

VIA Email: ditches@co.sibley.mn.us

January 10, 2020

Revised March 24, 2020

Aaron Goemann
Sibley County Drainage Inspector
400 Court Drive
PO Box 51
Gaylord, MN 55334

Subject: Sibley-Nicollet Joint Ditch 20 Water Control Structure

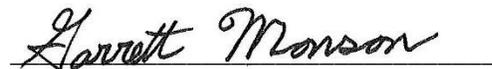
Dear Aaron:

We are pleased to provide a proposal for engineering and surveying services related to the repair of the Sibley-Nicollet Joint Ditch 20 Water Control Structure in Sibley County. Included with these services is field assessment of the existing structure and dam, a preliminary report, design of the replacement structure and dike repairs, a final report including plans and specifications, and construction administration. **Attachment A** describes our intended scope of work. The cost for the described scope of services varies based on the drainage authority's decision to include a more rigorous testing of the existing clay core dam. If you would like us to proceed with this work, please let us know and we can prepare a Client Services Agreement to complete the work.

We are excited to continue to serve Sibley County, the Joint Ditch Board, and the benefitting landowners that rely on public drainage systems.

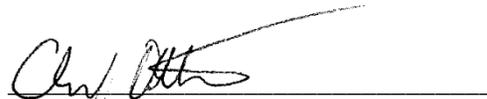
If you have any questions regarding our proposal, please contact me at 763.493.4522 or via email at gmonson@houstoneng.com.

Sincerely,
HOUSTON ENGINEERING, INC.



Garrett M. Monson, PE
Project Manager
Direct: 763.493.6688

gmonson@houstoneng.com



Chris Otterness, PE
Client Manager/Principal-in-Charge
Direct: 763.493.6665

cotterness@houstoneng.com

ATTACHMENT A. PROPOSED SCOPE OF WORK

The project purpose is to assess the failed dam outlet structure and to design and construct a replacement structure. The following tasks describes HEI's anticipated scope of work.

Task 1: Field Assessment

HEI will begin by establishing horizontal and vertical survey control including benchmarks for the survey area. Our field survey crew will next gather survey data.

The field surveyed information to be collected includes:

- Top of berm profile elevations at approximately 50-foot spacing
- Berm cross-sections at approximately 250-foot spacing
- Outlet structure geometry
- Locations of visible berm instability or erosion
- Photographs at outlet structure, berm cross-sections, and instability or erosion locations

HEI will sub-consult to NTIGeo to complete soil borings necessary to assess stability of the soils and required repairs to replace the outlet structure. This assessment would provide borings near the outlet, basic laboratory testing, and guidance for a new outlet structure.

At the request of the Joint Ditch Board, HEI and NTIGeo may also complete an optional task to evaluate the condition of the 1600-foot long clay core berm separating JD 20 from the adjacent wetland complex. this assessment would determine if the existing embankment and condition are sufficient or in need of repair or rehabilitation.

Task 2: Preliminary Report

HEI will conduct a hydrologic and hydraulic analysis of the pre-failure dam condition and will analyze up to two outlet alternatives, one of which is replacing in-kind. The alternative analysis will focus on designing alternatives to meet the hydraulic performance of the pre-failure condition.

HEI will prepare a preliminary repair report to be discussed with County staff. The report will contain:

- A summary of the existing conditions,
- A concept design of two outlet alternatives including replacing in-kind, and a piped outlet with emergency overflow, and
- Cost estimate of the repair alternatives.

Task 3: Design of approved alternative

Based on review of the preliminary report with County staff, HEI will prepare a detailed design of the selected repair alternative. HEI will then finalize the hydraulic assessment of the final design to assure equivalent performance to the pre-failure condition.

Task 4: Final Repair Report, Plans, and Specifications

A report will be prepared that includes an overview of the drainage systems condition, criteria used to develop and evaluate repair alternatives, repair recommendations, opinion of probable cost and construction plans for the recommended alternative. HEI will also attend and present at a meeting of the Joint Ditch Board.

Sibley-Nicollet Joint Ditch 20 Water Control Structure
January 10, 2020
Page 2

HEI will also prepare project specifications to be used for soliciting bids to complete the repair should the drainage authority order the repair.

Task 5: Construction Administration

If a project is ordered, HEI will provide the following task associated with Construction Management:

1. Provide construction staking for the new outlet construction.
2. Attend a pre-construction meeting.
3. Provide full-time construction observation for the project, assuming a construction schedule of 10 work days, and up to 100 hours of construction observation. The amount of time necessary for inspection may vary based on performance of Contractor.
4. Process pay request, document any necessary Contract modifications, and hold a weekly construction meeting.
5. Create record drawings based upon an as-built survey.

DELIVERABLES

Our project scope and cost estimate will allow us to deliver:

1. Digital field survey data (.csv and .shp format)
2. One conference call with County staff to discuss preliminary report
3. Preliminary and final report
4. Contract documents and construction administration

PROJECT SCHEDULE

HEI will begin work on the project once a signed contract between HEI and Sibley County is executed (see attached *HEI General Terms and Conditions*). Assuming the County approves this work by February 1, 2020, we anticipate completing the Preliminary Report by June 1, 2020.

ASSUMPTIONS

The estimated compensation associated with completing the proposed scope of work is based on the following assumptions:

1. Field survey will not require the use of watercraft (i.e. water depth will be limited to chest wader depth).
2. Geotechnical drill equipment can access the site without the use of mats (see **Heavy Duty Mat Surcharge** cost below)
3. HEI will assess two outlet alternatives.
4. Sibley County will provide one set of comments on the preliminary report.
5. Permitting under Public Waters law and the Wetland Conservation Act are not included.
6. Construction will require two weeks of fulltime observation (up to 100 hours of observation)
7. HEI will process one pay request and one change order.

ESTIMATED COMPENSATION

Compensation for completing the tasks described in the Scope of Work and will be billed on a time and materials basis with the cost not to exceed the amount show below without approval by Sibley County.

Sibley-Nicollet Joint Ditch 20 Water Control Structure
 January 10, 2020
 Page 3

Task 1: Field Assessment – Outlet Structure Only.....	\$26,300
<i>Subtask 1A: Field Survey</i>	\$3,800
<i>Subtask 1B: Geotechnical Assessment</i>	\$22,500
Task 2: Preliminary Report.....	\$ 8,600
<i>Subtask 2A: Prepare Report and Supporting Materials</i>	\$6,100
<i>Subtask 2B: Hydraulic Assessment</i>	\$2,500
Task 3: Design of Recommended Alternative.....	\$ 3,400
Task 4: Final Report, Plans, and Specification.....	\$10,600
Task 5: Construction Administration.....	\$22,700
SUBTOTAL	\$71,600

Optional Tasks

Geotechnical Review of Berm	\$12,280
Heavy Duty Mat Surcharge (only required if site is not accessible with drill rig)..... up to	\$20,000
Regulatory Coordination (billed hourly)..... estimated	\$ 5,000

Additional Services

HEI can provide an array of additional services to further support development and progression of the repair project, which are outside of this scope. The additional services may include additional public meetings or meetings with County staff, assist the County with the bid letting process by preparing the bid documents, and Engineering services associated with any required berm repairs. The cost for these additional services can be provided on request and we would be happy to discuss the options with you.