

**Date** | 11-29-2011

**To** | Chisago Lakes LID Board of Managers

**cc** | Jerry Spetzman

**From** | Greg Graske

**Regarding** | Summer Channel and Outlet Structure Inspection

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On October 31st, 2011 an inspection of the Chisago Lakes Outlet Channels and Structures was conducted. Chisago County staff Jerry Spetzman along with EOR engineer Greg Graske performed the field inspection. The following summarizes the inspection, actions performed, and any future actions recommend. Actions in red are recommended for follow up in the near future, actions in orange are actions that require future follow or monitoring up but are not urgent, and actions in green are minor maintenance items that were completed in field prior to this report.

### **Channel from Chisago Lake to Wallmark Lake**

The length of the channel from Chisago Lake to Wallmark Lake was inspected. The channel area near Stinson Avenue was dry at the time of the inspection. Some concrete blocks were noted on the bottom of the pond near the outlet under Stinson Avenue. These blocks could easily be removed with the channel being drier than usual.



Photos: left, concrete block in bottom of the area near Stinson Avenue, right- branches placed across channel

Similar to previous inspections just North of North Avenue it was noted that several large branches had been placed across the channel to provide a crossing for a path from the nearby tot lot. These logs should be removed. Because this appears to be an ongoing problem the CLLID has directed District Staff to work with the park owner to determine if a bridge should be place at this location to allow for crossing the channel without placing obstructions in the channel. Discussions are ongoing.

Debris was noted at the Sportsman Drive Crossing. This debris should be removed. A downed tree was noted on the trail east of the Lake Point Drive crossing. Although not impeding flows this could be removed in conjunction with the rest of the maintenance efforts in this area.



Photos: debris at Sportsman Drive culvert

**Recommended Action:**

- Remove concrete blocks near Stinson Avenue Crossing
- Remove branches in chanell near tot lot
- Remove debris at Sportsman Drive culvert
- Remove downed tree across trail east of the Lake Point Drive crossing

**Suggested Follow Up:**

- Continue efforts regarding placement of small foot bridge across the channel.

**Channel from Wallmark Lake to County Road 19**



No flow was occurring at the time of inspection. No concerns were noted.

**Recommended Action:**

- None

### **Channel from Chisago Lake to Green Lake**

The entire length of the channel from Chisago Lake to Green Lake was inspected. Between Chisago Lake and County Road 83 had been a location for frequent beaver activity and dams. The CLLID hired a trapper last year to remove the beavers and the dam was removed by the contractor. No new beaver activity was observed.

Last fall some erosion areas from flow being delivered off the adjacent farm field were repaired by the contractor. One of the areas is holding up well, while the other area is starting to see some of the erosion return. Follow up repairs are recommended to prevent future erosion and sediment transport into the channel.



Photos: Erosion cause by flow from adjacent farm field

#### **Recommended Action:**

- Follow up corrective action at erosion site

#### **Suggested Follow Up:**

- Continue to monitor for Beaver activity in channel

### **Outlet Structure from Chisago Lake Outlet Channel into Green Lake**

The outlet structure connecting the channel from Chisago Lake to Green Lake was visited. The structure was cleared of debris last fall and everything looked good during the inspections. The gates were opened to test operation and water did flow through the structure to Green Lake. The gates were returned to the closed position upon completion of the inspection.



Photos: left-operating the outlet gate to Green Lake

**Recommended Action:**

- None

**Suggested Follow Up:**

- Monitor site for continued beaver activity and need for beaver control.

**Minor Maintenance Items Completed:**

- Tested Gate Operation

**Outlet Structure and Pipe between Lake Ellen and Swamp Lake**

The outlet structure on Lake Ellen was visited. Debris was removed from around the Lake Ellen structure last year. The gate was exercised and appeared to be operational. The emergency management plan calls for the gate to be open when the lake level is 891.5. The plan also says that the gate may remain closed when lake levels are below 891.0. Lake Ellen was below the weir overflow elevation; therefore the gate was left closed. No new beaver activity was observed.



Photo: Lake Ellen weir

**Recommended Action:**

- None

**Suggested Follow Up:**

- Monitor Beaver Activity going forward and determine need for additional beaver control.
- Open gates and test for flow when water gets high-enough

**Minor Maintenance Items Completed:**

- Exercised Gate

**Swamp Lake Outlet**

The Swamp Lake outlet pipes under County Road 80 were visited. This location has 7 pipes under the road to convey flow. Water was flowing at the time of the inspection. In previous inspections the pipes were partially filled with water due to rock and debris just downstream of the culverts that appeared to be obstructing some of the flow causing tailwater on the pipes. The obstruction has been removed by the contractor and water is free flowing through the pipes.



Photos: Pipes leaving Swamp Lake

**Recommended Action:**

- None

**Ivy wood Outlet Structure**

The culvert crossing under Ivywood Trail was visited. This site is not generally part of the outlet conveyance due to the outlet channel to Carlos Avery WMA never being fully completed. No issues noted.

**Recommended Action:**

- None

### **Bloomquist Creek Crossings @ County Road 19 and Ivywood Trail**

The Bloomquist Creek Crossing at Ivywood Trail was visited. A new culvert had recently been installed at this location. Water was flowing through the stream and no maintenance issues were noted. The Bloomquist Creek Crossing at County Road 19 was also visited and water was flowing at this location also.



Photos: Bloomquist Creek at Ivywood Trail

#### **Recommended Action:**

➤ None