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

Visit the LID Website at https://minnesotawaters.org/lakeshamineau/lid/ for further detail on the project or send questions to LSLIDBD@gmail.com. ***The lake elevation has reached a new high elevation level in October with continued precipitation expected. Given the urgency, the LSLID Board and WSN is working hard to complete the necessary tasks to begin pumping in 2020.***

1. ***What is the goal of the high-water project?***
   The goal of the high-water outlet project is to determine a solution to the rising high-water levels that is the most feasible, cost-effective, timely, and will minimize ongoing maintenance and future operating costs.

2. ***What is the current lake level and how does it relate to the Ordinary High-Water Level (OHWL)?***
   On October 7, 2019 the lake elevation was recorded at 1277.56 which is the highest recorded reading and approximately 5 inches above the reading on July 3, 2019. The current level is approximately 2.5 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).

3. ***What caused the high-water level?***
   Lake Shamineau is a closed watershed basin and with the 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.

4. ***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.

5. ***How much water will need to be removed from the lake?***
   To reduce the lake level by 1 foot requires removing approximately 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.

6. ***What work has been completed over the past year related to this project?***
   - 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 Widseth 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 method 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.
   - In July, WSN staff and LSLID Board members toured the Little McDonald Krebs and Paul Lakes (LMPK LID) and Devils Lake LID projects in Otter Tail County just west of Perham. The LMPK LID completed the construction of their project last September and lowered the water in their lakes by one foot over the winter. The tour was beneficial to view a successful outlet project.
   - In August, at the Annual Meeting the LID members were updated on LID activities, plans for a High-Water Outlet Project and the proposed 2020 budget. At the meeting, LID members approved all five ballot questions including moving forward with the High-Water Project.
   - The maximum project bonding amount of $2,275,000 was established September 22, 2019. This amount reflects an increase in cost for construction, a change in the infiltration basin, an updated alternative route, and utilizing submersible pumps to reduce sound. The revised project bonding amount is a not-to-exceed amount of $2,275,000 and cannot be increased.
   - On September 24, 2019, the Morrison County Board approved the 2020 Lake Improvement District (LID) budget and approved a resolution for delegation of authority to the LSLID to exercise the powers of a city to finance the High-Water Outlet Project according to MN statutes chapters 429 and 444.

7. What is the schedule of future work?

Several activities are in-process with planned completion by the end of the year: determination of a route and design of the infiltration area; surveys; development of an operations plan; wetland delineation; completion of an Environmental Assessment Worksheet; working with the DNR and other agencies on Permitting; determination of design for utilities; Right of Way; and completion of easements.

Following is the Tentative Timeline for the High-Water Outlet Project as of October 2019:

Seek approval from Morrison County for financing and bonding	Completed Sept 24, 2019
Hold Initial Public Hearing for the 429 Process	October 17, 2019
Work on the Environmental Assessment Worksheet (EAW), Permitting, Utilities Agreements, Right of Way and Easements	Fall 2019
Complete EAW Process and Permit Applications	October - December 2019
Complete Final Engineering Plans and Specifications	January – February 2020
Obtain Bids from Contractors (multiple bids will be considered)	February - March 2020
Hold Public Hearing; Issue initial project financing	April 2020
Construction Begins	May 2020
Construction Complete	September 2020
Hold Public Meeting and adopt final project assessment roll to account for final construction costs and any reductions for any grant funds received; Issue Bonding for final project financing	October 2020
Finalize assessment and certify annual budget for 2021	November 2020

8. 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. DNR grant funds of up to 50% for future costs including construction may be available to this project. 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.

In addition, LID Member volunteers Cheryl Koll and Nancy Hanson are working with our local state legislators, Rep. Ron Kresha and Sen. Paul Gazelka, to get a bonding bill drafted for a hearing at the next MN legislative session. Cheryl and Nancy will be following the bill during the session to keep us up to date on progress. This is an effort in addition to the State DNR grant. They will keep us informed when they need our help with letter writing or other activities.

9. 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 has been provided to the DNR. The DNR has indicated that an Outlet Control Structure Water Permit will be needed for the project. This type of permit, unlike an appropriations permit, would not require us to pay for water removed from the late. 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.

10. How will the project be financed?

On September 24, 2019, the Morrison County Board of Commissioners approved the delegation of authority to the LSLID to finance a Lake Shamineau High-Water Outlet Project according to MN statutes chapters 429 and 444. The public hearing on October 17, 2019 is the first step in the financing process.

Since grant funds may not be known until after the legislative session, it is anticipated that temporary financing will be utilized in April to enable the start of construction in May 2020. This temporary financing will require a public hearing and includes interest-only financing with payments beginning in 2021.

It is anticipated that bonding will be issued in late summer or early fall 2020 when the final construction costs and grants will be known. The bonding will allow for repayment of the temporary financing and for payment over time. A pre-payment option will be available for those property owners wanting to avoid interest charges. Assessments will begin in 2021.

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

The approved 2020 budget includes an expenditure of $156,034 for the 2020 High-Water Lake Shamineau Outlet Project Budget for Pre-Construction and Operations. This 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.

The project cost amount of $2,275,000 was established September 22, 2019. This amount includes an increase for construction and engineering as a result of the change in the infiltration basin, an updated alternative route, and utilizing submersible pumps to reduce sound. This project cost amount excludes interest and financing costs and does not account for any possible grant amounts. The construction cost detail can be found on the LID website.

The estimated assessment amount that includes project costs, interest for temporary financing and issuance costs is $2,432,572, or an estimated $6,055 for a standard charge per riparian parcel (PIN). The standard charge estimate is based on the user charge structure in the current Establishment Order, and the current number of parcels. If the property owner does not choose to prepay the assessment amount, they will have the opportunity to pay over time. Assuming an estimated interest rate of 4% and allowing for payments for a 12-year term, the estimated standard charge including interest for bonding is $7,590 or $632 per year. These assessment and charge amounts do not account for any reductions for future grant amounts.

In the future (2021 and beyond), the LID operations budget will need to include costs for maintenance and operations for the 2 to 3-year period that the pumping will occur. We are 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 includes an initial operations and maintenance budget of $15,000 with the assumption that pumping operations will begin in 2020.

12. ***What is the status of easements with property owners?***
WSN initially contacted property owners along the lowest cost alternatives. These initial property owners have not shown interest in having the pump and underground piping on their property. We are currently working with property owners of an alternative route. WSN is in process of conducting borings and route design. In the next month, we plan to work on formal easement agreements with property owners.

13. ***Will eminent domain be used to acquire property?***
There is no intent to acquire property in this way.

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 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.

16. ***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 a significant amount of water during the time the other pump is down.

17. ***Why are submersible pumps being considered, and will they require more maintenance costs?***
The final pump design has not yet been determined but it is likely submersible pumps will be used to reduce sound impacts around the pumping station. The submersible pumps and motors will be located under water and within a concrete vault below the land surface. When operating all that is heard is the sound of moving water in the pipes. In general, submersible pumps are very low maintenance and do not require greasing or turning over. They are often used by municipalities for their water systems and their life span is from 20 to 30 years.

18. ***Has consideration been given on the effect of fish and wildlife due to the water movement and reduction of the water level?***
This has been of primary focus and the lowering of the lake level should help the fish and wildlife. The high water is destroying native wildlife habitat both in the lake and on land. Trees are being destroyed, and native grasses and vegetation are affected which is where many of the animals live and feed. There have been reports of Loon nests that have been destroyed with eggs in them, never to hatch. The high water also effects fish habitat. There are many areas void of aquatic vegetation due to the high-water limiting light penetration to those areas. It should also be noted that the pumping system is designed so fish and minnows cannot be pulled into the system. There will be screens where the water enters, but there will be no suction. Even if newly hatched fry made it past the screen they could easily swim right back out.

19. ***Has consideration been given to reducing inflows to the lake?***
    There is continued concern regarding inflow of water into the lake. It should be noted that while mitigation of inflows would assist with less water coming into the lake, it will not solve the high-water problem. There are funds budgeted in the LID 2020 Budget for investigation of the inflow issue. While a few LID members have volunteered for a committee to investigate the inflow problem, more are needed. Send an email to LSLIDBD@gmail.com if you are interested.

20. ***How do we know that the 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 effect 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.

21. ***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.

22. ***What about downstream property owners?***
    We continue to address, and answer concerns raised by downstream property owners. WSN has contacted property owners to provide technical information so they can better understand the project and WSN has also toured downstream properties to address any concerns. Continued 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.

23. ***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.**

24. ***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.
    - The LID website includes project documentation, budget and finance information, schedules, meeting agendas and notes. In addition, WSN status reports and periodic financial information is included on the website.

25. ***Is the LSLID Board working with other groups and property owners?***
    There was a recent meeting between the Crookneck and LSLID Boards to share project and other information of mutual interest to the two lakes. We have had and will continue to have communications with the Options for High Water Group (OHW) through emails, and attendance by OHW at LID Board meetings.

26. ***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. The Ambassadors at the landings hand out the NO Wake Zone brochure and advise boaters of the 300 foot No Wake Zone.

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