

**From:** Byers, Harris <Harris.Byers@stantec.com>  
**Sent:** Friday, March 15, 2019 4:35 PM  
**To:** Beggs, Tauren R - DNR; April Kroner  
**Cc:** Paul Braun; Choi, Christopher; ramanauskas.peter@epa.gov; Jeremy DuChateau; Kathleen McDaniel; Cull, Whitney  
**Subject:** Proposed Boring Locations for First Round of Sampling at Mirro in Manitowoc  
**Attachments:** Figures 1-3 - Proposed Sample Locations at Former Mirro Facility.pdf

Team:

Just a brief follow-up on my email from March 7. We have scheduled the first round of soil/groundwater sampling at the former Mirro facility in Manitowoc for March 26-29. A local surveyor will mark each proposed location using sub-cm GPS on March 25.

As I mentioned previously, based on work completed to date by others, it is pertinent for us to use roto-sonic drilling techniques for this first round of sampling. Therefore, we have slightly altered the order in which we had initially proposed completing each soil boring in the Site Investigation Workplan. The proposed borings are illustrated in the three attached Figures: Figure 1 (overview) and on Figures 2 and 3 for greater detail of each PCB release area. In addition, all groundwater monitoring wells installed during this initial sampling round will be proper 2-inch diameter wells.

Please give me a call if you have any questions or thoughts on this approach. Whitney and I will be in Manitowoc on Monday and will review the proposed boring locations; it's possible we may need to move SB-11/MW-11 a few feet to the east. All borings/wells will be surveyed again after installation for proper recording.

Sincerely,

**Harris Byers**

Sr. Brownfields Project Manager

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**From:** Byers, Harris  
**Sent:** Thursday, March 07, 2019 11:35 AM  
**To:** 'Beggs, Tauren R - DNR' <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)>; 'April Kroner' <[akroner@manitowoc.org](mailto:akroner@manitowoc.org)>  
**Cc:** 'Paul Braun' <[PBraun@manitowoc.org](mailto:PBraun@manitowoc.org)>; 'Choi, Christopher' <[choi.christopher@epa.gov](mailto:choi.christopher@epa.gov)>; 'ramanauskas.peter@epa.gov' <[ramanauskas.peter@epa.gov](mailto:ramanauskas.peter@epa.gov)>  
**Subject:** RE: Site Investigation Workplan - Former Mirro Facility in Manitowoc, Wisconsin

Team:

Just a brief status update. Weather permitting, we have scheduled the first round of drilling at the former Mirro facility in Manitowoc for March 26-28. The driller will mob to Manitowoc on March 25.

We are using a rotosonic drilling firm due to the large quantity of buried rubble encountered previously by others at the Site. The drilling firm (Cascade) has undertaken a significant internal PFAS education program, so the wells can be used for the full suite of proposed constituents.

Our primary objectives will be to (1) delineate PCB impacts to soil and groundwater at the two target areas and (2) install soil borings/wells in the known historic release areas to confirm presence/magnitude/extent of impacts (ex. VOCs, PAHs, Metals, PFAS). Due to the cost of using rotosonic, we may slightly amend the workplan to install a few borings/wells on the southern portion of the property during the first round of drilling (compared to later on) to get an idea of the presence/extent of rubble beneath the southern building. If large rubble is not routinely encountered, we may be able to use direct-push Geoprobe drilling for future work.

Please feel free to call with questions.

Sincerely,

**Harris Byers**

Sr. Brownfields Project Manager

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Figure No. 1  
 Title  
**Figure 1. Proposed Sample Locations**

Client/Project  
 City of Manitowoc  
 USEPA Brownfield Assessment Grant  
 Hazardous Substances  
 0 45 90 Feet  
 193703931  
 Prepared by HLB on 5-22-18

**Legend**

**Proposed Sample Locations**

- Soil Boring/Monitoring Well (15)
- Soil Boring (25)
- Target Parcel

**Notes**

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include:  
 Orthophotography: 2017 City of Manitowoc  
 Data Adapted From: Symbiont (2016) and AES (2011)



C:\GIS\Manitowoc\1517\Washington\_38\_Sample Locations.mxd Revised: 2019-03-15 Bx: hbwrs

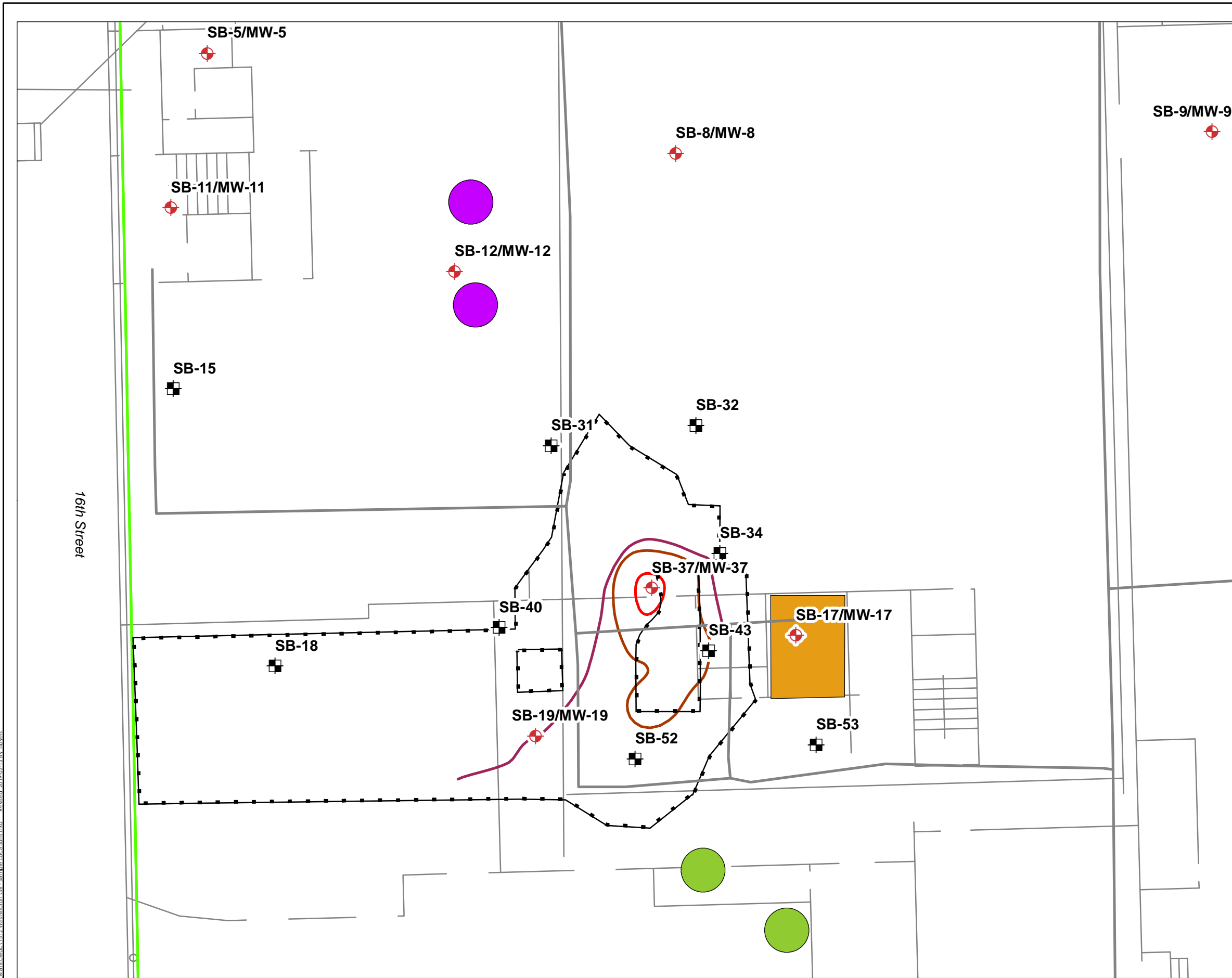


Figure No.

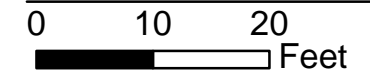
2

Title

**Figure 2. Loading Dock**

Client/Project

City of Manitowoc  
 USEPA Brownfield Assessment Grant  
 Hazardous Substances



193703931  
 Prepared by HLB on 5-22-18

**Legend**



**Proposed Sample Locations**

- Soil Boring/Monitoring Well (8)
- Soil Boring (9)
- Tunnel System
- Removed Concrete

**Possible PFAS Sources**

- "Paint Mixing" - 6th Floor
- Pipe Run to Spray Booth - 3rd Floor
- Pipe Run to Spray Booth - 5th Floor
- Pipe Run to Spray Booth - 6th Floor
- Target Parcel

**PCBs in Surface Soil (mg/kg)**

- 100
- 1000
- 10000

**Notes**

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include:  
 Orthophotography: 2017 City of Manitowoc  
 Data Adapted From: Symbiont (2016) and AES (2011)



C:\GIS\_Manitowoc\1512\_Washington\_38\_Sample Locations.mxd Revised: 2019-03-15 By: hbvrs

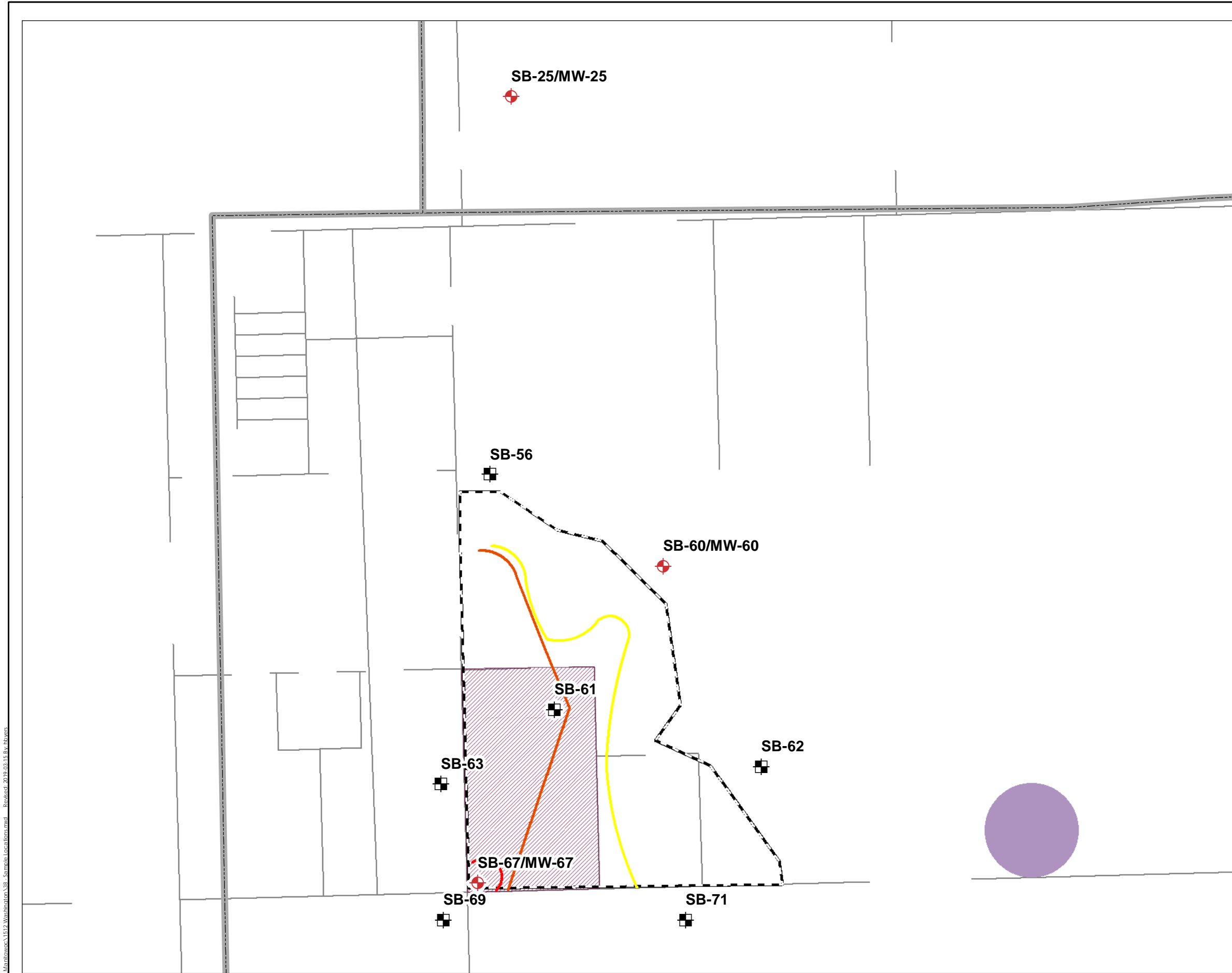


Figure No.  
3

Title  
**Figure 3. Area 8**

Client/Project  
City of Manitowoc  
USEPA Brownfield Assessment Grant  
Hazardous Substances

0 5 10 Feet  
193703931  
Prepared by HLB on 5-22-18



### Legend

#### Proposed Sample Locations

- Soil Boring/Monitoring Well (3)
- Soil Boring (6)

Tunnel System

#### PCBs in Area 8

##### PCBs in Surface Soil (mg/kg)

- 100
- 1,000
- 10,000

Removed Concrete

Former Transformer Pad

#### Possible PFAS Sources

- "Paint Mixing" - 6th Floor
- Pipe Run to Spray Booth - 3rd Floor
- Pipe Run to Spray Booth - 5th Floor
- Pipe Run to Spray Booth - 6th Floor

- Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
  2. Data Sources Include:  
Orthophotography: 2017 City of Manitowoc  
Data Adapted From: Symbiont (2016) and AES (2011)

