

Hazardous, Toxic, and Radioactive Waste (HTRW) Phase I Appendix

Feasibility Study

Horlick Dam Ecosystem Restoration Section 506 Project

Racine, Wisconsin

Prepared by:

Hydraulics and Environmental Engineering Section



**US Army Corps
of Engineers®**

Chicago District

April 2021

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 AUTHORITY	1
2.1. USACE HTRW Policy	1
2.2. HTRW – Local Sponsor Responsibilities	1
2.3. HTRW Guidance	2
3.0 DEFINITIONS	2
3.1. Hazardous, Toxic, and Radioactive Waste	2
3.2. Non-Hazardous, Toxic, and Radioactive Waste	2
3.3. Recognized Environmental Condition	3
4.0 GUIDANCE.....	3
5.0 LAWS AND REGULATIONS.....	3
5.1. Federal.....	3
5.2. State.....	4
6.0 PROJECT	4
6.1 Site Description	4
6.2 Project Description	5
6.3 General Methods	6
7.0 EXISTING CONDITIONS	6
7.1. Surface Water Quality	6
7.2. Wetlands.....	6
7.3. Air Quality.....	7
7.4. Sediment Quality.....	7
7.5. Soil Type and Quality	8
8.0 HISTORICAL TOPOGRAPHIC MAP AND AERIAL PHOTOGRAPH REVIEW	8
9.0 DATABASE SEARCH	10
9.1 LUST/UST	10
9.2 Databases with no results	11
9.3 WI ERP	11
10.0 SITE RECONNAISSANCE	12
11.0 FINDINGS AND CONCLUSIONS	12
12.0 REFERENCES	12

LIST OF ATTACHMENTS

ATTACHMENT 1 – Graef Map of Sampling Locations and Table of Results
ATTACHMENT 2 – Historical Topographic Maps
ATTACHMENT 3 – Aerial Photos
ATTACHMENT 4 – EDR Report
ATTACHMENT 5 – Site Visit Photos

1.0 INTRODUCTION

The purpose of this report is to discuss the hazardous, toxic, and radioactive waste (HTRW) assessments for the proposed project identified in the Horlick Dam Section 506 Feasibility study. This HTRW investigation identifies both HTRW and non-HTRW environmental issues and presents appropriate measures to resolve these issues. The methods used in performing the investigation are described in detail. Conclusions and recommendations regarding potential impacts due to HTRW and non-HTRW issues associated with project sites are provided.

2.0 AUTHORITY

2.1. USACE HTRW Policy

Engineer Regulation (ER) 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works projects, dated June 26, 1992, provides guidance for consideration of HTRW issues and problems within project boundaries or which may affect/be affected by Corps Civil Works projects. The ER states the Corps policy for addressing HTRW issues and outlines the timing and cost sharing requirements for HTRW encountered during the standard Civil Works project phases. Goals of the ER are to identify the level of detail for HTRW investigation for each phase of a civil works project, promote early detection and response by appropriate responsible parties, determine viable options to avoid HTRW problems, and establish a mechanism for resolution of HTRW issues. The Corps policy provides the following:

- Civil works funds are not be used for HTRW related activities except as specifically stated in the policy or provided for specifically in law (see paragraph 6a, ER 1165-2-132).
- Construction of civil works projects should be avoided in HTRW contaminated areas, where practicable.
- The Corps and project sponsor will cost share environmental investigations to identify existence of HTRW (see paragraph 6b, ER 1165-2-132).
- If not practicable to avoid HTRW for a project, the sponsor is responsible for ensuring that development and execution of HTRW response actions are accomplished at 100% sponsor provided cost.

2.2. HTRW – Local Sponsor Responsibilities

The sponsor is responsible for all costs associated with the required response of any known or unknown HTRW contamination existing at the project throughout all project phases. The sponsor is also 100% responsible for all costs associated with the required response plan and for ensuring that response actions are accomplished in accordance with federal, state, and local environmental laws. No in-kind project cost credit will be given to the sponsor for these activities.

2.3. HTRW Guidance

ER 1165-2-132 requires that a site investigation be conducted as early as possible to identify and evaluate potential HTRW problems. According to ER 1165-2-132, non-HTRW issues that do not comply with the federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW issues. This HTRW investigation was conducted during the feasibility phase of the project. In general, HTRW Phase I ESAs should rely on existing information, observations made through database research, an aerial photograph, topographic map, and historical document review, a site visit, and information provided by the local sponsor.

As stated in the ER-1165-2-132 an initial assessment as appropriate for Reconnaissance Study should be conducted as a first priority for projects with no prior HTRW consideration. If the initial assessment indicated the potential for HTRW, testing, as warranted, and analysis similar to a Feasibility Study, or Phase II Environmental Site Assessment (ESA), should be conducted prior to proceeding with the project design.

3.0 DEFINITIONS

3.1. Hazardous, Toxic, and Radioactive Waste

The objective of ER 1165-2-132 is to outline procedures to facilitate early identification and appropriate consideration of HTRW. This investigation, therefore, identifies potential HTRW and discusses resolutions and/or provides recommendations regarding the HTRW identified. Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as a "hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include "hazardous wastes" under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq; "hazardous substances" identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, "toxic pollutants" designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, "hazardous air pollutants" designated under Section 112 of the Clean Air Act, 42 U.S.C. 7412; and "imminently hazardous chemical substances or mixtures" on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)

3.2. Non-Hazardous, Toxic, and Radioactive Waste

According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW investigation along with HTRW. For example, solid waste is a non-HTRW issue considered. Petroleum releases from Leaking Underground Storage Tanks (LUSTs) are not considered HTRW, but are regulated. These sites have the potential to impose environmental hazards. Non-HTRW issues identified during the investigation are also discussed in this report, along with resolutions and/or recommendations for resolution.

3.3. Recognized Environmental Condition

For the purposes of this investigation, the term REC may be used interchangeably with HTRW to identify a potential HTRW or non-HTRW environmental issue. ASTM defines a recognized environmental condition (REC) as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.

4.0 GUIDANCE

Supplemental guidance is provided by the Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process (Designation: E 1527-13) prepared by the American Society for Testing of Materials (ASTM). The purpose of this guidance is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and petroleum products. These standards recommend that an environmental assessment include a records review, site visit, interviews, and report preparation.

5.0 LAWS AND REGULATIONS

5.1. Federal

The definition of HTRW according to ER 1165-2-132, page 1, paragraph 4(a) is as follows: “Except for dredged material and sediments beneath navigable waters proposed for dredging, for purposes of this guidance, HTRW includes any material listed as ‘hazardous substance’ under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq (CERCLA). (See 42 U.S.C. 9601(14).) Hazardous substances regulated under CERCLA include ‘hazardous wastes’ under Sec. 3001 of the Resource Conservation and Recovery Act, 42 U.S.C. 6921 et seq; ‘hazardous substances’ identified under Section 311 of the Clean Air Act, 33 U.S.C. 1321, ‘toxic pollutants’ designated under Section 307 of the Clean Water Act, 33 U.S.C. 1317, ‘hazardous air pollutants’ designated under Section 112 of the Clean Air Act 42 U.S.C. 7412; and ‘imminently hazardous chemical substances or mixtures’ on which EPA has taken action under Section 7 of the Toxic Substance Control Act, 15 U.S.C. 2606; these do not include petroleum or natural gas unless already included in the above categories. (See 42 U.S.C. 9601(14).)”As noted in 42 U.S.C. 9601(14), the term “hazardous substance” does not include crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance, nor does the term include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel. Underground storage tanks (USTs) are federally regulated under 40 CFR Part 280, which includes technical standards and corrective action requirements for owners and operators of USTs.

5.2. State

The Wisconsin regulations were examined to determine which regulations governed the state specific hazardous waste management, release, and cleanup requirements. Hazardous waste regulations are located in Wisconsin state statutes chapters 291, 292, and 299. Hazardous wastes are defined as by-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Hazardous waste is a solid waste that possesses at least one of four characteristics (ignitability, corrosivity, reactivity and toxicity), or appears on special DNR or EPA lists. The regulatory definition of hazardous waste is found in s. NR 661, Wis. Adm. Code. Acute hazardous waste is any hazardous waste with a waste code beginning with the letter "P," or any of the following "F" codes: F020, F021, F022, F023, F026 and F027. These wastes are subject to stringent quantity standards for accumulation and generation. A list of wastes excluded from the regulations are found in s. NR 661.04, Wis. Adm. Code, including household hazardous waste, drilling fluids, fertilizers, domestic sewage, and leather tanning waste, for example. Solid Waste facilities, and waste reduction, recovery, and recycling rules are documented in Chapters 287 and 289 of Wisconsin State Statutes.

The Wisconsin DNR regulates cleanup of contamination from petroleum storage tanks, and administers the Petroleum Environmental Cleanup Fund Award (PECFA) and Abandoned Tank System Removal Program. The Department of Agriculture, Trade and Consumer Protection (DATCP) maintains Wisconsin's tank registration database and is responsible for tank regulations for both underground and aboveground tank systems, while the DNR is responsible for cleanups that result from contamination. Wisconsin tank regulations are listed below:

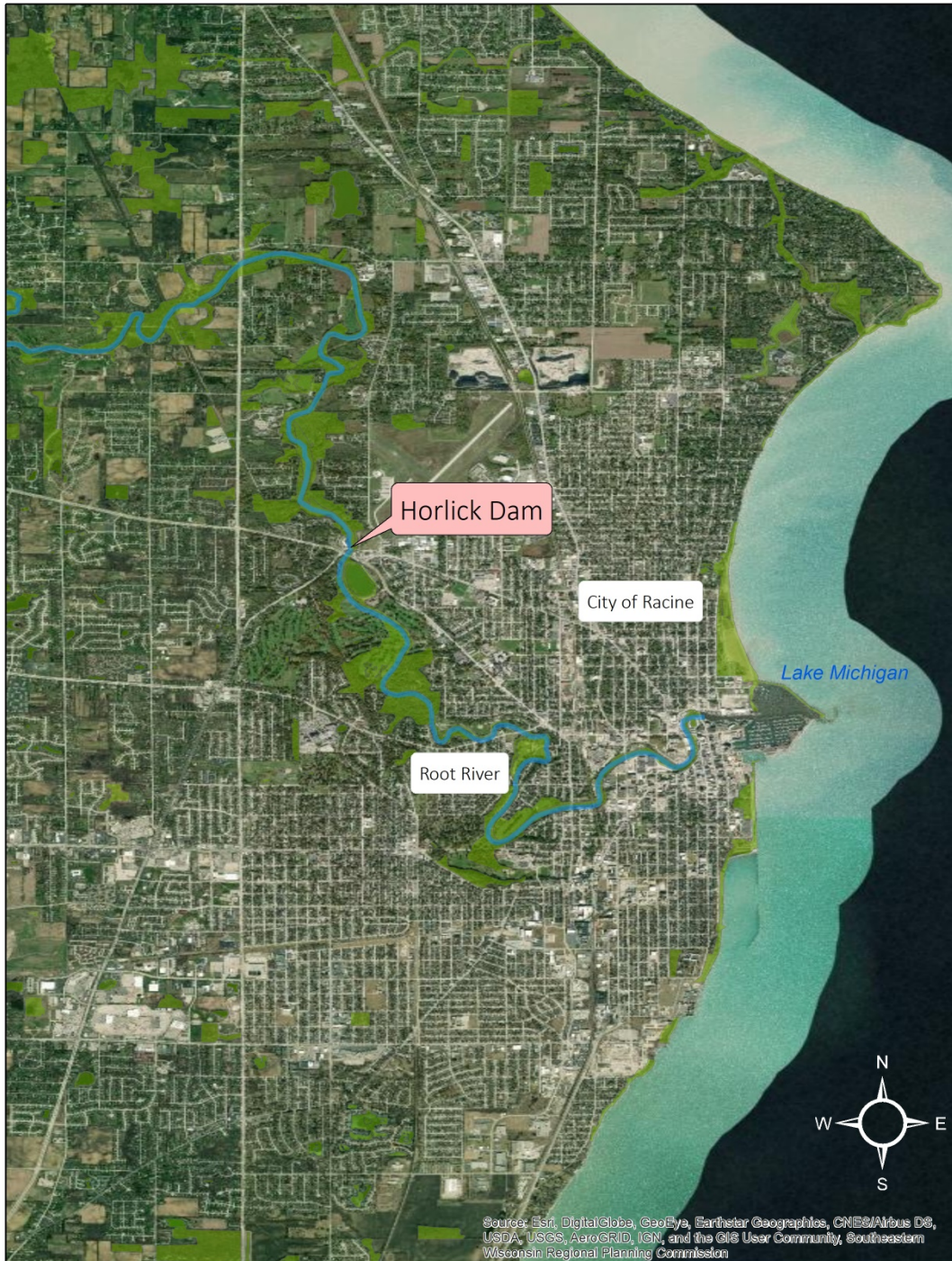
- s. 292.11, Wis Stats. – Spill Law
- s. 292.63, Wis. Stats. – Authority for PECFA program
- s. 292.64, Wis. Stats. – Authority for Abandoned Tank System Removal Program
- ATCP 93, Wis. Adm. Code - DATCP rule: Governs installation, registration, maintenance and abandonment of petroleum tanks
- Chs. NR 700 to 754, Wis. Adm. Code - DNR rules: Investigation and remediation of environmental contamination
- NR 746, Wis. Adm. Code - DNR rule: Agency roles and responsibilities for petroleum contaminated sites

6.0 PROJECT

6.1 Site Description

The study area is located upstream of Lake Michigan at River Mile 6.12 on the Root River in Racine, WI (Figure 1). The Horlick Dam is classified as a Low Hazard Dam and is 13-feet tall. The upstream impoundment surface area is approximately 60 acres. The current dam was constructed in 1975 to replace the deteriorating Horlick Dam. The original dam was constructed in 1834 and operated as a sawmill. After 1940, the dam was used to maintain the upstream impoundment for recreational purposes. The current Horlick Dam rebuilt in 1975.

Figure 1: Horlick Dam in Racine WI



6.2 Project Description

The project that reasonably maximizes net national ecosystem restoration benefits, consistent with the Federal objective and USACE policy, is identified as the selected plan. The plan may include the following items of work:

- Removal of the dam to allow fish passage
- Planting for stabilization of newly exposed banks

6.3 General Methods

The following sections contain information that was requested and gathered in accordance with ER 1165-2-132 for this assessment. The information was obtained from:

- Existing information review
- Historical topographic map and aerial photograph review
- Database research
- Site reconnaissance

7.0 EXISTING CONDITIONS

7.1. Surface Water Quality

Nearly six miles of the Root River in Racine County is listed in the State of Wisconsin Clean Water Act Section 303(d) list of impaired waterways determined by Wisconsin Department of Natural Resources (DNR). In 2012 the Root River was listed with the source of impairment is unknown, and the contaminant causing the impairment is total phosphorous. In 1998 the Root River was listed for PCB contaminated fish tissue, as a low priority; a TMDL has not been completed.

7.2. Wetlands

The study area includes portions of 195 acres of riverine habitat classified as R2UBH by the U.S. Fish and Wildlife Service (USFWS) (Figure 2). R2UBH indicates the following:

System Riverine (R) : The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Subsystem Lower Perennial (2): This Subsystem is characterized by a low gradient. There is no tidal influence, and some water flows all year, except during years of extreme drought. The substrate consists mainly of sand and mud. Oxygen deficits may sometimes occur. The fauna is composed mostly of species that reach their maximum abundance in still water, and true planktonic organisms are common. The gradient is lower than that of the Upper Perennial Subsystem and the floodplain is well developed.

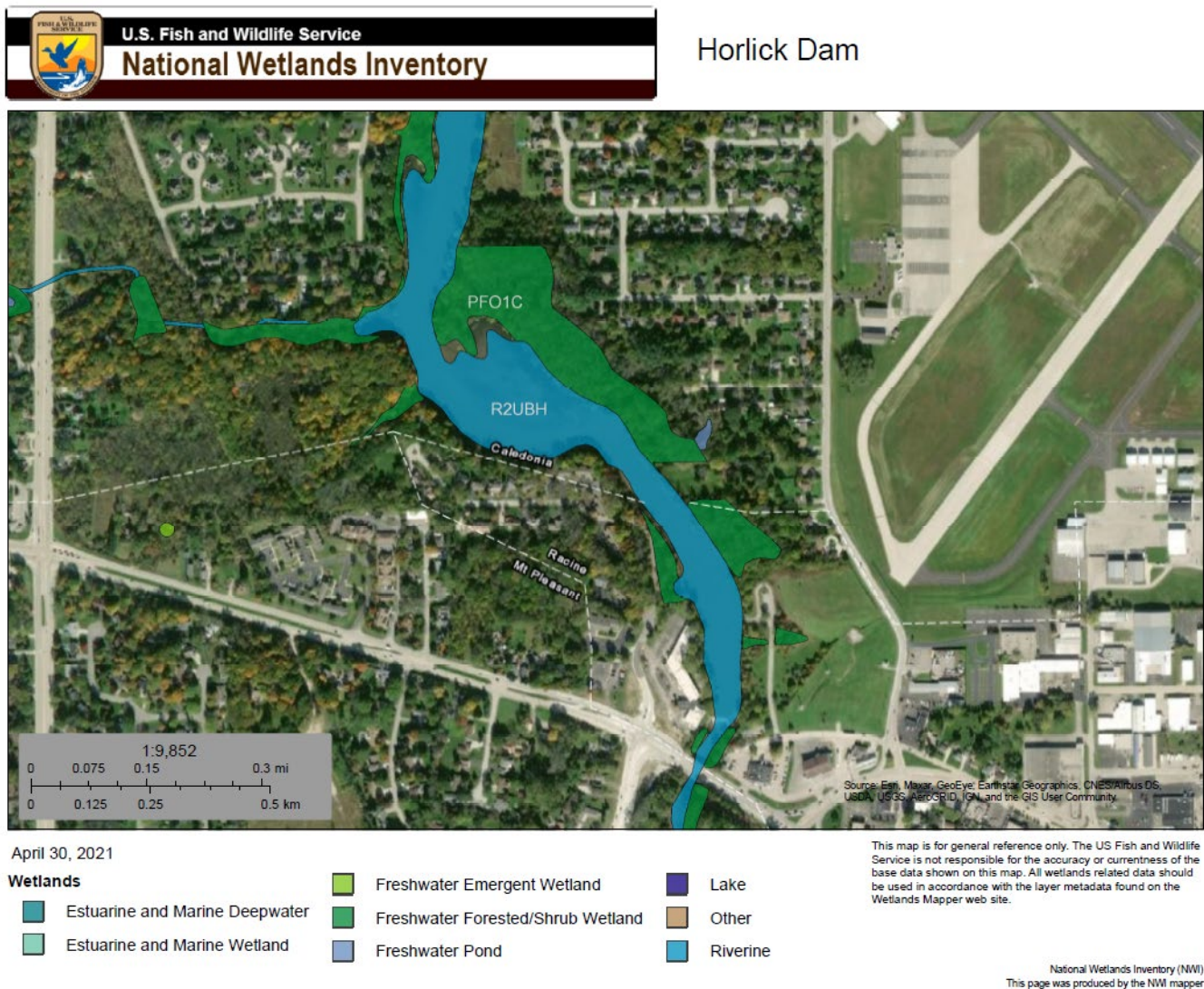
Class Unconsolidated Bottom (UB): Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Water Regime Permanently Flooded (H): Water covers the substrate throughout the year in all years.

Depending on final bank work areas, some of the boarder areas are classified as freshwater

forested/shrub wetland.

Figure 2: USFWS Wetland Inventory



7.3. Air Quality

Within Southeastern Wisconsin, the EPA has designated a single three-county PM 2.5 maintenance area made up of Milwaukee, Racine, and Waukesha Counties. Areas designated as in maintenance of a criteria pollutant must demonstrate compliance with the NAAQS.

7.4. Sediment Quality

In 2011 the Southeast Wisconsin Regional Planning Commission surveyed existing sediment refusal elevations. Graef was hired by Racine County, and partnering with Fish Creek Restoration LLC in 2019 and 2020 surveyed many of the same cross sections as well as continued further upstream for a total of approximately 4 miles upstream of Horlick Dam. Additionally Graef and Fish Creek developed a sediment management plan. From the dam to the River Bend Nature Center, River Mile 7.4 approximately 1.25 miles upstream, the sediment thickness was estimated as averaging about 4 feet. Although the survey continued for another

approximately 3 miles upstream, little fine sediment appeared to be stored in that section and influence from the dam was diminished.

During the refusal probing, observations were made of generally silty sediment with some clay and intermittent sand. In December 2020 Graef collected sediment samples from four locations on the river for grain size distribution analysis. The cores represented fine sediment to a depth of about 3 feet. The measured sediment sizes were as follows in Table 1:

Table 1: sediment sizes collected by Graef

River Mile	% clay/silt	% sand	% gravel
6.2	79.7	16.8	3.5
6.5	51.8	47.4	0.9
9.2	49.2	44.2	6.6
9.5	22.3	67.4	10.3

In December 2020 Graef also collected six sediment samples from the river for chemical characteristic testing. Sediment was collected from the surface to refusal. The average thickness of samples ranged from 5.5-6.0 feet closest to the dam to less than 18 inches at the northern end of the sample area. Samples were analyzed for Total Arsenic, Total Barium, Total Cadmium, Total Chromium, Total Lead, Total Mercury, Total Selenium, and Total Silver, PAHs, PCBs, and Pesticides Method 8081. At the reporting limits the laboratory could achieve, these compounds were not detected in the samples. The samples were also analyzed for nutrients which included Ammonia Nitrogen, Total Nitrate Nitrogen, Total Nitrite Nitrogen, Total Nitrogen Kjeldahl (TKN), Total Phosphorus, and Total Organic Carbon. See Attachment 1 for a map of sampling locations and table of results.

7.5. Soil Type and Quality

The underlying regional bedrock is dolomite with a light gray color and many fossils and is exposed adjacent to the existing Horlick Dam. According to WDNR Well Driller Maps, the generalized soil profile (of a well driller boring taken near the top embankment of the Horlick Dam area) typically consisted of 10 to 15-foot layer of topsoil, followed by native blue clay with sand before it reaches bedrock at about 30 to 35 feet depth. The USDA Natural Resources Conservation Service Soil Survey database indicates that surficial soils around the Horlick Dam site consist of 2 to 6 percent slopes of Fox silt loam, loamy sand, 1 to 3 percent slopes of Kane loam, 6 to 12 percent slopes of Ozaukee silt loam, some rough broken land, and some varied landfill at the northeast section. Neither of these soils are overly organic (6.0% or less) and potential frost-free period ranges from 124 to 195 days (USDA 2021).

8.0 HISTORICAL TOPOGRAPHIC MAP AND AERIAL PHOTOGRAPH REVIEW

Indications of potential RECs can be determined by identifying the past land use and site activities at the project area and surrounding areas. Identifying industrial and residential areas, observing any evidence of topographic changes, and locating extensive areas that lack vegetation can determine indications of a potential REC. Historical topographic maps and aerial photographs for the project area are included in Attachments 2 and 3.

A series of historic Racine topographic maps dated from 1891 to 2013 were reviewed; findings are presented in Table 2.

Table 2: Summary of Topographic Map Review

Map Year	Observation
1891 topographic map	The road over the Root River is already present as well as a few structures. Otherwise, the bulk of the land is undeveloped
1901 topographic map	Additional structures have been added along the river crossing road. The area is labeled Horlicks Mill. Upstream remains undeveloped
1907 topographic map	The area around and upstream of Horlicks Mill is unchanged. The city of Racine to the southeast is growing.
1958 topographic map	Significant changes in development. The quarry lake to the south of Horlick Dam is now visible. Structures have been added to the banks of the river upstream, however the area is still coded green for vegetation.
1971 topographic map	Increased development in the area. The current Travelodge structure on the west bank adjacent to the dam has been added.
2013 topographic map	Some roads north of Horlick Dam have been extended. Individual buildings no longer shown.

The series of historical aerials dated 1937 to 2017 were reviewed; findings are presented in Table 3.

Table 3: Summary of Historical Aerial Photograph Review

Photo Year	Observation
1937 aerial photograph	The majority of the bank upstream of the dam has trees. The area appears mostly agricultural. Downstream of the dam the quarry lake is already present. Very few structures are present overall.
1941 aerial photograph	The airport to the northeast can be seen. Some additional structures present.
1950 aerial photograph	No significant changes
1955 aerial photograph	Development upstream of the dam. Some residential areas instead of exclusively agricultural
1963 aerial photograph	Nearly all agricultural areas south of the dam are now residential. Some increase north as well.
1969 aerial photograph	Slight increase in structures and roads, reducing overall vegetation cover.
1979 aerial photograph	Residential density increasing
1983 aerial photograph	No significant changes
1986 aerial photograph	No significant changes

1992 aerial photograph	Increase in residential structures on the west bank
2000 aerial photograph	A new road on the east bank has been constructed for recreation and boat launch.
2006 aerial photograph	No significant changes
2010 aerial photograph	No significant changes
2013 aerial photograph	No significant changes
2017 aerial photograph	No significant changes

Review of historical topographic maps and aerial photographs suggests that residential development took place adjacent to the project area approximately 60 years ago. There was no indication of industrial activity adjacent to the project area, except for the quarry downstream. Generally, the project area moved from agricultural to residential over time.

9.0 DATABASE SEARCH

A search of available environmental records was conducted utilizing Environmental Database Resources, Inc. (EDR). EDR searched federal and state databases using the minimum search distances issued in the ASTM E 1527-13 guidelines. Table 4 notes the recommended ASTM search distances for federal and state databases. All results reported were analyzed during preparation of this report. The database report is provided in Attachment 4.

Table 4: Minimum Search Distance for Federal and State Databases

Database	Minimum Search Distance (mi)
Federal NPL Site List	1.0
Federal CERCLIS List	0.5
Federal CERCLIS NFRAP (SEMS-Archive) site list	Property and Adjoining Properties
Federal RCRA CORRACTS Facilities List	1.0
Federal RCRA non-CORRACTS TSD Facilities List	0.5
Federal RCRA Generators List	Property and Adjoining Properties
State Equivalent NPL	1.0
State Equivalent CERCLIS	0.5
State Landfill/Solid Waste Disposal Site Lists	0.5
State LUST Lists	0.5
State registered UST List	Property and Adjoining Properties

9.1 LUST/UST

Leaking Underground Storage Tank incident reports contain an inventory of reporting leaking underground storage tank incidents. The data come from the Department of Natural Resource's LUST database. There are multiple LUSTs and USTs reported in the database search results, see Table 5 below. Review of the LUST entries suggests that all LUSTs have been resolved. One gas station and the airport have remaining USTs, however neither of these sites are in the project footprint.

Table 5: LUST/LAST/UST Database Search Results

EDR Map ID	Database	Site Name	Status	Potential Impact
A	LUST/UST	School House Shops	Closed	Closed in 1992. REC unlikely
B	LUST/UST	Theres Property/ Welcome Mart	Closed	Closed in 2001. Remaining active fuel station, outside of project footprint. REC unlikely
C	LUST/UST	Capitol Toyota	Closed	Closed in 1995. USTs closed. REC unlikely
12	LUST	Prism Inc	Closed	Closed in 2002. REC unlikely
E13	LUST	A&W Co Inc	Closed	Closed in 1990. REC unlikely
14	LUST	Airport Service	Closed	Closed in 1993. Rec unlikely.
F15	LUST/UST	Racine Commercial Airport	Closed	Closed in 1996. Remaining UST at airport, outside of project footprint. REC unlikely
19	LUST	Rich Oil 2064	Closed	Closed in 1996. REC unlikely
20	LUST	Open Pantry Food Mart	Closed	Closed in 2006. REC unlikely
24	LUST	General Magnaplate	Closed	Closed in 1991. REC unlikely
22	LAST*	National Automotive	Closed	Closed in 2007. REC unlikely
5	UST	Tom Zembruski	Closed	Private tank removed in 1994. REC unlikely

* LAST – leaking above ground storage tank

9.2 Databases with no results

Federal NPL, CERCLIS, CERCLIS NFRAP (SEMS-Archive), RCRA CORRACTS, RCRA non-CORRACTS TSD, RCRA Generators, Institutional Controls/Engineering Controls, and Brownfields databases all returned no results within the search radius of the project site.

9.3 WI ERP

The state Emergency Repair Program database contains non-LUST sites with contaminated soil and/or groundwater. Often these are historic releases to the environment. The search returned one result which was not already addressed in other databases.

In 2002, Elwood Corp Gettys Motor Group located at 2701 N Green Bay Rd (ID D10) provided notice of historic contamination to DNR. In 2016, DNR approved final closure of the activity with continuing obligations. The continuing obligation is to address residual soil contamination and requires maintenance of a cap over the area and vapor intrusion response. The Elwood Corp Gettys Motor Group site is outside of the Horlick Dam project footprint and is unlikely to impact project implementation.

10.0 SITE RECONNAISSANCE

A site visit was conducted on April 9, 2021. The purpose of the site visit was to make observations of surficial conditions of the project site for evidence of HTRW or other environmental issues. See Attachment 5 for site visit photographs. The weather on the day of the site visit was overcast.

The project area was accessed from the entrance to Horlick Park, near where Northwestern Ave crosses over the Root River at Horlick Dam. The park has parking, a picnic shelter with restrooms, and a boat launch. The banks are eroded, with walking paths cut down to the river especially downstream of the dam. Upstream of the dam the dirt banks touch the river, however on the eastern bank downstream of the dam stone steps cover most of the length. The area was generally well kept, with some minimal trash collected on the downstream banks. There does not appear to be any widespread dumping issues at the park. People were observed fishing, both from the bank and standing in the water downstream of the dam.

11.0 FINDINGS AND CONCLUSIONS

This HTRW investigation was performed to determine if HTRW and non-HTRW environmental issues at the Horlick Dam Section 506 study area, or surrounding area, have impacted the project site or will impact implementation of a project. According to ER 1165-2-132, non-HTRW environmental issues that do not comply with federal, state, and local regulations should be discussed in the HTRW evaluation along with HTRW issues. No HTRW issues were identified during this investigation. Newly exposed banks should be planted to reduce erosion.

No HTRW investigation can wholly eliminate uncertainty regarding the potential for HTRW associated with a project area. Performance of the HTRW investigation is intended to reduce, but not eliminate, uncertainty regarding the potential for HTRW in connection with a project area.

12.0 REFERENCES

American Society for Testing of Materials. Publication E 1527-13. Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process.

Department of the Army. U.S. Army Corps of Engineers. ER 1165-2-132. Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects. June 1992.

WI DNR, 2020. Impaired Waters and Restoration Waters Lists, Section 303(d) List October 13, 2020.

Graef. Sediment Sampling and Preliminary Management Plan Horlick Dam – Root River. March 5, 2021.