# Wetland Individual Permit Application - Waterford Ecosystem Restoration Project

WDNR Property
Waterford, Wisconsin

## February 2015

Prepared for
**Waterford Ecosystem Management District**
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Prepared by

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Project No.: 2012-0365.00

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**EXHIBITS**

**Project Number 2012-0365.00**
**Waterford Ecosystem Restoration Project**
**Village of Waterford, Racine County, Wisconsin**

## Description of Proposed Action

The proposed location of wetland impacts is at sites owned by the Wisconsin Department of Natural Resources (WDNR), and the Ranke Trust. The sites are located in Township 4 North, Range 19 East in the southeast ¼ of Section 16; and southeast ¼, northwest ¼, and northeast ¼ of Section 15, Village of Waterford, Racine County, Wisconsin (Figure 1, Exhibit A).

The proposed action that will result in wetland impacts is the temporary placement of 700 linear feet of up to twelve-foot wide timber matting; the temporary placement of approximately 13,800 linear feet of 8 to 12 inch HDPE pipe for both the sediment slurry and return line (6,900 linear feet for each pipeline); and temporary placement of 400 square feet of timber matting for a booster station adjacent to Marsh Road. The timber matting for an access road will be temporarily placed in farmed wetlands, and the timber matting for the booster station will be placed in a shallow marsh. The sediment pipe and return line will be placed in farmed wetlands, shallow marsh and a small portion in shrub-carr. Temporary impacts are anticipated to remain in place for a period of three to four years. After this period, the timber matting, sediment pipe, and return line will be removed. The farmed wetlands will return to agriculture, and the shallow marsh and shrub-carr will return to their respective plant communities.

Maps of the project site include USGS topographic, Wisconsin Wetland Inventory, Soil Survey, Floodplain, and 2013 Aerial Photograph (Exhibit A). Photographs representing existing conditions are included in Exhibit C. A wetland delineation conducted by GRAEF September 2014 is included in Exhibit D.

## Purpose and Need

The Waterford Waterway Management District (WWMD) is proposing a dredging project that will dredge navigation channels in the Fox River through the Waterford Impoundment and Tichigan Lake.
The WWMD Eco-System Restoration (ESR) Committee identified objectives for dredging within the waterway, and these objectives were:

- To re-establish the Fox River main navigational channel from north to south through the waterway at a reasonable depth;
- To establish dredged channels with varying and appropriate widths to accommodate safe and obstruction free boating;
- To establish navigational channels to provide access for the property owners to reach the main channel;
- To re-establish access to Tichigan Lake for landowners in bays around the lake;
- Providing access to Tichigan Lake also provides access to the main Fox River channel;
- For landowners around the Fox River to have access from bays and backwaters (that are presently silted in) to the Fox River; and
- To reduce the overall nutrient content in the waterway by removing nutrient rich sediments.

In order to perform the dredging project, sites to dewater and place the dredged material are needed. It is estimated that approximately 480,000 cubic yards of sediment will need to be dewatered over a three to four year period to complete the project. One of the most suitable sites and of highest potential capacity for dewatering and final placement of dredged material is an agricultural field owned by the Wisconsin Department of Natural Resources, Site B1, and is currently leased for farming. It is estimated that approximately 80,000 – 85,000 cubic yards of dredged material could be dewatered per year at this site. Another suitable site, also owned by the WDNR, Site B2, is an agricultural field currently leased for farming. It is estimated that approximately 60,000 – 70,000 cubic yards of dredged material could be dewatered per year at Site B2. To access the suitable dewatering sites, sediment pipe and return line are needed from Conservancy Bay (Tichigan Lake) to Sites B1 and B2.

Site B1, contains farmed wetlands from the boundary with the only adjacent road, Marsh Road, to the proposed upland work area. Therefore, the need to impact wetlands for the temporary placement of timber matting for site access has been identified as a necessity for the project. The farmed wetlands of Site B2 need to be crossed with sediment pipe and return line to generate the most direct and efficient route to the proposed upland work area of Site B2.

With the extent of wetlands adjacent to Conservancy Bay, crossing wetland is needed in order to access the dewatering sites using an efficient route. Therefore, the need to impact wetlands for the temporary placement of sediment pipe and return line has been identified as a necessity for the project.

For these reasons, we are requesting a permit to temporarily place timber matting, sediment pipe and return lines in wetlands to access the dewatering sites for the duration of the project.

**Wetland Impacts**

The wetlands that will need to be impacted by the proposed Project will result in a total of 22,600 square feet of temporary impacts. Project plans showing the proposed project and the proposed temporary wetland impacts are provided in Figure 6, Exhibit B. Site photographs showing the area where the proposed timber matting would be located is provided in Exhibit C.

As shown on the project plans (Exhibit B), the impacts to wetlands will result from the placement of 12 foot wide timber matting for an access road and booster station; and 8 to12 inch HDPE pipe. Pipe size diameter of 12 inches was used to calculate square footage of temporary wetland impact. The pipes will be placed on the surface of the wetlands, primarily in areas used for existing snowmobile trails, using Argo or similar floating ATV to minimize wetland disturbance.

Wetland impacts were avoided and minimized to the fullest extent practicable by selecting an access route that results in the least amount of wetland impacts possible within the properties while providing access for construction vehicles and equipment; and an efficient dewatering transport path.

Once the access road is no longer needed, timber matting will be removed and the wetlands will be restored to farmed wetlands. Compacted soils resulting from the timber matting and vehicular traffic will be restored by deep ripping / sub soiling the soil to approximately one foot deep and tilling or discing the surface soil from two to four inches deep. It is anticipated that after the area is restored to its former condition, that agricultural practices will resume. Also, upon project completion sediment pipe and return line will be removed with Argo or similar floating ATV, and wetland areas will revert to their original plant communities.

The affected wetlands are summarized in the following table.

| Site | Temporary Impact | Wetland Plant Community | JD | Area of Impact (SF) |
|---|---|---|---|---|
| WDNR B1 | Timber Matting (Access Road) | Farmed Wetland | PJD | 8,400 |
| | Pipelines | Farmed Wetland | PJD | 2,500 |
| WDNR B2 | Pipelines | Farmed Wetland | PJD | 800 |
| WDNR | Pipelines | Shrub-carr | --- | 300 |
| | Pipelines | Shallow Marsh | --- | 10,200 |
| | Timber Matting (Booster Station) | Shallow Marsh | --- | 400 |
| | | | Total | 22,600 |

GRAEF conducted a wetland delineation in June of 2014 (see Wetland Delineation Report, Exhibit D) to delineate the location and extent of wetlands at sites B1 and B2 where dewatering cells and placement of dredged material is proposed.

**Practicable Alternatives Analysis**

A total of fourteen sites were evaluated to identify potentially suitable locations for the dewatering of dredged sediment and final placement of the dredged material. These are discussed in the following paragraphs and summarized in the tables below.

Based on desktop reviews, field investigations, geotechnical investigations, and coordination with property owners, five of the sites (Figure 1-2, Exhibit A) have been selected as suitable locations. One site that appears to be suitable is presently being negotiated, and eight of the sites were eliminated from consideration. The three sites that have been selected for dewatering and/or final placement of dredged material would be minimally necessary for handling the estimated 480,000 cubic yards of dredged material in order to complete the project over a three year period.

Site A, owned by the DNR, has been identified as a potentially suitable location and currently, wetland impacts are not anticipated to be needed if the site is used. However, this site has constraints that include a high groundwater table, variations in topography, wetlands, and areas of specimen trees. These constraints limit the available work space to about 3.5 acres. Although the site has good access to roads and the river, its size will limit its usefulness. This site is no longer under consideration.

Site B1, has been identified as potentially one of the highest capacity sites for handling dredged material of the sites that are potentially available. It is estimated that 80,000 – 85,000 cubic yards of dredged material could potentially be dewatered per year at this site. Site B2, owned by the DNR, is suitable for some dewatering and the final placement of some of the dredged material. Although farmed wetlands limit the usable space on this site, the project is able to avoid impacts. It is estimated that approximately 35,000 – 45,000 cubic yards could potentially be dewatered and placed at this site. Potentially all of the dredged material could be dewatered at sites B1 and B2 and transported to a separate site for beneficial reuse.

Site C, the DeGrave sand and gravel mine, is potentially suitable pending regulatory review by the DNR and USACE. It is estimated that approximately 35,000 – 40,000 cubic yards of dredged material could potentially be dewatered per year at this site.

Site D, the Malchine property, is a privately held agricultural field that that is currently under use as a DOT soils management site. This site is currently up for sale and is no longer under consideration. Presently, there is capacity to manage roughly 350,000 cubic yards of sediment at sites B1, B2, and C.

The remaining eight sites were eliminated from consideration for reasons including owners not being interested in allowing the project to use the land for dewatering or final placement of dredged material, unavoidable wetland impacts that would exceed what is being proposed at site B1, and distances from the river that would make the site logistically and economically impractical. The following tables provide a summary of all fourteen sites evaluated and the rational for their selection or elimination from consideration.

All sites, B1, B2, and C will be minimally necessary to handle the quantity of dredged material and complete the process over a three to four year period. If sites B1 and B2 were to be eliminated from consideration, the dredging project would not be able to be completed. For these reasons, eliminating sites B1 and B2 will result in the needs of the project not being met.

**Selected Sites**

| Site ID | Description | Approx. Acres | Assessment | Notes |
|---|---|---|---|---|
| B1 | DNR Property on west side of Marsh Rd. | 58 | Preferred | 24 acres of available uplands, minimal temporary wetland impacts proposed. |
| B2 | DNR Property on east side of Marsh Rd. | 13 | Preferred | 12 acres of available uplands, wetland impacts avoidable. |

| Site ID | Description | Approx. Acres | Assessment | Notes |
|---|---|---|---|---|
| C | DeGrave Sand and Gravel Mine | 7 | Preferred | Potentially 7 acres available in a sand and gravel pit. Pending regulatory review by DNR and USACE. |

**Eliminated Sites**

| Site ID | Description | Approx. Acres | Assessment | Notes |
|---|---|---|---|---|
| A | DNR Property at north end of Conservancy Bay | 3.5 | Potential | 3.5 acres of available uplands, wetland impacts avoidable. |
| D | Malchine Property | 12 | Preferred | 15 acres of available uplands. Wetland impacts avoidable. |
| 1 | South end of peninsula at north end of Conservancy Bay | up to 10 | Eliminated | All aquatic habitat. |
| 2 | Privately owned agricultural field | 60 | Eliminated | Greater than 50% wetlands. Wetland impacts would likely need to exceed what is proposed at site B1. Property owner not interested in use of land for the project. |
| 3 | Privately owned agricultural field | 40 | Eliminated | Wetland impacts would likely need to exceed what is proposed at site B1. Owner not interested in use of land for the project. |
| 4 | Privately owned agricultural field | 10 | Eliminated | Site not adjacent to the river. Owner not interested in use of land for the project. |
| 5 | Privately owned agricultural field | 100 | Eliminated | Owner not interested in use of land for the project. |
| 6 | Privately owned agricultural field | 10 | Eliminated | Wetland impacts would likely need to exceed what is proposed at site B1. Owner not interested in use of land for the project. |
| 7 | Privately owned agricultural field | 50-200 | Eliminated | Owner not interested in use of land for the project. |
| 8 | Privately owned agricultural field | 40 | Eliminated | Wetland impacts would likely need to exceed what is proposed at site B1. Site is logistically too distant from the river. |

It would be very difficult to avoid wetlands due to the nature of this project. Any measures to design a route outside of wetlands to access Sites B1 and B2 would significantly extend the route and make the project not economically feasible.

Routing a portion of the pipelines through the woods south of the shallow marsh to access Site B2 was considered as an alternative to minimize wetland impacts. Clearing a longer path through a forest with dense understory and abundance of woody debris than utilizing the existing snowmobile trail will result in a greater environmental impact. Elevating the pipes through the wetlands to minimize direct contact would not likely effectively function for the length of time the project will take due to the unconsolidated substrate in the marsh.

**Estimated Project Timeframe**

Project Start Date: 2015

Project End Date: 2019

**Erosion Control**

Erosion control and storm water management will be conducted in accordance with the Best Management Practices (BMP) and other guidance provided in TRANS 401. Erosion control and storm water management measures proposed for this project include the following: Minimize the amount of

open grade, stone tracking pad, silt fence, temporary and permanent seeding with mulch, timber mats, and erosion mats. Wetlands and portions of wetlands that do not need to be impacted will be fenced off and protected with BMPs. Wetland locations will be clearly depicted on plan sets so contractors are aware of their presence to avoid them.

**Mitigation Summary for Wetland Individual Permit**

Proposed unavoidable wetland impacts of approximately 0.51 acres are composed of 0.24 acres of deep/shallow marsh, 0.27 acres of farmed wetland, and less than 0.01 acres of shrub-carr. Permittee-responsible mitigation is proposed for compensation. All of the impacts are temporary with the majority of impacts to be located on an existing snowmobile trail or farmed field. It is anticipated that upon removal of timber matting and pipelines, the wetland areas will return to their original condition and current use. The Mitigation Summary Worksheet is included in Exhibit E. Although permittee-responsible mitigation is proposed, a compensation site plan is not warranted.

**Proof of Ownership**

A letter of intent to allow the Waterford Waterway Management District to utilize Wisconsin Department of Natural Resources lands is included in Exhibit F.

**Names and Address of Adjoining Property Owners**

Three property owners are adjacent to the proposed project and listed in the following table.

| Name | Address |
|---|---|
| Smith Cerny | 6404 Marsh Road, Waterford, WI 53185 |
| Ranke Trust | 31508 Ranke Road, Waterford, WI 53185 |
| WDNR | PO Box 7921, Madison, WI 53707 |