

February 14, 2018

Project Reference #16722

Ms. Nancy Ryan
Wisconsin Department of Natural Resources
2300 N. Martin Luther King Drive
Milwaukee, WI 53212

RE: Site Investigation & Remedial Action Plan Report Addendum
BMO Downtown Campus Parking Structure (Former)
BMO Tower – Redevelopment Project, Milwaukee, WI
FID: 341288970
BRRTS: 02-41-579828

Dear Ms. Ryan:

Thank you for your recent phone and email correspondence with Sigma to discuss the subject site and recently submitted reports, which include the *Site Investigation Report & Remedial Action Plan (SI/RAP)*¹ and *Soil Placement Approval Request*². The purpose of this letter is to present additional information associated with the *SI/RAP and Soil Placement Approval Request* based on the items discussed during the recent correspondence. Specifically, this letter provides additional details regarding a clear discussion of existing pathway risks associated with site soil contamination, updated soil excavation and management information and figures, and a discussion on material characterization and sampling.

SUMMARY OF NR 720 PATHWAY RISKS AND REMEDIAL ACTION

Auto-Banking Area. Nineteen soil samples were collected from the auto-banking area of the site (refer to **Figure 4**) and analyzed for volatile organic compounds (VOCs, composite sample only), polynuclear aromatic hydrocarbons (PAHs), and/or Resource Conservation and Recovery Act (RCRA) metals or lead. Multiple samples contained concentrations of PAHs, RCRA metals, and/or lead at levels reported greater than applicable WDNR Chapter NR 720 (NR 720) Residual Contaminant Levels (RCLs) for the protection of groundwater (groundwater pathway) and/or protection of human health by direct contact (direct contact pathway, at a non-industrial site). Groundwater pathway risks associated with PAH and select RCRA metals impacts exist within the northern half of the auto-banking area (refer to **Figures 7 & 8**) and extend to an approximate depth of 8 feet below ground surface (bgs, refer to **Figure 5**). The large majority of impacted soils that may present groundwater pathway and/or direct contact risks will be removed during soil excavation associated with redevelopment in this area. Revised **Figures 9B and 9C** show the area and depth of excavation within the auto-banking area, with respect to the identified soil impacts. Some soils impacted above NR 720 groundwater pathway and/or direct contact RCLs are

¹ *Site Investigation & Remedial Action Plan Report, BMO Downtown Campus Parking Structure (Former), BMO Tower-Redevelopment Project, Milwaukee, Wisconsin 53202* by The Sigma Group, Inc. (dated January 4, 2018)

² *Soil Placement Approval Request for the Proposed BMO Tower Development Located at 778 North Water Street in Milwaukee, Wisconsin – DNR BRRTS #02-41-579828* by Friess Environmental Consulting, Inc. (dated January 23, 2018)

expected to remain following excavation. The risks associated with residual soil impacts within the auto-banking area will be addressed through engineered barriers, as detailed in the *SI/RAP*. Depth to groundwater within the auto-banking area of the site was measured at approximately 15.7 feet bgs (data from a site geotechnical report completed by GZA, soil boring/temporary well B-2 shown on **Figure 4**). Groundwater within the auto-banking area is not in contact with impacted soil and the area will be capped following redevelopment; therefore, future risk to the groundwater pathway is minimal.

Basement Level Area. Seven sub-slab soil samples (SB-2-1 through SB-2-7) collected from beneath the basement level area of the site (**Figure 4**) did not contain detectable concentrations of VOCs or PAHs (with the exception of one low-level concentration of benzo(a)anthracene estimated between the laboratory limit of detection and limit of quantitation in soil sample SB-2-5 [4 to 6 feet bgs]), and reported RCRA metals concentrations are below applicable NR 720 RCLs and/or natural background levels in Wisconsin. No risks to the groundwater or direct contact pathways exist in basement level sub-slab soils (apparent granular fill). The soils within this area will be excavated to depths of approximately 6 to 8 feet below the floor slab (approximately 20 to 25 feet below ground surface) during redevelopment and taken off-site as “unrestricted” (non-impacted) soil per the *Soil Management Plan (SMP, Attachment 1* below).

Executive Garage Area. Select soil samples collected from the northwest corner of the executive garage area contained concentrations of select RCRA metals reported greater than NR 720 RCLs for the protection of groundwater. One soil sample, TW-1 (4 to 6 feet bgs) also contained a reported concentration of arsenic greater than the NR 720 direct contact RCL (non-industrial site) and the Wisconsin Background Threshold Value (BTV) of 8 milligrams per kilogram (mg/kg). Soil impacts within this portion of the site (refer to **Figures 7 & 8**) may present risks to the groundwater and/or direct-contact pathways. Impacted soil that may present groundwater pathway and/or direct contact risks will be substantially removed during soil excavation associated with redevelopment in this area. Revised **Figures 9B and 9C** show the area and depths of excavation within the auto-banking area, with respect to the identified soil impacts. Regarding future groundwater protection; groundwater samples collected from temporary well TW-1 did not contain reported concentrations of RCRA metals greater than applicable NR 140 groundwater quality standards, with the exception of lead, which was reported at a concentrations exceeding the NR 140 Preventative Action Limit (PAL), but below the laboratory limit of quantitation. Soil excavation within the executive garage area will substantially remove RCRA metals impacted soil that may pose a future risk to groundwater quality. Residual soil impacts that may remain in the northwest corner of the executive garage will be addressed through engineered barriers.

Lot 3, South of Executive Garage. Soil samples collected from off-site soil borings SB-24 and SB-25, advanced along the northern boundary of Lot 3 (“surface parking lot” – **Figure 4**) approximately 8 feet off of the southern exterior wall of the executive garage, contained select PAHs and/or RCRA metals constituents at concentrations reported greater than applicable NR 720 groundwater pathway and/or direct contact RCLs. One detection of benzene was also reported within soil sample SB-24 (10 to 12 feet bgs) at a concentration greater than the NR 720 groundwater pathway RCL. The PAH and RCRA metals soil impacts identified on this property are presumed to be associated with reworked soil and historic fill material observed in the soil borings (below grade to approximately 6 to 8 feet

bgs). The source of the benzene detection within soil sample SB-24 (10 to 12 feet bgs) is undefined, but is likely attributed to fill material or an off-site release, not the subject property, and will be further investigated during future redevelopment of Lot 3. As noted, soil borings SB-24 and SB-25 were advanced off the subject property to characterize soil/fill material that may be excavated for construction of the proposed building foundation. The impacts are not associated with the site investigation activities on the subject property. Sigma proposes to collect sidewall samples from the excavation work in this area and southwest corner of the executive (further discussion below) to assist in defining the extent of impacts identified in the off-site soil borings. Soil samples will be submitted for analysis of VOCs.

ADDENDUM TO SOIL MANAGEMENT PLAN AND SOIL PLACEMENT APPROVAL REQUEST

Material Characterization. The following information provides greater detail regarding the areas of excavation and characterization of material proposed for off-site management and disposal.

- **Auto-Banking Area:** An estimated 1,470 cubic yards of reworked granular fill soils will be excavated from the auto-banking area of the site during redevelopment. The depth of cut within this area is expected to be from existing grade to approximately 18 feet bgs. Eighteen discrete soil samples and one composite soil sample were collected from the auto-banking area of the site. Thirteen of the eighteen samples represent material within the cut area of the proposed excavation. Impacts identified within the auto-banking area include PAHs and/or RCRA metals above applicable NR 720 RCLs for protection of groundwater and/or direct contact. VOCs were not detected within auto-banking soil samples. All material excavated from the auto-banking area of the site will be disposed of as “restricted material” at the R&R Excavating Site in Cedarburg, Wisconsin, per the current *SMP* and *Soil Placement Approval Request*. PAH and RCRA metals impacts within auto-banking soils are not expected to pose significant risk to groundwater or human health at the R&R Excavating Site as the impacts are of similar nature and degree as contaminated material historically placed under previous approvals at the R&R Excavating Site. Soil PAH Synthetic Precipitate Leaching Procedure results (**Table 3**) for soil sample SB-2-12R further indicate minimal risks to groundwater associated with the elevated PAH impacts identified at this location within the auto-banking area.
- **Basement Level Area:** An estimated 5,100-5,200 cubic yards of existing sub-slab material is expected to be excavated during redevelopment for construction of the proposed building foundation and will be managed on or off-site as unrestricted general fill at the discretion of the owner/generator. The estimated depth of cut within the basement level area is approximately 6 to 8 feet below the existing basement slab (approximately 20 to 25 feet bgs). Details regarding sampling and material characterization within the basement level area were discussed above and detailed in the SI/RAP and *SMP*.
- **Executive Garage Area:** An estimated 600 cubic yards of reworked granular fill and silty clay soils will be excavated from the western portion of the executive garage area of the site during redevelopment. The depth of cut within this area is expected to be from below the existing executive garage floor slab to 10 feet below the slab

(refer to **Figures 9 [A-C]**). The general area east of SB-20 and 22 is fill area. Sixteen discrete soil samples were collected from the proposed cut areas of the executive garage area of the site. Impacts identified within the executive garage cut area include RCRA metals above applicable NR 720 RCLs. Generally all material cut from this portion of the executive garage area will be disposed of as “restricted material” at the R&R Excavating Site in Cedarburg, Wisconsin, per the current *SMP* and *Soil Placement Approval Request*. The RCRA metals impacts within the northwest executive garage soils are not expected to pose significant risk to groundwater or human health at the R&R Excavating Site as the impacts are of similar nature and degree as contaminated material historically placed under previous approvals at the R&R Excavating Site.

Material in the southwest cut area of the executive garage (refer to **Figures 9 [A-C]**) may contain VOC impacts associated with the VOCs identified in off-site soil boring SB-24. Given the generally undefined extent of VOC impacts identified in soil boring SB-24, the material from this area of the excavation will be disposed of at a licensed landfill facility. Soil samples collected from soil borings SB-6 and TW-7 did not contain detected concentrations of VOCs, PAHs, or PCBs, and lead concentrations were below NR 720 RCLs and background concentrations; therefore, the northern extent of excavated material in this area restricted to landfill disposal is defined by these two borings. The extent of material excavated from the executive garage area that is restricted to landfill disposal, approximately 100 cubic yards, is shown on **Figures 9 (A-C)**.

- Earth Retention/Building Foundation - Lot 3: Although originally estimated at 250 cubic yards, only approximately 50 cubic yards of reworked soil/fill material is expected to be excavated from Lot 3 (off-site property, south of executive garage) for construction of the proposed building foundation. Prior to foundation excavation, earth retention piles will be vertically driven approximately 1 foot 8 inches laterally south of the southern exterior wall of the executive parking garage (**Attachment 2**). Material approximately 8 to 25 feet bgs between the southern outer wall of the executive garage and northern face of the earth retention piles and lagging may be excavated during redevelopment (see **Figures 9 [A-C]** and **Attachment 2**). Four soil samples, collected from soil borings SB-24 and SB-25 (6 to 8 and 10 to 12 feet bgs) were used to characterize the material within this limited off-site strip of the proposed building foundation excavation. Concentrations of select VOCs, PAHs and/or RCRA metals were detected above applicable NR 720 standards within material sampled from this area. This material will be disposed of at a licensed landfill facility.

In short, approximately 2,000 cubic yards of impacted soil excavated from the auto-banking and executive garage areas of the site, as shown on **Figures 9 (A-C)**, will be disposed of at the R&R Excavating Site in Cedarburg, Wisconsin, thus significantly reducing the degree and extent of soil impacts within these areas.

Revised **Figures 9 (A-C)** provide additional soil management information as requested. **Attachment 2** provides additional soil excavation information for the proposed redevelopment with respect to off-site soil borings SB-24 and SB-25.

Revised Additional Management Protocols. The following revision and addition to the *Additional Management Protocols* section (page 5) of the original *SMP* should be noted:

- Revision: The second to last bullet item within the *Additional Management Protocols* section, which discusses reuse of “soil excavated for building footings and utility lines”...is revised to include only reuse of soil excavated for building footings and utility lines that is excavated from within the area described as unrestricted in the *SMP* (basement level sub-slab material). This condition is also reiterated within the *On-Site Soil Management* section (page 6) of the *SMP*.
- Addition: Sigma personnel will be on site during all soil excavation activities within the executive garage area and earth retention/building foundation strip to visually inspect and screen excavated soil suspected of potentially containing VOCs with an organic vapor monitor (a PID). This includes the following areas:
 - Former abandoned UST system within central portion of executive garage;
 - Former lift hoist located in the southwest corner of the executive garage; and,
 - All soils/fill material excavated south of the executive garage wall during earth retention system and building foundation construction.

Soil samples will be periodically collected during excavation work within these areas for PID screening. Material that is screened with the PID above 10 parts per million (ppm) will be segregated and disposed of at a licensed landfill facility. All soil sample locations and PID results will be documented. Soil samples will be collected from the sidewalls of the excavation areas in the southwest corner of the executive garage to assist with defining the degree and extent of VOC impacts identified in soil boring SB-24 (10 to 12 feet bgs) on the off-site property (Lot 3) to the south.

Revised Soil Segregation. Methods to differentiate between potentially impacted soil and non-impacted soil were described in the *SMP* section *Soil Segregation* (page 6) as follows:

- Soil quality data, maps, and soil boring logs will be used to identify and measure areas of concern and the location of impacts; and,
- Visual observations (and field screening with a photoionization detector, if necessary) will be used during the excavation process to determine/confirm the appropriate soil management strategy.

The first bulleted item is revised to read:

- Revised *Soil Management Plan Figures 9 (A-C)* will be used to identify areas of concern, location of impacts, and appropriate off site management.

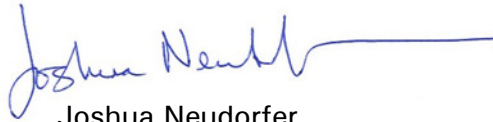
We hope that the additional information provided in this submittal will aid in your review and concurrence with the proposed redevelopment soil management and remedial strategy for the site. If you have any questions regarding this submittal or require any additional information, please contact us at 414-643-4200.

Sincerely,

THE SIGMA GROUP, INC.



Cory Katzban, P.E.
Project Engineer



Joshua Neudorfer
Senior Consultant

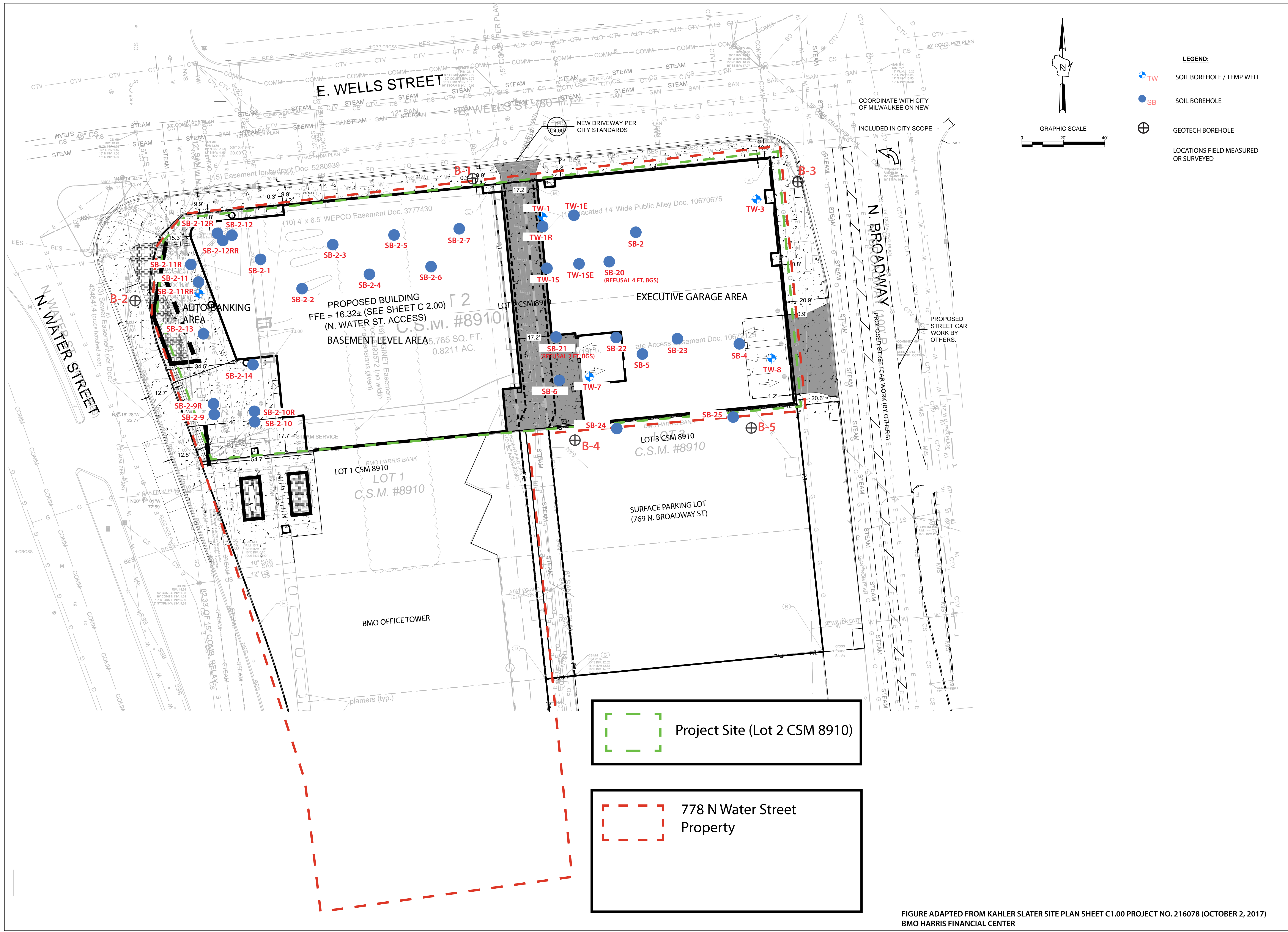


Randy E. Boness, P.G.
Geosciences Group Leader

Attachments

cc: Mr. Rob Oldenburg – Broadway Tierra Partners, LLC
Mr. Tim Gasperetti – Broadway Tierra Partners, LLC

FIGURES



LEGEND:

- + TW SOIL BOREHOLE / TEMP WELL
- SB SOIL BOREHOLE
- ⊕ GEOTECH BOREHOLE
- ⊕ LOCATIONS FIELD MEASURED OR SURVEYED

BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)

REDEVELOPMENT PLAN
BMO CAMPUS PARKING STRUCTURE
NORTH NEW CONSTRUCTION

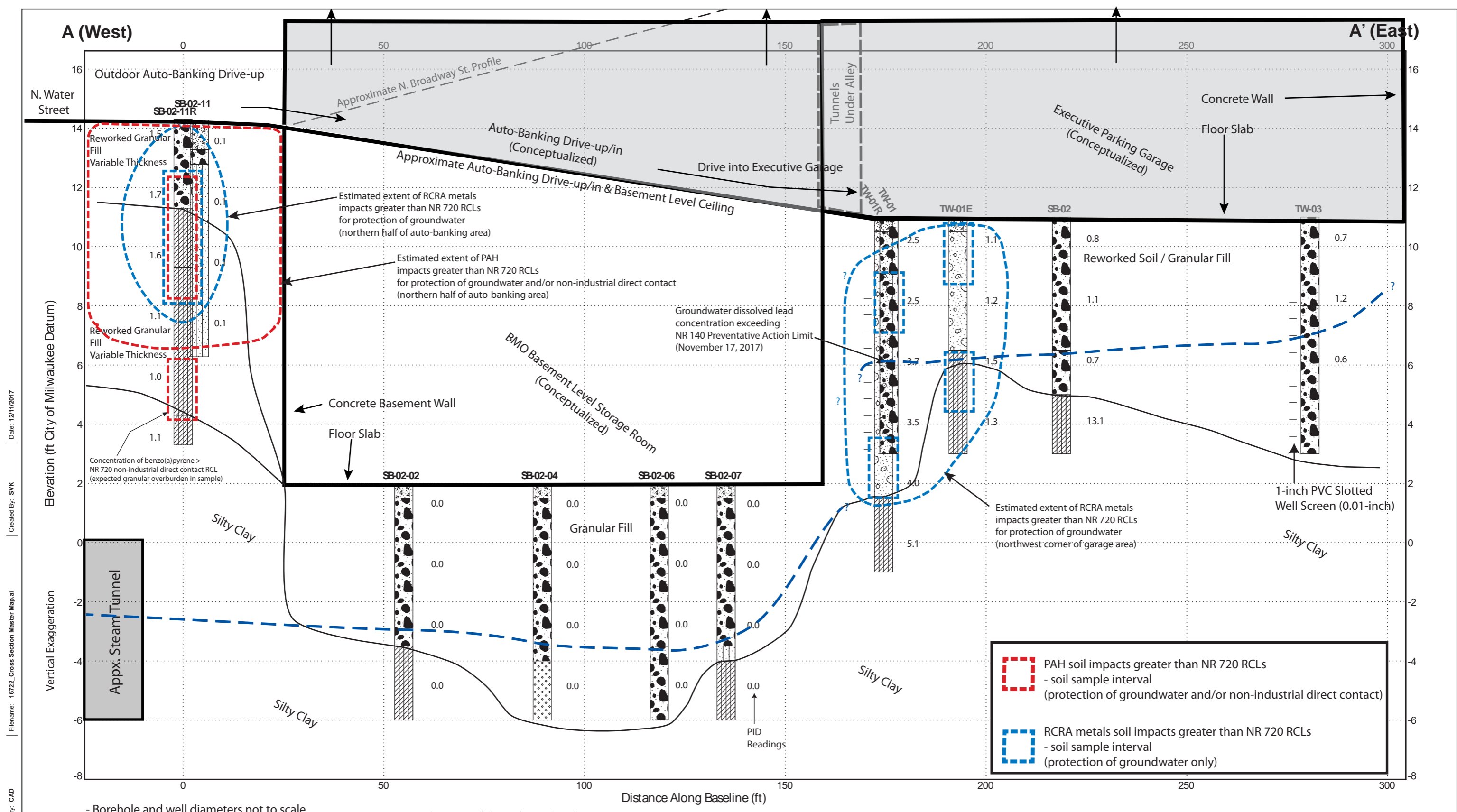
7. REDEVELOPMENT PLAN	12-20-2017
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
4. Site Plan Map Update	6-7-2017
3. Site Plan Map Update	5-8-2017
2. REVISED BORING LOCATION	1-12-2017
1. REVISED BORING LOCATION	1-6-2017
NO. REVISION	DATE BY

DRAWING NO.	Sigma Boring Fig.dwg
DRAWN BY:	PRF/CCK (Site Plan Map Update)
DATE:	12/22/16
PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	
FIGURE NO.:	

- - - - Project Site (Lot 2 CSM 8910)

- - - - 778 N Water Street Property

FIGURE ADAPTED FROM KAHLER SLATER SITE PLAN SHEET C1.00 PROJECT NO. 216078 (OCTOBER 2, 2017)
 BMO HARRIS FINANCIAL CENTER



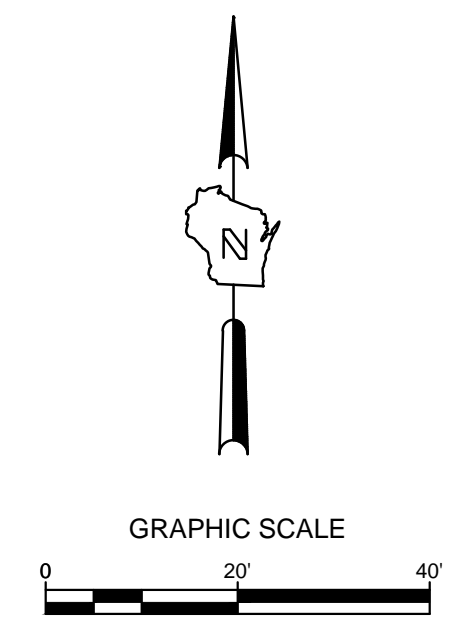
Project: 16722
 Directory: CAD
 Filename: 16722_Cross Section Master Map.ai
 Created By: SVK
 Date: 12/11/2017

- Borehole and well diameters not to scale

--- Interpreted Groundwater Level (Based on geotech well measurements and drilling observations)

- USCS Well-graded Sandy Gravel
- USCS Well-graded Sand
- USCS Poorly-graded Gravelly Sand
- USCS Low Plasticity Silty Clay
- USCS Silty Sand
- Concrete
- Topsoil

<p>Single Source. Sound Solutions. GROUP</p>	<p>CROSS SECTION A-A'</p> <p>BMO PARKING STRUCTURE</p> <p>MILWAUKEE, WISCONSIN</p>	<p>FIGURE</p> <p style="font-size: 2em;">5</p>
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- LEGEND:**
- + TW SOIL BOREHOLE / TEMP WELL
 - SB SOIL BOREHOLE
 - ⊕ GEOTECH BOREHOLE
 - ⊕ LOCATIONS FIELD MEASURED OR SURVEYED
 - BUILDING FOUNDATION ELEMENTS FOOTPRINT - FOOTINGS AND GRADE BEAMS (APPROXIMATE)



Sample ID:	SB-5	
Depth:	0 - 2	2 - 4
Date:	1/30/17	
VOCs		
1,2,4-TMB	0.083	<0.025
X	0.102 J	<0.116

Sample ID:	SB-25	
Depth:	6 - 8	10 - 12
Date:	11/20/17	
VOCs		
N	0.111 J	<0.094

Sample ID:	SB-24	
Depth:	6 - 8	10 - 12
Date:	11/20/17	
VOCs		
B	<0.03	0.39
T	<0.032	0.137

SB-24 & 25 SOIL QUALITY DATA ONLY INCLUDED FOR SOIL MANAGEMENT PURPOSES

- B Benzene
- N Naphthalene
- T Toluene
- 1,2,4-TMB 1,2,4-Trimethylbenzene
- X Xylenes

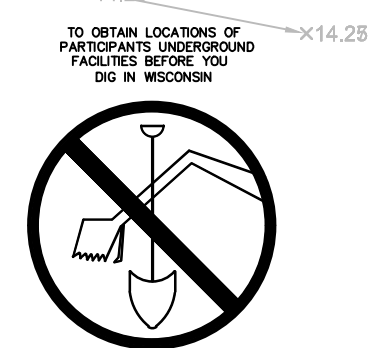
"J" = Analyte detected between Limit of Detection and Limit of Quantitation
BOLD = Concentration exceeds Groundwater Pathway RCL

Project Site (Lot 2 CSM 8910)

778 N Water Street Property

SOIL BORINGS COMPLETED OFF-SITE (OTHER THAN SB-24 & SB-25) AND TW-17 ARE ASSOCIATED WITH SEPARATE PHASE II ESA WORK AND ARE NOT ASSOCIATED WITH THE SITE INVESTIGATION WORK COMPLETED AT THE SITE. SB-24 AND SB-25 WERE COMPLETED ON THE SOUTH SURFACE PARKING LOT AS PART OF SOIL MANAGEMENT PLANNING

DETECTED VOCs ONLY



CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE
 WE STATE: (42 USC 17074)
 REQUIRES MIN. 3 WORK DAYS
 NOTICE BEFORE YOU DIG
 MILW. AREA 259-1181

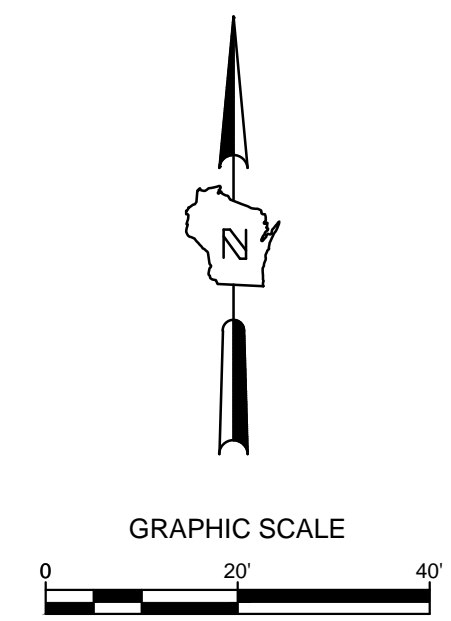
THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

SOIL QUALITY MAP - VOLATILE ORGANIC COMPOUNDS
BMO CAMPUS PARKING STRUCTURE
NORTH NEW CONSTRUCTION

BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)

7. SOIL QUALITY MAP-VOCs	12-20-2017
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
4. Site Plan Map Update	6-7-2017
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PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	---
FIGURE NO.:	---



- LEGEND:**
- + TW SOIL BOREHOLE / TEMP WELL
 - SB SOIL BOREHOLE
 - ⊕ GEOTECH BOREHOLE
 - ⊕ LOCATIONS FIELD MEASURED OR SURVEYED
 - BUILDING FOUNDATION ELEMENTS
FOOTPRINT - FOOTINGS AND GRADE BEAMS (APPROXIMATE)



Sample ID:	SB-2-12R
Depth:	2 - 3
Date:	11/17/17
PAHs	
B(a)A	{ [27.2] }
B(a)P	{ [15.7] }
B(b)F	{ [22.9] }
C	15.4
D(a,h)A	[3.5]
I(1,2,3-cd)P	[8.5]
N	3.6

Sample ID:	SB-2-12RR
Depth:	3 - 5
Date:	11/22/17
PAHs	
B(a)A	[1.36]
B(a)P	[1.01]
B(b)F	[1.48]
C	1.11
D(a,h)A	[0.165]

Sample ID:	SB-2-1
Depth:	4-6
Date:	4/14/17
PAHs	NE

Sample ID:	SB-2-2
Depth:	5-7
Date:	4/14/17
PAHs	ND

Sample ID:	SB-2-3
Depth:	5-7
Date:	4/14/17
PAHs	ND

Sample ID:	SB-2-4
Depth:	4-6
Date:	4/14/17
PAHs	ND

Sample ID:	SB-2-5
Depth:	4-6
Date:	4/14/17
PAHs	NE

Sample ID:	SB-2-6
Depth:	5-7
Date:	4/14/17
PAHs	ND

Sample ID:	SB-2-7
Depth:	2-4
Date:	4/14/17
PAHs	ND

Sample ID:	TW-1
Depth:	0 - 2 4 - 6
Date:	1/30/17
PAHs	ND

Sample ID:	TW-3
Depth:	0 - 2 2 - 4
Date:	1/30/17
PAHs	ND

Sample ID:	SB-2
Depth:	2 - 4 6 - 8
Date:	1/30/17
PAHs	NE

Sample ID:	SB-4
Depth:	0 - 2 4 - 6
Date:	1/30/17
PAHs	ND

Sample ID:	TW-8
Depth:	0 - 2 2 - 4
Date:	1/30/17
PAHs	ND

Sample ID:	SB-25
Depth:	6 - 8 10 - 12
Date:	11/20/17
PAHs	
B(a)A	{ [23.4] } 0.0206 J
B(a)P	{ [19.8] } 0.0123 J
B(b)F	{ [26.1] } 0.0149 J
C	19 0.0164 J
D(a,h)A	[3.3] <0.0078
I(1,2,3-cd)P	[1] <0.0114

Sample ID:	SB-2-11R
Depth:	2 - 4 4 - 6 8 - 10
Date:	11/17/17
PAHs	
B(a)A	[10.5] [1.81] 0.12
B(a)P	{ [7.7] } [1.97] [0.135]
B(b)F	[11.2] [2.44] 0.163
C	1.5 0.109
D(a,h)A	[1.24] [0.33] 0.0213 J
I(1,2,3-cd)P	[3.8] 1.08 0.075
N	1.77 0.055 <0.0153

Sample ID:	SB-2-11RR
Depth:	0 - 2
Date:	11/22/17
PAHs	
B(a)P	[0.16]
C	0.197

Sample ID:	SB-2-13
Depth:	0 - 2 2 - 4
Date:	11/22/17
PAHs	NE

Sample ID:	SB-2-14
Depth:	0 - 2 2 - 4
Date:	11/22/17
PAHs	NE

Sample ID:	SB-2-9R
Depth:	0 - 2 2 - 4
Date:	11/22/17
PAHs	NE

Sample ID:	SB-2-10R
Depth:	0 - 2 2 - 4
Date:	11/22/17
PAHs	NE

Sample ID:	SB-6
Depth:	2 - 4 6 - 8
Date:	1/30/17
PAHs	ND

Sample ID:	TW-7
Depth:	0 - 2 2 - 4
Date:	1/30/17
PAHs	ND

Sample ID:	SB-24
Depth:	6 - 8 10 - 12
Date:	11/20/17
PAHs	NE

Sample ID:	SB-5
Depth:	0 - 2 2 - 4
Date:	1/30/17
PAHs	NE

Analytical Key

B(a)A = Benzo(a)anthracene D(a,h)A = Dibenzo(a,h)anthracene
 B(a)P = Benzo(a)pyrene I(1,2,3-cd)P = Indeno(1,2,3-cd)pyrene
 B(b)F = Benzo(b)fluoranthene N = Naphthalene
 C = Chrysene

"J" = Analyte detected between Limit of Detection and Limit of Quantitation
BOLD = Concentration exceeds Groundwater Pathway RCL
 [] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
 { } = Concentration exceeds Industrial Direct Contact RCL (any depth)

ND = No PAHs detected
 NE = No PAHs present at concentrations greater than RCLs

All concentrations in units of mg/kg (milligrams per kilogram)

Project Site (Lot 2 CSM 8910)

778 N Water Street Property

SOIL BORINGS COMPLETED OFF-SITE (OTHER THAN SB-24 & SB-25) AND TW-17 ARE ASSOCIATED WITH SEPARATE PHASE II ESA WORK AND ARE NOT ASSOCIATED WITH THE SITE INVESTIGATION WORK COMPLETED AT THE SITE. SB-24 AND SB-25 WERE COMPLETED ON THE SOUTH SURFACE PARKING LOT AS PART OF SOIL MANAGEMENT PLANNING

ESTIMATED EXTENT OF SOIL PAH IMPACTS GREATER THAN NR 720 RCL FOR NON-INDUSTRIAL DIRECT CONTACT

ESTIMATED EXTENT OF SOIL PAH IMPACTS GREATER THAN NR 720 RCL FOR PROTECTION OF GROUNDWATER

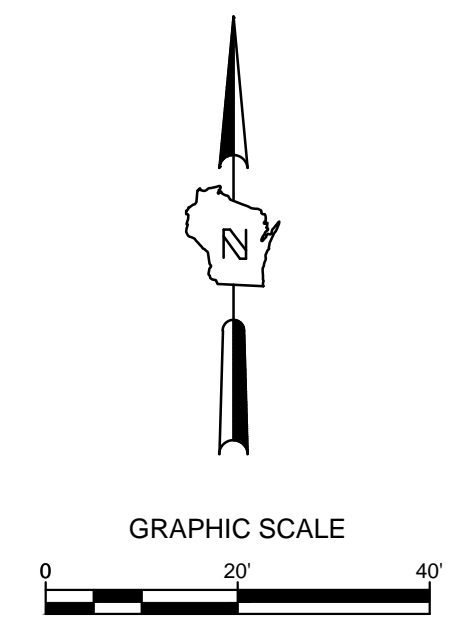
- ONLY DATA EXNCEEDING NR 720 RCLs INCLUDED IN DATA BOXES
 - SAMPLES NOT ANALYZED FOR PAHs NOT INCLUDED

BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)

SOIL QUALITY MAP - POLYNUCLEAR AROMATIC HYDROCARBONS
 BMO CAMPUS PARKING STRUCTURE
 NORTH NEW CONSTRUCTION

7. SOIL QUALITY MAP-PAHs	12-20-2017
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
4. Site Plan Map Update	6-7-2017
3. Site Plan Map Update	5-8-2017
2. REVISED BORING LOCATION	1-12-2017
1. REVISED BORING LOCATION	1-6-2017
NO. REVISION	DATE BY

DRAWING NO.	Sigma Boring Fig.dwg
DRAWN BY:	PRF/CCK (Site Plan Map Update)
DATE:	12/22/16
PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	
FIGURE NO.:	



- LEGEND:**
- + TW SOIL BOREHOLE / TEMP WELL
 - SB SOIL BOREHOLE
 - ⊕ GEOTECH BOREHOLE
 - ⊕ LOCATIONS FIELD MEASURED OR SURVEYED
 - BUILDING FOUNDATION ELEMENTS FOOTPRINT - FOOTINGS AND GRADE BEAMS (APPROXIMATE)



SOIL QUALITY MAP - RCRA METALS - LEAD - PCBs
BMO CAMPUS PARKING STRUCTURE
NORTH NEW CONSTRUCTION

7. SOIL QUALITY MAP-RCRA/Pb/PCB	12-20-2017
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
4. Site Plan Map Update	6-7-2017
3. Site Plan Map Update	5-8-2017
2. REVISED BORING LOCATION	1-12-2017
1. REVISED BORING LOCATION	1-6-2017
NO. REVISION	DATE BY

DRAWING NO.	Sigma Boring Fig.dwg
DRAWN BY:	PRF/CCK (Site Plan Map Update)
DATE:	12/22/16
PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	---
FIGURE NO.:	---

Analytical Key

As = Arsenic	Hg = Mercury
Ba = Barium	Se = Selenium
Cd = Cadmium	Ag = Silver
Pb = Lead	

"J"	= Analyte detected between Limit of Detection and Limit of Quantitation
BOLD	= Concentration exceeds Groundwater Pathway RCL
[]	= Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
{ }	= Concentration exceeds Industrial Direct Contact RCL (any depth)

NA	= Not Analyzed
NE	= No RCRA Metals present at concentrations greater than RCLs

All concentrations in units of mg/kg (milligrams per kilogram)

Project Site (Lot 2 CSM 8910)

778 N Water Street Property

SOIL BORINGS COMPLETED OFF-SITE (OTHER THAN SB-24 & SB-25) AND TW-17 ARE ASSOCIATED WITH SEPARATE PHASE II ESA WORK AND ARE NOT ASSOCIATED WITH THE SITE INVESTIGATION WORK COMPLETED AT THE SITE. SB-24 AND SB-25 WERE COMPLETED ON THE SOUTH SURFACE PARKING LOT AS PART OF SOIL MANAGEMENT PLANNING

ESTIMATED EXTENT OF SOIL RCRA METALS AND/OR LEAD IMPACTS GREATER THAN NR 720 RCL FOR NON-INDUSTRIAL DIRECT CONTACT
 ESTIMATED EXTENT OF SOIL RCRA METALS AND/OR LEAD IMPACTS GREATER THAN NR 720 RCL FOR PROTECTION OF GROUNDWATER

- ONLY DATA EXCEEDING NR 720 RCLs INCLUDED IN RCRA METALS DATA BOXES
- ARSENIC CONCENTRATIONS LESS THAN BTV OF 8 mg/kg CONSIDERED BACKGROUND
- SAMPLES NOT ANALYZED FOR RCRA METALS, LEAD AND/OR PCBs NOT INCLUDED
- LEAD CONCENTRATIONS INCLUDED AT LOCATIONS ONLY SAMPLED FOR LEAD

LEGEND:

- + TW SOIL BOREHOLE / TEMP WELL
- SB SOIL BOREHOLE
- ⊕ GEOTECH BOREHOLE
- ⊕ LOCATIONS FIELD MEASURED OR SURVEYED

GRAPHIC SCALE
 0 20 40

SOIL MANAGEMENT AREAS SUMMARY

RESTRICTED OFF-SITE DISPOSAL

- Auto-Banking Area
- Appx. 1,470 cubic yards excess
- NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

RESTRICTED OFF-SITE DISPOSAL

- Executive Garage Area
- Appx. 591 cubic yards excess
- NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

UNRESTRICTED

- Basement Level Area
- Appx. 5,169 cubic yards
- Unrestricted material to be taken offsite and managed at generator discretion

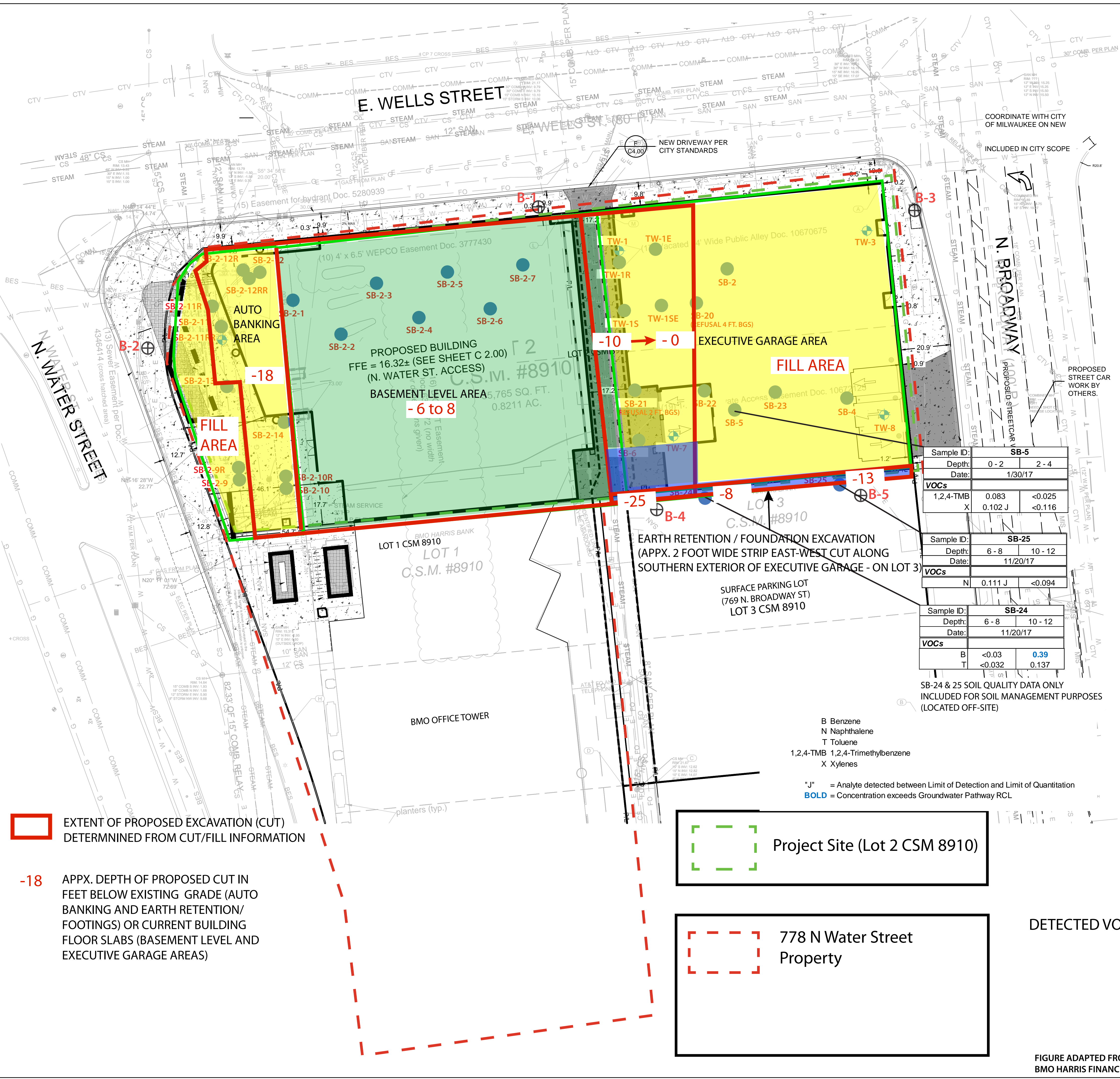
LANDFILL DISPOSAL

- Earth Retention/Foundation Excavation
- Appx. 100-150 cubic yards
- Fill - Off-site material to be disposed of at licensed landfill facility.

SOIL MANAGEMENT PLAN NOTES:

- IF GROSSLY IMPACTED SOIL (e.g. FREE PRODUCT, STRONG ODORS, DISCOLORATION, OR ELEVATED FIELD SCREEN RESULTS) IS ENCOUNTERED DURING EXCAVATION ACTIVITIES, SIGMA MUST BE NOTIFIED. THE SOIL WILL BE EVALUATED BY SIGMA AND IF APPROPRIATE, EXCAVATED, TEMPORARILY STOCKPILED, CHARACTERIZED AND POSSIBLY DISPOSED OF OFF-SITE.
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- MATERIAL PROPOSED FOR OFF-SITE DISPOSAL AT LOW-HAZARD EXEMPTION SITE OR LICENSED LANDFILL (IF EXCAVATED)
- MATERIAL PROPOSED FOR UNRESTRICTED USE OFF-SITE
- MATERIAL PROPOSED FOR LICENSED LANDFILL DISPOSAL



BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)
 SOIL MANAGEMENT PLAN - VOCs (REVISED FEB 2018)
 BMO CAMPUS PARKING STRUCTURE
 REDEVELOPMENT

NO.	REVISION	DATE	BY
6.	Drawing Update	12-6-2017	
5.	Site Plan Map Update	9-12-2017	
4.	Site Plan Map Update	6-7-2017	
3.	Site Plan Map Update	5-8-2017	
2.	REVISED BORING LOCATION	1-12-2017	
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DATE:	12/22/16
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APPROVED BY:	
FIGURE NO.:	

LEGEND:

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- SB SOIL BOREHOLE
- ⊕ GEOTECH BOREHOLE
- ⊕ LOCATIONS FIELD MEASURED OR SURVEYED

GRAPHIC SCALE
 0 20 40'

SOIL MANAGEMENT AREAS SUMMARY

RESTRICTED OFF-SITE DISPOSAL

- Auto-Banking Area
- Appx. 1,470 cubic yards excess
- NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

RESTRICTED OFF-SITE DISPOSAL

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- Appx. 591 cubic yards excess
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UNRESTRICTED

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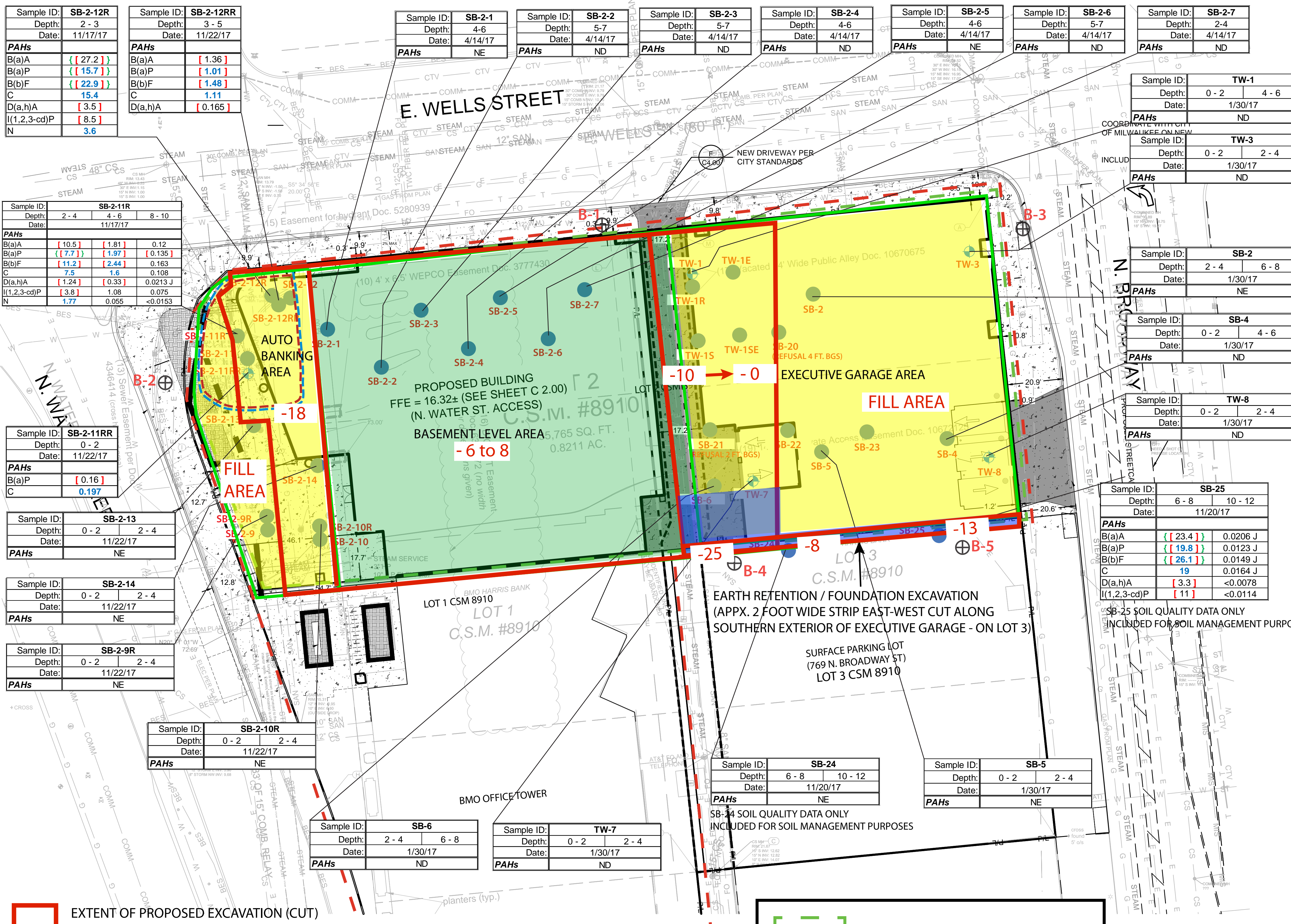
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EXTENT OF PROPOSED EXCAVATION (CUT) DETERMINED FROM CUT/FILL INFORMATION

-18 APPX. DEPTH OF PROPOSED CUT IN FEET BELOW EXISTING GRADE (AUTO BANKING AND EARTH RETENTION/ FOOTINGS) OR CURRENT BUILDING FLOOR SLABS (BASEMENT LEVEL AND EXECUTIVE GARAGE AREAS)

Analytical Key

B(a)A = Benzo(a)anthracene	D(a,h)A = Dibenzo(a,h)anthracene
B(a)P = Benzo(a)pyrene	I(1,2,3-cd)P = Indeno(1,2,3-cd)pyrene
B(b)F = Benzo(b)fluoranthene	N = Naphthalene
C = Chrysene	

"J" = Analyte detected between Limit of Detection and Limit of Quantitation
BOLD = Concentration exceeds Groundwater Pathway RCL
{ } = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
{ } = Concentration exceeds Industrial Direct Contact RCL (any depth)

ND = No PAHs detected
 NE = No PAHs present at concentrations greater than RCLs

All concentrations in units of mg/kg (milligrams per kilogram)

Project Site (Lot 2 CSM 8910)

778 N Water Street Property

ESTIMATED EXTENT OF SOIL PAH IMPACTS GREATER THAN NR 720 RCL FOR NON-INDUSTRIAL DIRECT CONTACT

ESTIMATED EXTENT OF SOIL PAH IMPACTS GREATER THAN NR 720 RCL FOR PROTECTION OF GROUNDWATER

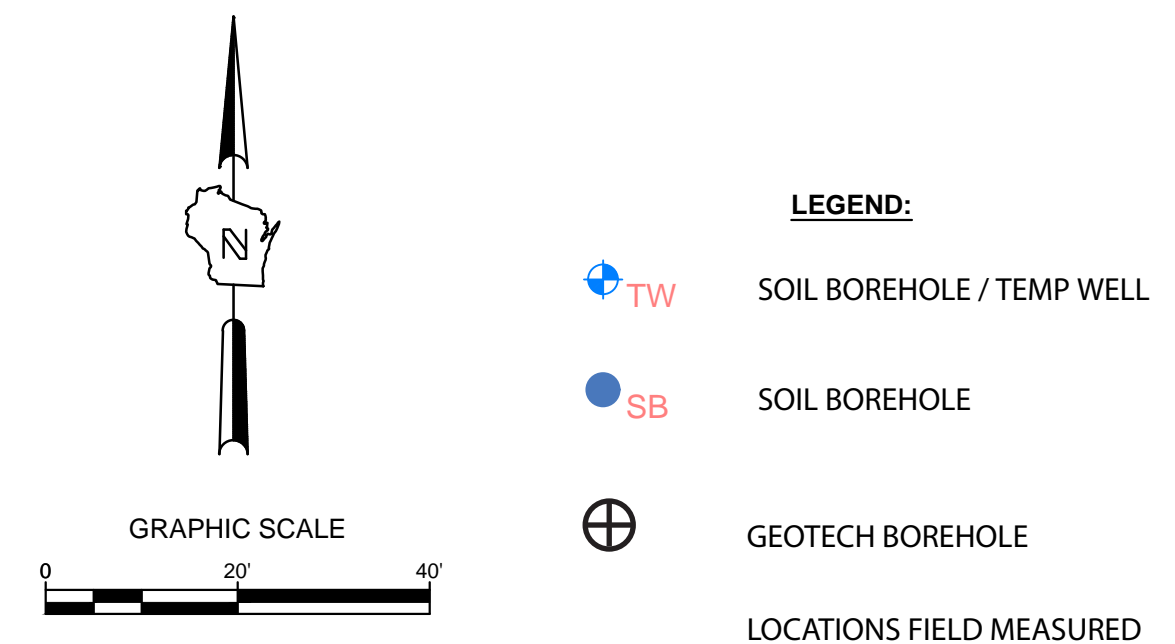
- ONLY DATA EXCEEDING NR 720 RCLs INCLUDED IN DATA BOXES
 - SAMPLES NOT ANALYZED FOR PAHs NOT INCLUDED

FIGURE ADAPTED FROM KAHLER SLATER SITE PLAN SHEET C1.00 PROJECT NO. 216078 (OCTOBER 2, 2017) BMO HARRIS FINANCIAL CENTER

BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)
 SOIL MANAGEMENT PLAN - PAHs (REVISED FEB 2018)
 BMO CAMPUS PARKING STRUCTURE REDEVELOPMENT

SMP 12-27-2017	
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
4. Site Plan Map Update	6-7-2017
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FIGURE NO.:	



- LEGEND:**
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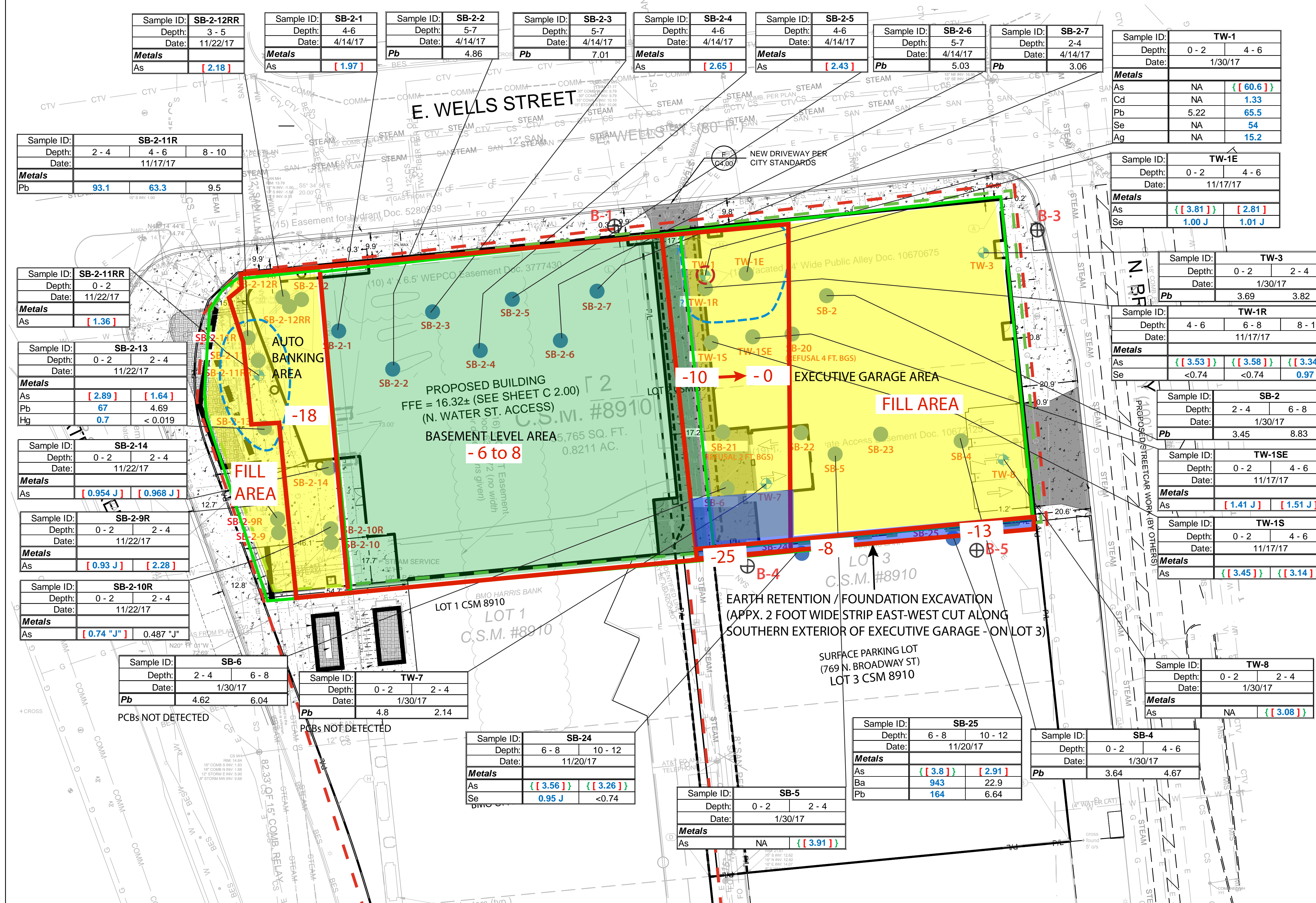
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 - SAMPLES NOT ANALYZED FOR RCRA METALS, LEAD AND/OR PCBs NOT INCLUDED
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FIGURE ADAPTED FROM KAHLER SLATER SITE PLAN SHEET C1.00 PROJECT NO. 216078 (OCTOBER 2, 2017)
 BMO HARRIS FINANCIAL CENTER

BMO TOWER
 MILWAUKEE, WISCONSIN
 (LOT 2 - CSM 8910)
 SOIL MANAGEMENT PLAN - RCRA METALS - LEAD - PCBs
 (REVISED FEB 2018)
 BMO CAMPUS PARKING STRUCTURE
 REDEVELOPMENT

SMP 12-27-2017	
6. Drawing Update	12-6-2017
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FIGURE NO.:	



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All concentrations in units of mg/kg (milligrams per kilogram)

 Project Site (Lot 2 CSM 8910)

 778 N Water Street Property

TABLES

Table 3
SPLP Neutral Water Extraction Test Results - North New Construction
WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee,
Wisconsin
Sigma Project No. 16722

Well Location:		TW-1R	SB-2-12R	NR 140 ES	NR 140 PAL
Date:		11/17/17	11/17/17		
Sample Depth (feet bgs)		4-8	2-3		
Unsaturated/Smear Zone (U) or Saturated (S)		U / S	U		
Soil / Material Composition		Fill / Native	Fill		
Organic Vapor Monitor (PID)		ppm	1.1	1.6	
SPLP VOCs		NOT ANALYZED			
SPLP PAHs					
Acenaphthene	µg/L	NA	0.55	NS	NS
Acenaphthylene	µg/L	NA	0.202	NS	NS
Anthracene	µg/L	NA	0.141	3,000	600
Benzo(a)anthracene	µg/L	NA	0.021 J	NS	NS
Benzo(a)pyrene	µg/L	NA	<0.02	0.2	0.02
Benzo(b)fluoranthene	µg/L	NA	<0.018	0.2	0.02
Benzo(ghi)perylene	µg/L	NA	<0.025	NS	NS
Benzo(k)fluoranthene	µg/L	NA	<0.016	NS	NS
Chrysene	µg/L	NA	<0.02	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	NA	<0.025	NS	NS
Fluoranthene	µg/L	NA	0.091	400	80
Fluorene	µg/L	NA	0.256	400	80
Indeno(1,2,3-cd)pyrene	µg/L	NA	<0.023	NS	NS
1-Methylnaphthalene	µg/L	NA	0.084	NS	NS
2-Methylnaphthalene	µg/L	NA	0.099	NS	NS
Naphthalene	µg/L	NA	0.324	100	10
Phenanthrene	µg/L	NA	0.447	NS	NS
Pyrene	µg/L	NA	0.115	250	50
Benzoic Acid	µg/L			NS	NS
SPLP Dissolved Metals					
Arsenic	µg/L	<3.5	NA	10	1
Barium	µg/L	66.1	NA	2,000	400
Cadmium	µg/L	<0.70	NA	5	0.5
Chromium	µg/L	14.6	NA	100	10
Lead	µg/L	15.7⁽⁵⁾	NA	15	1.5
Mercury	µg/L	<0.049	NA	2	0.2
Selenium	µg/L	<7.4	NA	50	10
Silver	µg/L	<2.8	NA	50	10

Notes:

1. NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
 2. NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
 3. NS = no standard
 4. µg/L = micrograms per liter (equivalent to parts per billion, ppb)
 5. NA = Not Analyzed
- "J" = Analyte detected between Limit of Detection and Limit of Quantitation.
- (5) = Lab Code 5 = The QC blank not within established limits.
6. Laboratory flags:
- BOLD** = Concentration exceeds NR 140 ES
ITALICS = Concentration exceeds NR 140 PAL
7. Exceedances:

ATTACHMENT 1

SOIL MANAGEMENT PLAN (SUBMITTED JANUARY 2018)

SOIL MANAGEMENT PLAN
BMO Tower - Redevelopment Project
778 N. Water Street (Lot 2 of CSM 8910)
Milwaukee, Wisconsin
January 2018

Introduction

This *Soil Management Plan* (the "*SMP*") is based upon The Sigma Group, Inc.'s (Sigma's) completed environmental site assessment work and the planned redevelopment at the property located in the SE ¼ of the NW ¼ of Section 29, T7N, R22E, at 778 N. Water Street, Milwaukee, Wisconsin (**Figure 1**), which includes the demolition of the BMO Harris Bank parking garage, drive-up auto-banking center and portion of the existing office tower basement. A Site Plan Map is also included as **Figure 2**. Subsequent redevelopment includes the construction of a new 25-story retail and office building with above ground parking structure. Site soils will be excavated for construction of underground parking, building service rooms, the building foundation, and earth retention. The excess excavated soils will be transported to off-site locations for beneficial reuse and/or disposal. The intent of this *SMP* is to provide environmental protocols for managing and disposing of soil excavated from the site, identifying impacted media, and addressing potential contingency situations.

Soil conditions will be evaluated and managed in accordance with this *SMP* under the direction and guidance of Sigma, Broadway Tierra Partners, LLC (BTP, owner) and their general contractor and sub-contractors. Sigma will provide a 40-hour OSHA trained environmental professional on-site during excavation of the identified impacted material. Sigma will screen soils with a photoionization detector (PID) in the field if staining and/or olfactory observations suggest the presence of volatile organic compounds (VOCs), observe and document any subsurface conditions or areas of known or unknown contamination, monitor impacted soil excavation areas, oversee the activities and ensure proper execution of this *SMP*, direct trucks to the appropriate off-site disposal location after being loaded with impacted soil/material, and/or provide on-call services as mentioned within this *SMP*.

Soil Quality Summary

As documented through the site subsurface investigation activities, the lithology beneath the site generally consists of reworked sandy gravel soils (apparent fill) overlying native silty clay. The reworked sandy gravel fill was observed from just below the outdoor concrete slabs and building floor slab to approximately 4 to 8 feet (or more in some areas) below ground surface (bgs). Underlying native soils consisted of silty clay. Polynuclear aromatic hydrocarbon (PAHs) and select Resource Conservation and Recovery Act (RCRA) metals and lead were detected within multiple shallow and a limited number of deeper soil samples collected from the site. Some lower level concentrations of VOCs were also detected within two soil samples collected from select areas on site and within the proposed excavation areas. Therefore, the excavation and development activities will serve as an effective remediation method to address residual soil impacts at the site as well as prepare the site for reconstruction.

Project Team

Responsible Party/Owner & Generator of Lot 2 of Certified Survey Map 8910 (778 N. Water Street):

Broadway Tierra Partners, LLC
c/o Irgens Development
833 Michigan Street, Suite 400
Milwaukee, WI 53202
Contact: Mr. Tim Gasperetti, P.E.
Phone: 414-443-0700
Email: tgasperetti@irgens.com

Environmental Consultant:

The Sigma Group, Inc.
1300 W. Canal Street
Milwaukee, WI 53233
Contact: Cory Katzban, P.E.
Telephone: (414) 643-4200
Email: ckatzban@thesigmagroup.com

Redevelopment Site Superintendent:

Mike Novak – J.H. Findorff & Son, Inc.
414-635-6108

Proposed Disposal Site to receive Low-Hazard Exempt soil originating from the redevelopment site, pending WDNR approval (R&R Excavating Site – County Road I, Cedarburg, WI, located within the NW ¼ of Section 22, T10N, R21E):

R&R Excavating
Attn: Mr. Richard Frieseke
Friess Environmental Consulting, Inc. (FEC)
6637 North Sidney Place
Milwaukee, WI 53209
Telephone: (414) 228-9815
Email: rfrieseke@fecinc.us

FEC to submit NR 718.12/Low-Hazard Exemption request under separate cover to the WDNR for approval prior to the management of impacted material at the site and disposal at the R&R Excavating site.

General Conditions

General contractor and earthworks subcontractor shall prepare a site-specific *Health & Safety Plan* for their respective personnel prior to beginning site work. Sigma will prepare a site-specific *Health & Safety Plan* for its own personnel.

During the earthmoving and soil excavation activities, the earthworks subcontractor's heavy equipment operator(s) shall be 40-hour OSHA trained. Truck drivers do not need to be 40-

hour OSHA trained provided they do not exit their vehicles at the site. General contractor is responsible for making all site workers aware of the environmental conditions at the site.

Prior to subsurface excavation activities, the general contractor or earthworks subcontractor will obtain all necessary City of Milwaukee and State of Wisconsin permits relating to erosion control and storm water management. Sigma will assist BTP, the general contractor, earthworks contractor, and/or civil engineer as needed; further information is described below.

Silt fences, earth retention, storm sewer inlet protection, and other erosion control measures will be implemented and maintained at the site in accordance with an approved Erosion Control Plan. Erosion control measures shall be inspected by the general contractor and/or earthworks subcontractor in accordance with the *Erosion Control Plan* and permit.

Soil Excavation and Off-site Disposal

Soils within the site limits will be excavated from ground surface, below the existing building sub-level parking garage and basement floor slabs, to depths ranging from approximately 1 to 10 feet bgs (or building slab) and transported to off-site locations for disposal and/or beneficial reuse. Based on a review of the soil quality data gathered during the 2017 subsurface investigation activities (**Table 1**) at the site, soil excavated from four primary areas (auto-banking area, basement level area, executive garage area, and earth retention/southern footings area) on site during redevelopment activities can be characterized and segregated into two groups based on the degree of impacts for the purpose of handling and disposal. The following sections detail how each group will be categorized and provides soil volume estimate(s) for each category.

- Restricted Material – Licensed Landfill Facility or WDNR Approved Low Hazard Exemption Fill Site

Restricted material that should be designated for disposal at a WDNR approved Low Hazard Exemption fill site (pending application and approval by the WDNR – request forthcoming per above) or licensed landfill includes soil and reworked soil/fill material with PAH and select RCRA metals concentrations that exceed laboratory detection limits and/or applicable WDNR soil quality standards. VOC detections were also reported in three soil samples (from SB-5, SB-24 and SB-25) within the south central portion of the executive garage (SB-5) and along the northern boundary of the surface parking lot south of the site (earth retention and building footings [SB-24 and SB-25]).

Multiple samples of reworked soil (granular fill material) identified within the auto-banking area and executive garage area of the site contained reported concentrations of PAHs and/or select RCRA metals greater than laboratory detection limits and/or applicable WDNR NR 720 Residual Contaminant Levels (RCLs) for the protection of groundwater (groundwater pathway) and/or human health by direct contact (direct contact, at a non-industrial property). Detections of select VOCs were also reported in a soil sample collected from location SB-5 during site investigation activities.

Additionally, samples of undocumented fill material (some fragmented brick) and reworked soil and native soil collected from soil borings SB-24 and SB-25, located along the northern boundary of the surface parking lot south of the BMO parking structure/executive garage (earth retention/southern footings area), contained concentrations of select VOCs, PAHs, and/or select RCRA metals greater than laboratory detection limits and/or applicable WDNR groundwater pathway and/or direct contact RCLs.

The impacted soils and reworked fill from these areas will be excavated from ground surface (or just below the existing pavement and concrete building floor slabs) to the proposed depth of excavation during earthwork activities associated with redevelopment. The proposed excavation and disposal of this material will remove a significant soil contaminant mass from the site.

Based on available soil quality data and the approximate area and maximum depth of excavation, an estimated 2,300-2,400 cubic yards of restricted material, expected to be impacted by PAH, RCRA metals, and/or low-level VOC concentrations above WDNR standards, will be removed and disposed of off-site at a WDNR approved Low Hazard Exemption fill site (pending application and approval by the WDNR and selected fill site) or licensed landfill in accordance with all local, state, and federal regulations.

- Unrestricted Material – Off-Site Unrestricted Reuse

Uniform granular material consisting of brown sandy gravel (apparent engineered fill) and underlying native clay soil was observed beneath the floor slab of the basement level storage area of the BMO Harris Bank tower (northwest portion of the parking garage). The results of seven soil samples collected from across this area and submitted for laboratory analysis of VOCs, PAHs, and RCRA metals or lead indicate no detections of VOCs, no detections of PAHs (with the exception of fluoranthene and benzo(a)anthracene detected below laboratory limits of quantitation in samples SB-2-1 and SB-2-6, respectively), and RCRA metals or lead concentrations less than laboratory detection limits and applicable WDNR NR 720 RCLs or Background Threshold Values (BTVs, background concentrations) established in Wisconsin. Soil samples could not be collected within the southern half of the basement level storage due to physical constraints within the building; however the sub-slab material within the southern half that is proposed for excavation during redevelopment is expected to be consistent with the material observed in the northern half.

An estimated 5,100-5,200 cubic yards of this material is expected to be excavated during redevelopment for construction of the proposed building mat foundation and will be managed off-site as general fill at the discretion of the owner/generator. Based on the consistent physical and chemical quality of this material, the material poses no risk to human health or the environment and should not be subject to off-site placement/disposal restrictions.

The soil management areas, management/disposal strategies and soil quality are illustrated on the attached **Figures 9 A-C**. Soil quality data is presented in **Table 1**.

Additional Management Protocols

- If concrete rubble, asphalt rubble, or wood is encountered during the excavation, this material shall be segregated (if possible) for off-site recycling and/or hauled to a licensed landfill facility for disposal. Generally, concrete rubble, asphalt rubble, or wood cannot be hauled to a Low Hazard Exemption fill site unless otherwise approved by the Low Hazard Exemption fill site.
 - Concrete slabs and foundations from the existing building should be cleaned of loose soil and transported off-site for recycling.
 - Minimal asphalt pavement is present at the site. Asphalt pavement should be stripped, segregated from underlying soil, and transported off-site for recycling.
- Although not anticipated or previously identified, if buried construction debris is encountered during the excavation that may potentially contain asbestos containing materials (ACMs), work will be stopped in that area, access to the work area will be restricted with caution tape and/or signage, and the general contractor/earthworks contractor shall contact BTP. The earthworks subcontractor may continue work in another location if feasible. BTP shall contact Sigma to evaluate the building debris by a state-licensed Asbestos Inspector and direct the transportation to a licensed landfill facility for disposal as conditions merit.
- Although not anticipated, undocumented underground storage tanks (USTs) may be encountered during excavation activities. If an undocumented UST is discovered, work will be stopped in that area, access to the work area will be restricted with caution tape and/or signage, and the general contractor/earthworks contractor shall contact BTP. The earthworks subcontractor may continue work in another location if feasible. BTP shall contact Sigma to notify the appropriate authorities and coordinate with a licensed tank removal contractor to clean and remove the UST in accordance with WDNR rules and regulations, including the completion of a Tank System Site Assessment. Waste materials generated during the UST removal and cleaning process will be disposed of in accordance with local, state, and federal requirements. The UST closure process will be documented by the tank removal contractor and Sigma. Sigma will coordinate any over-excavation services required of the tank removal contractor and the proper disposal of waste materials (e.g., tank sludge).
- Soil excavated for building footings and utility lines may be reused as backfill in the same excavation, pending geotechnical soil qualities and project specifications. If the soil cannot be reused in the same excavation, it shall be disposed of at one of the above off-site locations as designated by Sigma based on soil quality data.

- Any temporary stockpiles of impacted soil shall be placed on 10-mil thick (minimum) plastic sheeting and covered with 10-mil thick (minimum) plastic sheeting that is secured at the end of each work day to prevent water infiltration, dust, odors, and erosion. Temporary stockpiles shall be limited to less than 2,500 cubic yards of material and stored for less than 15 days unless the general storage requirements as outlined in NR 718.05(2) are followed or exemptions to parts of NR 718.05(2) are obtained.

Soil Segregation

A 40-hour OSHA trained environmental professional will be on-site to identify and direct the proper segregation and disposal of impacted soil excavated during redevelopment, as well to document proper impacted soil management activities.

To differentiate between potentially impacted soil and non-impacted soil, the following field methods will be used:

- Soil quality data, maps, and soil boring logs will be used to identify and measure areas of concern and the location of impacts; and,
- Visual observations (and field screening with a photoionization detector, if necessary) will be used during the excavation process to determine/confirm the appropriate soil management strategy.

Based on these field observations and soil screening criteria, the soil volumes presented above for impacted and unrestricted/non-impacted soil material may change to reflect the actual subsurface soil conditions.

On-site Soil Management

Although no reuse is expected, only unrestricted soil will be reused on site by the owner/generator and general or earthworks contractors. If restricted (impacted) material is to be reused on-site in a location other than where originally excavated, Sigma will submit a Chapter NR 718.12 (Wisconsin Administrative Code) contaminated soil management request to the WDNR for review and approval prior to displacement of the impacted material on site.

Attachments

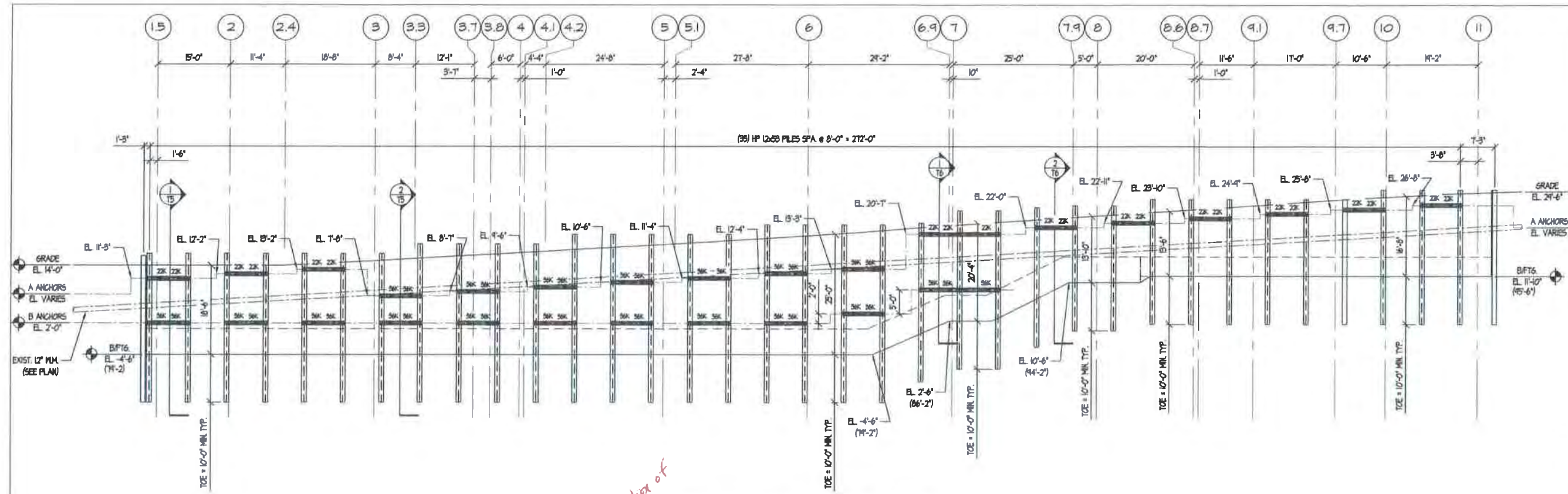
Figure 1 - Site Location Map

Figure 2 – Site Plan Map

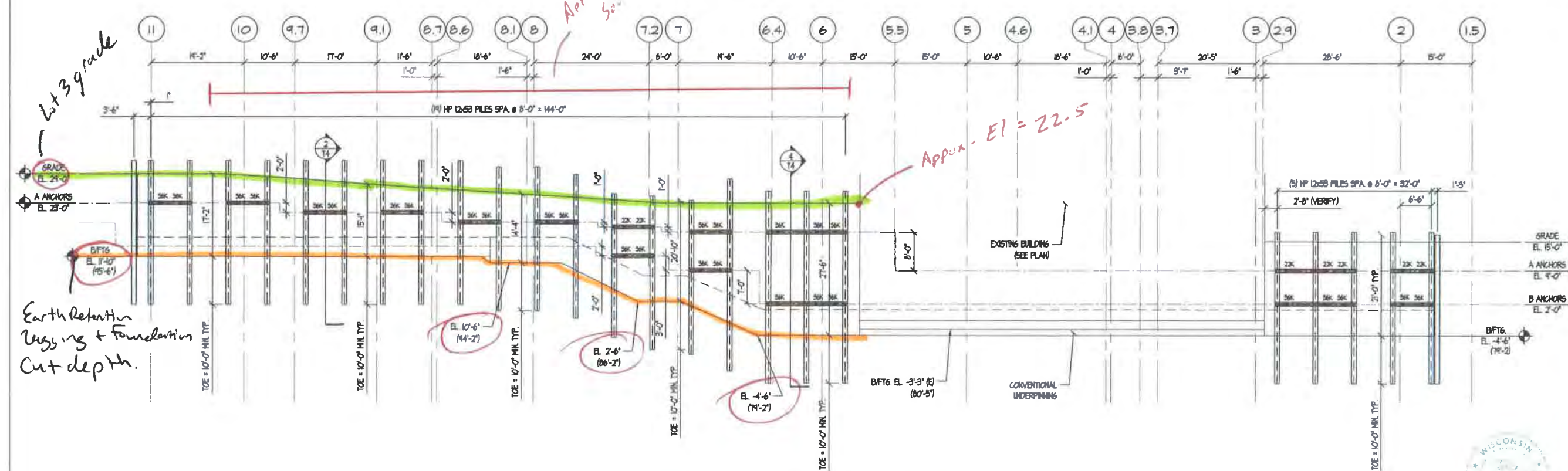
Table 1 - Soil Analytical Data

Figures 9 (A-C) - Soil Management Plan - VOCs (A), PAHs, (B), RCRA Metals, Lead, PCBs (C)

ATTACHMENT 2
EXCAVATION FIGURES



1 NORTH WALL ELEVATION
SCALE 3/32" = 1'-0"



2 SOUTH WALL ELEVATION
SCALE 3/32" = 1'-0"

Wisconsin State Seal

Wenzel Engineering Inc.
1000 Morgan Ave. South - Bloomington, MN 55431
TELEPHONE 612-288-0511 - FAX 612-288-2387

REVISIONS & ISSUES

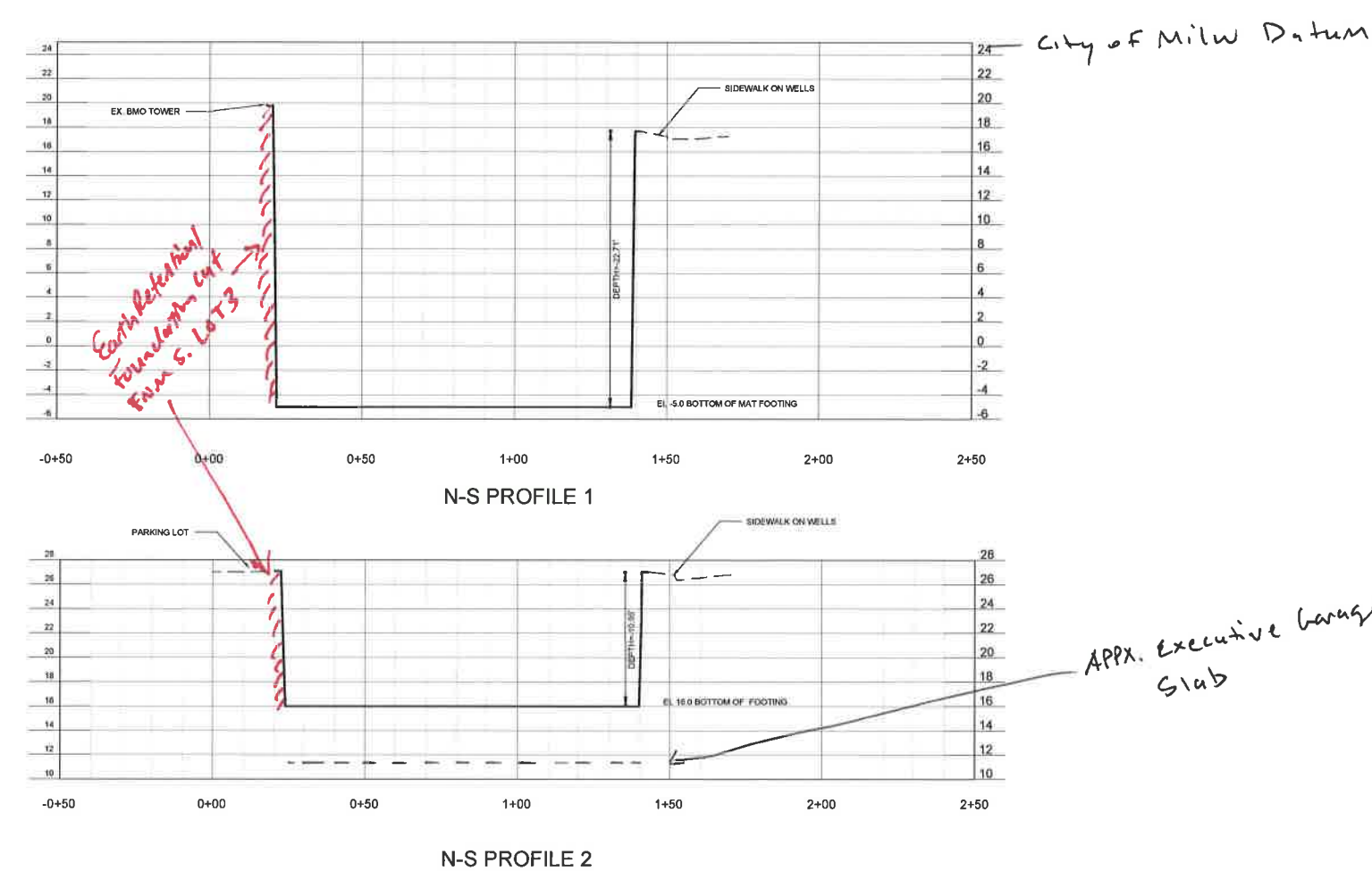
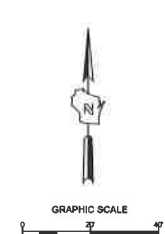
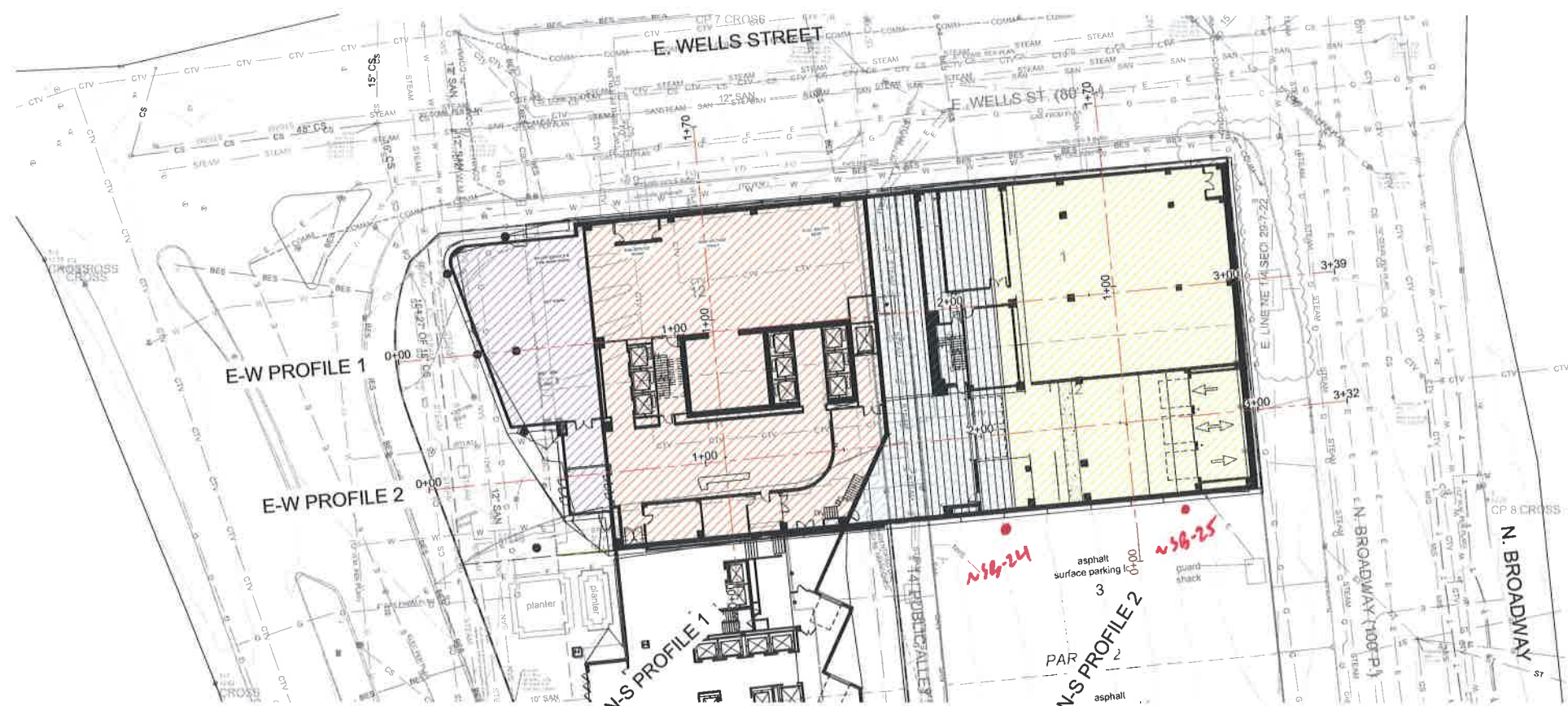
1. PRELIM REV/REV SET	0-9-2017
2. REVISED PRELIM SET	4-14-2017
3. ISSUE FOR CONSTRUCTION	11-3-2017
4. UTILITY ENCROACHMENT REV.	12-7-2017

Engineer: KJC
Checked By: KJC
Drawn By: KJC
Date: 11-3-2017

VET & COMPANY
ROBBERS, MN

TEMPORARY EARTH RETENTION
BMO HARRIS FINANCIAL
700 N. WATER ST.
MILWAUKEE, WI 53202

T3
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EXCAVATION
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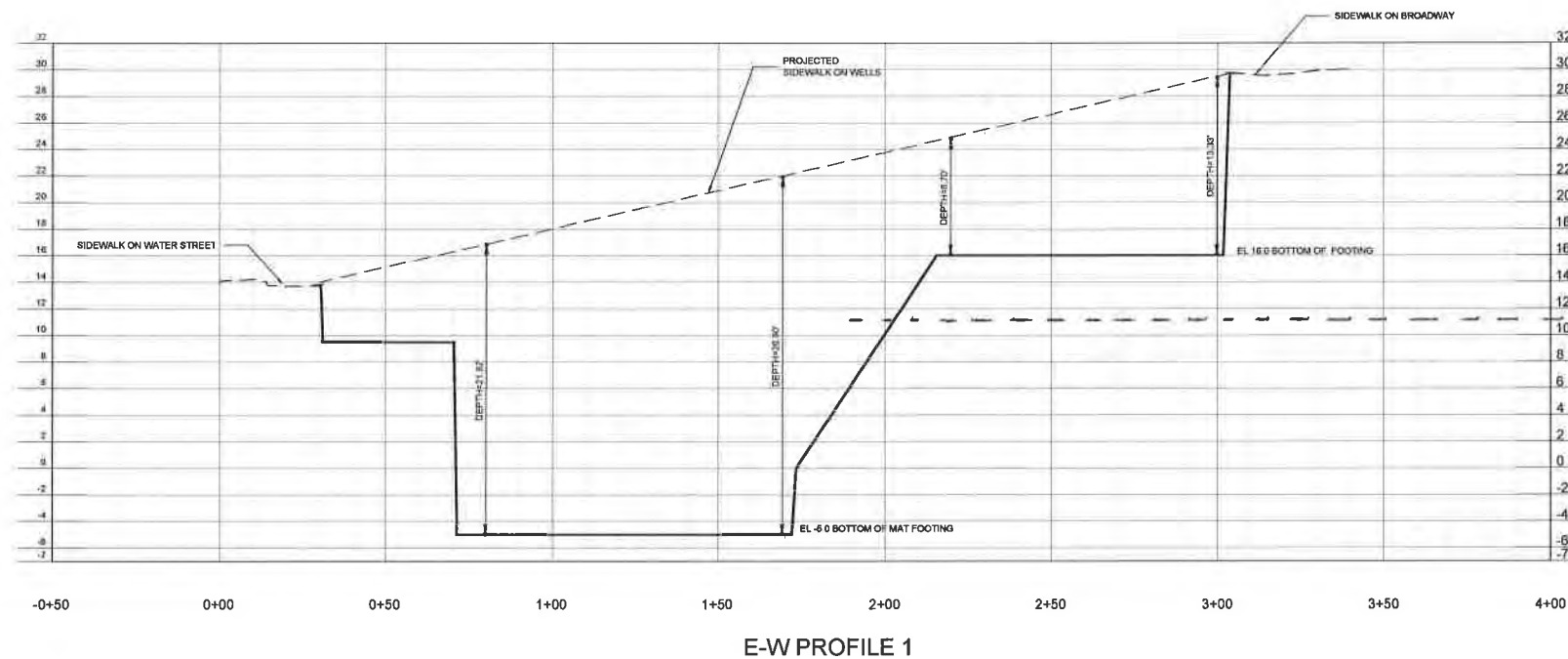
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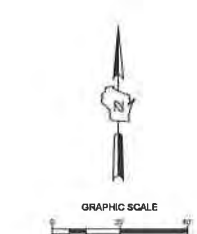


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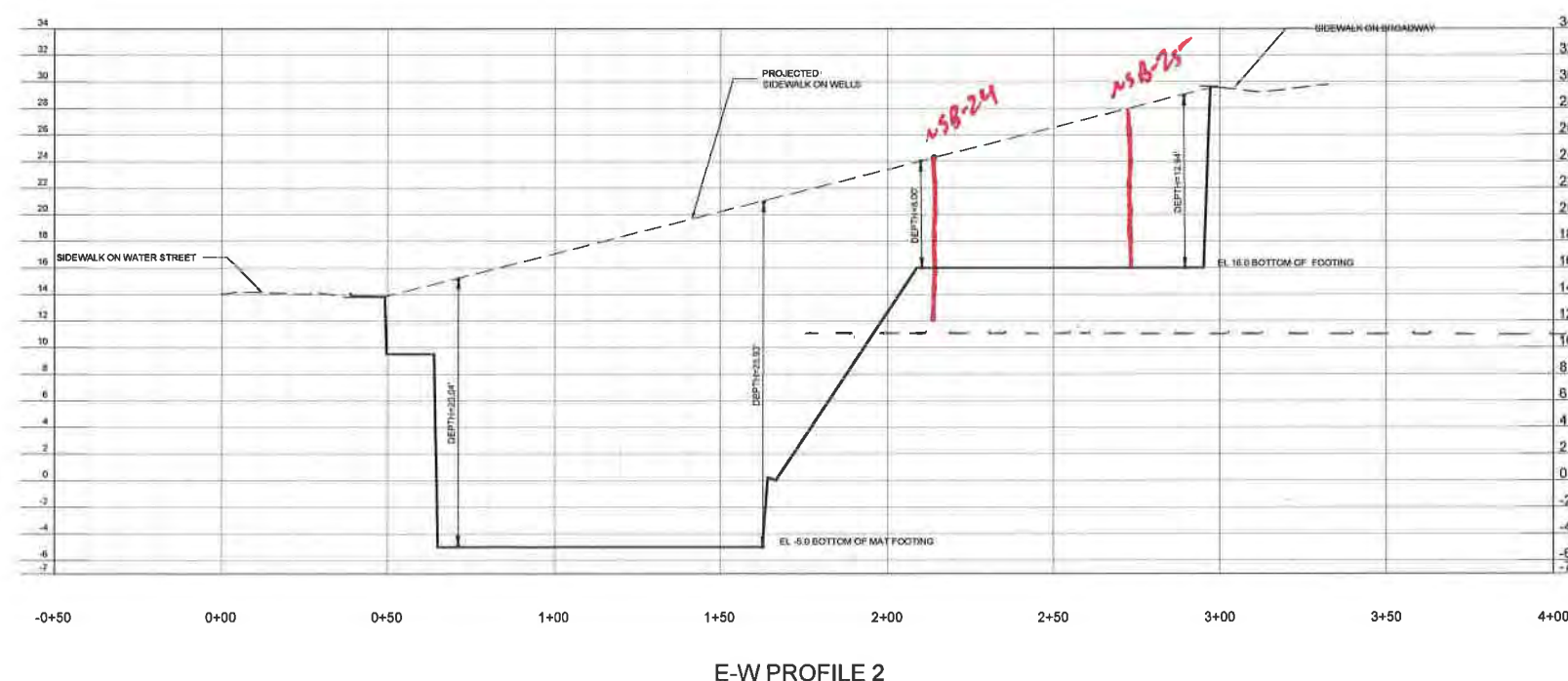
Project No
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IRGENS

**EXCAVATION
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