# BF 00756 Hwy 2 Over Oldman River
# Hydrotechnical Summary

**Channel Capacity**:

S = 0.0017
B = 100 m, h = 5 m, $T_h$ = 140 m
Use AT equation

At Bank Height: Y = 5 m, V = 2.9 m/s, Q = 1700 cms
At Channel Capacity: Y = 6 m, V = 3.3 m/s, Q = 2500 cms

**Historical Highwater Data:**

HW has been observed in 1902 (washout, Y ~ 4 - 5m), 1908 (washout), 1916 (ice jam, Y ~ 4.5m), 1923 (Y ~ 5m), 1953 (Y ~ 5m), 1963 (Y ~ 3.5m), 1975 (Y ~ 5m), 1994 (ice jam), 1995 (Y ~ 6m, erosion, AENV HW EL ~ 947.5m), 2005 (Y ~ 3.5m), and 2013 (~4m below top of curb).

The 1991 design was based on Y ~ 5.5m and Q ~ 2000cms.

Gauge 05AA024 (DA = 4400 $km^2$, 1966 – Now, 1995 peak missing – est. dam outflow Q ~ 2700 cms by AENV) reports
Q ~ 1560 cms in 1975
Q missing record in 1995. As per AT note to file, the measured high water level at the bridge on June 7, 1995 was between 946.5 m and 946.9 m.
Q ~ 1110 cms in 2005
Q ~ 1330 cms in 2013

Gauge 05AB007 (DA = 5760 $km^2$, 1910 – 1948) reports
Q ~ 1990 cms in 1923
Q ~ 1060cms in 1942
Q ~ 1100 in 1948

**Basin Runoff Potential:**

Gross DA = 5770 $km^2$, runoff potential is not applicable

**Conclusion:**

Historic observations and Oldman Dam operations govern. Recommended parameters:

Y = 6.0 m, V = 3.3 m/s, Q = 2700 cms.
Design HWL 946.7 m (Dwg. 15112-C)