

January 9, 2019
Lake Shamineau High-Water Project
Request for Proposals for Engineering Services
<https://minnesotawaters.org/lakeshamineau/>

I. Background

Lake Shamineau is a 1600 acre lake located in Central Minnesota. Lake Shamineau water levels have been rising, causing shoreline erosion, loss of trees, wildlife habitat destruction, loss and/or changes of aquatic vegetation, reduced water clarity, flooding of properties, challenging water quality, and causing hundreds of thousands of dollars of property damage and loss. A survey of lake owners in 2016 reported an estimated \$2.230 million in expenses due to high water level.

Lake Shamineau is located in a closed watershed basin. The total contributing drainage area to Lake Shamineau is approximately 11.91 square miles. A natural outlet does not exist for Lake Shamineau so the lake relies on groundwater movement, evaporation and evapotranspiration to maintain or lower the Water Surface Elevation (WSE). Review of historic and recent problems suggest that the high-water problem is caused by a wet hydrologic cycle and the lake not having an outlet. Since the early 1990's, there has been higher than normal precipitation and the WSE has been rising above the OHWL (Ordinary High Water Level). The WSE has been consistently above the OHWL since 2013 and is currently about 1.5 feet above the OHWL.

A Lake Improvement District (LID) was established by the Morrison County Board of Commissioners in 2015, and directed in part, that the LID study and manage high water levels. The purpose of this project is to establish a maximum operating level of Lake Shamineau for economic and natural resource benefits. This can be accomplished by managing the high-water levels of Lake Shamineau at an elevation that protects adjacent property owners and sustains a healthy shoreline environment. The LID is leading the effort to determine a solution to the high-water problem which includes the development of a detailed project plan with environmentally sound solutions to manage the water level and reduce the current water level. The LID has the overall goal to find a solution that is the most feasible, cost-effective and timely. In addition, the LID wishes to minimize ongoing maintenance and future operating expenses.

Following is a short list of the many steps that have been completed for the project to date. For more detailed information, visit the LSLID website, <https://minnesotawaters.org/lakeshamineau/>.

- A Public Hearing was held on the high water project on August 26, 2017. The Public Hearing included an in-person LSLID member vote, providing a tally of 110 in favor of the project and 56 opposed.
- The LSLID Board hired Houston Engineering to complete a feasibility report. The January 2018 feasibility study is available for review on the website (noted above), and advises that it is expedient and necessary to construct improvements in order to maintain a more consistent water level.
- The LSLID Board applied for a State grant to assist with funding of the project and has received notification that \$65,000 will be available for the completion of the preliminary design, after a route is established and an updated feasibility report is submitted to the State.
- A Public Hearing was held on April 21, 2018 to provide an opportunity for comments on the high-water project and included an informal show of hands on the project. With attendance of approximately 160, only 12 raised their hands to oppose the project. At the end of the Public Hearing, the LSLID Board voted to proceed with the improvements.
- A meeting was held on May 22, 2018 with project stakeholders, including the DNR, Morrison County Board members and staff, a Todd County Board Member and staff, Scandia Valley Board members, Houston Engineering, and the LSLID Board to clarify project details.
- The LSLID Board has attended many meetings to update other agencies on the project. These agencies have included the Crookneck Lake Association and Crookneck LID Board, the Todd County Board of Commissioners, the Scandia Valley and Fawn Lake Township Boards.
- There was a survey of Lake Shamineau property owners taken by the Morrison Board of Commissioners in July 2018 regarding the High Water Project, with 85% agreeing that the water is too high, 74% agreeing something should be done about it and 59% reporting that they agree that the solution to the high water problem should be installing a mechanical outlet to lower the current water level of Lake Shamineau. The results of the entire survey can be found on the LID website (noted above).
- At the annual meeting in August 2018 of the LID members (property owners), the membership approved the 2019 budget including a budget amount for the High-Water Project.
- On October 9, 2018 the Morrison County Board of Commissioners approved the LID budget including \$100,000 for the High Water Project. Taken with the \$65,000 DNR grant, the amount that may be available for the High-Water project in 2019 is \$165,000.

II. Project Considerations

The feasibility study completed by Houston Engineering in January 2018, proposed a project concept that involves the construction of a permanent outlet Southwest of Lake Shamineau. The proposed outlet would include a pumping station to pump water from the Southwest (SW) of Lake Shamineau to an elevation where the water would drain by gravity flow through existing and upgraded drainage areas including ditches, culverts, Fish Trap Creek and the Long Prairie River. The study also considered a second option of an outlet to the North or Northeast.

In recent discussions with the DNR, Morrison County staff and Morrison County Soil and Water, the SW outlet option may be problematic for permitting. In addition, it will be problematic to have a route that runs through both Morrison and Todd counties. Since Lake Shamineau has an Aquatic Invasive Species (AIS), Eurasian Watermilfoil, and other area lakes have Zebra Mussels, there has been a concern expressed with any pumping project that takes water from Lake Shamineau directly to another water body. There is also a concern for increasing water levels in any surrounding recreational lake or waterbodies (eg. Round Lake). In addition, there may be a need to complete an environmental assessment worksheet (EAW).

Due to these considerations, the next step in the project will include an analysis of routes to the North and Northeast (NE) quadrant of the lake. While a NE option was considered as part of the original feasibility study, more analysis is needed to determine a specific route that provides an alternative that is feasible, is cost-effective, and is expedient to permit and complete. In addition, the feasibility study needs to be updated and amended. The route analysis and updated study with a defined project will need to be completed by June 30, 2019, to ensure eligibility for the matching grant from the DNR of \$65,000 for the preliminary design and future steps.

While the 2019 budget includes funding for the High-Water Project, these funds will not be available until the County provides the assessment revenue to the LID in July and December 2019.

There is a five member group of lake area residents, called Options for High Water (OHW group), that has recently tested siphoning water from the lake through a 4" PVC pipe at a slow, steady pace to a ravine. In addition we have a mutual concern regarding the inflow and outflow of surface/ground water flowing into the lake and this group is working on the issue. While this group is not a direct participant in the LID's High-Water project, information from their testing could provide data for the project.

Crookneck Lake is a lake located just to south of Lake Shamineau. A correlation of Water Surface Elevations of the two lakes has been observed through the comparison of elevation data. While it is unknown that any change in the lake elevation to Lake Shamineau will cause a direct elevation change to Crookneck Lake, impact to area lakes such as Crookneck will need to be considered.

III. Next Steps in the High-Water Project

Steps 1 and 2 (and optionally 3) are approved for completion with the 2019 budget for the High-Water Project. It is anticipated that your proposal response will include a fixed price for completion of these steps. Please note that each step includes a maximum budget amount.

1. Route Alternative Analysis - Maximum budget \$35,000
 - Update the January 2018 feasibility report by completing an amendment that reviews alternatives and provides a conceptual plan for the selected North and/or NE route which includes methods of siphoning, gravity, or pumping for the North and/or NE corridor. Outlets may include infiltration and surface, or a combination.
 - Conduct data review, operations and hydraulics analysis, and detailed hydrogeology analysis.
 - Complete geotechnical, hydrogeological, and infiltration calculations for alternative(s).
 - Conduct conceptual discussions with Morrison County Soil and Water, the MN State DNR and other agencies as needed.
 - Conduct preliminary discussions with property owners to determine feasibility considerations for route alternatives.
 - Complete any borings that are required to determine ground water movement for outlet infiltration.
 - Determine alternatives noting considerations for feasibility, costs (one-time and ongoing), timeliness of route alternatives, and potential environmental issues.
 - Document and present alternatives to the LID Board for consideration and selection of route for project planning.
 - For the selected route, complete cost estimates; project considerations; compatibility with existing water plans and environmental interests; evaluation of social, economic and environmental impact; and a detailed description of the project.

2. Surveying and Preliminary Design Tasks (For Selected Alternative) – Maximum budget \$130,000 (including \$65,000 matching grant) and any leftover funds from step 1.
 - Preliminary design of route and method; survey of topography, channels, culverts, lakes and wetland outfalls; incorporating utility details. Analyze subsurface flow directions and impacts to adjacent properties and wetlands. Review potential infiltration areas, including data from borings, if completed.
 - Complete boundary and legal survey for flowage easement with possible section breakdown or property line establishment.
 - Conduct geotechnical evaluation including structural and hydrogeological analysis with natural filter review, dewatering needs and excavation issues.
 - Complete preliminary design of hydraulic features (e.g. piping, pumps, valves, channels, filters, etc.), including any electrical requirements.
 - Develop operational and maintenance plan and estimated costs.
 - Develop a plan and cost estimate for a long term solution to mitigate high-water levels and to reduce the water level. This plan will include steps and estimated fees for detailed engineering, permitting, construction and long-term operation and maintenance. Additionally, it will include a summary of regulatory and permitting implications, and contingency plans if issues arise, for any potential solution.
 - Complete design for drainage corridor and drainage system, including hydrologic and hydraulic analysis and report and including final alignment/corridor of drainage system.
 - Develop detailed construction and operations cost estimate, including an economic analysis and financing options.
 - Complete wetland delineation, and impacts; water quality assessments; and ranges of waterbody operating levels.
 - Develop an engineering design that can be used for partner reviews, permitting applications and to gain approvals and funding, and provides for charts, maps and description in sufficient detail to enable completion of remaining steps (3 – 5 below).
3. Plans, Permitting (optionally completed with steps 1 and 2, depending on affordability and funding availability)
 - Meet with all required agencies, complete permitting applications, coordinate agency reviews, and final permit coordination and completion.
 - Complete EAW (as required by the County) and Archaeological review.
 - Complete wetland delineation, assessment, impacts report, and water quality assessments.
 - Coordinate required Conditional Use and Variance Hearings/Permits with Morrison County.
 - Complete Counties and Township Utilities agreements.
 - Determine new right of way limits and prepare right of way drawings and descriptions.
 - Prepare appraisals, right of way documentation, title reviews, and coordinate any required acquisition proceedings, acquiring signatures, recording tasks, other, etc.

The current approved funding amount is \$165,000. It is anticipated that your proposal response will also include a fixed price estimate for completion of the following future steps.

3. Plans and Permitting – as noted directly above (if not included with fixed price with steps 1 and 2 above)
4. Final Design, Construction Plans and Specification Tasks, and Project Administration
 - Complete bidding documents, process and construction schedules, and contract documents.
 - Throughout Construction phases, develop any required plans, detail sheets, final construction details and plan sheets, incorporating utilities detail.
 - Develop wetland avoidance plans and erosion control plans.
 - Develop major construction items list and respective quantities.
 - Develop plans for preliminary and final costs, payment schedules and final pay items.
5. Project Administration
 - Once construction is approved, complete tasks to oversee construction for the solution.
 - Legal, Right of Way Processing, Financing, Grant funding procurement and any other required tasks for oversight.
 - Progress meetings and updates, staff coordination, subcontractor oversight.
 - Oversight of approved budget, schedule and project.

IV. Project Deliverables

The selected Environmental Engineering service provider will be expected to complete the following tasks, at a minimum, for the completion of the project:

1. Kickoff and Project Management:

- a) Attend kickoff meeting with the LID Board to gain a detailed understanding of the project, tasks completed and steps going forward. Determine detailed schedule for completion of tasks.
- b) Complete project documentation, including a project work plan and schedule. Review and clarify roles and responsibilities for completion of project tasks. For the duration of the project, prepare agendas, status reports and supporting documentation. In conjunction with the LID Board, determine and document which meetings and interviews will be attended in-person in the Lake Shamineau area and which will be conducted off-site.
- c) Attend meetings (onsite, as required) with the LID, Morrison County staff, Morrison Soil and Water staff DNR staff, property owners, and others as required.
- d) Provide ongoing communication on status of task completion and work in progress. Update LID Board on issues and resolution.

2. Complete Route Alternative Analysis as noted in step 1 above:

- a) Complete analysis of alternatives for the North and/or NE corridor, including tasks noted in step 1 above. Complete all research and data review required to gain knowledge on potential corridors and their respective risks, costs, pros/cons and time to complete. Meet and confer with all necessary entities (i.e. County, Soil/Water, DNR, LID, property owners, etc.) to gain information and understanding of each of the feasible alternatives.
- b) Complete borings, if needed, to determine ground water movement for outlet infiltration.
- c) Provide a preliminary report that details the information on the potential corridors for presentation, comparing the differential of estimated costs (one-time and ongoing maintenance costs), land acquisition considerations, permitting, risks, ongoing maintenance requirements and schedule. Document environmentally sound options to mitigate the high-water problem, providing enough information for decision making. This will include, at a minimum, pros and cons of each option, potential permitting implications, grant options, cost estimates (or ranges), long term cost and maintenance implications, and chances of success. The options should also address the project considerations in II above.
- d) Present the preliminary report to the LID Board (and others as deemed necessary), for discussion regarding the alternatives.
- e) Once the route is selected, complete final estimates of cost and time. With direction from the LID Board, prepare and formulate a plan on the selected option.
- f) Complete amendment to the feasibility report. Provide an initial draft to the LID Board for review. Update and finalize the report based on input from the LID Board.

3. Complete Preliminary Analysis as noted in step 2 above:

- a) Complete preliminary design tasks for the selected route as noted in step 2 above. Complete all required research, survey and evaluation to enable permitting to be completed.
- b) Gather engineering data and develop any necessary charts, maps, detailed descriptions and other details as necessary to complete remaining steps (3 – 5 noted above). Include detail engineering, permitting, construction and long-term operation, maintenance and costs. The engineering design should be in sufficient detail to allow for permitting, grant applications and for the completion of work. Additionally, it will include a summary of regulatory and permitting implications, as well as funding options for any potential solution.
- c) Complete plans and permitting as noted in step 3 above (optionally completed with steps 1 and 2, depending on affordability and funding availability) including plans, permitting and right of way tasks.

4. Provide estimate of costs (one-time and ongoing) and estimated time schedule for steps 3 – 5 above. Present to the LID Board and optionally to the County, Soil/Water, DNR, and LID membership.
5. Prepare final report and documentation, including an Executive Summary, of all tasks completed for the project and the detailed information required for the selected route. Provide an initial draft to the LID for review. Update and finalize the report based on input from the LID. At the request of the LID, Present findings and final report information to the LID, the Lake Shamineau Lake Association Board, and the Morrison County Board of Commissioners or designated staff, and designated State staff.

V. Project Environment

The Stakeholders for this project include:

- LID Board: The LID Board will be the project sponsors, providing oversight for the hiring of the Environmental Engineering firm and completion of all deliverables. The LID Board is a five member group elected by approximately 365 property owners with oversight by the Morrison County Board of Commissioners.
- LID Membership: Property owners on Lake Shamineau who may attend project meetings and will have input through the LID Board into the process.
- Morrison County: Highway, Land Services, County Board, Soil and Water, and other departments as needed. Designated staff will provide input at points in the project.
- State Departments: Department of Natural resources (MNDNR), Department of Transportation (MNDOT) and other departments as needed. Designated staff will provide input at various points in the project.
- Army Corp of Engineers: Designated staff will provide input at various points in the project.

VI. Project Requirements

The selected vendor will conduct key meetings in person with the LID Board (e.g. Project Kickoff, Option Review, Report Draft Review, Final Report Presentations, etc.) and other government partners in the Lake Shamineau area. Some meetings and interviews may be held through conference call or e-mail.

VII. Responsibilities Expected of the Selected Vendor

- Completing detailed project work plan and schedule
- Research and information gathering of lake and route data
- Documenting results of in-depth review, research, and findings
- Completing documentation for a detailed plan of action
- Completing plan with detailed engineering, permitting, construction, and long-term operations and maintenance
- Completing detailed cost estimates
- Completing agendas for meetings and providing updates to project sponsors
- Documenting and presenting findings and options with recommendations for consideration
- Creation of final documentation and deliverables
- Project management responsibilities
- Feasibility of costs, issues and considerations associated with each option.
- Assist with grant and funding applications and resources.

VIII. Required Skills

- The selected vendor organization must have successfully completed similar environmental engineering and planning engagements in the State of Minnesota
- Skill in researching and information gathering of lake and corridor data
- Skill in geotechnical, hydrogeological analysis, and hydraulics
- Skilled and qualified USGS groundwater hydrologist or equivalent, either on staff or through subcontracting
- Skill in documenting results of in-depth review, research, and findings
- Skill in completing documentation for a detailed plan of action
- Skill in completing detailed cost estimates
- Skill in completing agendas for meetings and providing updates to project sponsors
- Skill in documenting and presenting findings and options with recommendations for consideration
- Skill with facilitating interviews and meetings, and working closely with outside agencies
- Skill in presenting options, helping to facilitating decision making, and presenting final information
- Skill in providing assistance with grant and other funding sources

IX. Project Schedule

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| 1. RFP Issued | January 9, 2019 |
| 2. Deadline for Submitting Questions | January 21, 2019 |
| 3. Proposal Due Date | February 15, 2019 |
| 4. Vendor interviews | Tentative March 8 OR March 11; Location TBD |
| 5. Anticipated project start date | April 5, 2019 |
| 6. Estimated Step 1 Completion | May 24, 2019 (no later than June 30, 2019) |
| 7. Estimated Step 2 Completion | July 12, 2019 |

X. Questions

Any questions should be submitted via e-mail **no later than Monday, January 21 to:**

- Cindy Kevern at ckevern@comcast.net

XI. Proposal Contents

The proposal should be assembled as follows:

1. Cover Page:

1. Vendor Name
2. Vendor Address
3. Contact Name for Vendor, direct phone/cell phone, email address
4. Resource(s) Name being proposed for assignment to this project. Include any subcontractors that will be utilized for the completion of services.

2. Overall Experience:

1. Provide an overview of your company and the experience and qualifications that relate directly to this project and the required deliverables, including any projects working with the MN DNR and flood mitigation grant programs.
2. Provide narrative of your related experience. Include a review and examples of how your company and resource(s) have demonstrated the required skills and completed similar projects.
3. Attach a resume(s) for proposed assigned resource(s), including subcontractors, in addition to the narrative description. Be certain that each resume has dates of work and notes whether the resource was an employee or consultant.

3. Proposal Contents:

1. Provide a proposed detailed project work plan, task list, and schedule for completing the required deliverables. Specific project tasks and milestones should be included as part of the project plan. Note the methodology that will be used for research, interviews and conducting meetings.
2. Provide a scope of services in sufficient detail to allow for the analysis of your proposal and cost to compare to other proposers. Provide detail on how you plan to complete the deliverables and tasks listed. Note any environmental and engineering work (such as borings) that you have included in your proposal.
3. Provide an overview of the methodology that will be used to complete the tasks and deliverables and the documentation that will be developed. Include a description of the tasks that you will be completing and a description of the services that you will be providing for the completion of the deliverables. Note any tasks that will be completed by subcontractors.
4. Provide a fixed cost proposal for all deliverables that pertain to the scope of this project. Include detailed cost information for each step, 1 – 5. Proposers should include the cost of all services and all out of pocket costs assigned to each of the milestone deliverables. Note in your proposal, if step 3, Plans and Permitting is included with steps 1 and 2, or with 4 and 5. Note any assumptions or limitations with your cost proposal.
5. Provide a minimum of 3 references who can speak about your company and the work of the assigned resources that you have proposed. The references should be for a similar project that includes similar deliverables. Include the company name and address, reference name, reference email, reference phone number and a brief description of the project your company and the resources completed.

4. Cost Proposal:

Provide a fixed cost proposal for all deliverables that pertain to the scope of this project. Proposers should include the cost of all services assigned to each of the milestone deliverables. Provide any required payment terms.

5. Response Information:

Firms should email their proposals to each LID board member (addresses noted below):

Robert Koll – robcher45koll@brainerd.net
Cindy Kevern – ckevern@comcast.net
Fred Comb - fred@homeinspectionsofmn.com
Rick Rosar - Rick@RapidGlass.com
Don Ogilvie - deo0777@yahoo.com

6. Firms should send six paper copies, registered mail, to Robert Koll at 3435 Pine View Blvd, Motley, MN 56466

7. Proposals must be submitted no later than: February 15, 2019