



ARCADIS G&M of Michigan, LLC  
10559 Citation Drive  
Suite 100  
Brighton  
Michigan 48116  
Tel 810 229 8594  
Fax 810 229 8837

**MEMO**

To:  
Pete Quackenbush, MDEQ

Copies:  
Joe Rogers, MDEQ  
John McCabe, MDEQ  
Dave Favero, RACER Trust  
Grant Trigger, RACER Trust  
Amy Hoeksema, ARCADIS

From:  
Patrick Curry, ARCADIS

Date:  
December 3, 2012

ARCADIS Project No.:  
B0064479, 80, 81

Subject:  
Addendum to RFI Phase 2, Delineation Stage Scope of Work  
Soil Gas Sampling / Utility Corridor Pathway Assessment  
Racer Lansing, Plants 2, 3 and 6

---

**Introduction**

The following work plan addendum summarizes additional work to be completed at the RACER Lansing Site as part of the Delineation Stage of the RCRA Facility Investigation (RFI). The initial Delineation Stage Work Plan was provided to the Michigan Department of Environmental Quality (MDEQ) on October 26, 2012. The following additions to the work plan are based on comments received from the MDEQ on November 8, 2012. Additions to the work plan include:

- Property boundary soil gas evaluation in Areas 2 and 7
- Utility corridor pathway assessment and additional follow-up sampling

**Property Boundary Soil Gas Evaluation**

There are several areas of the Site that have indicated VOC soil impacts in excess of the Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC). Most of these areas are located interior to the Site and will be managed with an appropriate remedy following completion of the investigation activities. Two of the areas are located relatively close to Site property boundaries and will be evaluated to determine if the potential for off-site migration of soil gas is a risk. Area 2, located on the western portion of Plant 2, has SVIIC exceedances for benzene. Area 7, located on the southern part of Plant 6, has

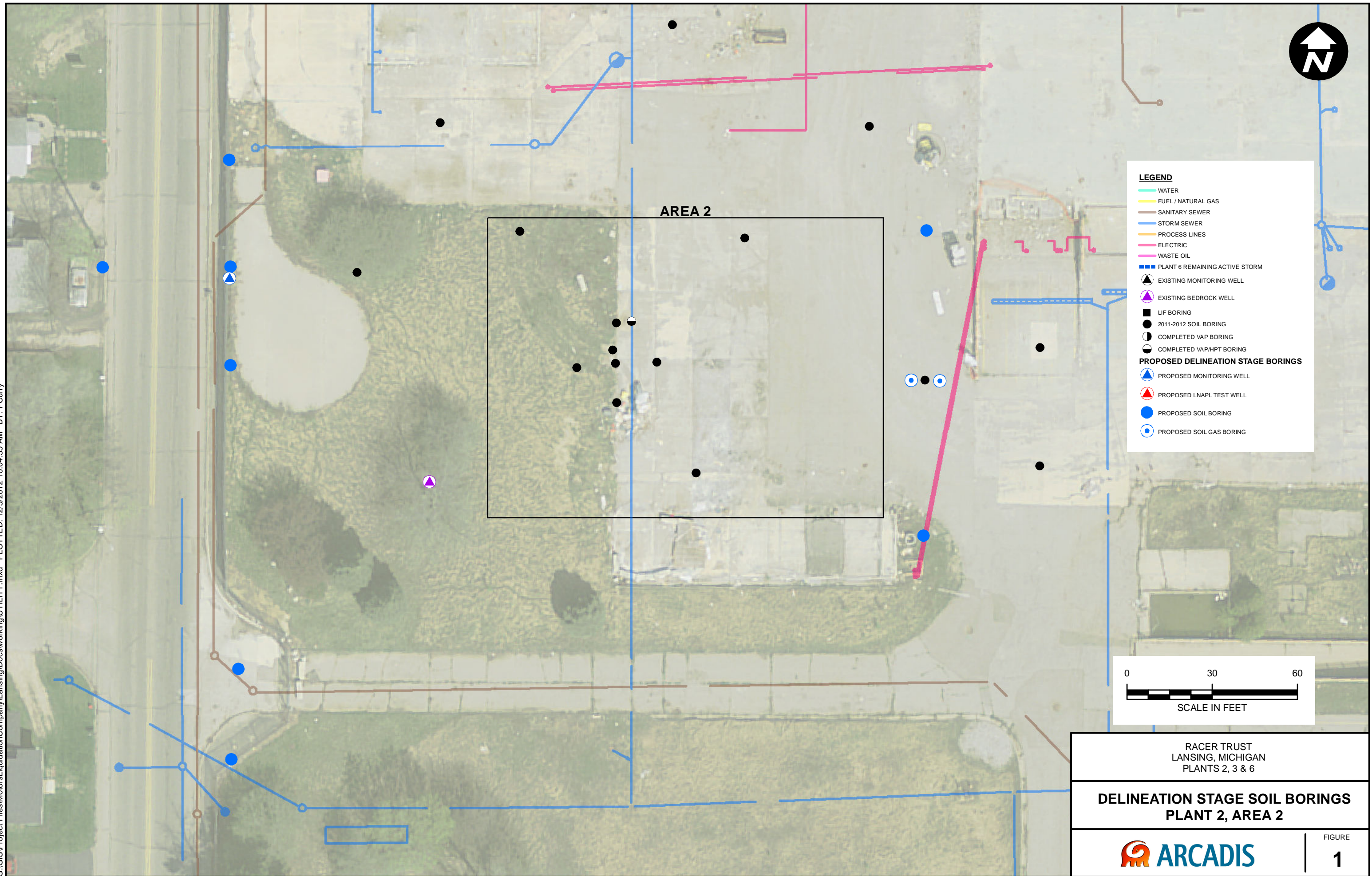
SVIIC exceedances for xylenes. The location of the proposed soil gas samples are provided on Figure 1. Within each area two soil gas borings will be completed within 5 feet of the soil sample indicating an SVIIC exceedance. The location of the soil gas borings are provided on Figures 1 and 2.

Soil gas sampling will be completed consistent with the procedures outlined in the ARCADIS standard operating procedure (SOP) for collecting soil gas samples. The ARCADIS SOP is included as Attachment 1. In general, a direct push drilling rig will be utilized to advance a soil gas probe to a depth consistent with the unsaturated fill material located beneath the concrete slabs (if present), or otherwise a to a minimum depth of 3 feet below the concrete slab or ground surface. Soil gas samples will be extracted from the sealed gas probe utilizing 1-liter SUMMA canisters and submitted for analysis of TAL VOCs

### **Utility Corridor Contaminant Migration Assessment**

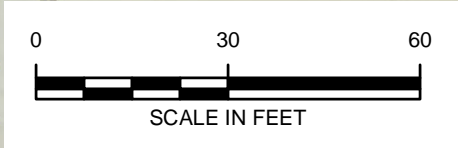
Investigation Areas located near the Site perimeters and with groundwater impacts above generic Part 201 criteria were reviewed to determine if utility corridors present could potentially provide a preferential pathway for groundwater impacts to migrate off-Site. Site drawings depicting the location of existing utilities were compared to figures showing the locations of the known soil and groundwater impacts at each of the Plants. The assessment focused on areas with groundwater impacts that are located near to property boundaries. A complete summary of the findings, as well as figures depicting each of the areas, are included as Attachment 2.

Based on the review, two areas will be targeted for sampling to verify the utility corridors are not providing a pathway for groundwater impacts to exit the Site. Two borings will be completed south of Area 2, located on the west side of Plant 2, adjacent to the storm and sanitary sewers. On the south side of Area 7, located on the southern part of Plant 6, an additional boring is proposed within the W. Michigan Ave right-of way, south of the stormceptor before the storm line intersects the W. Michigan Ave main line. The locations of the additional borings are included on Figures 1 and 2. The utility lines will first be located with ground penetrating radar (GPR) and then a hand auger boring will be completed to a depth several feet below the invert depth. Soil and groundwater samples (if present) will be collected from the fill material surrounding the utility lines, or at a minimum, at depths consistent with the utility line invert depth and submitted for TAL VOCs, SVOCs and TEL metals.



**LEGEND**

- WATER
- FUEL / NATURAL GAS
- SANITARY SEWER
- STORM SEWER
- PROCESS LINES
- ELECTRIC
- WASTE OIL
- PLANT 6 REMAINING ACTIVE STORM
- EXISTING MONITORING WELL
- EXISTING BEDROCK WELL
- LIF BORING
- 2011-2012 SOIL BORING
- COMPLETED VAP BORING
- COMPLETED VAP/HPT BORING
- PROPOSED DELINEATION STAGE BORINGS**
- PROPOSED MONITORING WELL
- PROPOSED LNAPL TEST WELL
- PROPOSED SOIL BORING
- PROPOSED SOIL GAS BORING



RACER TRUST  
LANSING, MICHIGAN  
PLANTS 2, 3 & 6

**DELINEATION STAGE SOIL BORINGS  
PLANT 2, AREA 2**


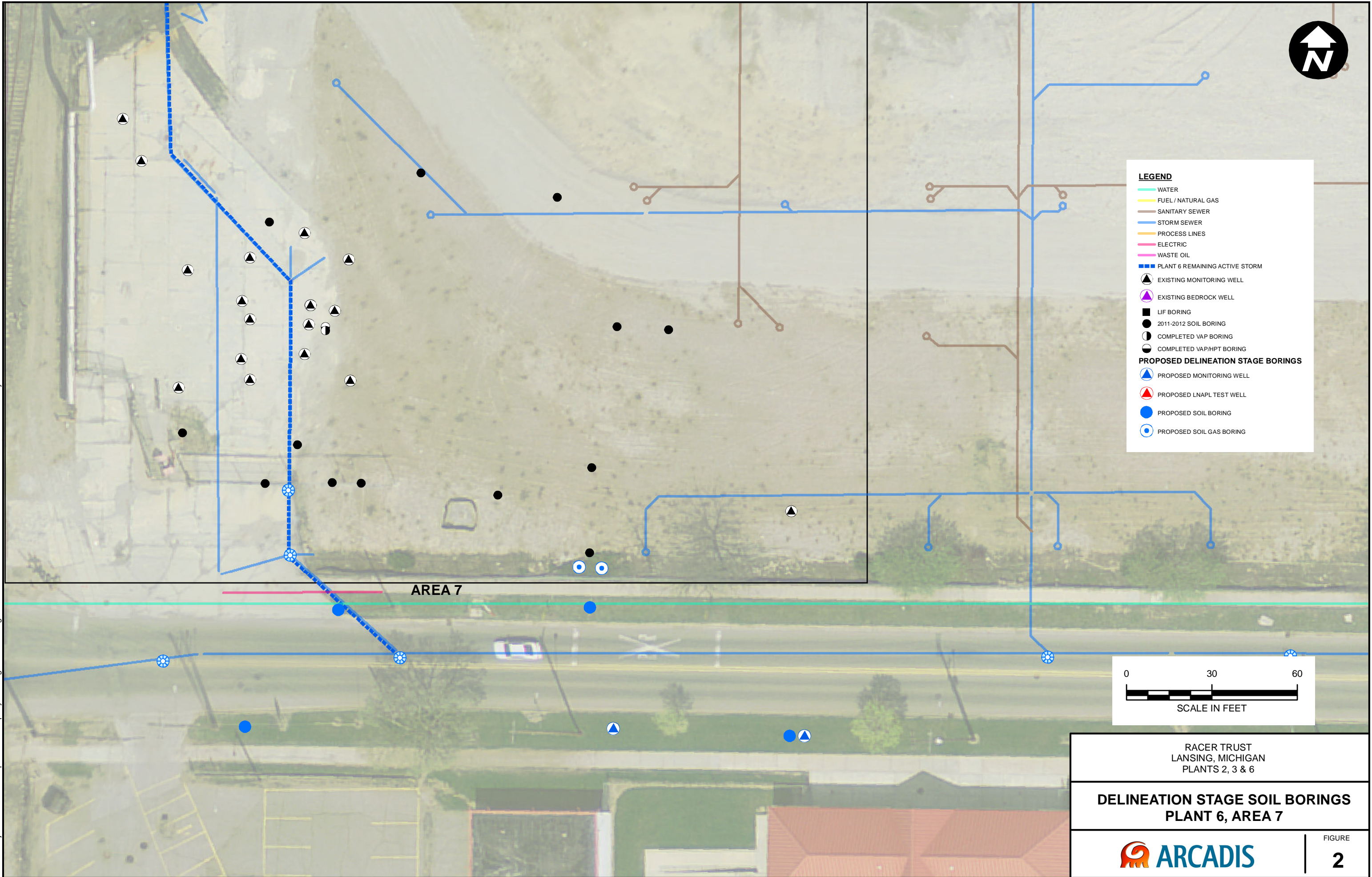
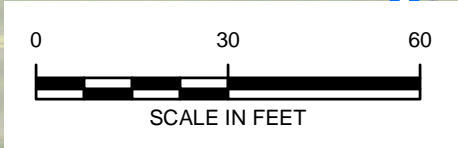


FIGURE  
**1**



**LEGEND**

- WATER
- FUEL / NATURAL GAS
- SANITARY SEWER
- STORM SEWER
- PROCESS LINES
- ELECTRIC
- WASTE OIL
- PLANT 6 REMAINING ACTIVE STORM
- EXISTING MONITORING WELL
- EXISTING BEDROCK WELL
- LIF BORING
- 2011-2012 SOIL BORING
- COMPLETED VAP BORING
- COMPLETED VAP/HPT BORING
- PROPOSED DELINEATION STAGE BORINGS**
- PROPOSED MONITORING WELL
- PROPOSED LNAPL TEST WELL
- PROPOSED SOIL BORING
- PROPOSED SOIL GAS BORING



RACER TRUST  
LANSING, MICHIGAN  
PLANTS 2, 3 & 6

**DELINEATION STAGE SOIL BORINGS  
PLANT 6, AREA 7**

FIGURE  
**2**