

## Technical Memorandum

To	Mr. Tauren Beggs, WDNR	Page 1 of 2
CC	Ms. Kathleen M. McDaniel, City of Manitowoc Mr. Dan Koski, City of Manitowoc	
Subject	Former Town of Newton Gravel Pit, BRRTS No. 02-36-000268 AOC and Sampling to Determine if Soil is Clean Discussion	
From	Jeffrey Maletzke, AECOM Dave Henderson, AECOM	
Date	November 15, 2016	

AECOM, on behalf of the City of Manitowoc (City), is submitting this proposed sampling approach at the Former Newton Gravel Pit site for the Department's consideration in response to your "AOC and Sampling to Determine if Soil is Clean" e-mail received October 28, 2016. Specifically this letter acknowledges your discussion with Judy Fassbender and Gary Edelstein regarding: 1) unsaturated soil sampling for waste characterization of clean soils, and 2) TCLP testing to determine if saturated soil from the proposed treatment pond area is hazardous waste or solid waste.

Per your e-mail, it is our understanding that the Department is requiring a minimum of 12 soil samples from within the excavation footprint of the proposed treatment pond. These samples would be collected in the unsaturated zone, approximately halfway between ground surface and the water table. The Department is requiring that these samples be analyzed for VOCs, PCBs, and SVOCs (PAHs) and is also recommending analysis for RCRA metals. One sample of saturated soil for TCLP testing is also required from within the excavation footprint of the proposed treatment pond.

Based on discussion at the project team meeting on November 8, 2016, the City would like to propose a modified sampling approach. We are in agreement that characterization sampling is beneficial, however we are hopeful that the Department will recognize the need to balance a sound technical approach with the corresponding financial implications that the City is obligated to address. Therefore, we propose the following; seven unsaturated soil samples for waste characterization of clean soils (rather than 12) and one saturated soil sample for TCLP testing as described below and shown on the attached figure (see red circles labeled A through G):

- Boring A - pond cut area, sample targeted at 1-2 feet bgs.
- Boring B - pond cut area, sample targeted at 2-3 feet bgs (located in vicinity of temporary well locations P-8 and P-9).
- Boring C - pond cut area, sample targeted at 1-2 feet bgs (located in vicinity of temporary well location P-1).
- Boring D - pond cut area, sample targeted at 3-4 feet bgs; TCLP sample targeted for 12 feet bgs (sample location tied to temporary wells P-4 and P-5 coincident with groundwater hot spot).
- Boring E - cut area on bluff, sample targeted at 15 feet bgs.
- Boring F - cut area on bluff, sample targeted at 15 feet bgs.
- Boring G - cut area on bluff, sample targeted at 15 feet bgs.

We further propose that the seven clean soil waste characterization samples only be analyzed for VOCs and the saturated sample analyzed for TCLP VOCs, which we feel represent the best

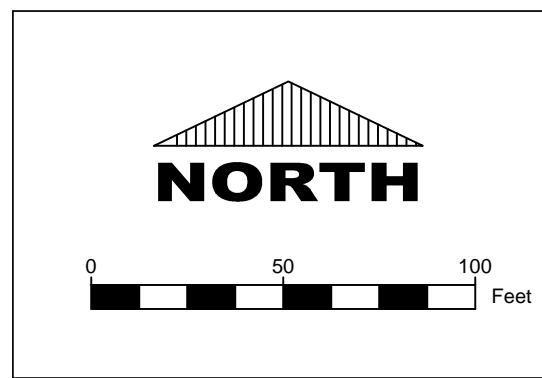
“indicator” parameters. We understand that if significant concentrations are detected, additional sampling may be needed.

We appreciate the opportunity to offer this proposed sampling plan for your consideration. It is our intent to obtain the Department’s concurrence/approval before we incorporate the proposed plan into the revised Remedial Action Option Report.

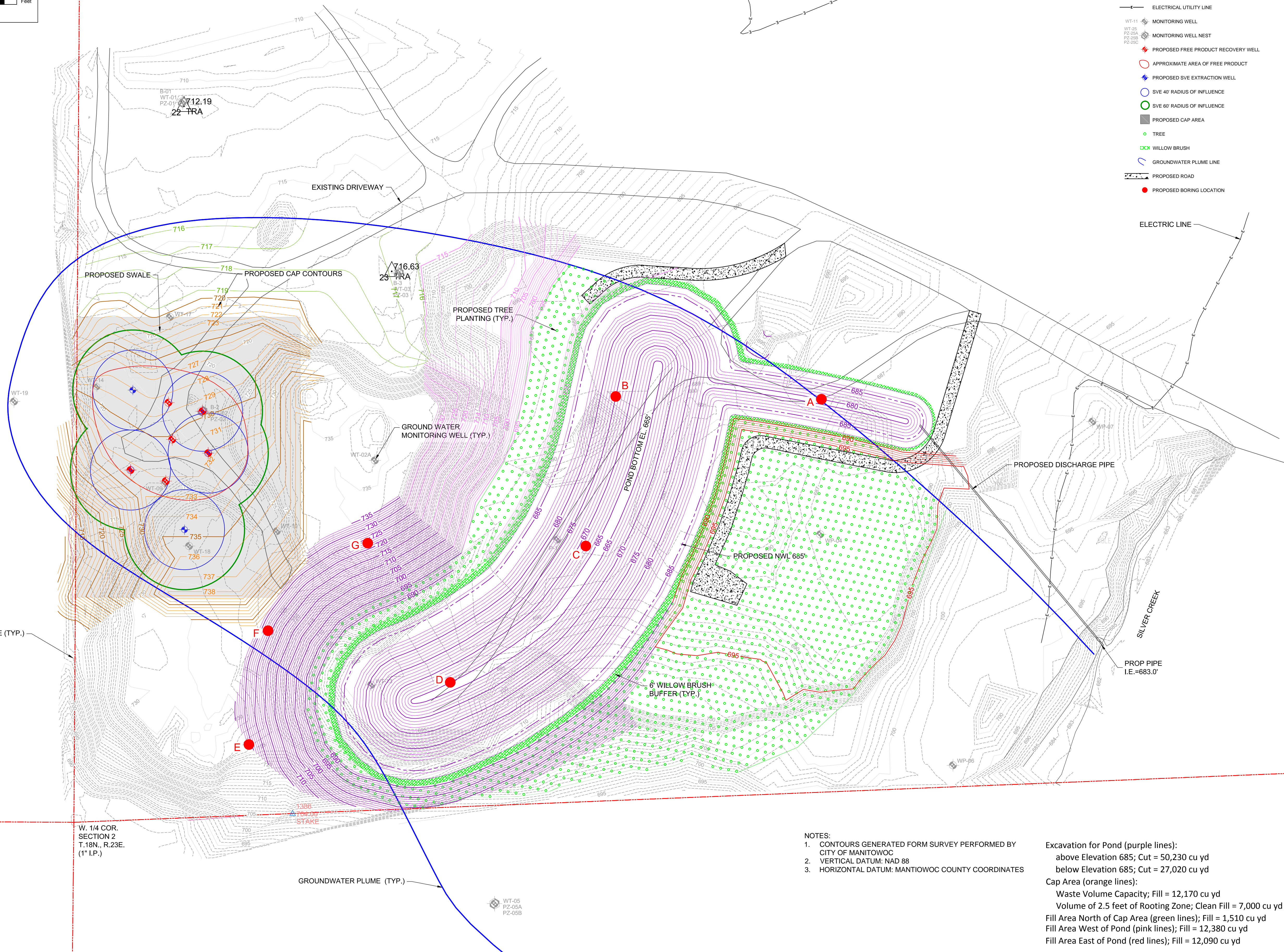
If you have any questions or require additional detail, please contact Dave at 414-225-1681 or [dave.henderson@aecom.com](mailto:dave.henderson@aecom.com).

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Attachment: Figure 9-DRAFT, Conceptual Site Plan



- LEGEND:**
- PROPERTY BOUNDARY
  - PROPERTY BOUNDARY - CITY LIMITS
  - ROAD
  - EXISTING TOPOGRAPHIC CONTOURS
  - PROPOSED TOPOGRAPHIC CONTOURS
  - ELECTRICAL UTILITY LINE
  - WT-11 MONITORING WELL
  - WT-25, PZ-25A, PZ-25B, PZ-25C MONITORING WELL NEST
  - ◆ PROPOSED FREE PRODUCT RECOVERY WELL
  - APPROXIMATE AREA OF FREE PRODUCT
  - ◆ PROPOSED SVE EXTRACTION WELL
  - SVE 40' RADIUS OF INFLUENCE
  - SVE 60' RADIUS OF INFLUENCE
  - PROPOSED CAP AREA
  - TREE
  - ✕ WILLOW BRUSH
  - GROUNDWATER PLUME LINE
  - PROPOSED ROAD
  - PROPOSED BORING LOCATION



- NOTES:**
1. CONTOURS GENERATED FROM SURVEY PERFORMED BY CITY OF MANITOWOC
  2. VERTICAL DATUM: NAD 88
  3. HORIZONTAL DATUM: MANITOWOC COUNTY COORDINATES

Excavation for Pond (purple lines):  
 above Elevation 685; Cut = 50,230 cu yd  
 below Elevation 685; Cut = 27,020 cu yd  
 Cap Area (orange lines):  
 Waste Volume Capacity; Fill = 12,170 cu yd  
 Volume of 2.5 feet of Rooting Zone; Clean Fill = 7,000 cu yd  
 Fill Area North of Cap Area (green lines); Fill = 1,510 cu yd  
 Fill Area West of Pond (pink lines); Fill = 12,380 cu yd  
 Fill Area East of Pond (red lines); Fill = 12,090 cu yd



**PROJECT**  
 FORMER NEWTON  
 GRAVEL PIT -  
 CAP & POND DESIGN  
 MANITOWOC, WISCONSIN

**CLIENT**  
 CITY OF  
 MANITOWOC  
 900 QUAY ST.  
 MANITOWOC, WI 54220  
 920-686-6910 tel  
 www.manitowoc.org

**CONSULTANT**  
 AECOM  
 1555 RIVERCENTER DRIVE, SUITE 214  
 MILWAUKEE, WI 53212  
 414-944-6080 tel 414-944-6081 fax  
 www.aecom.com

**SUB CONSULTANT**

**REGISTRATION**

**ISSUE/REVISION**

I/R	DATE	DESCRIPTION
1	10/21/2016	Cap final topography grade
0	8/18/2016	Original

**KEY PLAN**

**PROJECT NUMBER**  
 60311767

**FIGURE TITLE**  
 CONCEPTUAL SITE PLAN

**FIGURE NUMBER**  
 FIGURE 9 - DRAFT

Plotted By: engelhardt  
 Plot File Date Created: Nov/11/2016 12:11 PM  
 Filename: \\USM\K1\FS001\PROD\DATA\LIBRARY\WORK\82518\CADD\2016\2016 - NEWTON GRAVEL CONCEPTUAL SITE PLAN - OCTOBER.2.DWG  
 Layout-Sheet Name: LAYOUT1

W. 1/4 COR.  
 SECTION 2  
 T.18N., R.23E.  
 (1" I.P.)