BF 00290 Local Road Over Little Red Deer River
Hydrotechnical Summary

Channel Capacity :

S = 0.0013
B = 35 m, h = 3 m, T_h = 60 m
Use AT equation

At Bank Height : Y = 3 m, V = 1.8 m/s, Q = 250 cms
At Channel Capacity : Y = 4 m, V = 2.2 m/s, Q = 450 cms

Historical Highwater Data :

HW was observed in April 1925 and March 1952 (Ice Jam, Y ~ 4m). The 1990 design was based on Y ~ 3.3m (Q ~ 340cms).

WSC Gauge 05CB001 (DA ~ 2580 km^2, 1960 – Now) reports Q ~ 450 cms (June 2005), and Q ~ 170cms (June 1970, gauged at Q ~ 140cms, stage rise ~ 2m).

Basin Runoff Potential :

Gross DA = 2515 km^2 (beyond range of technique)

Conclusion :

The channel capacity estimate is consistent with historic observations. Recommended parameters :

Y = 4 m, V = 2.2 m/s, Q = 450 cms.
EL 909.0 m (14336-P)