

Winter Channel and Outlet Structure Inspection

Chisago Lakes Lake Improvement District

On February 4, 2011, an inspection of the Chisago Lakes Outlet Channel and Structures was conducted by Jerry Spetzman and Mary Christopherson. Due to snow cover, all areas of the channels were not able to be accessed. The following summarizes the inspection.

Channel from Chisago Lake to Wallmark Lake

The channel from Chisago to Wallmark Lake was observed to be snow covered with no apparent beaver activity or water flow. The portion of the channel located adjacent to Paradise Park had received maintenance in the 2010 fall season.



Channel located adjacent to Paradise Park,
looking south to Chisago Lake.



Channel located adjacent to Paradise Park,
looking north.

To investigate possible blockages in this culvert, causing the water to flow back into Chisago Lake instead of through to Wallmark Lake, a project will ensue in the spring of 2011. The culvert will be televised beginning on the south side of Stinson Avenue, through Chuckie Lindquist Park, and exiting the culvert located just north of Highway 8, adjacent to the bike trail.



Taken from North Avenue, looking south at the channel
located just north of Highway 8, adjacent to the bike trail.

The channel continues to wind north of North Avenue and eventually spills into Wallmark Lake.



The portion of the channel located just north of North Avenue and west of Water Tower Park.

Action Items Needed:

- 1) Investigate replacing a foot bridge over the channel adjacent to Water Tower Park; perhaps partner with Chisago City on this.
- 2) In the future, re-visit the need to survey the channel to determine why the water may be flowing the opposite way. (A previous survey proposal was not approved).

Channel from Wallmark Lake to County Road 19

This area of the channel was inaccessible due to snow conditions. Observed from the roadway, the channel appeared snow covered, with no beaver activity or water flowage.

Channel from Chisago Lake to Green Lake

The channel on the Chisago Lake end was inspected. In the 2010 fall season, a beaver dam was removed from this portion of the channel. No beaver activity was observed during this inspection at this location.



Channel from Chisago Lake to Green Lake
(north of County Road 83).

The channel from Chisago Lake to Green Lake located on the south side of County Road 83 was observed from the roadway. The channel was snow-covered with snowmobile tracks on it. No apparent beaver activity or water flowage was observed in this portion of the channel.

Outlet Structure from Chisago Lake Outlet Channel into Green Lake

The weir structure at Lofton Avenue was inspected from the roadway. Deep snow prevented access to the weir structure itself.



Lofton Avenue weir structure, taken from
County Road 24.

Water flowage was observed on the west side of County Road 24, apparently coming from the culvert connected to the Lofton Avenue weir.



Water flowage entering Green Lake observed on the west side of County Road 24.

Action Items Needed:

- 1) Have additional tool made/ordered to operate weir gates, perhaps power-driven.
- 2) Exercise and grease weir gates.
- 3) Hang new undertow warning sign.

Outlet Structure and Pipe between Lake Ellen and Swamp Lake

The area around the Lake Ellen weir structure was inspected. No animal tracks were observed around the perimeter of the structure. The structure was snow covered.



Lake Ellen weir structure

The manhole with an inlet structure located in the nearby farm field was also inspected. In the 2010 fall season, a sediment control device was placed on top of the inlet structure to limit sediment entering the long pipe below, which discharges to Swamp Lake. It was noted that the snow did not abut the sediment control device, perhaps due to geothermal heat from the deep pipe below.



Sediment control device on manhole in farm field.

The outfall at the end of the underground pipe was inaccessible due to snow cover; therefore, it was not observed during this inspection.

Action Items Needed:

- 1) Have additional tool made/ordered to operate weir gates.
- 2) Exercise weir gates.
- 3) Hang new undertow warning sign.

Swamp Lake Outlet

The Swamp Lake outlet pipes under County Road 80 were visited. The pipes on the north side of County Road 80 were observed to be snow covered. However, there did appear to be a small area of open water on the south side of County Road 80.



Swamp Lake Outlet, north side of County Road 80



Swamp Lake Outlet, south side of County Road 80;
note open water area.

Ivywood Outlet Structure

The Ivywood Outlet structure, located on the east side of Ivywood Trail, was observed to be snow-covered. No apparent water flowage was seen. The channel located on the east side of Ivywood Trail was also observed to be snow-covered.



Ivywood Outlet Structure



Channel located on the west side of Ivywood Trail.

Bloomquist Creek Crossing @ County Road 19

The Bloomquist Creek Crossing at County Road 19 was observed. Beaver dams have been noted here both north and south of County Road 19 this past fall. It is unclear if the beavers remain active in these locations at this time. County staff monitored the creek levels at this location up until surface freezing of the creek waters. County staff continues to keep watch on this area for beaver activity. Tracks and activity were noted

near the beaver dam located north of County Road 19; perhaps the landowner has removed a portion of the beaver dam.



North of County Road 19, open water flowing from culvert.



South of County Road 19, note raised beaver dam.

In summary, no immediate action is necessary on the Channel and Outlet Structure system. The action items noted will likely be completed in spring. County staff will continue to keep watch on the beaver activity near County Road 19, as well as anticipate any channel maintenance issues with the coming spring thaw.