\662\12636323\Digital_Design\ACAD\Figures\RPT003-PhaseTWO\12636323-GHD-00-00-RPT-EN-D107_WA-003-PhaseTWO.dwg
Plot Date: 24 May 2024 7:29 AM