



July 19, 2019

Mr. Paul Grittner, Contaminated Material Management Specialist  
Wisconsin Department of Natural Resources  
Remediation and Development  
PO Box 7921  
Madison, WI 53707-7921

**Re: NR 718 Application - Soil Waste Management Plan  
Rock River Sediment Removal Project  
Janesville, Wisconsin  
BRRTS Activity # 02-54-577951**

Dear Mr. Grittner:

Thank you for your prompt response to our letter of July 17<sup>th</sup>. EAG is proposing that the dredged sediment be reused to grade a small area within the former JATCO for positive drainage and be re-vegetated, reducing the paved surface area in the northern portion of that parcel. Soils will be utilized as fill material (with continuing obligations, as applicable) at the final reuse location shown on the attached aerial map.

A 2-foot thick engineered barrier or “cap” consisting of uncontaminated “clean” soil material will be placed on top of the fill area to isolate the impacted soils. The native soils were sampled and analyzed to demonstrate no impacts for unrestricted use as a cover material. Vegetation (native grasses) will be established as a final surface feature. Please find herein supplemental information addressing your requests, including those in your letter of July 16, 2018. We have restructured this submittal to assist your review and approval, and attached all information for completeness.

1. Laboratory reports were not included for all lab data referenced on the table. Data missing from the lab reports include:  
Solid Sample #1 – PAH and metal analysis  
Solid Sample #2 – PCBs, PAHs, PAH leach, and metals analysis

It is unclear whether soil samples #1-3, referenced in the lab reports, are the same as solid sample #1-3, referenced in different lab reports and on the table. It is also unclear why metals leach analysis was conducted on Soil #1 (collected 6/20) and Solid #1 (collected on 7/9). Providing a brief narrative describing how the soil/solid samples were collected and analyzed would be a useful for interpreting this data.

*Solid samples #1-3 and Soil Samples #1-3 are the same samples. They were erroneously mislabeled, but still correspond to the same soil piles we sampled. The reason why Solid Sample #1 was sampled at two different dates is due to the lab not running leachate analysis for all of the parameters that we requested. A second sample was submitted on 7/9 to completely characterize the soil pile.*

2. The volume of material currently proposed to be managed under the exemption needs to be stated. Is this request for the initially 500 yards of soils, or is it intended to apply to a greater volume? Is it expected that future requests will be made to reuse additional material at this location?

*This request is for approximately 3,500 yds now with the remaining total managed as remediation waste until characterization analytical reports are received (to be forward in near future). The table has been updated to include the approximate volumes that each sample analysis characterizes. Future requests will be made for the remaining sediment that has not been processed and/or characterized in 2,500-cy portions. It should be noted that lab results for approximately 2,000 additional yards arrived on 7/18 and the table has been updated to show the results for all sample data received to-date (i.e., NE Geo Bag Sample #2, South Geo-Bag Sample #1, and South Geo-Bag Sample #2) teeing up future approvals. The lab report for these additional results has also been included as an attachment.*

3. Explain how the sampling criteria in NR 718.12(1)(e) has been met by explaining what the sample results on the attached table represent. Were solid samples #1, #2, and #3 collected during the accumulation of the first 500 yards of stockpiled dewatered sediment as was originally proposed? Explain what a Geo-Bag sample is and if these results are being used to characterize stockpiled soil that will be reused at the former JATCO.

*As stated in the previous answer, the tables have been updated to show the volumes that are represented for each sample. The "Solid Samples" consist of material that was coarse grained in nature and placed in open 500 yd stockpiles. "Geo-Bag samples" refer to the sediment that had more fine-grained material that needed further dewatering, so the material was subsequently placed in Geo-Textile Bags that can hold up to 500yds of dewatered sediment. The material in the Geo-Textile bags will be considered for reuse at the former JATCO site.*

4. A map depicting the reuse area was provided. If the cap tapers off as shown on the figure it should extend beyond fill area to ensure the thickness will be protective.

*A revised cross-section showing the cap soil overlapping the excavation to minimize potential for infiltration through the fill material is attached. Soil will be compacted and amended as necessary to support a vegetative cover.*

5. Confirm whether the soil managed at the proposed reuse location will be placed more than 3 feet from the high-water level in that area.

*The Final Case Closure letter for BRRTS # 03-54-000405, Section 2.B.(iv). indicates the depth to groundwater on the site ranged from 61.33 ft bgs to 69.53 bgs on the site in Section 2.B.(i). The depth of the reuse location will be more than 3 feet from the high-water level in the area*

6. Provide a justification that reuse will meet requirements of NR 726.12(1)(b)1-5 (which generally means that the reuse of the contaminated soil in the proposed location will not result in harm to human health or the environment).

The analytical data provided so far indicates that the soil potentially exceeds industrial direct contact RCLs and that naphthalene has the potential to leach such that an enforcement standard could be exceeded by this compound. The flow chart included with the Application

suggests that soil with these characteristics be reused under a concrete cap or be disposed at a licensed facility. Explain how reusing the soil in the newly identified reuse area is as protective as these other strategies. The DNR does not typically consider a soil cap to be protective for preventing groundwater contamination.

*See attached revised decision tree for soil characterization, existing and proposed continuing obligations that include a soil management plan, and a cap maintenance plan demonstrating the remaining level of contamination does NOT:*

- 1.** Pose a threat to public health, safety, or welfare or the environment.
- 2.** Cause a violation of a ch. [NR 140](#) groundwater quality enforcement standard at any applicable point of standards application, except where the department has granted an exemption under s. [NR 140.28](#) for a specific hazardous substance or the criteria under s. [NR 726.05 \(6\)](#) are met. A groundwater use restriction is in place at the site associated with BRRTS No. 03-54-00405 and was granted on October 26, 1999 and filed in Rock County Register of Deeds, document number 1434932). No potable groundwater wells are present on the site, and groundwater use restrictions will continue to be upheld as referenced in the final closure of BRRTS # 03-54-000405, Section 2.B.(iv). Attached are extracted pages from the Final Case Closure letter.
- 3.** Cause a violation of surface water quality standards in chs. [NR 102](#) to [106](#). A Notice of Intent for Construction was filed online last week and a Stormwater Pollution Prevention Plan is available.
- 4.** Cause a violation of air quality standards contained in chs. [NR 400](#) to [499](#). Dust will be managed by watering as necessary.
- 5.** Cause a vapor action level in indoor air to be attained or exceeded. No volatile organic compounds were identified in the sediments.

Leach test results should always be tabulated and compared to the enforcement standards to support the proposed management plan.

*The summary table has been updated (page 2).*

7. State specifically what continuing obligations will be required to address soil reused offsite and provide the applicable review and database fees.

As a condition for approving the 718 exemption the DNR will impose continuing obligations on the site where the contaminated soil will be managed. The applicant must propose these obligations as part of the exemption request.

It is unclear whether requiring industrial land use would be beneficial, as the sample results from Solid Sample #2 indicate that PAH concentrations exceed industrial direct contact RCLs. The only advantage to using industrial direct contact RCLs is when contaminant concentrations are between industrial and non-industrial standards, the soil is located at a property that is zoned for industrial uses, and a cap will not be maintained over the contaminated material. Recommending the continuous maintenance of the proposed cap would address the direct contact risk posed by residual contamination and would not require land use restrictions.

*A two-foot capping layer (consisting of uncontaminated native soil), vegetative cover, and maintenance plan is proposed. The current zoning is M2 - General Industrial. Future zoning may include commercial uses; however, the proposal addresses continuing obligations for non-*

*residential land use, maintenance of the cover system, a soil management plan, restriction on groundwater use. Some of these deed restrictions were included in the Case Closure approval for BRRTS No. 02-54-560181 GM Former Haul-Away Yard per a letter from DNR to GM dated August 1, 2017. A groundwater use restriction is in place at the site associated with BRRTS No. 03-54-00405 and was granted on October 26, 1999 and filed in Rock County Register of Deeds, document number 1434932). No potable groundwater wells are present on the site, and groundwater use restrictions will continue to be upheld as referenced in the final closure of BRRTS # 03-54-000405, Section 2.B.(iv). A copy of the Final Case Closure letter and excerpted supporting documentation is attached. An Amended Soil Management Plan is included in this submittal.*

The land use / zoning plan was not included with the application, so it is unclear if requiring industrial zoning to be maintained would be an issue for this property.

*A copy of the current proposed planning is attached.*

A \$1,000 check is being mailed along with two paper copies of this request.

We trust this supplemental information satisfies your current needs to grant approval of our request. If you have any questions, please contact me at 314-835-2814 or by email at [ddunn@enviroanalyticsgroup.com](mailto:ddunn@enviroanalyticsgroup.com).

Sincerely,



Daniel M. Dunn  
VP - Director of Remediation  
EnviroAnalytics Group, LLC  
1515 Des Peres Rd, Suite 300  
St. Louis, MO 63131

cc: Bill Fitzpatrick, PE

Enclosures:

- Aerial site plan with fill location and cross-section
- Revised Summary table of lab data – dried sediment-soil
- Amended Soil Management Plan (w/cover maintenance plan)
- Current zoning
- Proposed land use / zoning plan
- Decision tree
- Excerpts of Case Closure file with continuing obligations and example soil boring log
- Test America Analytical reports

# Area of Disturbance

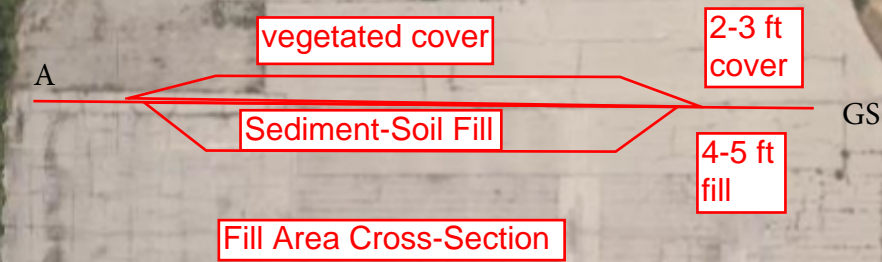
544 Kellogg Ave

- Legend**
- 544 Kellogg Ave
  - Feature 1
  - Feature 2
  - Feature 3
  - Lisa Pizzeria
  - Marquette Park
  - Northland Equipment Co Inc
  - Pick 'n Save
  - RDP Oilmart
  - Shockwave Video
  - Untitled Polygon

Former GM Assembly plant



Sediment-Soil  
Fill Area (vegetated)



NR 718 Beneficial Re-use exemption Request  
Rock River dredging Project  
Fill Location - JATCO Site  
544 Kellogg  
Janesville, WI

JATCO property  
former GM Haul-Away-Yard

544 Kellogg Ave



**Summary of Analytical Results - Dried Sediment-Soils**

NR 718 Beneficial re-use exemption  
 Rock River Dredging project - former GM Assembly plant  
 Janesville, WI

Chemical	Background Concentrations	Vapor Intrusion Action Levels	Dermal Contact Action Levels	Soil-To-Groundwater Action Levels	Pilot Test Sample	Solid Sample #1	Solid Sample #2	Solid Sample #3	Geo-Bag Sample #1	Jatco Cover Soil	NE Geo-Bag Sample #2	South Geo-Bag Sample #1	South Geo-Bag Sample #2	Solid Sample #4	Solid Sample #5	Solid Sample #6	NE Geo-Bag Sample #3	Drying Bed Sample			
					100 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume		500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	500 yds volume	
					500-150867-4	500-165506-1	500-165506-2	500-166406-2	500-165974-5	500-165506-3	500-166667-3	500-166667-4	500-166667-5	500-166745	500-166745						
					8/31/2018	6/20/2019	6/20/2019	7/9/2019	6/28/2019	6/20/2019	7/11/2019	7/11/2019	7/11/2019	7/15/2019	7/15/2019	7/15/2019	7/15/2019	7/15/2019	7/15/2019	7/18/2019	7/18/2019
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Acenaphthene			45200		0.017	<0.0074	0.5	0.12	0.14	<0.0061	0.055	0.018	0.29	Pending Results	Pending Results	Pending Results	Pending Results	Pending Results			
Acenaphthylene					0.024	<0.0055	0.093	0.031	<0.05	<0.0045	0.043	0.025	<0.11								
Anthracene			100000	196	0.061	<0.0069	1.2	0.51	0.31	<0.0057	0.17	0.073	0.62								
Benzo[a]anthracene		900	20.8		0.21	0.026	3.5	0.78	0.65	<0.0046	0.45	0.21	1.5								
Benzo[a]pyrene		12000	2.11	0.47	0.23	0.028	3.3	0.75	0.67	<0.0066	0.46	0.22	1.1								
Benzo[b]fluoranthene		28000	21.1	0.478	0.32	0.033	5.6	0.81	0.77	<0.0074	0.57	0.28	1.7								
Benzo[g,h,i]perylene					0.087	0.015	0.86	0.31	0.14	<0.011	0.26	0.15	0.81								
Benzo[k]fluoranthene		2800000	211		0.13	0.022	1.9	0.69	0.63	<0.01	0.22	0.10	0.56								
Chrysene		28000000	2110	0.144	0.24	0.034	3.7	0.72	0.89	<0.0093	0.52	0.25	2.3								
Dibenz(a,h)anthracene		28000	2.11		0.02	<0.008	0.3	0.09	<0.073	<0.0066	0.077	0.048	<0.16								
Fluoranthene			30100	88.87	0.5	0.044	5.8	2.4	1.9	<0.0063	0.89	0.45	3.1								
Fluorene			30100	14.82	0.02	<0.0058	0.63	0.14	0.16	<0.0048	0.066	0.023	0.39								
Indeno[1,2,3-cd]pyrene		280000	21.1		0.085	0.016	0.91	0.3	0.29	<0.0088	0.22	0.12	0.73								
Naphthalene		17	24.1	0.658	0.02	<0.0064	0.74	0.1	0.19	<0.0053	0.051	0.018	0.42								
Phenanthrene					0.26	0.021	5	1.3	1.2	<0.0048	0.65	0.26	3.1								
Pyrene			22600	54.54	0.42	0.057	6.9	1.5	1.5	<0.0068	0.84	0.49	3.7								
1-Methylnaphthalene					0.017	<0.01	0.69	0.078	0.29	<0.0083	0.067	0.025	0.67								
2-Methylnaphthalene			3010		0.028	<0.0076	1.2	0.14	0.34	<0.0063	0.098	<0.018	0.85								
<b>PCBs</b>																					
PCB-1016		440000	28000		<0.041	<0.074	<0.078	<0.078	<0.074	<0.0059	<0.016	<0.018	<0.015								
PCB-1221		4400	883		<0.051	<0.092	<0.098	<0.098	<0.092	<0.0073	<0.020	<0.022	<0.018								
PCB-1232		2400	792		<0.051	<0.091	<0.097	<0.097	<0.091	<0.0072	<0.020	<0.022	<0.018								
PCB-1242		13000	972		<0.038	<0.069	<0.073	<0.073	<0.069	<0.0055	<0.015	<0.017	<0.013								
PCB-1248		13000	975		<0.046	<0.082	<0.087	<0.087	<0.082	<0.0065	<0.018	<0.020	<0.016								
PCB-1254		18000	988		<0.025	<0.045	<0.048	<0.048	<0.045	<0.0036	<0.010	<0.011	<0.0089								
PCB-1260		28000	1000		<0.057	<0.1	<0.11	<0.11	<0.1	<0.0082	<0.023	<0.025	<0.020								
<b>Metals</b>																					
Arsenic	8	3900	3	0.584	1.7	0.79	4.4	4.1	4.6	0.48	3.0	2.3	5.5								
Mercury	0.89	46	3.13	0.208	4.6	0.28	0.37	0.32	5.5	<0.005	1.2	1.5	2.1								
Barium	1070	3000000	10000	164.4	48	21	540	240	340	8.6	310	150	350								
Cadmium	1	9300	985	0.752	0.5	0.24	1.7	1.1	1.5	0.13	1.5	0.77	1.5								
Chromium				360000	9.9	7.8	74	23	46	3.0	40	28	53								
Lead	37.7		800	27	71	150	760	480	300	1.4	160	47	240								
Selenium	0.858		5840	0.52	<0.77	<0.65	0.72	0.87	2.5	<0.56	2.9	3.0	2.4								
Silver			5840	0.849	<0.17	0.78	1.3	1.1	2.2	0.49	2.6	2.7	3.2								

NS- Not Sampled

- Indicates an exceedance of soil-to-groundwater standards
- Exceeds Dermal Contact Levels
- Exceeds Vapor Intrusion Levels

Note: Final closure of BRRTS # 03-54-000405 was granted on October 26, 1999, subsequent to abandonment of the monitoring wells and implementation of a deed restriction filed with Rock County. The filing placed a groundwater use restriction on the deed for the Site (Rock County Register of Deeds, document number 1434932)."

### ASTM Leach Analysis Results for Sediment

Chemical	ASTM Leach Enforcement Standards	Pilot Test Leach Sample	Solid Sample #1 Leach	Solid Sample #3 Leach	NE Geo-Bag Sample #2 Leach	South Geo-Bag Sample #1 Leach	South Geo-Bag Sample #2 Leach
		500-150867-5	500-166406-1	500-166406-2	500-166667-3	500-166667-4	500-166667-5
		8/31/2018	7/9/2019	7/9/2019	7/11/2019	7/11/2019	7/11/2019
mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Acenaphthene		<0.0072	<0.0036	<3.6	<0.0036	<0.0036	<0.0036
Acenaphthylene		<0.0064	<0.0032	0.017	<0.0032	<0.0032	<0.0032
Anthracene		<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Benzo[a]anthracene		<0.0008	<0.00044	<0.00044	<0.00044	<0.00044	<0.00044
Benzo[a]pyrene	0.0002	<0.0011	<0.00056	<0.00056	<0.00056	<0.00056	<0.00056
Benzo[b]fluoranthene	0.0002	<0.0012	<0.00058	<0.00058	<0.00058	<0.00058	<0.00058
Benzo[g,h,i]perylene		<0.0084	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
Benzo[k]fluoranthene		<0.0015	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074
Chrysene	0.0002	<0.0028	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014
Dibenz(a,h)anthracene		<0.0013	<0.00064	<0.00064	<0.00064	<0.00064	<0.00064
Fluoranthene		<0.0064	<0.0032	<0.0032	<0.0032	<0.0032	<0.0032
Fluorene		<0.0076	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038
Indeno[1,2,3-cd]pyrene		<0.0017	<0.00084	<0.00084	<0.00084	<0.00084	<0.00084
Naphthalene	0.1	0.022	<0.003	0.11	<0.0030	<0.0030	<0.0030
Phenanthrene		<0.007	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035
Pyrene	0.25	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
1-Methylnaphthalene		<0.001	<0.005	<0.005	<0.0050	<0.0050	<0.0050
2-Methylnaphthalene		<0.0026	<0.0013	0.0019	<0.0013	<0.0013	<0.0013
<b>PCBs</b>							
PCB-1016		NS	NS	NS	NS	NS	NS
PCB-1221		NS	NS	NS	NS	NS	NS
PCB-1232		NS	NS	NS	NS	NS	NS
PCB-1242		NS	NS	NS	NS	NS	NS
PCB-1248		NS	NS	NS	NS	NS	NS
PCB-1254		NS	NS	NS	NS	NS	NS
PCB-1260		NS	NS	NS	NS	NS	NS
<b>Metals</b>							
Arsenic	0.01	0.0031	0.0036	0.005	0.0023	<0.0020	<0.0020
Mercury	0.002	<0.0002	<0.002	<0.002	<0.00020	<0.00020	<0.00020
Barium	2	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050
Cadmium	0.005	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Chromium	0.1	<0.05	0.0085	<0.05	<0.0050	<0.0050	<0.0050
Lead	0.015	<0.002	0.022	0.0037	0.0025	<0.0020	<0.0020
Selenium	0.05	<0.001	<0.001	<0.001	<0.010	<0.010	<0.010
Silver		<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050

NS- Not Sampled

Exceeds Criteria

**AMENDED SOIL MANAGEMENT PLAN**  
**ROCK RIVER SEDIMENT REMOVAL PROJECT**  
**JANESVILLE, WISCONSIN**  
**BRRTS Activity # 02-54-577951**

**Prepared For:**

JAINES, LLC  
1650 DesPeres Rd., Suite 303  
St. Louis, MO 63131

**Prepared By:**



1515 Des Peres Rd, Suite 300  
St. Louis, MO 63131  
(314)835-1515

**July 2019**



## BACKGROUND

The Former General Motors (GM) Assembly Plant (the Site) located in Janesville (Rock County), Wisconsin has been assigned WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) Number (#) 02-54-577951. The property is currently zoned as M2 – General Industrial. The Site contains sediments impacted by contaminants of potential ecological concern (COPECs), including polycyclic aromatic hydrocarbons (PAHs), lead, mercury, and polychlorinated biphenyls (PCBs), that were identified near the Adjacent Outfall where storm water from the former GM plant discharged to the Rock River north of the substation along Delavan Drive in Janesville. Information regarding the sedimentation in this reach of the Rock River was initially reported in studies completed for the City as part of the Monterey Dam demolition planning (Inter-Fluve, Inc., 2015). Multiple site investigations and evaluations were subsequently conducted by GM as documented in the *Sediment Investigation Report* (GHD Report No. 21, May 2016), the *Rock River Site Investigation Report* (GHD Report No. 30, May 2017), and the *Remedial Action Options Report* (GHD Report No. 32, May 2017). Multiple lines of evidence from comprehensive studies of sediment quality impacts on local biological receptors were evaluated utilizing statistical methods and consensus-based guidance to assess potential ecological and human health exposure risks.

Sediments near the Adjacent Outfall are impacted by contaminants of potential ecological concern (COPECs), including PAHs, lead, mercury, and PCBs. Storm water from the former GM plant discharged to the Rock River via this outfall north of the substation along Delavan Drive. The RADR mitigates impacts near the outfall based upon the evaluation of potential risks to sediment-dwelling benthic invertebrates. It should be noted that GM reported no records of releases to stormwater and the contaminants identified near the outfall may have originated from other sources and not solely from historical GM operations. This document outlines the Soil Management Plan for the sediments that are to be removed during the dredging activities.

The RADR presented the project approach and objectives for removal of approximately 10,000 cubic yards of impacted sediment from a designated remedial action area (RAA) covering approximately two acres within the Rock River in the pool upstream from the Monterey Dam. Impacted sediment within the remedial action area shall be removed to refusal or one foot below the design surface, and a certified clean fill sand restorative layer placed over the RAA upon completion of the project.

The project includes hydraulically and/or mechanically dredging the impacted sediment and hydraulic conveyance of the sediment / river water slurry to the former GM plant for dewatering and treatment. The sediment slurry will be conveyed through a floating hose to temporary piping installed through the box culvert at the outfall and leading back to the diversion chamber located south of Delevan Drive at the former GM Site. The granular solids within the slurry will be removed by settling and discharged across a drying bed. The fluids containing fine-grained particles (concentrator supernatant) will be pumped into the large steel tank (#1) for additional solids removal by settling that may include polymerization. The water fraction will be pumped into the return water tank (#2). A fraction of the settled solids containing fine particles and organic matter will be filtered through geotextile tubes, with the ellutriant captured and recirculated to the settling tank.

Once removed from the drying bed, solids will be placed into segregated stockpiles located on concrete or asphalt and monitored using the paint-filter liquids test (PFLT) by ASTM 9095B, slump test, and/or field moisture content by the microwave method using paper cups. Once sufficiently dewatered for handling, dried sediments (i.e., soil) will be characterized for beneficial re-use onsite or final disposal offsite, in accordance with the Sampling and Analyses Plan and the Soil Management Plan described below. Five-point composite samples will be collected from each 500-cubic yard stockpile. Samples will be submitted to the laboratory and analyzed for the total concentrations of PAHs, PCBs, and metals. In addition, the water leach extraction procedure (ASTM Method 3987) will be followed and leachate analyzed for PAHs, PCBs, and metals. Initially, analytical results were requested on a rush turnaround time, typically 3-5 days (versus normal TAT of 10 days). The results are compared to the industrial RCLs and transmitted to DNR upon receipt along with EAG's management path for the material.

TCLP data that was provided in the General Motors Site Investigation that provides screening for the non-hazardous categorization of the sediment. Analytical results of the sediment samples obtained during the General Motors Site Investigation that were previously submitted to the WDNR are also attached.

The dredging activities are anticipated to be complete and dried sediments ready to move by the end of July, 2019 or sooner.

#### **MANAGEMENT OF CONTAMINATED SOIL OR SOLID WASTES RECOVERED DURING REMEDIAL (RESPONSE) ACTIONS**

It is requested that an exemption be granted in order to store and manage the dry sediment generated from this remedial action at the site which is not an operating licensed landfill (NR718.15). The Wisconsin DNR recommended format for exemption request is attached to this document. The information requested in Sections 3, 4, 5, 6, 8, 9, and 10 are included in this Soil Waste Management Plan.

#### **STORAGE OF EXCAVATED CONTAMINATED SOIL**

The dried sediment will be removed from the drying bed and stored within the sand stockpile dividers and characterized. Results of laboratory analyses will determine disposition for:

1. segregation, solidification and temporary storage before transportation and disposal offsite (complete with an impervious liner),
2. onsite transportation to the identified fill area to be capped with uncontaminated soil and revegetated, and
3. stockpiled in an area of remedial operations for future beneficial reuse onsite

The final reuse locations are detailed on the attached Figures. A decision diagram is included. Efforts are being made to continuously characterize and reuse or dispose of material as it is being generated per the decision diagram.

In accordance with NR 718.05 (2), none of the stockpile or final reuse locations are within a flood plain. These locations are more than 100-feet from a wetland, 300-feet from a navigable river, stream, lake, pond, or flowage, and more than 300-feet from any water supply well. All stockpile and final reuse

locations are more than 400-feet from the Rock River. Signs will be posted in the areas around the drying beds that will include the name, address, and phone number of the owner or operation, the types of hazardous substances on the property, the WDNR issued site ID number, and the anticipated removal date.

The dried sediment will be placed in the sand stockpile dividers on an impervious base (concrete pavement). The slope of the pavement beneath the sand stockpile dividers drains to an existing stormwater inlet manhole that will be plugged to serve as a sump and pumped back into treatment Tank #1 to control surface water runoff. These soil piles will be covered at the end of each day.

Samples of the dried sediment within the sand stockpile dividers (approximately 500 cubic yard piles) will be collected and analyzed per the Sampling and Analyses Plan. Samples are collected from the first 100, 300 and 500 cys, and then every 500 cys thereafter. Samples are analyzed for the COPEC identified during the Rock River sediment investigation and compared to the industrial land use RCLs. The final reuse location for each stockpile will be determined based on the reported total concentrations and the concentrations in the water leach test procedure. A decision diagram is included with this Soil Management Plan.

Analytical results were compared to the appropriate industrial land use concentrations to ensure that the soils for beneficial reuse are protective of public health, safety, welfare and the environment. Soil sampling will demonstrate that the contaminated soil does not attain or exceed the applicable Wis. Admin. Code § NR 720 soil cleanup standards for industrial of land use classification for both direct contact and the groundwater migration pathways. Soil sampling and location of placement of contaminated soil will not result in an attainment or exceedance of groundwater quality standards in Wis. Stats. § 160 and Wis. Admin. Code § NR 140. Sampling will verify that no vapor intrusion would result from the placement of the contaminated soil and that all other pathways of concern at the site or facility (e.g, surface water and sediment) are protective of public health, safety, welfare and the environment.

Soil with concentrations of COPCs that are not protective of human health and the environment as described above will be placed on plastic sheeting in the waste piles, solidified, permitted as non-hazardous waste, and offsite transportation to an appropriate disposal facility arranged. Manifests for the transportation and disposal of this material will be maintained by EAG and copies submitted to the WDNR with each weekly report.

The only storage pile that is anticipated to remain for more than 30 days is the stockpile to the west of the dewatering operations (see Figure 3). This stockpile will be covered, and periodically inspected for erosion and storm water controls. WDNR will also be notified if a soil stockpile will remain on site for more than 90 days.

No transportation or treatment, other than transporting impacted soils to an appropriate offsite facility or to the designated final onsite reuse locations onsite is anticipated.

Native soils at the receiving location onsite are generally fill material on top of clayey-silt and silty sand. Groundwater occurs deeper than 10 feet bgs. Groundwater flow is generally to the north-northwest toward the Rock River, which follows the general Site topography.

Any continuing obligations for maintenance beyond industrial land use and groundwater use restrictions will be identified in the remedial action completion report. A copy of the property deed with legal descriptions of the parcel(s) is attached to this document.

## **REPORTING**

A report will be submitted to the WDNR on a weekly basis. This report will detail the volume of material recovered, the laboratory results for the samples, a comparison of results to the industrial soil residual concentration levels including vapor intrusion, dermal contact, soil-to-groundwater, and the groundwater standard (water leach test procedure) per Wisconsin Admin Code NR720. This report will also detail the final reuse location for each stockpile based on the analytical results, comparisons to industrial standards, and the decision diagram included in this Soil Management Plan.

The weekly report will contain the following items for review and concurrence:

- Laboratory Reports
- Summary of Results
- Comparisons of Results to Industrial RCLs
- Final placement of soil


## **CONTINUING OBLIGATIONS**

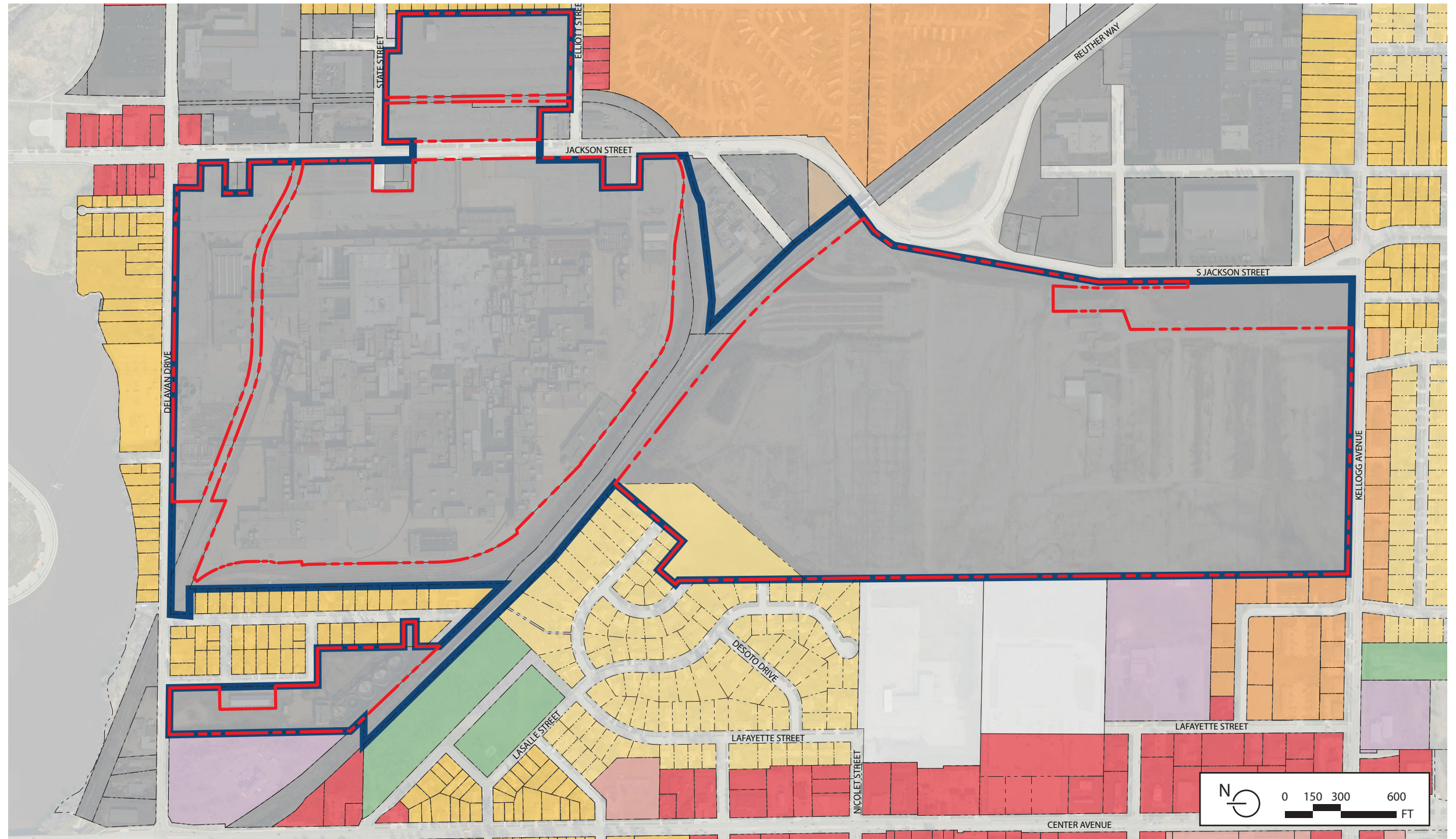
The site zoning will be maintained as industrial land use and the concrete cap that will be installed above the material placed in the truck bay fill areas will be inspected regularly and repaired as needed to ensure the integrity of the concrete.


## EXISTING ZONING


The project site is primarily zoned M2, General Industrial. The M2 industrial district is generally designed to accommodate manufacturing, production, storage, and general industrial activities in areas relatively remote from residential development or as otherwise allowed and designated in the Comprehensive Plan. The entire site falls within the South Jackson Overlay District, which was designed to ensure that industrial development of the Centennial Industrial Park is compatible with adjacent land uses and less intensive than would typically be permitted in the M2 District.


The zoning of the Centennial Industrial Park and adjacent properties is summarized in brief below. A full description of allowable uses can be found in the City's Code of Ordinances in Chapter 18.36: Zoning Districts & Maps.


 South Jackson Overlay District  
The South Jackson Street Overlay (SJO) district was created specifically to guide the redevelopment of the former GM Assembly Plant and maximize its positive impact on the surrounding community. The boundaries of the 300 acre SJO district encompass all of the parcels in the Centennial Industrial Park. Generally, the SJO requires that all future use, adaptive reuse, or redevelopment within the district be approved under the Planned Unit Development Process. A full description of the SJO can be found in the City of Janesville's Code of Ordinances 18.36.070 (4).





 M1: Light Industrial  
Designed for industrial activities that require and contribute to a pleasant, hazard, and nuisance-free environment. No residential uses permitted.


 O1: Office/Residence District  
Single and two family residences, apartment buildings, offices, civic uses like museums and libraries, health care, education, religious buildings, and open space.


 B2: Community Shopping District  
Designed to provide for a large consumer population; generally located along major commercial arterials. Residential uses primarily limited to second floor.


 R1: Single & Two-Family Residence  
Low density, single family residences with limited two-family dwellings allowed by conditional use. Parks, open spaces, schools, and churches are also permitted.

 R3: General Residence District  
All uses permitted in R1 and R2, as well as two-family and multiple family dwellings, mobile homes, college residence halls, nursing homes, museums, and cemeteries.

 M2: General Industrial  
Designed for heavier industrial activities and manufacturing that may produce moderate nuisances or hazards. No residential use permitted.

 C: Conservancy District  
Preserves designated areas as open space in perpetuity. Land uses may include rivers and drainageways, wetlands, floodplains, greenbelts, natural areas, or other beneficial green spaces.

 B3: General Commercial District  
Intended for motorist-oriented commercial activities with large service areas. Generally located along major commercial arterials. Residential uses primarily limited to second floor.

 R2: Limited General Residence  
All uses permitted in R1, as well as smaller lots and a higher density of single and two family residential dwellings.

**FORMER GM  
 SITE PLANNING**

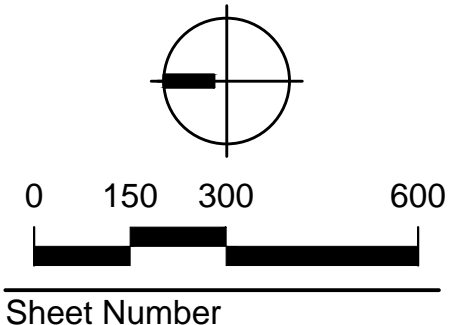
**NOT FOR  
 CONSTRUCTION**

Commercial  
 Development  
 Inc.  
 Janesville,  
 Wisconsin

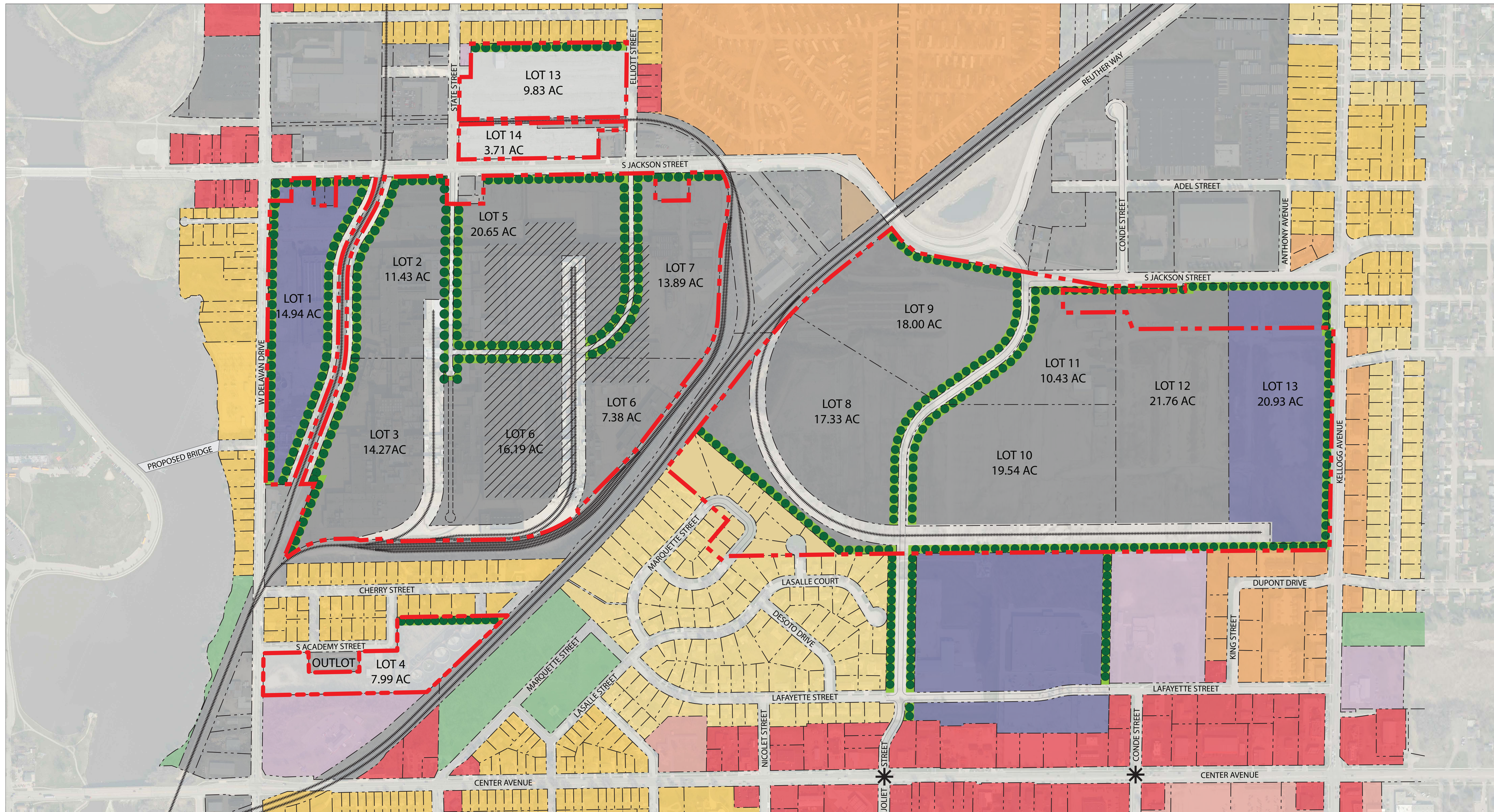
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 Checked By: JB  
 File:  
 Issued For:  
 Issue Date: 08/29/2018  
 Project No. 52-xxxx.xx

Sheet Title

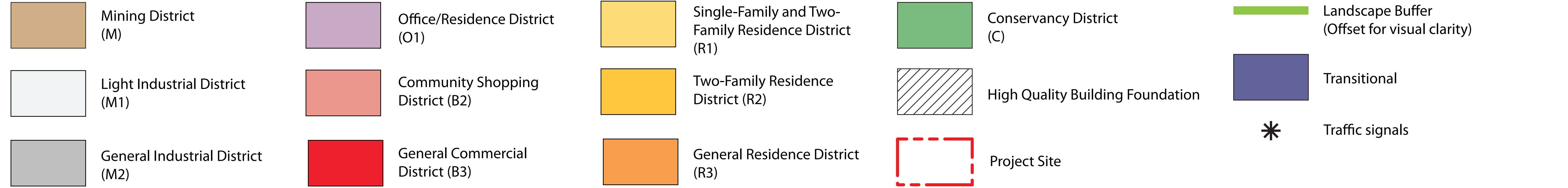
**PROPOSED LAND  
 USE/ ZONING  
 CONCEPT 3**



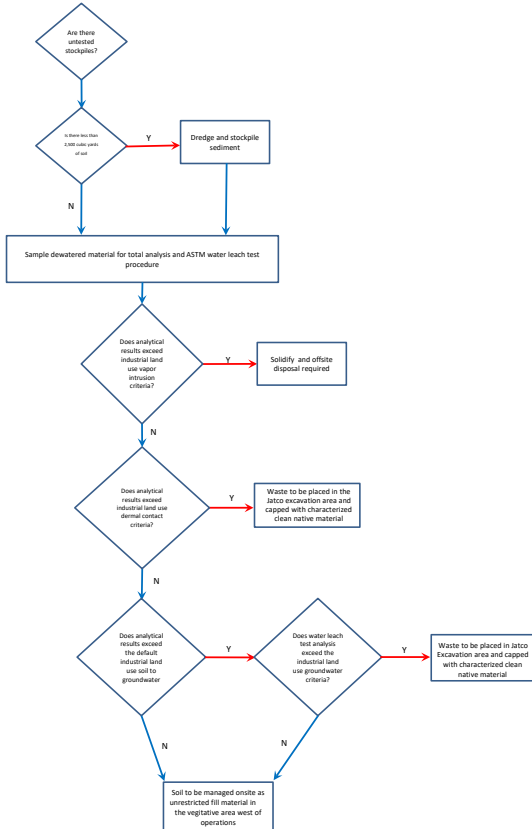
Sheet Number



**Future Land Use**



SOIL WASTEMANAGEMENT PLAN - DECISION DIAGRAM  
1000 GENERAL MOTORS DRIVE  
JANESVILLE, WISCONSIN





**VIA EMAIL**

August 1, 2017

Kim D. Tucker-Billingslea  
General Motors, LLC – GEC & S Remediation Team  
30400 Mount Rd., WTC Mfg. B MC:480-109-MB1, Off: 1 AP23  
Warren, MI 48092

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

Subject: Final Case Closure with Continuing Obligations  
GM Haul Away Yard, Former, 544 Kellogg Avenue, Janesville, Wisconsin  
DNR BRRTS Activity # 02-54-56081

Dear Ms. Tucker-Billingslea:

The Department of Natural Resources (DNR) considers the GM Haul Away Yard case closed, with continuing obligations. No further investigation or remediation is required at this time. However, you, future property owners, and occupants of the property must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wis. Adm. Code. The South Central Region Closure Committee (Closure Committee) reviewed the request for closure on June 1, 2017. The Closure Committee reviewed this environmental remediation case for compliance with state laws and standards to maintain consistency in the closure of these cases. A request for remaining actions needed was issued by the DNR on June 6, 2017, and documentation that the conditions in that letter were met was received on July 28, 2017.

The former haul away yard had several underground storage tanks (UST) containing petroleum but also other chemicals including volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC). Responses included removal of the tanks in 2012 and subsequent soil and groundwater sampling. The conditions of closure and continuing obligations required were based on the property being used for industrial purposes. Residual contaminants that remain in soil and exceed applicable screening levels include VOCs (carbon tetrachloride, chloroform, cis-1,2-dichloroethene, methylene chloride, TCE, trichloroethene, trimethylbenzenes, and xylenes), SVOCs (naphthalene), polychlorinated biphenyls (PCBs) and manganese.

Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.

- Residual soil contamination exists that must be properly managed should it be excavated or removed.
- Remaining contamination could result in vapor intrusion if future construction activities occur. Future construction includes expansion or partial removal of current buildings as well as construction of new buildings. Vapor control technologies will be required for occupied buildings,



unless the property owner assesses the potential for vapor intrusion, and the DNR agrees that vapor control technologies are not needed.

The DNR fact sheet "Continuing Obligations for Environmental Protection," RR-819, helps to explain a property owner's responsibility for continuing obligations on their property. The fact sheet may be obtained at <http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf>.

#### GIS Registry

This site will be included on the Wisconsin Remediation and Redevelopment Database (WRRD) at <http://dnr.wi.gov/topic/Brownfields/WRRD.html>, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RR Sites Map), a map view, under the Geographic Information System (GIS) Registry layer, at the same web address.

DNR approval prior to well construction or reconstruction is required for all sites shown on the GIS Registry layer, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at <http://dnr.wi.gov/topic/wells/documents/3300254.pdf>.

All site information is also on file at the South Central Regional DNR office, at 3911 Fish Hatchery Road, Fitchburg, Wisconsin 53711. This letter and information that was submitted with your closure request application, including any maps, can be found as a Portable Document Format (PDF) in BRRTS on the Web.

#### Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wis. Stats. to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Department of Natural Resources  
Attn: Remediation and Redevelopment Program Environmental Program Associate  
3911 Fish Hatchery Road  
Fitchburg, WI 53711

Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains at various locations, primarily in the southern portion of the former West Shop, as indicated on the **attached maps** (Figure B.2.b, Residual Soil Contamination and Figure B.2.b.1, Residual Soil Contamination Tank L). We do not necessarily agree with GHD that the grayed data boxes in the attached figures or other figures attached to the closure request represent outdated data. Rather, the differences between the data collected in 2013 and 2016 could be due to the fact that the samples were collected at slightly different locations and depths.

If soil in the specific locations described above is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner or right-of-way holder at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.

In addition, all current and future owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Vapor Mitigation or Evaluation (s. 292.12 (2), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code) Vapor intrusion is the movement of vapors coming from volatile chemicals in the soil or groundwater, into buildings where people may breathe air contaminated by the vapors. Vapor mitigation systems are used to interrupt the pathway, thereby reducing or preventing vapors from moving into the building. VOCs, including chlorinated VOCs, remain in soil at several locations beneath and around the buildings, as shown on the **attached maps** (Figure B.2.b, Residual Soil Contamination, Figure B.2.b.1, Residual Soil Contamination Tank L, and Figure B.4.a, and Vapor Intrusion Map) at levels that may be of concern for vapor intrusion in the future, depending on construction and occupancy of a building. Isoconcentration lines on Figure B.4.a are based upon an industrial use scenario. We understand that the existing buildings will be demolished but that additional buildings could be constructed in the area in the future. Therefore, before a building is constructed and/or an existing building is utilized, the property owner must notify the DNR at least 45 days before the change and further assess the potential for vapor intrusion. Vapor control technologies are required for construction of occupied buildings unless the property owner assesses the vapor pathway and DNR agrees that vapor control technologies are not needed.

#### In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats., or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Jason Lowery at (608) 267-7570, or at [jason.lowery@wisconsin.gov](mailto:jason.lowery@wisconsin.gov).

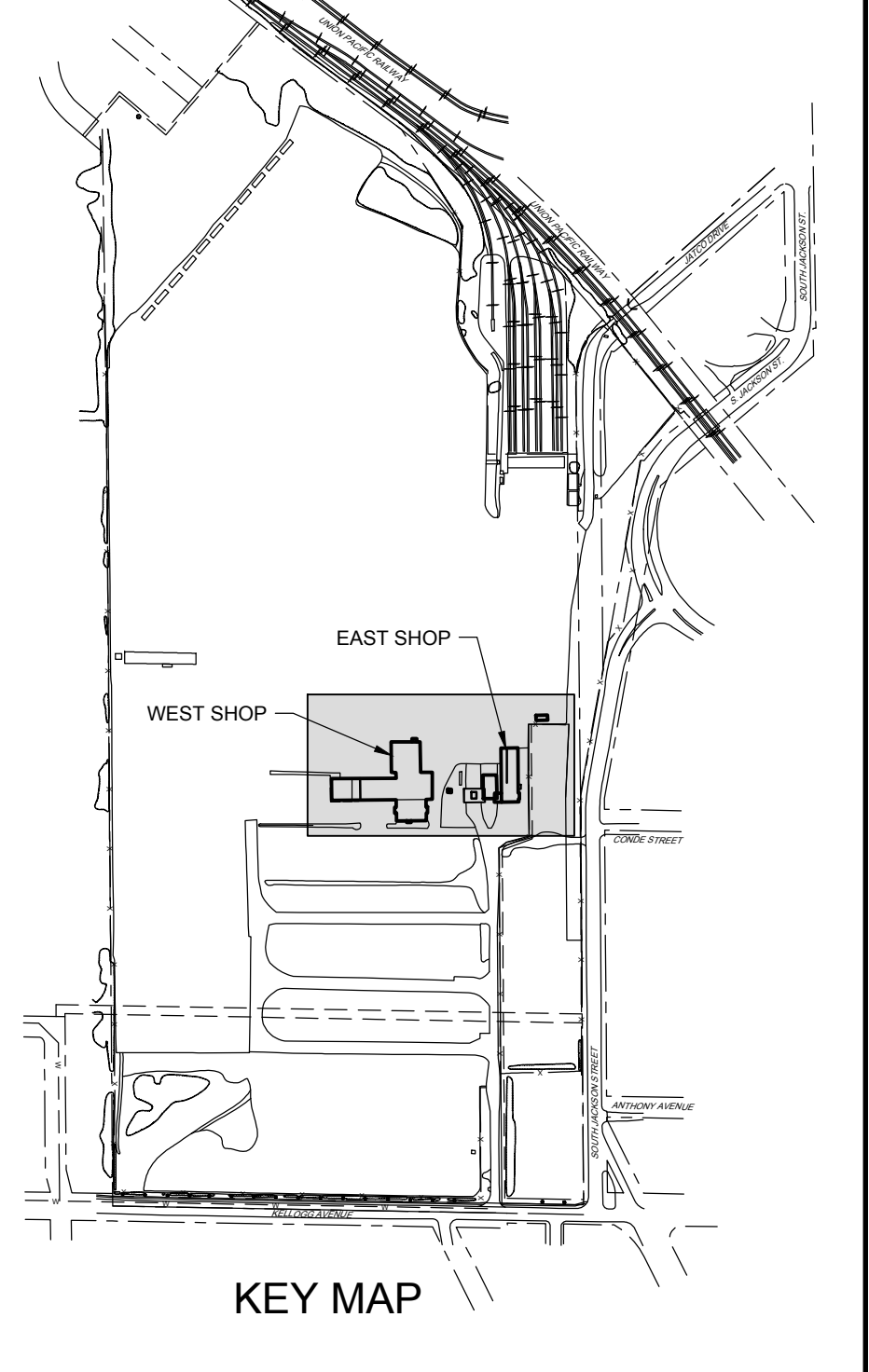
Sincerely,



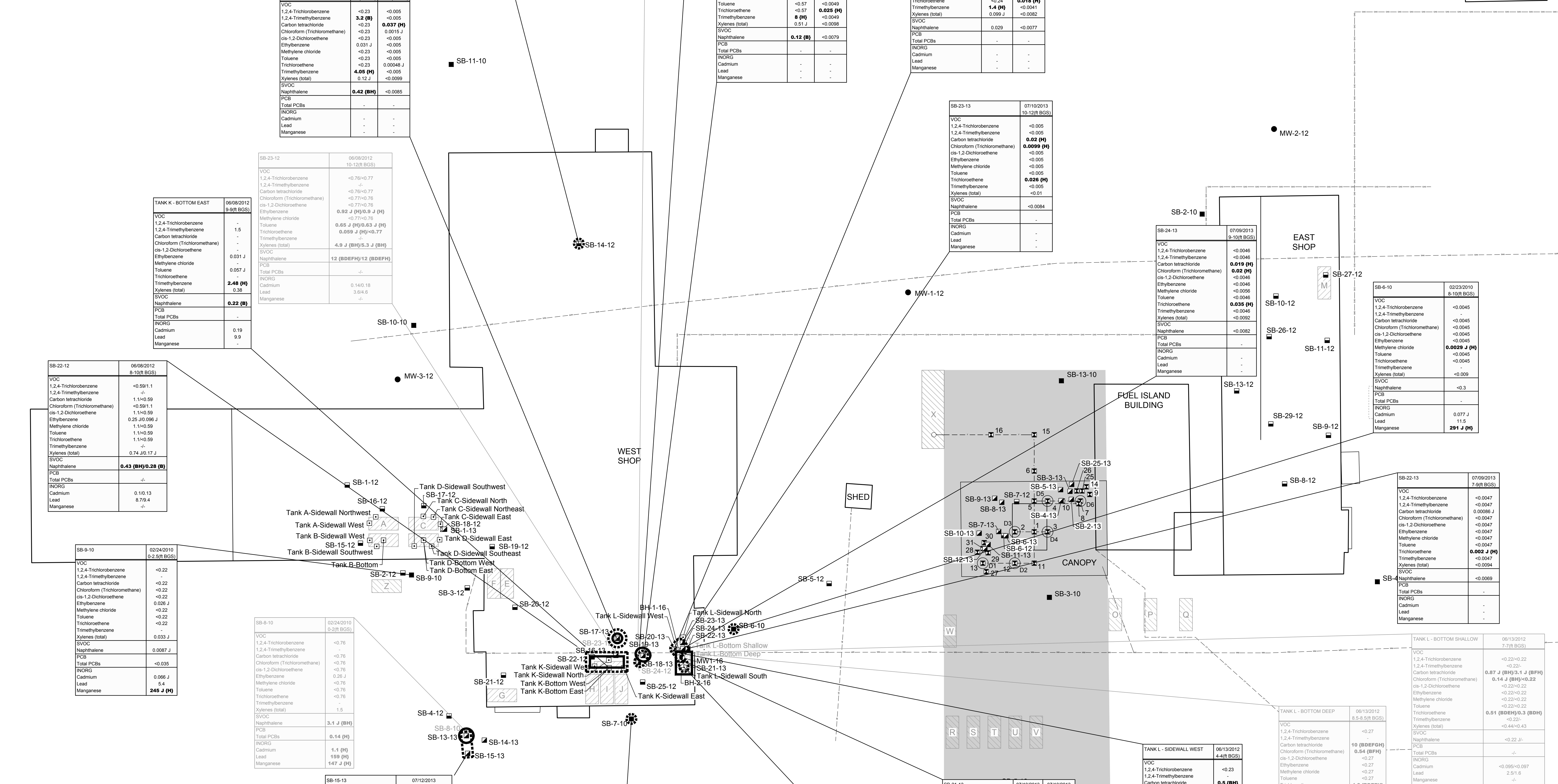
Steven L. Martin  
South Central Region Team Supervisor  
Remediation & Redevelopment Program

Attachments: Figure B.2.b - Residual Soil Contamination  
Figure B.2.b.1 - Residual Sol Contamination Tank L  
Figure B.4.a - Vapor Intrusion Map

Copy: Mauricio Barrera and Glenn Turchan, GHD (email)



KEY MAP



Well ID	Date	Parameter	Value	Unit
SB-16-13	07/09/2013 7.9(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.0053	<0.0053
		1,2,4-Trimethylbenzene	<0.0053	<0.0053
		Carbon tetrachloride	<0.0053	<b>0.016 (H)</b>
		Chloroform (Trichloromethane)	<0.0053	<0.0053
		Ethylbenzene	<0.0053	<0.0053
		Methylene chloride	<0.0053	<0.0053
		Toluene	<0.0053	<0.0053
		Trichloroethene	<b>0.006 (H)</b>	<b>0.0099 (H)</b>
		Xylenes (total)	<0.0053	<0.0053
SB-14-12	06/07/2012 2.4(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.72	<0.96
		1,2,4-Trimethylbenzene	<0.72	<0.96
		Carbon tetrachloride	<0.72	<0.96
		Chloroform (Trichloromethane)	<0.72	<0.96
		cis-1,2-Dichloroethene	<0.72	<0.96
		Ethylbenzene	0.38	0.46 J
		Methylene chloride	<0.72	<0.96
		Toluene	<0.72	<0.96
		Trichloroethene	<0.72	<0.96
SB-17-13	07/10/2013 4.6(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.23	<0.005
		1,2,4-Trimethylbenzene	<b>3.2 (B)</b>	<b>0.037 (H)</b>
		Carbon tetrachloride	<0.23	<0.005
		Chloroform (Trichloromethane)	<0.23	0.0015 J
		cis-1,2-Dichloroethene	<0.23	<0.005
		Ethylbenzene	0.031 J	<0.005
		Methylene chloride	<0.23	<0.005
		Toluene	<0.23	<0.005
		Trichloroethene	<0.23	0.0048 J
SB-23-12	06/08/2012 10-12(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.76	<0.77
		1,2,4-Trimethylbenzene	<0.76	<0.77
		Carbon tetrachloride	<0.76	<0.77
		Chloroform (Trichloromethane)	<0.76	<0.77
		cis-1,2-Dichloroethene	<0.76	<0.77
		Ethylbenzene	0.92 J (H) 0.9 J (H)	0.92 J (H) 0.9 J (H)
		Methylene chloride	<0.76	<0.77
		Toluene	0.65 J (H) 0.3 J (H)	0.65 J (H) 0.3 J (H)
		Trichloroethene	<0.76	<0.77
SB-10-10	07/10/2013 10-12(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.23	<0.005
		1,2,4-Trimethylbenzene	<b>3.2 (B)</b>	<b>0.037 (H)</b>
		Carbon tetrachloride	<0.23	<0.005
		Chloroform (Trichloromethane)	<0.23	0.0015 J
		cis-1,2-Dichloroethene	<0.23	<0.005
		Ethylbenzene	0.031 J	<0.005
		Methylene chloride	<0.23	<0.005
		Toluene	<0.23	<0.005
		Trichloroethene	<0.23	0.0048 J
SB-22-12	06/08/2012 8-10(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.59	1.1
		1,2,4-Trimethylbenzene	<0.59	1.1
		Carbon tetrachloride	<0.59	1.1
		Chloroform (Trichloromethane)	<0.59	1.1
		cis-1,2-Dichloroethene	<0.59	1.1
		Ethylbenzene	0.25	0.096 J
		Methylene chloride	<0.59	1.1
		Toluene	<0.59	1.1
		Trichloroethene	<0.59	1.1
SB-8-10	02/24/2010 0.2-5(B) BGS	VOC		
		1,2,4-Trichlorobenzene	<0.22	<0.22
		1,2,4-Trimethylbenzene	<0.22	<0.22
		Carbon tetrachloride	<0.22	<0.22
		Chloroform (Trichloromethane)	<0.22	<0.22
		cis-1,2-Dichloroethene	<0.22	<0.22
		Ethylbenzene	0.031 J	<0.22
		Methylene chloride	<0.22	<0.22
		Toluene	<0.22	<0.22
		Trichloroethene	<0.22	<0.22

**LEGEND**

- FORMER UNDERGROUND STORAGE TANK REMOVED BY FRP
- FORMER UNDERGROUND STORAGE TANK REMOVED BY OTHERS
- FORMER ABOVEGROUND STORAGE TANK
- FORMER SUPERSEDER
- SOIL BORING LOCATION, CRA, 2010
- SOIL BORING LOCATION, CRA, 2012
- SOIL BORING LOCATION, CRA, 2013
- MONITORING WELL LOCATION, GHD, 2010
- MONITORING WELL LOCATION, GHD, 2012
- SOIL SAMPLE LOCATION, CANNETT FLEMING, 2010
- CONFIRMATORY SAMPLE LOCATION, GHD, 2010
- AREA ASSOCIATED WITH BRRTS # 03-54-00045
- RESULT EXCEEDS CRITERIA INDICATED IN BRACES
- NOT ANALYZED AND NON-DETECTED
- AN EXCEEDANCE OF A DIRECT CONTACT RCL IS INDICATED BY THE RATIO OF THE CONCENTRATION (OR SITE-RELATED) TO THE SCREENING LEVEL EXCEEDS 1.0.
- PARENT RESULT DUPLICATE RESULT
- MLLGRAMS PER PICOGRAM
- FEET BELOW GROUND SURFACE
- BORGES (METALS)
- NRORG
- ESTIMATED CONCENTRATION
- NU
- NO VALUE PROVIDED
- RR BUREAU FOR REMEDIATION AND REDEVELOPMENT
- PCBA POLYCHLORINATED BIPHENYLS
- SVOCs SEMI-VOLATILE ORGANIC COMPOUNDS
- U NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- LUJ NOT DETECTED; ASSOCIATED REPORTING LIMIT IS ESTIMATED
- VOCs VOLATILE ORGANIC COMPOUNDS
- WDRW WISCONSIN DEPARTMENT OF NATURAL RESOURCES
- APPROXIMATE HORIZONTAL EXTENT OF SOIL CONTAMINATION EXCEEDING RCL FOR TO GROUNDWATER PATHWAY
- APPROXIMATE HORIZONTAL EXTENT OF SOIL CONTAMINATION EXCEEDING RCL FOR BASED CRITERIA FOR DIRECT CONTACT (A, C, D, F OR G)
- STORM SEWER \*\*\*
- SANITARY SEWER \*\*\*
- WATER MAIN \*\*\*
- UNDERGROUND TELEPHONE \*\*
- UNDERGROUND ELECTRICAL \*\*
- GAS MAIN \*\*

**NOTE:**

- Site-specific risk-based screening levels are based on a cancer risk and non-cancer hazard quotient of 1E-6 and 0.1, respectively.
- Developed by GDM.
- Developed by GDM consistent with the requirements per ch. NR 720, Wis. Adm. Code and WDRW Risk Publication (RCL) addressing Organic Inclusion at Remediation & Redevelopment Sites in Wisconsin, December 2010.
- The screening levels for Chromium (total) are the criteria provided by the agency for Chromium VI, except for Soil residual contaminant levels. Protective of Groundwater Quality.
- No direct contact (D, F, G) exceedances are present.
- Samples shown on the figure are from the unsaturated zone.

**STORAGE TANKS**

Tank ID	Location	Removal Date	Removal Method
1	A	2002	FRP
2	B	2002	FRP
3	C	2002	FRP
4	D	2002	FRP
5	E	2002	FRP
6	F	2002	FRP
7	G	2002	FRP
8	H	2002	FRP
9	I	2002	FRP
10	J	2002	FRP
11	K	2002	FRP
12	L	2002	FRP
13	M	2002	FRP
14	N	2002	FRP
15	O	2002	FRP
16	P	2002	FRP
17	Q	2002	FRP
18	R	2002	FRP
19	S	2002	FRP
20	T	2002	FRP
21	U	2002	FRP
22	V	2002	FRP
23	W	2002	FRP
24	X	2002	FRP
25	Y	2002	FRP
26	Z	2002	FRP

**TANK L - BOTTOM DEEP**

Parameter	Value	Unit
VOC		
1,2,4-Trichlorobenzene	<0.0047	
1,2,4-Trimethylbenzene	<0.0047	
Carbon tetrachloride	0.0006 J	
Chloroform (Trichloromethane)	<0.0047	
cis-1,2-Dichloroethene	<0.0047	
Ethylbenzene	<0.0047	
Methylene chloride	<0.0047	
Toluene	<0.0047	
Trichloroethene	<0.0047	
Xylenes (total)	<b>0.002 J (H)</b>	
SVOC		
Naphthalene	<0.0094	
PCB		
Total PCBs	<0.0094	
INORG		
Cadmium	0.077 J	
Lead	11.5	
Manganese	<b>291 J (H)</b>	

**TANK L - BOTTOM SHALLOW**

Parameter	Value	Unit
VOC		
1,2,4-Trichlorobenzene	<0.22	<0.22
1,2,4-Trimethylbenzene	<0.22	<0.22
Carbon tetrachloride	0.67 J (BH) 3.1 J (BFH)	
Chloroform (Trichloromethane)	0.14 J (BH) 0.22	
cis-1,2-Dichloroethene	<0.22	<0.22
Ethylbenzene	<0.22	<0.22
Methylene chloride	<0.22	<0.22
Toluene	<0.22	<0.22
Trichloroethene	<0.22	<0.22
Xylenes (total)	0.51 (BDEPH) 0.3 (BDH)	
SVOC		
Naphthalene	<0.44	<0.43
PCB		
Total PCBs	<0.22	J
INORG		
Cadmium	<0.22	J
Lead	<0.22	J
Manganese	<0.22	J

**SCALE VERIFICATION**

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

**FORMER HAUL-AWAY YARD  
JANESVILLE, WISCONSIN**

**RESIDUAL  
SOIL CONTAMINATION**

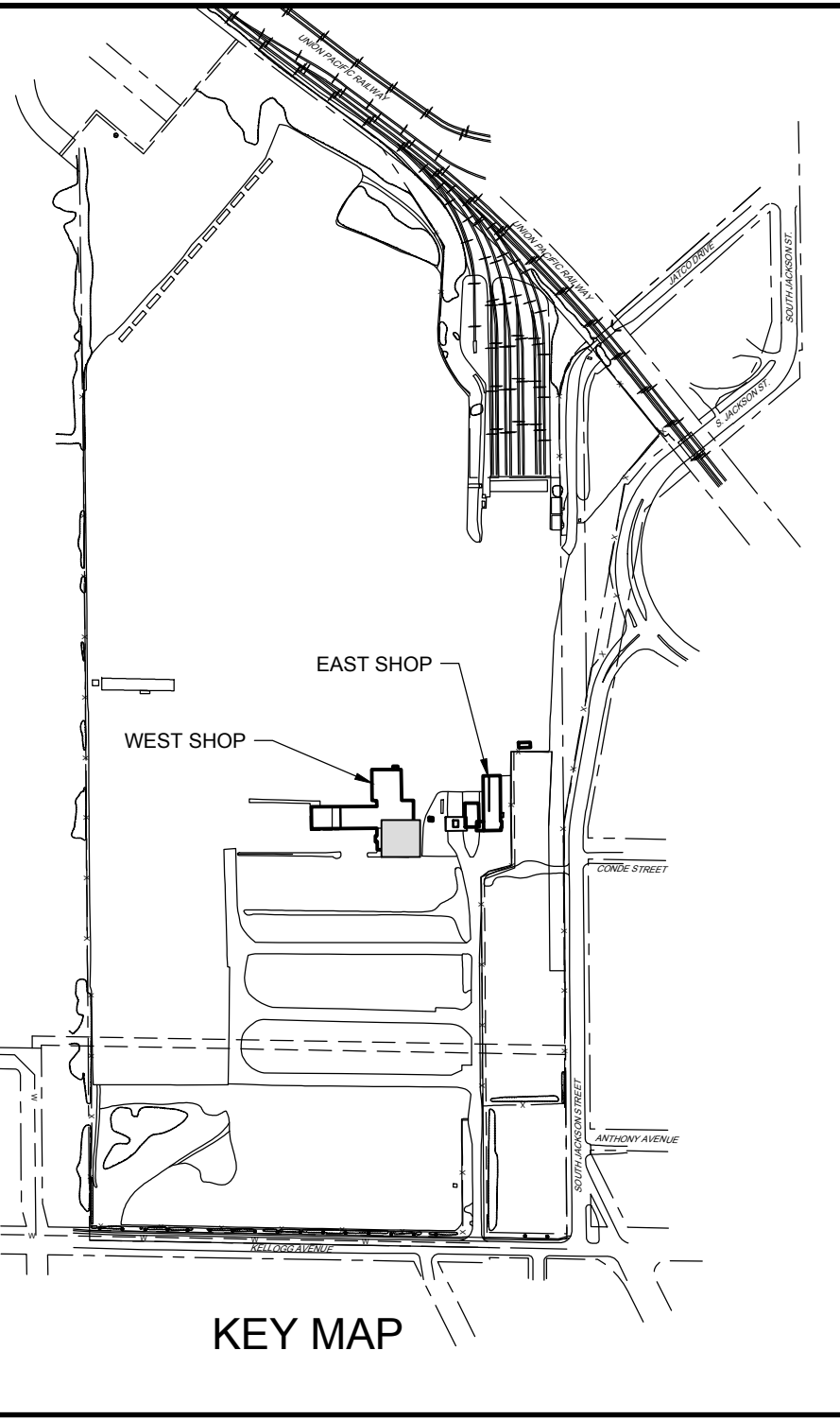
**GHD**

Source Reference:  
CROWN SERVICES GROUP, CSO JOB NUMBER: 10201.01, DATE: 03/08/2011.

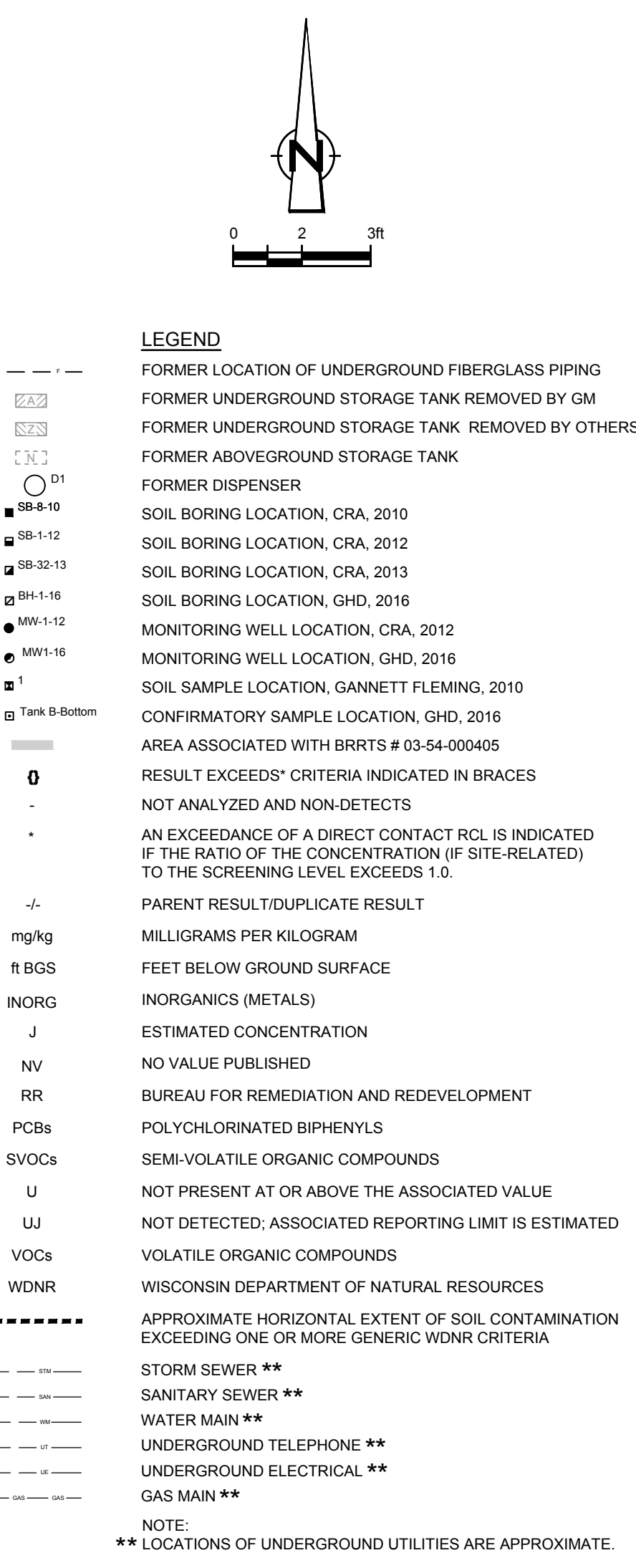
Project Manager: M. BARRERA | Reviewed By: M. BARRERA | Date: MARCH 2017

Scale: AS SHOWN | Project No: 77493-01 | Report No: 005 | Drawing No: figure B.2 b

77493-01(05)GN-WA038 JUL 30, 2017



Chemical	Site-specific Risk-based Screening Levels <sup>(1)</sup>							WDR Crs
	A	B	C	D	E	F	G	
VOC	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	30	0.087	75	28	3.6	22	99	0.2
Carbon tetrachloride	11	0.2	54	8.9	3.4	0.85	4.3	0.0019
Chloroform (Trichloromethane)	3.7	0.053	15	2.6	0.89	0.42	2.1	0.0017
cis-1,2-Dichloroethene	200	NV	1700	1000	NV	160	2000	0.021
Ethylbenzene	2600	43	5700	1100	250	7.5	37	0.79
Methylene chloride	480	26	1900	83	120	61	1100	0.0013
Toluene	5400	220	20000	970	1100	820	820	0.55
Trichloroethene	8.7	0.087	10	9.2	0.41	1.3	8.8	0.0018
Trimethylbenzene (mixed isomers)	NV	NV	NV	NV	NV	NV	NV	0.69
Xylenes (total)	340	4.3	590	43	24	260	260	2
SVOC	-	-	-	-	-	-	-	-
Naphthalene	16	0.074	99	5.5	3.5	5.2	26	0.33
PCB	-	-	-	-	-	-	-	-
Total PCBs	0.72	1.3	8.9	1.7	6	0.21	0.71	0.0047
INORG	-	-	-	-	-	-	-	-
Cadmium	80	NV	350	45	NV	70	800	0.38
Lead	2700	NV	NV	NV	400	800	800	14
Manganese	9700	NV	3500	410	NV	1800	23000	20



SB-23-13	07/10/2013	07/10/2013
10-12(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.005 U	
1,2,4-Trimethylbenzene	0.005 U	
Carbon tetrachloride	<b>0.02 (H)</b>	
Chloroform (Trichloromethane)	<b>0.0099 (H)</b>	
cis-1,2-Dichloroethene	0.005 U	
Ethylbenzene	0.005 U	
Methylene chloride	0.005 U	
Toluene	0.005 U	
Trichloroethene	<b>0.026 (H)</b>	
Trimethylbenzene	0.005 U	
Xylenes (total)	0.01 U	
SVOC		
Naphthalene	0.0084 U	
PCB		
Total PCBs	-	
INORG		
Cadmium	-	
Lead	-	
Manganese	-	

SB-24-13	07/09/2013	07/09/2013
9-10(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.0046 U	
1,2,4-Trimethylbenzene	0.0046 U	
Carbon tetrachloride	<b>0.019 (H)</b>	
Chloroform (Trichloromethane)	<b>0.02 (H)</b>	
cis-1,2-Dichloroethene	0.0046 U	
Ethylbenzene	0.0046 U	
Methylene chloride	0.0056 U	
Toluene	0.0046 U	
Trichloroethene	<b>0.035 (H)</b>	
Trimethylbenzene	0.0046 U	
Xylenes (total)	0.0092 U	
SVOC		
Naphthalene	0.0082 U	
PCB		
Total PCBs	-	
INORG		
Cadmium	-	
Lead	-	
Manganese	-	

SB-22-13	07/09/2013	07/09/2013
7-9(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.0047 U	
1,2,4-Trimethylbenzene	0.0047 U	
Carbon tetrachloride	0.00086 J	
Chloroform (Trichloromethane)	0.0047 U	
cis-1,2-Dichloroethene	0.0047 U	
Ethylbenzene	0.0047 U	
Methylene chloride	0.0047 U	
Toluene	0.0047 U	
Trichloroethene	<b>0.002 J (H)</b>	
Trimethylbenzene	0.0047 U	
Xylenes (total)	0.0094 U	
SVOC		
Naphthalene	0.0069 U	
PCB		
Total PCBs	-	
INORG		
Cadmium	-	
Lead	-	
Manganese	-	

SB-20-13	07/10/2013	07/10/2013
7-9(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.24 U	0.0041 U
1,2,4-Trimethylbenzene	1.1	0.0041 U
Carbon tetrachloride	0.24 U	<b>0.012 (H)</b>
Chloroform (Trichloromethane)	0.24 U	<b>0.0074 (H)</b>
cis-1,2-Dichloroethene	<b>0.028 J (H)</b>	0.0041 U
Ethylbenzene	0.014 J	0.0041 U
Methylene chloride	0.24 U	0.0041 U
Toluene	0.24 U	0.0041 U
Trichloroethene	0.24 U	<b>0.018 (H)</b>
Trimethylbenzene	0.24 U	0.0041 U
Xylenes (total)	<b>1.4 (H)</b>	0.0099 J
SVOC		
Naphthalene	0.029	0.0077 U
PCB		
Total PCBs	-	-
INORG		
Cadmium	-	-
Lead	-	-
Manganese	-	-

TANK K - BOTTOM WEST	06/13/2012	06/13/2012
9-10(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.0059 U	
1,3,5-Trimethylbenzene	0.0059 U	
Ethylbenzene	0.0059 U	
Toluene	0.0059 U	
Trimethylbenzene	0.0059 U	
Xylenes (total)	0.012 U	
SVOC		
Naphthalene	0.0059 U	
INORG		
Arsenic	1.4	
Cadmium	0.23	
Lead	4	

- NOTES:  
 1. Site-specific risk-based screening levels are based on a cancer risk and non-cancer hazard quotient of 1E-6 and 0.1, respectively.  
 2. Developed by GM.  
 3. Developed by GM consistent with the requirements per ch. NR 720, Wis. Adm. Code and WDR KR Publication (PUB) KR 800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", December 2010.  
 4. The screening levels for Chromium (total) are the criteria provided by the agency for Chromium VI, except for Soil residual contaminant levels - Protective of Groundwater Quality.  
 5. No direct contact (to to 4ft) RCL exceedances are present.  
 6. Samples shown on the figure are from the unsaturated zone.

#	QTY	TANK DESCRIPTION	RESIDUAL DETAILS	ANNEVILLE FIRE DEPARTMENT ID
1	K	1000-GALLON	NEW OIL C/S/0212	2
2	B	1000-GALLON	NEW OIL C/S/0212	4
3	B	1000-GALLON	NEW OIL C/S/0212	2
4	D	1000-GALLON	NEW OIL C/S/0212	2
5	E	1000-GALLON	NEW OIL C/S/0212	6
6	H	1000-GALLON	NEW OIL C/S/0212	10A
7	G	1000-GALLON	NEW OIL C/S/0212	10B
8	H	1000-GALLON	NEW OIL C/S/0212	10C
9	J	1000-GALLON	NEW OIL C/S/0212	10D
10	H	1000-GALLON	NEW OIL C/S/0212	10E
11	K	1000-GALLON	NEW OIL C/S/0212	10F
12	M	1000-GALLON	NEW OIL C/S/0212	10G
13	N	1000-GALLON	NEW OIL C/S/0212	10H
14	N	1000-GALLON	NEW OIL C/S/0212	10I
15	N	1000-GALLON	NEW OIL C/S/0212	10J
16	N	1000-GALLON	NEW OIL C/S/0212	10K
17	N	1000-GALLON	NEW OIL C/S/0212	10L
18	N	1000-GALLON	NEW OIL C/S/0212	10M
19	N	1000-GALLON	NEW OIL C/S/0212	10N
20	N	1000-GALLON	NEW OIL C/S/0212	10O
21	N	1000-GALLON	NEW OIL C/S/0212	10P
22	N	1000-GALLON	NEW OIL C/S/0212	10Q
23	N	1000-GALLON	NEW OIL C/S/0212	10R
24	N	1000-GALLON	NEW OIL C/S/0212	10S
25	N	1000-GALLON	NEW OIL C/S/0212	10T
26	N	1000-GALLON	NEW OIL C/S/0212	10U
27	N	1000-GALLON	NEW OIL C/S/0212	10V
28	N	1000-GALLON	NEW OIL C/S/0212	10W

New Location	Previous Location	Chemical
SB-13-13	SB-18-12	Chromium
SB-16-13	SB-8-10	VOCs/SVOCs
SB-18-13	SB-23-12	VOCs/SVOCs
SB-19-13	SB-24-12	VOCs/SVOCs
SB-24-13	Tank L - Bottom Deep	VOCs/SVOCs
SB-24-13	Tank L - Bottom Shallow	VOCs/SVOCs
SB-10-10 REPLACED SOIL BORING LOCATION		

TANK L - BOTTOM DEEP	06/13/2012	06/13/2012
8.5-8.5(ft BGS)		
VOC		
Carbon tetrachloride	10 (BDEFHG)	
Chloroform (Trichloromethane)	0.54 (BDEFH)	
Trichloroethene	1.8 (BDEFH)	
INORG		
Cadmium	0.45 (H)	

GRAYED DATABASES INDICATE OLDER SAMPLES THAT DO NOT REPRESENT CURRENT CONDITIONS FOR LISTED CHEMICAL.

TANK L - SIDEWALL WEST	06/13/2012	06/13/2012
4-4(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.23 U	
1,2,4-Trimethylbenzene	-	
Carbon tetrachloride	<b>0.5 (BH)</b>	
Chloroform (Trichloromethane)	<b>0.02 J (H)</b>	
cis-1,2-Dichloroethene	0.23 U	
Ethylbenzene	0.23 U	
Methylene chloride	0.23 U	
Toluene	0.23 U	
Trichloroethene	<b>0.2 J (BH)</b>	
Trimethylbenzene	-	
Xylenes (total)	0.46 U	
SVOC		
Naphthalene	-	
PCB		
Total PCBs	-	
INORG		
Cadmium	0.097 U	
Lead	4.5	
Manganese	-	

SB-21-13	07/10/2013	07/10/2013
7-9(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.0045 U	0.0053 U
1,2,4-Trimethylbenzene	0.0045 U	0.0053 U
Carbon tetrachloride	<b>0.0092 (H)</b>	<b>0.034 (H)</b>
Chloroform (Trichloromethane)	<b>0.0069 (H)</b>	<b>0.019 (H)</b>
cis-1,2-Dichloroethene	0.0045 U	0.0053 U
Ethylbenzene	0.0045 U	0.0053 U
Methylene chloride	0.0045 U	0.0053 U
Toluene	0.0045 U	0.0053 U
Trichloroethene	<b>0.019 (H)</b>	<b>0.046 (H)</b>
Trimethylbenzene	0.0045 U	0.0053 U
Xylenes (total)	0.009 U	0.011 U
SVOC		
Naphthalene	0.008 U	0.0084 U
PCB		
Total PCBs	-	-
INORG		
Cadmium	-	-
Lead	-	-
Manganese	-	-

TANK L SIDEWALL SOUTH	06/13/2012	06/13/2012
4-4(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.21 U	
1,2,4-Trimethylbenzene	0.21 U	
Carbon tetrachloride	<b>0.59 (BH)</b>	
Chloroform (Trichloromethane)	<b>0.02 J (H)</b>	
cis-1,2-Dichloroethene	0.21 U	
Ethylbenzene	0.21 U	
Methylene chloride	0.21 U	
Toluene	0.21 U	
Trichloroethene	<b>1.8 (BDEFH)</b>	
Trimethylbenzene	-	
Xylenes (total)	0.43 U	
SVOC		
Naphthalene	-	
PCB		
Total PCBs	-	-
INORG		
Cadmium	0.099 U	
Lead	2.8	
Manganese	-	

TANK L - BOTTOM SHALLOW	06/13/2012	06/13/2012
7-7(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.22 U/0.22 U	
1,2,4-Trimethylbenzene	0.22 U/-	
Carbon tetrachloride	<b>0.87 J (BH); 3.1 J (BFH)</b>	
Chloroform (Trichloromethane)	<b>0.14 J (BH); 0.22 U</b>	
cis-1,2-Dichloroethene	0.22 U/0.22 U	
Ethylbenzene	0.22 U/0.22 U	
Methylene chloride	0.22 U/0.22 U	
Toluene	0.22 U/0.22 U	
Trichloroethene	<b>0.51 (BDEH); 0.3 (BDH)</b>	
Trimethylbenzene	0.22 U/-	
Xylenes (total)	0.44 U/0.43 U	
SVOC		
Naphthalene	0.22 U/-	
PCB		
Total PCBs	-/-	
INORG		
Cadmium	0.095 U/0.097 U	
Lead	2.5/1.6	
Manganese	-/-	

TANK L - BOTTOM DEEP	06/13/2012	06/13/2012
8.5-8.5(ft BGS)		
VOC		
1,2,4-Trichlorobenzene	0.27 U	
1,2,4-Trimethylbenzene	-	
Carbon tetrachloride	<b>10 (BDEFHG)</b>	
Chloroform (Trichloromethane)	<b>0.54 (BFFH)</b>	
cis-1,2-Dichloroethene	0.27 U	
Ethylbenzene	0.27 U	
Methylene chloride	0.27 U	
Toluene	0.27 U	
Trichloroethene	<b>1.8 (BDEFH)</b>	
Trimethylbenzene	-	
Xylenes (total)	0.54 U	
SVOC		
Naphthalene	-	
PCB		
Total PCBs	-	-
INORG		
Cadmium	0.45 (H)	
Lead	15	
Manganese	-	

SCALE VERIFICATION  
THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

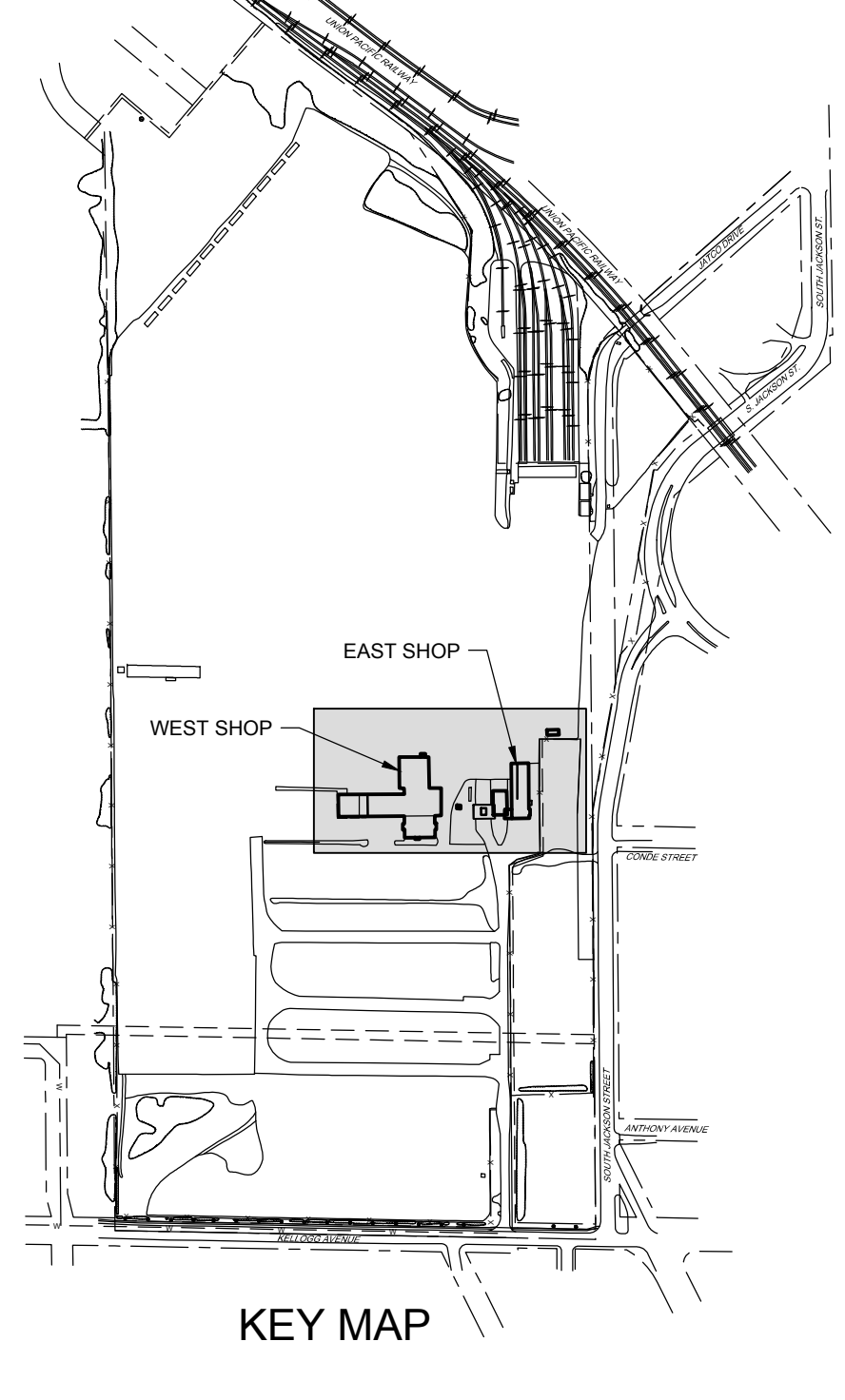
FORMER HAUL-AWAY YARD  
JANESVILLE, WISCONSIN

RESIDUAL  
SOIL CONTAMINATION  
TANK L



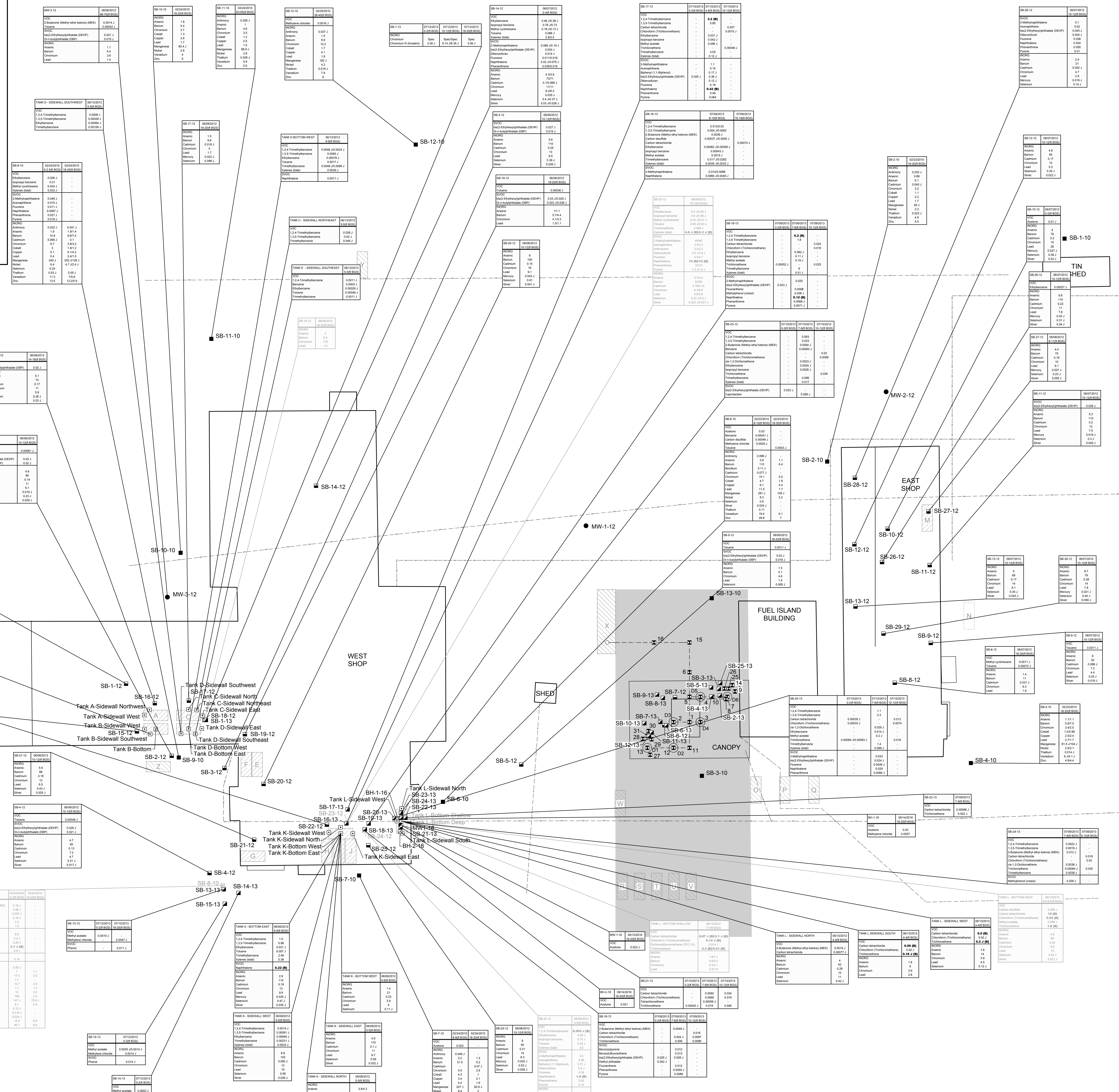
Source Reference:  
CROWN SERVICES GROUP, CSJ JOB NUMBER: 102011, DATE: 03/09/2011.

Project Manager:	M. BARRERA	Reviewed By:	M. BARRERA	Date:	APRIL 2017
Scale:	AS SHOWN	Project No.:	77493-01	Report No.:	005



KEY MAP

Sample ID	Depth (ft)	Parameter	Result	Unit
SB-1-12	0.000 J	VOC	0.000 J	10-128 BGS
		1,2,4-Trinitrobenzene	0.000 J	
		1,3,5-Trinitrobenzene	0.000 J	
		2,4-Dinitrochlorobenzene (DNC)	0.000 J	
		2,6-Dinitrochlorobenzene (DNC)	0.000 J	
		1,4-Dichlorobenzene (DCB)	0.000 J	
		1,2-Dichloroethane (DCE)	0.000 J	
		1,1,1-Trichloroethane (TCA)	0.000 J	
		1,1,2-Trichloroethane (TCE)	0.000 J	
		Trichloroethylene (TCE)	0.000 J	
SB-1-10	0.000 J	VOC	0.000 J	10-128 BGS
		1,2,4-Trinitrobenzene	0.000 J	
		1,3,5-Trinitrobenzene	0.000 J	
		2,4-Dinitrochlorobenzene (DNC)	0.000 J	
		2,6-Dinitrochlorobenzene (DNC)	0.000 J	
		1,4-Dichlorobenzene (DCB)	0.000 J	
		1,2-Dichloroethane (DCE)	0.000 J	
		1,1,1-Trichloroethane (TCA)	0.000 J	
		1,1,2-Trichloroethane (TCE)	0.000 J	
		Trichloroethylene (TCE)	0.000 J	



**LEGEND**

- FORMER LOCATION OF UNDERGROUND FIBERGLASS PIPING
- FORMER UNDERGROUND STORAGE TANK REMOVED BY GM
- FORMER ABOVEGROUND STORAGE TANK
- FORMER UNDERSEWER
- SOIL BORING LOCATION, CRA, 2010
- SOIL BORING LOCATION, CRA, 2012
- SOIL BORING LOCATION, CRA, 2013
- SOIL BORING LOCATION, GHD, 2016
- MONITORING WELL LOCATION, CRA, 2012
- MONITORING WELL LOCATION, GHD, 2016
- SOIL SAMPLE LOCATION, GANNETT FLEMING, 2010
- CONFIRMATORY SAMPLE LOCATION, GHD, 2016
- AREA ASSOCIATED WITH BRRT'S # 03-54-00045
- RESULT EXCEEDS CRITERIA INDICATED IN BRACES
- NOT ANALYZED AND NON-DETECTS
- AN EXCESSIVE IS INDICATED BY THE RATIO OF THE CONCENTRATION OF SITE-RELATED TO THE SCREENING LEVEL EXCEEDS 1.0.
- PARENT RESULT DUPLICATE RESULT
- MILIGRAMS PER KILOGRAM
- FEET BELOW GROUND SURFACE
- GENERAL MOTORS LLC
- INORGANICS (METALS)
- ESTIMATED CONCENTRATION
- NO VALUE PUBLISHED
- BUREAU FOR REMEDIATION AND REDEVELOPMENT
- POLYCHLORINATED BIENYLS
- SEMIVOLATILE ORGANIC COMPOUNDS
- NOT PRESENT AT OR ABOVE THE ASSOCIATED VALUE
- NOT DETECTED, ASSOCIATED REPORTING LIMIT IS ESTIMATED
- VOLATILE ORGANIC COMPOUNDS
- WISCONSIN DEPARTMENT OF NATURAL RESOURCES
- WISCONSIN ADMINISTRATIVE CODE
- APPROXIMATE HORIZONTAL EXTENT OF SOIL CONTAMINATION EXCEEDING RISK BASED CRITERIA
- STORM SEWER \*\*
- SANITARY SEWER \*\*
- WATER MAIN \*\*
- UNDERGROUND TELEPHONE \*\*
- UNDERGROUND ELECTRICAL \*\*
- GAS MAIN \*\*

NOTE: \*\* LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE.

**SAMPLE IDENTIFIER**

Sample ID	Depth (ft)	Parameter	Result	Unit
SB-11-12	0.000 J	VOC	0.000 J	10-128 BGS
SB-11-12	0.000 J	1,2,4-Trinitrobenzene	0.000 J	
SB-11-12	0.000 J	1,3,5-Trinitrobenzene	0.000 J	
SB-11-12	0.000 J	2,4-Dinitrochlorobenzene (DNC)	0.000 J	
SB-11-12	0.000 J	2,6-Dinitrochlorobenzene (DNC)	0.000 J	
SB-11-12	0.000 J	1,4-Dichlorobenzene (DCB)	0.000 J	
SB-11-12	0.000 J	1,2-Dichloroethane (DCE)	0.000 J	
SB-11-12	0.000 J	1,1,1-Trichloroethane (TCA)	0.000 J	
SB-11-12	0.000 J	1,1,2-Trichloroethane (TCE)	0.000 J	
SB-11-12	0.000 J	Trichloroethylene (TCE)	0.000 J	

**STORAGE TANKS**

Tank ID	Tank Description	Removal Details	Annulment Permit
1	300-GALON TANK	REMOVED	2
2	300-GALON TANK	REMOVED	2
3	300-GALON TANK	REMOVED	2
4	300-GALON TANK	REMOVED	2
5	300-GALON TANK	REMOVED	2
6	300-GALON TANK	REMOVED	2
7	300-GALON TANK	REMOVED	2
8	300-GALON TANK	REMOVED	2
9	300-GALON TANK	REMOVED	2
10	300-GALON TANK	REMOVED	2
11	300-GALON TANK	REMOVED	2
12	300-GALON TANK	REMOVED	2
13	300-GALON TANK	REMOVED	2
14	300-GALON TANK	REMOVED	2
15	300-GALON TANK	REMOVED	2
16	300-GALON TANK	REMOVED	2
17	300-GALON TANK	REMOVED	2
18	300-GALON TANK	REMOVED	2
19	300-GALON TANK	REMOVED	2
20	300-GALON TANK	REMOVED	2
21	300-GALON TANK	REMOVED	2
22	300-GALON TANK	REMOVED	2
23	300-GALON TANK	REMOVED	2
24	300-GALON TANK	REMOVED	2
25	300-GALON TANK	REMOVED	2
26	300-GALON TANK	REMOVED	2
27	300-GALON TANK	REMOVED	2
28	300-GALON TANK	REMOVED	2
29	300-GALON TANK	REMOVED	2
30	300-GALON TANK	REMOVED	2

**TANK L - BOTTOM DEEP**

Parameter	Result	Unit
VOC	0.000 J	10-128 BGS
1,2,4-Trinitrobenzene	0.000 J	
1,3,5-Trinitrobenzene	0.000 J	
2,4-Dinitrochlorobenzene (DNC)	0.000 J	
2,6-Dinitrochlorobenzene (DNC)	0.000 J	
1,4-Dichlorobenzene (DCB)	0.000 J	
1,2-Dichloroethane (DCE)	0.000 J	
1,1,1-Trichloroethane (TCA)	0.000 J	
1,1,2-Trichloroethane (TCE)	0.000 J	
Trichloroethylene (TCE)	0.000 J	

**SCALE VERIFICATION**

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

**FORMER HAUL-AWAY YARD JANSVILLE, WISCONSIN**

**VAPOR INTRUSION MAP**

Source Reference: CROWN SERVICES GROUP, CSO JOB NUMBER: 102011, DATE: 03/09/2011.

Project Manager: M. BARRERA | Reviewed By: M. BARRERA | Date: JANUARY 2017

Scale: AS SHOWN | Project No: 77493-01 | Report No: 005 | Drawing No: figure B.a.8

1. Site-specific risk-based screening levels are based on a cancer risk and non-cancer hazard quotient of 1E-6 and 1.0, respectively. Developed by GHD consistent with the requirements per ch. NR 720, Wis. Adm. Code and WDNR RR Publication (PUB) RR-600 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin", December 2010.

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Allied Systems / Former Haul-Away Yard	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> E. <input type="checkbox"/> S. <input type="checkbox"/> W.	Well Name MW-3-12
Facility License, Permit or Monitoring No. N/A	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. _____ " Long. _____ " or	Wis. Unique Well No. VM585   DNR Well Number 585
Facility ID 154062810	St. Plane 258,480 ft. N, 493,289 ft. E. S/C/N	Date Well Installed 06/07/2012
Type of Well Well Code 11/mw	Section Location of Waste/Source NE 1/4 of NW 1/4 of Sec. 12, T. 2 N, R. 12 <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) Don Tonnancour
Distance from Waste/Source 60 ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input checked="" type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number
Enf. Stds. Apply <input type="checkbox"/>		Major Drilling

A. Protective pipe, top elevation	836.00 ft. MSL	1. Cap and lock?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation	835.73 ft. MSL	2. Protective cover pipe:	
C. Land surface elevation	836.0 ft. MSL	a. Inside diameter:	8.0 in.
D. Surface seal, bottom	836.0 ft. MSL or 1.0 ft.	b. Length:	1.0 ft.
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>  13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 ROTOSONIC <input checked="" type="checkbox"/> Other <input type="checkbox"/>  15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99 16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____ 17. Source of water (attach analysis, if required): Potable		c. Material:	Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
		d. Additional protection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: flushmount 8" road box
		3. Surface seal:	Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
		4. Material between well casing and protective pipe:	Bentonite <input checked="" type="checkbox"/> 30 Other <input type="checkbox"/>
E. Bentonite seal, top	836.0 ft. MSL or 57.9 ft.	5. Annular space seal:	
F. Fine sand, top	836.0 ft. MSL or 63.0 ft.	a. Granular/Chipped Bentonite <input type="checkbox"/> 33	
G. Filter pack, top	836.0 ft. MSL or 65.2 ft.	b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35	
H. Screen joint, top	836.0 ft. MSL or 67.5 ft.	c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 31	
I. Well bottom	836.0 ft. MSL or 80.0 ft.	d. 50 % Bentonite . . . Bentonite-cement grout <input checked="" type="checkbox"/> 50	
J. Filter pack, bottom	836.0 ft. MSL or 78.0 ft.	e. _____ Ft <sup>3</sup> volume added for any of the above	
K. Borehole, bottom	836.0 ft. MSL or 80.0 ft.	f. How installed:	Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
L. Borehole, diameter	6.0 in.	6. Bentonite seal:	
M. O.D. well casing	2.00 in.	a. Bentonite granules <input type="checkbox"/> 33	
N. I.D. well casing	2.00 in.	b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 32	
		c. _____ Other <input type="checkbox"/>	
		7. Fine sand material: Manufacturer, product name & mesh size	
		a. _____	
		b. Volume added _____ ft <sup>3</sup>	
		8. Filter pack material: Manufacturer, product name & mesh size	
		a. #2 Sand	
		b. Volume added 1.6 ft <sup>3</sup>	
		9. Well casing:	Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
		10. Screen material: PVC	
		a. Screen Type:	Factory cut <input type="checkbox"/> 11 Continuous slot <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
		b. Manufacturer _____	
		c. Slot size:	0.010 in.
		d. Slotted length:	10.5 ft.
		11. Backfill material (below filter pack):	None <input checked="" type="checkbox"/> 14 Bentonite Chips <input type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature: *Marta Thompson* Firm: Conestoga-Rovers & Associates Tel: \_\_\_\_\_ Fax: \_\_\_\_\_

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <b>Allied Systems / Former Haul-Away Yard</b>	County <b>Rock</b>	Well Name <b>MW-1-12</b>	
Facility License, Permit or Monitoring Number <b>N/A</b>	County Code <b>54</b>	Wis. Unique Well Number <b>VM586</b>	DNR Well Number <b>586</b>

1. Can this well be purged dry?  Yes  No

2. Well development method:
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed, and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - other  XXXX

3. Time spent developing well \_\_\_\_\_ min.

4. Depth of well (from top of well casing) \_\_\_\_\_ ft.

5. Inside diameter of well \_\_\_\_\_ 71.4 in.

6. Volume of water in filter pack and well casing \_\_\_\_\_ 1.1 gal.

7. Volume of water removed from well \_\_\_\_\_ 25.0 gal.

8. Volume of water added (if any) \_\_\_\_\_ gal.

9. Source of water added \_\_\_\_\_

10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

17. Additional comments on development:

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. <b>64.70 ft.</b>	ft.
Date	b. <b>6/9/2012</b>	
Time	c. <b>12:00</b> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <b>398 NTU, Brown</b>	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe) <b>9.3 NTU, Clear</b>

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

15. COD \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

16. Well developed by: Person's Name and Firm

**Rob Redman**  
**Conestoga-Rovers & Associates**

Facility Address or Owner/Responsible Party Address

Name: Former Haul Away Yard/ Allied Systems Ltd

Firm: GM LLC

Street: 300 Renaissance Center M/C: 482-30C-96C

City/State/Zip: Detroit, Michigan 48265

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: *Martha Thompson*

Print Name: MARTHA F. THOMPSON

Firm: Conestoga-Rovers & Associates