BF 78055 Hwy 509 Over Oldman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 130 m, h = 6 m, T_h = 180 m
Use AT equation

At Bank Height : Y = 6.0 m, V = 2.9 m/s, Q = 2600 cms
At Channel Capacity : Y = 7.0 m, V = 3.2 m/s, Q = 3600 cms

Historical Highwater Data :

HW has been observed in 1995 (EL 868.0m, Y ~ 7.5m above mean surveyed bed, damage to protection works), and 2005. The 1985 design was based on Y ~ 8.5m and Q ~ 4500cms.

Gauge 05AD019 (DA = 8880km^2, 1948 – 1969) reports Q ~ 1800cms in 1953. WSC Gauge 05AD007 (DA ~ 17000km^2, 1911 – Now) reports Q ~ 4600cms in 1995 and Q ~ 3000 – 3500cms in 1923, 1942, 1948, 1953, and 1975. Major inflow between 05AD019 and BF78055 is Waterton River with Q ~ 1500cms (1975, 1995). Major inflow between BF78055 and 05AD007 is St. Mary River with Q ~ 700cms (1975, 1995).

Basin Runoff Potential :

Gross DA = 12630 km^2, runoff potential is not applicable

Conclusion :

Historic observations govern. Recommended parameters :

Y = 8.0 m, V = 3.6 m/s, Q = 4500 cms.
HW EL 868.5m (Dwg. 10878, M-78055-99-A for bed survey)