



# LOWER MINNESOTA RIVER WATERSHED DISTRICT

## Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting

Wednesday, July 18, 2018

### Agenda Item

#### Item 6. B. - Dredge Management

#### Prepared By

Linda Loomis, Administrator

#### Summary

**i. Funding for dredge material management**

We received comments from the DNR regarding the addition of dredge management as a permanent capital project of the District. Those comments are attached; we are still waiting for comments from BWSR.

**ii. Vernon Avenue Dredge Material Management site**

Staff has received the no-rise evaluation and met with Taylor Luke to discuss how dredge material should be managed so that it does not create a rise in the flood stage of the river. Mr. Luke discussed possible alternative options for the placement of dredge material on the site. Those alternatives were shared with Jeff Weiss of Barr Engineering, who prepared the no-rise evaluations. We are waiting for the no-rise to be revised to reflect the alternatives before sharing the evaluation with the city of Savage.

Staff is ready to move ahead with other aspects of the work plan that was submitted to BWSR. Burns & McDonnell prepared a Task Order for the work. \$240,000 is in the budget for this work.

**iii. Private Dredge Material Placement**

Private material from 2017 has been removed from the site. New material has not been placed because of the high water in the river. The private parties have been looking at ways to reuse the material to reduce the cost of managing the material. The amount of water in the material is a hindrance to reuse. Building a second cell to allow material to remain on the LMRWD site an extra year to dewatering was discussed. However, the material drains by gravity and infiltration; and because the material is contained in a cell every time it rains, it absorbs water again.

LS Marine has suggested that rather than contain the material in berms for two years it might dry out faster if the material is removed from the containment cell and stacked in small piles. This would allow more air movement and keep the material from soaking up as much rain water. This is one of the new alternatives that will be looked for the no-rise. Much of this is discussed in the attached Task Order.

#### Attachments

Comments from DNR

Burns & McDonnell Implementation of Pre-Design Studies Task Order

#### Recommended Action

Motion to accept and authorize execution of Task Order

June 14, 2018

Linda Loomis  
Administrator, Lower Minnesota River Watershed District  
6677 Olson Memorial Highway  
Golden Valley, MN 55427

**Re: Engineer's Report:** Lower Minnesota River Watershed District - Dredge Management Project Update

Dear Linda Loomis,

On behalf of the Director of the Division of Ecological and Water Resources of the Minnesota Department of Natural Resources (DNR), I offer the following comments on the Engineer's Report for the above-cited project, in accordance with Minnesota Statutes section 103D.605, subdivision 2.

The dredge material management site is subject to the Channel Maintenance and Management Plan (CMMP) for the Navigation System on the Upper Mississippi, Minnesota, and St. Croix Rivers. There does not appear to be significant changes in the project that would be inconsistent with the CMMP.

We understand that the Lower Minnesota River Watershed District (District) evaluated the following changes to the current Dredge Management Project:

- Reconfigure the dredge placement site from one cell to two cells;
- Add two water control structures (one per cell);
- Add a culvert along Vernon Avenue;
- Vernon Avenue upgrade;
- Change the access site for private slip dredge material unloading.

In relation to the project site, as stated within the project report, the site lies within the Minnesota River floodway. The update memo does not include a detailed stage increase analysis under the floodplain section. The DNR expects that the no-rise modeling and analysis will be provided as part of the CUP amendment process and that the analysis will adequately demonstrate how the District will meet FEMA and the City of Savage's requirements related to floodway fill. The DNR will review the amendment request when the City routes it for review and comment. The District has stated a request will be made to remove the CUP condition to remove fill during flood events. We expect there will be an analysis certifying that any dredge fill left in place will not cause a rise, as required by the City of Savage and FEMA regulations.

In relation to state-listed Threatened and Endangered species, while the DNR doesn't have any concerns regarding the proposed modifications, it is unclear whether potential impacts to state-listed species were considered in the original plan. To ensure compliance with the Minnesota Endangered Species Statute and Rules, the DNR recommends that all watershed projects involving new disturbance include an assessment of potential impacts to state-listed species. Please visit the [NHIS webpage](#) for information on how to request a Natural Heritage Review or enter into a license agreement with the DNR for the use of the Rare Features Data.

Thank you for your consideration of these comments.

Sincerely,  


Dan Lais  
Regional Manager

- CC: MN DNR - Bill Huber
- MN DNR - Jennie Skancke
- City of Savage – Jesse Carlson
- BWSR – Ben Carlson

Website Address:

The website address for Minnesota DNR's Natural Heritage Information System webpage is:  
<https://www.dnr.state.mn.us/nhnrp/nhis.html>.

# Memorandum



Date: July 12, 2018 (Email transmittal)

To: Linda Loomis, Administrator

From: Eric Watruba, Project Manager

Subject: Implementation of Pre-Design Studies Task Order  
Cargill East River (MN – 14.2 RMP) Dredge Material Site

The Lower Minnesota River Watershed District (District) intends to implement certain pre-design studies to support the planned capital improvement projects at the Cargill East River (MN – 14.2 RMP) Dredge Material Site (Site) located on the Minnesota River in Savage, Minnesota. The pre-design studies were identified in the Work Plan that was prepared on behalf of the District by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) and Young Environmental Consulting Group, LLC (Young Environmental) and approved by the Board of Water and Soil Resources (BWSR). This Task Order identifies the pre-design studies to be performed and that were discussed during our meeting on July 2, 2018. In addition, a revised conceptual Site design was also discussed with LS Marine during the July 2, 2018, meeting. The revised conceptual Site design should be completed before the pre-designs are performed.

## Scope of Work

The following items to be completed under this Task Order are described below. A Project Timeline is also attached that shows the overall schedule for completion of these items.

### Task 1: Revised Conceptual Site Design:

During our meeting on July 2, 2018, LS Marine provided comments on the conceptual reconfigured Site design that was presented in the Technical Memorandum (Tech Memo) titled, “*Estimate of Probable Cost, Cargill East River (MN – 14.2 RMP) Dredge Material Site,*” prepared by Burns & McDonnell, Young Environmental, and Berrini & Associates, LLC, dated February 15, 2017. Burns & McDonnell will prepare a revised conceptual Site design based on LS Marine’s comments for use during Hydrologic and Hydraulic (H&H) modeling (to be completed by others), in discussions with the City of Savage for a revised Conditional Use Permit (CUP), and in the implementation of the pre-design studies described in the tasks below.

- *Estimated Cost: \$3,500*
- *Deliverable: Revised conceptual Site design figure*
- *Schedule: July 2018*

### Task 2: Assistance with Hydrologic and Hydraulic Modeling

Per the Federal Emergency Management Agency (FEMA), the Site is located within the Minnesota River floodway portion of the floodplain. Permits associated with work on the Site, which is in the floodway, are administered locally by the City of Savage. The District was issued a Conditional Use Permit (CUP) by the City of Savage in 2006. The CUP was amended in 2014 and is up for review. As confirmed by City of

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Savage, they will require hydrologic and hydraulic modeling (H&H) of the reconfigured Site design to demonstrate that the dredge material will not raise the flood stage.

Barr Engineering previously completed a draft of the H&H modeling based on the conceptual reconfigured Site design that was presented in the February 2017 Tech Memo. However, as described in Task 1, this conceptual design is being revised. Barr Engineering will update the H&H modeling based on this revised conceptual design.

For this Task Order, only costs associated with supporting this effort are shown. Support efforts may include a meeting with the selected firm to complete the H&H analysis and addressing questions or Requests for Information (RFIs) from the firm.

- *Estimated Cost: \$3,000*
- *Deliverable: None*
- *Schedule: Dependent on H&H modeling firm*

### **Task 3: Desktop Wetland Analysis:**

There is a wetland in the northwestern corner of the Site, between Port Richards and Vernon Avenue. Although the revised conceptual Site design described in Task 1 is not likely to impact the wetland, a desktop wetland analysis will provide further evidence to verify this assumption. The desktop wetland analysis will be completed by a Professional Wetland Scientist (PWS) and a Minnesota Wetland Delineator Certified Professional (WDCP) and submitted to the City of Savage, as requested. It should be noted that if the desktop wetland analysis determines a field survey is required or if the revised conceptual Site design encroaches upon the existing wetland, additional work may be needed to assess whether the wetland will be impacted by the modification project and additional costs may be incurred.

- *Estimated Cost: \$3,500*
- *Deliverable: Desktop wetland analysis report*
- *Schedule: Summer 2018*

### **Task 4: Threatened and Endangered Species Survey:**

During the study of the Site completed as part of the COE-sponsored Dredge Material Management Plan in March 2007, the United States Fish and Wildlife Service concurred with the findings that the Site and proposed operations would not adversely affect federally listed Threatened and Endangered (T&E) species. Given the ongoing listing and delisting of T&E species on a federal and state level, an updated T&E survey is required prior to implementing the reconfigured Site design. The T&E survey will be completed by an environmental specialist in accordance with applicable state and federal requirements.

- *Estimated Cost: \$10,000*
- *Deliverable: T&E survey report*
- *Schedule: Summer 2018*

## Task 5: Geotechnical Evaluation

A geotechnical evaluation of the Site is needed to aid in the detailed engineering design of the reconfigured Site. The geotechnical evaluation will evaluate the suitability of the onsite material for use in construction and evaluate the stability of the berms during various conditions (e.g., during a flood event). Burns & McDonnell will subcontract with a geotechnical firm to complete the geotechnical evaluation. The evaluation will be completed by a licensed professional engineer registered in the State of Minnesota.

Geotechnical borings will be advanced at the Site with a drill rig and soil samples will be collected for laboratory analysis to determine engineering properties of the soil. The number of borings and soil samples will be determined in consultation with the geotechnical engineering firm performing the work. Using the Site-specific data, slope stability analyses will be completed with slope stability modelling computer software.

For this Task Order, an allowance of up to \$25,000 is included to complete the geotechnical evaluation, which matches the estimated cost presented in the Work Plan approved by BWSR. Burns & McDonnell will communicate actual costs to complete this task once proposals are obtained from subcontractors.

- *Allowance: \$25,000*
- *Deliverable: Geotechnical Evaluation Report*
- *Schedule: Summer 2018*

## Task 6: Topographic Survey

A topographic survey of the Site is needed to aid in the detailed engineering design of the reconfigured Site. Burns & McDonnell will subcontract with a licensed professional surveyor registered in the State of Minnesota to complete the survey. The survey will include the collection of elevation data as required to define surface irregularities, break lines, void areas, and boundaries. The survey will also locate and determine elevations for objects like property corner monuments, ditches, culverts, utilities, etc.

For this Task Order, an allowance of up to \$12,000 is included to complete the topographic survey, which matches the estimated cost presented in the Work Plan approved by BWSR. Burns & McDonnell will communicate actual costs to complete this task once proposals are obtained from subcontractors.

- *Allowance: \$12,000*
- *Deliverable: Topographic survey in AutoCAD format (or similar)*
- *Schedule: Summer 2018*

## Task 7: Preliminary Engineering Design and Permitting

Engineering design and permitting of the reconfigured conceptual Site design needs to be completed in accordance with Minnesota Pollution Control Agency (MPCA) requirements and to incorporate the

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information determined from the H&H modeling (to be completed by others) and the pre-design studies described in this Task Order.

The detailed design documents (i.e., plans and specifications) can then be used by a contractor to construct the reconfigured Site design. The detailed engineering design and permitting will be completed by a licensed professional engineer registered in the State of Minnesota.

For this Task Order, up to \$55,000 out of the \$110,000 approved by BWSR for this task is proposed to begin preliminary engineering and permitting efforts, coordinate with various subcontractors, and to coordinate and support permitting efforts with the City of Savage for an amended CUP. A future Task Order will be submitted to the District for final detailed engineering design.

- *Estimated Cost: \$55,000*
- *Deliverable: None for this Task Order. Future deliverables will include detailed design documents (i.e., plans and specifications).*
- *Schedule: Summer/Fall 2018*

## Cost Estimate

Task Description	Estimate
Task 1: Revised Conceptual Site Design	\$3,500
Task 2: Assistance with Hydrologic and Hydraulic Modeling	\$3,000
Task 3: Desktop Wetland Analysis	\$3,500
Task 4: Threatened and Endangered Species Survey	\$10,000
Task 5: Geotechnical Evaluation	\$25,000
Task 6: Topographic Survey	\$12,000
Task 7: Preliminary Engineering Design and Permitting	\$55,000
<b>Total:</b>	<b>\$112,000</b>

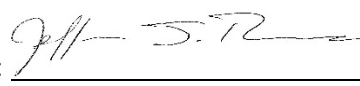
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If you find this scope and cost estimate to be acceptable, please complete the signature block below and return the executed copy of this proposal to the Consultant, as notice to proceed. Services will be provided in accordance with the Agreement between the Lower Minnesota River Watershed District and Burns & McDonnell Engineering Company, Inc., executed on November 16, 2016.

<p><b><u>Accepted and Agreed to: Implementation of Pre-Design Studies Task Order for Cargill East River (MN – 14.2 RMP) Dredge Material Site</u></b></p> <p>CLIENT Lower Minnesota River Watershed District</p> <p>By: _____ Name: _____ Title: _____</p>	<p>CONSULTANT Burns &amp; McDonnell Engineering Company, Inc.</p> <p>By:  _____</p> <p>Name: Jeffrey J. Thuma Title: Senior Hydrogeologist/Regional Manager</p>
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PROJECT TIMELINE  
 PRIVATE DREDGE MATERIAL CONTAINMENT  
 Lower Minnesota River Watershed District  
 City of Savage  
 Burns & McDonnell Project No. 96668

ID	ID	Task Name	Duration	Start	Finish	Qtr 3, 2018			Qtr 4, 2018			Qtr 1, 2019			Qtr 2, 2019		
						Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	1	<b>Private Dredge Material Containment</b>	<b>233 days</b>	<b>Wed 7/18/18</b>	<b>Fri 6/7/19</b>												
2	2	B&McD Task Order Approval from LMRWD	0 days	Wed 7/18/18	Wed 7/18/18												
3	3	Revised Conceptual Site Design	5 days	Wed 7/18/18	Tue 7/24/18												
4	4	Revised Hydrologic and Hydraulic Modeling	10 days	Wed 7/18/18	Tue 7/31/18												
5	5	Hydrologic and Hydraulic Modeling Results Approval from City of Savage	10 days	Wed 8/1/18	Tue 8/14/18												
6	6	Wetlands Analysis	5 days	Mon 8/20/18	Fri 8/24/18												
7	7	Threatened and Endangered Species Survey	25 days	Mon 8/20/18	Fri 9/21/18												
8	8	Scope/RFP for Topographic Survey	5 days	Mon 8/20/18	Fri 8/24/18												
9	9	Scope/RFP for Geotechnical Survey & Slope Stability Analysis	5 days	Mon 8/20/18	Fri 8/24/18												
10	10	Contractor Bidding for Topographic and Geotechnical Work	5 days	Mon 8/27/18	Fri 8/31/18												
11	11	Establish Contracts for Topographic and Geotechnical Work	5 days	Mon 9/3/18	Fri 9/7/18												
12	12	Mobilization for Topographic Survey Field Work	10 days	Mon 9/10/18	Fri 9/21/18												
13	13	Topographic Survey Field Work	2 days	Mon 9/24/18	Tue 9/25/18												
14	14	Topographic Survey Submittal	15 days	Wed 9/26/18	Tue 10/16/18												
15	15	Mobilization for Geotechnical Field Work	10 days	Mon 9/10/18	Fri 9/21/18												
16	16	Geotechnical Field Work	3 days	Mon 9/24/18	Wed 9/26/18												
17	17	Geotechnical Report Submittal (includes Slope Stability & Flood Protection)	30 days	Thu 9/27/18	Wed 11/7/18												
18	18	Detailed Engineering Design & Permitting	66 days	Mon 8/20/18	Mon 11/19/18												
19	19	Design & Permitting Approval from City of Savage, LS Marine, and LMRWD	20 days	Tue 11/20/18	Mon 12/17/18												
20	20	Bidding for Construction	20 days	Tue 12/18/18	Mon 1/14/19												
21	21	Award Construction Contract	20 days	Tue 1/15/19	Mon 2/11/19												
22	22	Construction	40 days	Mon 4/15/19	Fri 6/7/19												
23	23																
24	24																
25	25																
26	26																
27	27																

Project Timeline Private Dredge Material Contai Date: Tue 7/10/18	Task		Project Summary		Manual Task		Start-only		External Tasks		External Milestone		Deadline
	Split		Inactive Task		Duration-only		Finish-only		External Milestone		External Milestone		Deadline
	Milestone		Inactive Milestone		Manual Summary Rollup		External Milestone		External Milestone		External Milestone		Deadline
	Summary		Inactive Summary		Manual Summary		External Milestone		External Milestone		External Milestone		Deadline