

DANE COUNTY DRAINAGE DISTRICT 19

October 24, 2021

Findings of Inspections and Notes from Leonard Massie – Secretary of Dane County Drainage Board

Wayne Rounds Jr. provided a copy of the original profile of the main ditch (Black Earth Creek) for Dane County Drainage District 19. The profile is not complete because it starts at Station 30+00. A station is 100 feet. So, the profile does not show the first 3,000 feet of the main ditch on the western end of the channel. The document does not provide a vertical scale (change in elevation) so one cannot determine the slope of the channel over its length. The horizontal scale is 1 inch = 400 feet.

The Town Line (Middleton/Cross Plains) is at Station 50+65. The profile shows a railroad crossing at Sta. 39+50, Sta. 86+00 (stone arch) and Sta. 210+80 (stone arch). The RR crossing at Sta. 86+00 could be the one on Dane County land (former Randall Swanson) north across US Highway 14. The RR crossing at Sta. 210+80 could be the Clay Pipe across the railroad south of US Highway 14 on the east end of District 19.

The profile shows a uniform bottom slope from Sta. 30+00 to Sta. 100+60, a steeper bottom slope from Sta. 100+60 to Sta. 120+00, and a uniform (flatter) slope from Sta. 120+00 to the Sta. 222+00 (east end). The flow in the main ditch is from east to west over the length of the main ditch.

There are three (3) laterals going north off the main drain across US Highway 14. Lateral 2 has a branch (2A). Cleaning the laterals will provide significant drainage benefits and will tap cold water for the trout habitat in Black Earth Creek.

There is a concrete bridge on a private drive to the Bollenbeck farm that should be replaced with a 40-foot corrugated pipe (5 – 6-foot diameter). The Drainage Board has developed a successful plan and construction process that worked well in District 21 and District 9.

A short lateral into Twin Valley Farms 1, LLC is needed to provide an outlet for the on-farm drainage system. The lateral will be solid double-wall plastic pipe through a mapped wetland into the cropped land.

The section of main ditch from the railroad and US Highway 14 crossing on the Dane County land (former Swanson property) west to the outlet does not need to be cleaned or modified. The channel is in very stable condition. A plan for the main ditch may recommend a larger channel to pass a 10-year, 24-hour storm but the Board and district members may choose to keep the current shape of the ditch.

It has been reported that the culvert through Twin Valley Road is high and backing up flow. A smaller culvert (30-inch diameter) with up-stream debris protection can be

installed through the road embankment at the proper elevation to carry the base flow of the stream and reduce the ponding. Major storm events will continue to flow through the larger culvert.

The original construction placed a 2-foot clay sewer pipe in a section of the main west of Twin Valley Road. Apparently, a grate was not placed on the up-stream end of the pipe to keep debris from entering and plugging the buried pipe. The pipe plugged and was later dug up to restore flow. It may be appropriate to install double wall plastic pipe with up-stream debris protection and reduce the very high spoil piles.

The section from Twin Valley Road east to the culverts under US Highway 14 and the railroad needs to be cleaned. There is 4-6 feet of sediment in the channel from place to place. One should assess the possibility of selective cutting of trees and brush in the corridors during the cleaning process.