

# Two Rivers Watershed District Klondike Clean Water Retention Project #11

- Fact Sheet - 10/1/22



## Outlet SD 50 (West Outlet)

The proposed gated structure is within SD 50, located 3 miles west of the Roseau Kittson County line. Large scale flooding currently occurs downstream of the proposed impoundment on the Middle Branch of the Two Rivers in the vicinity of section 17 of Hazelton Township in Kittson County. This project will nearly prevent this flooding from happening and will moderate flows on the Middle Branch.

Design of the impoundment outlets references TR-60 for sizing the gates, conduits, drop inlets, and emergency spillways. HEC-HMS and EPA-SWMM were primarily used to complete these calculations and test the sensitivity of each component. Additional detail on the outlet structure is included in the Operating Plan.



Structure	Gate Size [WxH]	Culvert Size	Concrete Riser Size	Top of Concrete	Gate opening Invert
W Outlet	(1) - 6' x 4'	(1) - 4' RC Pipe	8' x 13.5'	1015.5'	1007.2'





2002 Flooding showing downstream damages in Hazelton Township, Kittson County from crossover flooding and breakouts on Middle Branch Two Rivers

