From: Beggs, Tauren R - DNR
Sent: Monday, February 27, 2023 11:24 AM
To: Byers, Harris
Cc: Adam Tegen; Van Der Kloot, James
Subject: RE: Sampling and Analysis Plans to Characterize Soil in Two Rights of Ways in Manitowoc, Wisconsin

Hi Harris,

This seems consistent with what you have proposed in the past for the other ROW scenarios.

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: Wednesday, February 15, 2023 1:52 PM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>; Adam Tegen <ategen@manitowoc.org>; Van Der Kloot, James <vanderkloot.james@epa.gov>
Subject: Sampling and Analysis Plans to Characterize Soil in Two Rights of Ways in Manitowoc, Wisconsin

Tauren and team:

On behalf of the City of Manitowoc Community Development Authority (CDA; cc'd), attached are two Sampling and Analysis Plans to characterize soil in two rights of ways (ROWs) in Manitowoc targeted for infrastructure work in 2023.

Similar to work completed in 2021, the purpose of this work is to confirm the quality of potential spoil in the two ROWs to determine if the material is suitable for use in constructing the engineered barrier in the Shoreline Focus Area in the Phase I Redevelopment Area of the River Point District.

Please review and let us know if you concur with the proposed approach.

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

Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon WI 53092-2661

February 14, 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 in the Division Street Rights of Way Prior to Importing Material to the Shoreline Focus Area in the 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 in the Division Street rights of way (ROW) 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 the Division Street ROW is illustrated on **Figure 2** and **Figure 3**. 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 (2022a) *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. The City is targeting infrastructure work in the Division Street ROW in the summer of 2023, which could generate up to 3,000 cubic yards of excess spoil potentially suitable for reuse in constructing the engineered barrier in the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District.

This SAP was developed to guide the sampling of soil in the Division Street ROW to confirm if the potential spoil is suitable for use in constructing the engineered barrier at the River Point District. This SAP was

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 beneath Division Street, which is an asphalt-paved ROW trending east-west on the southeast side of the City. The location of the Division Street project area is outlined in green relative to regional topography on **Figure 2**. The material is likely reworked native fill placed beneath Division Street when the ROW was last reconstructed.

KNOWN RELEASES AND POTENTIAL FOR IMPACTS

There are no apparent open or closed Bureau for Remediation and Redevelopment Tracking System (BRRTS) cases within or adjacent to the project area (**Figure 3**).

The City of Manitowoc Brownfield GIS database indicates the Division Street ROW was platted by 1878 with initial development (presumed residential) of adjacent properties occurring between 1879 and 1893. Residential development along the ROW continued into early 20th Century. Residential properties tend to pose low risk to the subsurface; therefore, the risk of impacts to soil in the Division Street ROW is overall considered minimal, except for one possible property (illustrated with an Underground Storage Tank [UST] symbol on **Figure 3**) further described below.

The property located at 1421 10th Street was developed between 1878 and 1893, presumably for residential use. As illustrated on historic Sanborn® Fire Insurance maps, the structure constructed on the parcel in the late 19th Century was razed between 1893 and 1906 (**Figure 4**). The parcel was redeveloped as a grocery store between 1906 and 1912 and remained in commercial use through 1927. An automotive filling station was added to the parcel between 1927 and 1946 (possibly as early as 1934 based on the assessed age of the existing building). The filling station remained in operation though at least 1966 (**Figure 4**). The former filling station building appears to have been remodeled for use as a restaurant in the later half of the 20st Century. The Wisconsin Department of Agriculture, Trace, and Consumer Protection tank database indicates the following underground storage tanks at the parcel were closed by “Carl Meyers”, which the Manitowoc County Recorder’s online database indicates owned the property between July 16, 1991 and December 18, 2002.

Tank Status	Tank Contents	Tank Size (gallons)
Abandoned without Product	Unleaded Gasoline	1,000
Abandoned without Product	Unleaded Gasoline	1,000
Closed/Removed	Leaded Gasoline	550
Closed/Removed	Leaded Gasoline	1,000
Closed/Removed	Waste/Used Motor Oil	1,000
Closed/Removed	Leaded Gasoline	4,000
Closed/Removed	Leaded Gasoline	4,000
Closed/Removed	Leaded Gasoline	4,000
Closed/Removed	Unleaded Gasoline	4,000
Closed/Removed	Unleaded Gasoline	8,000
Closed/Removed	Unleaded Gasoline	8,000

Reference: Sampling & Analysis Plan for Characterizing Soil in the Division Street Rights of Way Prior to Importing Material to the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRTS # 02-36-585491

There are no WDNR BRRTS records for the 1421 10th Street parcel and given the presumed age of the USTs when they were removed, it is reasonable to assume a risk to soil in the Division Street ROW near this former automotive fueling station.

PFAS EVALUATION STATEMENT

Per- and polyfluoroalkyl substance (PFAS) source evaluation of soil beneath the Division Street ROW 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 along Division Street; therefore, the risk for a surface spill of PFAS to soils in the ROW is unlikely.

Therefore, sampling soil beneath the Division Street ROW for PFAS is not warranted.

PROPOSED SAMPLING AND ANALYSIS PLAN

Stantec will conduct soil sampling activities to characterize the soil beneath the Division Street ROW 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, 2021, 2022, and 2023).

Approximately 3,000 cubic yards of spoil will be generated during infrastructure work in Division Street. Prior to importing this material to the River Point District, Stantec proposes collecting one sample of soil from 20 soil borings installed approximately every 100 linear feet along the Division Street project area. Proposed sample locations are illustrated on **Figure 3.** A site-specific health and safety plan is provided in **Attachment A**.

As illustrated on **Figure 3**, significant utility infrastructure exists in the Division Street ROW. To reduce the risk of a utility strike, a private utility locating subcontractor will clear each proposed boring location prior drilling. Soil borings will be advanced using direct-push dual-tube Geoprobe® drilling methods from the ground surface downward to 10 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.

Soil samples will be collected and preserved in accordance with SOP No. 02 and Table 3 of the QAPP. Given the BRRTS cases adjacent to the Division Street ROW and identified impacts at the River Point District, 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).

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).

Reference: Sampling & Analysis Plan for Characterizing Soil in the Division Street Rights of Way Prior to Importing Material to the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRTS # 02-36-585491

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.

Each 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 the soil beneath the Division Street ROW 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 in the Division Street Rights of Way Prior to Importing Material to the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRTS # 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. 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, 2022b. 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 1 Project Area and P**arcel** Identification Numbers

Client/Project
Phase I Redevelopment Area
River Point District
City of Manitowoc

0 65 130
Feet

N

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

Stantec

Figure No.
2
Title
Project Area and
Regional Topography
Client/Project
River Point Fill Characterization
Division Street Corridor
City of Manitowoc

0 550 1,100
Feet

N

Legend

Division Street Project Area

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet

Stantec

Figure No.
3
Title
Brownfield GIS Database Records and Soil Sample Locations

Client/Project
River Point Fill Characterization
Division Street Corridor
City of Manitowoc

Prepared by HLB on 2/14/2023

0 62.5 125 Feet

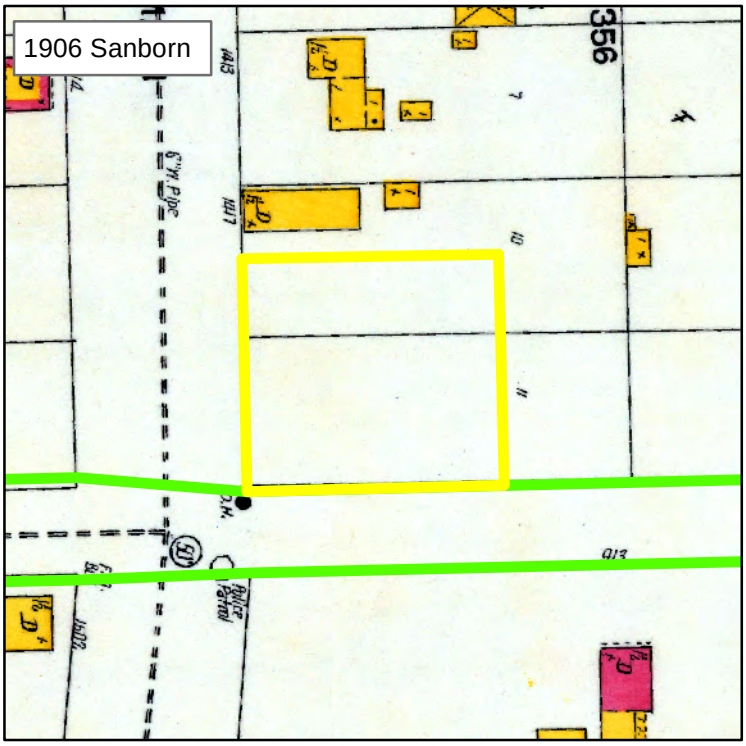
N

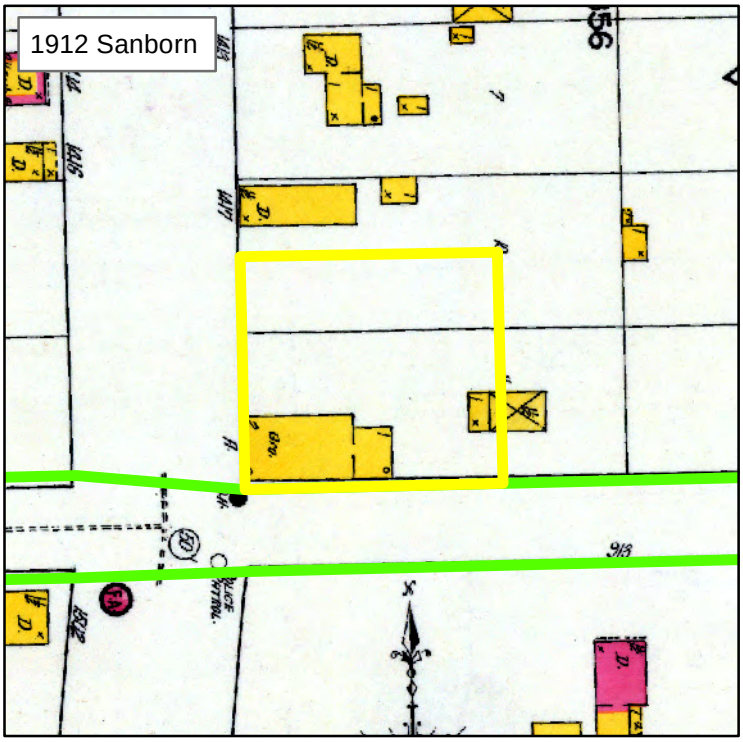
Legend

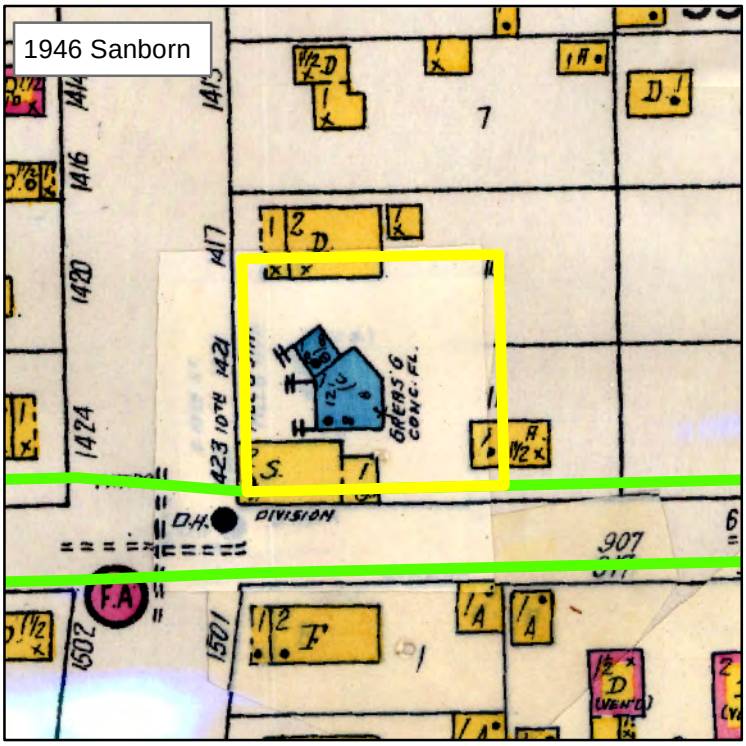
- Proposed Soil Borings
- Potable Water Conveyance System
- Potable Water Lateral
- Sanitary Conveyance System
- Sanitary Lateral
- Stormwater Conveyance System
- Stormwater Lateral
- Division Street Project Area
- Wisconsin Tank Registry
- WDNR BRRTS Database of Sites
- USEPA Facility Registration System
- Fire Department UST Records
- PECFA Sites

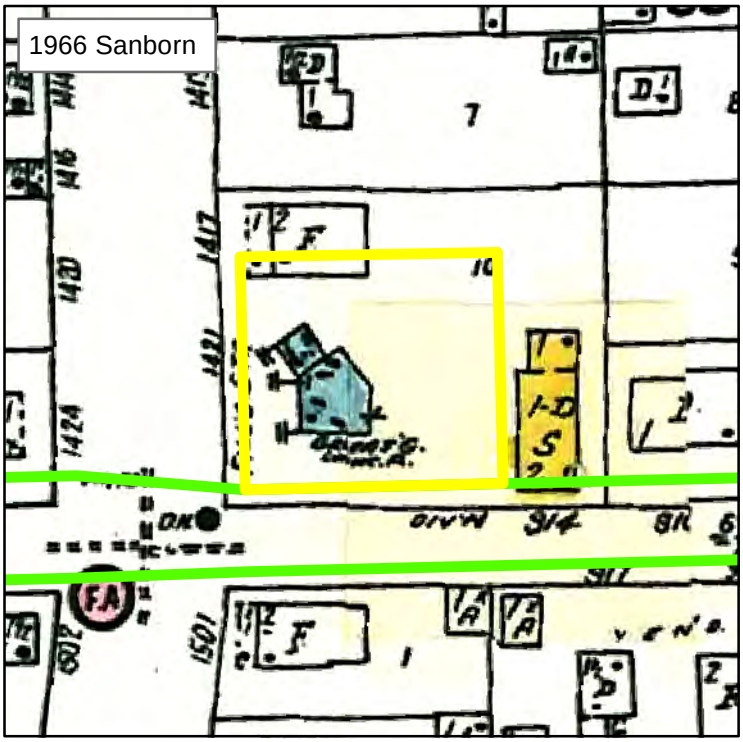
Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Orthophotograph: Manitowoc County, 2017

Stantec









State Location

County Location

Legend

1421 S 10th Street

Division Street Project Area

N

0 55 110 220 Feet

Stantec 12075 Corporate Parkway Suite 200 Mequon, WI 53092 (262) 643-9174	The information on this map has been compiled by Stantec staff from a variety of sources and is subject to change without notice. Stantec makes no representations or warranties, express or implied, as to accuracy, completeness,timeliness, or rights to the use of such information.	**1421 10th Street** **Manitowoc, Wisconsin**	Figure 4 Historic Sanborn Fire Insurance Maps	DWG: 03.mxd DATE: February 2023 PROJ NO.

ATTACHMENT A
HEALTH AND SAFETY PLAN

Risk Management Strategy (RMS1)

- **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:** Division Street ROW Sampling	
Location: Division Street, between 9th Street and 14nd Street in Manitowoc, WI		
Project description (Companies involved, what, where, when)		
Stantec to contract GPRS to clear utilities in the project area. Stantec to contract Horizon Construction and Exploration to develop and implement a traffic control plan while installing up to 20 soil borings in the Division Street rights of way. Soil borings to be advanced to 10' 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?	☒ Cell Phone ☐ Spot Messenger	☐ Satellite Phone ☐ 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		

Risk Management Strategy (RMS1)

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	Yes	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				
	☒ Cold stress ☒ Cold surfaces ☐ Heat stress ☐ Hot surfaces ☐ Hot work ☒ Weather conditions ☐ Other:	☒ SWP 514 - Working on or Near Ice ☒ SWP 114 - Working in Cold Environments ☐ SWP 113 - Heat Stress ☐ 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				
	☐ Oxygen deficient atmosphere ☐ H_2S (Hydrogen sulfide) ☐ Asbestos ☐ Silica ☐ Acids ☐ Caustics ☒ Petroleum hydrocarbons ☐ Solvents/Flammables ☒ Volatile organic compounds ☒ Heavy metals ☒ Benzene ☒ Lead ☒ Arsenic ☒ Polycyclic Aromatic Hydrocarbons (PAH)	☐ SWP 409 - Respiratory Protection ☐ SWP 411, 411a, 411b, 411c – Confined Space Entry ☐ SWP 304 - Asbestos Safety ☐ SWP 309 - Silica Awareness ☐ SWP 312 - Fueling Gasoline Engines ☒ SWP 305 - Benzene Safety ☐ SWP 314 – Working Around Hazardous Waste and Wastewater ☒ SWP 315 - Arsenic Safety ☐ 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),

	☐	PCBs	☐ SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs		wear safety glasses as well to protect eyes.
	☐	Pesticides			
	☐	Herbicides			
	☐	Hydrogen fluoride / Hydrofluoric acid			
	☐	Other:			
Biological					
	☒	Wildlife	☐ SWP 409 - Respiratory Protection ☐ SWP 314 - Working Around Hazardous Waste and Waste Water ☐ SWP 108 - Bloodborne Pathogens ☒ SWP 508 - Wildlife Encounters ☐ SWP 102 - Workplace Violence ☐ SWP 510 - Working in Abandoned Buildings ☒ SWP 511 – Ticks and Tickborne Diseases ☐ 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.
	☒	Domestic animals (dogs, cattle)			
	☒	Bees / wasps / hornets			
	☒	Ticks			
	☐	Black flies			
	☒	Other stinging or biting insects			
	☒	Pedestrians / onlookers			
	☐	Protesters			
	☐	Poison ivy			
	☐	Poison oak			
	☐	Giant hogweed			
	☐	Wild parsnip			
	☐	Sewage			
	☐	Wastewater			
	☐	Domestic waste			
	☐	Medical waste			
	☐	Bloodborne pathogens			
	☐	Bacterial cultures			
	☒	Other:Contractors			
	☐	Other:			
	☐	Other:			
	☐	Other:			
Radiation					
	☐	Solar (UVA/UVB)	☐ SWP 502, 502a-g (CA) - Radiation Safety Program Field Manual for Portable Gauges (Canada) ☐ SWP 516, 516a-e (US) - Radiation Safety (US) Enter additional SWPs, SOPs	Enter specialized training	Enter specific controls
	☐	Welding			
	☐	Nuclear densometers			
	☐	NORMs			
	☐	Microwave			
	☐	Other:			
Noise					
	☒	Mobile equipment	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
	☐	Stationary equipment			
	☐	Manual equipment			
	☐	Impact			
	☐	Vibration			
	☐	Impact on communications			
	☐	Other:			

Gravity					
	☒	Slip / Trip / Fall	☐ SWP 201 - Fall Protection / Working at Heights ☐ SWP 202 - Ladder Safety ☐ SWP 203 - Aerial Work Platform ☐ SWP 205 - Scaffold Safety ☐ SWP 208 - Hoisting and Lifting ☐ SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs	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.
	☐	Work from heights			
	☐	Falling objects			
	☐	Other:			
Motion					
	☒	Working near traffic	☐ SWP 507 - Aircraft Safety ☒ SWP 124, 124a, 124b – Safe Driving ☒ SWP 216 - Working Near Mobile Equipment ☐ SWP 217, 217a – Forklift Operation ☒ SWP 407, 407a, 407b, 407c – Traffic Control and Protection Planning ☐ SWP 505, 505a, 505b, 505c, 505d - Off Road Vehicles ☐ SWP 506 - Rail Safety ☒ SWP 115 - Material Handling and Safe Lifting ☐ SWP 125 - Workstation Ergonomics ☐ SWP 513 - Boat and Water Safety Enter additional SWPs, SOPs	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.
	☒	Automobile/truck/trailer			
	☒	Construction equipment			
	☐	Elevated work platform			
	☒	Pedestrians			
	☐	Cyclists			
	☐	Rail			
	☐	ATV			
	☐	ARGO			
	☐	Watercraft / water			
	☐	Snowmobile			
	☐	Aircraft (fixed wing or rotary)			
	☐	UAVs/Drones			
	☒	Walking/Hiking			
	☐	Lifting			
	☐	Pushing/Pulling			
	☒	Bending			
	☒	Posture/position			
	☐	Climbing			
	☐	Twisting			
	☐	Other:			
Mechanical					
	☐	Cutting edges	☒ SWP 416 - Supervision of Contracted Drilling Activities ☐ SWP 518, 518a – Using a Chainsaw ☐ SWP 206 - Hand and Portable Power Tools ☐ SWP 517 - Safe Machete Use ☐ SWP 408, 408a, 408b, 408c – Lock, Tag & Try	Enter specialized training	Maintain awareness around drilling equipment, as mentioned above.
	☐	Blades			
	☐	Rotating parts (e.g., drill/auger)			
	☐	Wrap points			
	☐	Shear points			
	☒	Pinch points			
	☐	Freewheeling point			
	☐	Chains			
	☐	Cables			

	☐	Other:	☒ SWP 216 - Working Near Mobile Equipment ☐ SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs		
Electrical					
	☒	Power and communication lines	☒ SWP 213, 213a, 213b, 213c – Utility Clearance ☐ SWP 406, 406a, 406b – Electrical Safety Program ☐ SWP 408, 408a, 408b, 408c – Lock, Tag & Try ☐ SWP 504 - Backpack and Boat Mounted Electro-Fishing ☐ SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs	Enter specialized training	Confirm that utilities are marked prior to performing drilling work.
	☐	Static charge and lightning			
	☐	Wiring			
	☐	Batteries			
	☐	Lighting levels			
	☐	Wet environment			
	☐	GFCI cords/plugs			
	☐	Double insulated tools			
	☐	Exposed circuits			
	☐	Other:			
Pressure					
	☐	Excavations and spoil piles	☐ SWP 215 - Supervision of Hydro-Excavation Activities ☒ SWP 310 - Compressed Gas Cylinders ☐ SWP 214 - Entering Excavations and Trenches Enter additional SWPs, SOPs	Enter specialized training	Maintain safe distance from hydraulic drilling equipment.
	☒	Hydraulic systems			
	☒	Pneumatic systems			
	☐	Steam			
	☐	Vacuum			
	☐	Cylinders			
	☐	Other:			

PPE	REQ'd	If you need assistance to answer these questions, please contact an HSSE advisor or HSSE manager
Head (CSA/ANSI)	☒	**Choose a Type and Class:** ☒ Type 1 (no side impact) ☐ Type 2 (side impact) ☐ Other ☐ Class E (rated for 20000 volts) ☐ Class G (rated for 2200 volts) ☐ Class C (no electrical rating)
Eye/face (CSA/ANSI)	☒	☒ safety glasses with rigid side shields ☐ polarized safety glasses with rigid side shields ☐ goggles ☐ spoggles ☐ safety glasses and face shield ☐ goggles and face shield ☐ UV glasses, UV shield
Hand	☒	**Hazard Protection** ☐ Abrasion ☐ Cut ☐ Vibration ☐ Puncture ☐ FR (flame resistant) ☐ Arc Flash ☒ Chemical ☐ Impact ☐ Cold ☐ Heat ☐ Other: **Glove Type** ☒ Nitrile ☐ Leather ☐ Cotton ☐ High Performance Polyethylene ☐ Polyurethane ☐ Kevlar ☐ Latex ☐ PVC ☐ Neoprene ☐ Viton ☐ Other:

Foot (6” minimum ankle support)	☒	☒ CSA Green triangle and orange omega boots (CA) / ASTM / ANSI boots (US) ☐ CSA Green triangle and orange omega rubber boots (CA) / ASTM / ANSI rubber boots (US) ☐ CSA Green triangle and orange omega waders (CA) / ASTM / ANSI waders boots (US) ☐ Traction Aids
High visibility clothing	☒	Class 1 - not used ☒ Class 2 (under 80km/h / 50 mph and daylight) ☐ Class 3 (over 80km/h / 50 mph and/or twilight/dark)
Hearing	☒	☒ Ear plugs ☐ Ear muffs ☐Ear plugs and muffs
Coveralls	☐	☐ Standard ☐ Tyvek (disposable) ☐ FR (Flame Resistant) – Type: ☐ Chemical resistant
Respiratory	☐	☐ N95 (dust mask) ☐ 1/2 mask - Cartridge type: - Filter type: ☐ Full face - Cartridge type: - Filter type: ☐ PAPR - Cartridge type: - Filter type:
Fall arrest/limit	☐	**Fall arrest harness (verify capacity)** ☐ Class A (fall arrest) ☐ Class D (controlled descent) ☐ Class E (evacuation) ☐ Class L (ladder) ☐ Class P (positioning) **Lanyard** ☐ 6' with shock absorber (verify capacity) ☐ 4' with shock absorber (verify capacity) ☐ 6' Y with shock absorber (verify capacity) ☐ 6' with NO shock absorber (verify capacity) for use on aerial lifts ☐ 4' with NO shock absorber (verify capacity) for use on aerial lifts ☐ Other: **Additional equipment** ☐ Rope Grab ☐ Rope ☐ Self-retracting lifeline – ☐ SRL ☐ SRL-R (integral rescue capability) ☐ SRL-LE (leading edge capability) ☐ Tripod ☐ Retrieval winch ☐ Anchorage connector ☐ Beam anchor ☐ Vertical or horizontal lifeline ☐ Carabiner ☐ Suspension trauma straps
Flotation device	☐	☐ Lifejacket ☐ Floater Jacket ☐ PFD - Type: ☐ PFD inflatable ☐ Survival Suit
Other	☒	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:	911	**Fire Department:**	Manitowoc Fire & Rescue 911 Franklin St. 920 - 686 - 6540
Ambulance:	Manitowoc Fire & Rescue 911 Franklin St. 920 - 686 - 6540	**Spill Response:**	National Response Center 800 - 424 - 8802
Police:	Manitowoc City Police Dept. 910 Jay St. 920 – 686 - 6500	**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)

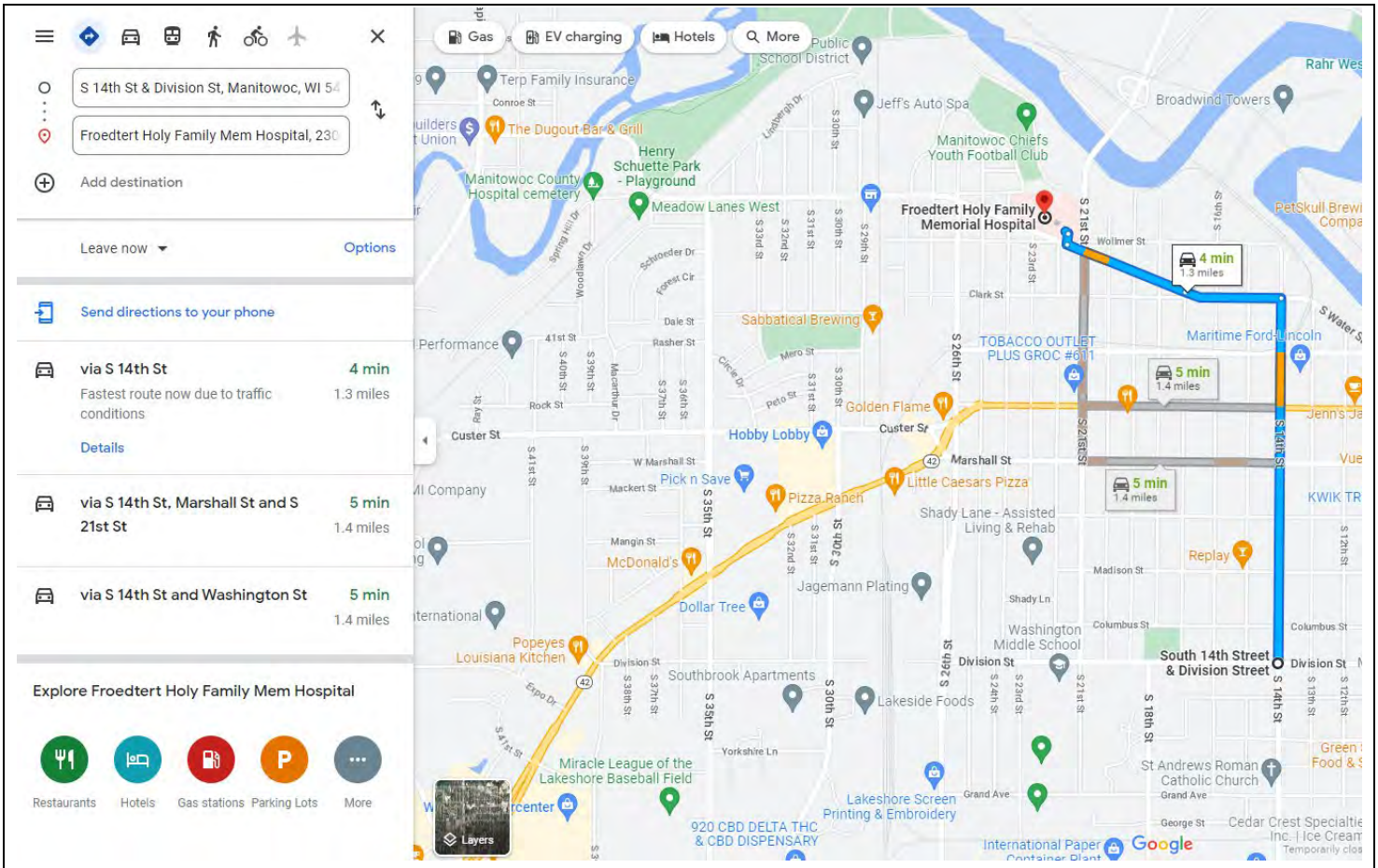
Incident Reporting Protocol US

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		2/14/2023
	Print Name	Signature	Date
Reviewed by: *(not author)*	Whitney Cull		2/14/2023
	Print Name	Signature	Date

Approved by PM:	Harris Byers.		2/14/2023
	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		2/14/2023
	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

Field Level Risk Assessment (RMS2)

Project Number: 193709261 **Date:**

Project Name: Division Street Soil Sampling

Project Location: Division Street ROW

Description of Work: Sample soil below Division Street ROW

HASP/RMS1 reviewed with staff on site	Yes	☐
Review of STOP Work Authority with staff and subs	Yes	☐
Emergency plan adequate and communicated	Yes	☐
Tools and appropriate PPE inspected before use	Yes	☐
Last Minute Risk Assessment process reviewed	Yes	☐

If the answer to any of the above questions is not "YES" stop work and contact your supervisor

Field crews have certifications on site	Yes	☐	N/A	☐
Utility locates on site and understood	Yes	☐	N/A	☐
Working alone plan in place	Yes	☐	N/A	☐
Work permits completed	Yes	☐	N/A	☐
Client site safety meeting conducted/attended	Yes	☐	N/A	☐

CRITICAL RISKS

 Driving ☐ Yes	 Working at Heights ☐ Yes	 Traffic Control ☐ Yes	 Wildlife, Insects and Vegetation ☐ Yes	 Mobile and Heavy Equipment ☐ Yes	 Environments with water or ice ☐ Yes
 Ground Disturbance ☐ Yes	 Ergonomic Hazards and Manual Handling ☐ Yes	 Hazardous Materials and Environments ☐ Yes	 Control of Hazardous Energy ☐ Yes	 Hot Work ☐ Yes	 Confined Spaces ☐ Yes

ENERGY HAZARD

 **Thermal:** Open flame, electric ignition sources (including phones and friction), hot or cold surfaces, liquids or gasses, weather conditions including humidity levels and snow/ice	 **Gravity**: Falling objects, collapsing objects, slipping, tripping or falling
 **Chemical:** Flammable vapors, reactive hazards, carcinogens or other toxic compounds, corrosives, pyrophorics, combustibles, oxygen deficient atmospheres, fumes, dusts, naturally occurring gases	 **Motion**: Vehicles (car, truck, ATV, ARGO, boat, snowmobile, bicycles, transit, mobile equipment, trailer), workers and other people (lifting, pushing, pulling, carrying, use of hand and power tools, body position, walking), flowing water, sprung branches
 **Biological**: Animals, bacteria, viruses, insects, blood borne pathogens (needles), poisonous and noxious plants, contaminated water, human behaviors (protesters, concerned citizens, onlookers)	 **Mechanical**: Rotating equipment (augers, pulleys, drive shafts), compressed springs, drive belts, conveyors and motors
 **Radiation**: Welding, NORMs (Naturally Occurring Radioactive Material), X rays, Nuclear Densometers, Lasers, Microwaves, Solar, Radioactive waste and sources	 **Electrical**: Power and communication lines (overhead and buried), static charge, lightning, energized equipment, wiring, batteries, GFCI cords/plugs, lighting levels, double insulated tools, wet environment
 **Noise**: Stationary or mobile equipment, impact noise, high pressure release, impact of noise on communication	 **Pressure**: pressure piping, compressed cylinders (fire extinguisher, calibration gas, propane), control lines, vessels, tanks, hoses, pneumatic and hydraulic equipment

JOB SAFETY ANALYSIS (JSA)				
	Basic Job Steps	**Describe Energy Hazard**	**Controls**	**Person Responsible**
1				
2				
3				
4				
5				
6				
7				
8				

Field Level Risk Assessment (RMS2)

Toolbox Meeting		
Pre-Start Time:	Date:	
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		
Mid-Day Time:		
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		
End of Day Time:		
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		

Review / Sign-off

Print the company that you work for, your name and initial beside your fitness level under the corresponding time column:
Fit for Duty = F Alternate Plan = AP

Company Name	Print your Name	Pre-Start	Mid-Day	End of Day
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
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		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:

In North America, for work-related symptoms or injuries, and to speak to a medical professional for guidance and treatment options contact:

Work Care
1-888-449-7787

*** In Québec: Info-Santé 811**

For questions regarding work-related symptoms or injuries, contact your Workers' Compensation Claims Coordinator
(Canada) Tel: 905-944-6854 / Cell: 416-951-5663
(US) Cell: 513-720-3706
(Global) local HR business partner

Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon WI 53092-2661

February 14, 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 in the Reed Avenue Rights of Way Prior to Importing Material to the Shoreline Focus Area in the 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 the upper three feet of soil in the Reed Avenue rights of way (ROW) 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 the Reed Avenue ROW is illustrated on **Figure 2,** and **Figure 3**. 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 (2022a) *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. The City is targeting infrastructure work in the Reed Avenue ROW in the summer of 2023, which could generate up to 2,000 cubic yards of excess spoil potentially suitable for reuse in constructing the engineered barrier in the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District.

This SAP was developed to guide the sampling of shallow soil in the Reed Avenue ROW to confirm if the potential spoil is suitable for use in constructing the engineered barrier at the River Point District. This SAP was 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 beneath Reed Avenue, which is an asphalt-paved ROW trending east-west on the northeast side of the City. The location of the Reed Avenue project area is outlined in green relative to regional topography on **Figure 2**. The material is likely reworked native fill placed beneath Reed Avenue when the ROW was last reconstructed.

KNOWN RELEASES AND POTENTIAL FOR IMPACTS

There are no apparent open Bureau for Remediation and Redevelopment Tracking System (BRRTS) cases within or adjacent to the project area. As illustrated on **Figure 3,** there are four historic (closed) BRRTS cases located adjacent to the project area, as summarized below.

- BRRTS Case 03-36-129838 UNIMART – NORTH. This case was opened in 1997 and closed with continuing obligations on June 1, 2001. Documentation related to the continuing obligations indicates impacts to soil and groundwater did not extend into the Reed Avenue ROW at the time of closure. Therefore, the risk of impacts to shallow soil in the Reed Avenue ROW is considered minimal.

- BRRTS Case 02-36-544383 UNITED LAUNDRIES & DRY CLEANERS. This case opened in 2005 and was closed on September 14, 2017. Documentation related to the continuing obligations indicates impacts to soil and groundwater did not extend into the Reed Avenue ROW at the time of closure. Therefore, the risk of impacts to shallow soil in the Reed Avenue ROW is considered minimal.

- 03-36-001923 HOLY FAMILY MEMORIAL MEDICAL CTR/SITE A. This case was opened in 1994 and was closed on September 19, 2001. Project documentation indicates impacts to soil and groundwater did not extend into the Reed Avenue ROW at the time of closure. Therefore, the risk of impacts to shallow soil in the Reed Avenue ROW is considered minimal.

- 03-36-001939 HOLY FAMILY MEMORIAL MEDICAL CTR/SITE B. This case was opened in 1994 and was closed on September 11, 2001. Project documentation indicates impacts to soil and groundwater did not extend into the Reed Avenue ROW at the time of closure. Therefore, the risk of impacts to shallow soil in the Reed Avenue ROW is considered minimal.

PFAS EVALUATION STATEMENT

Per- and polyfluoroalkyl substance (PFAS) source evaluation of shallow soil beneath the Reed Avenue ROW 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 along Reed Avenue; therefore, the risk for a surface spill of PFAS to shallow soils in the ROW 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 beneath the Reed Avenue ROW for PFAS is not warranted.

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

PROPOSED SAMPLING AND ANALYSIS PLAN

Stantec will conduct soil sampling activities to characterize the shallow soil beneath the Reed Avenue ROW 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, 2021, 2022, and 2023).

Approximately 2,000 cubic yards of spoil will be generated during infrastructure work in Reed Avenue. Prior to importing this material to the River Point District, Stantec proposes collecting one sample of soil from 23 soil borings installed approximately every 100 linear feet along the Reed Avenue project area. Proposed sample locations are illustrated on **Figure 3.** A site-specific health and safety plan is provided in **Attachment A**.

As illustrated on **Figure 3**, significant utility infrastructure exists in the Reed Avenue ROW. To reduce the risk of a utility strike, a private utility locating subcontractor will clear each proposed boring location prior to drilling. 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.

Soil samples will be collected and preserved in accordance with SOP No. 02 and Table 3 of the QAPP. Given the BRRTS cases adjacent to the Reed Avenue ROW and identified impacts at the River Point District, 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).

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.

Each 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

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

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 the soil beneath the Reed Avenue ROW 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 in the Reed Avenue Rights of Way Prior to Importing Material to the Shoreline Focus Area in the Phase I Redevelopment Area at the River Point District; Manitowoc, Wisconsin; BRRTS # 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. 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, 2022b. 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 1 Project Area and P**arcel** Identification Numbers

Client/Project
Phase I Redevelopment Area
River Point District
City of Manitowoc

0 65 130 Feet

Prepared by HLB on 4/21/21

N

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

Stantec

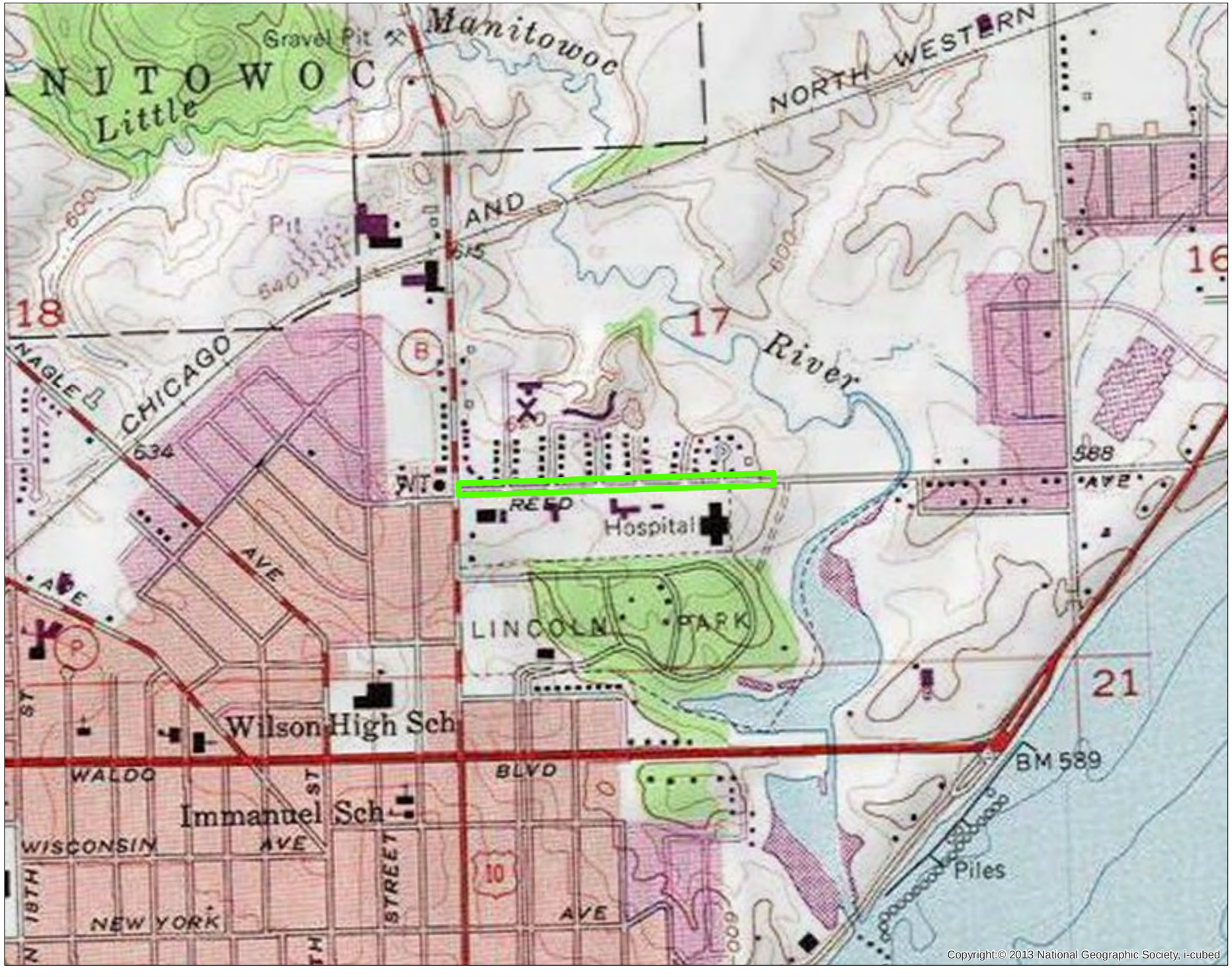


Figure No.
2

Title
Project Area and
Regional Topography

Client/Project
River Point Fill Characterization
Reed Avenue
City of Manitowoc

0 550 1,100
Feet

Legend

Reed Avenue Project Area

N

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet

Stantec

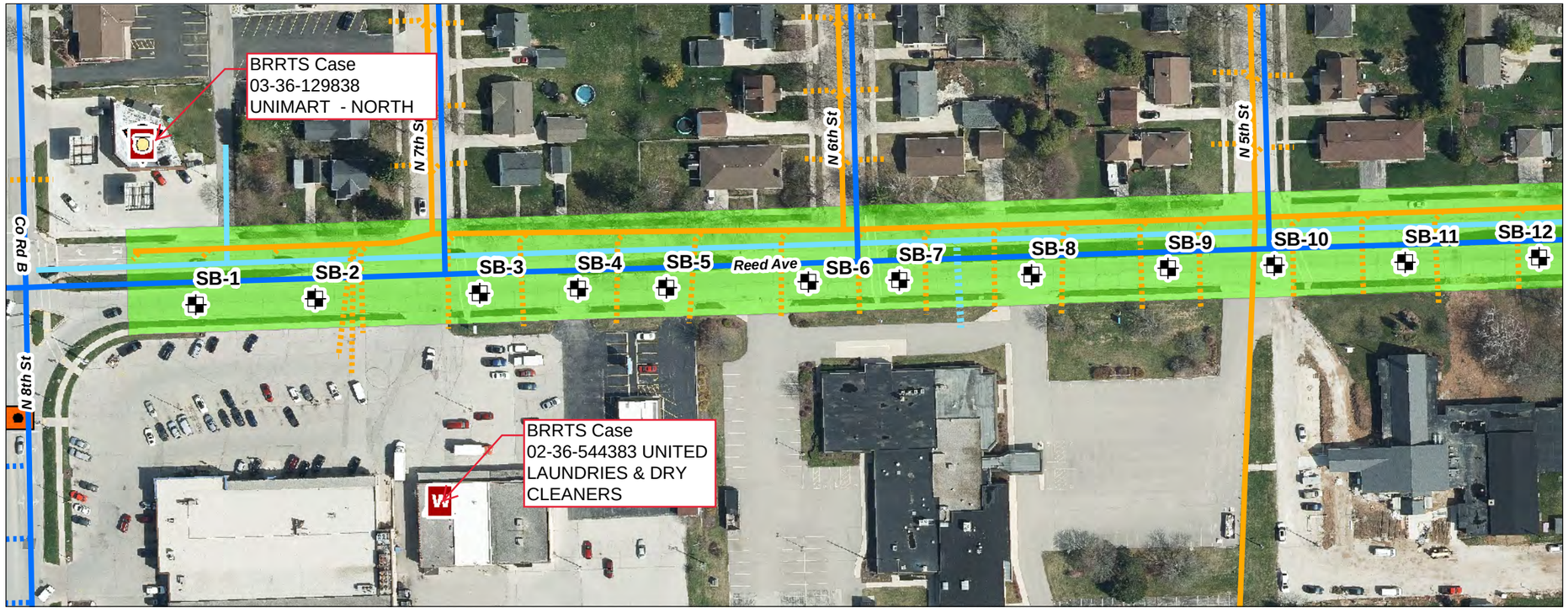


Figure No.
3

Title

Brownfield GIS Database Records and Soil Sample Locations

Client/Project
River Point Fill Characterization
Reed Avenue
City of Manitowoc

0 85 170 Feet

Prepared by HLB on 2/15/2023

N

Legend

- Proposed Soil Boring
- Potable Water Conveyance System
- Potable Water Lateral
- Sanitary Conveyance System
- Sanitary Lateral
- Stormwater Conveyance System
- Stormwater Lateral
- Reed Avenue Project Area
- Wisconsin Tank Registry
- WDNR BRRTS Database of Sites
- USEPA Facility Registration System
- Fire Department UST Records
- PECFA Sites

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Orthophotograph: Manitowoc County, 2017

Stantec

ATTACHMENT A
HEALTH AND SAFETY PLAN

Risk Management Strategy (RMS1)

- **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:** Reed Avenue ROW Sampling	
Location: Reed Avenue, between 8th Street and 2nd Street in Manitowoc, WI		
Project description (Companies involved, what, where, when)		
Stantec to contract GPRS to clear utilities in the project area. Stantec to contract Horizon Construction and Exploration to develop and implement a traffic control plan while installing up to 23 soil borings in the Reed Avenue rights of way. Soil borings to be advanced to 3' 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?	☒ Cell Phone ☐ Spot Messenger	☐ Satellite Phone ☐ 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		

Risk Management Strategy (RMS1)

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	Yes	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				
	☒ Cold stress ☒ Cold surfaces ☐ Heat stress ☐ Hot surfaces ☐ Hot work ☒ Weather conditions ☐ Other:	☒ SWP 514 - Working on or Near Ice ☒ SWP 114 - Working in Cold Environments ☐ SWP 113 - Heat Stress ☐ 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				
	☐ Oxygen deficient atmosphere ☐ H_2S (Hydrogen sulfide) ☐ Asbestos ☐ Silica ☐ Acids ☐ Caustics ☒ Petroleum hydrocarbons ☐ Solvents/Flammables ☒ Volatile organic compounds ☒ Heavy metals ☒ Benzene ☒ Lead ☒ Arsenic ☒ Polycyclic Aromatic Hydrocarbons (PAH)	☐ SWP 409 - Respiratory Protection ☐ SWP 411, 411a, 411b, 411c – Confined Space Entry ☐ SWP 304 - Asbestos Safety ☐ SWP 309 - Silica Awareness ☐ SWP 312 - Fueling Gasoline Engines ☒ SWP 305 - Benzene Safety ☐ SWP 314 – Working Around Hazardous Waste and Wastewater ☒ SWP 315 - Arsenic Safety ☐ 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),

	☐	PCBs	☐ SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs		wear safety glasses as well to protect eyes.
	☐	Pesticides			
	☐	Herbicides			
	☐	Hydrogen fluoride / Hydrofluoric acid			
	☐	Other:			
Biological					
	☒	Wildlife	☐ SWP 409 - Respiratory Protection ☐ SWP 314 - Working Around Hazardous Waste and Waste Water ☐ SWP 108 - Bloodborne Pathogens ☒ SWP 508 - Wildlife Encounters ☐ SWP 102 - Workplace Violence ☐ SWP 510 - Working in Abandoned Buildings ☒ SWP 511 – Ticks and Tickborne Diseases ☐ 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.
	☒	Domestic animals (dogs, cattle)			
	☒	Bees / wasps / hornets			
	☒	Ticks			
	☐	Black flies			
	☒	Other stinging or biting insects			
	☒	Pedestrians / onlookers			
	☐	Protesters			
	☐	Poison ivy			
	☐	Poison oak			
	☐	Giant hogweed			
	☐	Wild parsnip			
	☐	Sewage			
	☐	Wastewater			
	☐	Domestic waste			
	☐	Medical waste			
	☐	Bloodborne pathogens			
	☐	Bacterial cultures			
	☒	Other:Contractors			
	☐	Other:			
	☐	Other:			
	☐	Other:			
Radiation					
	☐	Solar (UVA/UVB)	☐ SWP 502, 502a-g (CA) - Radiation Safety Program Field Manual for Portable Gauges (Canada) ☐ SWP 516, 516a-e (US) - Radiation Safety (US) Enter additional SWPs, SOPs	Enter specialized training	Enter specific controls
	☐	Welding			
	☐	Nuclear densometers			
	☐	NORMs			
	☐	Microwave			
	☐	Other:			
Noise					
	☒	Mobile equipment	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
	☐	Stationary equipment			
	☐	Manual equipment			
	☐	Impact			
	☐	Vibration			
	☐	Impact on communications			
	☐	Other:			

Gravity					
	☒	Slip / Trip / Fall	☐ SWP 201 - Fall Protection / Working at Heights ☐ SWP 202 - Ladder Safety ☐ SWP 203 - Aerial Work Platform ☐ SWP 205 - Scaffold Safety ☐ SWP 208 - Hoisting and Lifting ☐ SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs	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.
	☐	Work from heights			
	☐	Falling objects			
	☐	Other:			
Motion					
	☒	Working near traffic	☐ SWP 507 - Aircraft Safety ☒ SWP 124, 124a, 124b – Safe Driving ☒ SWP 216 - Working Near Mobile Equipment ☐ SWP 217, 217a – Forklift Operation ☒ SWP 407, 407a, 407b, 407c – Traffic Control and Protection Planning ☐ SWP 505, 505a, 505b, 505c, 505d - Off Road Vehicles ☐ SWP 506 - Rail Safety ☒ SWP 115 - Material Handling and Safe Lifting ☐ SWP 125 - Workstation Ergonomics ☐ SWP 513 - Boat and Water Safety Enter additional SWPs, SOPs	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.
	☒	Automobile/truck/trailer			
	☒	Construction equipment			
	☐	Elevated work platform			
	☒	Pedestrians			
	☐	Cyclists			
	☐	Rail			
	☐	ATV			
	☐	ARGO			
	☐	Watercraft / water			
	☐	Snowmobile			
	☐	Aircraft (fixed wing or rotary)			
	☐	UAVs/Drones			
	☒	Walking/Hiking			
	☐	Lifting			
	☐	Pushing/Pulling			
	☒	Bending			
	☒	Posture/position			
	☐	Climbing			
	☐	Twisting			
	☐	Other:			
Mechanical					
	☐	Cutting edges	☒ SWP 416 - Supervision of Contracted Drilling Activities ☐ SWP 518, 518a – Using a Chainsaw ☐ SWP 206 - Hand and Portable Power Tools ☐ SWP 517 - Safe Machete Use ☐ SWP 408, 408a, 408b, 408c – Lock, Tag & Try	Enter specialized training	Maintain awareness around drilling equipment, as mentioned above.
	☐	Blades			
	☐	Rotating parts (e.g., drill/auger)			
	☐	Wrap points			
	☐	Shear points			
	☒	Pinch points			
	☐	Freewheeling point			
	☐	Chains			
	☐	Cables			

	☐	Other:	☒ SWP 216 - Working Near Mobile Equipment ☐ SWP 510 - Working in Abandoned Buildings Enter additional SWPs, SOPs		
Electrical					
	☒	Power and communication lines	☒ SWP 213, 213a, 213b, 213c – Utility Clearance ☐ SWP 406, 406a, 406b – Electrical Safety Program ☐ SWP 408, 408a, 408b, 408c – Lock, Tag & Try ☐ SWP 504 - Backpack and Boat Mounted Electro-Fishing ☐ SWP 519 - Post-Disaster Building Entry Enter additional SWPs, SOPs	Enter specialized training	Confirm that utilities are marked prior to performing drilling work.
	☐	Static charge and lightning			
	☐	Wiring			
	☐	Batteries			
	☐	Lighting levels			
	☐	Wet environment			
	☐	GFCI cords/plugs			
	☐	Double insulated tools			
	☐	Exposed circuits			
	☐	Other:			
Pressure					
	☐	Excavations and spoil piles	☐ SWP 215 - Supervision of Hydro-Excavation Activities ☒ SWP 310 - Compressed Gas Cylinders ☐ SWP 214 - Entering Excavations and Trenches Enter additional SWPs, SOPs	Enter specialized training	Maintain safe distance from hydraulic drilling equipment.
	☒	Hydraulic systems			
	☒	Pneumatic systems			
	☐	Steam			
	☐	Vacuum			
	☐	Cylinders			
	☐	Other:			

PPE	REQ'd	If you need assistance to answer these questions, please contact an HSSE advisor or HSSE manager
Head (CSA/ANSI)	☒	**Choose a Type and Class:** ☒ Type 1 (no side impact) ☐ Type 2 (side impact) ☐ Other ☐ Class E (rated for 20000 volts) ☐ Class G (rated for 2200 volts) ☐ Class C (no electrical rating)
Eye/face (CSA/ANSI)	☒	☒ safety glasses with rigid side shields ☐ polarized safety glasses with rigid side shields ☐ goggles ☐ spoggles ☐ safety glasses and face shield ☐ goggles and face shield ☐ UV glasses, UV shield
Hand	☒	**Hazard Protection** ☐ Abrasion ☐ Cut ☐ Vibration ☐ Puncture ☐ FR (flame resistant) ☐ Arc Flash ☒ Chemical ☐ Impact ☐ Cold ☐ Heat ☐ Other: **Glove Type** ☒ Nitrile ☐ Leather ☐ Cotton ☐ High Performance Polyethylene ☐ Polyurethane ☐ Kevlar ☐ Latex ☐ PVC ☐ Neoprene ☐ Viton ☐ Other:

Foot (6” minimum ankle support)	☒	☒ CSA Green triangle and orange omega boots (CA) / ASTM / ANSI boots (US) ☐ CSA Green triangle and orange omega rubber boots (CA) / ASTM / ANSI rubber boots (US) ☐ CSA Green triangle and orange omega waders (CA) / ASTM / ANSI waders boots (US) ☐ Traction Aids
High visibility clothing	☒	Class 1 - not used ☒ Class 2 (under 80km/h / 50 mph and daylight) ☐ Class 3 (over 80km/h / 50 mph and/or twilight/dark)
Hearing	☒	☒ Ear plugs ☐ Ear muffs ☐Ear plugs and muffs
Coveralls	☐	☐ Standard ☐ Tyvek (disposable) ☐ FR (Flame Resistant) – Type: ☐ Chemical resistant
Respiratory	☐	☐ N95 (dust mask) ☐ 1/2 mask - Cartridge type: - Filter type: ☐ Full face - Cartridge type: - Filter type: ☐ PAPR - Cartridge type: - Filter type:
Fall arrest/limit	☐	**Fall arrest harness (verify capacity)** ☐ Class A (fall arrest) ☐ Class D (controlled descent) ☐ Class E (evacuation) ☐ Class L (ladder) ☐ Class P (positioning) **Lanyard** ☐ 6' with shock absorber (verify capacity) ☐ 4' with shock absorber (verify capacity) ☐ 6' Y with shock absorber (verify capacity) ☐ 6' with NO shock absorber (verify capacity) for use on aerial lifts ☐ 4' with NO shock absorber (verify capacity) for use on aerial lifts ☐ Other: **Additional equipment** ☐ Rope Grab ☐ Rope ☐ Self-retracting lifeline – ☐ SRL ☐ SRL-R (integral rescue capability) ☐ SRL-LE (leading edge capability) ☐ Tripod ☐ Retrieval winch ☐ Anchorage connector ☐ Beam anchor ☐ Vertical or horizontal lifeline ☐ Carabiner ☐ Suspension trauma straps
Flotation device	☐	☐ Lifejacket ☐ Floater Jacket ☐ PFD - Type: ☐ PFD inflatable ☐ Survival Suit
Other	☒	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:	911	**Fire Department:**	Manitowoc Fire & Rescue 911 Franklin St. 920 - 686 - 6540
Ambulance:	Manitowoc Fire & Rescue 911 Franklin St. 920 - 686 - 6540	**Spill Response:**	National Response Center 800 - 424 - 8802
Police:	Manitowoc City Police Dept. 910 Jay St. 920 – 686 - 6500	**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)

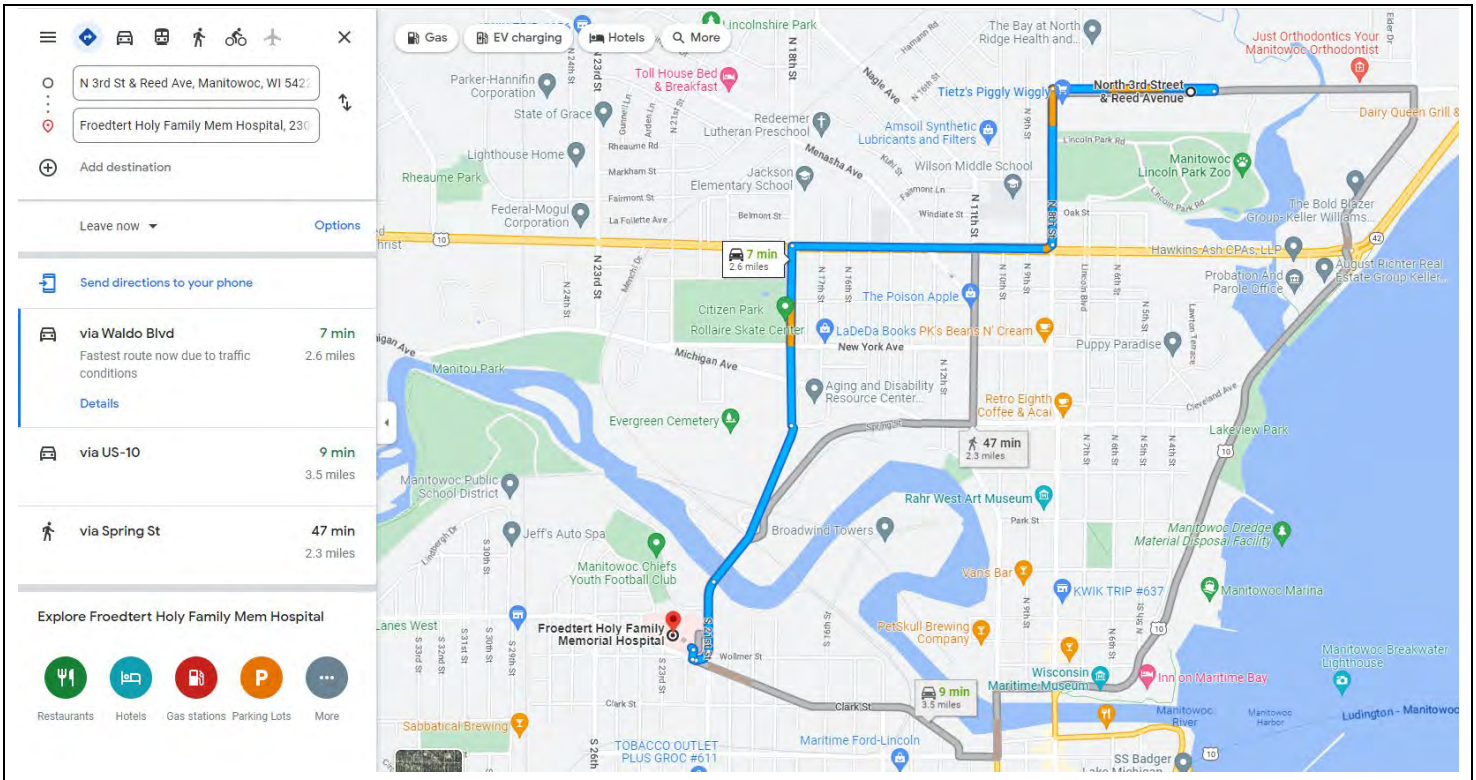
Incident Reporting Protocol US

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		2/14/2023
	Print Name	Signature	Date
Reviewed by: *(not author)*	Whitney Cull		2/14/2023
	Print Name	Signature	Date
Approved by PM:	Harris Byers.		2/14/2023
	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		2/14/2023
	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

Field Level Risk Assessment (RMS2)

Project Number: 193709261 **Date:**

Project Name: Reed Avenue Soil Sampling

Project Location: Reed Avenue ROW

Description of Work: Sample soil below Reed Avenue ROW

HASP/RMS1 reviewed with staff on site	Yes	☐
Review of STOP Work Authority with staff and subs	Yes	☐
Emergency plan adequate and communicated	Yes	☐
Tools and appropriate PPE inspected before use	Yes	☐
Last Minute Risk Assessment process reviewed	Yes	☐

If the answer to any of the above questions is not "YES" stop work and contact your supervisor

Field crews have certifications on site	Yes	☐	N/A	☐
Utility locates on site and understood	Yes	☐	N/A	☐
Working alone plan in place	Yes	☐	N/A	☐
Work permits completed	Yes	☐	N/A	☐
Client site safety meeting conducted/attended	Yes	☐	N/A	☐

CRITICAL RISKS

Driving	Working at Heights	Traffic Control	Wildlife, Insects and Vegetation	Mobile and Heavy Equipment	Environments with water or ice
☐ Yes	☐ Yes	☐ Yes	☐ 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	☐ Yes	☐ Yes	☐ Yes

ENERGY HAZARD

Thermal: Open flame, electric ignition sources (including phones and friction), hot or cold surfaces, liquids or gasses, weather conditions including humidity levels and snow/ice	**Gravity**: Falling objects, collapsing objects, slipping, tripping or falling
Chemical: Flammable vapors, reactive hazards, carcinogens or other toxic compounds, corrosives, pyrophorics, combustibles, oxygen deficient atmospheres, fumes, dusts, naturally occurring gases	**Motion**: Vehicles (car, truck, ATV, ARGO, boat, snowmobile, bicycles, transit, mobile equipment, trailer), workers and other people (lifting, pushing, pulling, carrying, use of hand and power tools, body position, walking), flowing water, sprung branches
Biological: Animals, bacteria, viruses, insects, blood borne pathogens (needles), poisonous and noxious plants, contaminated water, human behaviors (protesters, concerned citizens, onlookers)	**Mechanical**: Rotating equipment (augers, pulleys, drive shafts), compressed springs, drive belts, conveyors and motors
Radiation: Welding, NORMs (Naturally Occurring Radioactive Material), X rays, Nuclear Densometers, Lasers, Microwaves, Solar, Radioactive waste and sources	**Electrical**: Power and communication lines (overhead and buried), static charge, lightning, energized equipment, wiring, batteries, GFCI cords/plugs, lighting levels, double insulated tools, wet environment
Noise: Stationary or mobile equipment, impact noise, high pressure release, impact of noise on communication	**Pressure**: pressure piping, compressed cylinders (fire extinguisher, calibration gas, propane), control lines, vessels, tanks, hoses, pneumatic and hydraulic equipment

JOB SAFETY ANALYSIS (JSA)

	Basic Job Steps	Describe Energy Hazard	Controls	Person Responsible
1				
2				
3				
4				
5				
6				
7				
8				

Field Level Risk Assessment (RMS2)

Toolbox Meeting		
Pre-Start Time:	Date:	
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		
Mid-Day Time:		
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		
End of Day Time:		
Weather:	Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Notes:		

Review / Sign-off

Print the company that you work for, your name and initial beside your fitness level under the corresponding time column:
Fit for Duty = F Alternate Plan = AP

Company Name	Print your Name	Pre-Start	Mid-Day	End of Day
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:
		F:	F:	F:
		AP:	AP:	AP:

In North America, for work-related symptoms or injuries, and to speak to a medical professional for guidance and treatment options contact:

Work Care
1-888-449-7787

*** In Québec: Info-Santé 811**

For questions regarding work-related symptoms or injuries, contact your Workers' Compensation Claims Coordinator
(Canada) Tel: 905-944-6854 / Cell: 416-951-5663
(US) Cell: 513-720-3706
(Global) local HR business partner