BF 07256 Hwy 879 Over South Saskatchewan River
Hydrotechnical Summary

Channel Capacity:

S = 0.00045
B = 200 m, h = 9 m, T_h = 270 m
Use AT equation

At Bank Height: Y = 9 m, V = 2.5 m/s, Q = 5400 cms
At Channel Capacity: Y = 10 m, V = 2.8 m/s, Q = 6600 cms

Historical Highwater Data:

HW has been noted at this site in 1902 (Y ~ 9 m), 1908 (Y ~ 8.5 m), 1953 (Y ~ 8 m), and 1995 (Y ~ 8.5 m) and 2013 (drift line observed 4 m below top of curb).

WSC Gauge 05AJ001 (DA ~ 56400 km^2, 1911 – Now) reports
Q ~ 5040 cms in 2013
Q ~ 5100 cms in 1995 (stage rise ~ 8 m)
Q ~ 4300 cms in 1953
Q > 3000 cms in 1923, 1929, 1953, 1975, 1995, 2005 and 2013

WSC Gauge 05AK001 (DA ~ 66000 km^2, 1966 – 1993) reports
Q ~ 3000 cms in 1975

Major tributaries are Oldman River (Q ~ 5000 cms) and Bow River (Q ~ 2500 cms) but coincident peaks are unlikely due to storm location and timing. The ungauged flood in 1902 is known to be significant in both basins.

Basin Runoff Potential:

Gross DA = 55250 km^2, runoff potential is not applicable

Conclusion:

Historic observations govern. Recommended parameters:

Y = 9.5 m, V = 2.7 m/s, Q = 6000 cms.
HW EL 698.3 m (Dwg. 4538-C)

Classification: Protected A