

# **Crystal Lake Watershed Initiative Steering Committee - Meeting #2**

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**To:** Steering Committee  
**From:** Michael H. Gunsch, PE, CFM, Senior Project Manager  
Josh Loosmore, Peritiacon  
**Subject:** Project Status Update and Presentation Information  
**Date:** *February 17, 2025 Meeting Summary*  
**Project:** HEI No. 12808-0001-007

The following is a summary of the February 17, 2024 Steering Committee Meeting. These minutes are a tabulation versus a transcript of the discussions.

Those in attendance included Anthoney Roorda (Stutsman County WRD), Jerry Bergquist (Stutsman County Commission) Les Ressler (Reule Lake), Don Mittleider (Kidder County), Tim Brenner (Crystal Springs Bible Camp), Jessie Christianson, (Stutsman County Highway Department), Charlie Dronen, Kidder County Commission, Dan Peltier (BNSF – on Teams). Michael May (Interstate Engineering on Teams), Michael Gunsch (HEI), Josh Loosemore (Peritiacon).

## ***PRIOR MEETING UPDATE - LOCAL FUNDING***

Adequate local funding was secured, and the County Commission authorized the feasibility study to proceed. Information regarding the study funding is available from the County Commission.

## **FEASABILITY STUDY SCHEDULE – SUMMARY**

1. Web Grant Approved – DWR Agreement signed
2. Local Funding secured – Including BNSF Participation Agreement
3. County Commission notice to proceed
4. Letters sent to local contributors requiring funds be forwarded to County Auditor
5. Contact letters mailed to parties interested in obtaining project updates (email group)
6. Evaluation of the watershed and outlet alternatives has started.
7. NDDOT hydrology study reports and design/construction plans provided
8. Hydrologic and limited Groundwater Evaluation underway

## ***Hazard Mitigation Plan Updates.***

This project is now included in the Stutsman County and Kidder County Hazard Mitigation Plans, which allows future consideration for a Hazard Mitigation Grant Program (HMGP). If the project is eligible the funding split is 75% federal, 10% state and 15% local. We have recently been in contact with State Department of Emergency Services (DES) regarding this funding opportunity.

## **PROJECT UPDATES:**

The following documents were presented and discussed at the meeting are attached.

- 1. Crystal Lake – First Steering Committee Meeting Summary**
  - a. This document was reviewed and accepted without comment or objection
- 2. Project Status Report and Invoice Description**
  - a. Work completed through February 1, 2025 was discussed.
- 3. Outlet Alternative Alignment Mapping**
  - a. General discussion as to the potential viability for each alternative alignment
  - b. Additional discussion regarding a western alternative alignment under and south of I-94 with an outfall near Tappen. Concerns regarding system liability near the railroad, Interstate #94 along and railroad crossings (high cost and regulatory considerations) and groundwater impacts at the discharge location were noted. Additional consideration will be given to this alignment.
- 4. Western Alignment - North of Interstate #94 along (habitable structures map)**
  - a. This map illustrates the route alignment and habitable properties in proximity to the system.
- 5. South Central Rural Water District (SCRWD)**
  - a. Location of the Western Alignment with respect to the SCWRD rural water system and avoidance options.
- 6. Stutsman County Rural Water (SCRW) – Tappen Area Connections**
  - a. Location of the Western Alignment with respect to the SCWR rural water system and avoidance options.
- 7. Figure 1 – Regional Watershed GIS Spill Mapping (235.4 sq. mi.)**
  - a. Watershed #1 - 101.3 sq mi
  - b. Watershed #2 - 31.9 sq mi
  - c. Watershed #3 - 32 sq mi
  - d. Watershed #4 - 70.2 sq mi
  - e. Spill Mapping
    - i. Based on 2020 LiDAR and approximated lake elevation
    - ii. Noncontributing potholes are highwater and post flood elevation
- 8. Figure 2 – Contributing Watershed – Single Event Spill Model**
  - a. Watershed (101.3 sq mi)
  - b. Contributing Surface Area (25.8 sq mi, 5.3" rainfall, 0.1% chance)

### 9. Figure 3 - Contributing Watershed – Double Event Spill Model

- a. Watershed (101.3 sq mi)
- b. Contributing Surface Area (50 sq mi, 11" rainfall)

### 10. Culvert mapping for lake connections and elevations

- a. The available data provides the surface water connection elevations between the lakes and without modification will be the baseline for determining the removal system design. The following are the existing culvert elevation interconnects
  - i. Crystal Springs Lake – BNSF Culvert and old railroad grade overflow
    - 1. Need to establish gated connection through access road
  - ii. South Stink Lake – NDDOT culvert (1738 and 1741.1)
  - iii. Stink Lake – Lower end of system, elevation TBD
  - iv. Reule Lake
    - 1. Dam Location (natural overflow 1744)
    - 2. County #39 (48" RCP – Elevation 1746)
- b. There was discussion related to Reule Lake in that the target elevation will need to be the natural overflow as controlling higher may require easement considerations around the lake, which are problematic. That means future modifications to the culvert connection under County #39)

### 11. Groundwater Well {CSWI} Observation and Location Map

- a. The groundwater data on this indicates a direct correlation between lake and groundwater levels.
- b. The influence of groundwater is greater than anticipated and therefore needs to be evaluate further – see summary
- c. This map also provides the general extent of the *Central Dakota Aquifer*

### 12. NDDO Rainfall Data (2010-2019) – Tappen Gage

- a. This rainfall data provides the direct contribution to the lake system

### 13. USGS Harvey Stream Gage (peak flow history)

- a. Illustrates the mean daily discharges flows since 2010

### 14. USGS Stream Gage Data (Runoff per sq. mi. based on stream gage)

- a. Projected runoff into the CSWI lake system at 25.8 sq. mi.
- b. No events under Item #12 that would indicate greater overflows
- c. The period from 2011 till 2024 will be evaluated for lake elevation trends
- d. The largest inflow is noted as 9486 ac-ft (circa 2011)

### 15. Stutsman County Road and Bridge Expenses

- a. Provided as a benchmark for future cost projections

## 16. Public Input Meeting Cleveland, ND

- a. I-94 grade raise – need and purpose
- b. A CSWR study team member will attend to gather data and answer questions

### ***SUMMARY OF TOPICS***

Based on the preliminary findings, it is clear the groundwater influences on the CSWI lake complex are far greater than originally anticipated. This is evidenced in that the surface water drainage area and runoff projections do not support the documented water level increases. As such additional hydrologic and hydraulic evaluation of that element needs to be further evaluated, given its influence on the removal system design. Subsequently, additional out of scope services needs to be approved and completed.

Information regarding the area-capacity of the lake system was discussed, however this data is internal information and not currently available for public dissemination at this time. Therefore, it is not included in this meeting summary.

This summary is being provided to the following via email and posted on the Stutsman County Web Site:

- Crystal Springs Steering Committee
- Stutsman County Commission
- Stutsman County Water Resource District
- Crystal Springs Interested Parties Email Group – Includes doner list

### ***MEETING ACTION ITEMS...***

#### **Steering Committee – Second Meeting Summary**

##### **HEI to request the Stutsman County Commission and Water Resource District**

- ✓ Seeking approval for scope contract revisions and contract timeline extension
- ✓ Amendment to be submitted for consideration
- ✓ Additional Cost Share Request to SWC is pending
- ✓ Invoice #2 – Project Status Report

**NDDOT** – Provided Interstate Grade Raise Plans, information regarding Cleveland Project. Attendance and review of the data associated with this project to correlate changes with the CSWI watershed.

**BNSF** – Current update it was noted during the meeting that it was anticipated that they would need to start and update this spring. This grade raise has begun, and we understand they are working on a two-foot grade raise, as increased water levels has already impacted their tracks.

**Stutsman County Highway Department** - Provide projected cost to raise selected county or township roadways, at one and two-foot. These cost opinions were recently provided, by the County's engineer and are available for use in the study report.

**Others** – Additional local funds are likely required to support the expanded scope of services and additional cost share request.

*These minutes were approved by consent by the Steering Committee at their February 17, 2025 meeting. These minutes are included in the Second Meeting summary.*

*If there are questions, please contact Michael Gunsch at 701-527-2134 or [mgunsch@houstoneng.com](mailto:mgunsch@houstoneng.com).*