



Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200 Mequon WI 53092

May 17, 2017

Attention: Valerie Joosten
Waste Management Engineer
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

**Reference: Application for Low Hazard Waste Exemption for Reuse of
Concrete Coated with Lead-Bearing Paint
Former Mirro Plant #9 Building
1512 Washington Street
Manitowoc, Wisconsin
Stantec Project No. 193703931**

Dear Ms. Joosten:

On behalf of the Community Development Authority of the City of Manitowoc (City), Stantec Consulting Services (Stantec) has completed the enclosed application for a low hazard waste exemption to allow for reuse of concrete/brick coated with lead-bearing paint at the former Mirro Plant #9 building located at 1512 Washington Street in the City of Manitowoc, Wisconsin (herein referred to as the Site). The following presents an outline of the required documents included in this cover letter:

Attachment 1 – Form 4400-274
Attachment 2 – Site Basemaps
Attachment 3 – Analytical Testing Results Summary from Stantec (2017)
Attachment 4 – Volume Estimates
Attachment 5 – Brandenburg (2017) Demolition Plans
Attachment 6 – Proposed Reuse Areas

Project Narrative

The City has retained Brandenburg Industrial Services Company (Brandenburg) to demolish the multi-story former industrial buildings remaining at the Site. As described in Stantec (2016b and 2017), porous building materials are painted with lead-bearing paint; therefore, the majority of the demolition debris will be disposed of offsite at the Waste Management solid waste landfill located in Whitelaw, Wisconsin.

Site features described by Stantec (2016a), if ignored, could pose a significant health and safety concern during and following building demolition. As illustrated on Figure 4 provided in Attachment 6, the City seeks to reuse a relatively small quantity of painted cementous material to:

- Fill the sub-grade coil boiler room (650 cubic yards)
- Backfill vaults/pits to prevent collapse (640 cubic yards),
- Backfill the heat treat pit (350 cubic yards),
- Backfill apparent anomalies consistent with voids to prevent collapse (350 cubic yards),
and



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- Fill tunnel access-ways to eliminate entrance into the subsurface service tunnel network following building demolition (650 cubic yards).

Pursuant to City code, the concrete floor of each feature, if present, will be broken to prevent ponding of rain water in the backfill. However, breaking the bottom of the identified features is not likely to significantly contribute to nor exacerbate the potential migration of subsurface impacts as existing site-wide cracks/fractures in the concrete building slabs currently serve as possible rainwater infiltration conduits throughout the Site. The existing cracks in the building slabs are likely to continue to serve as possible conduits for infiltration of rainwater following building demolition and decommissioning of the onsite storm water conveyance network. A subsurface site investigation (SI) will be conducted per ch. NR 716 Wisconsin Administrative Code requirements immediately following demolition activities to confirm breaking the floor of the features and backfilling with painted material has not exacerbated subsurface soil and/or groundwater impacts.

A description of the schedule and means/methods for this work provided by Brandenburg are included in Attachment 5 along with the Brandenburg dust control plan. The painted cementous materials will be placed by Brandenburg in each location described above to fill the structures to within 4-inches of the surrounding ground surface. The features will be brought to grade with non-painted Cementous material (for example brick from the exterior of the south building) to create a temporary engineered barrier/cover. The temporary barrier/cover will serve to mitigate the short-term risk to the environment, public health, safety, and welfare. Site access will be restricted with a perimeter fence.

As noted above, a SI will be conducted per ch. NR 716 Wisconsin Administrative Code requirements immediately following demolition activities. Based on the results of the SI, appropriate measures will be assessed to facilitate case closure and redevelopment of the site. We anticipate that placement of the 4-inch barrier/cap will be temporary. During future redevelopment, it is understood the painted cementous material must be managed appropriately to mitigate long-term risk. Depending on specific redevelopment plans, future work may include removal and disposal of the material offsite and/or the construction of a permanent engineered barrier and implementation of an appropriate institutional control.

We trust this information meets your needs. Please feel free to contact me at 414-581-6476 if you have any questions or concerns.

STANTEC CONSULTING SERVICES INC.

Harris L. Byers
Brownfields Project Manager
Harris.Byers@stantec.com
(414) 581-6476

STANTEC CONSULTING SERVICES INC.

Hiedi A. Waller, P.E.
Environmental Engineer
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STANTEC CONSULTING SERVICES INC.

Richard J. Binder, P.G., CPG
QA/QC Manager
Rick.Binder@stantec.com

REFERENCES

Stantec, 2016a, Geophysical Survey Results and Site Survey, 1512 Washington Street, Manitowoc, Wisconsin, August 15, 2016.

Stantec, 2016b, Pre-Demolition Inspection for Asbestos and Lead Paint, 1512 Washington Street, Manitowoc, Wisconsin, September 21, 2016.

Stantec, 2017, Waste Characterization of Demolition Debris, 1512 Washington Street, Manitowoc, Wisconsin, February 15, 2017.

LIMITATIONS

Stantec's observations, findings, and opinions should not be considered as scientific certainties, but only as opinion based on our professional judgment concerning the significance of the data gathered during the course of our work at the Site. Specifically, Stantec cannot represent that the Site does not contain any hazardous or toxic materials/wastes or other latent conditions beyond that observed by Stantec during the course of our investigations. Additionally, due to limitations of this investigation process and the necessary use of data furnished by others, Stantec and its subcontractors cannot assume liability if actual conditions differ from the information presented in this report.

c: Mr. Nicolas Sparacio, AICP; City of Manitowoc

ATTACHMENT 1

FORM 4400-274

Notice: Information requested on this form is required under s. 289.43(8), Wis., Stats., and ch. NR 500.08(5), Wis. Adm. Code to evaluate any request for an exemption from regulation for reuse of concrete coated with lead-bearing paint, a low hazard waste. The Department will not consider your application unless you provide and submit complete information. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

Instructions: This application should be completed by someone who plans to demolish a building, break up or crush the concrete coated with lead-bearing paint and use it beneficially. [Note: the Department prefers the concrete be used on-site but will consider off-site use if the applicant can assure that the proposed use will meet performance standards found in NR 538.04, Wis. Adm. Code and they will take appropriate measures to minimize dust and exposure to the environment during transportation, storage and placement of the concrete.] This application may be used for the specific uses listed in Section V, below; in all instances, uses are prohibited in residential areas. When signed by the applicant and environmental professional, this submittal constitutes a request for a low-hazard waste exemption from regulation under chs. NR 500 - 538, Wis. Adm. Code.

Section I: Applicant Information

Last Name		First		MI
Sparacio		Nicolas		P
Company / Municipality				
Community Development Authority of the City of Manitowoc, Wisconsin				
Street Address				
900 Quay Street				
City		State	ZIP	
Manitowoc		WI	54220-4543	
Telephone Number (include area code)	Mobile Phone (include area code)	Email Address		
(920)686-6931		nsparacio@manitowoc.org		

Section II: Processor Information (if different from applicant)

Last Name		First		MI
Rojas		Nicolas		M
Company / Municipality				
Brandenburg Industrial Service Company				
Street Address				
2625 South Loomis Street				
City		State	ZIP	
Chicago		IL	60608	
Telephone Number (include area code)	Mobile Phone (include area code)	Email Address		
(312) 405-0704		rojnic@brandenburg.com		

Section III: Environmental Professional Evaluator

Last Name		First		MI
Byers		Harris		L
Company / Municipality				
Stantec Consulting Services Inc.				
Street Address				
12075 Corporate Parkway, Suite 200				
City		State	ZIP	
Mequon		WI	53092-2649	
Telephone Number (include area code)	Mobile Phone (include area code)	Email Address		
(262) 643-9174	414-581-6476	Harris.Byers@stantec.com		

Application for Low Hazard Waste Exemption for Reuse of Concrete Coated with Lead-Bearing Paint

Form 4400-274 (R 2/12)

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Section IV: Project Name and Location

Project Name

Former Mirro Plant #9

Company / Municipality

Community Development Authority of the City of Manitowoc

Street Address

1512 Washington Street

City

Manitowoc

State

WI

ZIP

54220

Address and legal description and zoning designation of the property on which the reuse of concrete will be located:

1512 Washington Street; Zoning: Heavy Industrial I-2

County

Manitowoc

Township

19 North

Section

30

Range E / W

24 E

1/4 / 1/4

NE

1/4

(Attach an enlarged 7.5 minute USGS topographical map or other base map having a maximum scale of 1 inch = 300 feet of the property on which the reuse of concrete will be take place, with the construction area outlined.)

Section V: Description of Proposed Use of Concrete Coated with Lead-Bearing Paint (Checklist)

1. Provide a copy of any analytical testing results conducted on the paint or concrete coated with lead-bearing paint.
 - a. Optional - results from lead tests on paint coating using laboratory testing or measured by an XRF instrument (see WA605 - Concrete Recycling and Disposal Fact Sheet) <http://dnr.wi.gov/org/aw/wm/publications/aneupub/WA605.pdf>
 - b. Optional - results from TCLP or SPLP run on total lead-bearing painted concrete.
2. Provide an estimate of the volume of concrete coated with lead-bearing paint (s. 254.11(8), Stats.) that will be reused on the property described above and the volume of non-lead bearing painted concrete.
3. Provide a description of the crushing, storage, and placement procedures, including controls for dust, noise and stormwater management as well as an expected timeline for beginning each stage of the process.
4. Provide a detailed location and description of the site, including an outline of the reuse area boundaries clearly delineated on a topographic map.
5. Check in the list (below) all anticipated uses for which the concrete coated with lead-bearing paint might be used for this project and indicate the approximate amount of concrete expected to be used for this project. You will need to submit a new application for additional uses not checked in this application.

Seeking Exemption for These Anticipated Uses

**Estimated volume use
(Indicate tons or cu. yds)**

Structural fill under a building foundation

Asphaltic concrete pavement or portland cement concrete pavement additive

Confined geotechnical fill material for the base course, subbase or subgrade of commercial, industrial, or non-residential institutional buildings

Base course, subbase or subgrade fill for the construction of portland cement concrete or asphaltic concrete non-residential paved lots

Base course, subbase or subgrade fill for the construction of a paved federal, state or municipal roadway

Other (describe the use)

Lead-painted brick/concrete derived from building demolition will be used to fill tunnel access-ways to eliminate entrance into the subsurface service tunnel network. Debris will also be used to backfill pits and other voids/vaults. The features will be filled to four inches below grade and be capped with clean material. Site access will be restricted with a fence pending future redevelopment and case closure.

Coal Boiler Room = 650 cy
Vaults/Pits = 640 cy
Heat Treat Pit = 350 cy
Anomalies/Voids = 350 cy
Tunnel Entrances = 250 cy

Application for Low Hazard Waste Exemption for Reuse of Concrete Coated with Lead-Bearing Paint

Form 4400-274 (R 2/12)

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Section VI: Applicant Certification

I hereby request a low-hazard waste grant of exemption under s. 289.43 (8), Wis. Stats., for the use(s) of concrete coated with lead-bearing paint listed in Section V, above. I certify that the concrete that will be used for the listed purpose(s) will be processed to the extent necessary to meet all applicable industry specifications for the intended use(s) and be conducted in compliance with Wisconsin regulations relating to dust, noise and stormwater control. I further certify that the concrete used under this grant of exemption will not be used in a residential area or disposed of on the land or in waters of the state for uses different than those listed in Section V, above. I understand that the proposed use(s) of concrete coated with lead-bearing paint may be subject to limitations under other local, state or federal laws.

I have submitted a short summary of the proposed project along with this application. I will submit a one page summary of the project to the DNR within 6 months of starting the project identifying the use/s and amounts in tons of lead-bearing painted concrete used.

I certify that the reuse of the concrete coated with lead-bearing paint identified in this application will not adversely affect public health or the environment.

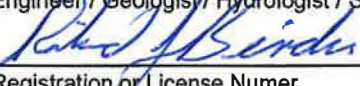
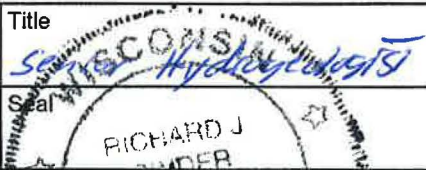
I certify that the information provided on this application is true. I also certify that I intend to read the conditions of the grant of exemption and implement them according to the approval requirements. I will contact the DNR for clarification if any of the conditions are unclear.

Signature of Applicant 	Date 5/16/17
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Section VII: Environmental Professional Evaluation

I am a professional engineer registered to practice in Wisconsin or a geologist, hydrologist or soil scientist licensed to practice in Wisconsin and am qualified by training and experience to evaluate the potential for environmental contamination from the reuse of the concrete coated with lead-bearing paint.

I have evaluated the proposal described in this application for reuse of lead-bearing painted concrete on this property and it is my professional opinion that reuse of concrete coated with lead-bearing paint, as described in this application, will not cause environmental pollution nor cause any other significant risk to public health, safety or welfare.

Engineer / Geologist / Hydrologist / Soil Scientist 	Title SOIL SCIENTIST / Hydrologist	Date 5/16/17
Registration or License Number 734-13		

Section VIII: Submittal Information

Return completed application with the \$550 review fee listed in Table 3 of Ch. NR 520, Wis. Adm. Code, and all required attachments to the Waste & Materials Management Program Supervisor located at the WDNR regional headquarters office in which the project will take place.

For more information, contact your WDNR regional solid waste contact person.
<http://dnr.wi.gov/staffdir/dynamic/solidwaste.asp>

Summary of Attachments

Attachment 1:	An enlarged 7.5 minute USGS topographical map or other base map having a maximum scale of 1 inch = 300 feet of the property on which the reuse of concrete will take place, with the construction area outlined. (Section IV.)
Attachment 2:	Copy of any analytical testing results conducted on the paint or concrete coated with lead-bearing paint. (Section V.)
Attachment 3:	Estimate of the volume of lead-bearing painted concrete to be reused on the property and the volume of non-lead bearing painted concrete. (Section V.)
Attachment 4:	Description of the crushing, storage and placement procedures - including controls for dust, noise and stormwater management - expected timeline for beginning each stage of the process. (Section V.)
Attachment 5:	Detailed location and description of the site - outline of reuse area boundaries clearly delineated on a topographic map. (Section V.)

ATTACHMENT 2

SITE BASEMAPS

- Figure 1 – Site Location and Extent of Construction on a USGS Topographic Map (scale 1 inch = 300 feet)
- Figure 2 – Site Location and 2014 Orthophotograph

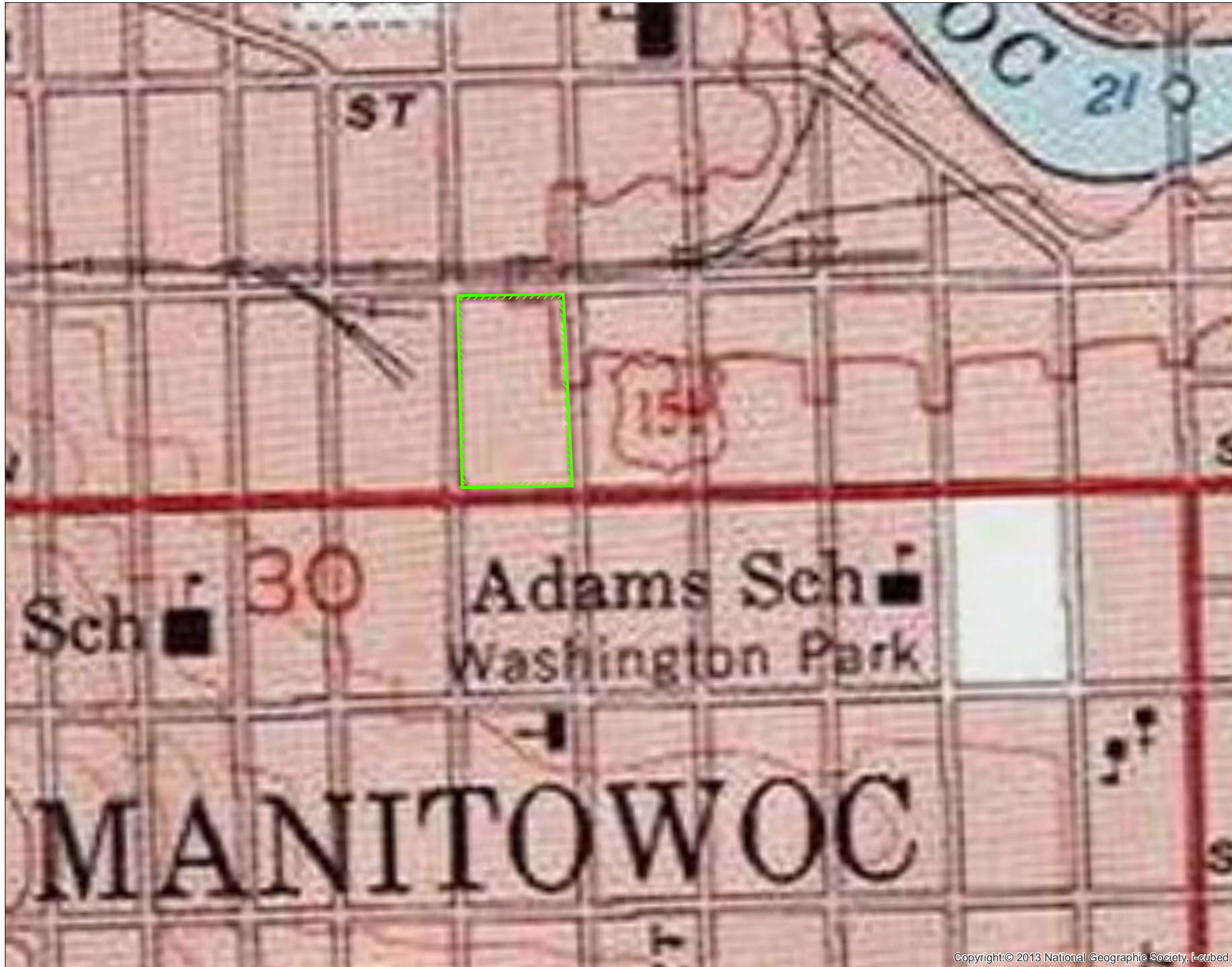




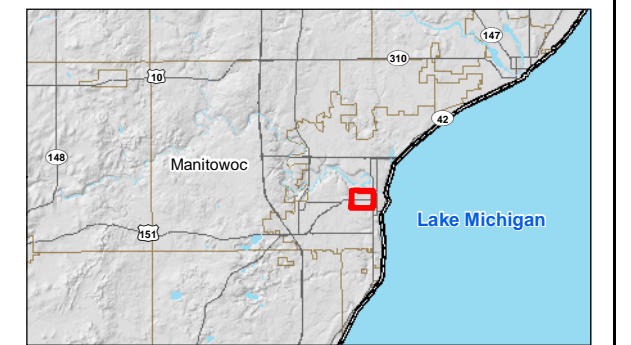
Figure No.
1
Title
Figure 1. Site Location and Extent of Construction on a USGS Topo Map

Client/Project
City of Manitowoc
USEPA Brownfield Assessment Grant
Hazardous Substances
1937003931
Prepared by HLB on 5-24-16

0 150 300 Feet

Legend
 Target Site and Extent of Construction

N




Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803
 2. Feet
 3. Data Sources Include:
 Orthophotography: 2015 City of Manitowoc



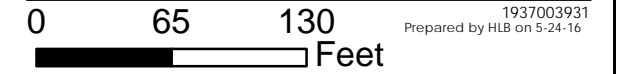
Copyright: © 2013 National Geographic Society, I-cubed

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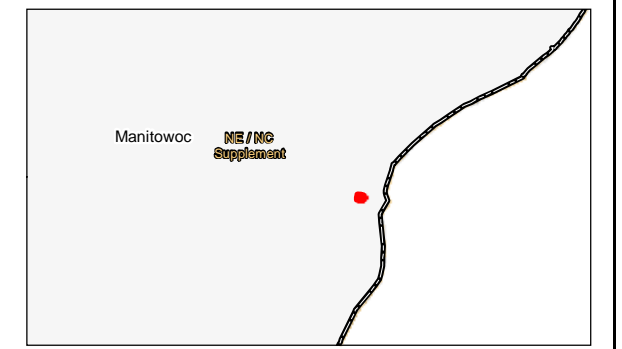


Figure No.
2
Title
**Figure 2
Site Location and 2014 Ortho**

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



Legend
 Target Site
 Parcels



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803
 2. Feet
 3. Data Sources Include:
 Orthophotography: 2015 City of Manitowoc



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ATTACHMENT 3

ANALYTICAL TESTING RESULTS SUMMARY FROM STANTEC (2017)

- Table 6 – RCRA Metal Concentrations in Painted Porous Building Materials
- Table 7 - Lead Concentrations in Leachate Following TCLP Extraction of Painted Porous Materials

A full copy of the Stantec (2017) report in PDF format can be downloaded directly from:

<https://www.dropbox.com/s/27pkjgq7jt9avx9/30%20-%20Waste%20Characterization%20of%20Demolition%20Debris.pdf?dl=0>

* Please note, demolition debris from the west wall on the first floor of the south building painted dark green (sample location 24) will be disposed of as a characteristically hazardous waste and will not be reused onsite (Stantec, 2017).

A full copy of the Stantec (2016) report in PDF format can be downloaded directly from:

<https://www.dropbox.com/s/766k8z4871ubvec/15%20-%20Predemolition%20ACM%20and%20LBP%20Inspection.pdf?dl=0>

Table 6
RCRA Metal Concentrations in Painted Porous Building Materials
1512 Washington Street; Manitowoc Wisconsin

Building	Floor	Sample Location Description										RCRA Metals (mg/kg), 40 CFR 261.24 ¹ (mg/L), 40 CFR 261.24 ² (mg/kg using the 20-times rule)							
		Sample Location	Wall	Structure	Location	Substrate	Color	XRF Reading No	Sample Name	Sample Date	Time	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
												5	100	1	5	5	0.2	1	5
South	1st	1	A	Wall	L Ctr	Brick	Gray	7	BM-A1-B	10/25/2016	9:30	3	120 F1 V	6.6 F1 F2 V	18 B V	<u>1500 B F2 V</u>	0.036	<0.47	0.15 J
		1	A	Wall	L Ctr	Brick	Gray	7	BM-A1-B (2)	11/9/2016	10:00	NA	NA	NA	NA	10	NA	NA	NA
		2	C	Wall	U Rgt	Brick	Silver	150	BM-A2-B	10/25/2016	10:10	3.1	85	0.44	18 B	24 B	0.022	0.67 J	0.36 J
		3	Flooring		Wood	NA	Unk	BM-A3-W	10/19/2016	3:40	0.67 J	21	0.44	3.1 B	80 B	0.33	0.86 J	0.39 J	
		4	Flooring		Wood	NA	Unk	BM-A4-W	10/19/2016	3:50	0.44 J	22	0.24	0.87 J B	9.1 B	0.0224	0.94	0.12 J	
		23	D	Wall	U Lft	Brick	Green	46	BM-A23-B	10/25/2016	9:45	2.1	38	0.10 J	15 B	2.6 B	0.12	<0.44	1.1
		24	D	Wall	L Lft	Brick	Dark Green	47	BM-A24-B	10/25/2016	9:50	3.3	54	0.14 J	16 B	<u>2000 B</u>	0.032	<0.45	1.1
		24	D	Wall	L Lft	Brick	Dark Green	47	BM-A24-B (2)	11/9/2016	10:15	NA	NA	NA	NA	<u>570</u>	NA	NA	NA
25	C	Wall	U Lft	Brick	Tan	82	BM-A25-B	10/25/2016	10:00	3	990	0.3	16 B	<u>2000 B</u>	0.032	<0.41	0.58		
25	C	Wall	U Lft	Brick	Tan	82	BM-A25-B (2)	11/9/2016	10:45	NA	NA	NA	NA	<u>250</u>	NA	NA	NA		
North	1st	5	A	Wall	U Lft	Concrete	Green	626	BM-A5-C	10/25/2016	10:30	3.9	1200	3.5	6.3 B	<u>1100 B</u>	0.055	0.82 J	1.4
		5	A	Wall	U Lft	Concrete	Green	626	BM-A5-C (2)	11/9/2016	8:30	NA	NA	NA	NA	14	NA	NA	NA
		6	C	Wall	U Ctr	Concrete	Gray	634	BM-A6-C	10/25/2016	10:35	3.5	270	0.76	5.2 B	25 B	0.0086 J	0.85 J	0.34 J
		7	A	Wall	U Ctr	Concrete	White	647	BM-A7-C	10/25/2016	10:40	4.1	<u>4800</u>	19	5.0 B	<u>140 B</u>	0.07	0.62 J	1.2
		7	A	Wall	U Ctr	Concrete	White	647	BM-A7-C (2)	11/9/2016	9:00	NA	65	NA	NA	2.4	NA	NA	NA
		8	C	Wall	L Rgt	Concrete	Gray	655	BM-A8-C	10/25/2016	10:50	2.7	1000	2.2	6.3 B	<u>2400 B</u>	0.38	1	1.3
8	C	Wall	L Rgt	Concrete	Gray	655	BM-A8-C (2)	11/9/2016	9:15	NA	NA	NA	NA	58	NA	NA	NA		
North	2nd	9	Left Column		Concrete	Green	739	BM-A9-C	10/20/2016	3:15	4.9	890	3.5	7.0 B	90 B	<0.0082	1.1	0.16 J	
		10	D	Wall	L Ctr	Brick	Green	726	BM-A10-B	10/20/2016	3:55	1.1	34	0.15 J	4.4 B	20 B	<0.0080	<0.48	<0.11
26	B	Wall	U Lft	Brick	White	749	BM-A26-B	10/20/2016	3:40	2.9	98	0.28	1.1 B	9.2 B	0.0083 J	0.47 J	<0.10		
South	2nd	11	C	Wall	L Ctr	Brick	Dark Green	259	BM-A11-B	10/20/2016	10:45	2.3	74	0.53	8.5 B	97 B	<0.0079	<0.47	<0.11
		12	A	Wall	L Ctr	Brick	Tan	277	BM-A12-B	10/20/2016	10:33	2.6	62	0.2	15 B	8.4 B	0.0083 J	<0.45	<0.11
		13	Flooring		Wood	NA	Unk	BM-A13-W	10/19/2016	4:00	0.48 J	24	0.12 J	0.21 J B	0.87 B	0.023	0.94	<0.10	
		33	B	Wall	L Ctr	Brick	Blue	31	BM-A33-B	10/20/2016	10:50	1.6	<u>8000</u>	3	13 B	<u>160 B</u>	0.28	0.60 J	0.12 J
33	B	Wall	L Ctr	Brick	Blue	31	BM-A33-B (2)	11/9/2016	11:20	NA	42	NA	NA	5	NA	NA	NA		
North	3rd	14	C	Wall	U Lft	Concrete	White	30	BM-A14-C	10/19/2016	2:35	3.8	52	0.12 J	4.5 B	3.2 B	<0.0078	0.44 J	<0.10
		15	C	Wall	L Lft	Concrete	Green	29	BM-A15-C	10/19/2016	2:45	3.1	68	0.17	4.6 B	5.5 B	0.017	0.61 J	0.12 J
South	3rd	16	B	Wall	L Rgt	Brick	Dark Green	204	BM-A16-B	10/20/2016	10:15	2	46	0.074 J	12 B	6.7	0.035 F1	<0.48	<0.11
		17	Flooring		Wood	NA	Unk	BM-A17-W	10/19/2016	4:15	<0.45	8.3	0.089 J	0.31 J B	4.5	0.08	0.91 J B	0.16 J	
		27	B	Wall	L Lft	Brick	Tan	131	BM-A27-B	10/20/2016	9:50	4.5	89	0.12 J	19 B	7.1	<0.0082	0.69 J B	<0.11
South	4th	18	A	Wall	L Ctr	Brick	Silver	274	BM-A18-B	10/20/2016	9:20	1.6	25	<0.049	8.6 B	2.5	0.0091 J	0.80 J B	<0.10
		19	D	Wall	L Ctr	Brick	Gray	322	BM-A19-B	10/19/2016	4:28	3.7	87	0.11 J	15 B	54	0.021	0.64 J B	<0.11
North	4th	20	D	Wall	L Lft	Concrete	Green	141	BM-A20-C	10/19/2016	2:15	3.1	52	0.089 J	3.8 B	1.7	<0.0083	<0.48	<0.11
North	5th	21	B	Wall	L Ctr	Concrete	Gray	170	BM-A21-C	10/19/2016	1:35	2.2	59	<0.052	3.8 B	1.7	<0.0083	<0.44	<0.11
South	5th	22	D	Wall	U Lft	Brick	Black	423	BM-A22-B	10/20/2016	9:10	3.1	93	0.14 J	18 B	95	0.37	0.84 J B	<0.11
		36	A	Wall	L Ctr	Brick	Silver	24	BM-A36-B	10/20/2016	8:45	1.7	56	0.064 J	8.6 B	53	0.0084 J	<0.46	<0.11
		34	Center Column		Concrete	Brown	416	BM-A34-C	10/20/2016	8:55	1.4	23	<0.050	6.9 B	15	0.0093 J	<0.42	<0.10	
		35	C	Wall	L Ctr	Brick	Yellow	36	BM-A35-B	10/20/2016	8:35	1.5	39	<0.054	9.5 B	4.7	0.013 J	<0.46	<0.11
North	6th	28	D	Wall	L Rgt	Concrete	Red	275	BM-A28-C	10/19/2016	1:25	2.8	49	0.16 J	3.6 B	54	<0.0085	<0.44	<0.10
		29	B	Wall	L Ctr	Concrete	Silver	249	BM-A29-C	10/19/2016	1:15	3.8	61	0.074 J	7.7 B	2	<0.0086	<0.43	<0.10
South	6th	30	Left Column		Concrete	Orange	333	BM-A30-C	10/20/2016	8:05	1.6	23	0.089 J	5.8 B	<u>520</u>	0.023	<0.45	<0.11	
		30	Left Column		Concrete	Orange	333	BM-A30-C (2)	11/9/2016	12:00	NA	NA	NA	NA	<u>170</u>	NA	NA	NA	
		31	B	Wall	L Lft	Brick	Green	340	BM-A31-B	10/20/2016	8:25	2.5	120	0.089 J	21 B	<u>2000</u>	0.012 J	<0.47	<0.11
		31	B	Wall	L Lft	Brick	Green	340	BM-A31-B (2)	11/9/2016	12:15	NA	NA	NA	NA	<u>450</u>	NA	NA	NA
		32	B	Wall	U Lft	Brick	White	341	BM-A32-B	10/20/2016	8:15	1.5	30	<0.52	9.8 B	38	0.032	<0.44	<0.10

Notes:

South building is the 7-story building located adjacent to Washington Street.

North building is the 6-story building located adjacent to Franklin Street.

*Proposed analysis is for (1) composite sample at each location analyzed for eight resource conservation and recovery act (RCRA) metals using method SW 846 6010

Wall "A" is the road side (15th Street) of the building. Walls B/C/D are determined clockwise from Wall A

Location indicates lower (L) or upper (U) and left (Lft), center (Ctr) or right (Rgt) portion of wall

XRF Reading No corresponds to sample ID from Stantec (2016) pre-demolition asbestos and lead paint survey

F1=MS and/or MSD Recovery is outside acceptance limits

F2= MS/MSD RPD exceeds control limits

F3= Duplicate RPD exceeds the control limit

F5= Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data is considered valid because the absolute difference is less than the RL

4= MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable

J= Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value

B= Compound was found in the blank sample

V= Serial Dilution exceeds the control limits

NA= Not Analyzed

¹ USEPA thresholds for toxicity presented in 40 CFR 261.24

² USEPA thresholds for toxicity presented in 40 CFR 261.24 using the "20-times" rule.

Underlined values are greater than 40 CFR 261.24 using the "20-times" rule.

Table 7
Lead Concentrations in Leachate Following TCLP Extraction of Painted Porous Materials
1512 Washington Street; Manitowoc Wisconsin

Building	Floor	Sample Location	Wall	Structure	Location	Substrate	Color	XRF Reading No	Sample Name	Sample Date	Time	Total Lead (Method 6010; mg/kg) ¹	TCLP Lead (Method 6010; mg/L) ²
South	1st	24	D	Wall	L Lft	Brick	Dark Green	47	BM-A24-B	10/25/2016	9:50	<u>2000 B</u>	–
			D	Wall	L Lft	Brick	Dark Green	47	BM-A24-B (2)	11/9/2016	10:15	<u>570</u>	<u>8.5</u>
		25	C	Wall	U Lft	Brick	Tan	82	BM-A25-B	10/25/2016	10:00	<u>2000 B</u>	–
			C	Wall	U Lft	Brick	Tan	82	BM-A25-B (2)	11/9/2016	10:45	<u>250</u>	<0.0075
South	6th	30	Left Column			Concrete	Orange	333	BM-A30-C	10/20/2016	8:05	<u>520</u>	–
			Left Column			Concrete	Orange	333	BM-A30-C (2)	11/9/2016	12:00	<u>170</u>	<0.0075
		31	B	Wall	L Lft	Brick	Green	340	BM-A31-B	10/20/2016	8:25	<u>2000</u>	–
			B	Wall	L Lft	Brick	Green	340	BM-A31-B (2)	11/9/2016	12:15	<u>450</u>	0.021 "J"

Notes:

TCLP was analyzed from the samples collected on 11/9/2016

South building is the 7-story building located adjacent to Washington Street.

North building is the 6-story building located adjacent to Franklin Street.

Wall "A" is the road side (15th Street) of the building. Walls B/C/D are determined clockwise from Wall A.

Location indicates lower (L) or upper (U) and left (Lft), center (Ctr) or right (Rgt) portion of wall.

XRF Reading No corresponds to sample ID from Stantec (2016) pre-demolition asbestos and lead paint survey.

– = Not Analyzed

Method 6010 = Laboratory analytical method (SW-846)

TCLP = Toxicity Characteristic Leaching Procedure (Preparation Method 1311)

mg/kg = milligram per kilogram

mg/L = milligram per liter

¹ The USEPA threshold for toxicity for lead presented in 40 CFR 261.24 using the "20-times" rule is 100 milligrams per kilogram

² The USEPA threshold for toxicity for lead presented in 40 CFR 261.24 is 5 milligrams per liter.

Underlined values exceed 40 CFR 261.24

ATTACHMENT 4

VOLUME ESTIMATES

REUSE AREA*	VOLUME (CUBIC YARDS)
(1) COAL BOILER ROOM	650 CY
(5) VAULTS/PITS	640 CY
(1) HEAT TREAT PIT	350 CY
(4) ANOMALIES/VOIDS	350 CY
(14) TUNNEL ENTRANCES	250 CY
TOTAL	2,240 CY

* See Figure 3 and Figure 4 of Attachment 6 for the locations of each proposed reuse area.

ATTACHMENT 5

BRANDENBURG (2017)

DEMOLITION PLANS

The City has retained Brandenburg Industrial Services Company (Brandenburg) to demolish the remaining buildings at the target property. A description of the means/methods and schedule prepared by Brandenburg pertinent to this application and the Brandenburg Dust Control Plan are provided in this Attachment.

Attachment 5

Means and Methods

Brandenburg will utilize a combination of hydraulic concrete processing attachments, hydraulic breakers, and stationary breakers in order to size down the painted cementous material to be used as backfill. Demolition of the painted structure will commence and will mainly be pulverized by the use of grappling and stationary breakers. Once material has been sized down, per City code, the concrete bottom of the features (if present) will be broken and material placed into the below-grade features via heavy machinery to within 4-inches of the surface. Non-painted brick/cementous material will be sized and placed in the feature to match surrounding grade and create a temporary cap for the painted material.

During the demolition and further processing to size, along with the removal, water will be applied diligently to adequately control visible emissions while avoiding uncontrolled runoff to adjacent areas (see attached Dust Control Plan). Stockpiles will be stationed as planar fields upon which the heavy machinery will travel to verify material has been thoroughly sized. Noise will be consistently evaluated by the onsite supervisor and equipment operators; if nuisance noise is a concern, Brandenburg may implement noise monitoring equipment at the perimeter of the work area to verify noise emissions are consistent with local ordinances.

Schedule

The demolition portion of the structure is slated to begin in early June, followed by further processing into late June and early July. To prevent potential collapse during active demolition, the voids/vaults in the northeast portion of the Site will be filled following mobilization to the Site (estimated May 26, 2017). Additional Site features will be filled as they become accessible.

Dust Control Plan

Mirro Building Demo

1512 Washington Street

Manitowoc, WI 54220

Rev1

1. Dust Control Plan

During the normal course of work activities, there exists the likelihood that dust will be produced or emitted. **Brandenburg will take precautions to prevent visible dust from leaving the project site during demolition operations. If visible dust is discovered, leaving the site activities will cease and dust controls will be reevaluated.** Brandenburg uses a variety of methods to control the emission of dusts including barriers and water sprays. The manner chosen to control dust is site specific.

a. Scope:

Applies to all Brandenburg sites where work activities may produce a dust emission.

b. Methods:

1. Planning Site Work

Brandenburg plans site work by producing an engineering survey and site specific safety plan prior to the onset of site work activities. Once site activities are underway, the Field Supervisor, Safety Manager, and Division Manager re-assess activity and amend plans as required.

2. Monitoring of Site Activities

- i. The Field Supervisor is responsible for continuous dust monitoring during site activities. The Field Supervisor will visually observe the area and implement control measure as conditions dictate.
- ii. It is Brandenburg's policy is to keep dust emissions to a minimum.

3. Controlling Emissions with Water

- i. **With permission from Manitowoc Public Utilities**, an adjacent fire hydrant will be utilized. Prior to use of a public fire hydrant, the fire department will be notified, if necessary, along with the use of a backflow preventer.
- ii. Should the Field Supervisor observe excessive dust emissions, additional water spray will be implemented. Either the use of a "dust boss" (water mister) or a water truck may be employed.



iii.

- iv. The spray pattern used will emit a low pressure mist or other pattern directed at or above the source of emission that will effectively control dust.
- v. Multiple hoses from multiple directions can be used at the discretion of the Field Supervisor.
- vi. Wetting shall be limited to a spray so that runoff water is minimized.
- vii. The use of water sprays shall not be used if it produces a greater hazard (i.e., slippery surfaces, icing, electrical, etc). Further, runoff from dust suppression activities will not be allowed.

4. Ensuring the Effectiveness of Controls

- c. The project supervisor (or designee) will monitor the worksite on a regular basis (at a minimum daily) to ensure adequate dust control measures are being implemented.
- d. Record Keeping:
 - 1. No special recordkeeping requirements.

2. For Concerns regarding dust emissions contact Jeff Madiol 312-287-8004

ATTACHMENT 6

PROPOSED REUSE AREAS

- Figure 3 – Proposed Reuse Areas on a USGS Topographic Map
- Figure 4 – Proposed Reuse Areas on the 2014 Orthophotograph

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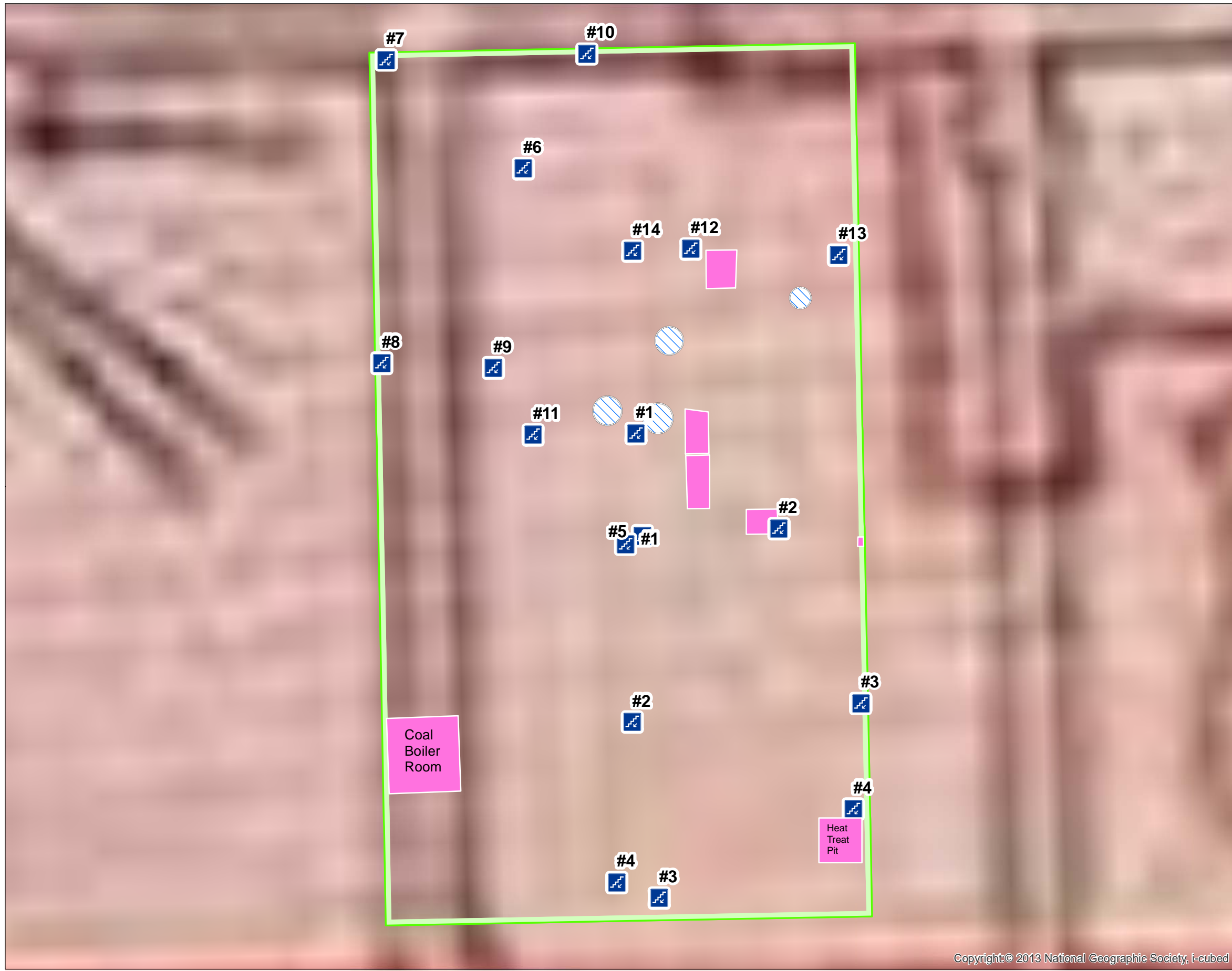


Figure No.
3

Title
Figure 3. Proposed Reuse Areas on a USGS Topo Map

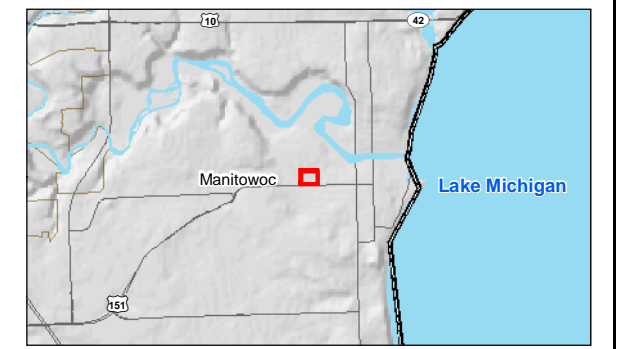
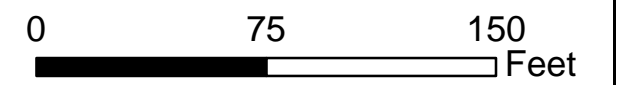
Client/Project
City of Manitowoc
USEPA Brownfield Assessment Grant
Petroleum Substances

Project Location
T19N, R24E, S30
C. of Manitowoc,
Manitowoc Co., WI

193703931
Prepared by HLB on 2017-05-11

Legend

- Tunnel Entrances
- Property Boundary
- Vault/Pit
- Anomaly/Void
- USA Topo Maps



Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, NADS



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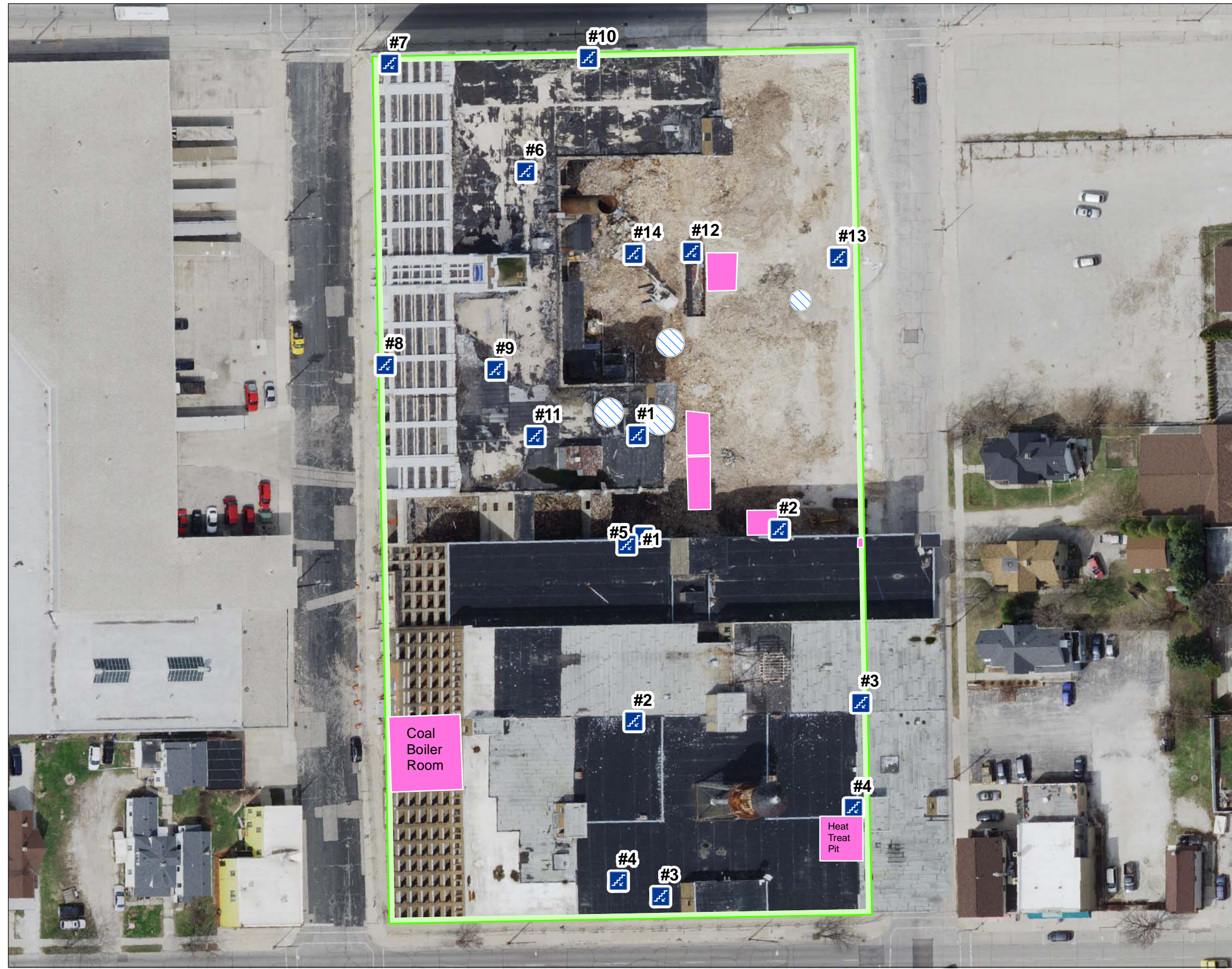






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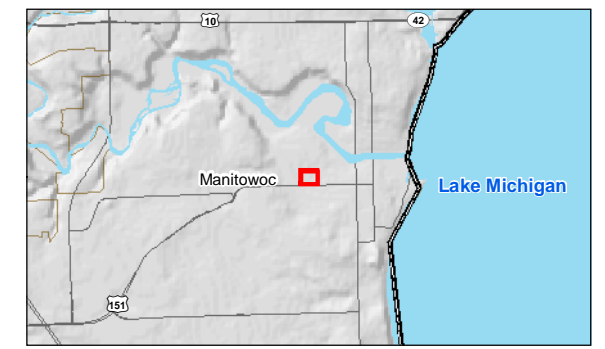
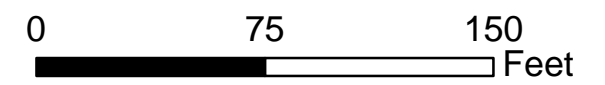
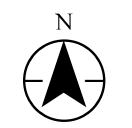
Title
Figure 3. Proposed Reuse Areas

Client/Project
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- Legend**
-  Tunnel Entrances
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- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, NADS

