



Mr. Trevor Nobile  
Wisconsin Department of Natural Resources  
2300 North Dr. Martin Luther King, Jr. Drive  
Milwaukee, WI 53212

**NR 718.12 EXEMPTION REQUEST MODIFICATION  
MARQUETTE UNIVERSITY ATHLETIC AND HUMAN PERFORMANCE  
RESEARCH CENTER (AHPRC) SITE  
1201-1221 W. WELLS STREET, MILWAUKEE, WISCONSIN  
BRRTS NO. 02-41-580746, FID NO. 341293920**

Dear Mr. Nobile:

On behalf of Marquette University, Ramboll US Corporation (Ramboll) is submitting this letter to modify our previously submitted Wisconsin Administrative Code (WAC) Chapter NR 718.12 Exemption Request (Ramboll, March 1, 2018) for the above referenced site. This modification is being made to address the Wisconsin Department of Natural Resources' (WDNRs) concerns regarding the replacement of low-level PCE impacted soil at or near the groundwater table.

As you are aware, an estimated 12,500 cubic yards (cy) of soil will be excavated to facilitate construction of the AHPRC building. Most of the soil will be removed during construction of the basement portion of the building and associated footings for the slab-on-grade portion of the building. Although most of the impacted soil will be excavated and disposed of off site at a licensed solid waste facility, a small portion of the soil (less than 2,500 cy) removed during excavation benching is proposed to be managed in accordance with WAC NR 718. The estimated extent of soil and groundwater exceedances are shown on the attached figure along with the areas of soil movement discussed herein.

As part of this Exemption Request Modification, the low-level PCE impacted soil and non-PCE impacted soil from the northern excavation benching activities, previously proposed for on-site reuse, will be disposed of off-site at a licensed solid waste landfill. It is estimated that this will account for approximately 900 cubic yards (cy) of soil. The remaining "clean" soil (no detected VOCs) removed during excavation benching activities will be temporarily stored off site on the nearby Former One-Hour Valet Cleaners site (1214-1222 West Wells Street, BRRTS No. 02-41-152248), which is also owned by Marquette University. Approximately 900 cy of additional "clean" soil from the southern most portion of the basement excavation will also be temporarily stored off site for subsequent reuse as backfill along the northern portion of the benching excavation area to offset the portion of the soil that will now be landfilled. Table 1 from the previously submitted Exemption Request (Ramboll, March 2018) has been modified to reflect the portion of the excavation benching soil that will be landfilled instead of being reused on site.

March 13, 2018

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Following construction of the basement walls for the AHPRC building, the previously removed soils will be returned to the Site and used to backfill the basement walls. Depending on construction timing, the temporarily stored "clean" soils may also be utilized to backfill the B-10 area excavation. Records will be maintained throughout the construction activities to document the backfill source and subsequent placement locations.

As part of this modification, we are rescinding our prior request for an exemption from NR 718.12(1)(c)1 for the placement of PCE impacted soil within 3 feet of the high-water table, as it is no longer needed. An exemption from NR 718.12(1)(e)1 is still requested, as the number of samples of the soil proposed for on-site reuse is less than specified in the code.

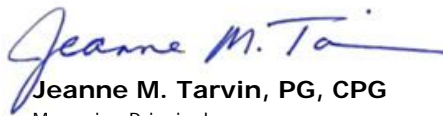
Thank you for your continuing assistance on this project. If you have any questions or require additional information, please feel free to contact us.

Yours sincerely,



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cc: Joel Smullen, Marquette University (electronic copy)

Attachment: Revised Table 1 -Soil Analytical Results (Excavation Benching)  
Figure 5 – Estimated Extent of VOC Exceedances in Soil and Groundwater

**REV** TABLE 1. SOIL ANALYTICAL RESULTS (EXCAVATION BENCHING)  
 AHPRC PRE-CONSTRUCTION SITE INVESTIGATION  
 1201 WEST WELLS STREET  
 MILWAUKEE, WISCONSIN  
 RAMBOLL PROJECT NO. 1690005255-001

Parameters	Soil RCLs			BTV	B-3 (3-4')	B-3 (11-12')	B-7 (3')	B-7 (7.5')	B-11 (3')	B-11 (8')	B-13 (3')	B-13 (8')	B-14 (3')	B-14 (8')
	Non-Industrial Direct Contact	Industrial Direct Contact	Groundwater Pathway		10/09/17	10/09/17	01/10/18	01/10/18	01/10/18	01/10/18	01/10/18	01/10/18	01/10/18	01/10/18
<b>VOCs (µg/kg)</b>														
sec-Butylbenzene	145,000	145,000	--	--	<25.0	<25.0	<25.0	<25.0	<40.0	<25.0	<27.2	<25.0	<32.5	<25.0
n-Butylbenzene	108,000	108,000	--	--	<25.0	<25.0	<25.0	<25.0	<25.0	<28.4	<27.2	<25.0	<32.5	<25.0
Chloroform	454	1,980	3.3	--	<46.4	<46.4	<52.7	<46.4	<74.9	<52.7	<50.0	<46.4	<60.3	<46.4
Ethylbenzene	8,020	35,400	1,570	--	<25.0	<25.0	<26.1	<25.0	<40.0	<28.4	<27.2	<25.0	<32.5	<25.0
Isopropylbenzene	268,000	268,000	--	--	<25.0	<25.0	<25.0	<25.0	<40.0	<28.4	<27.2	<25.0	<32.5	<25.0
n-Propylbenzene	264,000	264,000	--	--	<25.0	<25.0	<25.0	<25.0	<40.0	<28.4	<27.2	<25.0	<32.5	<25.0
Tetrachloroethene	33,000	145,000	4.54	--	44.6 C	<25.0	<26.1	29.5 J C	50.6 C	<28.4	<27.2	<25.0	<32.5	<25.0
Trichloroethene	1,300	8,410	3.6	--	<25.0	<25.0	<26.1	<25.0	<40.0	<28.4	<27.2	<25.0	<32.5	<25.0
1,2,4-Trimethylbenzene <sup>1</sup>	219,000	219,000	1,378.7	--	<25.0	<25.0	<26.1	<25.0	<40.0	<28.4	<27.2	<25.0	<32.5	<25.0
<b>PAHs (µg/kg)</b>														
Acenaphthene	3,590,000	45,200,000	--	--	9.3 J	<4.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Acenaphthylene	--	--	--	--	<3.8	<3.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Anthracene	17,900,000	100,000,000	196,949.2	--	16.7 J	<6.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Benzo(a)anthracene	1140	20,800	--	--	26.0	5.5 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Benzo(a)pyrene	115	2110	470	--	20.2	4.9 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Benzo(b)fluoranthene	1150	21,100	478.1	--	25.1	7.1 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Benzo(ghi)perylene	--	--	--	--	11.6	4.3 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Benzo(k)fluoranthene	11,500	211,000	--	--	10.9	<3.0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Chrysene	115,000	2,110,000	144.2	--	24.4	6.6 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Dibenzo(a,h)anthracene	115	2110	--	--	3.2 J	<2.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Fluoranthene	2,390,000	30,100,000	88,877.8	--	66.1	15.2 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Fluorene	2,390,000	30,100,000	14,829.9	--	9.7 J	<4.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Indeno(1,2,3-cd)pyrene	1150	21,100	--	--	9.9	3.0 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1-Methylnaphthalene	17,600	72,700	--	--	<4.7	<4.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2-Methylnaphthalene	239,000	3,010,000	--	--	<5.1	<5.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Naphthalene	5,520	24,100	658.2	--	<10	<10	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Phenanthrene	--	--	--	--	19.8	<13.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Pyrene	1,790,000	22,600,000	54,545.5	--	56.2	12.5 J	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
<b>Metals (mg/kg)</b>														
Arsenic <sup>3</sup>	0.677	3.00	0.58	8.3	6.9 A,B,C	3.3 J A,B,C	4.4 J A,B,C	3.0 J A,C	5.1 J A,B,C	6.9 A,B,C	4.0 J A,B,C	5.0 J A,B,C	5.5 J A,B,C	4.8 J A,B,C
Barium <sup>3</sup>	15,300	100,000	164.8	364	86.2	65.6	335 C	100	91.9	71.9	21.8	49.5	58.4	74.2
Cadmium <sup>3</sup>	71	985	0.75	1.07	0.19	0.28 J	0.31 J	0.13	0.17 J	0.24 J	0.28 J	0.23 J	0.22 J	0.24 J
Chromium	--	--	360,000	43.5	20.4	27.1	12.4	6.2	19.1	26.4	10.1	20.6	25.8	19.7
Lead <sup>3</sup>	400	800	27	51.6	13.8	9.0	49.1 A,B,D	5.2	96.3 C,D	8.1	7.6	7.6	11.5	8.7
Mercury	3.13	3.13	0.21	--	<0.02	0.016 J	0.96	<0.012	0.03 C	0.019 J	0.029 J	0.013 J	0.020 J	0.014 J
Selenium	391	5,840	0.52	--	<1.2	<1.2	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2

**Notes:**  
 Analytical results displayed are for detected parameters only.  
 VOCs = Volatile Organic Compounds  
 PAHs = Polynuclear Aromatic Hydrocarbons  
 RCL = Residual Contaminant Level  
 BTV = Background Threshold Value  
 µg/kg = micrograms per kilogram  
 mg/kg = milligrams per kilogram  
<sup>1</sup> Groundwater Pathway RCL listed is for 1,2,4- and 1,3,5-Trimethylbenzenes combined.  
<sup>2</sup> Direct Contact RCL listed is for the more stringent m-Xylene.  
<sup>3</sup> Parameter BTV is larger than one or more of the RCLs or is the only standard available.  
 A Parameter exceeds NR 720 Residual Contaminant Level (RCL) for Non-Industrial Direct Contact.  
 B Parameter exceeds NR 720 RCL for Industrial Direct Contact.  
 C Parameter exceeds NR 720 RCL for Groundwater Pathway.  
 D Parameter exceeds Surficial BTV for metals.  
 J Estimated concentration at or above the LOD and below the LOQ.  
 M0 = Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.  
 #N/A = Not analyzed  
 Soil RCLs and surficial BTVs established by the WDNR RR program using the EPA's RSL web-calculator with WAC NR 720 default parameters (WDNR PUB-RR-890, June 2014 - updated RCL spreadsheet, December 2017).

**BENCH SOILS TO BE REMOVED AND DISPOSED OF OFF-SITE AT LANDFILL (NR 718 EXEMPTION REQUEST MODIFICATION)**

**REV 3/8/18**



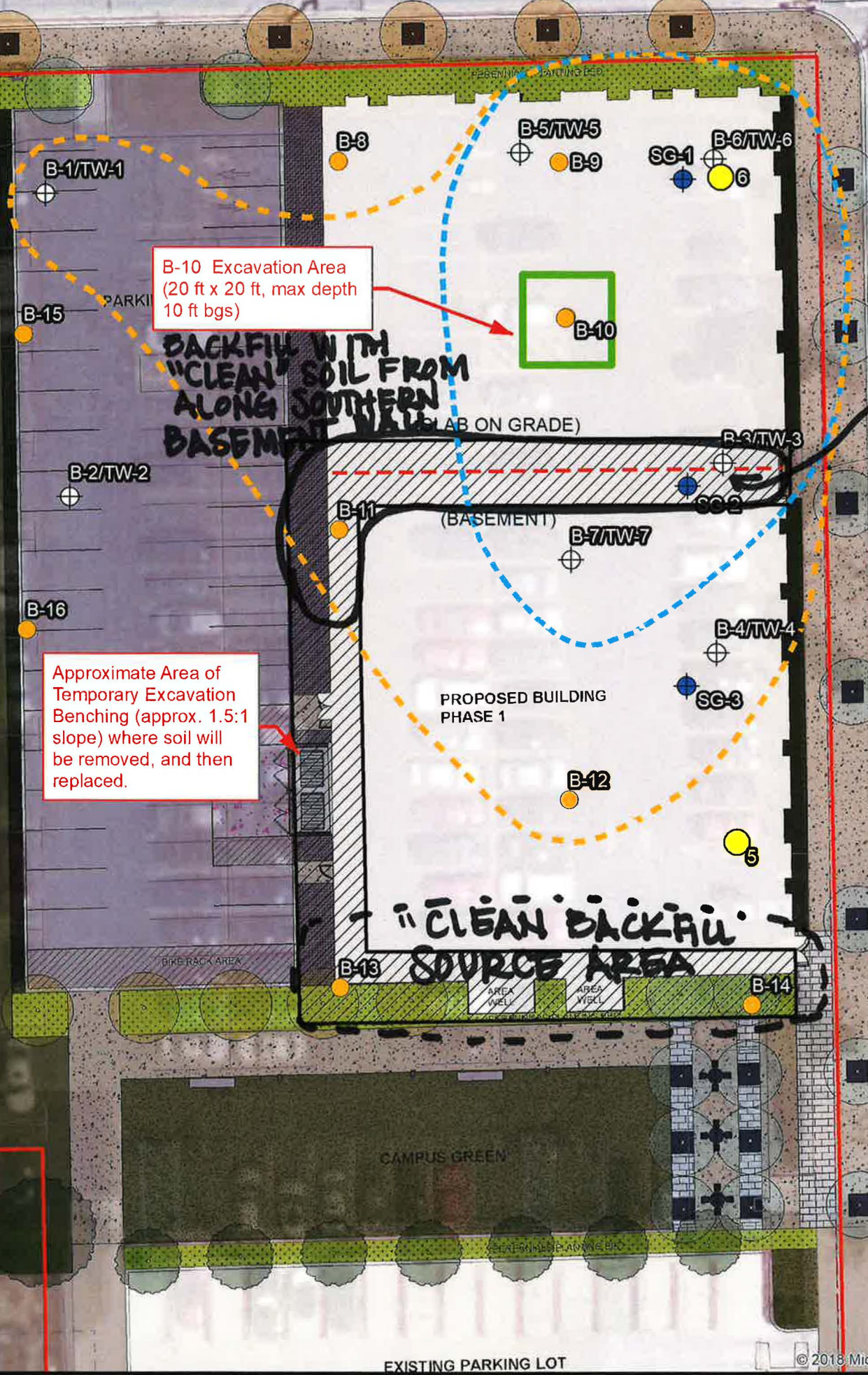
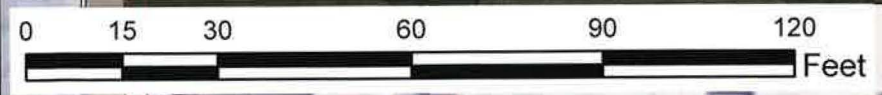
WELLS STREET

EXISTING GREEN FILED TO REMAIN

**Legend**

- Soil Boring
- ⊕ Soil Boring/Temporary Well
- Previous Geotechnical Soil Boring
- Soil Gas Probe
- Estimated Extent of VOC NR 720 Exceedances in Soil
- Estimated Extent of VOC NR 140 Exceedances in Groundwater
- Proposed Building Division
- Temporary Excavation Benching
- Milwaukee County Parcel Boundary

**Note:**  
Proposed site plan was provided to Ramboll by Perkins & Will (Illustrative Site Plan - Phase I, Sheet L0.00).



**REMOVE ICE IMPACTED BENCH SOILS AND DISPOSE OF AT LANDFILL. REPLACE WITH "CLEAN" SOIL FROM ALONG THE SOUTHERN BASEMENT WALL.**

**ESTIMATED EXTENT OF VOC EXCEEDANCES IN SOIL AND GROUNDWATER**

AHPRC SITE  
MARQUETTE UNIVERSITY  
1201 WEST WELLS STREET  
MILWAUKEE, WISCONSIN

**RAMBOLL** FIGURE 5

M:\Proposals\VR 2017\VP21-17186\_Marquette APRCAGIS\MXD\Fig5\_Extent of VOC Exceedances in Soil and GW\_20180308.mxd