BF 80827 Local Road Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.004
B = 7 m, h = 1.8 m, T_h = 11 m
Use n = 0.045

At Bank Height : Y = 1.8 m, V = 1.7 m/s, Q = 27 cms
At Channel Capacity : Y = 2.7 m, V = 2.4 m/s, Q = 62 cms

Historical Highwater Data :

HW was observed in July 1986 with water over the grade, drift deposited u/s, erosion of the d/s side of the grade, a large d/s scour hole, but with the culvert intact. The flow for this event is estimated at Q = 64cms (DD1464). The 1996 design was based on Y = 3.4m and Q = 75cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW events in June 1972, June 1980, July 1986, July 1990, and July 1999. The largest storms for this area in the storm database are about 130 mm of rainfall in June 1972, July 1982, and July 1986.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 141 km^2.
Q_p = 115 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and is within the basin runoff potential.

Recommended parameters : Y = 2.7 m, V = 2.4 m/s, Q = 62 cms.