BF 74231 Hwy 759 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 130 m, h = 7.0 m, T_h = 200 m
Use AT Equation

At Bank Height : Y = 7.0 m, V = 3.1 m/s, Q = 3600 cms
At Channel Capacity : Y = 8.0 m, V = 3.4 m/s, Q = 4600 cms

Historical Highwater Data :

HW was noted in 1972 (Y ~ 5.5m) and July 1986 (Y ~ 7m). The 1978 design was based on an estimated 1915 level of Y ~ 9m and Q ~ 5200cms.

WSC Gauge 05DE001 (DA = 21800km^2, 1915 – 1922) reports Q ~ 6500cms in 1915 (actual gauging data unknown). Gauge 05DE006 (DA = 20500km^2, 1969 – 1977) reports Q ~ 3600cms in 1972. Gauge 05DF001 (DA = 28000 km^2, 1911 - Now) reports Q ~ 5800cms (1915), 4500cms (1986), 3700cms (1952), 3600cms (1944), 3400cms (1954), and 3200cms (1972).

Basin Runoff Potential :

Gross DA ~ 21350 km^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 9.0 m, V = 3.8 m/s, Q = 6000 cms.
HW EL 711.0m (Dwg. 8700)