# BF 01293 Hwy 547 Over Bow River
# Hydrotechnical Summary

**Channel Capacity**:

S = 0.0012
B = 110 m, h = 5.0 m, $T_h$ = 160 m
Use AT equation

At Bank Height: Y = 5.0 m, V = 2.5 m/s, Q = 1700 cms
At Channel Capacity: Y = 6.0 m, V = 2.9 m/s, Q = 2400 cms

**Historical Highwater Data:**

HW has been observed in 1902 (Y ~ 6m), 1967 (Y ~ 5m), and 2005 (Y ~ 5m).

WSC Gauge 05BM002 (DA = 15665km$^2$, 1956 – Now) reports Q ~ 3300cms (2013), 1500cms (2011), 2000cms (2005), 1700cms (1995), and 1200cms (1963, 1967, and 1969).

WSC Gauge 05BM004 (DA = 20250km$^2$, 1910 – 1933, 1964 – Now) reports Q ~ 2500cms (1915, 1929), 2200cms (1923, 1932), 2000cms (2005), 1330cms (2011), 3400cms (2013).

WSC Gauge 05BH004 (DA ~ 7870km$^2$, 1911 – Now) reports Q ~ 1840cms (2013), 1500cms (1932), 1300cms (1929) and 1100cms (1915).

Historic photos from Calgary show higher events in 1879, 1897, and 1902, with estimates of Q > 2000cms.

**Basin Runoff Potential:**

Gross DA = 16825 km$^2$, runoff potential is not applicable

**Conclusion:**

Historic observations govern. Recommended parameters:

Y = 7.3 m, V = 3.3 m/s, Q = 3300 cms
Approx. EL 856.2 m (based on flood photos in 2013)