

**Date** | 9-9-2011

**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 July 29th, 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 action in the near future, actions in orange are action 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. Erosion in the channel near the connection with Chisago Lake was noted in previous inspections. Reshaping of this section and installation of rock checks was completed last fall. It appears that someone (likely kids) have been moving rocks from the lower check dams to the beach. Repair of these check dams with larger rock is recommended to limit the ability for the rocks to be moved.



Photos: lower check dam, right- rocks moved out to the beach area

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 was cleared at the time of the inspection.



Photos: debris at sportsman drive culvert

#### Recommended Action:

- Repair of lower check dam near Chisago Outlet with larger rock

#### Suggested Follow Up:

- Continue discussions with park owner regarding placement of small foot bridge across the channel.

#### Minor Maintenance Items Completed:

- Removed debris at Sportsman Drive

### Channel from Wallmark Lake to County Road 19



Last year very little water and no noticeable flow was observed in the outlet channel from Wallmark Lake to County Road 19. During this inspection and the spring inspection the channel had water in it and flow was observed. This appears to indicate the Wallmark Lake is outletting. Lake levels are up compared to last year.

#### Suggested Follow Up:

- Continue to monitor Wallmark Lake levels relative to the OHW for any indication of obstruction.

### Channel from Chisago Lake to Green Lake

The channel from Chisago Lake to Green Lake was spot inspected, due to poor field conditions, a full inspection should be completed in the fall. 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.



Photos: Culverts under Chisago Blvd

#### 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.

The undertow sign was previously noted as needing replacement. District Staff has since replaced the undertow sign.



Photos: left-operating the outlet gate, right-new undertow warning sign

**Recommended Action:**

- None

**Suggested Follow Up:**

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

**Minor Maintenance Items Completed:**

- Greased the fittings in each of the crank boxes.
- 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.



Photos: left-Lake Ellen weir, right- outlet to Swamp Lake

In previous inspections the water flowing out of the outlet has been clouded with sediment. At this inspection the water was clear. This may be due to the installation of the silt cover over the erosion control device in the farm field.

**Recommended Action:**

- None

**Suggested Follow Up:**

- Monitor Beaver Activity going forward and determine need for additional beaver control.

**Minor Maintenance Items Completed:**

- Greased the fittings in each of the crank boxes.
- 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 Crossing @ Ivywood

**Recommended Action:**

➤ None