23 April 2020

TO: Drainage Authority, Joint Ditch 20 Sibley-Nicollet
FROM: Aaron Goemann, Sibley County Drainage Inspector
RE: Rice Lake Dam Outlet Engineer’s Proposals

I have reviewed proposals received from several engineering firms including Houston Engineering Inc. (HEI), Ulteig Engineering, ISG, and Short, Elliot, & Hendrickson (HEI), for consultation to replace the outlet structure on Rice Lake in Section 34 of Sibley Township. I’ve briefly summarized each proposal in the attached spreadsheet. The proposals have been refined since our meeting on March 11th, 2020, and are generally similar in scope and cost, although a few differences need explanation. Although we would like to compare “apples to apples”, we have to accept that professional consultants may have differing opinions on the methods and resources required to solve the problem. Below, I outline the differences so you can become familiar with them prior to our meeting on April 28th.

1. **Geotechnical analysis:** HEI, Ulteig, and SEH all recommend 1-4 soil borings are taken in order to complete analysis of the materials surrounding the existing dam. Data from testing of these materials will be used by the engineers to determine the depth below ground level to which the new structure needs to extend and whether or not the materials surrounding the existing structure are suitable for construction. ISG has provided an estimate from Braun Intertec that includes more comprehensive sampling of the 1600ft dike that follows the ditch northwest from the dam. This work would provide the Drainage Authority with the most thorough assessment of the stability of the dike. Their estimate could be scaled back to a similar scope and cost as those provided by the other consultants. In my opinion, the comprehensive sampling provided by Braun Intertec does not need to be ordered unless the appointed engineer discovers areas of concern within the dike during the initial survey of the area.

2. **Hydraulic analysis:** One consultant, Roger Clay with Ulteig Engineering, has already initiated correspondence with the MNDNR and received guidance regarding the hydraulic analysis they would like to see conducted. ISG and HEI have proposed to conducted whatever analyses are required to indicate that their proposed replacement structures will not result in changes from the current upstream or downstream conditions, and SEH has proposed to conduct analyses in compliance with the standards set by the MN Dam Safety Engineer. Given my own correspondence with Garry Bennet, DNR Area Hydrologist, I believe any of these options will produce similar end products and will be sufficient for the MN DNR’s permitting requirements.
3. **Designs, specifications and bid documents:** HEI and Ulteig provide the most straightforward estimate for drafting construction specifications and bid documents. ISG’s estimate appears to lean heavily on work completed during geotechnical and hydraulic analysis. SEH states that we will have to establish a new project scope and fee schedule once we are ready to draft final specifications and bid documents. Ulteig’s design considerations include further geotechnical analysis for construction specifications.

4. **Construction administration:** HEI and Ulteig provide very straightforward and similar estimates for the amount of construction supervision time that they expect to provide, 64-100 hours. HEI proposes full-time supervision for the duration of the project. Ulteig proposes full-time supervision for installation of the new structure and part-time supervision to wrap up the project. ISG proposes to provide site inspections as requested, review and approve change orders and payment requests, and administer project close-out activities. SEH has provided an estimate for four weeks of full-time services, but states that we will have to update the scope and fee prior to executing the construction.

**Recommendation:** I recommend appointing Roger Clay of Ulteig Engineering to this project. The proposal received from Ulteig is clear and thorough. Mr. Clay has personally visited the site and has also initiated correspondence with MN DNR to clarify permitting requirements.

**Other considerations:** ISG’s proposal provides the most comprehensive assessment of the dam and dike, which could prove valuable if any concerns with the dike are revealed during initial exploration. However, ISG’s plan will not provide much construction oversight. Sibley County is currently participating in a very successful project with HEI and has long history of collaboration with SEH and their local employees.

Please contact me at 507-237-4095 or ditches@co.sibley.mn.us if you have any questions, comments, or concerns prior to the public hearing on April 28th, 2020.

Respectfully,

Aaron Goemann
Drainage Inspector
Sibley County