BF 01606 Hwy 2 Over Waterton River
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 50 m, h = 3 m, T_h = 80 m
Use AT equation

At Bank Height : Y = 3.0 m, V = 2.3 m/s, Q = 450 cms
At Channel Capacity : Y = 4.0 m, V = 2.9 m/s, Q = 800 cms

Historical Highwater Data :

HW was observed in June 1964 (Y ~ 3m), July 1975 (Y ~ 3.5m), April 1986 (Y ~ 4m, Ice Jam), June 1995 (Y ~ 4 - 4.5m), and January 1996 (Y ~ 4m, Ice Jam). The 1964 design was based on Y ~ 3.5m.

WSC gauge 05AD028 (DA ~ 1,630km^2, 1966 – Now) reports Q ~ 1100cms (June 1995, gauged at Q ~ 620cms, stage rise ~ 4.5m at peak), and Q ~ 760cms (June 1975). WSC gauge 05AD008 (DA ~ 1,730km^2, 1915 - 1966) reports Q ~ 600cms (June 1942), and Q ~ 500cms (June 1964).

Basin Runoff Potential :

Gross DA = 1,790 km^2 (beyond range of technique)

Conclusion :

Channel capacity estimate is consistent with historic highwater observations. Recommended parameters :

Y = 4.5 m, V = 3.2 m/s, Q = 1000 cms.
EL 982.5 m (4023-P)