

Two Rivers Watershed District Klondike Clean Water Retention Project #11

Fact Sheet – 10/1/22



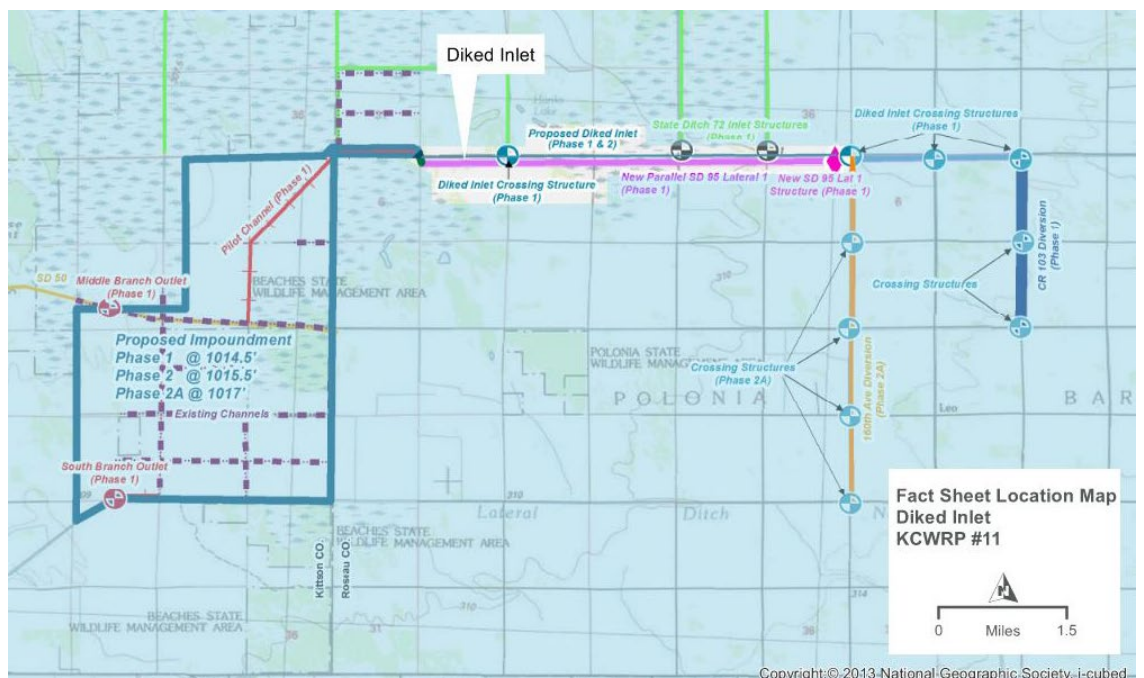
Diked Inlet (On SD 95 Lat 1)

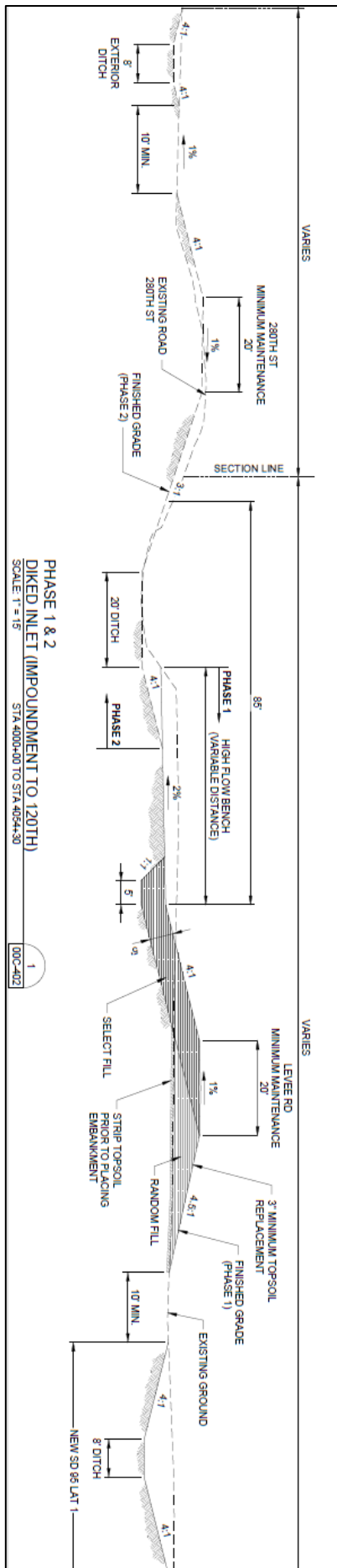
The Diked Inlet is an extension of the Retention Area. It has a two-stage channel design that utilizes the existing SD 95 Lat 1 for low flows.

The SD 95 Lat 1 in Roseau County has a drainage area that extends east to the former Badger Creek. TRWD owns and operates the Ross # 7 project at the upstream portion of the drainage area. The existing SD 95 Lat 1 has a positive grade going east to west of approximately 1 foot per mile (0.02%). It also passes through a higher ridge in the vicinity of 120th Ave. The natural ground has even less elevation change from east to west. West of 120th Ave, the topography falls and remains very flat between 1011 and 1012 feet.

The topography in the Project area has only 1 foot of elevation difference per mile. Hydraulically, for the Diked Inlet to convey flows from upstream during a flood event, the water surface elevation must rise on the upstream end of the channel and create a positive energy grade going east to west. When this happens naturally with the existing ditch system in place, the water surface rises until it is no longer contained within the banks of SD 95 Lat 1 and it inundates the surrounding lands. By constructing an embankment along the south side of SD 95 Lat 1 with continuous protection from the upstream end of the Project all the way to the retention area, the Diked Inlet can convey these flood events without water breaking out and inundating the lands adjacent to the Project.

The current legal ditch has capacity for less than a 10-year rainfall. The landowners along SD 95 Lat 1 petitioned for improvement of the ditch up to a 10-year capacity, but the petition was denied due to an inadequate outlet. The existing SD 95 Lat 1 can convey flows below natural ground up to a 2-year, 24-hour event as the low flow portion of the Diked Inlet. Events greater than a 2-year, 24-hour will be conveyed above ground in the high flow channel created by 280th St and the Diked Inlet embankment.







Lat1 SD95 - Looking East
Kittson Co. foreground & Roseau Co. Background - Peatland Twp section 36 in lower left