BF 70580 Hwy 40 Over Athabasca River
Hydrotechnical Summary

Channel Capacity:

S = 0.0011
B = 100 m, h = 4, T_h = 120 m
Use AT equation

At Bank Height: Y = 4.0 m, V = 2.2 m/s, Q = 960 cms
At Channel Capacity: Y = 5.0 m, V = 2.6 m/s, Q = 1450 cms

Historical Highwater Data:

HW was noted in July 1986 to EL. 965.3m (Y ~ 3.5m). The reported HWM for design of the structure modification in 1969 (dwg. 5229-P) is 3172' (Y ~ 4.9m).

WSC gauge 07AD001 (DA = 9530km^2, 1915 – 1939, 1955 – 1961) and gauge 07AD002 (DA = 9780km^2, 1961 – Now) report peak flows just below Q = 1300cms in June 1936 and June 1972, with many other events exceeding Q = 1000cms.

Flow was gauged at 07AD002 at Q = 1270cms with a stage rise of about 4.3m on June 13, 1972.

Flow was gauged at 07AD002 at Q = 1510cms on June 7, 2007. Stage unknown.

Flow was gauged at 07AD002 at Q = 1330cms on June 8, 2012. Stage unknown.

Flow was gauged at 07AD002 at Q = 1260cms on June 22, 2013. Stage unknown.

Basin Runoff Potential:

Gross DA = 9530km^2, exceeds range of application of runoff depth method.

Conclusion:

Historic observations govern. Recommended parameters:

Y = 5.0 m, V = 2.6 m/s, Q = 1450 cms.
HW EL 966.8m (Dwg. 5229-P)