BF 13473 Hwy 654 Over Pembina River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 80 m, h = 5.5 m, T_h = 120 m
Use AT equation

At Bank Height : Y = 5.5 m, V = 1.5 m/s, Q = 800 cms
At Channel Capacity : Y = 6.5 m, V = 1.7 m/s, Q = 1200 cms

Historical Highwater Data :

HW was observed in June 1944 (Y ~ 6m), April 1974 (Y ~ 6m), and July 1986 (Y ~ 6.5m).

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 = 7985 km^2 (exceeds range of application of runoff depth method)

Conclusion :

Historical observations govern. Recommended parameters :

Y = 6.5 m, V = 1.7 m/s, Q = 1200 cms
EL 634.0 m (12427-P)