

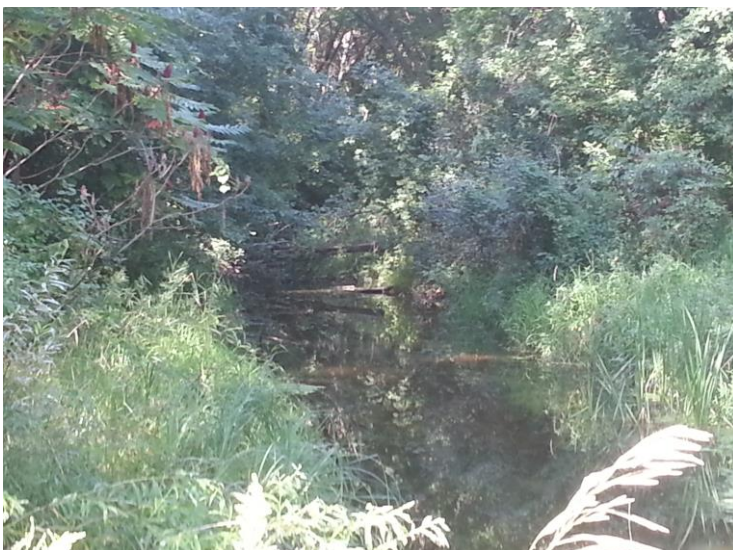
Date | 11-30-2016
To | Chisago Lakes LID Board of Managers
cc | Jerry Spetzman
From | Greg Graske

Regarding | Summer Channel and Outlet Structure Inspection

The fall inspection of the Chisago Lakes Outlet Channels and Structures was conducted on October 10th & November 16th. EOR engineer Greg Graske and District administrator Jerry Spetzman performed the field inspection of the channel system. A tour of the system was also completed with the Board of Managers on October 11th. 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 up or monitoring but are not urgent, and actions in green are maintenance items that were completed recently.

Channel from Chisago Lake to Wallmark Lake

The channel from Chisago Lake to Wallmark Lake was inspected. The channel area near Stinson Avenue appeared to be stable and the existing rock check dam appears to be eliminating any further head cutting and erosion of the channel. Water is now starting to fill the portion of the channel closest to Chisago Lake as water levels rise. The trees along the channel section between Highway 8 and North Avenue were cleared three years ago, this are starting to grow back and additional maintenance may be needed in the near future. West of Lake Pointe Drive there was a build of woody debris that was noted in the summer inspection which should be removed this winter (if possible). A very minor amount of woody debris was cleared from the top of the Paradise Park weir at the time of the inspection.



Photos: Left – Woody debris in channel west of Lake Pointe Drive.

Recommended Action:

- Remove woody debris in channel west of Lake Pointe Drive

Suggested Follow Up:

- Monitor tree growth between Highway 8 and North Avenue
- Survey Channel between Chisago Lake and Wallmark Lake for sediment build up

Minor Maintenance Items Completed:

- Vegetation cleared from the top of the Paradise Park Weir
- Contractor treated aquatic plants with herbicides in the channel on Sept. 28 & 29

Channel from Wallmark Lake to County Road 19

No issues noted.

Recommended Action:

- None

Channel from Chisago Lake to Green Lake

As noted in the 2015 spring inspection report, a bridge crossing has been constructed at about the halfway point along the channel. It is unclear who constructed this bridge and for what purpose. In the past there have been planks and ladders seen across the channel and it was assumed that this was being used by hunters to gain access to the other side of the channel. The new bridge is much more substantial and would likely create a measurable obstruction during high water flows through the channel. Originally Chisago County Parks had indicated that they would take the bridge, however they have since decided the materials were poor quality and are no longer interested. Since then the District administrator has spoken with the supervisor of the sentence to serve crews. They are planning to have the crews remove and dispose of the bridge sometime this winter after the channel is frozen.



Photos: Left – Bridge over channel.

Recommended Action:

- Sentenced to serve crews to remove the bridge

Minor Maintenance Items Completed:

- Contractor treated aquatic plants with herbicides in the channel on Sept. 28 & 29

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 vegetation along the fence that was noted in the summer report was removed. Mice have been using the gate control boxes as nests. Dryer sheets have been placed in the control boxes and new covers without holes will be made and installed. The gates were tested and operational.



Photos: Outlet Control Structure

Recommended Action:

- None

Suggested Follow Up:

- Install new covers on control boxes
- Tighten loose nut with Allen wrench

Minor Maintenance Items Completed:

- Tested control gate mechanism
- Vegetation removal along fence
- Placed dryer sheets in control boxes

Outlet Structure and Pipe between Lake Ellen and Swamp Lake

No issues were noted at the time of the inspection. During the summer inspection it was noted that the vegetation was starting to overtake the ramp and path down to the weir. This was cleared on October 10th. The gates were opened in the spring and remained open through fall.

The gates were closed on November 16th. Water levels had dropped below the weir elevation and there was no flow when the gate was closed. A new control box cover was constructed and installed. The cover will prevent mice from entering and building nests in the control box.



Photo: Ramp leading to weir structure.

Recommended Action:

- None

Suggested Follow Up:

- Monitor erosion control device in farm field for needed maintenance

Minor Maintenance Items Completed:

- Tested control gate mechanism
- Cleared vegetation from ramp and path
- Installed new control box cover to deter mice

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. As noted in past inspections, vegetation was starting to get thick near several of the culverts. The District hired a contractor to remove this vegetation and the work has been completed.



Photo: Left - pipes leaving Swamp Lake before maintenance, Right – pipes after maintenance

Recommended Action:

- None

Minor Maintenance Items Completed:

- Contractor removed vegetation build up

Ivywood 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

Channel from North Center Lake to North Lindstrom Lake

The outlet channel near North Center Lake was visited during the tour of the system. Some woody debris was noted in the channel. This should be removed during the next field inspection.

Recommended Action:

- Remove woody debris from channel