

From: Knapke, Eric <Knapke.Eric@epa.gov>
Sent: Monday, May 1, 2023 1:30 PM
To: Byers, Harris; Beggs, Tauren R - DNR; Van Der Kloot, James
Cc: Adam Tegen
Subject: RE: SSSAP for Sampling Potential Fill for Constructing the Engineered Barrier (Cap) at the River Point District in Manitowoc

Hi Harris,

From our end at U.S. EPA, we have reviewed and accepted your SSSAP and have received the HASP for the potential fill material. You may initiate sampling at your convenience.

Thanks,

Eric Knapke, MPH
Brownfields Project Manager
Regional Conference Coordinator, [Brownfields 2023 - Detroit](#)
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Blvd
Chicago, IL 60604
312-353-6292
knapke.eric@epa.gov

Registration for the 2023 Brownfields Conference is now open! [Register here.](#)

Nominations for [Phoenix Awards](#) at the 2023 Brownfields Conference are due April 24, 2023. Submit your nominations for brownfields excellence [here.](#)



From: Byers, Harris <Harris.Byers@stantec.com>
Sent: Friday, April 28, 2023 8:20 AM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>; Van Der Kloot, James <vanderkloot.james@epa.gov>; Knapke, Eric <Knapke.Eric@epa.gov>
Cc: Adam Tegen <ategen@manitowoc.org>
Subject: SSSAP for Sampling Potential Fill for Constructing the Engineered Barrier (Cap) at the River Point District in Manitowoc
Importance: High

Team:

A local developer reached out to the City of Manitowoc earlier this week indicating they may have up to 18,000 cubic yards of surplus material generated from grading at local redevelopment project.

Compared to purchasing fill, this potential (free) material could save the City upwards of \$300,000 in remediation costs, if the material is suitable for use in constructing the required engineered barrier at the River Point District.

To that end, attached is a sampling plan to characterize this material in-place prior to importing to River Point. This plan follows the same sampling model we've used the past several years to characterize fill prior to importing material to the River Point District.

** Apologies for the rushed request; but could you please review this ASAP. We have a driller scheduled for next Thursday/Friday (May 4-5) and will ask the lab for a 5d TAT to expedite this study.

Sincerely,

Harris Byers, Ph.D.

Sr. Brownfields Project Manager
Contaminant Hydrogeologist / Urban Geochemist

Direct: 414 581-6476
Harris.Byers@stantec.com

Stantec
12080 Corporate Parkway Suite 200
Mequon WI 53092-2649



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From: Beggs, Tauren R - DNR
Sent: Monday, May 1, 2023 1:23 PM
To: Byers, Harris
Cc: Adam Tegen; Van Der Kloot, James; Knapke.Eric@epa.gov
Subject: RE: SSSAP for Sampling Potential Fill for Constructing the Engineered Barrier (Cap) at the River Point District in Manitowoc

Hi Harris,

As stated in the past, I can't formally approve a sampling plan without a fee. The plan seems consistent with what you have been doing for characterization of fill to import material to the River Point District that you have done for other projects.

Regards,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Phone: (920) 510-3472

Tauren.Beggs@wisconsin.gov (preferred contact method during work at home)

From: Byers, Harris <Harris.Byers@stantec.com>
Sent: Friday, April 28, 2023 8:20 AM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>; Van Der Kloot, James <vanderkloot.james@epa.gov>; Knapke.Eric@epa.gov
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Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon WI 53092-2661

April 27, 2023

Project/File: 193709261

Attention: Mr. Tauren Beggs

Hydrogeologist, Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Northeast Region Headquarters
2984 Shawano Ave
Green Bay, WI 54313

Reference: Sampling & Analysis Plan for Characterizing Soil at 333 Reed Avenue Prior to Importing Material; Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin 02-36-585491 RIVER POINT DISTRICT- LGU

Dear Mr. Beggs,

On behalf of the City of Manitowoc Community Development Authority (CDA), Stantec Consulting Services Inc. (Stantec) prepared this Sampling and Analysis Plan (SAP) to characterize soil at 333 Reed Avenue (herein referred to as the "Property") prior to excavating and importing the material to the River Point District for use in constructing the engineered barrier in the Shoreline Focus Area in the Phase I Redevelopment Area. The locations of the Shoreline Focus Area (outlined in black) and the Phase I Redevelopment Area (outlined in yellow) are illustrated on **Figure 1**. The location of 333 Reed Avenue is illustrated on **Figure 2**. This SAP was prepared using funds provided to the CDA by the United States Environmental Protection Agency through a brownfield cleanup grant funded under Cooperative Agreement Number BF-00E03197.

BACKGROUND

As described in the Stantec (2022b) *Addendum* to the Stantec (2021a) *Remedial Action Plan & Materials Management Plan* (RAP/MMP), proposed development in the Shoreline Focus Area includes construction of a shoreline revetment, greenspace, paved trails, an overlook platform, a dock, and a fire ring along the Manitowoc River. To accommodate these desired future uses, direct contact and groundwater migration concerns associated with residual soil/fill impacts will be mitigated through construction of an engineered surface barrier (cap). Softscape features of the engineered surface barrier include:

- An 18-inch soil cap consisting of thirteen (13) inches of clean imported granular or clay fill covered with five (5) inches of imported topsoil and vegetation or
- A 12-inch soil cap consisting of seven inches of clean imported granular or clay fill underlain by indicator fabric and covered with five inches of imported soil and vegetation.

As summarized above, construction of the softscape features will require the City of Manitowoc (City) to import several thousand cubic yards of clean fill soils. A developer is targeting 333 Reed Avenue for non-industrial use, which could generate up to 18,000 cubic yards of spoil potentially suitable for reuse in constructing the engineered barrier in the Shoreline Focus Area (and other areas) in the Phase I Redevelopment Area at the River Point District.

This SAP was developed to guide the sampling of shallow soil at 333 Reed Avenue to confirm if the potential spoil is suitable for use in constructing the engineered barrier at the River Point District. This SAP was

Reference: Sampling & Analysis Plan for Characterizing Soil at 333 Reed Avenue Prior to Importing Material; Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRTS # 02-36-585491

developed in general conformance with the Wisconsin Department of Natural Resources (WDNR) publication RR-041.

ORIGINS OF MATERIAL

The material targeted for characterization under this SAP is currently located at 333 Reed Avenue in Manitowoc. As described in the Stantec (2022a) Phase I ESA, the Property was initially surveyed in 1835 and appears to have been undeveloped and/or used for agricultural use until 1952 when the Holy Family Memorial hospital was constructed on the Property. The hospital ceased operation in 1991, and the hospital was demolished in 2014, except for a garage which remains at the Property. Therefore, near-surface soil at the Property is likely reworked native silty clay with sand.

DOCUMENTED ASTs AND KNOWN RELEASES

The Wisconsin Department of Agriculture, Trade and Consumer Protection (WDATCP) database indicates the following storage tanks were at one time associated with the Property.

Tank Type	Tank ID	Tank Contents	Tank Size(Gal)	Facility Owner	Date Tank Removed
Underground Storage Tank	414825	Diesel Fuel	1,000	Holy Family Memorial Medical Center	9/14/1994
Underground Storage Tank	414826	Fuel Oil	12,000	Holy Family Memorial Medical Center	6/17/2001
Aboveground Storage Tank	876184	Diesel Fuel	650	Holy Family Memorial Medical Center	10/23/2014
Aboveground Storage Tank	206458	Diesel Fuel	280	Holy Family Memorial Medical Center	10/23/2014

Note: Given the similar date of removal, it is likely the two smaller diesel fuel ASTs removed from the Property in 2014 were associated with demolition of the former hospital. Further evaluation of these ASTs is outside the scope of this proposed Focused Phase II ESA.

A summary of known WDNR Bureau of Remediation and Redevelopment Tracking System (BRRTS) cases is provided below.

BRRTS Case 03-36-001923 HOLY FAMILY MEMORIAL MEDICAL CTR/SITE A. Holy Family Memorial completed site investigation and remediation activities related to the removal of the 12,000-gallon fuel oil underground storage tank (UST; Tank ID 414826) and the case was closed by the Wisconsin Department of Natural Resources (WDNR) under Bureau for Remediation and Redevelopment Tracking System (BRRTS) case number 03-36-001923 as an unrestricted closure, with no institutional controls necessary. Therefore, there does not appear to be an appreciable risk to shallow soils targeted for this study.

BRRTS Case 03-36-001939 HOLY FAMILY MEMORIAL MEDICAL CTR/SITE B. Holy Family Memorial completed additional work following removal of the 1,000-gallon UST (Tank ID 414825) under BRRTS case number 03-36-001939. WDNR records suggest this tank contained fuel oil; however, the WDATCP records suggest this tank may have contained diesel fuel. Regardless of tank contents, at the time of closure, residual subsurface impacts presumably remained beneath the garage. Therefore, this portion of the Property is completely excluded from this SSSAP as a potential source of fill.

BRRTS Case 02-36-544383 UNITED LAUNDRIES & DRY CLEANERS. This case was opened in 2005 and closed on September 14, 2017. Documentation related to the continuing obligations suggests solvent impacts may extend eastward from the drycleaner. Migrating impacts, if present, are likely confined to deeper soil horizons and not likely to pose a risk to shallow soils targeted as a potential source of fill. However, as described further herein, soils will be sampled for volatile organic compounds (VOCs) which will include chlorinated solvents and their associated break-down products.

Reference: Sampling & Analysis Plan for Characterizing Soil at 333 Reed Avenue Prior to Importing Material; Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRS # 02-36-585491

Additionally, soils within the footprint of the former hospital (outlined in white on **Figure 2**) are excluded from this SAP as potential source of fill.

PFAS EVALUATION STATEMENT

Per- and polyfluoroalkyl substance (PFAS) source evaluation of shallow soil at 333 Reed Avenue is based upon guidance provided by the WDNR in publication RR-101E and by the Interstate Technology Regulatory Council in their report entitled “Per- and Polyfluoroalkyl Substances.”

No industrial users of PFAS are known to have operated at 333 Reed Avenue; therefore, the risk for a surface spill of PFAS to shallow soils is unlikely.

Recent work has suggested PFAS could be released to the subsurface from leaking sanitary infrastructure at laundry and drycleaning facilities. As the sanitary sewer is likely significantly deeper than the shallow soils targeted for this evaluation, the risk for a release of PFAS to target soils is unlikely.

Therefore, sampling shallow soil at 333 Reed Avenue for PFAS is not warranted.

PROPOSED SAMPLING AND ANALYSIS PLAN

Stantec will conduct soil sampling activities to characterize the shallow soil at 333 Reed Avenue to confirm if the material is suitable for use in constructing the engineered barrier at the River Point District. SOPs for tasks associated with this work plan are presented in the Quality Assurance Project Plan (QAPP; Stantec, 2015) and associated addenda (Stantec, 2016a, 2016b, 2016c, 2018a, 2018b, 2018c, 2019a, 2019b, 2019c, 2020, 2021b, 2022c, and 2023). A site-specific health and safety plan is provided in Attachment A.

Sample Frequency. Approximately 18,000 cubic yards of spoil will be generated during redevelopment at 333 Reed Avenue. Prior to importing this material to the River Point District, Stantec proposes collecting one (or more) sample of soil from 39 soil borings completed in the potential fill areas. The proposed sample locations are placed to capture the horizontal and vertical variability in soil quality in target areas at the Property (**Figure 2**). Given that the areas targeted for fill have not been developed for commercial/industrial use (outside of paved parking areas), the number of proposed soil borings is considered reasonable.

Field Methods. Soil borings will be advanced using direct-push dual-tube Geoprobe® drilling methods from the ground surface downward to three feet below ground surface. Soil borings will be abandoned with bentonite.

Soil sampling and field classification will be conducted according to SOP No. 02 (Stantec, 2015). Soils at each sampling location will be visually and physically examined by a Stantec field geologist, and observations made of the general soil type (percentages of gravel, sand, silt, and clay), evidence of non-native fill materials (with estimated percentages of these materials contained in the soil matrix), indications of chemical or other staining, odors, and any other distinctive features. Soil samples will be field screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID), which will be calibrated daily in the field in accordance with the manufacturer’s specifications.

Constituents of Concern. Soil samples will be collected and preserved in accordance with SOP No. 02 and Table 3 of the QAPP. The following are considered constituents of concern for soil: VOCs, Polycyclic Aromatic Hydrocarbons (PAHs), and the eight Resource Conservation and Recovery Act (RCRA) heavy metals. Soil samples will be placed in laboratory-supplied containers (per SOP No. 02), preserved as appropriate, stored on ice, and submitted under chain-of-custody procedures to Eurofins TestAmerica (Chicago, Illinois), a State of Wisconsin-certified laboratory for analysis as described in the QAPP using protocols outlined in SOP No. 07. Analysis will include PAHs (EPA 8270D), RCRA metals (EPA 6010C, 7471B), and VOCs (EPA 8260C).

Reference: Sampling & Analysis Plan for Characterizing Soil at 333 Reed Avenue Prior to Importing Material; Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRS # 02-36-585491

Soil sampling equipment such as drilling tools will be decontaminated prior to arrival onsite and between each sampling location (SOP No. 08) to prevent sample cross-contamination. Soil cuttings generated during this work will be managed per SOP No. 10 (Stantec, 2015).

QA/QC samples to be collected and analyzed will include trip blanks and field replicate/duplicate samples. Trip blanks prepared by the analytical laboratory will accompany the sample bottles from the time of shipment from the laboratory through the time the samples are returned for analysis. Trip blanks will be used to document any contamination detected in samples that may be attributable to shipping and field handling procedures or contaminated sample containers. Trip blanks will be provided by the laboratory and will be subject to the same handling and transportation procedures as the investigative samples.

De-identified field duplicate samples will be collected and analyzed to evaluate sample variability and overall data precision. Duplicate samples will be collected from soil borings and depth intervals representing the range of site conditions. Duplicate samples will be collected and analyzed for constituents at a rate of one sample for every 20 or fewer investigative samples.

The sampling team will maintain an up-to-date field logbook to document daily activities (if more than one group of individuals is sampling). The logbook will include a general list of tasks performed, additional data, or observations not listed on field data sheets and document communications with on-site personnel or visitors as these apply to the project. A table identifying sample duplicate samples will be recorded in the field book.

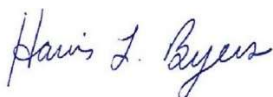
SUMMARY REPORT

Upon receipt of the laboratory results, Stantec will prepare a letter report to WDNR comparing the concentrations of detected constituents to Residual Contaminant Levels (RCLs; December 2018 Update) found in Chapter NR720 of the Wisconsin Administrative Code. If soil at 333 Reed Avenue meets project quality objectives, a supplemental addendum to the Stantec (2021) RAP/ MMP will be prepared and submitted to WDNR for approval.

Thank you for your continued support on this project. Please contact me if you have any questions pertaining to this plan.

Sincerely,

STANTEC CONSULTING SERVICES INC.



Harris L. Byers, Ph.D.
Sr. Brownfields Project Manager
Tel: 414-581-6476
Email: harris.byers@stantec.com



Stu Gross, P.G.,
BC1937 Practice Lead/Senior
Project Manager
Email: stu.gross@stantec.com

Enclosures:

Figures

Attachment A – Health and Safety Plan

Reference: Sampling & Analysis Plan for Characterizing Soil at 333 Reed Avenue Prior to Importing Material; Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRS # 02-36-585491

REFERENCES

Stantec, 2021a. Remedial Action Plan & Materials Management Plan, River Point District, Phase 1 Construction Area; Manitowoc, Wisconsin, July 19, 2021.

Stantec, 2022a, Phase I ESA of 333 Reed Avenue, Manitowoc, Wisconsin, July 11, 2022.

Stantec, 2022b. Addendum to the Stantec (2021) Remedial Action Plan & Materials Management Plan, River Point District, Phase 1 Construction Area; Manitowoc, Wisconsin, July 29, 2022.

Quality Assurance Project Plan References

Stantec, 2015. Quality Assurance Project Plan (Revision 0), Implementation of U.S. EPA Assessment Grants for Petroleum and Hazardous Substance Brownfields, City of Manitowoc, WI, U.S. EPA Cooperative Agreement Nos. BF- BF-00E01529-0, August 19, 2015.

Stantec, 2016a. Quality Assurance Project Plan Addendum 1, June 3, 2016.

Stantec, 2016b. Quality Assurance Project Plan Update and Addendum 2, August 15, 2016.

Stantec, 2016c. Quality Assurance Project Plan Update, October 18, 2016.

Stantec, 2018a. Quality Assurance Project Plan Update and Addendum 3, June 17, 2018.

Stantec, 2018b. QAPP 2018 Update - Current WDNR Laboratory Certificates, September 11, 2018.

Stantec, 2018c. Quality Assurance Project Plan Addendum, November 18, 2018.

Stantec, 2019a. Quality Assurance Project Plan Addendum, January 1, 2019.

Stantec, 2019b. Quality Assurance Project Plan Addendum, January 7, 2019.

Stantec, 2019c. Quality Assurance Project Plan Addendum, January 9, 2019.

Stantec, 2020. Quality Assurance Project Plan Update and Addendum, April 7, 2020.

Stantec, 2021b. Quality Assurance Project Plan Update and Addendum, September 28, 2021.

Stantec, 2022c. Quality Assurance Project Plan Update and Addendum, November 29, 2022.

Stantec, 2023. Quality Assurance Project Plan Addendum, February 14, 2023

LIMITATIONS

The conclusions in this SAP are Stantec's professional opinion, as of the time of the SAP, and concerning the scope described in the SAP. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The SAP relates solely to the specific project for which Stantec was retained and the stated purpose for which the SAP was prepared. The SAP is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the City/CDA and third parties in the preparation of the SAP to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This SAP is intended solely for use by the City/CDA in accordance with Stantec's contract with the CDA. While the SAP may be provided to applicable authorities having jurisdiction and others for whom the City/CDA is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

FIGURES

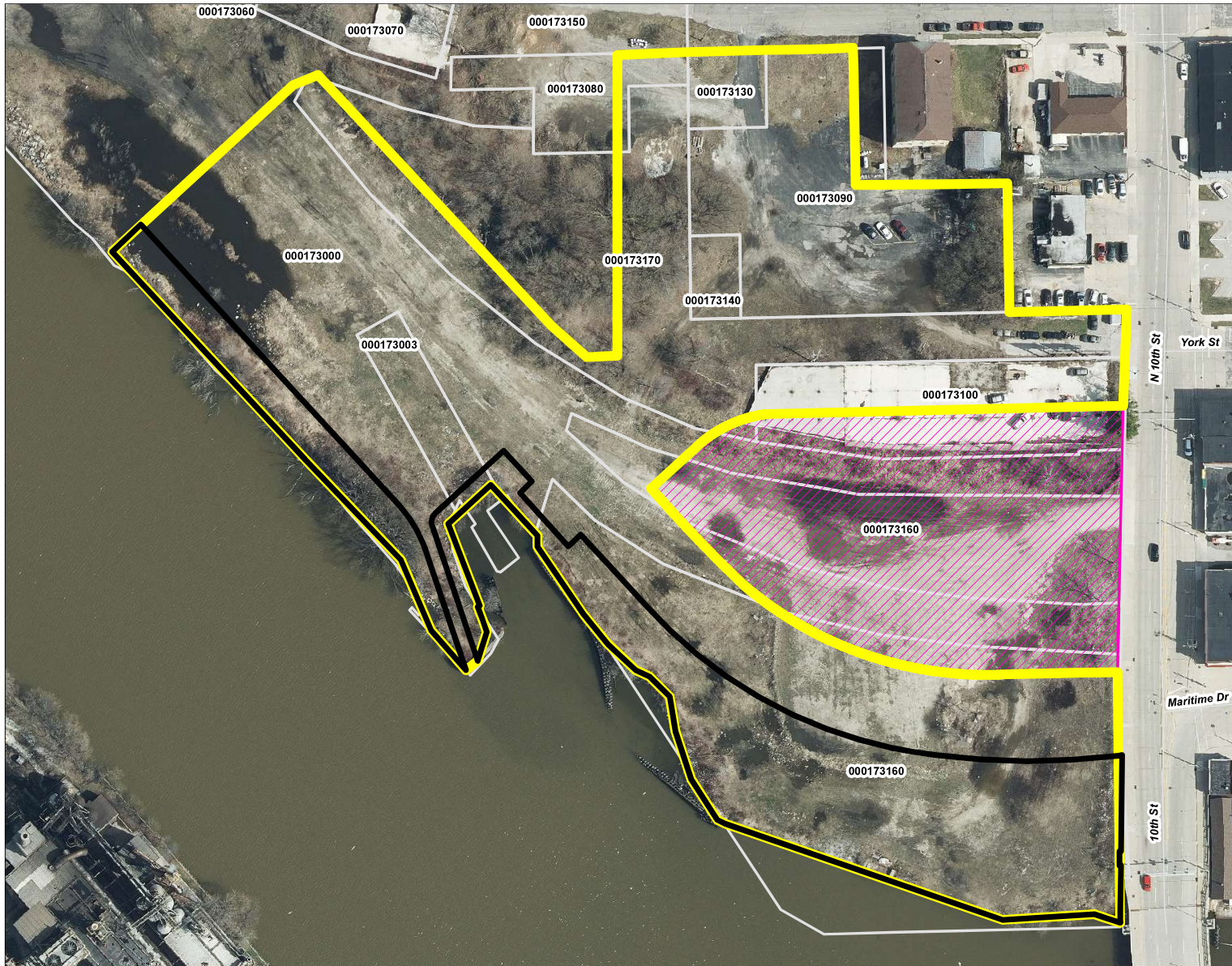


Figure No.

1

Title

Phase I Project Area and Parcel Identification Numbers





Client/Project
 Material Management Plan Addendum
 River Point District
 City of Manitowoc

0 65 130 Prepared by HUS on 4/21/21

Feet

Legend



-  Phase I Redevelopment Area
-  Shoreline Focus Area (2022)
-  River North LLC Project Area
-  Parcel Identification Numbers

NOTE:
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Orthophotograph: Manitowoc County, 2020

intec

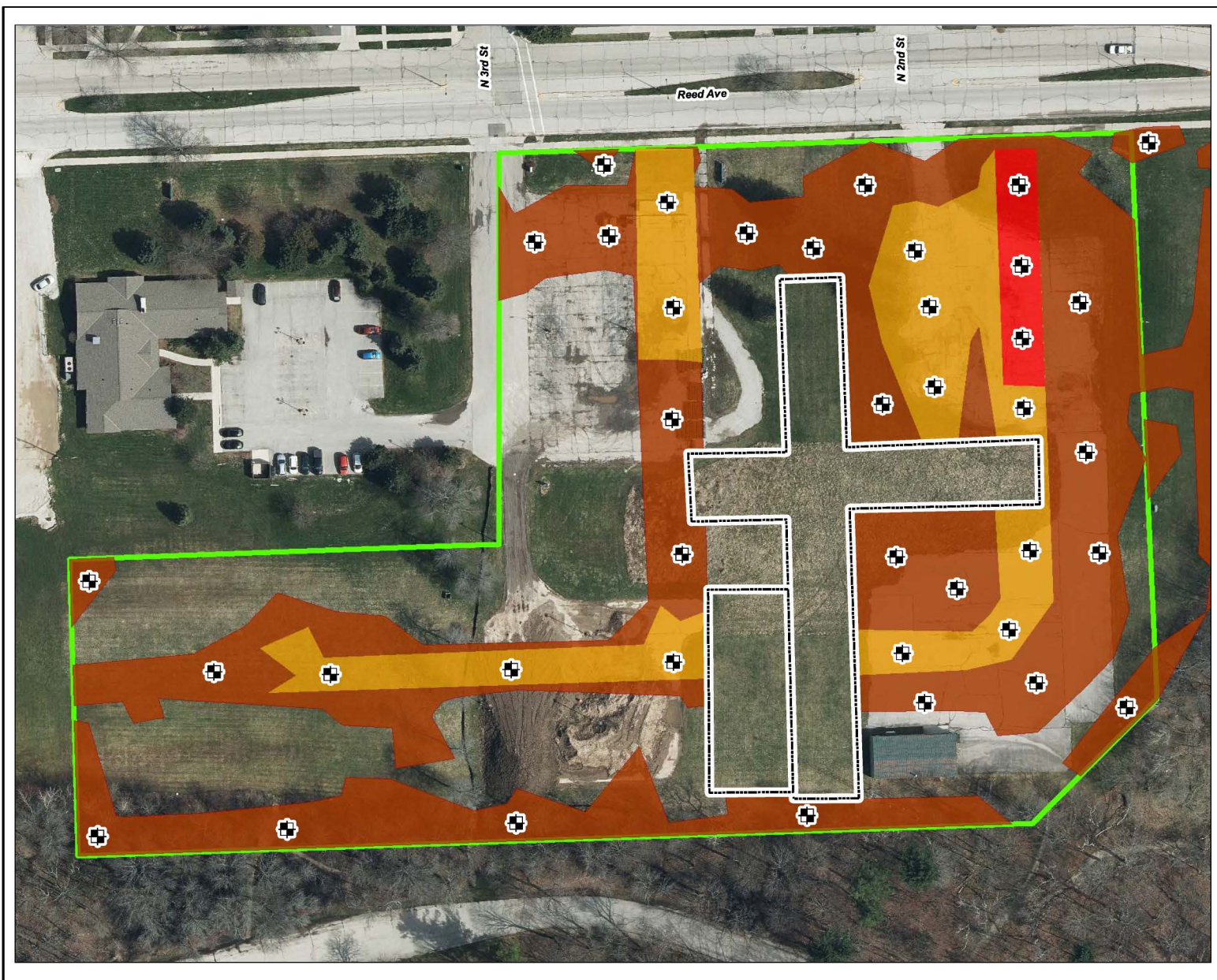


Figure No. **2**
 Title
Target Property, Proposed Cut, and Proposed Sample Locations
 Client/Project
 333 Reed Ave
 City of Manitowoc
 USEPA Brownfield Cleanup Grant
 193709261
 Prepared by HLB on 4/26/2023
 0 50 100 Feet

Legend

Proposed Soil Borings (39)
 Former Hospital Building (ca. 2013)
 Proposed Cut (Feet Below Current Grade)
 -6.5 Feet
 -3.5 Feet
 -1.5 Feet
 Target Property
 PIN: 05281730401000

Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. The locations of the former buildings were digitized by Startec based on an orthophotograph taken in 2013.

ATTACHMENT A HEALTH AND SAFETY PLAN

- If the project requires fieldwork a HASP or RMS1 must be completed.
- If the scope of work for a project that originally did not involve field work changes to include field work, an RMS1 form must be completed and reviewed with employees before field work begins.
- Although the RMS1 is intended to be part of the desktop planning process for a project, please be aware that the RMS1 must be carried as a field resource as well, to complement use of the Field Level Risk Assessment (RMS2).

Date: February 14, 2023	This form expires 1 year from the date of creation
Project / proposal number: 193709261	Project name: 333 Reed Avenue Soil Sampling
Location: 333 Reed Avenue, Manitowoc, WI	
Project description (Companies involved, what, where, when)	
Stantec to contract Horizon Construction and Exploration to install up to 40 soil borings at 333 Reed Avenue in Manitowoc. Soil borings to be advanced between 2 and 7 feet bgs and abandoned with bentonite. Soil to be logged and sampled for PAHs, Metals, and VOCs. Soil to be shipped under COC to Eurofins TestAmerica (Chicago, IL).	
Does this project involve fieldwork?	Yes - continue with this form
Is this project remote work?	No
What method of communication will be used?	<input checked="" type="checkbox"/> Cell Phone <input type="checkbox"/> Satellite Phone <input type="checkbox"/> Spot Messenger <input type="checkbox"/> Other:
Is there a call in – call out system?	No
Are there any unique security concerns?	No
Will workers on this project be crossing into different states/provinces or countries?	No
Is Stantec the Constructor/Prime Contractor?	Yes
Is Stantec hiring subcontractors?	Yes
Will Stantec staff or subcontractors be working alone?	No
Client/Constructor HSSE training required?	No
Is there a Client/Constructor HSSE program that the project is required to follow?	No
Is this work taking place outside of North America?	No
List the major tasks associated with this project.	
1. Drive to/from site	
2. Screen soil collected from soil borings using a photoionization detector (PID)	
3. Collect samples for analysis of PAHs/metals/VOCs	
4. Pack and ship samples to Eurofins TestAmerica via FedEx	
5. Click here to enter text	
6. Click here to enter text	
7. Click here to enter text	
8. Click here to enter text	
9. Click here to enter text	
10. Click here to enter text	

Identify critical risk(s) that staff may encounter on this project.
For each critical risk identified, review the flatsheet using the In Case of Crisis app or a printed copy.

 Driving	 Working at Heights	 Traffic Control	 Wildlife, Insects, and Vegetation	 Mobile and Heavy Equipment	 Environments with Water or Ice
Yes	No	No	Yes	Yes	Yes
 Ground Disturbance	 Ergonomic Hazards and Manual Handling	 Hazardous Materials and Environments	 Control of Hazardous Energy	 Hot Work	 Confined Spaces
Yes	Yes	Yes	No	No	No

When assessing energy sources please consider task and site hazards including activities, time of day, time of year and project stages. If an SWP for a task below is not available, please perform a Quantified Hazard Assessment (RMS7) for the task and include below.

Please identify SWPs below that apply to your project:

- [SWP 107 – First Aid](#)
 [SWP 111 – Medical Surveillance](#)
 [SWP 105 – PPE](#)
 [SWP 103 – WHMIS \(CA\)](#)
 [SWP 104 – HAZCOM \(US\)](#)
 [SWP 118 – Working Alone In the Field](#)

	Hazards	Applicable SWPs, forms, SOPs, RMS7s	Specialized training beyond the SWPs	Specific Site Controls
Thermal				
	<input checked="" type="checkbox"/> Cold stress <input checked="" type="checkbox"/> Cold surfaces <input type="checkbox"/> Heat stress <input type="checkbox"/> Hot surfaces <input type="checkbox"/> Hot work <input checked="" type="checkbox"/> Weather conditions <input type="checkbox"/> Other:	<input checked="" type="checkbox"/> SWP 514 - Working on or Near Ice <input checked="" type="checkbox"/> SWP 114 - Working in Cold Environments <input type="checkbox"/> SWP 113 - Heat Stress <input type="checkbox"/> SWP 414, 414a – Hot Work Enter additional SWPs, SOPs	Enter specialized training	Stay hydrated and have water available during field work. Will wear warm clothing, go to warm truck to warm up as needed.
Chemical				
	<input type="checkbox"/> Oxygen deficient atmosphere <input type="checkbox"/> H ₂ S (Hydrogen sulfide) <input type="checkbox"/> Asbestos <input type="checkbox"/> Silica <input type="checkbox"/> Acids <input type="checkbox"/> Caustics <input checked="" type="checkbox"/> Petroleum hydrocarbons <input type="checkbox"/> Solvents/Flammables <input checked="" type="checkbox"/> Volatile organic compounds <input checked="" type="checkbox"/> Heavy metals <input checked="" type="checkbox"/> Benzene <input checked="" type="checkbox"/> Lead <input checked="" type="checkbox"/> Arsenic <input checked="" type="checkbox"/> Polycyclic Aromatic Hydrocarbons (PAH)	<input type="checkbox"/> SWP 409 - Respiratory Protection <input type="checkbox"/> SWP 411, 411a, 411b, 411c – Confined Space Entry <input type="checkbox"/> SWP 304 - Asbestos Safety <input type="checkbox"/> SWP 309 - Silica Awareness <input type="checkbox"/> SWP 312 - Fueling Gasoline Engines <input checked="" type="checkbox"/> SWP 305 - Benzene Safety <input type="checkbox"/> SWP 314 – Working Around Hazardous Waste and Wastewater <input checked="" type="checkbox"/> SWP 315 - Arsenic Safety <input type="checkbox"/> SWP 319 - Hydrogen Fluoride / Hydrofluoric Acid Safety	Enter specialized training	Subsurface impacts are not known to exist. Employees breathing space will be monitored with a PID. If readings above background occur, stop work, move upwind and contact the project manager to evaluate appropriate action. Stantec employees should make an effort to remain upwind of the drill rig. Also, no smoking or eating in the work area Wear nitrile gloves (and change between samples),

	<input type="checkbox"/> PCBs <input type="checkbox"/> Pesticides <input type="checkbox"/> Herbicides <input type="checkbox"/> Hydrogen fluoride / Hydrofluoric acid <input type="checkbox"/> Other:	<input type="checkbox"/> SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs		wear safety glasses as well to protect eyes.
Biological				
	<input checked="" type="checkbox"/> Wildlife <input checked="" type="checkbox"/> Domestic animals (dogs, cattle) <input checked="" type="checkbox"/> Bees / wasps / hornets <input checked="" type="checkbox"/> Ticks <input type="checkbox"/> Black flies <input checked="" type="checkbox"/> Other stinging or biting insects <input checked="" type="checkbox"/> Pedestrians / onlookers <input type="checkbox"/> Protesters <input type="checkbox"/> Poison ivy <input type="checkbox"/> Poison oak <input type="checkbox"/> Giant hogweed <input type="checkbox"/> Wild parsnip <input type="checkbox"/> Sewage <input type="checkbox"/> Wastewater <input type="checkbox"/> Domestic waste <input type="checkbox"/> Medical waste <input type="checkbox"/> Bloodborne pathogens <input type="checkbox"/> Bacterial cultures <input checked="" type="checkbox"/> Other: Contractors <input type="checkbox"/> Other: <input type="checkbox"/> Other: <input type="checkbox"/> Other:	<input type="checkbox"/> SWP 409 - Respiratory Protection <input type="checkbox"/> SWP 314 - Working Around Hazardous Waste and Waste Water <input type="checkbox"/> SWP 108 - Bloodborne Pathogens <input checked="" type="checkbox"/> SWP 508 - Wildlife Encounters <input type="checkbox"/> SWP 102 - Workplace Violence <input type="checkbox"/> SWP 510 - Working in Abandoned Buildings <input checked="" type="checkbox"/> SWP 511 - Ticks and Tickborne Diseases <input type="checkbox"/> SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs	Enter specialized training	Maintain social distancing (minimum 6 ft) with other contract workers on the site to mitigate COVID 19. Wear a cloth mask if desired. The Site is located in an urban area and additional biological risk could include feral/domesticated animals/pets. If work is conducted in warmer weather, additional biological risk could include insects/invertebrates.
Radiation				
	<input type="checkbox"/> Solar (UVA/UVB) <input type="checkbox"/> Welding <input type="checkbox"/> Nuclear densometers <input type="checkbox"/> NORMs <input type="checkbox"/> Microwave <input type="checkbox"/> Other:	<input type="checkbox"/> SWP 502, 502a-g (CA) - Radiation Safety Program Field Manual for Portable Gauges (Canada) <input type="checkbox"/> SWP 516, 516a-e (US) - Radiation Safety (US) Enter additional SWPs, SOPs	Enter specialized training	Enter specific controls
Noise				
	<input checked="" type="checkbox"/> Mobile equipment <input type="checkbox"/> Stationary equipment <input type="checkbox"/> Manual equipment <input type="checkbox"/> Impact <input type="checkbox"/> Vibration <input type="checkbox"/> Impact on communications <input type="checkbox"/> Other:	Enter additional SWPs, SOPs	Enter specialized training	Noise/vibration/impact is expected from drills used to power building materials. Wear earplugs during sampling and while Horizon is drilling

Gravity				
	<input checked="" type="checkbox"/> Slip / Trip / Fall	<input type="checkbox"/> SWP 201 - Fall Protection / Working at Heights	Enter specialized training	Wear appropriate footwear; use traction enhancement if needed. Wear safety toed boots with at least a 6" ankle for support onsite. Keep focus on path and off of phone/maps while walking.
	<input type="checkbox"/> Work from heights	<input type="checkbox"/> SWP 202 - Ladder Safety		
	<input type="checkbox"/> Falling objects	<input type="checkbox"/> SWP 203 - Aerial Work Platform		
	<input type="checkbox"/> Other:	<input type="checkbox"/> SWP 205 - Scaffold Safety <input type="checkbox"/> SWP 208 - Hoisting and Lifting <input type="checkbox"/> SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs		
Motion				
	<input checked="" type="checkbox"/> Working near traffic	<input type="checkbox"/> SWP 507 - Aircraft Safety	Enter specialized training	Maintain awareness near roadways. Work is planned to be in the parking lanes only, but control work area in all directions with cones/signage. Drilling subcontractor to develop and implement a traffic control plan. Be mindful of drilling equipment pathing, and make presence known in area (verbal/visual cues), wear hi-visibility clothing/vest. Sure-footing and use of safety-toed boots with ankle support.
	<input checked="" type="checkbox"/> Automobile/truck/trailer	<input checked="" type="checkbox"/> SWP 124, 124a, 124b – Safe Driving		
	<input checked="" type="checkbox"/> Construction equipment	<input checked="" type="checkbox"/> SWP 216 - Working Near Mobile Equipment		
	<input type="checkbox"/> Elevated work platform	<input type="checkbox"/> SWP 217, 217a – Forklift Operation		
	<input checked="" type="checkbox"/> Pedestrians	<input checked="" type="checkbox"/> SWP 407, 407a, 407b, 407c – Traffic Control and Protection Planning		
	<input type="checkbox"/> Cyclists	<input type="checkbox"/> SWP 505, 505a, 505b, 505c, 505d - Off Road Vehicles		
	<input type="checkbox"/> Rail	<input type="checkbox"/> SWP 506 - Rail Safety		
	<input type="checkbox"/> ATV	<input checked="" type="checkbox"/> SWP 115 - Material Handling and Safe Lifting		
	<input type="checkbox"/> ARGO	<input type="checkbox"/> SWP 125 - Workstation Ergonomics		
	<input type="checkbox"/> Watercraft / water	<input type="checkbox"/> SWP 513 - Boat and Water Safety		
	<input type="checkbox"/> Snowmobile	Enter additional SWPs, SOPs		
	<input type="checkbox"/> Aircraft (fixed wing or rotary)			
	<input type="checkbox"/> UAVs/Drones			
	<input checked="" type="checkbox"/> Walking/Hiking			
	<input type="checkbox"/> Lifting			
	<input type="checkbox"/> Pushing/Pulling			
	<input checked="" type="checkbox"/> Bending			
<input checked="" type="checkbox"/> Posture/position				
<input type="checkbox"/> Climbing				
<input type="checkbox"/> Twisting				
<input type="checkbox"/> Other:				
Mechanical				
	<input type="checkbox"/> Cutting edges	<input checked="" type="checkbox"/> SWP 416 - Supervision of Contracted Drilling Activities	Enter specialized training	Maintain awareness around drilling equipment, as mentioned above.
	<input type="checkbox"/> Blades	<input type="checkbox"/> SWP 518, 518a – Using a Chainsaw		
	<input type="checkbox"/> Rotating parts (e.g., drill/auger)	<input type="checkbox"/> SWP 206 - Hand and Portable Power Tools		
	<input type="checkbox"/> Wrap points	<input type="checkbox"/> SWP 517 - Safe Machete Use		
	<input type="checkbox"/> Shear points	<input type="checkbox"/> SWP 408, 408a, 408b, 408c – Lock, Tag & Try		
	<input checked="" type="checkbox"/> Pinch points			
	<input type="checkbox"/> Freewheeling point			
	<input type="checkbox"/> Chains			
<input type="checkbox"/> Cables				

	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> SWP 216 - Working Near Mobile Equipment <input type="checkbox"/> SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs		
Electrical				
	<input checked="" type="checkbox"/> Power and communication lines	<input checked="" type="checkbox"/> SWP 213, 213a, 213b, 213c - Utility Clearance	Enter specialized training	Confirm that utilities are marked prior to performing drilling work.
	<input type="checkbox"/> Static charge and lightning	<input type="checkbox"/> SWP 406, 406a, 406b - Electrical Safety Program		
	<input type="checkbox"/> Wiring	<input type="checkbox"/> SWP 408, 408a, 408b, 408c - Lock, Tag & Try		
	<input type="checkbox"/> Batteries	<input type="checkbox"/> SWP 504 - Backpack and Boat Mounted Electro-Fishing		
	<input type="checkbox"/> Lighting levels	<input type="checkbox"/> SWP 519 - Post-Disaster Building Entry		
	<input type="checkbox"/> Wet environment	Enter additional SWPs, SOPs		
	<input type="checkbox"/> GFCI cords/plugs			
	<input type="checkbox"/> Double insulated tools			
	<input type="checkbox"/> Exposed circuits			
<input type="checkbox"/> Other:				
Pressure				
	<input type="checkbox"/> Excavations and spoil piles	<input type="checkbox"/> SWP 215 - Supervision of Hydro-Excavation Activities	Enter specialized training	Maintain safe distance from hydraulic drilling equipment.
	<input checked="" type="checkbox"/> Hydraulic systems	<input checked="" type="checkbox"/> SWP 310 - Compressed Gas Cylinders		
	<input checked="" type="checkbox"/> Pneumatic systems	<input type="checkbox"/> SWP 214 - Entering Excavations and Trenches		
	<input type="checkbox"/> Steam	Enter additional SWPs, SOPs		
	<input type="checkbox"/> Vacuum			
	<input type="checkbox"/> Cylinders			
	<input type="checkbox"/> Other:			
PPE	REQ'd	If you need assistance to answer these questions, please contact an HSSE advisor or HSSE manager		
Head (CSA/ANSI)	<input checked="" type="checkbox"/>	Choose a Type and Class: <input checked="" type="checkbox"/> Type 1 (no side impact) <input type="checkbox"/> Class E (rated for 20000 volts) <input type="checkbox"/> Type 2 (side impact) <input type="checkbox"/> Class G (rated for 2200 volts) <input type="checkbox"/> Other <input type="checkbox"/> Class C (no electrical rating)		
Eye/face (CSA/ANSI)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> safety glasses with rigid side shields <input type="checkbox"/> safety glasses and face shield <input type="checkbox"/> polarized safety glasses with rigid side shields <input type="checkbox"/> goggles and face shield <input type="checkbox"/> goggles <input type="checkbox"/> UV glasses, UV shield <input type="checkbox"/> spoggles		
Hand	<input checked="" type="checkbox"/>	Hazard Protection <input type="checkbox"/> Abrasion <input type="checkbox"/> Cut <input type="checkbox"/> Vibration <input type="checkbox"/> Puncture <input type="checkbox"/> FR (flame resistant) <input type="checkbox"/> Arc Flash <input checked="" type="checkbox"/> Chemical <input type="checkbox"/> Impact <input type="checkbox"/> Cold <input type="checkbox"/> Heat <input type="checkbox"/> Other:		
		Glove Type <input checked="" type="checkbox"/> Nitrile <input type="checkbox"/> Leather <input type="checkbox"/> Cotton <input type="checkbox"/> High Performance Polyethylene <input type="checkbox"/> Polyurethane <input type="checkbox"/> Kevlar <input type="checkbox"/> Latex <input type="checkbox"/> PVC <input type="checkbox"/> Neoprene <input type="checkbox"/> Viton <input type="checkbox"/> Other:		

Foot (6" minimum ankle support)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> CSA Green triangle and orange omega boots (CA) / ASTM / ANSI boots (US) <input type="checkbox"/> CSA Green triangle and orange omega rubber boots (CA) / ASTM / ANSI rubber boots (US)	<input type="checkbox"/> CSA Green triangle and orange omega waders (CA) / ASTM / ANSI waders boots (US) <input type="checkbox"/> Traction Aids
High visibility clothing	<input checked="" type="checkbox"/>	Class 1 - not used <input checked="" type="checkbox"/> Class 2 (under 80km/h / 50 mph and daylight)	<input type="checkbox"/> Class 3 (over 80km/h / 50 mph and/or twilight/dark)
Hearing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Ear plugs <input type="checkbox"/> Ear muffs	<input type="checkbox"/> Ear plugs and muffs
Coveralls	<input type="checkbox"/>	<input type="checkbox"/> Standard <input type="checkbox"/> Tyvek (disposable)	<input type="checkbox"/> FR (Flame Resistant) – Type: <input type="checkbox"/> Chemical resistant
Respiratory	<input type="checkbox"/>	<input type="checkbox"/> N95 (dust mask) <input type="checkbox"/> 1/2 mask - Cartridge type: - Filter type: <input type="checkbox"/> Full face - Cartridge type: - Filter type: <input type="checkbox"/> PAPR - Cartridge type: - Filter type:	
Fall arrest/limit	<input type="checkbox"/>	Fall arrest harness (verify capacity) <input type="checkbox"/> Class A (fall arrest) <input type="checkbox"/> Class D (controlled descent) <input type="checkbox"/> Class E (evacuation) <input type="checkbox"/> Class L (ladder) <input type="checkbox"/> Class P (positioning) Lanyard <input type="checkbox"/> 6' with shock absorber (verify capacity) <input type="checkbox"/> 4' with shock absorber (verify capacity) <input type="checkbox"/> 6' Y with shock absorber (verify capacity) <input type="checkbox"/> 6' with NO shock absorber (verify capacity) for use on aerial lifts <input type="checkbox"/> 4' with NO shock absorber (verify capacity) for use on aerial lifts <input type="checkbox"/> Other:	Additional equipment <input type="checkbox"/> Rope Grab <input type="checkbox"/> Rope <input type="checkbox"/> Self-retracting lifeline – <input type="checkbox"/> SRL <input type="checkbox"/> SRL-R (integral rescue capability) <input type="checkbox"/> SRL-LE (leading edge capability) <input type="checkbox"/> Tripod <input type="checkbox"/> Retrieval winch <input type="checkbox"/> Anchorage connector <input type="checkbox"/> Beam anchor <input type="checkbox"/> Vertical or horizontal lifeline <input type="checkbox"/> Carabiner <input type="checkbox"/> Suspension trauma straps
Flotation device	<input type="checkbox"/>	<input type="checkbox"/> Lifejacket <input type="checkbox"/> Floater Jacket <input type="checkbox"/> PFD - Type:	<input type="checkbox"/> PFD inflatable <input type="checkbox"/> Survival Suit
Other	<input checked="" type="checkbox"/>	Employees breathing space will be monitored with a PID. If readings above background occur, stop work, move upwind and contact the project manager to evaluate appropriate action.	

EMERGENCY RESOURCES

(NOTE: This plan is not adequate for [working at heights](#) or [confined space](#) activities. A separate plan is required, please contact your Regional HSSE Manager or Advisor)

Site emergency number: <div style="border-bottom: 1px solid black; padding: 2px 0 2px 20px;">911</div> Ambulance: Maniwoc Fire & Rescue <div style="border-bottom: 1px solid black; padding: 2px 0 2px 20px;">911 Franklin St. 920 - 686 - 6540</div> Police: Maniwoc City Police Dept. <div style="border-bottom: 1px solid black; padding: 2px 0 2px 20px;">910 Jay St. 920 – 686 - 6500</div>	Fire Department: Maniwoc Fire & Rescue <div style="border-bottom: 1px solid black; padding: 2px 0 2px 20px;">911 Franklin St. 920 - 686 - 6540</div> Spill Response: <div style="border-bottom: 1px solid black; padding: 2px 0 2px 20px;">National Response Center 800 - 424 - 8802</div> Regional HR: US Central - Ricardo Carlos Perez - (512) 469-5330
Workers' Compensation Claim Coordinator: US - Melissa Helton - cell 513-720-3706	
OSEC: Kurt Rubsam – 262 - 402 - 8153	
Public Relations: US Central – Laura Krinke (612) 712-2072	
HSSE Manager: US Central – Wes Cline (916) 281-7459	
First aid facilities are located: In vehicle	
First aiders on site: Whitney Cull	
Fire extinguisher are located: In vehicle	
SDS are located: N/A	
Eyewash station is located: N/A	
Spill response equipment is located: N/A	
Muster point is located N/A	

Incident reporting protocol based on work location (Select USA and / or Canada and / or International)

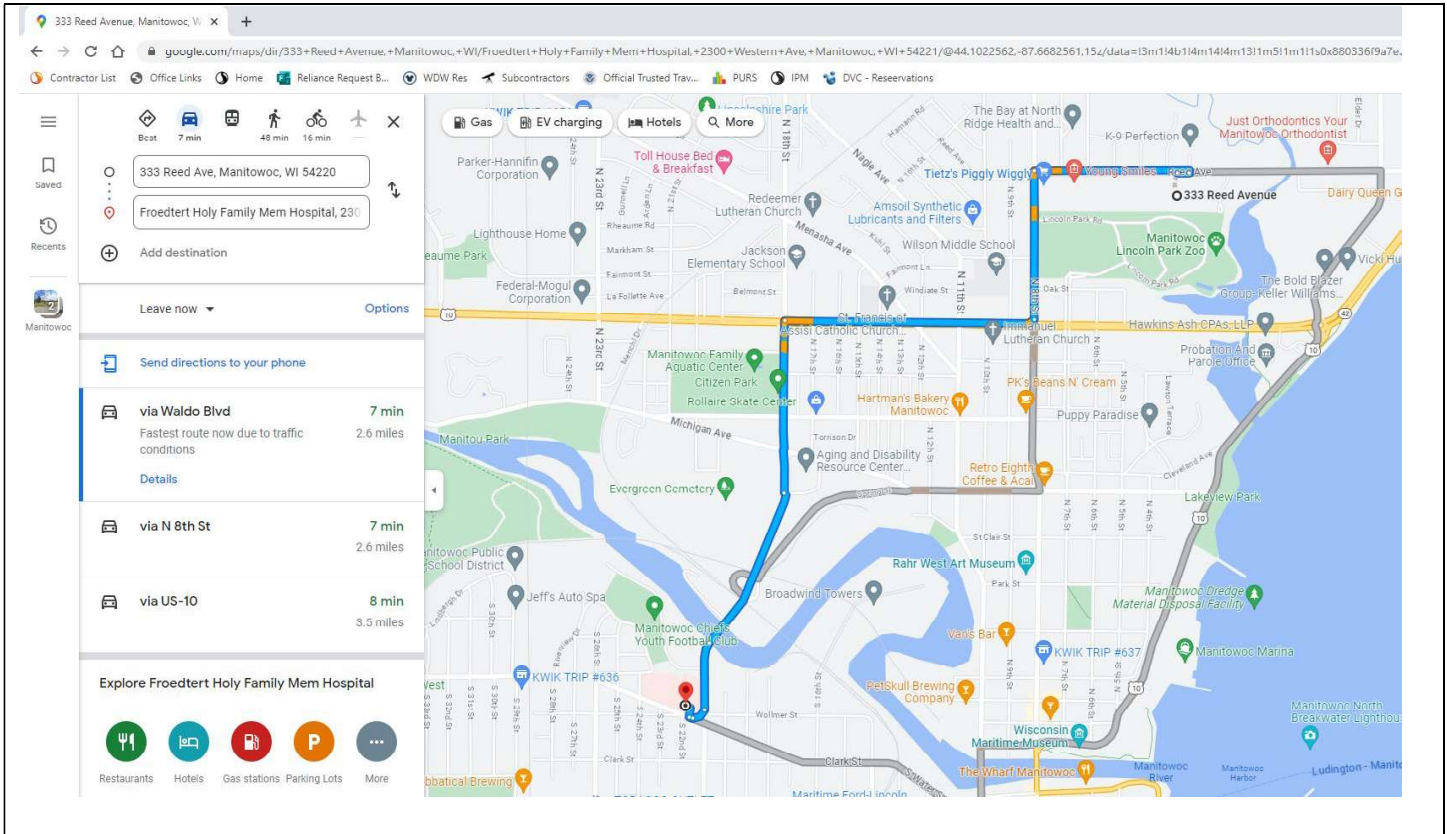
Incident Reporting Protocol US

IMMEDIATE ACTIONS

1. Keeping safety in mind, care for injured people (if applicable) and stabilize the scene.
2. For life threatening injuries, **immediately contact 911**. Accompany the injured employee to the medical facility whenever possible.
3. Call **WorkCare (24-hour service): 1-888-449-7787** for work-related symptoms or injuries and speak to a medical professional for guidance and treatment options.
4. Make voice contact with your supervisor within 1 hour or less of the incident occurring. Leaving a voicemail does not count. If you cannot contact your supervisor, contact the HSSE Manager or HSSE Advisor for your region.
5. Supervisors must immediately contact their HSSE Manager or HSSE Advisor by phone to discuss incident severity and determine if further notifications (internal or external) are required.
6. When an employee is guided by WorkCare to obtain medical assistance, or the employee requests medical attention for a non-life-threatening injury, and after alerting the supervisor; the employee must **immediately call Melissa Helton, Stantec's US WC Claims Coordinator at 513-720-3706** for assistance.
7. In most cases WorkCare will provide guidance about which clinic is available and provide directions. Here is a link accessing additional clinic locations: Clinic Search [link](#).
8. Additional notifications may be required based on the client requirements

Maps are provided to the nearest medical clinic or hospital

See next page: Holy Family Memorial, 2300 Western Avenue, (920) 320 – 2011



PROJECT CONTACT INFORMATION

Title	Name	Company	Phone Number
Stantec Office	Mequon, WI	Stantec	262-241-4466
Project Manager	Harris Byers	Stantec	414-581-6476
Project Site Safety	Whitney Cull	Stantec	262-219-4740
Client or Owner	Adam Tegen	City of Manitowoc	920-686-6930
Stantec After-Hours Number	Click here to enter text	Click here to enter text	Phone Number
Other: Contractor	Click here to enter text	Click here to enter text	Phone Number
Other: (specify)	Click here to enter text	Click here to enter text	Phone Number

Approvals

By signing this approval, the Project Manager is acknowledging that (s)he has communicated the hazards, controls, required PPE and applicable SWPs to the employees working on this project. It also indicates that the Project Manager has communicated to employees that they must have the equipment required to work safely, they must verify the equipment is in working order, and that they have the knowledge required to operate/use the equipment.

Prepared by:	Harris Byers		Digitally signed by Byers, Harris Date: 2023.04.28 08:00:50 -05'00'	4/27/2023
	Print Name	Signature		Date
Reviewed by: (not author)	Stu Gross			4/27/2023
	Print Name	Signature		Date
Approved by PM:	Harris Byers.			4/27/2023
	Print Name	Signature		Date

Employee Review

All employees conducting field work on this project will review the Risk Management Strategy (RMS1) and sign below acknowledging that they have been advised of the hazards, controls, PPE, and other safety equipment required, and have reviewed the applicable SWPs. Employees in the field who identify additional hazards not listed above will notify the project manager of the hazard, and prior to proceeding, will confirm the controls that will be used. Document any on-site changes and communications using the RMS2 as appropriate; see section 4.4 of the HSSE Program Manual on Management of Change.

Please designate Team Lead for field activities below.

Reviewed by:	Whitney Cull		4/27/2023
	Print Name (Team Lead Field) Click here to enter text.	Signature	Date Click here to enter a date.
	Print Name Click here to enter text.	Signature	Date Click here to enter a date.
	Print Name Click here to enter text.	Signature	Date Click here to enter a date.
	Print Name Click here to enter text.	Signature	Date Click here to enter a date.
	Print Name	Signature	Date