BF 77541 Hwy 3 Over Crowsnest River
Hydrotechnical Summary

Channel Capacity :

S = 0.005
B = 20 m, h = 1.8 m, T_h = 40 m
Use AT equation

At Bank Height : Y = 1.8 m, V = 2.1 m/s, Q = 110 cms
At Channel Capacity : Y = 2.7 m, V = 2.9 m/s, Q = 250 cms

Historical Highwater Data :

HW was observed with Y ~ 2.5m in June 1995. The 1981 design was based on Y ~ 2.5m (Q ~ 180cms).

WSC Gauge 05AA008 (DA ~ 400km^2, 1910 – 1920, 1949 – Now) reports Q ~ 135cms in June 1995 (gauged at Q ~ 60cms, stage rise ~ 2m at peak), and Q ~ 70cms in June 1953 and 1965.

Basin Runoff Potential :

d = 80-100 mm, T_p = 20 hrs, q = 1.25 cms/km^2.
Gross DA = 405 km^2.
Q_p = 500 cms.

Conclusion :

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

Y = 2.7 m, V = 2.9 m/s, Q = 250 cms.
EL 1280.2 m (1409-P)