BF 09211 Hwy 757 Over Pembina River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.007
B = 2.5 m, h = 1.5 m, T_h = 6 m
Use n = 0.05

At Bank Height : Y = 1.5 m, V = 1.6 m/s, Q = 10 cms
At Channel Capacity : Y = 2.3 m, V = 2.3 m/s, Q = 25 cms

Historical Highwater Data :

A 1951 report notes a HWM just below the deck (Y ~ 4m), and a 1954 report notes a HWM with Y = 2.1m and estimates Q = 21cms. The 2002 design was based on Y = 1.5m and Q = 25cms.

There are no WSC gauges on this stream. Gauges in the area indicate HW events in June 1965, April 1974, April 1982, July 1986. The storm database indicates that the largest rainfall events on record for this area are 130mm in June 1965 and about 120mm in June 1944 and August 1969.

Basin Runoff Potential :

d = 50 mm, T_p = 20 hrs, q = 0.7 cms/km^2.
Gross DA = 165 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 = 2.3 m, V = 2.3 m/s, Q = 25 cms.