BF 73922 Hwy 857 Over North Saskatchewan River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 220 m, h = 8 m, T_h = 280 m
Use AT Equation

At Bank Height : Y = 8.0 m, V = 2.0 m/s, Q = 4100 cms
At Channel Capacity : Y = 9.0 m, V = 2.2 m/s, Q = 5100 cms

Historical Highwater Data :

HW was observed in 1972 (Y ~ 7m) and 1986 (Y ~ 8m). The estimated 1915 HW on the design drawings is for Y ~ 10m.

WSC Gauge 05DF001 (DA = 28000km^2, 1911 – Now) reports Q ~ 5800cms in 1915, Q ~ 4500cms in 1986, Q ~ 3700cms in 1952, and Q ~ 3000 – 3500cms in 1944, 1954, and 1972. The highest gauging is at Q ~ 4600cms with a stage rise of 10m.

Basin Runoff Potential :

Gross DA ~ 41200 km^2, beyond range of method.

Conclusion :

Historic observations govern (1915 event). Recommended parameters :

Y = 10 m, V = 2.4 m/s, Q = 6000 cms.
HW EL 572.5m (Dwg. 2774)