

December 22, 2021

Ms. Sarah Krueger, P.G.
Contaminated Sediment Specialist
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

Sent Electronically

Subject: Response to WDNR Comments (September 30, 2021) Natural Recovery Monitoring Plan for Surface Water and Sediment
HARP Long-Term Natural Recovery Monitoring
BRRTS #02-08-587699

Dear Ms. Krueger:

Thank you for the Department's comments on the above as contained in its letter dated September 30, 2021. On behalf of Tecumseh, below are our responses and enclosed is the Natural Recovery Monitoring Plan for Surface Water and Sediment, December 2021, Rev 2. We have also enclosed the appropriate form and technical assistance review fee.

General Comments

- 1. Wis. Admin. Code ch. NR 724 long-term monitoring plan can be iterative, where information collected may indicate the need for modification to the plan to include changes to evaluation, analysis, data collection or analytical methods, etc.***

Response: Noted.

QAPP Needed

- 2. Quality Assurance Project Plan (QAPP) – The department is directing you under Wis. Admin. Code § NR 724.17(2) to develop a QAPP to accompany the long term monitoring plan that describes in detail the data collection and analytical methods used in the LTM plan. The QAPP may be submitted as a separate document or as an addendum to the monitoring plan.***

Response: As discussed with you on October 27, 2021, TRC will prepare one QAPP that will be an overarching QAPP for the site. It will incorporate known activities, including the Natural Recovery Monitoring Plan for Surface Water and Sediment (NRMP)[BRRTS #02-08-587669], the Site Investigation Work Plan (SIWP)[BRRTS #02-08-587108], the Natural Recovery Monitoring Plan for Fish Tissue (BRRTS #02-08-587669), as well as the potential for future investigations.

Objective Statement Needed

3. **Section 3.3 Purpose – The monitoring plan should include a statement of the objective of the plan. Objective statements provide the basis for the overall monitoring plan and so should include key elements of decisions based on the data collected.**

Response: An objective statement has been added to the NRMP in Section 3.3.

Scope of Work Deficiencies

4. **Section 4.1 Scope of Work – Sediment and water do not necessarily need to be collected at the same locations. There may be benefits in separating the activities so water sampling locations are more representative of the operable unit (OU) or to reduce site disturbances from sampling one media to another media.**

Response: Where water and sediment sampling locations are co-located and sampled at the same time, the location will be approached from downstream and the water sample will be collected before rod probing or sediment sampling to minimize disturbance. Section 4.4 of the NRMP was updated to reflect this comment.

5. **Section 4.1 Scope of Work, Surface Water Sampling – PCBs in water are strongly correlated to temperature, suspended organic matter, and total suspended solids (TSS). Past United States Geological Survey (USGS) monitoring had shown orders of magnitude variation between sampling dates. The monitoring plan should develop a baseline of PCBs in surface water for HARP. The monitoring year should include monthly monitoring of PCBs in water during the expected peak water PCB concentration during the summer months of May through August.**

Response: Water samples will be collected in August, which would typically be the warmest water temperatures of the year and would represent a “worst case” concentration in surface water. The samples will also be analyzed for total organic carbon (TOC), dissolved organic carbon (DOC), and total suspended solids (TSS). Water temperature at the sample collection point will be obtained, recorded, and reported with the sample results. Section 4.4 of the NRMP was updated to reflect this comment. If additional sampling is warranted based on the August results, additional sampling may be recommended based on Wis. Admin. Code ch. NR 724, which says that the long-term monitoring plan can be iterative, where information collected may indicate the need for modification to the plan to include changes to evaluation, analysis, data collection or analytical methods, etc.

6. **Section 4.1 Scope of Work, Surface Water Sampling – Locations: Add reference or background surface water collection locations. An upstream reference location should be located on the South Branch of the Manitowoc River near Chilton. Jordan Creek above the HARP should also be sampled.**

Response: At this time no upstream sources of PCBs have been identified on Jordan Creek or upstream of HARP. In addition, sediment sampling indicates that sediment on the upstream end of the Mill Pond has low to non-detect PCB concentrations, indicating that there is no PCB source upstream of the Mill Pond on the South Branch of the Manitowoc River. Similarly,

upstream sampling of Jordan Creek showed low or non-detect concentrations in sediment, just downstream from the New Holstein sewage treatment plant and upstream from the site. In both cases, we will assume that the background concentration is negligible. If the data suggest upstream contributions, we will consider adding one or both of the suggested background sampling locations.

7. Section 4.1 Scope of Work, In Channel Sediment Sampling – The sampling locations should be selected based on the existing post remedial action sampling. The following locations (see attached map) have shown elevated sediment PCBs and should be monitored for sediment PCBs in this plan:

- a. **OU1: S4, S13**
- b. **OU2: S6, S13**
- c. **OU3: S3, S09**
- d. **OU4: S3, RU 17C (vicinity)**
- e. **OU5: Past location of the 11 ppm PCB result, the proposed DS2 at Lemke Rd.**

Additional sampling locations in each OU should be selected based on field verified geomorphology i.e. poling survey. Representative areas of deposition e.g sediment trap, point bars, and quiescent areas, and impacted areas that were not remediated should be included in the in-channel sampling locations as part of the natural recovery monitoring. These sampling locations may be adjusted periodically with concurrence from DNR based on depositional rates determined with the poling surveys.

Response: The purpose of this NRMP is to determine the ongoing protectiveness of the remedial actions conducted to date in HARP and to evaluate overall contaminant concentration trends. The success of those remedial actions were and are to be judged pursuant to the Negotiated Agreement and it's Three-Tier Closure Process (Exhibit D). That process does not judge success or failure based on single sample results; rather, a Surface Weighted Average Concentration approach is employed. To be consistent with the Negotiated Agreement (Exhibit G), we believe that the currently proposed locations are sufficient to evaluate trends in concentration. If concentrations show an upward trend, we will evaluate additional sampling locations.

Sediment Sampling Location Deficiencies

8. Section 4.3 Sampling Locations (sediment) – The sampling location must contain adequate sediment for sampling and analysis. If the transect probe method can't find a minimum of 1.0 feet of sediment additional nearby locations should be probed until a minimum of 1.0 feet of soft sediment is located.

Response: The sampler will make a reasonable effort to find a sediment deposit of at least 1 foot thick. If a deposit of 1 foot thickness is not present at the designated sampling transect,

the sampler will probe the sediment 20 feet upstream and downstream and collect a sample from the thickest sediment deposit.

Surface Water Sampling Deficiencies

9. **Section 4.4 Surface Water Sample Collection – This section must be compatible with water sample collection for PCB congeners. See comment 11 on PCB analyses.**

Response: Section 4.5 of the NRMP and Section 2.4.1 of the QAPP have been updated to reflect this comment.

10. **Section 4.4 Surface Water Sample Collection – Water samples must be analyzed for PCB congeners, total organic carbon (TOC), dissolved organic carbon (DOC), chlorophyll, and TSS. Water temperature at the sample collection point must be obtained, recorded, and reported with the sample results. Based on DNR’s experience with water PCB data for the Fox River project, incorporating a field blank is strongly encouraged to account for potential bias. The procedure for collecting a field blank should be similar to what’s used for low level mercury (i.e. pouring reagent water from one bottle into the sample bottle to account for any atmospheric contributions.)**

Response: The samples will be analyzed for PCB congeners, total organic carbon (TOC), dissolved organic carbon (DOC), and total suspended solids (TSS). Also, a field blank will be collected by pouring reagent water from one bottle into the sample bottle to account for any atmospheric contributions. Section 4.4 of the NRMP and Sections 2.4.1 and 2.4.3 of the QAPP have been updated. Chlorophyll was not added to the list of analytes for water since this analysis is redundant to the DOC and TOC analysis. The concentration of chlorophyll gives an indication of the amount of photosynthetic activity (i.e., live plant or algae matter) in the sample and not a direct measure of DOC or TOC. Since PCBs are hydrophobic and transported primarily on organic matter regardless of whether it is actively producing chlorophyll, these analyses (i.e., DOC and TOC) are more useful than an indirect measure such as chlorophyll.

11. **Section 4.4 Surface Water Sample Collection – Water samples must be analyzed by a PCB congener method to achieve reliable quantitation for total PCBs. USEPA method 1668 or an equivalent high- resolution gas chromatography/mass spectrometry method is required. Although USEPA method 8082 can be used for congener determinations, no laboratories accredited in Wisconsin have developed that method, so method performance and congener detection limits have not been evaluated for this application.**

Response: Section 4.4 of the NRMP and Section 2.4.1 of the QAPP have been updated to reflect this comment.

Sediment Sampling Deficiencies

12. **Section 4.5.2 Sediment Sample Collection – 50% of sediment sample locations must be sampled by both a ponar grab sampler (or approved equivalent) and with a core sampler for comparison of the results.**

Response: As discussed with you on October 27, 2021, shallow (i.e., 0-6 inches) samples will be collected with a ponar or equivalent sampler. The deeper sample interval(s) (i.e., 6-18 inches) will be collected from the core. The 0-6 inch interval of the core will be discarded and properly disposed. Sections 4.5.2 and 4.5.3 of the NRMP have been updated to reflect this comment.

13. **Section 4.5.3 Sediment Sample Processing – Sediment must be analyzed for TOC.**

Response: Section 4.5.3 of the NRMP and Section 2.4.2 of the QAPP have been updated to reflect this comment.

14. **Section 4.5.3 Sediment Sample Processing – This section needs more information on transport and protection of the integrity of unprocessed samples. Transporting core samples in core tubes has risks of disturbing the sample. Explain what will be done to protect the samples during distant transport such as travel to Madison for processing.**

Response: Section 4.5.3 of the NRMP has been revised to address this comment.

15. **Section 4.5.3 Sediment Sample Processing – Subsampling of sediment cores must be consistent with the OU5 SIWP.**

- f. **Sediment collected by core sample must be subsampled for lab analyses by the 0-6 inch interval and the 6-18 inch interval when available. If the full 6-18 inch interval is not available, the portion that is available must be analyzed. These intervals must not be adjusted by the core recovery as indicated in the TRC SOP 008.**

Response: Section 4.5.3 of the NRMP has been updated to reflect this comment. A sample from the 6- to 18-inch interval will be processed if at least three inches of sediment are recovered in that interval (i.e., a minimum soft sediment recovery of 9 inches in the full core).

- g. **The monitoring plan must specify recovery criteria for core sampling. Commonly a minimum recovery ratio of 75% is specified in sediment core sampling plans.**

Response: Section 4.5.3 of the NRMP has been updated to reflect this comment.

- h. **Sediment core recovery ratios must be recorded and reported in the SI report.**

Response: Section 4.5.3 of the NRMP has been updated to reflect this comment.

Surface Water and Sediment Sampling Frequency

16. **5.1 Schedule – Surface water and sediment require a more frequent sampling interval than every three years in conjunction with fish tissue monitoring.**

Initially a baseline shall be established for sediment thickness, surface water and sediment concentrations. The baseline can be used to help establish and evaluate the sampling frequency. Absent an understanding of the deposition rates in the waterway, DNR recommends annual poling and evaluation of sediment thickness. DNR also recommends annual sediment and surface water sampling for a minimum of three years. Poling and sampling frequency may be adjusted with concurrence from DNR based on evaluation of the data.

Surface water and sediment sampling will still be required at the time of fish tissue sampling regardless of the frequency prescribed in the Natural Recovery Monitoring Plan and shall be included in the future Fish Tissue Monitoring Plan per items 20 and 21 of Exhibit G of the Negotiated Agreement.

Response: TRC has performed remediation documentation sampling on each section of the creeks that showed stable to declining trends in sediment concentrations after approved remedial actions. This sampling has shown that sediment concentrations do not change quickly and that sampling at a frequency of every three years (at the time of fish tissue sampling) will be adequate to assess the long-term trend in sediment thickness and in concentration of PCBs in surface water and sediment. Sediment poling will be performed for the first three years of sampling to document the stability of the creek sediment. The text has been updated in Section 4.5.1 of the NRMP.

PCB Sampling Results Deficiencies

17. **5.2 Reporting - The summing routine for total PCBs needs to be identified and clearly described in the monitoring plan/QAPP. The summing must consider method sensitivity and how partial PCB fingerprints will be addressed to assure that trends are not biased by varying detections. Note that the LTMP for the Fox River specified that 20 to 30 congeners needed to be detected to include the data in the trends analysis. This was based on the need to detect >75% of a PCB Aroclor mass to be representative.**

Response: The calculations for measuring total PCBs have been included in Section 2.4.1 of the QAPP for both the PCB Aroclor and PCB congener methods.

18. **5.2 Reporting – The monitoring report must include sediment PCB data previously gathered at the sampling locations, e.g., past Closure Documentation Sampling Results. These results must be included in any trend evaluation.**

Response: Section 5.2 of the NRMP has been updated to state that the monitoring report will include PCB data previously gathered at the sampling locations.

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19. Table 1 – The laboratory’s analytical levels of detections and reporting limits should be provided for each analyte. Identify the analytical lab that will be used for each analyte or test method. Sample preparation and preservation requirements should also be provided. This information may be put into Table 1 or in another table.

Response: This information has been updated in the QAPP.

Sincerely,

TRC Environmental Corporation



Chris Harvey, PE
Principal

cc: William Nelson/WDNR – Madison, WI
S. Jason Smith/Tecumseh Products Co. – Paris, TN
Curtis Toll/Greenberg Traurig LLP – Philadelphia, PA
Marc Faecher/TRC – New Providence, NJ
Ronald Bock/TRC – Irvine, CA
John Rice/TRC – Madison, WI
David Crass/Michael Best & Friedrich LLP – Madison, WI

Notice: Use this form to request a **written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance, a post-closure change to a site, a specialized agreement or liability clarification for Property with known or suspected environmental contamination. A fee will be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code., unless noted in the instructions below. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

Definitions

"Property" refers to the subject Property that is perceived to have been or has been impacted by the discharge of hazardous substances.

"Liability Clarification" refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a Property, as provided in s. 292.55, Wis. Stats.

"Technical Assistance" refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a Property in response to a request made on this form as provided in s. 292.55, Wis. Stats.

"Post-closure modification" refers to changes to Property boundaries and/or continuing obligations for Properties or sites that received closure letters for which continuing obligations have been applied or where contamination remains. Many, but not all, of these sites are included on the GIS Registry layer of RR Sites Map to provide public notice of residual contamination and continuing obligations.

Select the Correct Form

This form should be used to request the following from the DNR:

- Technical Assistance
- Liability Clarification
- Post-Closure Modifications
- Specialized Agreements (tax cancellation, negotiated agreements, etc.)

Do **not** use this form if one of the following applies:

- Request for an **off-site liability exemption or clarification** for Property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another Property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for Property where the investigation and cleanup actions are completed. Use DNR's Case Closure - GIS Registry Form 4400-202.

All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.

Instructions

1. Complete sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance or post-closure modifications, Section 4 for a written determination or clarification of environmental liabilities; or Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless you are a "Voluntary Party" enrolled in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise. Information on to whom and where to send the fee is found in Section 8 of this form.
4. Send the completed request, supporting materials and the fee to the appropriate DNR regional office where the Property is located. See the map on the last page of this form. A paper copy of the signed form and all reports and supporting materials shall be sent with an electronic copy of the form and supporting materials on a compact disk. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

Form 4400-237 (R 12/18)

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Section 1. Contact and Recipient Information

Requester Information

This is the person requesting technical assistance or a post-closure modification review, that his or her liability be clarified or a specialized agreement and is identified as the requester in Section 7. DNR will address its response letter to this person.

Last Name	First	MI	Organization/ Business Name
Smith	Jason		Tecumseh Products Company
Mailing Address			City
2700 West Wood Street			Paris
			State
			TN
			ZIP Code
			38242
Phone # (include area code)	Fax # (include area code)	Email	
(731) 644-8127	(731) 644-8156	jason.smith@tecumseh.com	

The requester listed above: (select all that apply)

- Is currently the owner
 Is considering selling the Property
 Is renting or leasing the Property
 Is considering acquiring the Property
 Is a lender with a mortgagee interest in the Property
 Other. Explain the status of the Property with respect to the applicant:

Responsible Party

Contact Information (to be contacted with questions about this request)

Select if same as requester

Contact Last Name	First	MI	Organization/ Business Name
Smith	Jason		Tecumseh Products Company
Mailing Address			City
2700 West Wood Street			Paris
			State
			TN
			ZIP Code
			38242
Phone # (include area code)	Fax # (include area code)	Email	
(731) 644-8127	(731) 644-8156	jason.smith@tecumseh.com	

Environmental Consultant (if applicable)

Contact Last Name	First	MI	Organization/ Business Name
Harvey	Chris		TRC Environmental Corporation
Mailing Address			City
230 West Monroe St., Suite 630			Chicago
			State
			IL
			ZIP Code
			60606
Phone # (include area code)	Fax # (include area code)	Email	
(312) 800-5910	(312) 578-0877	charvey@trccompanies.com	

Property Owner (if different from requester)

Contact Last Name	First	MI	Organization/ Business Name
NA			
Mailing Address			City
			State
			ZIP Code
Phone # (include area code)	Fax # (include area code)	Email	

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

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Section 2. Property Information				
Property Name Hayton Area Remediation Project			FID No. (if known) WID006116529	
BRRTS No. (if known) 02-08-587669		Parcel Identification Number		
Street Address 3755 Weeks Road		City Chilton	State WI	ZIP Code 53014
County Calumet	Municipality where the Property is located <input type="radio"/> City <input checked="" type="radio"/> Town <input type="radio"/> Village of Charlestown	Property is composed of: <input type="radio"/> Single tax parcel <input checked="" type="radio"/> Multiple tax parcels	Property Size Acres 266	

1. Is a response needed by a specific date? (e.g., Property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.

No Yes

Date requested by: _____

Reason:

2. Is the "Requester" enrolled as a Voluntary Party in the Voluntary Party Liability Exemption (VPLE) program?

No. **Include the fee that is required for your request in Section 3, 4 or 5.**

Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

Fill out the information in Section 3, 4 or 5 which corresponds with the type of request:

Section 3. Technical Assistance or Post-Closure Modifications;

Section 4. Liability Clarification; or Section 5. Specialized Agreement.

Section 3. Request for Technical Assistance or Post-Closure Modification

Select the type of technical assistance requested: [Numbers in brackets are for WI DNR Use]

- No Further Action Letter (NFA) (Immediate Actions) - NR 708.09, [183] - **Include a fee of \$350.** Use for a written response to an immediate action after a discharge of a hazardous substance occurs. Generally, these are for a one-time spill event.
- Review of Site Investigation Work Plan - NR 716.09, [135] - **Include a fee of \$700.**
- Review of Site Investigation Report - NR 716.15, [137] - **Include a fee of \$1050.**
- Approval of a Site-Specific Soil Cleanup Standard - NR 720.10 or 12, [67] - **Include a fee of \$1050.**
- Review of a Remedial Action Options Report - NR 722.13, [143] - **Include a fee of \$1050.**
- Review of a Remedial Action Design Report - NR 724.09, [148] - **Include a fee of \$1050.**
- Review of a Remedial Action Documentation Report - NR 724.15, [152] - **Include a fee of \$350**
- Review of a Long-term Monitoring Plan - NR 724.17, [25] - **Include a fee of \$425.**
- Review of an Operation and Maintenance Plan - NR 724.13, [192] - **Include a fee of \$425.**

Other Technical Assistance - s. 292.55, Wis. Stats. [97] (For request to build on an abandoned landfill use Form 4400-226)

- Schedule a Technical Assistance Meeting - **Include a fee of \$700.**
- Hazardous Waste Determination - **Include a fee of \$700.**
- Other Technical Assistance - **Include a fee of \$700.** Explain your request in an attachment.

Post-Closure Modifications - NR 727, [181]

- Post-Closure Modifications: Modification to Property boundaries and/or continuing obligations of a closed site or Property; sites may be on the GIS Registry. This also includes removal of a site or Property from the GIS Registry. **Include a fee of \$1050, and:**
 - Include a fee of \$300 for sites with residual soil contamination; and
 - Include a fee of \$350 for sites with residual groundwater contamination, monitoring wells or for vapor intrusion continuing obligations.

Attach a description of the changes you are proposing, and documentation as to why the changes are needed (if the change to a Property, site or continuing obligation will result in revised maps, maintenance plans or photographs, those documents may be submitted later in the approval process, on a case-by-case basis).

Technical Assistance, Environmental Liability
Clarification or Post-Closure Modification Request

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Skip Sections 4 and 5 if the technical assistance you are requesting is listed above and complete Sections 6 and 7 of this form.

Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: dnr.wi.gov/topic/Brownfields/Igu.html#tabx4.

- Tax cancellation agreement - s. 75.105(2)(d), Wis. Stats. [654]
 - ❖ Include a fee of \$700, and the information listed below:
 - (1) Phase I and II Environmental Site Assessment Reports,
 - (2) a copy of the Property deed with the correct legal description.
- Agreement for assignment of tax foreclosure judgement - s. 75.106, Wis. Stats. [666]
 - ❖ Include a fee of \$700, and the information listed below:
 - (1) Phase I and II Environmental Site Assessment Reports,
 - (2) a copy of the Property deed with the correct legal description.
- Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]
 - ❖ Include a fee of \$1400, and the information listed below:
 - (1) a draft schedule for remediation; and,
 - (2) the name, mailing address, phone and email for each party to the agreement.

Section 6. Other Information Submitted

Identify all materials that are included with this request.

Send both a paper copy of the signed form and all reports and supporting materials, and an electronic copy of the form and all reports, including Environmental Site Assessment Reports, and supporting materials on a compact disk.

Include one copy of any document from any state agency files that you want the Department to review as part of this request. The person submitting this request is responsible for contacting other state agencies to obtain appropriate reports or information.

- Phase I Environmental Site Assessment Report - Date: _____
- Phase II Environmental Site Assessment Report - Date: _____
- Legal Description of Property (required for all liability requests and specialized agreements)
- Map of the Property (required for all liability requests and specialized agreements)
- Analytical results of the following sampled media: Select all that apply and include date of collection.
 - Groundwater Soil Sediment Other medium - Describe: _____
- Date of Collection: _____
- A copy of the closure letter and submittal materials
- Draft tax cancellation agreement
- Draft agreement for assignment of tax foreclosure judgment
- Other report(s) or information - Describe: Natural Recovery Monitoring Plan for Surface Water and Sediment

For Property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

- Yes - Date (if known): _____
- No

Note: The Notification for Hazardous Substance Discharge (non-emergency) form is available at: dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.

Section 7. Certification by the Person who completed this form

- I am the person submitting this request (requester)
- I prepared this request for: Tecumseh Products Company
Requester Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.

**Technical Assistance, Environmental Liability
Clarification or Post-Closure Modification Request**

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Signature

12/21/2021

Date Signed

Principal

Title

(312) 800-5910

Telephone Number (include area code)

Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request

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Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver one paper copy and one electronic copy on a compact disk of the completed request, supporting materials, and fee to the region where the property is located to the address below. Contact a DNR regional brownfields specialist with any questions about this form or a specific situation involving a contaminated property. For electronic document submittal requirements see: <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

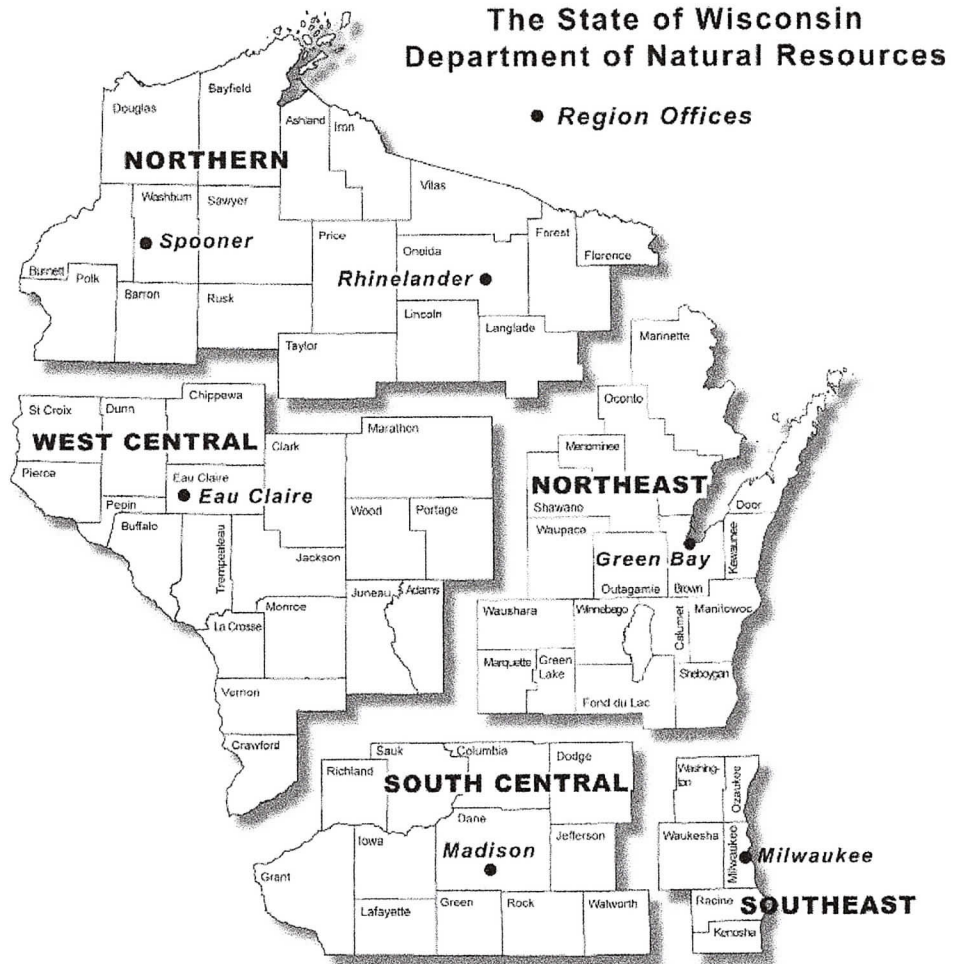
DNR NORTHERN REGION
Attn: RR Program Assistant
Department of Natural Resources
223 E Steinfest Rd Antigo, WI 54409

DNR NORTHEAST REGION
Attn: RR Program Assistant
Department of Natural Resources
2984 Shawano Avenue
Green Bay WI 54313

DNR SOUTH CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711

DNR SOUTHEAST REGION
Attn: RR Program Assistant
Department of Natural Resources
2300 North Martin Luther King Drive
Milwaukee WI 53212

DNR WEST CENTRAL REGION
Attn: RR Program Assistant
Department of Natural Resources
1300 Clairemont Ave.
Eau Claire WI 54702



Note: These are the Remediation and Redevelopment Program's designated regions. Other DNR program regional boundaries may be different.

DNR Use Only			
Date Received	Date Assigned	BRRTS Activity Code	BRRTS No. (if used)
DNR Reviewer		Comments	
Fee Enclosed? <input type="radio"/> Yes <input type="radio"/> No	Fee Amount \$	Date Additional Information Requested	Date Requested for DNR Response Letter
Date Approved	Final Determination		



Natural Recovery Monitoring Plan for Surface Water and Sediment

Hayton Area Remediation Project Chilton, Wisconsin

December 2021
Revision 2

BRRTS No. 02-08-587669

Prepared For:

Tecumseh Products Company

Prepared By:

TRC Environmental Corporation
230 W. Monroe Street, Suite 630
Chicago, IL 60606



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FIGURES

- Figure 1: Site Location Map
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1.0 Professional Certification

Consistent with NR 712.09(1) Wis. Adm. Code that submittals prepared by, or under the supervision of, a professional engineer, a hydrogeologist or a scientist shall be dated and certified by the professional engineer, hydrogeologist or scientist using the appropriate certification:

"I, Meredith Westover, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



Meredith Westover, P.G. #1205



2.0 Project Management Plan

Consistent with NR 724.05(2)(e) Wis. Adm. Code, the following information is provided:

1. Site Address and Location:

- Street Address: 3755 Weeks Road, Chilton, Wisconsin 53014
- Quarter-Quarter Section, Township, Range, and County: SE ¼ of SW ¼ of Section 16, SW ¼ and SE ¼ and NE ¼ of SE ¼ of Section 16, SE ¼ of NE ¼ of Section 16, SW ¼ and SE ¼ of NW ¼ of Section 15 of Township 18 North, Range 20 East, Calumet County
- NR 716.15 (5) (d) Location Information: Refer to **Figure 1**
- Latitude and Longitude: 88°07'06.40"W, 44°01'29.00"N
- Wisconsin Transverse Mercator (WTM) Coordinates: 1,300,324.49342 U.S. ft. N, 2,200,751.36494 U.S. ft. E

2. Responsible Party:

- Tecumseh Products Company LLC
5683 Hines Drive
Ann Arbor, MI 48108

Mr. Stan Gilhool, General Counsel
(734) 585-9616 direct
Stan.gilhool@tecumseh.com

3. Name of the Consultant Involved with the Project:

- TRC Environmental Corporation
230 West Monroe Street, Suite 630
Chicago, IL 60606

Mr. Chris Harvey, P.E.
charvey@trccompanies.com
(312) 909-0043 cell

3.0 Introduction

Consistent with NR 724.05(2)(e) Wis. Adm. Code, the following applicable information is provided.

3.1 Overview

The purpose of this Natural Recovery Monitoring Plan for Surface Water and Sediment (NRMP) for the Hayton Area Remediation Project (HARP) is to present the proposed approach to perform long-term natural recovery monitoring of the Site via surface water and sediment consistent with and as required by Sec. III(M) of the 2018 Negotiated Agreement (BRRTS #02-08-281506) (Negotiated Agreement).

3.2 Site History and Background

The area subject to this NRMP is located just north of New Holstein and east of Chilton, Wisconsin, and includes the HARP and areas downstream of the dam at the Hayton Millpond (WDNR, Tecumseh Products, and TRC, 2018)¹.

From 1956 to 2006, Tecumseh previously owned and operated a small engine manufacturing facility located at 1604 Michigan Avenue, New Holstein, Wisconsin (TRC, 2021). The property consists of approximately 39 acres (8 total parcels) that includes a developed section and an undeveloped lot. The former manufacturing building occupies approximately 404,700 square feet, and there are several outbuildings along the western portion of the property (TRC, 2021). Immediately north of the property is the storm water drainage ditch/outfall and agricultural fields. The storm sewer discharges to drainage ditches adjacent to the facility, which flow into Jordan Creek, Pine Creek, the Hayton Millpond, and the South Branch Manitowoc River (downstream of the dam).

HARP is divided into four Operable Units (OU): OU1, OU2, OU3, and OU4. Figure 1 shows the extent of HARP and each Operable Unit. OU1 and OU2 Upper (OU2/Upper) extend from drainage ditches feeding into Jordan Creek northeast of New Holstein down to the intersection of Pine Creek and Danes Road. OU2/Lower and OU3 extend from Danes Road to Quarry Road. OU4/Upper is defined as Quarry Road to a point approximately 750 feet upstream from the farm bridge south of Calumet Street (U.S. Route 151) (see Figure 1). OU4/Lower includes the Millpond and the backwater effected area of Pine Creek that is created by the Hayton Dam. The south branch of the Manitowoc River enters the Millpond from the northwest, and Pine Creek enters from the south. The south branch of the Manitowoc River extends downstream of the Hayton Dam.

Significant risk reduction has been achieved by the remedial activities completed in HARP. The remediation activities resulted in significant PCB source removal (greater than 96% mass removal) and restoration efforts have been completed in HARP OU1 through OU4/Lower between 2001 and 2020. The WDNR-approved remedial actions were completed by removing in-channel sediment and overbank soil in the dry. The excavated material was stabilized and disposed at a nearby landfill. More than 140,000 tons of sediment and soil were removed and disposed. All

¹ Although this NRMP addressed both HARP and the area downstream of the millpond dam, pursuant to the Negotiated Agreement WDNR has assigned separate BRRTS numbers for HARP and the downstream area. Those BRRTS numbers are: 02-08-587669 and 02-08-587108.

operable units have received No Further Action (“NFA”) letters. The remediation areas were successfully restored to approximately pre-existing conditions.

In November 2018, Wisconsin Department of Natural Resources (WDNR), Tecumseh, and TRC executed a Negotiated Agreement (BRRTS #02-08-281506) (Negotiated Agreement), in which Tecumseh agreed to certain response actions and obligations (WDNR, Tecumseh Products, and TRC, 2018). This NRMP was prepared in accordance with Sec. III (M) of the Negotiated Agreement.

3.3 Purpose

As required by the Negotiated Agreement, Tecumseh will complete natural recovery monitoring of surface water, sediment, and fish tissue at HARP, including areas downstream of the Millpond dam.

The focus of this NRMP is to address the Wis. Adm. Code NR 724 requirements to submit a long-term monitoring plan to conduct the WDNR requested natural recovery monitoring for surface water and sediment. Fish tissue monitoring will be addressed in a separate long-term monitoring plan as required by Sec. III.L and Exhibit G of the Negotiated Agreement.

In consideration of the above information and with acknowledgement that the monitoring may be an iterative process, the objective of this NRMP is to evaluate the change in surface water and sediment concentrations and trends as an indicator of the overall effectiveness of the HARP remedial actions.

The sampling and analysis discussed in Section 4 are to address the NRMP purpose as outlined above and justified by the current knowledge and data and the comprehensive remedial actions completed for HARP. Based on the results of this data collection, an evaluation will be performed to assess the need for further evaluation, analysis, or data collection, if any.

4.0 Sampling and Analysis Plan

Consistent with NR 724.17(2)(a) through (d) Wis. Adm. Code, this section provides information on the proposed sampling and analysis strategy. Samples will be collected and analyzed in accordance with the Quality Assurance Project Plan (QAPP) developed for this Site. Where there is any conflict between this NRMP and the QAPP, this plan shall govern.

4.1 Scope of Work

Pursuant to the Negotiated Agreement, the monitoring program in this NRMP includes the following tasks:

- **Surface Water Sampling**
 - One surface water sample will be collected at each of six sampling transect locations shown on Figure 2.
 - At each transect location, the surface water sample will be collected from the approximate midpoint of the water column in the thalweg of the creek/river.
 - A total of six surface water samples will be processed for laboratory analysis, one from each of the sampling transects shown on Figure 2.
- **In-Channel Sediment Sampling**
 - During the initial monitoring event, a rod-probe survey will be conducted at each of the six transect locations shown on Figure 2 to determine the location of the thickest soft sediment deposits along the transect.
 - One sediment core will be collected from each of the six transects at the location determined to have the greatest thickness of soft sediment during the rod-probe survey. At each of the six transect locations, shallow (i.e., 0-6 inches) samples will be collected with a Ponar, Ekman, or equivalent sampler. The sediment will be physically logged.
 - The deeper sample interval (e.g., 6-18 inches, if available) will be collected from the core. The 0-6 inch interval of the core will be discarded and properly disposed. Each recovered sediment core will be physically logged.
 - A total of up to 12 sediment samples will be processed for laboratory analysis, up to two from each of the six sampling transect locations shown on Figure 2.
 - During each subsequent monitoring event, one sediment sample will be collected at each of the six sampling transect locations. The sample location will target the sampled location from the initial monitoring event.

Surface water and sediment monitoring will be conducted every three years, as described in Section 5. The rationale for sample locations is described in Section 4.2.

4.2 Sample Location Rationale

The surface water and sediment sampling transect locations were selected to generally coincide with the fish tissue monitoring locations specified in the Negotiated Agreement (Exhibit G) as well as historic WDNR fish tissue sampling locations where appropriate (TRC, 2017). Additionally, post-remedial sediment monitoring locations were also considered in selecting the sample transect locations. The sampling locations are shown on Figure 2 and are defined as follows:

- One location within each HARP Operable Unit (OU1, OU2, OU3, and OU4, including the Hayton Millpond).
- South Branch of the Manitowoc River downstream of the Hayton Dam near the Bonlander Farm.
- South Branch of the Manitowoc River at Lemke Road.

The locations in the South Branch of the Manitowoc River are not technically within the HARP Site and are located in BRRTS #02-08-587108 (downstream of Hayton Millpond Dam). The following sections describe the surface water and in-channel sediment sampling methods in more detail.

4.3 Sampling Locations

Prior to mobilizing to the field for each event, the Site will be cleared through Digger's Hotline and the Site will be marked to indicate identified underground utilities that cross the river. Riparian landowners whose land will be accessed along the investigation area will be contacted prior to the initiation of field activities.

For the initial monitoring event, the locations of the proposed surface water and sediment transects will be pre-loaded into a global positioning system (GPS) receiver capable of sub-meter accuracy (Trimble Geoexplorer handheld GPS unit, Juniper Geode bluetooth GPS, or equivalent). The GPS unit will be used to navigate as close as practicable to each target transect location. The field technician will access the sampling locations either by wading or by boat, depending on field conditions. Surface water sampling will be conducted in the thalweg of the creek/river prior to performing a rod-probe survey or collecting sediment samples in order to minimize the mobilization of particulate matter in the water column.

The locations of the sediment cores selected for laboratory analysis during the initial monitoring event will be used as target locations for each subsequent monitoring event. The sampler will make a reasonable effort to find a sediment deposit of at least 1 foot thick. If a deposit of 1 foot thickness is not present at the designated sampling transect, the sampler will probe the sediment 20 feet upstream and downstream and collect a sample from the thickest sediment deposit. The final location of each sample core collected will be recorded with the GPS unit.

When surface water and sediment sampling locations are co-located and sampled at the same time, the location will be approached from downstream and the surface water sample will be collected first.

4.4 Surface Water Sample Collection

This section describes the sampling equipment and methodology for the collection of surface water samples.

Surface water samples will be collected in August, which would typically be the warmest water temperatures of the year. Surface water samples will be collected from the approximate midpoint of the water column in the thalweg of the creek/river channel at each transect location. The surface water sample will be collected prior to rod probing or sediment sampling. Surface water samples will be collected either by direct filling of the sample container (for unpreserved aliquots only); direct filling a transfer container (e.g., a new, unpreserved laboratory sample container) to use to fill laboratory sample containers (preserved or unpreserved); or by peristaltic pump, depending on the field conditions at the sampling location. To collect the sample by direct filling of the sample container (or transfer container), the field technician will invert the sample container, lower it to the sampling depth, right the container, and seal the container with the lid prior to removing the bottle from the water column. If used, the transfer container will be filled as many times as necessary to fill the required sample containers. Each laboratory sample container will be filled completely prior to filling the next container. Field duplicates will be collected by alternately filling containers for each analyte group. The sample aliquot for PCB analysis will be collected first. Aliquots collected for dissolved phase analysis and/or requiring field preservation (e.g., dissolved organic carbon) will be direct filled into a transfer container, and transported to shore for field filtration using a peristaltic pump and an in-line filter and transfer to the appropriate sample containers.

If the surface water sample is to be collected with a peristaltic pump, as may be necessary when sampling from a boat, a weighted piece of low density polyethylene (LDPE) tubing (or equivalent), weighted as needed, will be lowered to the approximate midpoint of the water column. The sample will then be pumped directly into the laboratory sample containers using an in-line filter to field filter aliquots for dissolved phase analysis.

The sample containers will be placed on ice and shipped to Pace Analytical Laboratories in Minneapolis, Minnesota for PCB analysis (PCB congeners using EPA Method 1668, revision C). Separate aliquots of surface water samples will be placed on ice and shipped to Pace Analytical Laboratories in Green Bay, Wisconsin for total organic carbon (TOC), dissolved organic carbon (DOC), and total suspended solids (TSS) analyses. Water temperature at the sample collection point will be obtained, recorded, and reported with the sample results.

Excess surface water from transfer containers, if any, will be returned to the creek, discharged to the ground surface adjacent to the creek, or combined with decontamination fluids and managed as investigation-derived waste (IDW) as described in Section 4.10.

4.5 In-Channel Sediment Sample Collection

This section describes the sampling equipment and methodology for the collection of sediment samples from the locations described above.

4.5.1 Rod-Probe Survey

At each transect, a rod-probe survey will be conducted across the cross section to identify the area of thickest sediment. The sampler will assess visually and with a rod-probe 20 feet upstream

and 20 feet downstream to identify areas of preferential deposition (e.g., eddy pools) and sample the thickest sediment deposit. The rod-probe will consist of a length of core tube, pipe, conduit, or grounding rod made of polyvinyl chloride (PVC), aluminum, galvanized steel, or other equivalent material that has been measured and marked in increments of feet and tenths of feet. The material and size of the rod will be determined based on field conditions (e.g., water depth, mode of access, and sediment type). At each probe location, the probe will be lowered through the water column until in contact with the sediment surface, and the water depth, estimated to the nearest 0.1 foot, will be recorded. The probe will then be pushed by hand through the thickness of soft sediment until refusal is encountered. The penetration depth will be recorded. At the location with greatest thickness of soft sediment, one sediment core will be collected. The final locations of each sediment core will be recorded with the GPS unit. Sediment poling will be performed for the first three years of sampling to document the stability of the creek sediment.

4.5.2 Sediment Sample Collection

The shallow (i.e., 0-6 inches) samples will be collected with a Ponar, Ekman or equivalent dredge sampler. The sample from the ponar will be placed in a Ziploc baggie and double bagged prior to processing.

The deeper sample interval (i.e., 6-18 inches) will be collected from the core using a manually driven coring device such as a piston core sampler, or a push tube. The 0-6 inch interval of the core will be discarded and properly disposed. Cores will be collected in clear plastic (PVC, lexan, polycarbonate, or equivalent) core tubes approximately 2-inches in diameter. The actual diameter of the core may vary between 1.5 inches and 2.75 inches in diameter, depending on the device employed. At each location, the core tube will be lowered through the water column until in contact with the sediment surface, and the water depth, estimated to the nearest 0.1 foot, will be recorded. The coring device will then be pushed by hand through the entire thickness of soft sediment and into the underlying soil until refusal is encountered, or to a maximum of 3 feet below the sediment/surface water interface. The penetration depth will be recorded. The sample core will be extracted from the sediment, capped, labeled, maintained in a vertical orientation, and transported to the shore for processing. If the core recovery ratio is less than 75%, up to three attempts may be made to collect a representative core sample at the sample location. If suspended sediment solids are observed in the core, the core will be allowed to settle for one minute before the recovery is measured. The core tube will be cut off no less than 2 inches above the top of sediment to increase the flocculent and fine-grained material collected and to minimize discharge of suspended sediment to the river.

Physical data collected at each location will include the following:

- The water depth;
- The distance that the core is pushed into the sediment (penetration depth);
- The thickness of soft sediment;
- The conditions of refusal (physical impediment or resistance);
- Sediment core recovery ratios;
- The visual description of the deposit

- Texture and sediment classification; and
- The recovery length.

Photographic documentation of the core sample will be completed.

4.5.3 Sediment Sample Processing

Sediment cores will be processed at a designated location on shore, at the Millpond Building, or at the TRC office in Madison, Wisconsin. If sediment cores are transported offsite for processing, they will be kept in an upright position in a cooler. Care will be taken to pack the cores inside the cooler with bubble wrap or similar packing material, so as to minimize disturbance during transport. Standing water in the core tubes will be carefully removed once visual observation indicates that particulates in the water column have settled and fines will not be discharged by draining the water. Standing water in the core tubes will be carefully removed using a suction pump equipped with LDPE tubing. New, clean tubing will be used for each core, and care will be taken to preserve any fine material at the top of the sediment surface. Alternatively, a drilled hole or saw cut in the tube above the sediment water interface may be used to remove overlying water, taking care to preserve the fine material at the top of the sediment column. After removing the standing water, each core tube will be cut lengthwise and the core will be split to allow for visual logging and sample preparation. The cores will be described in accordance with the Unified Soil Classification System (USCS) and core logs will be prepared. The USCS soil texture, color, moisture, root content, mottling, and other features (such as odor, presence of shell fragments, or sand or gravel lenses) will be recorded. Descriptions will be completed of the material recovered at each of the sampling locations on WDNR boring log forms.

After the cores from a given transect have been logged, one core from the transect will be selected for the collection of analytical samples. Up to two samples will be processed, one surficial sample representing the 0- to 6-inch interval (collected by a ponar sampler), and a second from the 6- to 18-inch interval, if adequate sample material is recovered. Sediment from the targeted intervals will be segregated and placed in separate homogenization vessels (e.g., steel bowl, foil pan, or equivalent). At a minimum, one surficial sample will be collected at each location using a ponar or equivalent sampler. A sample from the 6- to 18-inch interval will be processed if at least three inches of sediment are recovered in that interval (i.e., a minimum soft sediment recovery of 9 inches in the full core). Once the sample material has been selected and segregated, each sample will be thoroughly homogenized and placed into the laboratory sample containers. The sample containers will be placed on ice and shipped to Pace Analytical Laboratories in Green Bay, Wisconsin for PCB analysis (USEPA Method 8082-WIS). Up to six samples of soft sediment will also be submitted for TOC analysis (Lloyd Kahn method). Samples will be selected to represent a range of materials encountered.

Excess sediment material, if any, will be placed in 5-gallon buckets, sealed, and managed as IDW in accordance with Section 4.10. Sample processing equipment may be new, single-use, and disposable; or may be re-used at the discretion of the field crew, if these materials can be adequately decontaminated following use. All non-dedicated, non-disposable sampling equipment will be decontaminated in accordance with Section 4.9 prior to collecting or processing the next sample.

4.6 Surface Water and Sediment Sample Identification

The sample identification format for the natural recovery monitoring program has been designed to uniquely identify each sample from each sampling event. Samples will be assigned a unique alpha-numeric sample descriptor identifying the program, sample location, and media type. Each sample will be labeled as follows:

[program] – [sample type] – [sample location][channel position (if applicable)] – [date]

The following sections describe the numbering system in greater detail and include examples of sample identification (ID) numbers for representative sample types.

4.6.1 Monitoring program

All samples collected for natural recovery monitoring will be given the program designation of “NR”.

4.6.2 Sample Location

The sample location code will correspond to the sample locations indicated on Figure 2, and include the following:

- Operable Unit samples OU1, OU2, OU3, and OU4;
- Downstream samples DS1 (South Branch Manitowoc River near the Bonlander Farm) and DS2 (South Branch Manitowoc River at Lemke Road);
- Field duplicate samples (for surface water) will have a location identifier “DUP”;
- Replicate samples (for sediment) will have a location identifier “REP”;
- Field blanks, if applicable, will have a location identifier “FB”; and
- Equipment blanks, if applicable, will have a location identifier “EB”.

4.6.3 Sample Type

The sample type code identifies the sample media. For the purposes of this NRMP, the media types are as follows:

- IC = in-channel sediment sample
- SW = surface water sample

For field Quality Control (QC) samples such as field duplicates and field blanks, the type code of the media associated with the blank or duplicate will be assigned. For example, a duplicate surface water sample will use “SW”, and an equipment blank collected from a mixing bowl used during sediment sampling will use “IC”.

4.6.4 Channel Position

For samples collected within the creek channel, an additional modifier will be added to identify the relative position of the sample within the channel. A “C” will be added for the center of the channel, “L” will be added for the left side of the channel (looking downstream), and “R” will be added for the right side of the channel.

4.6.5 Sample Date

The sample date (month and year) will be appended to every sample collected. The date will be added with the format “yyyymm”.

4.6.6 Example Sample Names

The following are examples of sample IDs generated for natural recovery monitoring samples:

- “NR-IC-OU3R-202208” represents an in-channel sediment sample collected from the right bank at the OU3 location in August 2022.
- “NR-SW-DS1-202208” represents a surface water sample collected at the downstream location DS1 in August 2022.
- “NR-SW-DUP1-202208” represents a duplicate surface water sample collected in August 2022.
- “NR-IC-EB1-202208” represents an equipment blank sample collected during sediment sampling in August 2022.

4.7 Surface Water and Sediment Sample Shipment and Laboratory Analysis

Samples for chemical analysis will be placed on ice immediately after collection for transport to Pace Analytical Laboratories in Green Bay, Wisconsin or Minneapolis, Minnesota, as applicable. The analytical methods, sample containers, and preservation requirements are summarized in the companion QAPP.

4.8 Surface Water and Sediment Quality Control (QC) Samples

In accordance with NR 724.17(2), the following QC samples will be collected:

- **Field Duplicates:** Blind field duplicate samples, prepared by splitting a single sample into two separate containers, will be used to evaluate sampling precision. Duplicates of surface water will be direct filled into separate sample containers at the sampling location. Points where duplicate samples are to be collected will be selected by the field technician and the samples will be submitted as single-blind duplicates to the laboratory. Field duplicates will be collected at a rate of one for every 10 (or fewer) primary samples for the surface water matrix. No duplicate samples will be collected for the sediment matrix.
- **Replicates:** Replicate samples, prepared by splitting the same sample material into two sample containers after processing, will be collected for solid matrix samples (sediment samples). Replicate samples will be collected at a rate of one for every 10 (or fewer) primary samples.

- **Equipment Blanks:** Equipment (rinsate) blanks are analyzed to check for contamination related to equipment decontamination procedures. Equipment blanks are collected by rinsing a piece of field-cleaned equipment with deionized water and collecting the rinsate in the sample container. In general, equipment blanks will only be collected if non-disposable, non-dedicated sampling equipment is used. For the proposed scope of work, equipment blanks will be collected from disposable tubing and transfer containers if they are used for collection of surface water samples for PCB congener analysis. If applicable, equipment blanks will be collected at a frequency of one for every 10 (or fewer) primary samples that are collected with the non-dedicated, non-disposable equipment.
- **Field Blanks:** Field blanks are analyzed to check for contamination from ambient air. Field blanks are collected by transferring clean water (supplied by the laboratory) from one container to another in the area of the site being sampled. For the proposed scope of work, field blanks will be used for collection of surface water samples for PCB congener analysis. Field blanks will be collected at a frequency of one per day when surface water sampling is performed.
- **Temperature Blanks:** The condition of each cooler will be evaluated upon receipt at the laboratory. Samples received on ice are considered preserved at the correct temperature (0-6°C). Temperature blanks may also be analyzed to assess whether the sample temperature was maintained during sample transport, especially in the case that the ice has all melted. Temperature blanks consist of a sample container, generally polyethylene, filled with tap water. One temperature blank will be transported with each cooler containing sample containers.

4.9 Equipment Decontamination

4.9.1 Single-Use Sampling Equipment

To the extent practicable, single-use sampling equipment and materials will be used for the collection of samples. The materials used will be new and clean, and will be placed in plastic for transport to the site. Once used, single-use equipment will be placed in plastic bags and managed as IDW material. Single-use equipment may include, but is not limited to, the following:

- Disposable foil pans
- PVC, polycarbonate, acrylic (or similar material) core barrel liners
- Polyethylene (or similar) core tube caps
- Polyethylene and silicone tubing
- Glass laboratory sample container (transfer container)
- Disposable nitrile or latex gloves

4.9.2 Non-dedicated Sampling Equipment

Non-dedicated equipment used for sample collection or sample processing will be new or cleaned before its initial use in the field and cleaned again before use at each subsequent sampling site (and between sample intervals). Equipment subject to this decontamination procedure includes, but is not limited to, the following:

- Coring tools (e.g., ponars, pistons or core barrels)
- Dredges
- Shovels
- Augers
- Scoops, spatulas, and mixing bowls (if re-used)

The general procedure for decontaminating field equipment is as follows:

- Scrape off as much loose material as possible.
- Disassemble the equipment, as appropriate.
- Wash with detergent/potable water solution.
- Rinse thoroughly with distilled or deionized (DI) water.
- Allow equipment to air dry prior to next use.
- Wrap equipment for transport with inert material (aluminum foil or plastic wrap) to prevent direct contact with potentially contaminated material.

Field decontamination of sampling equipment will take place at a designated location on-site. Decontamination will be performed in 5-gallon buckets and managed as IDW (Section 4.10). Decontamination water will be changed out for new, clean solutions at a minimum of once per sampling day.

4.10 Surface Water and Sediment Sampling Investigation Derived Waste (IDW)

IDW streams generated during this investigation are expected to include excess sediment sample material, decontamination fluids, and general refuse (e.g., used personal protective equipment, single-use sampling equipment, and trash). If sediment sample processing occurs at the site, excess sample material and decontamination water will be sealed in 5-gallon buckets, labeled with the date and contents, and left on site for future characterization and disposal.

If processing is performed at the TRC office, excess sample material will be sealed in 5-gallon buckets, labeled, and held in a secure location at the TRC office until they are transported back to the site for storage and future disposal. Decontamination fluid generated at the Madison office will be discharged to the sanitary sewer. General refuse will be collected in sealed trash bags and placed in a waste dumpster at the TRC office.

4.11 Sediment and Soil Sample Results, Data Management, and Validation

Laboratory data generated under the sampling described in this NRMP will be subject to Level II data reporting, which includes the following:

- Cover letter
- Analytical results
- Analytical QC results (e.g., surrogate recoveries, method blanks, laboratory control samples, MS/MSDs, as appropriate)
- Summary of nonconformances
- Laboratory copies of the Chain-of-Custody forms

TRC will maintain the analytical data in a project database. Prior to importing the laboratory data into the database, TRC will review the analytical data reports for usability. If data completeness or usability is uncertain, TRC will attempt to resolve conflicts with the laboratory and obtain a revised analytical report.

4.12 Other Procedures for Site Management - HASP

The sampling activities will adhere to the Health and Safety Plan (HASP) that was developed by TRC for sediment sampling activities (TRC, 2015). The HASP includes safety precaution information and emergency procedures. The HASP is updated as needed based on the work to be performed. The HASP is incorporated into this NRMP by reference.

5.0 Monitoring Schedule and Reporting

Consistent with NR 724.17(3m) Wis. Adm. Code, this section provides information on the proposed schedule and reporting, as follows:

5.1 Schedule

According to the Negotiated Agreement, “beginning the year following completion of the OU4 Lower SOW and receipt of the Department’s no further action letters specified in this Agreement, Tecumseh shall perform or cause to be performed fish tissue monitoring on an every three-year basis until the Wis. Admin. Code ch. NR 726 and the Fish Consumption Response Action Goal is met for the Site.” The fish tissue monitoring plan will be submitted under a separate document per the Negotiated Agreement (Section III.L). In accordance with the Item 21 of Exhibit G of the Negotiated Agreement, Tecumseh proposes to complete the surface water and sediment sampling at the time of the fish sampling. The surface water and sediment sampling will be completed on an every three-year basis consistent with the fish sampling to better correlate and evaluate data and data trends. The surface water and sediment monitoring will be timed within the year to occur during periods representative of typical flow conditions (e.g., not during or immediately after a flooding event, or during a drought or low-flow) and warmer water temperatures (August).

Pending WDNR approval of this NRMP, the investigation activities are scheduled to start in 2022 at the time of the fish sampling.

5.2 Reporting

In accordance with NR 724.17(2)(3m), sample results will be reported to the WDNR within 10 business days of receiving the sample results.

Within 6 months of completing the long-term monitoring and receipt of laboratory analytical results, the data will be compiled, analyzed, and incorporated into a monitoring report. The report will document the long-term monitoring activities conducted and will describe the methods employed during the sampling. The report will include a base map that shows the sampling locations. The analytical and physical results will be presented on figures and tables attached to the report. The report will include data previously gathered at the sampling locations and the results will be included in any trend evaluation. The report will include an evaluation of QC data including results of field duplicates and analytical results for precision, accuracy, and completeness. The report will include a detailed narrative of the results of the investigation, referencing and including the appropriate summary data tables and maps, figures, and photographs. The logs for sediment sampling locations, as well as laboratory analytical reports, will be appended to the report. Sediment core recovery ratios will be included in the monitoring report. In addition, other appropriate data collected during the long-term monitoring will be appended to document the quality of work performed.

The surface water and sediment data will be evaluated in conjunction with the fish tissue monitoring data to monitor the long-term reduction in PCB concentrations and improvement in the HARP natural recovery. The surface water sampling data will be compared to background levels. The surface water concentrations of PCBs at each sampling location will be tabulated and summarized. Results will be plotted against time. The trend in the data will be evaluated by fitting the data using the least squares method. Different trend line methods (e.g., linear, log, and/or exponential) will be evaluated to determine the best fit for illustrating the trend in surface water concentrations. The concentration of each downstream sampling location will also be compared against the upstream locations.

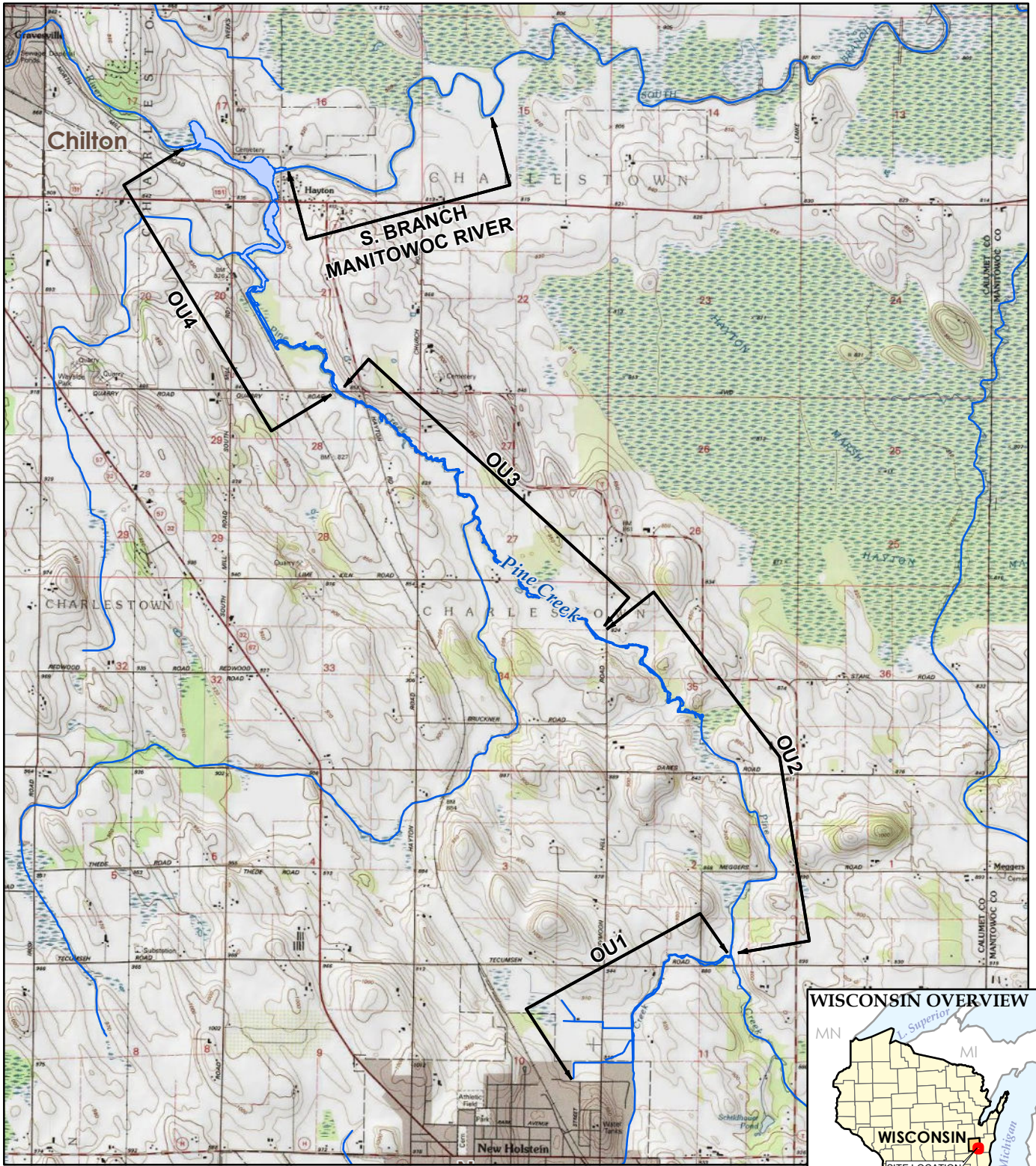
All data will be evaluated in accordance with the Negotiated Agreement.

6.0 Technical Review Request

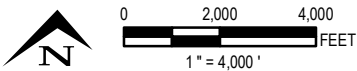
Pursuant to NR 749.02, Wis. Adm. Code, TRC requests a technical review response from WDNR of this NRMP. TRC will provide a \$425 review fee.

7.0 References

- TRC. 2015. Site-Specific Health and Safety Plan. Sediment Investigations. South Branch of the Manitowoc River, Downstream of the Hayton Millpond, Calumet County, Wisconsin. June 2015.
- TRC. 2017. Natural Recovery Monitoring Scope of Work. Hayton Area Remediation Project. August 25, 2017.
- TRC. 2021. Site Investigation Work Plan. Additional Investigation Sampling Plan, Downstream Hayton Millpond Dam, Chilton, Wisconsin. December 2021.
- WDNR, Tecumseh Products, and TRC. 2018. Negotiated Agreement; BRRTS #02-08-281506.



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES (1992-1993).



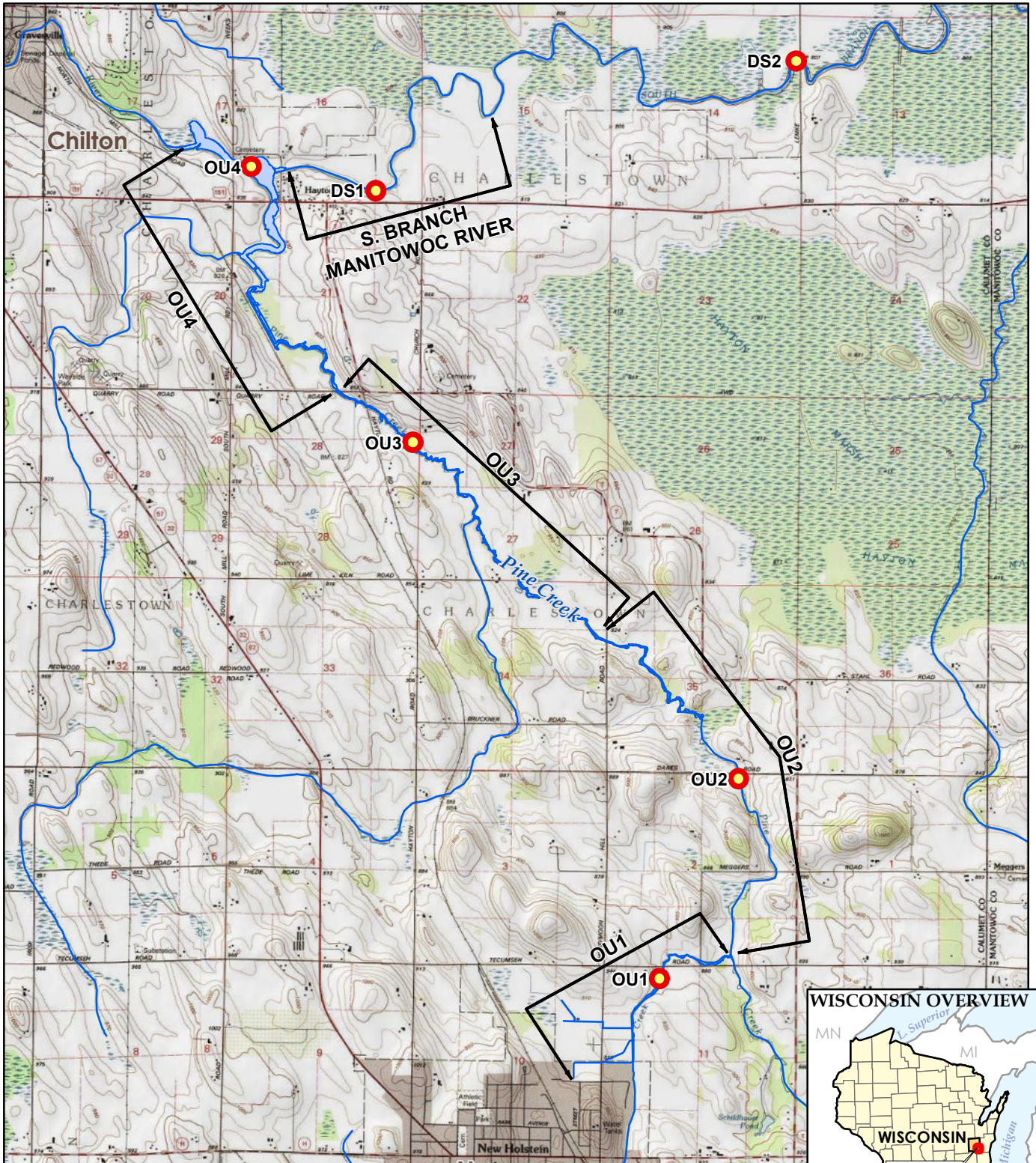
230 West Monroe St.
 Suite 630
 Chicago, IL 60606
 Phone: 312.578.0870

**HARP POST-REMEDATION
 NATURAL RECOVERY MONITORING PLAN**

SITE LOCATION MAP

DRAWN BY:	R. SUENICHT
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PROJECT NO:	107927-9300
FILE NO.	197927-9300-037slm.mxd
DATE:	MARCH 2021

FIGURE 1



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES (1992-1993).



0 2,000 4,000
FEET
1" = 4,000'

LEGEND



SURFACE WATER AND SEDIMENT SAMPLING LOCATION



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**HARP POST-REMEDATION
NATURAL RECOVERY MONITORING PLAN**

**SURFACE WATER AND SEDIMENT
MONITORING LOCATIONS**

DRAWN BY:	R. SUENICHT
APPROVED BY:	C. HARVEY
PROJECT NO:	107927-9300
FILE NO.	197927-9300-038.mxd
DATE:	MARCH 2021

FIGURE 2