

PROGRESS REPORT #5
PERIOD 10/12/19 – 11/8/19

LAKE SHAMINEAU HIGH WATER PROJECT STEP 2

SUMMARY OF PERIOD ACTIVITIES: Coordinated for drilling soil borings and completed observation of the geotechnical soil boring installations. Met with three landowners to discuss design, easements and access agreements for soil borings. Worked on additional design figures for pumping station and field crossings to infiltration basins. Redesigned infiltration basins in the gravel pit area. Prepared design figures for public hearing meeting. Attended weekly project management meetings with LID Board Members. Worked on O & M plan. Prepared new detailed cost estimates and reviewed with contractor.

SUMMARY OF PAST ACTIVITIES: Discussed easement offers with property owner along discharge pipe route and infiltration basin. Attended weekly project management meetings with LID Board Members. Prepared and obtained access agreements for three landowners: Murphy, Cantleberry, and Fauquier, to complete soil borings on their properties. Continued working on preliminary designs for infiltration basin and pumping station. Staked soil boring locations. Toured Cantleberry property to view areas for soil borings. Met with and toured Gold property to obtain elevations of lake and wetlands on his property. Discussed easement offers with property owner along discharge pipe route and infiltration basin. Traveled to St. Paul to meet with DNR staff and review design and permitting requirements. Prepared and sent easement offer letters to Kylanders and Murphy. Continued working on preliminary designs for infiltration basin and pumping station. Worked on groundwater modeling of infiltration basins to evaluate designs and impact on groundwater levels. Prepared additional groundwater modeling results email to DNR for review and comment. Prepared preliminary design work for selected outlet alternative alignment. Working on grading plan for infiltration basins. Began work on Operations and Management Plan. Coordinated surveying of Bugle Road right-of-way and section corners. Attended TEP meetings on August 8 and September 24, 2019 to discuss preliminary design groundwater design issues with DNR, Corps of Engineers, Morrison SWCD, BWSR, and Morrison County staff. Prepared memo on design constraints for gravity flow to a wetland basin. Coordinated surveying of gravel pit and Stanchfield Dam for infiltration basin design. Prepared design cost updates for LID Annual Meeting and attended LID Annual Meeting to provide information on design and plans. Met with gravel pit property owner to discuss design and easement for the infiltration basins. Completed site reconnaissance of three outlet alternatives. Completed surveying and sounding of lake bottom at the northeast end of the lake. Met with property owner to discuss infiltration basin design and piping. Completed preliminary design layouts for three alternative routes and prepared detailed costs for comparison. Attended public information meeting to discuss preliminary design and design steps that will be completed. Prepared easement letters for proposed facilities. Toured the Little McDonald and Devils Lake project facilities and discussed design and operation issues. Prepared preliminary design work for selected outlet alternative alignment. Prepared data and memo on Stanchfield Dam.

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COSTS INCURRED FOR THIS PERIOD: \$8,356.77 **DUE THIS PERIOD:** \$8,297.12

TOTAL BILLINGS TO DATE: \$93,342.60 **ADDITIONAL CONTRACTED COSTS:** \$10,371.40

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KEY INFORMATION OBTAINED: Found that Cantleberry Bay is deep enough for the inlet pipe in addition to other areas along the east shore. Infiltrating 3 feet per day with raise groundwater under the basins by 20 feet and groundwater elevations along the downgradient wetlands by 2 feet. Infiltration rates will need to reduced some to prevent excessive mounding of the groundwater and the affect on down gradient wetlands. The entire project route is underlain by sand and gravel to the bottom of the borings. Cantleberry and Fauquier properties have very permeable sand and gravel at the surface for infiltration.

ISSUES / CONCERNS: Obtaining easement cooperation from property owners has become very problematic. The project budget for Step 2 has largely been used up and redesign of the infiltration basins is needed.

GOALS FOR THE NEAR FUTURE: Prepare additional easement Letter of Intents for the designed route. Review information from geotechnical report. Provide additional cost and project description information to Lake Shamineau LID. Complete draft of O & M Plan. Begin work on the EAW document and coordinate Archaeological Site Assessment.

SCOPE CHANGES / VALUE ADDED TO DATE: Participated in weekly status update meetings with LID Board members. Evaluated three alignment alternatives with preliminary design and cost estimates. Met five times with one landowner to date and have talked to one other about redesign several times. Redesigned infiltration basin area three times.

SCHEDULE STATUS:

- Working on Step 2 and Step 3
- Step 2 to be completed December 6, 2019
- Step 3 started October 1, 2019
- Step 3 to be completed January 31, 2019

INPUT NEEDED FROM CLIENT OR OTHERS: None at this time.

DATE: 12/12/19

SIGNED: Bin C. Row

