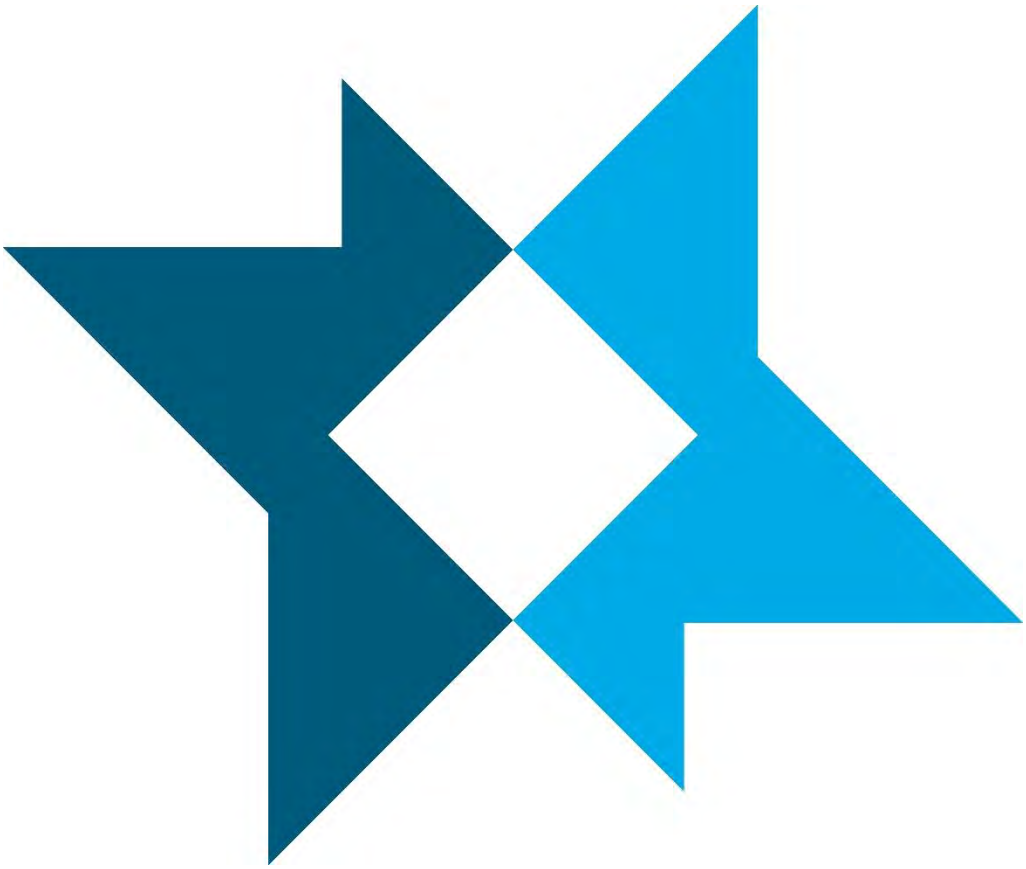
Permit Application

Low-Hazard Waste Grant of Exemption

Milwaukee Estuary AOC Dredged Material Management Facility



Milwaukee Metropolitan Sewerage District
Milwaukee, Wisconsin

April 2021

MMSD Project I.D.: M98001P01
Foth Project I.D.: 20M144

Ballpark Commons Office Building
7044 S. Ballpark Dr., Suite 200
Franklin, WI 53132
(414) 336-7900
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April 23, 2021

Ms. Bridget Henk
Senior Project Manager
Milwaukee Metropolitan Sewerage District
260 W. Seeboth Street
Milwaukee, WI 53204

Dear Ms. Henk:

RE: Low-Hazard Waste Grant of Exemption
Milwaukee Estuary AOC Dredged Material Management Facility
MMSD Project ID.: M98001P01

For your use, attached is the Low-Hazard Waste Grant of Exemption and permit request. This application describes the function for the Milwaukee Estuary Area of Concern Dredged Material Management Facility project meeting the Low-Hazard Waste Grant of Exemption.

We appreciate the opportunity to provide these services to you. If you have any questions, please contact Michael Raimonde at (414) 336-7902 or via email at michael.raimonde@foth.com.

Sincerely,

Foth Infrastructure & Environment, LLC

Michael S. Raimonde
Project Manager

Stephen Garbaciak Jr., P.E.
Senior Technology Leader

cc: Tom Chapman, MMSD
Tim Wagner, Foth
Steve Laszewski, Foth

Low-Hazard Waste Grant of Exemption

MMSD Project ID: M98001P01
Foth Project ID: 20M144

Prepared for
Milwaukee Metropolitan Sewerage District
260 W. Seeboth Street
Milwaukee, WI 53204

Prepared by
Foth Infrastructure & Environment, LLC

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Low-Hazard Waste Grant of Exemption

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Low-Hazard Waste Grant of Exemption

Certification Statement

I, Timothy S. Wagner, P.E. hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of Ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in Ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code.

List of Abbreviations, Acronyms, and Symbols

AOC	Area of Concern
BODR	*Milwaukee AOC-DMMF Basis of Design Report*
CDF	Confined Disposal Facility
COC	contaminants of concern
cy	cubic yards
DMDF	Dredged Material Disposal Facility
DMMF	Dredged Material Management Facility
DTWG	Design Technical Work Group
Foth	Foth Infrastructure & Environment, LLC
LHE	Low Hazard Exemption
mg/kg	milligrams per kilogram
MMSD	Milwaukee Metropolitan Sewerage District
NAPL	non-aqueous phase liquid
PAH	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyls
PFAS	per- and polyfluoroalkyl substances
Port	Port Milwaukee
SHPO	State Historical Preservation Office
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources
Wis. Admin. Code	Wisconsin Administrative Code
WPDES	Wisconsin Pollutant Discharge Elimination System

1 Introduction

Foth Infrastructure & Environment, LLC (Foth) has prepared this request for Low Hazard Waste Exemption for the Dredged Material Management Facility (DMMF) proposed for Milwaukee Harbor. Contact information for project stakeholders includes:

Disposal Site Contacts:

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Environmental Consultant:

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Tim.Wagner@foth.com

1.1 Purpose

The DMMF will be located north of and adjacent to the U.S. Army Corps of Engineers (USACE) Milwaukee Dredged Material Disposal Facility (DMDF), in the location shown on Figure 1. It is located within the Port Milwaukee (Port) Lakebed Grant provided through Chapter 238 of 1909, Chapter 285 of 1923, and Chapter 381 of 1931. The facility will provide storage for 1.9 million cubic yards (cy) of material. The material will include 1.4 million cy of impacted sediments from the Milwaukee Estuary Area of Concern (AOC), 200,000 cy of material for Port commercial navigation purposes, and 300,000 cy of material from Milwaukee Metropolitan Sewerage District (MMSD) watercourse projects that include dredged materials and upland soils, as shown on Figure 2, and provide additional expansion capacity for the Port.

Water features near the proposed DMMF are described on Figure 3. The facility will not be in proximity of a wetland or critical habitat area. The facility is within the Milwaukee Harbor making it within 300 feet of a navigable river and lake. However, no on-site water supply wells are within 100 feet and no off-site water supply wells are within 300 feet. Figure 4 reviews the proximity of the floodplain with respect to the facility.

1.2 Regulatory Requirements

There are no Wisconsin statutes or administrative code requirements that directly address the design and operation of a DMMF. However, previously Wisconsin approved grants of low hazard waste exemption for similar facilities. "The State of Wisconsin Approval Process for Dredging of Commercial Ports," Guidance for Applicants and WDNR Staff, PUB -FH-061-2004 (Wisconsin Department of Natural Resources [WDNR], 2004), states that "The applicant for any new Confined Disposal Facility would have to demonstrate that the facility is eligible for a low hazard exemption under s. 289.43 (8), Wis. Stats. In that case, there would be no licensing or other requirements by the Waste Program under landfill siting laws."

The Facility will also be regulated under WDNR Chapter 30, NR 299 Water Quality Certification, Wisconsin Pollutant Discharge Elimination System (WPDES), USACE's Section 404 and 408, and will be undergoing a Historical and Cultural Evaluation. It is anticipated that there will be no significant impacts to sites of historical or cultural significance. In particular, one possible shipwreck was preliminarily identified from the multibeam and side scan sonar work performed on the project area and preliminary discussions have been initiated with USACE and Wisconsin State Historical Preservation Office (SHPO).

2 Project Description

The Milwaukee Estuary DMMF will be a newly constructed facility to manage dredged material within the Milwaukee Estuary AOC. The project was developed by a public-private partnership. Management of the dredged material is key to achieving the goal established for the AOC by establishing a facility to manage contaminated sediments and other dredged materials that will help remove Beneficial Use Impairments and eventually lead to the delisting of the AOC from the 1987 designation by the U.S. Environmental Protection Agency (USEPA). The DMMF is necessary for the management of a combined 1.9 million cy of material, as described in Section 1.1.

In addition to providing a facility to manage sediments, the DMMF will provide expansion to the Port, which satisfies the Lakebed Grant language. These new Port facilities will be designed to accommodate the range of commercial shipping vessels found on the Great Lakes, including berthing for vessels greater than 1,000 feet in length. Further, the new facility may provide additional opportunities for public access along this portion of the Lake Michigan shoreline. These additional public uses will be identified and pursued by the appropriate local entities.

2.1 Design Criteria

Design criteria, essential for the design of the DMMF, were developed through collaboration within the Design Technical Work Group (DTWG), a multiple stakeholder group with interest in the DMMF. The criteria are provided in detail in the *Milwaukee AOC-DMMF Basis of Design Report (BODR)* (Foth, 2019), which is provided in Appendix A. The *BODR*, however, is a living document that is updated as information is gathered and implemented into the design process.

Design of the DMMF to manage dredged material is based on the guidance presented by the USACE in the Engineer Manual 1110-2-5025, *Dredging and Dredged Material Management* (USACE, 2015). The guidance within the manual lays out the design methods for confined placement of dredged material. Such facilities are engineered structures for containment of dredged material, and are neither a conventional wastewater treatment plant nor a conventional solid waste disposal facility. USACE guidance emphasizes that "an effective CDF [DMMF] must therefore borrow features from the wastewater treatment facility and the waste disposal facility in a combination that is unlike either. The objectives inherent in design and operation of CDFs are to provide for adequate storage capacity for meeting dredging requirements and to maximize the efficiency in retaining the solids. CDFs are often considered as a disposal alternative for materials found to be unsuitable for open-water placement. Control of contaminant releases is a design and operation objective for these projects."

The *Construction Quality Assurance Plan*, located in Appendix B, has been created to outline the construction inspection and documentation procedures utilized before, during, and after construction activities related to the implementation of the DMMF. The *Long Term Care and Maintenance Plan,* located in Appendix C, provides guidance on the maintenance of the DMMF following filling with dredged material and closure. The *Facility Closure Plan*, located in

Appendix D, provides guidance for closure of the DMMF upon completion of placement of dredged material and pumping out of the last of the ponded water.

3 Dredged Material Characteristics

The DMMF is designed to accommodate placement of dredged material by pipeline or by mechanical methods from a barge. The DMMF will accept dredged material from throughout the Milwaukee Estuary AOC, as depicted on Figure 2. The new DMMF is slated to receive 1,400,000 cy of sediment from the lower Milwaukee, Menomonee, and Kinnickinnic Rivers. To evaluate the potential contaminant transport through the DMMF walls, representative bulk sediment contaminants of concern (COC) concentrations and summary statistics were developed and calculated to represent a conservative Milwaukee AOC dredged material. The chemical and physical characteristics of the Milwaukee Estuary AOC sediment that is likely to be dredged and placed into the DMMF are further summarized in Appendix E. The materials from the Port navigation projects and MMSD watercourse projects are expected to have similar characteristics. As part of the permitting process for the individual dredge projects that will place material into the DMMF, those materials will be tested to verify they meet the permit requirements prior to placement in the DMMF.

Due to the uncertainties associated with the precise physical and chemical composition of the dredged materials to be placed in the DMMF, a more general approach is necessary for some components. These specific items will be addressed by others (the proponents of individual dredging and disposal operations), and subject to all necessary and required reviews and approvals by the appropriate permitting agencies at the local, state, and federal level, prior to the placement of dredged materials in the DMMF.

3.1 Description of Waste Material Not to be Accepted

The DMMF will **not** accept the following materials for disposal:

- Dredged material containing mobile non-aqueous phase liquid (NAPL)
- Dredged material containing polychlorinated biphenyls (PCB) at concentrations greater than or equal to 50 milligrams per kilogram (mg/kg) dry weight (as defined by the Toxic Substances Control Act [TSCA])
- Municipal solid waste as defined in NR 500.03(150), Wisconsin Administrative Code (Wis. Admin. Code)
- Hazardous waste as defined in NR 660.10(52), Wis. Admin. Code
  - Characteristic hazardous wastes described in NR 661 Wis. Admin. Code Subchapter C
  - Listed hazardous waste described in NR 661 Wis. Admin. Code Subchapter D
- Infectious waste as defined in 287.07(7)(c)1.c., Wis. Admin. Code
- Household waste as defined in NR 500.03(105), Wis. Admin. Code
- Commercial solid waste as defined in NR 500.03(41), Wis. Admin. Code
- Medical waste as defined in s. 287.07(7)(c)1.c., Wis. Admin. Code
- Construction and demolition waste as defined in NR 500.03(50), Wis. Admin. Code
- Tires, as defined in s. 289.55(1)(c), Stats.

4 Water Quality

4.1 Water Discharge

The DMMF is required to meet water quality requirements set forth by the regulatory agencies through the various permits awarded to the facility. To achieve these requirements, the design must not discharge water or sediments with contaminant concentrations higher than calculated effluent limits as applied to the facility by WDNR. In addition, any decant water must be removed from the DMMF and treated prior to discharge to Lake Michigan. Although it is anticipated that there will be no discernable discharge through the structure of the DMMF as modeled in the *Final Design Report* (Foth, 2020) during active disposal operations into the DMMF, the design allows for a volume of water greater than the volume of dredged material and carriage water placed into the DMMF to be removed.

4.2 Water Treatment

Decant water must be treated such that it can be returned to Lake Michigan for further treatment and discharge to Lake Michigan. Performance requirements are likely to include removal of total suspended solids, heavy metals, polynuclear aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), and per- and polyfluoroalkyl substances (PFAS) from the water.

Upon completion of filling activities at the DMMF, and as a component of the final site cover design and construction, per the *Facility Closure Plan*, to convert the facility to full-time use by Port Milwaukee, additional water handling and treatment components may be developed. These additional activities will be permitted as appropriate by WDNR.

5 Summary

The Milwaukee Estuary DMMF will provide the Milwaukee Estuary AOC with a facility that supports management of up to 1.9 million cy of material, while providing Port Milwaukee with new vessel berthing capabilities. Port Milwaukee, who will retain ownership of the facility as the Grantee of the Lakebed Grant via Chapter 238 of 1909, Chapter 285 of 1923, and Chapter 381 of 1931, upon which the facility will be built, will benefit from the construction of a 1,000-foot berth along the northern wall including a 500-foot load support platform and associated bollards/fenders. This multi-use facility will advance the Milwaukee Estuary to continue down the path for delisting through environmental remediation of impacted sediments, while at the same time providing economic growth and a valuable new port resource along Lake Michigan.

6 References

Foth Infrastructure & Environment, LLC, 2019. *Milwaukee AOC-DMMF Basis of Design*. Prepared for WEC Business Services – Milwaukee AOC Stakeholders for the Milwaukee Area of Concern-Dredged Material Management Facility. December 4, 2019.

Foth Infrastructure & Environment, LLC, 2020. *Final Design Report*. November 16, 2020.

U.S. Army Corps of Engineers, 2015. *Dredging and Dredged Material Management* Engineer Manual 1110-2-5025, Office, Chief of Engineers, Washington D.C.

Wisconsin Department of Natural Resources, 2004. *The State of Wisconsin Approval Process for Dredging of Commercial Ports – Guidance for Applicants and WDNR Staff*, PUB-FH-061-2004, page 23. February 2004.

Wisconsin Department of Natural Resources, 2015. *Exempting Low Hazard Wastes from Solid Waste Regulations*, PUB-WA-1645. June 2015.

Wisconsin Shipwrecks, 2020. Tug information at: https://www.wisconsinshipwrecks.org/Vessel/Details/571

Figures

MILWAUKEE

MILWAUKEE RIVER

MILWAUKEE HARBOR

LAKE MICHIGAN

KINNICKINNIC RIVER

PROPOSED DMMF AREA

N

SITE LOCATION
CITY OF MILWAUKEE
MILWAUKEE COUNTY

GEO

HORIZONTAL SCALE(FEET)
0 1000 2000

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)

FIGURE 1
SITE LOCATION

LOW HAZARD EXEMPTION PERMIT
MILWAUKEE, WI

Date: 12/6/2019	Revision Date:	
Drawn By: JRS6	Checked By: TSW1	Project: 20M144

LEGEND

Proposed Dredge Areas

- Authorized USACE Dredge Channels
- Environmental Dredge Areas
- Grand Trunk Wetland Restoration

River Reach

- Kinnickinnic Reach 3
- Milwaukee OU2
- Milwaukee River Downstream Reach 4
- Menomonee Reach 3
- Menomonee Reach 4
- Menomonee Reach 5

Other Features

- Proposed DMMF Area
- Existing DMDF

Third Ward MGP

Liquid Cargo Pier

Car Ferry Terminal

Turning Basin

Skipper Bud's Slip

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed May, 2020.

NOTES:

1. Coordinate System: Wisconsin State Plane South
2. Navigation channel data from NOAA
3. Basemap from USGS "The National Map"

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

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MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)

FIGURE 2

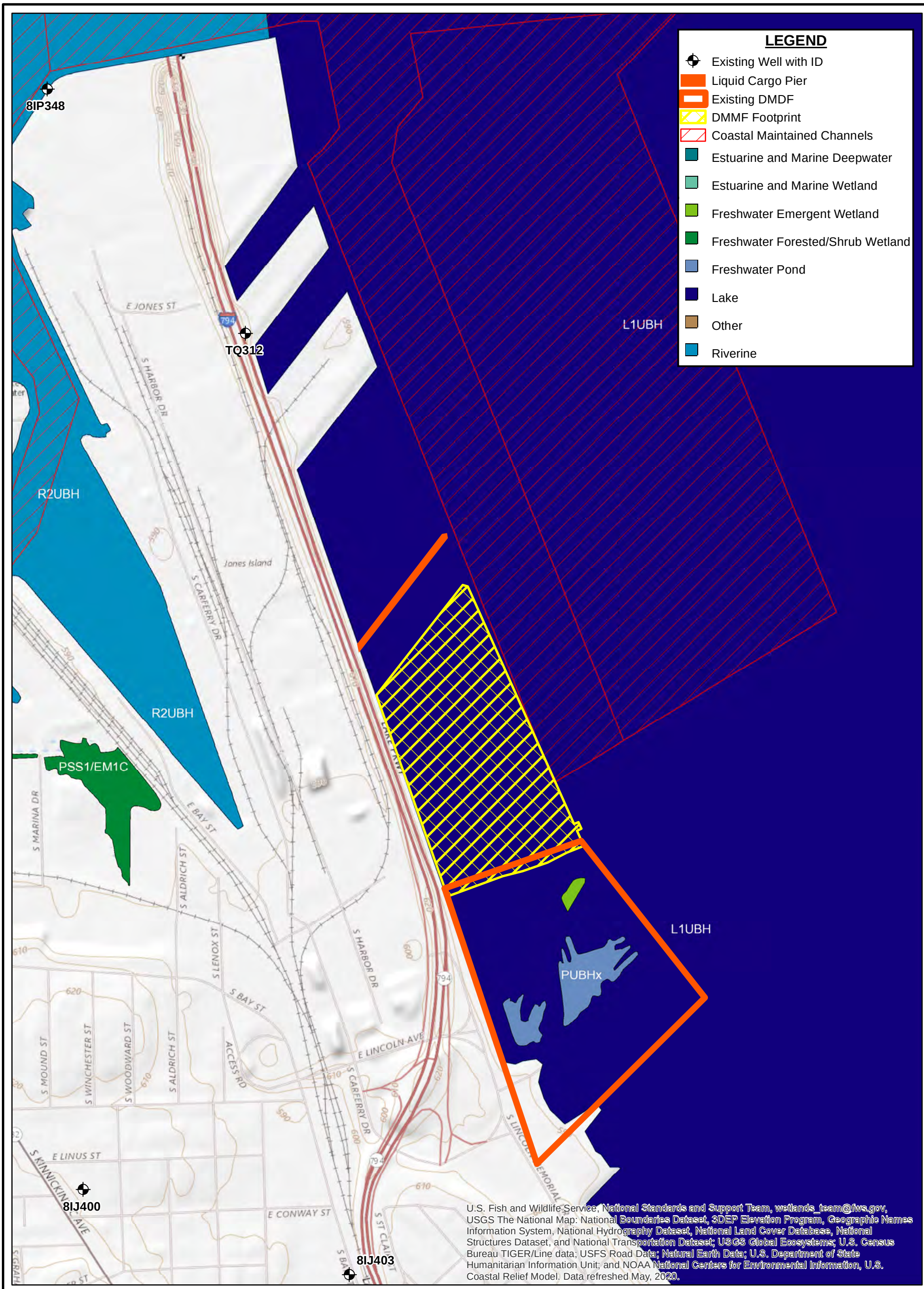
POTENTIAL ENVIRONMENTAL AND MAINTENANCE DREDGE AREAS WITHIN THE MILWAUKEE ESTUARY

LOW HAZARD EXEMPTION PERMIT

MILWAUKEE, WI

Date: JANUARY 2021	Revision Date:	
Drawn By: JRS6	Checked By: TSW1	Project: 20M144

Path: Q:\WEC Business Services\19W012\GIS\mxd\LHE_Potential_Dredge_Areas_Within_the_Milwuakee_Esturary.mxd Date: 4/1/2021



NOTES:

1. Coordinate System: Wisconsin State Plane South
2. Navigation channel data from NOAA
3. Basemap from USGS "The National Map"
4. Wetland and lacustrine features from Fish and Wildlife Service
5. Coastal maintained channels from NOAA
6. Well information from Wisconsin DNR

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

Foth

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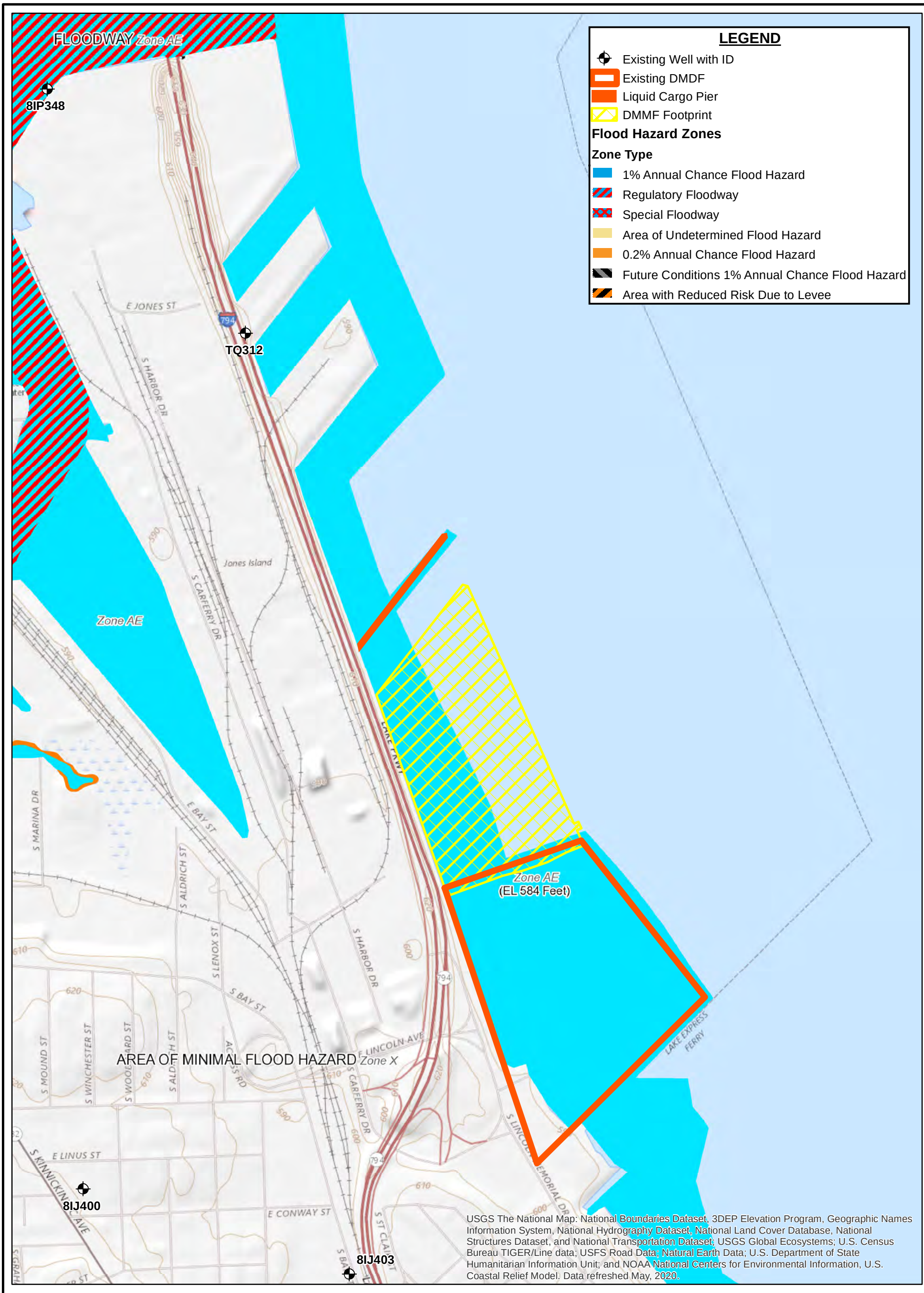
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)

FIGURE 3

WATER FEATURES NEAR PROPOSED STRUCTURE
LOW HAZARD EXEMPTION PERMIT
MILWAUKEE, WI

Date: JANUARY 2021	Revision Date:	
Drawn By: JRS6	Checked By: TSW1	Project: 20M144

Path: Q:\WEC Business Services\19W012\GIS\mxd\LHE_Water_Features.mxd Date: 4/1/2021



NOTES:
1. Coordinate System: Wisconsin State Plane South
2. Basemap from USGS "The National Map"
3. Well information from Wisconsin DNR
4. Flood hazard zones from FEMA

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data used for reference purposes only.

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MILWAUKEE METROPOLITAN SEWERAGE DISTRICT (MMSD)

FIGURE 4

FLOOD HAZARDS NEAR PROPOSED STRUCTURE
LOW HAZARD EXEMPTION PERMIT
MILWAUKEE, WI

Date: JANUARY 2021	Revision Date:	
Drawn By: JRS6	Checked By: TSW1	Project: 20M144

Path: Q:\WEC Business Services\19W012\GIS\mxd\LHE_Flood_hazards.mxd Date: 4/1/2021