BF 79058 Local Road Over Red Deer River
Hydrotechnical Summary

Channel Capacity :

S = 0.0011
B = 90 m, h = 5 m, T_h = 140 m
Use AT equation

At Bank Height : Y = 5 m, V = 2.4 m/s, Q = 1400 cms
At Channel Capacity : Y = 6 m, V = 2.7 m/s, Q = 2000 cms

Historical Highwater Data :

No HW data is available for this site. The 1978 design drawing was based on Y ~ 7m (Q ~ 3000cms, labeled 200 yr. flood). The 1978 design also shows an ice jam level with Y ~ 8m (also labeled 200 yr).

WSC Gauge 05CC002 (DA = 11,600km^2, 1913 – Now) reports Q ~ 1900cms in June 1915 (gauged at Q ~ 1600cms, stage increase ~ 5m), and Q ~ 1500cms in August 1954 and June 2005 (~20% attenuation from Dickson Dam). Gauge 05CD004 (DA = 15,100km^2, 1944 – 1958) reports Q ~ 1500cms in August 1954.

Basin Runoff Potential :

DA = 11560km^2, beyond range of basin runoff potential technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 6.0 m, V = 2.7 m/s, Q = 2000 cms.
HW EL 856.0 m (Dwg. AP130-4)