BF 71250 Local Road Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 4 m, h = 1.6 m, T_h = 8 m
Use n = 0.045

At Bank Height : Y = 1.6 m, V = 1.1 m/s, Q = 10 cms
At Channel Capacity : Y = 2.4 m, V = 1.7 m/s, Q = 25 cms

Historical Highwater Data :

A 1957 report notes a HWM with Y = 2.1 – 2.4m. A 1963 report notes a HWM with Y = 2.4m and estimates Q = 20cms. A 1989 BIM report notes a HWM with Y = 3m (no description).

There are no WSC gauges on this stream. Gauges in the area suggest HW events in June 1965, April 1974, April 1982, July 1986, and August 1989. The storm database indicates 125mm of rainfall for this area in June 1965, with about 115mm in June 1944 and August 1969, and 105mm in July 1982, July 1986, and June 1996.

Basin Runoff Potential :

d = 50mm, T_p = 20hrs, q = 0.7 cms/km^2.
Gross DA = 124 km^2.
Q_p = 87 cms.

Conclusion :

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

Recommended parameters : Y = 2.4 m, V = 1.7 m/s, Q = 25 cms