BF 81897 Hwy 524 Over Bow River
Hydrotechnical Summary

Channel Capacity :

S = 0.00035
B = 150 m, h = 8 m, T_h = 240 m
Use AT equation

At Bank Height : Y = 8 m, V = 2.0 m/s, Q = 3200 cms
At Channel Capacity : Y = 9 m, V = 2.2 m/s, Q = 4000 cms

Historical Highwater Data :

The 1991 design was based on Y ~ 8.5m (Q ~ 4500cms). HW was observed in 1995 (Y ~ 6m).

WSC Gauge 05BM004 (DA ~ 20250km^2, 1910 – 1933, 1964 – Now) reports Q ~ 2500cms (1915, 1929), Q = 2300cms (1932), and Q = 2200cms (1923, gauged near peak, Y ~ 5.5m). WSC Gauge 05BN012 (DA ~ 25300km^2, 1964 – Now) reports Q ~ 1600cms (1995, 2005) with a rise in stage of ~ 5.5m. Historic photos from Calgary (DA ~ 8000km^2) show highest events in 1879, 1897, and 1902, with estimates of Q > 2000cms.

Basin Runoff Potential :

Gross DA = 26115 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 7.0 m, V = 1.9 m/s, Q = 2500 cms
EL 708.5m (14745-P)