BF 74382 Hwy 875 Over Bow River
Hydrotechnical Summary

Channel Capacity:

S = 0.0004
B = 160 m, h = 8 m, T_h = 230 m
Use AT equation

At Bank Height: Y = 8 m, V = 2.2 m/s, Q = 3400 cms
At Channel Capacity: Y = 9 m, V = 2.4 m/s, Q = 4400 cms

Historical Highwater Data:

HW was observed in 1923, 1948 (Ice), and 1995. The 1972 design was based on Y ~ 7m for open water (Q ~ 2800cms) and ice jams. 2013 HWM (2 m below bottom chord at north abutment).

WSC Gauge 05BM004 (DA ~ 20300 km^2, 1910 – 1933, 1964 – Now)
1923, reported Q ~ 2180 cms, gauged near peak, Y ~ 5.5 m
1929, reported Q ~ 2540 cms
1932, reported Q ~ 2310 cms
2005, reported Q ~ 2040 cms
2013, reported Q ~ 3380 cms

WSC Gauge 05BN012 (DA ~ 25300 km^2, 1964 – Now)
1967, reported Q ~ 1300 cms
1995 and 2005, reports Q ~ 1600 cms with Y ~ 5.5 m
2013, reported Q ~ 3450 cms

Basin Runoff Potential:

Gross DA = 23300 km^2, runoff potential is not applicable.

Conclusion:

Channel capacity at bank height govern. Recommended parameters:

Y = 8.0 m, V = 2.2 m/s, Q = 3400 cms
EL 718.4 m (5948-C)

Classification: Protected A