



US Army Corps
of Engineers
St Paul District

APPLICANT: Racine County Public
Works and Development
Services

Public Notice

ISSUED: June 3, 2014

EXPIRES: July 3, 2014

REFER TO: MVP-2013-01510-MHK **SECTION: 404 - Clean Water Act**
SECTION: 10 - Rivers and Harbors Act

1. APPLICATION FOR PERMIT TO dredge 15,400 cubic yards of accumulated sediment from Lake Michigan at the Pershing Park boat launch for maintenance purposes; and to discharge dredged and fill material in 1.38 acres of the Root River at the Belle Harbor Marina for dredge disposal and re-use of the site as an upland area.

2. SPECIFIC INFORMATION.

APPLICANT'S ADDRESS: Ms. Julie Anderson
Racine County Public Works and Development Services
14200 Washington Avenue
Sturtevant, Wisconsin 53177-1253

AGENT: Mr. Craig Harley **AGENT'S ADDRESS:** Foth Infrastructure & Environment, LLC
2514 S. 102nd Street, Suite 278
West Allis, Wisconsin 53227

PROJECT LOCATION: The proposed dredging site is at Pershing Park Boat Launch which is located in the SE ¼ of the SE ¼ of Sec. 9, T. 3N., R. 23E., Racine County, Wisconsin. The approximate UTM coordinates are latitude 42.729, longitude -87.778. The proposed disposal site is at the Belle Harbor Marina located in the NW ¼ of the SE ¼ of Sec. 9, T. 3N., R. 23E., Racine County (UTM coordinates are latitude 42.733, longitude -87.785).

DESCRIPTION OF PROJECT: The applicant proposes to mechanically dredge a 4.5-acre area of the Pershing Park boat launch in Lake Michigan, a navigable water of the U.S. (WOUS) subject to Section 10 of the Rivers and Harbors Act. Sediment would be loaded into a water-tight scow for transport up the Root River. The proposed dredging is needed to maintain recreational navigation. Prior to disposal of the dredged material in the Belle Harbor Marina (Root River), also a navigable WOUS, docks and piles would be removed and a sheet pile seawall would be installed at the entrance of the marina to enclose the area. Next, a drawdown system would be constructed to remove water from the marina, which would discharge back into the river. A pervious wall system would be constructed within the marina with a steel pipe outfall in the seawall in order to allow for filtering and drainage of the disposal area during and after construction. Finally, the dredged material and supplemental fill material would be placed in the marina to bring the disposal area to existing grade and elevation of the surrounding uplands.

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SUBJECT: Notice of Application for Permit

ALTERNATIVES CONSIDERED FOR THE DISPOSAL OF DREDGED MATERIAL: Three alternatives were considered for the disposal of the dredged material.

1. *Disposal at a nearby landfill.* This alternative was considered but dismissed by the applicant because the cost was not practicable (would result in an additional \$150,000 in disposal fees) and the purpose of re-using Belle Harbor Marina would not be met.

2. *A County-owned upland location at Cliffside Park.* This alternative was considered but was dismissed by the applicant due to the cost savings of using the marina site and because the purpose of re-using Belle Harbor would not be met. The applicant has stated that both the Cliffside Park and Belle Harbor Marina alternatives are within the dredging budget; however, the applicant believes the upland alternative would cost \$110,000 more than using Belle Harbor. This cost comparison did not include the cost of the additional dock and pile removal work or supplemental fill and site seeding at Belle Harbor. The inclusion of these additional activities would add approximately \$73,000 to the total cost of the proposed work at Belle Harbor. As a result, when comparing the total costs of the Cliffside Park and Belle Harbor alternatives, the difference is reduced to approximately \$37,000. The Cliffside Park location was formerly used as a tree nursery and is currently unmanaged park land. The applicant states that current natural features in the park would need to be removed prior to the disposal of dredged material. In addition, the County is planning native prairie restoration work in the area where the dredged material would be placed; the disposal of the dredged material may or may not be compatible with the proposed restoration work.

3. *Belle Harbor Marina (applicant's preferred alternative).* The applicant states that this alternative is the most economical and would fulfill the purpose of re-using the defunct public property. Prior to 1979, Belle Harbor was an upland freight shipping yard, whole meat distributor, and furniture storage facility. The proposed filling of the Belle Harbor Marina would return the man-made basin to upland. No specific development plans are proposed by the applicant at this time but the site is projected to be for mixed residential and commercial use. The applicant has also stated that enclosing the unoccupied marina would provide environmental benefits to the Root River by isolating low level contaminants at the marina. Per the applicant, the removal of the docks within the Root River would improve watercraft safety and increase the value of the land by transforming it into a more developable property.

QUANTITY, TYPE, AND AREA OF FILL: Activities which would result in the discharge of dredged or fill material into the Belle Harbor Marina (Root River) include the following: construction of a drawdown system and discharge of return water, construction of a pervious wall system, and discharge of 15,400 CY of dredged material and supplemental 3,000 CY of 1.5" crushed rock on the bed of 1.38 acres of Belle Harbor Marina.

VEGETATION IN AFFECTED AREA: The applicant has stated that both the proposed dredged location at Pershing Park and the proposed disposal location at Belle Harbor are void of vegetation. Due to the lack of vegetation and accumulation of sediments at the Belle Harbor Marina, the site currently provides limited fish habitat.

SOURCE OF DREDGED AND FILL MATERIAL: The sediment analysis for the dredged material and the proposed disposal site is summarized in the enclosures labeled, MVP-2013-01510-MHK Page 16 through 17. The applicant has stated that the level of contaminants at both locations

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have low risk to migrate and impact benthic organisms due to: (1) the confinement of the dredged material behind the proposed sheet pile wall and clean fill that would be placed on top of the dredged material, and (2) the pervious wall system which would provide some filtration of groundwater flow before exiting the sheet pile wall to the Root River. The disposal site does contain lead and zinc which are considered to have probable impacts to benthic organisms. The applicant has stated that the lead and zinc form insoluble compounds under typical groundwater conditions with normal pH and would absorb into the soil matrix; therefore, it is believed the metals would have low potential for mobility in groundwater. The supplemental fill and any other off-site fill utilized for the project would come from an existing commercial source.

SURROUNDING LAND USE TO DREDGING LOCATION: Racine County public land to the north and west; City of Racine public land to the south.

SURROUNDING LAND USE TO DISPOSAL LOCATION: The Root River flows past Belle Harbor to the north, an apartment complex is located to the south, a commercial building and condominium complex exists to the east, and a private marina exists to the west.

DESCRIPTION OF STRUCTURE: a 42-foot long by 16-foot wide “Z” section sheet pile would be constructed at the entrance to Belle Harbor Marina. See MVP-2013-01510-MHK Page 12 of 17 for details.

DESCRIPTION OF DREDGING OR EXCAVATION: Approximately 15,400 cubic yards of sediment would be dredged using a barge and excavator with a clamshell or similar device.

THE FOLLOWING POTENTIALLY TOXIC MATERIALS COULD BE USED AT THE PROJECT SITE: Fuel, hydraulic fluid, lubricants, coolant and other fluids commonly used by construction equipment would be expected to be present for construction of the project.

THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: The proposed project would be conducted in compliance with the state’s erosion control and stormwater best management practices to prevent sediment from leaving the site during and after construction.

MITIGATION: No compensatory mitigation has been proposed by the applicant.

3. REPLIES/COMMENTS.

Interested parties are invited to submit to this office written facts, arguments, or objections within 30 days of the date of this notice. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be addressed to Regulatory Branch, St. Paul District, Corps of Engineers, 20711 Watertown Road, Suite F, Waukesha, Wisconsin 53186.

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Or, IF YOU HAVE QUESTIONS ABOUT THE PROJECT, call Marie Kopka at the Waukesha office of the Corps, telephone number (651) 290-5733.

To receive Public Notices by e-mail, go to:

http://mvp-extstp.mvp.usace.army.mil/list_server/ and add your information in the New Registration Box.

4. FEDERALLY-LISTED THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT.

None were identified by the applicant or are known to exist in the permit area. However, Racine County is within the known or historic range of the following Federally-listed candidate (C), threatened (T) and endangered (E) species:

<u>Species</u>	<u>Habitat</u>
Northern long-eared bat (Proposed as E)	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
Rufa red knot (Proposed as T)	Along Lake Michigan

This application is being coordinated with the U.S. Fish and Wildlife Service. Any comments it may have concerning Federally-listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

5. JURISDICTION.

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 08-02. We have made an initial determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act and/or Section(s) 9 & 10 of the Rivers and Harbors Act. The Corps will prepare an approved or preliminary jurisdictional determination prior to making a permit decision. Approved jurisdictional determinations are posted on the St. Paul District web page at <http://www.mvp.usace.army.mil/Missions/Regulatory.aspx>.

THE APPLICANT HAS STATED THAT THE FOLLOWING STATE PERMITS HAVE BEEN APPLIED FOR: Exemption from solid waste regulation NR 500, WPDES General Permit for NR 347 Interstitial Water, and Storm Water Notice of Intent NR 216.

6. STATE SECTION 401 WATER QUALITY CERTIFICATION.

This Public Notice has been sent to the Wisconsin Department of Natural Resources and is considered by the District Engineer to constitute valid notification to that agency for Section 401 water quality certification. A permit will not be granted until the Wisconsin Department of Natural Resources has issued or waived Section 401 certification.

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7. HISTORICAL/ARCHAEOLOGICAL.

This public notice is being sent to the National Park Service and the State Archaeologist for their comments. The latest versions of the National Register of Historic Places and the Wisconsin Historic Preservation Database have been consulted and no listed properties (known to be eligible for inclusion, or included in the Register) are located within or directly adjacent to the project area. The results of this review and the Corps' determination of effect are being coordinated with the State Historic Preservation Officer independent of this public notice. Any adverse effects on historic properties will be resolved prior to the Corps authorization, or approval, of the work in connection with this project.

8. PUBLIC HEARING REQUESTS.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

9. PUBLIC INTEREST REVIEW.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

10. COASTAL ZONE MANAGEMENT.

The Wisconsin Coastal Management Program (WCMP) in the Department of Administration is inviting public comment regarding this project. The WCMP may conduct a Federal consistency review to verify that the project will comply with State policies in Wisconsin's coastal zone. Further

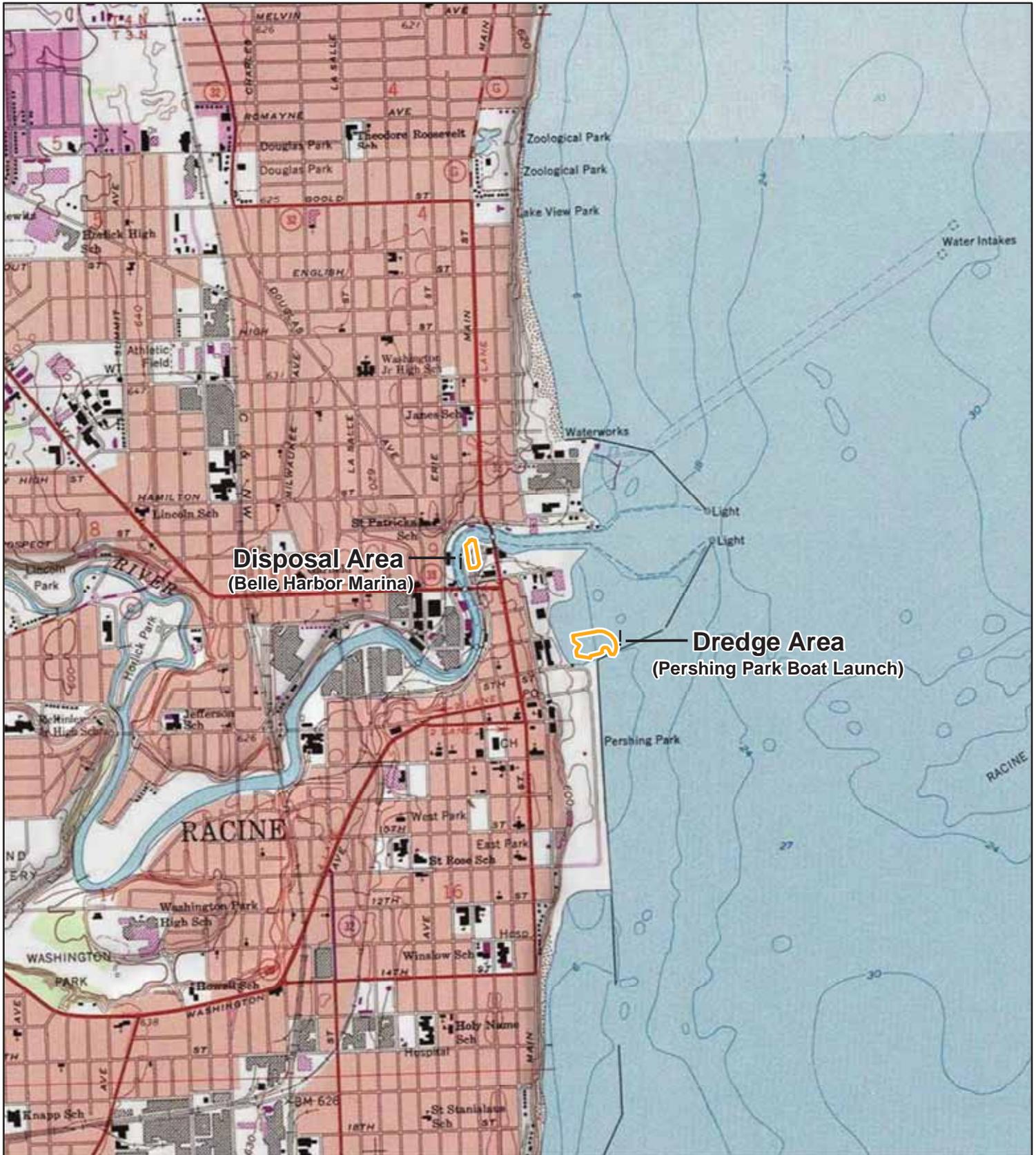
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information may be obtained from the Federal Consistency Coordinator at: Wisconsin Coastal Management Program, P.O. Box 7868, Madison, WI 53707-7868; (608) 266-8234. Any comments on whether or not this proposed project complies with the State enforceable policies should be received within 30 days by the Federal Consistency Coordinator.

Todd Vesperman
Chief, Southeast Section

Enclosures: MVP-2013-01510-MHK Page 1 of 17 through Page 17 of 17

NOTICE TO EDITORS: This public notice is provided as background information and is not a request or contract for publication.



Disposal Area
(Belle Harbor Marina)

Dredge Area
(Pershing Park Boat Launch)

NOTES

1. Base map from esri.com, courtesy of the National Geographic Society and i-cubed.
2. Coordinate system is NAD 1983 Wisconsin State Plane South (feet).



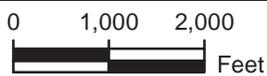
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RACINE COUNTY PUBLIC WORKS

FIGURE 1

**DREDGING AND DISPOSAL AREAS
RACINE COUNTY, WI**

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.



Date: JANUARY 2014

Revision Date:

Drawn By: BJW1

Checked By: TMK1

Scope: 13R100

DRAFT CONSTRUCTION DRAWINGS FOR PERSHING PARK BOAT LAUNCH BASIN DREDGING

RACINE COUNTY PUBLIC WORKS AND DEVELOPMENT SERVICES

RACINE COUNTY, WISCONSIN

JANUARY, 2014

Prepared By



13R100



SITE LOCATION MAP



COUNTY LOCATION MAP

NOT TO SCALE

INDEX	
FIGURE NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS - BOAT LAUNCH
3	EXISTING CONDITIONS - BELLE HARBOR MARINA
4	EXISTING CONDITIONS - PERSHING PARK BASIN
5	DREDGING PLAN
6	DREDGING CROSS SECTIONS
7	DREDGING CROSS SECTIONS
8	RAMP IMPROVEMENT PLAN
9	RAMP IMPROVEMENT DETAILS
10	RAMP IMPROVEMENT DETAILS
11	CONSTRUCTION STAGING AREA
12	PROPOSED SCOW HAUL ROUTE
13	DEMO PLAN - BELLE HARBOR MARINA
14	DEMO PLAN - BELLE HARBOR MARINA
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17	BELLE HARBOR MARINA CLOSURE PLAN
18	PERIMETER WALL DETAIL
19	MARINA DRAINAGE SYSTEM DETAIL
20	OFF-LOAD SITE PLAN

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Dredging location



EXISTING HARBOR WATER DEPTH
MEASURED BELOW LOW WATER
DATUM OF 577.50 FT.
(FT., IGLD 85)

Dark Blue	> 14 FEET
Blue	12 - 14 FEET
Light Blue	10 - 12 FEET
Light Green	8 - 10 FEET
Green	6 - 8 FEET
Light Yellow	4 - 6 FEET
Yellow	2 - 4 FEET
Lightest Yellow	0 - 2 FEET

NOTES:

1. HYDROGRAPHIC SURVEY PERFORMED ON OCTOBER 9, 2013 BY FOTH.
2. VERTICAL CONTROL BASED ON IGLD 85, HORIZONTAL GRID SYSTEM BASED ON WISCONSIN STATE PLANE SOUTH USING NAD83.
3. COLORED CONTOUR AREAS REPRESENT EXTENT OF BATHYMETRIC SURVEY INTERPOLATION.



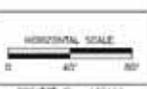
Foth
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Racine, WI 53402-3418
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www.fothinc.com

DRAFT CONSTRUCTION DRAWINGS FOR
PERSHING PARK BOAT LAUNCH BASIN
DREDGING AND RAMP IMPROVEMENTS
RACINE COUNTY, WISCONSIN

NO.	DATE	DESCRIPTION
1	10/09/13	HYDROGRAPHIC SURVEY
2	10/10/13	INTERPOLATION
3	10/11/13	INTERPOLATION
4	10/12/13	INTERPOLATION
5	10/13/13	INTERPOLATION
6	10/14/13	INTERPOLATION
7	10/15/13	INTERPOLATION
8	10/16/13	INTERPOLATION
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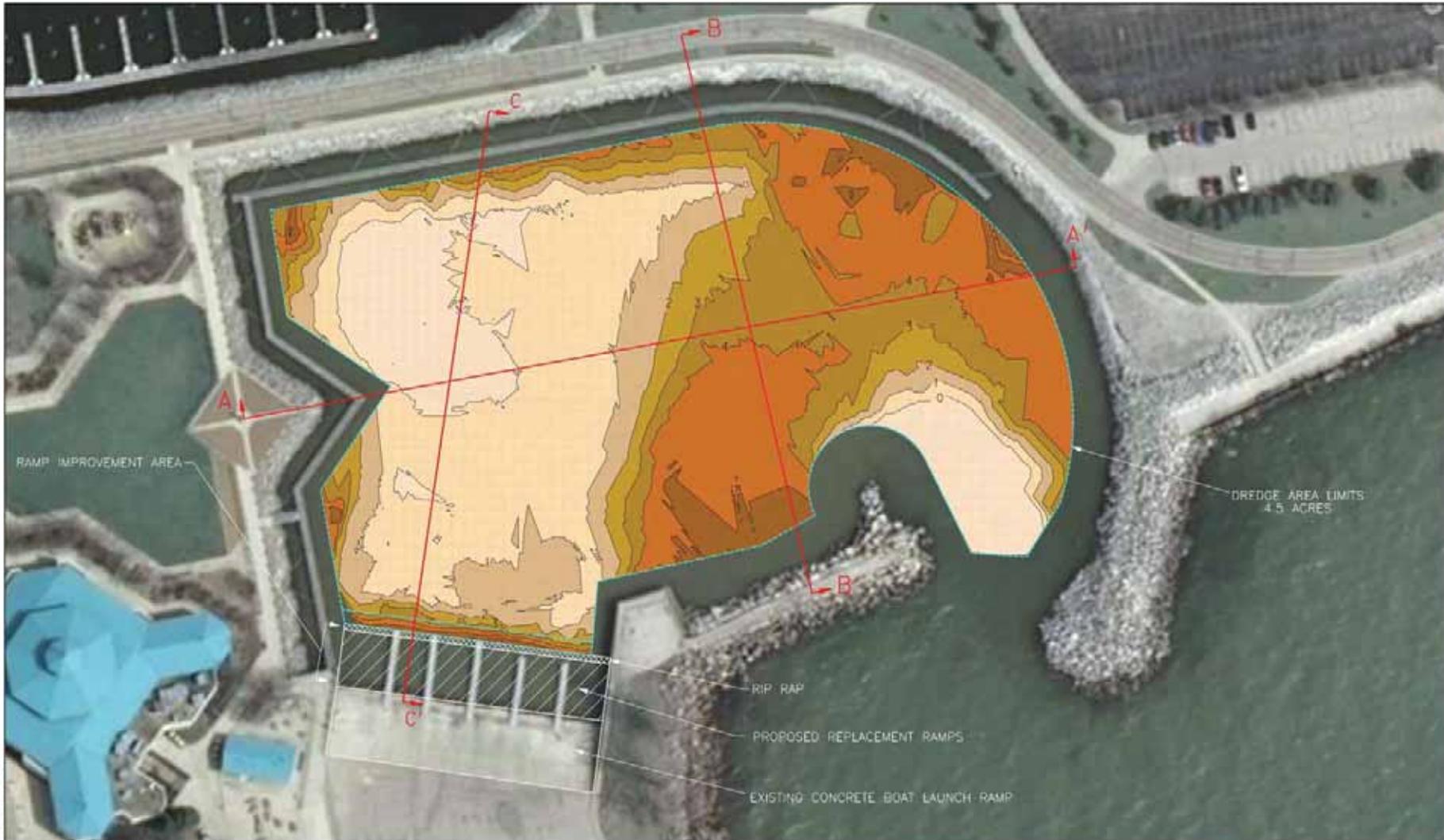
DATE OF INTERPOLATION	BY	DATE
SURVEYED	BY	JAN, 2014
DESIGNED	BY	JAN, 2014
CHECKED	BY	JAN, 2014

EXISTING CONDITIONS
PERSHING PARK
BASIN



PROJECT ID: 138100

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DREDGE ISOPACH MAP
 DREDGE CUT REPRESENTS DIFFERENCE BETWEEN DESIGN DREDGE ELEVATION CUT AND OCTOBER 9, 2013 EXISTING CONDITIONS

[Dark Brown]	> 7 FEET (DEPTH OF SEDIMENT CUT)
[Brown]	6-7 FEET (DEPTH OF SEDIMENT CUT)
[Dark Orange]	5-6 FEET (DEPTH OF SEDIMENT CUT)
[Orange]	4-5 FEET (DEPTH OF SEDIMENT CUT)
[Light Orange]	3-4 FEET (DEPTH OF SEDIMENT CUT)
[Yellow-Orange]	2-3 FEET (DEPTH OF SEDIMENT CUT)
[Yellow]	1-2 FEET (DEPTH OF SEDIMENT CUT)
[Light Yellow]	0-1 FEET (DEPTH OF SEDIMENT CUT)

- NOTES:**
1. HYDROGRAPHIC SURVEY PERFORMED ON OCTOBER 9, 2013 BY FOTH.
 2. VERTICAL CONTROL BASED ON IGLD 85. HORIZONTAL GRID SYSTEM BASED ON WISCONSIN STATE PLANE SOUTH USING NAD83.
 3. COLORED CONTOUR AREAS REPRESENT EXTENT OF BATHYMETRIC SURVEY INTERPOLATION.
 4. SEDIMENTS ALSO TO BE REMOVED FROM RAMP IMPROVEMENTS AREA OUTLINED HERE. MEASUREMENT AND PAYMENT INCLUDED WITH DREDGE WORK.

Foth
 Foth Infrastructure & Environment, LLC
 411 W. Lincoln Ave. Suite 200
 Racine, WI 53405
 Phone: 262.601.2000 Fax: 262.601.4818
 REG. OF 00046673
 REG. OF 00046673
 REG. OF 00046673
 REG. OF 00046673

**DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN**

NO.	DATE	DESCRIPTION
1	08/14/14	ISSUED FOR PERMIT
2	08/14/14	ISSUED FOR PERMIT
3	08/14/14	ISSUED FOR PERMIT
4	08/14/14	ISSUED FOR PERMIT

DATE OF REVISION: 08/14/14
 DRAWN BY: JRM
 CHECKED BY: JRM
 PROJECT NO: 139100

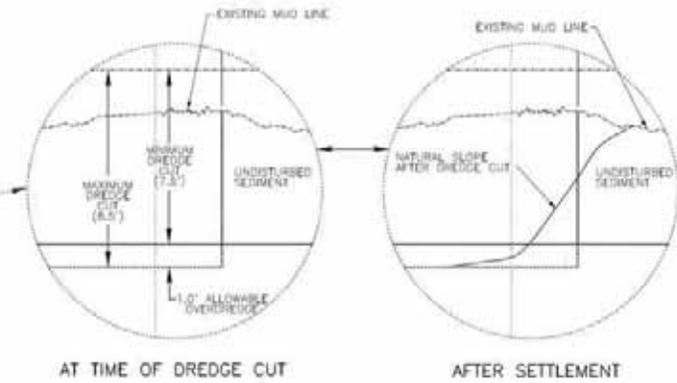
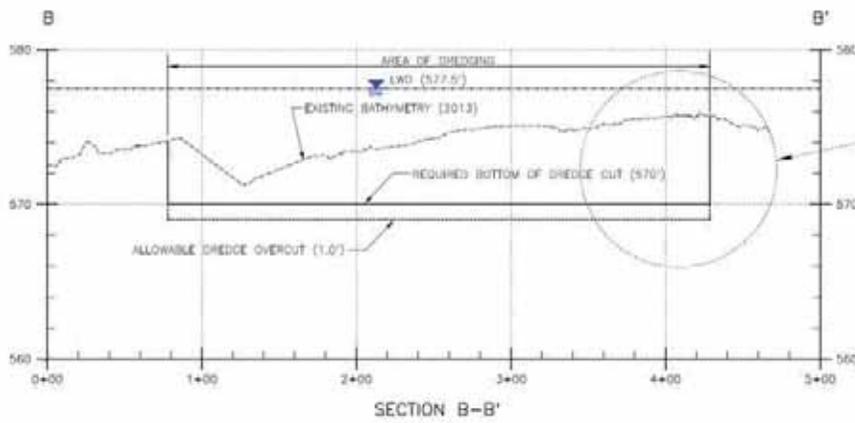
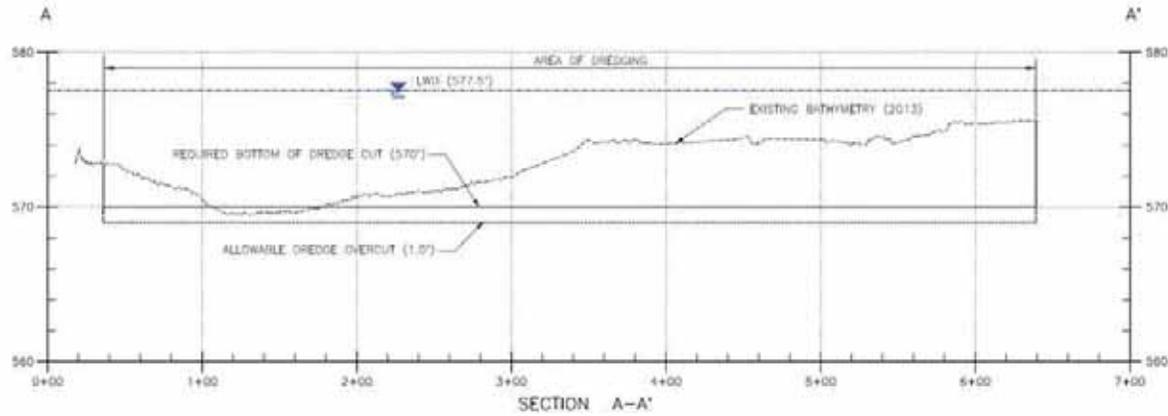
DREDGING PLAN

HORIZONTAL SCALE
 1" = 40'

PROJECT NO: 139100

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 E-mail: info@foth.com

DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN

REVISED	DATE	DESCRIPTION
1	01-14-14	ISSUE FOR PERMITTING
2	01-14-14	ISSUE FOR CONSTRUCTION
3	01-14-14	ISSUE FOR CONSTRUCTION
4	01-14-14	ISSUE FOR CONSTRUCTION
5	01-14-14	ISSUE FOR CONSTRUCTION
6	01-14-14	ISSUE FOR CONSTRUCTION

DATE OF PREPARATION	BY	DATE
DRAWN	JLS	JAN. 2014
DESIGNED		
CHECKED	CMG	JAN. 2014

DREDGING CROSS SECTIONS

SCALE AS SHOWN

PROJECT ID: 13R100

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 1/29/2014 11:15:25 AM



BELLE HARBOR MARINA (DISPOSAL CELL)

SCOW HAUL ROUTE

PERSHING PARK BOAT LAUNCH & DREDGE AREA



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**DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN**

NO.	DATE	DESCRIPTION
1	01-29-14	ISSUED FOR PERMITS
2	02-10-14	REVISED FOR COMMENTS
3	02-10-14	REVISED FOR COMMENTS
4	02-10-14	REVISED FOR COMMENTS

DESIGNER: FOTH INFRASTRUCTURE & ENVIRONMENT, LLC
 CHECKED BY: J. J. JENSEN
 DATE: 02/10/14

DATE OF REVISION	BY	DATE
DESIGNED	RM	JAN 2014
RECORDED		
CHECKED	CMG	JAN 2014

**PROPOSED
 SCOW HAUL ROUTE**



PROJECT ID: 139100

Foth
 Foth Infrastructure & Environment, LLC
 1000 North Lincoln Avenue, Suite 100
 Madison, WI 53703-3400
 Phone: 762-2000 Fax: 762-4811

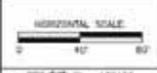
DATE OF DOCUMENT: 01/20/14
 PROJECT: DEMO PLAN BELLE HARBOR MARINA
 DRAWING NO.: MVP-2013-01510-MHK-08

**DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN**

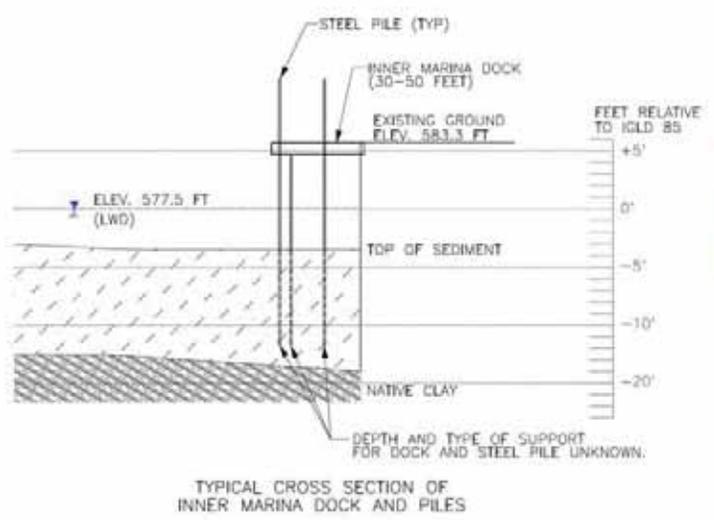
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2	01/20/14	ISSUED FOR CONSTRUCTION
3	01/20/14	ISSUED FOR CONSTRUCTION
4	01/20/14	ISSUED FOR CONSTRUCTION

DATE OF PREPARATION	BY	DATE
DRAWN	BA	JAN, 2014
DESIGNED		
CHECKED	CMW	JAN, 2014

**DEMO PLAN
 BELLE HARBOR
 MARINA**

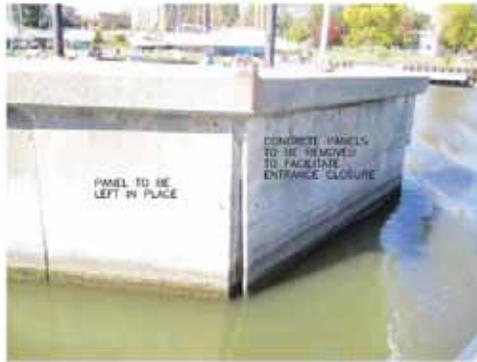


PROJECT NO. 139100



- NOTES:**
1. ONLY THOSE STRUCTURES AND SITE FEATURES INDICATED SHALL BE REMOVED DURING SITE PREPARATION ACTIVITIES. ALL OTHERS SHALL BE LEFT AS IS.
 2. BELOW WATER FEATURES IN ROOT RIVER ADJACENT TO BELLE HARBOR MARINA ARE UNDETERMINED.

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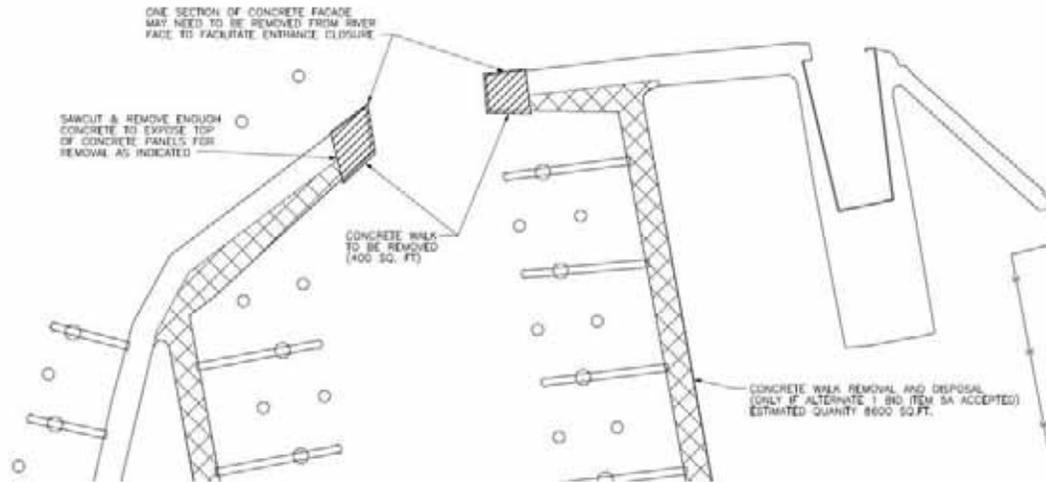
ENTRANCE (WEST WING)
(LOOKING NW)



ENTRANCE (EAST WING)
(LOOKING NE)

NOTES:

1. AS-BUILT OR CONSTRUCTION DRAWINGS OF THE MARINA ARE UNAVAILABLE. EXTENT OF THE CONCRETE FACADE BELOW THE WATERLINE, METHOD OF CONNECTION TO BULKHEAD STRUCTURE, AND STEEL SHEET PILE SYSTEM ARE UNVERIFIED.
2. CONCRETE REMOVED AS PART OF THE DEMO SHALL NOT BE USED AS FILL MATERIAL.
3. CONTRACTOR RESPONSIBLE FOR REMOVING CONCRETE FACADE PANELS WITHOUT DAMAGING (OTHER THAN SUPERFICIALLY) UNDERLYING SHEET PILE BULKHEAD.



Foth Infrastructure & Environment, LLC
 1111 W. Lincoln Ave., Suite 100
 Racine, WI 53405-1000
 Phone: 262-937-2000 Fax: 262-937-4818
 REG. NO. OF 000048473
 REG. STATE OF WISCONSIN
 REG. DATE 01/18/2013
 REG. EXPIRES 01/18/2016
 REG. TYPE: PROFESSIONAL ENGINEER

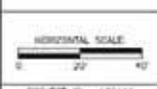
**DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN**

REVISED	DESCRIPTION	DATE

DESIGNED BY: [Name]
 CHECKED BY: [Name]
 DATE: [Date]

DATE OF REVISION	BY	DATE

**DEMO PLAN
 BELLE HARBOR
 MARINA**



PROJECT ID: 139100

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Foth
 Foth Infrastructure & Environment, LLC
 12000 W. Lincoln Ave., Suite 200
 Racine, WI 53402-3000, Fax: 262-481-4818
 www.fothinc.com

**DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN**

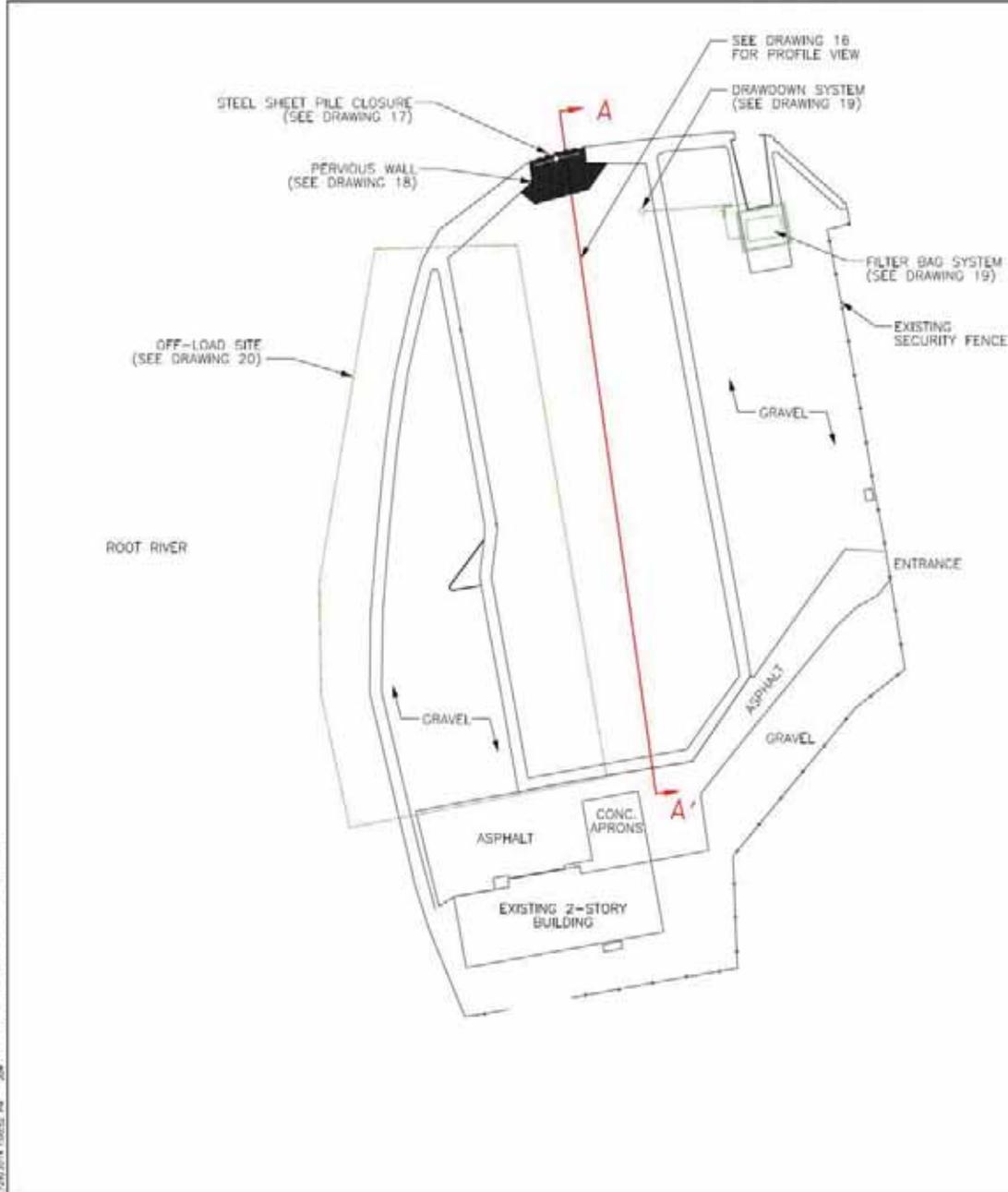
REVISED	DATE	DESCRIPTION

DATE OF REVISION		
REVISED	DATE	DESCRIPTION

DISPOSAL SITE PLAN



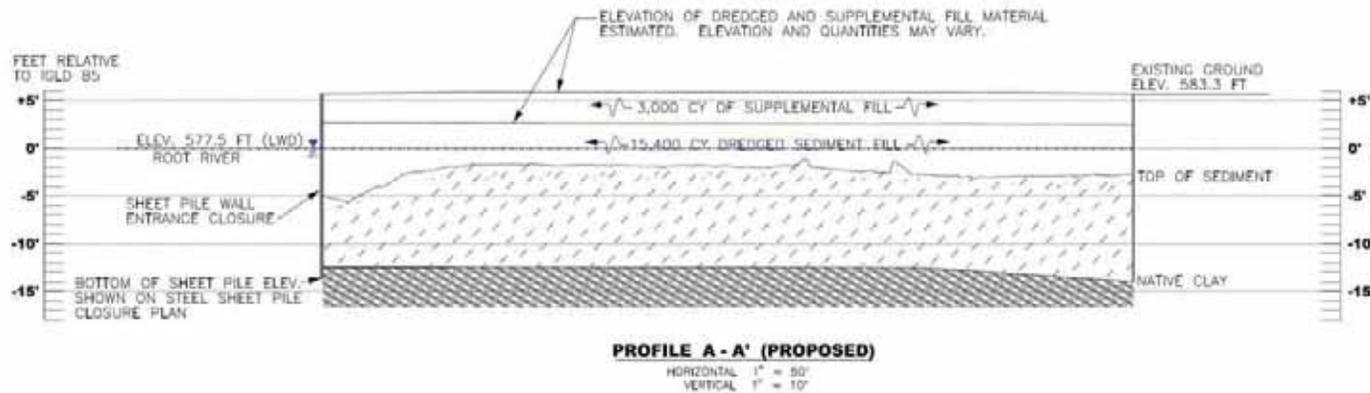
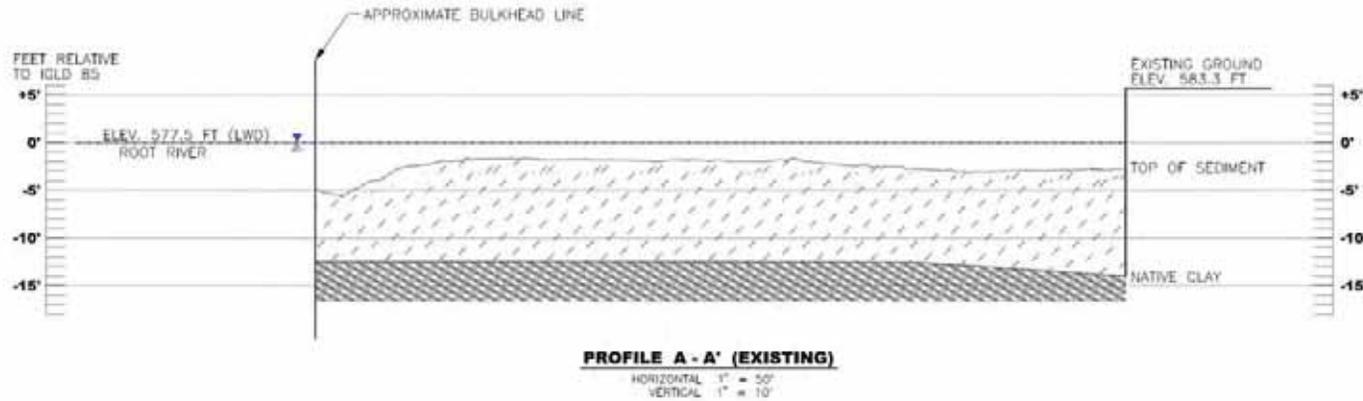
PROJECT ID: 138100



WORK SEQUENCE NARRATIVE:

1. SITE PREPARATION
 - A. REMOVE DOCKS, PILES, AND CONCRETE WALKWAY AS SHOWN ON DEVO PLAN. (DRAWINGS 13 & 14)
2. CONSTRUCT STEEL SHEET PILE CLOSURE
 - A. CONCRETE WALKWAY AND FACADE NEAR MARINA ENTRANCE REMOVED AS SHOWN ON DEVO PLAN (DRAWINGS 13 & 14) TO FACILITATE INSTALLATION OF SHEET PILE WALL.
3. DRAW DOWN MARINA WATER
 - A. CONSTRUCT DRAWDOWN SYSTEM TO REMOVE WATER FROM CLOSED MARINA BASIN AND DISCHARGE DIRECTLY TO ROOT RIVER.
 - B. FILTER BAG SYSTEM TO BE PROVIDED AS A CONTINGENCY FOR HIGH SEDIMENT LOADING THROUGH DIRECT PUMPING FROM SUMP. SEE NOTE ON DRAWING 19 REGARDING DETERMINATION OF SEDIMENT LOAD BY DISCHARGE.
 - C. MARINA DRAWDOWN DISCHARGE IS NOT REGULATED. (I.E. NO PERMIT REQUIRED), PROVIDED SEDIMENT LOADING IS MINIMAL.
4. CONSTRUCT PERVIOUS WALL
 - A. BEFORE FILLING DISPOSAL SITE WITH DREDGE MATERIAL, CONSTRUCT PERVIOUS WALL.
 - B. ONCE DREDGE MATERIAL IS PLACED INTO THE BASIN, DRAWDOWN DISCHARGE MUST BE STOPPED. REGULATED DRAINAGE WALL THEN BE THROUGH THE PERVIOUS WALL DISCHARGE POINT.
5. INSTALL ADDITIONAL FILL MATERIAL TO BRING TO ELEVATIONS SHOWN ON DRAWING 16.

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- NOTES:**
1. SEDIMENT ELEVATIONS BASED ON HYDROGRAPHIC SURVEY CONDUCTED ON OCTOBER 9, 2013 BY FOTH.
 2. NATIVE CLAY ELEVATION BASED ON SOIL BORINGS COMPLETED BY CDC INC. (OCTOBER 2013). SAND/GRAVEL LAYER ABOVE THE NATIVE CLAY (RANGING BETWEEN 2-4 FEET THICK) IS NOT SHOWN IN PROFILE.
 3. PERVIOUS WALL SYSTEM NOT SHOWN IN PROPOSED CONDITIONS PROFILE.

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DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN

NO.	DATE	DESCRIPTION
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2	02/10/14	ISSUED FOR PERMITS
3	03/10/14	ISSUED FOR PERMITS
4	04/10/14	ISSUED FOR PERMITS
5	05/10/14	ISSUED FOR PERMITS
6	06/10/14	ISSUED FOR PERMITS
7	07/10/14	ISSUED FOR PERMITS
8	08/10/14	ISSUED FOR PERMITS
9	09/10/14	ISSUED FOR PERMITS
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12	12/10/14	ISSUED FOR PERMITS

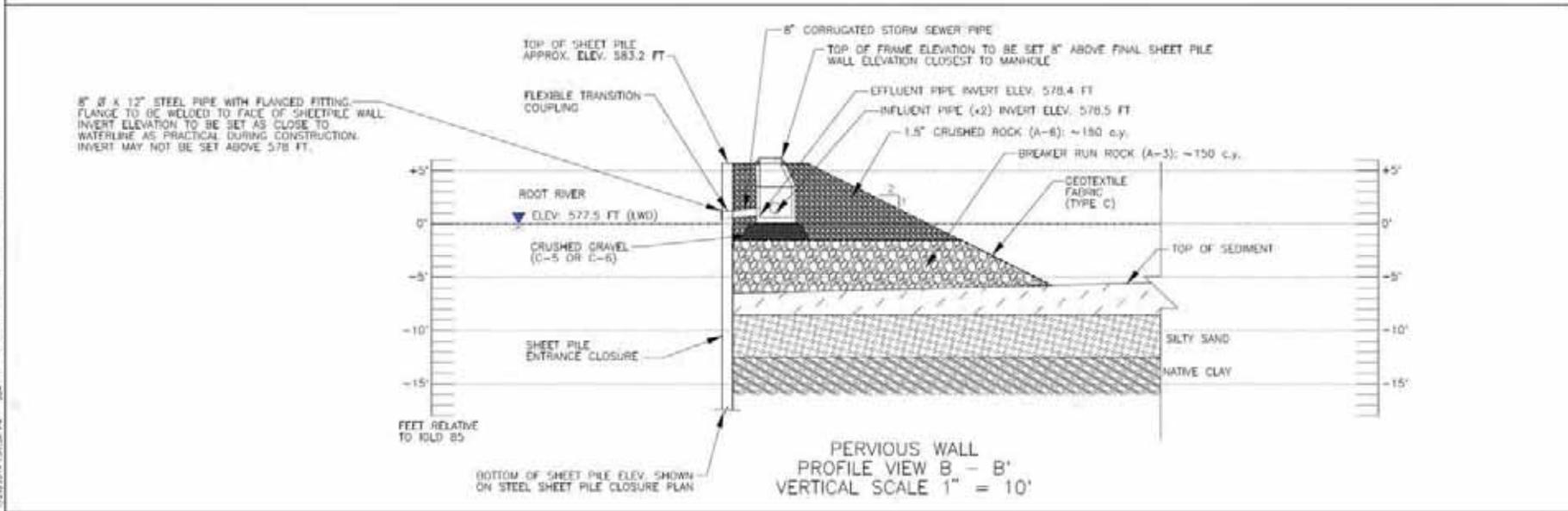
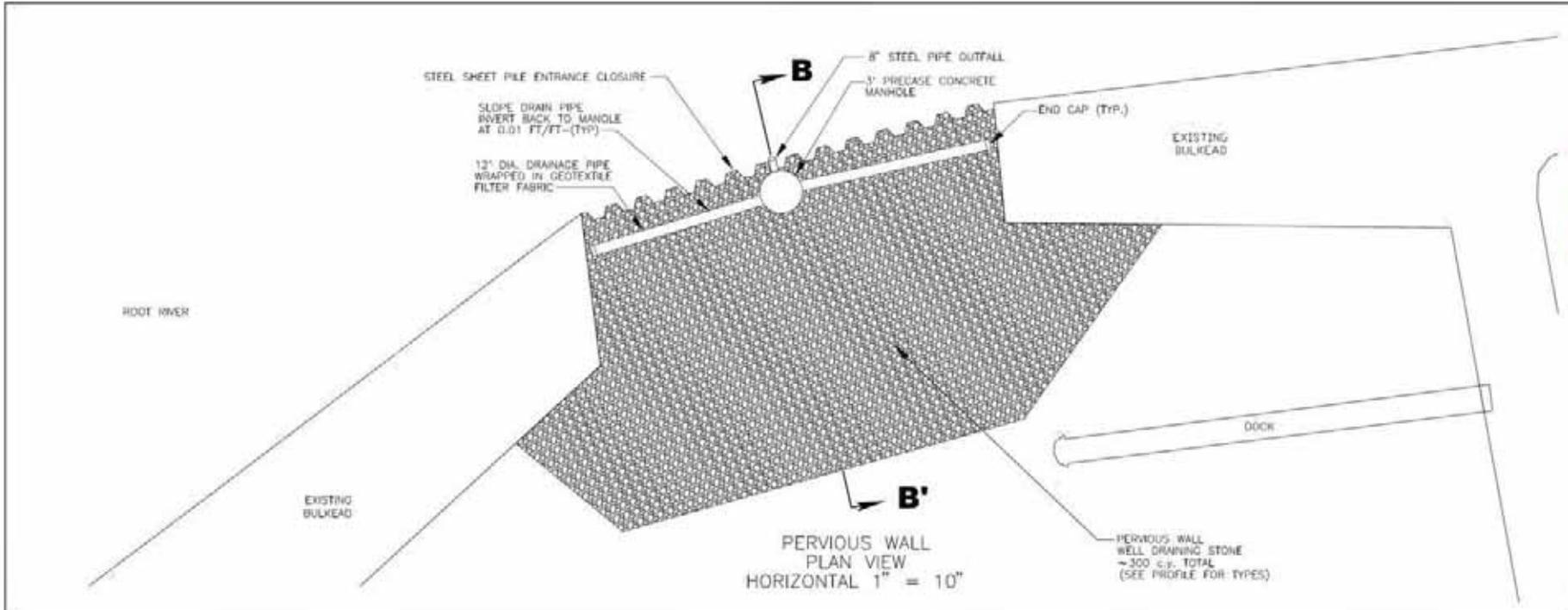
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08/10/14	JL	JL
09/10/14	JL	JL
10/10/14	JL	JL
11/10/14	JL	JL
12/10/14	JL	JL

DISPOSAL SITE
 CROSS SECTIONS



PROJECT NO. 139100

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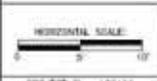
Foth
 Foth Infrastructure & Environment, LLC
 12000 W. 120th St., Suite 100
 Overland Park, KS 66204
 Phone: 913-241-2000 Fax: 913-401-4014
 E-mail: info@foth.com
 PROJECT NO. MVP-2013-01510-MHK

DRAFT CONSTRUCTION DRAWINGS FOR
 PERSHING PARK BOAT LAUNCH BASIN
 DREDGING AND RAMP IMPROVEMENTS
 RACINE COUNTY, WISCONSIN

NO.	DATE	DESCRIPTION

DATE OF REVISION	BY	DATE

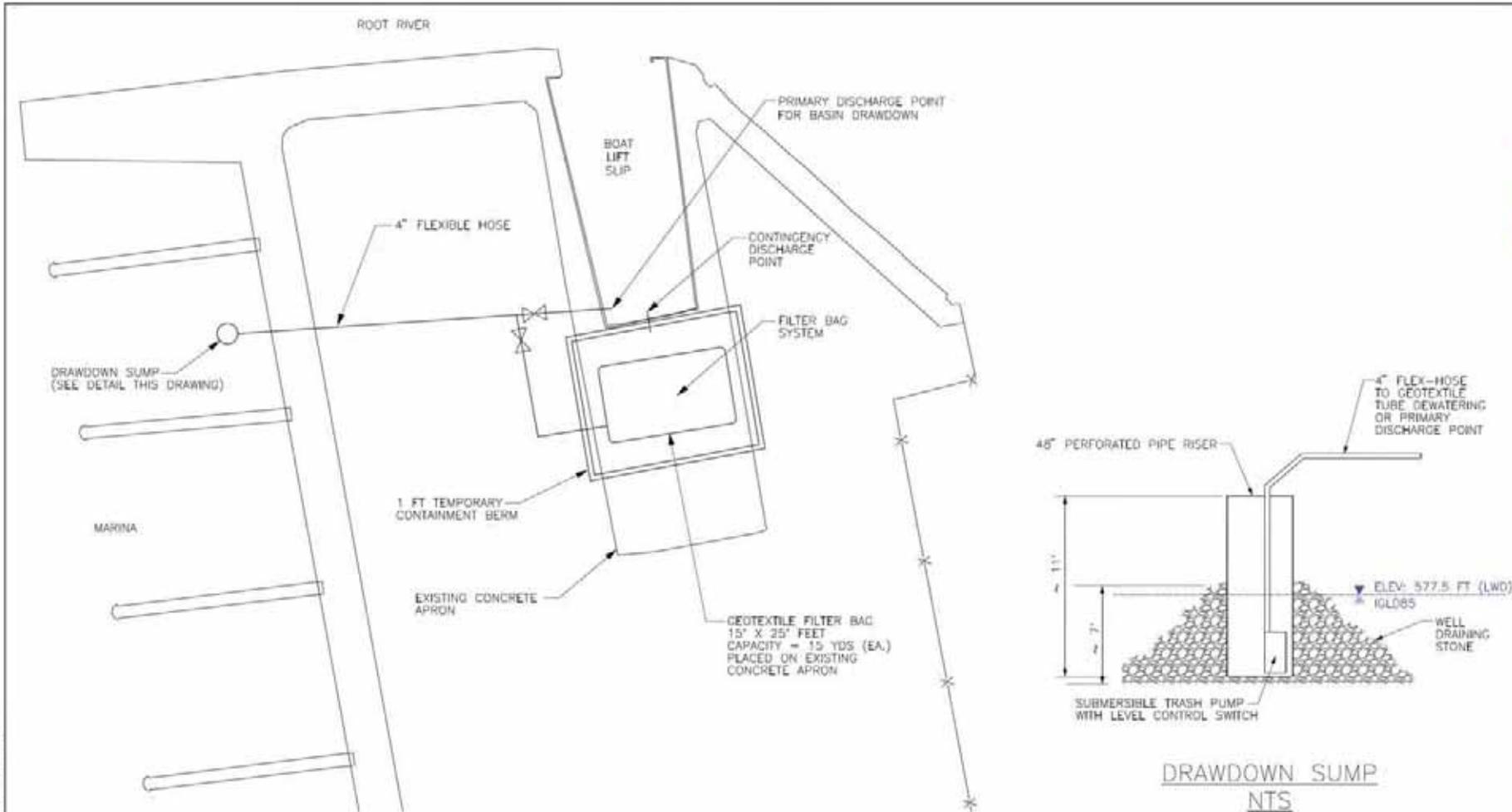
PERVIOUS WALL DETAIL



PROJECT ID: 139100

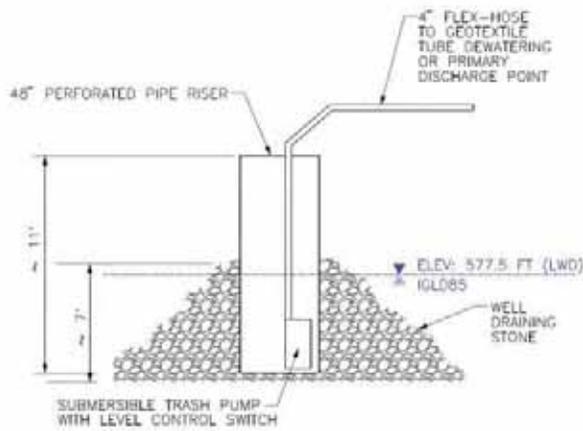
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Foth Infrastructure & Environment, LLC



NOTES:

1. DIRECT DISCHARGE FROM DRAWDOWN SUMP IS PRIMARY MEANS OF DEWATERING BASIN. GEOTEXTILE FILTER BAG ONLY PROVIDED AS CONTINGENCY IN CASE HIGH SEDIMENT LOADING IS EXPERIENCED.
2. THERE IS NO CURRENT REGULATORY LIMIT OR REQUIREMENT FOR MEASURING OR QUANTIFYING SUSPENDED SOLIDS IN THE DRAWDOWN DISCHARGE. OWNER WISHES TO MINIMIZE SOLIDS LOAD IN THE DISCHARGE USING GOOD MANAGEMENT PRACTICES. DETERMINATION OF ACCEPTABLE SOLIDS LOAD IN DRAWDOWN DISCHARGE WILL BE MADE DAILY, ON A VISUAL BASIS BY THE CONTRACTOR. HIGH SOLIDS LOADING SHALL BE DEFINED AS OBSERVATION OF SUSPENDED SOLIDS IN THE WATER COLUMN AT THE DISCHARGE POINT SIGNIFICANTLY ABOVE BACKGROUND CONDITIONS. SIGNIFICANT SHALL BE DEFINED AS A TURBIDITY DIFFERENCE OF MORE THAN 80 NTUS ABOVE UPSTREAM (BACKGROUND) LEVELS. CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING DISCHARGE AND MANAGING CONTINGENCY FOR REDUCING SOLIDS LOADING IN THE DISCHARGE, AS NECESSARY. OWNER OR OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO MEASURE SOLIDS LOADING WITH A TURBIDITY METER, OR SIMILAR METHOD, IN THE DRAWDOWN DISCHARGE AND REQUIRE SOLIDS MANAGEMENT MEASURES TO BE IMPLEMENTED BY THE CONTRACTOR.



**DRAWDOWN SUMP
NTS**

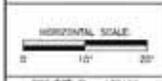
Foth
Foth Infrastructure & Environment, LLC
12000 W. Center Rd., Suite 200
Denver, CO 80202
Phone: 303.440.2300 Fax: 303.440.4818

DRAFT CONSTRUCTION DRAWINGS FOR
PERSHING PARK BOAT LAUNCH BASIN
DREDGING AND RAMP IMPROVEMENTS
RACINE COUNTY, WISCONSIN

NO.	DATE	DESCRIPTION
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2	11/14/14	ISSUED FOR CONSTRUCTION
3	11/14/14	ISSUED FOR CONSTRUCTION
4	11/14/14	ISSUED FOR CONSTRUCTION
5	11/14/14	ISSUED FOR CONSTRUCTION

DATE OF REVISION	BY	DATE
DESIGNED	JSA	JAN. 2014
CHECKED	CMD	JAN. 2014

**MARINA
DRAWDOWN SYSTEM
DETAIL**



PROJECT ID: 139100

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Table 1
Sediment Analytical Results
Pershing Park Boat Launch Basin - Racine, Wisconsin

Dredged Material
 Analysis

Sample ID	Collection Date	WDR Consensus Based Effect Screening Levels ¹			BH01 5/8/2013	BH02 TOP 5/8/2013	BH02 MIDDLE 5/8/2013	BH02 BOTTOM 5/8/2013	BH03 TOP 5/8/2013	BH03 MIDDLE 5/8/2013	BH03 BOTTOM 5/8/2013	BH01 5/8/2013	BH02 TOP 5/8/2013	BH02 MIDDLE 5/8/2013	BH02 BOTTOM 5/8/2013	BH03 TOP 5/8/2013	BH03 MIDDLE 5/8/2013	BH03 BOTTOM 5/8/2013
Sample Depth Below Top of Sediment (ft)					6.5-9.5' (bws)	3.5-5.5' (bws)	5.5-6.5' (bws)	6.5-9' (bws)	4-6' (bws)	6-8' (bws)	8-10' (bws)	6.5-9.5' (bws)	3.5-5.5' (bws)	5.5-6.5' (bws)	6.5-9' (bws)	4-6' (bws)	6-8' (bws)	8-10' (bws)
Parameter	Unit	TEC	MEC	PEC	DRY WEIGHT CONCENTRATIONS						NORMALIZED TO 1% TOC FOR COMPARISON WITH CBSQG VALUES							
PAHs																		
Acenaphthene	µg/kg	6.7	48	89	96.9	68	146	<210	33.5	60.3	88.6	70.7	31.8	78.9	NC	30.5	39.7	46.6
Acenaphthylene	µg/kg	5.9	67	128	31.6	14.4 J	<43.6	<210	<10.9	13.1 J	25.7	23.1	6.7	NC	NC	NC	8.6	13.5
Anthracene	µg/kg	57.2	451	845	109	125	387	800	46.9	143	264	79.6	58.4	209	280	42.6	94.1	139
Benzo(a)anthracene	µg/kg	108	579	1,050	88.6	183	478	1620	75.9	262	409	64.7	85.5	258	566	69.0	172	215
Benzo(a)pyrene	µg/kg	150	800	1,450	93.5	252	486	1500	85.9	304	441	68.2	117.8	263	524	78.1	200	232
Benzo(b)fluoranthene	µg/kg	240	6,820	13,400	72.9	180	403	1120	79	289	467	53.2	84.1	218	392	71.8	190	246
Benzo(g,h,i)perylene	µg/kg	170	1,685	3,200	52.4	124	282	812	57	188	250	38.2	57.9	152	284	51.8	124	132
Benzo(k)fluoranthene	µg/kg	240	6,820	13,400	83.8	191	435	1570	78.3	261	301	61.2	89.3	235	549	71.2	172	158
Chrysene	µg/kg	166	728	1,290	103	239	560	1870	94.8	328	483	75.2	112	303	654	86.2	216	254
Dibenz(a,h)anthracene	µg/kg	33	84	135	15.5 J	43.2	85.2 J	218 J	15.6 J	60	92.9	11.3	20.2	46.1	76.2	14.2	39.5	48.9
Fluoranthene	µg/kg	423	1,327	2,230	230	514	1190	3390	191	682	931	168	240	643	1185	174	449	490
Fluorene	µg/kg	77.4	307	536	89.3	87.5	181	261 J	33.1	73.3	117	65.2	40.9	97.8	91.3	30.1	48.2	61.6
Indeno(1,2,3-cd)pyrene	µg/kg	200	1,700	3,200	44.2	107	244	684	46.4	164	223	32.3	50.0	132	239	42.2	108	117
Naphthalene	µg/kg	176	369	561	68.6	158	262	458	42.9	104	182	50.1	73.8	142	160	39.0	68.4	95.8
Phenanthrene	µg/kg	204	687	1,170	265	430	1060	1830	161	525	707	193	201	573	640	146	345	372
Pyrene	µg/kg	195	858	1,520	186	401	930	2850	154	555	752	136	187	503	997	140	365	396
Metals																		
Arsenic	mg/kg	9.8	21.4	33	11	5.2	7.8	6	6.2	9.4	5.3							
Cadmium	mg/kg	0.99	3.0	5.0	0.41 J	0.32 J	0.34 J	0.61 J	<0.17	0.35 J	0.26 J							
Copper	mg/kg	32	91	150	18.4	6.8	17.1	17.8	8.8	30.2	15.2							
Lead	mg/kg	36	83	130	27.1	7.5	14.8	21.8	13.8	19	17.1							
Zinc	mg/kg	120	290	460	98.3	42.2	76.4	95.5	44.4	89.5	67.4							
Mercury	mg/kg	0.18	0.64	1.1	0.200	0.056	0.080	0.069	0.050	0.046	0.100							
General Parameters																		
Percent Moisture	%	-	-	-	23.8	21.9	23.5	20.7	23.4	26.7	28.2							
Total Organic Carbon (first analysis)	mg/kg	-	-	-	14,200	17,800	16,400	28,500	11,200	16,900	20,800							
Total Organic Carbon (second analysis)	mg/kg	-	-	-	13,200	25,100	20,600	28,700	10,800	13,400	17,300							
Mean Total Organic Carbon	mg/kg	-	-	-	13,700	21,400	18,500	28,600	11,000	15,200	19,000							

Values highlighted indicate the value exceeds the WDR consensus based screening level.

= Concentration exceeds TEC
 = Concentration exceeds MEC
 = Concentration exceeds PEC

Notes:
 1. Consensus-Based Sediment Quality Guidelines, Recommendations for Use & Application (WDNR, 2003), WT-732-2003.

- = not applicable
 NC = Not calculated due to concentration below the laboratory reporting limit.
 % = percent
 < = The analyte was not detected at or above the laboratory reporting limit.
 µg/kg = micrograms/kilograms
 ft = feet
 J = Concentration detected equal to or greater than the method detection limit but less than the reporting limit. The value reported is considered to be an estimate.

bws = below water surface
 CBSQG = Consensus-Based Sediment Quality Guidelines
 MEC = Midpoint Effect Concentration
 mg/kg = milligrams/kilogram
 PEC = Probable Effect Concentration
 TEC = Threshold Effect Concentration
 TOC = Total Organic Carbon
 WDNR = Wisconsin Department of Natural Resources

Prepared by: TMK1
 Checked by: BJW1



Table 2
Sediment Analytical Results
Belle Harbor Marina - Racine, Wisconsin

Sample ID	Collection Date	WDNR Consensus Based Effect Screening Levels ¹			B-01 (0-1) 10/28/2013	B-01 (6-7) 10/28/2013	B-03 (0-2.5) 10/30/2013	B-03 (4-5) 10/30/2013	B-04 (2-3.5) 10/29/2013	B-04 (6-8) 10/29/2013	B-01 (0-1) 10/28/2013	B-01 (6-7) 10/28/2013	B-03 (0-2.5) 10/30/2013	B-03 (4-5) 10/30/2013	B-04 (2-3.5) 10/29/2013	B-04 (6-8) 10/29/2013		
Sample Depth Below Top of Sediment (ft)	Parameter	Unit	TEC	MEC	PEC	0-1	6-7	0-2.5	4-5	2-3.5	6-8	0-1	6-7	0-2.5	4-5	2-3.5	6-8	
			DRY WEIGHT CONCENTRATIONS								NORMALIZED TO 1% TOC FOR COMPARISON WITH CBSQG VALUES							
PAHs																		
1-Methylnaphthalene	µg/kg	-	-	-	6.3 J	< 3.8	18.0 J	< 4.5	201	< 3.4	2.4	NC	4.6	NC	14	NC		
2-Methylnaphthalene	µg/kg	20.2	111	201	< 11.8	< 10.7	34.0 J	< 12.7	277	< 9.6	NC	NC	8.6	NC	19	NC		
Acenaphthene	µg/kg	6.7	48	89	16.0 J	< 10.7	44.3	< 12.7	367	< 9.6	6.1	NC	11	NC	26	NC		
Acenaphthylene	µg/kg	5.9	67	128	15.7 J	< 10.7	< 18.8	< 12.7	< 96.4	< 9.6	5.7	NC	NC	NC	NC	NC		
Anthracene	µg/kg	57.2	451	845	60.5	< 10.7	70.2	< 12.7	564	< 9.6	23	NC	18	NC	39	NC		
Benzo(a)anthracene	µg/kg	108	579	1,050	188	< 10.7	155	< 12.7	1120	< 9.6	71	NC	39	NC	78	NC		
Benzo(a)pyrene	µg/kg	150	800	1,450	234	< 3.8	190	< 4.5	1220	< 3.4	89	NC	48	NC	85	NC		
Benzo(b)fluoranthene	µg/kg	240	6,820	13,400	237	< 10.7	220	< 12.7	1100	< 9.6	90	NC	56	NC	77	NC		
Benzo(g,h,i)perylene	µg/kg	170	1,685	3,200	137	< 10.7	144	< 12.7	714	< 9.6	52	NC	37	NC	50	NC		
Benzo(k)fluoranthene	µg/kg	240	6,820	13,400	198	< 3.8	199	< 4.5	1110	< 3.4	75	NC	51	NC	78	NC		
Chrysene	µg/kg	166	728	1,290	242	< 10.7	266	< 12.7	1400	< 9.6	92	NC	68	NC	98	NC		
Dibenz(a,h)anthracene	µg/kg	33	84	135	54.9	< 10.7	46.3	< 12.7	263	< 9.6	21	NC	12	NC	18	NC		
Fluoranthene	µg/kg	423	1,327	2,230	442	< 10.7	580	< 12.7	2870	< 9.6	167	NC	147	NC	201	NC		
Fluorene	µg/kg	77.4	307	536	25.8	< 10.7	53.0	< 12.7	320	< 9.6	10	NC	13	NC	22	NC		
Indeno(1,2,3-cd)pyrene	µg/kg	200	1,700	3,200	131	< 10.7	126	< 12.7	663	< 9.6	50	NC	32	NC	46	NC		
Naphthalene	µg/kg	176	369	561	24.0	< 10.7	67.0	< 12.7	393	< 9.6	9	NC	17	NC	27	NC		
Phenanthrene	µg/kg	204	687	1,170	242	< 10.7	383	< 12.7	2800	< 9.6	92	NC	97	NC	196	NC		
Pyrene	µg/kg	195	858	1,520	361	< 10.7	484	< 12.7	2500	< 9.6	137	NC	123	NC	175	NC		
PCBs																		
Arochlor-1016	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	< 36.2	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1221	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	< 36.2	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1232	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	< 36.2	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1242	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	< 36.2	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1248	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	< 36.2	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1254	µg/kg	-	-	-	< 35.4	< 32.1	< 56.5	< 38	59.4 J	< 28.7	NC	NC	NC	NC	NC	NC		
Arochlor-1260	µg/kg	-	-	-	< 35.4	< 32.1	488	< 38	37.1 J	< 28.7	NC	NC	NC	NC	NC	NC		
Total PCBs	µg/kg	60	368	676	< 35.4	< 32.1	488	< 38	96.5	< 28.7	NC	NC	124	NC	7	NC		
Metals																		
Arsenic	mg/kg	9.8	21.4	33	5.3	16.5	9.3	3.7	19.4	7.5								
Cadmium	mg/kg	0.99	3.0	5.0	0.34 J	0.26 J	1.1 J	< 0.18	1.7	< 0.14								
Copper	mg/kg	32	91	150	34.3	11.3	90.2	12.6	114	17.6								
Lead	mg/kg	36	83	130	28.8	6.3	75.4	7.7	243	9.7								
Zinc	mg/kg	120	290	460	78.9	37.6	259	55.7	604	41.3								
Mercury	mg/kg	0.18	0.64	1.1	0.040	0.0067	0.2	0.010	0.21	0.012								
General Parameters																		
Percent Moisture	%	-	-	-	29.4	22.1	55.7	34.3	30.9	12.8								
Total Organic Carbon (first analysis)	mg/kg	-	-	-	32,700	10,400	34,100	31,600	124,000	5,750								
Total Organic Carbon (second analysis)	mg/kg	-	-	-	24,900	10,600	51,500	27,600	100,000	5,580								
Total Organic Carbon (third analysis)	mg/kg	-	-	-	25,600	8,520	35,800	39,900	93,300	10,900								
Total Organic Carbon (fourth analysis)	mg/kg	-	-	-	24,200	8,350	36,200	37,900	159,000	5,950								
Mean Total Organic Carbon	mg/kg	-	-	-	26,400	9,430	39,400	32,200	143,000	7,020								

Values highlighted indicate the value exceeds the WDNR consensus based screening level.

= Concentration exceeds TEC
 = Concentration exceeds MEC
 = Concentration exceeds PEC

Notes:

1. Consensus-Based Sediment Quality Guidelines, Recommendations for Use & Application (WDNR, 2003), WT-732-2003.

- = not applicable

NC = Not calculated due to concentration below the laboratory reporting limit.

% = percent

< = The analyte was not detected at or above the laboratory reporting limit.

µg/kg = micrograms/kilograms

ft = feet

J = Concentration detected equal to or greater than the method detection limit but less than the reporting limit. The value reported is considered to be an estimate.

bws = below water surface

CBSQG = Consensus-Based Sediment Quality Guidelines

MEC = Midpoint Effect Concentration

mg/kg = milligrams/kilogram

PCB = polychlorinated biphenyl

PEC = Probable Effect Concentration

TEC = Threshold Effect Concentration

TOC = Total Organic Carbon

WDNR = Wisconsin Department of Natural Resources

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