

Lake Shamineau Lake Improvement District (LSLID)
High-Water Outlet Project Frequently Asked Questions
August 2019

This fact sheet document provides information regarding the High-Water outlet project initiated by the LID. Also, visit the LID Website at <https://minnesotawaters.org/lakeshamineau/lid/> for further detail on the project or send questions to LSLIDBD@gmail.com. **The goal of the high-water outlet project is to determine a solution to the high water problem that is the most feasible, cost-effective, timely, and will minimize ongoing maintenance and future operating costs.**

1. What is the current lake level and how does it relate to the Ordinary High Water Level (OHWL)?

On August 15, 2019 the lake elevation was recorded at 1276.86. The reading on July 3, 2019 of 1277.13 was the highest reading in recent history, which is more than 2 feet over the Ordinary High Water Level (OHWL). From a historical perspective, the overall lake level has risen over 3 feet in the last 9 years. In addition, the lake has risen as much as 1.7 feet in one year (2013-2014).

2. What caused the high water level?

Lake Shamineau is a closed watershed basin and with the recent wet hydrologic cycle, which includes rainfall and snowfall, the inflow from runoff and groundwater has exceeded the evaporation. This has caused an ongoing trend in rising water levels.

3. What is the damage to the lake from flooding?

The higher lake level has caused flooding of properties, shoreline erosion, loss of trees, wildlife habitat destruction, loss and/or changes of aquatic vegetation, reduced water clarity, and challenging water quality.

4. What work has been completed over the past year related to this project?

- On October 9, 2018 the Morrison County Board of Commissioners approved the LID budget including \$100,000 for the High Water Project and taken with the \$65,000 DNR grant, provided \$165,000 for 2019.
- In January 2019 the LSLID issued a Request for Engineering Services. After reviewing proposals, checking references, and conducting interviews, the LSLID Board of Directors approved an agreement with Wiseth Smith Nolting (WSN) on April 15, 2019 to develop a high-water outlet solution.
- WSN completed a preliminary analysis (dated June 3, 2019) which included a recommendation for a route to the Northeast of the lake. This analysis is documented in a Preliminary Engineering Report that includes testing information, and high level detail to pump water from the lake and to infiltrate (naturally soak into the ground without any standing water) to a gravel pit NE of the lake across Bugle Road. Infiltrating into the gravel pit provides a cost-effective method to eliminate the transfer of Aquatic Invasive Species (AIS) such as Eurasian Water Milfoil and Zebra Mussels. Utilizing natural sands is an eco-friendly way to filter out the AIS which is more cost effective than more expensive mechanical filters.
- An informational meeting was held on July 6th for property owners to provide detail on the results of the Preliminary Engineering Report and testing results.
- During the month of July, WSN continued design work on the solution as well as meeting with agencies including the DNR, Soil and Water, Army Corp of Engineers, BWSR, and the County to ensure the solution is feasible for permitting. In addition, contacts have been made with property owners to help determine a route from the lake to the gravel pit. WSN has also worked to update cost information to develop a better estimate for excavation of the gravel pit, required borings, as well as piping and other costs.
- WSN assessed an alternative of using a gravity flow pipe to the wetland at Bugle Road then pumping from the wetland to the gravel pit infiltration basins (an analysis is located on the LID website). This alternative was found to be 20 to 25 percent higher in cost. Instead a lower cost alternative was included in the mailing to property owners with voting information.

5. What is the schedule of future work?

Note that the following schedule is tentative and assumes approval of the high-water project budget at the Annual Meeting. This schedule also assumes that financing of the project occurs prior to construction, and includes a preliminary bonding schedule per discussions with public finance advisors.

1	Complete Detailed Preliminary Design Drawings and Updated Cost Estimate	August 2019
2	Complete Environmental Assessment Worksheet (EAW) Document	September 2019
3	Seek approval from Morrison County on 2020 budget and to enter the 429 process	Fall 2019
4	Hold 429 Public Hearing	Fall 2019
5	Complete EAW Process and Permit Applications	November 2019
6	Complete Final Engineering Plans and Specifications	January 2020
7	Obtain Bids from Contractors	February 2020
8	Issue bonding for project financing	February – April 2020
9	Construction Begins	May 2020
10	Construction Complete	September 2020
11	Hold Public Hearing and adopt project assessment roll	October 2020
12	Finalize assessment and certify annual budget for 2021	November 2020

6. Are there grant funds available for the high-water project?

On June 21, 2019 the LSLID Board of Directors received a completed agreement from the DNR for eligibility for DNR grant funds for the High-Water Project. This allows the LID to get reimbursed for up to \$65,000 toward our 2019 project expenses. While the DNR cannot currently commit to additional grant funds, the High-Water Outlet Project is on a list of Flood Hazard Mitigation Needs and grant funds of up to 50% for future costs including construction may be available. Although the information is encouraging, final grant information may not be available until the spring of 2020 and may be dependent on approval of the DNR's 2020 bonding request.

The following question was sent to the DNR by a property owner and included is the corresponding answer from **Mark Anderson, DNR area Hydrologist**: "Since DNR has approved funds for the LID project, will DNR advocate for the project success? **Yes, the DNR will continue to support efforts to reduce the negative impacts of high water levels on Lake Shamineau. We would advocate success for any project we would fund.**"

7. What is the status of DNR Permitting?

WSN has provided monthly updates to the DNR and sought input from them on the high-water outlet solution. WSN's Preliminary Engineering Report and Hydrogeologic Investigation Report including soil boring, soil testing, elevation surveying, and observation well results along with regional hydrogeologic information was provided to the DNR in early June. The DNR has indicated that only a Public Water Permit will be needed for the project and has indicated what they need for the permit application. In early August, a Groundwater Modeling Report was also submitted to the DNR along with preliminary plans. These reports and other design information are under review by the DNR's Groundwater Technical Analysis Work Group staff in St Paul to determine if further testing and information will be needed for permitting. The DNR has informed WSN, Morrison County and the LID that permitting for a permanent high-water outlet solution must be sponsored by a local governmental unit, such as the Lake Shamineau Lake Improvement District. A private group will not be granted permits for a permanent high water solution and cannot own outlet structures.

8. What will be the cost of the project for 2020 and beyond?

Included in the voting for the 2020 budget is approval for an expenditure of \$156,034 for the 2020 High-Water Lake Shamineau Outlet Project Budget for Pre-Construction and Operations. This voting item includes the pre-construction expenses for 2020 including finalizing plans, specifications and bidding documents, operational costs, permit costs, legal expenses, right of way, land easements and associated land costs.

Also included in the voting is the establishment of a project to construct a High-Water Outlet on Lake Shamineau at an estimated cost of \$2,091,475. **The applicable charge is estimated to begin in 2021.** This voting item includes an estimate of construction costs, construction engineering and legal, fiscal and administration expenses required to construct a High-Water Outlet. This estimated cost of construction is based on the lowest cost route alternative in WSN's Preliminary Opinion of Probable Construction Cost dated July 18, 2019. Final construction cost will be determined by specifications and bidding that will be completed in 2020. Approval of this item is required to move the High-Water Outlet Project into construction as early as 2020. **It is anticipated that bonds will be issued for financing of this item to allow property owners to pay their charge over time.**

The LID operations budget will need to include costs for maintenance and operations (including electrical costs) for the 2 to 3 year period that the pumping will occur. There has been a review of other lake outlet projects including their electric rates and operational costs for an outlet system appear to be reasonable. We are also working with Crow Wing Power to determine the lowest cost electric rate for the system. The 2020 High-Water Lake Shamineau Outlet Project Budget for Pre-Construction and Operations (Vote 3) includes an initial operations and maintenance budget of \$15,000 with the assumption that pumping operations will begin in 2020.

9. How will the project be financed?

Included in the voting for the 2020 budget is an item that would allow the LSLID Board of Directors to seek approval from the Morrison County Board of Commissioners to finance a Lake Shamineau High-Water Outlet Project according to MN statutes chapters 429 and 444. This voting item will allow the LSLID to bond and finance the High-Water Outlet project and allow property owners to pay their charge over time. As part of this process, public hearings will be held for LID property owners to attend.

10. When will the bonding assessment charges begin?

If the high-water project is approved, bonds could be issued in Mid-2020 with assessments to begin in 2021. Property owners will have the option to pay the entire assessment amount in a lump sum or to pay over time (an estimated 8 to 12 years).

11. How much water will need to be removed from the lake?

To reduce the lake level by 1 foot requires removing about 470 million gallons of water. A lake level elevation goal has not yet been determined but will most likely be close to the Ordinary High Water Level (OHWL) of 1275.10. The amount of water that will be reduced will be included in an operating plan that will be developed based upon input from LSLID property owners, downstream property owners, the DNR and other agencies.

12. How do we know that water that infiltrates in the gravel pit will not come back into the lake?

The water table at the gravel pit is at an elevation of 1267, which is ten feet lower than the current water level of Lake Shamineau. Water will not flow uphill and will follow the path of least resistance, which in this case is the coarse sand layers at 50 to 70 feet deep beneath the infiltration basins that will take the water to the north and northeast. Measured groundwater and surface water elevations decrease to the north and northeast and infiltrated groundwater will move to the north and northeast with the natural groundwater flow. WSN has modeled the infiltration affect on groundwater and the results predict a mound of groundwater underneath the infiltration basins, but the mound quickly flattens and does not push water to Lake Shamineau.

13. What is the status of easements with property owners?

The timing of contacting property owners has been dependent on WSN completing the review of several route alternatives and gathering cost information to ensure that any route that we pursue is feasible and cost-effective. In addition, we want to make sure the initial routes that we select are the lowest cost alternatives. This initial review work was completed in July when we began formally contacting property owners. We are in discussions with property owners of alternatives which are similar in cost. While we do not have any formal easements in place, there are property owners that have stated they will work with us and do not want to stand in the way of the project.

14. Is the project shovel ready?

No. With approval of the project to move forward from the LSLID property owners, detail design, permitting and further detail work will need to be completed. In 2020, specifications for final bidding will be completed. Once the bidding is completed and financing is in place, the project should be shovel ready to begin construction as early as May 2020.

15. How much money was spent with Houston Engineering?

Houston Engineering completed an Engineer's conceptual Summary Report in August 2017 and an Engineer's Feasibility Report on January 23, 2018. These reports include hydrologic and hydraulic data, evaluation of alternative solutions, information on the environmental impact of a project, and preliminary cost information. These reports provided background and project information that was used in the grant application to the DNR and instrumental in our receipt of the \$65,000 grant. The Houston reports continue to be used, allowing WSN to complete only a brief amended report for the NE route. The reports also continue to be used as background for DNR permitting. The amount paid to Houston Engineering for this work was \$42,573. There are no outstanding Houston invoices.

16. How was the location of the infiltration site determined?

While WSN was in the process of reviewing several North and Northeast routes, we began discussions with owners of a gravel pit to the NE that could be used for infiltration. The owners allowed WSN to test the site with borings and observation wells. The test results in the gravel pit provided data showing soils in the gravel pit are very permeable and conducive to infiltration. The DNR has indicated this is a preferred option for permitting. As part of their design work, WSN gathered information to determine potential routes from the lake to the gravel pit that would be feasible and cost effective. WSN continues to work with the owners of the gravel pit on the design.

17. I understand that the plan includes two pumps. Why are two pumps needed?

Two pumps provide greater operational flexibility with more combinations of flow rates available. The two pumps will provide higher efficiency with less power use and savings in operational cost. If a pump goes down, it could take months to get a new pump. The remaining pump could still pump over 3,000 gallons per minute during the time the other pump is down.

18. How will swimmers and boaters in the pumping area be protected?

A water intake screen would be installed in the lake with the top of the screen approximately six feet below the current water level so that the intake pipe remains submerged even at lower lake levels. The screen proposed is a cylindrical shape installed horizontally. The screen will be sized so that the intake flow velocity is low enough so that swimmers, fish, or objects do not get pulled into it. A set of buoys and warning signs is also planned to keep people and boats away.

19. What about downstream property owners?

We continue to address and answer concerns raised by property owners. WSN has contacted property owners to provide technical information so they can better understand the project and WSN tours downstream properties to address any concerns. Continued research and study will be completed by WSN including review of test data, elevations and survey work which will assist in assessing effects on downstream properties. The DNR will evaluate the concerns and they will take them into consideration for permit conditions, and the concerns will be incorporated into an operation plan to mitigate negative concerns.

20. How will the charge rates change with the new establishment order?

The new Establishment Order was adopted by the County Board on August 20, 2019 and will be effective 30 days after publishing. This new establishment order revises the commercial properties per user charge rates from 35% to 20%. Note that with the approval of the revisions to the establishment order, the parcel charges for the 2020 budget have been re-estimated, which is available on the website and has been included as a handout at the 2019 Annual Meeting.

21. How do I find the budget and financial information and reports of the LID?

At each Annual Meeting, property owners are provided with the budget for the following year for approval. After the annual meeting, the Morrison County Board approves the LID budget and the approved budget is posted on the LID website. Financial reports are completed at the end of each calendar year and sent to Morrison County and are posted on the LID website. At each Board of Director meeting, monthly expenses are reviewed and approved. These amounts are included in meeting minutes which are posted on the LID website. In addition, inquiries have been made regarding financial detail which has been provided. If you have questions or are looking for specific financial information that you cannot find, send an email to LSLIDBD@gmail.com.

22. Why am I receiving so many mailings?

Several groups have sent mailings to property owners on Lake Shamineau. Any individual or group may obtain lists or labels of property owners from Morrison County for their mailings. Please note that any mailing from the Lake Improvement District Board of Directors includes our names at the bottom of the mailings and/or the LID Logo. Any mailing that does not include the Board of Director names are not sanctioned by the Board of Directors. Ensure that your mailing address is up to date with the County.

23. What would be the impact if the project is not approved and nothing is done?

A previous feasibility report identified that the lake would need to rise approximately 6 feet before it would find a natural outlet. No action can lead to continued flooding of homes, damage to shoreline and septic systems, loss of trees, destruction of wildlife habitat, reduced water clarity, and challenging water quality.

24. Will an operating plan be developed?

An operating plan will be developed which will include details of oversight of the operations as well as the amount of water that will be pumped from the lake. We will be seeking input from property owners, the DNR, the County and other agencies for the development of the operations plan. Even after the project is completed, State and Local regulations will be followed to ensure no significant negative impacts are created.

25. How does the LSLID Board of Directors provide information on the high-water project?

- Several mailings (October, January, June and July) were mailed out to property owners over the past year providing updates on LID activities and the High-Water Outlet Project. Mailings are also available on the website.
- Beginning in 2019, monthly electronic newsletters have been e-mailed to subscribers which include updates and links to documents regarding the High-Water Project. **If you are not a subscriber, we encourage you to send an email to LSLIDBD@gmail to be added to the monthly newsletter subscriber list.**
- Several Board meetings of the Board of Directors have been held to discuss tasks and approve project work. Meetings are announced on the website, held at a local location or through an online conference tool, are open to the public, and meeting notes are posted on the website.
- An informational meeting was held on July 6th to provide high-water project information for property owners.
- The LID website includes project documentation, budget and finance information, schedules, meeting agendas and notes.

26. Why do some Directors have to be permanent residents?

According to state statute and the Establishment Order, a majority of the Directors must be permanent residents, which would include at least 3 of the 5 Director positions. In 2019, the two Director seats up for election required permanent residency. In 2020, there will be three seats up for election with one seat requiring permanent residency.

27. Is the LSLID Board working with other groups and property owners?

Project information has been shared with the Crookneck LID and we have requested a meeting between the LID Boards. We have had communications with the Options for High Water Group (OHW) including meetings in October and in June, communicating through emails, and attendance by OHW at LID Board meetings. While we have not been able to coordinate any formal meetings since June, several members of OHW did meet with WSN at the infiltration site. OHW suggested an alternative that included an alternative of using a gravity flow pipe to the wetland west of Bugle Road with additional pumping to the gravel pit infiltration basins. We asked WSN to complete an analysis of this alternative of using a gravity flow pipe to the wetland at Bugle Road and then pumping from the wetland to the gravel pit infiltration basins and found that costs were 20 to 25% higher than the lowest price alternative. (Gravity Feed Analysis is available on the website). WSN recently obtained flow meter readings from the OHW pumping project. Thanks to Options for High Water (OHW) for testing and survey information.

28. Is there a "No Wake Zone" on the lake?

The Morrison County Sheriff's office has established a 300 foot No Wake Zone on the lake. Until further notice or when the lake level returns to normal, there is a "No Wake (idle speed) Zone" within 300' of the shoreline around the entire lake.

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