BF 01245 Hwy 18 Over Pembina River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 70 m, h = 6.0 m, T_h = 100 m
Use AT equation

At Bank Height : Y = 6.0 m, V = 1.6 m/s, Q = 800 cms
At Channel Capacity : Y = 7.0 m, V = 1.8 m/s, Q = 1100 cms

Historical Highwater Data :

HW was observed in June 1944 (Y ~ 7m), June 1954 (adjacent flooding for miles), April 1974 (Y ~ 6.5m), and July 1986 (Y ~ 7m).

WSC Gauge 07BB002 (1914 – 1923, 1955 – Now, DA = 4420 km^2) reports Q = 1250cms in 1986 (gauged at Q = 850cms, 5m stage rise). WSC gauge 07BC002 (1957 – Now, DA = 13100 km^2) reports Q ~ 1000cms in April 1974 and July 1986, with a stage rise of ~ 7m.

Basin Runoff Potential :

Gross DA = 10670 km^2 (exceeds range of application of runoff depth method)

Conclusion :

Historical observations govern. Recommended parameters :

Y = 7.0 m, V = 1.8 m/s, Q = 1100 cms
EL 623.5 m (21169-P)