BF 01491 Hwy 855 Over Battle River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 15 m, h = 4.0 m, T_h = 35 m
Use AT Equation

At Bank Height : Y = 4.0 m, V = 1.1 m/s, Q = 110 cms
At Channel Capacity : Y = 5.0 m, V = 1.3 m/s, Q = 180 cms

Historical Highwater Data :

HW was noted in 1910 (Y ~ 4.5m), April 1956 (Y ~ 4.5m), April 1974 (Y ~ 7.7m), and April 1982 (Y ~ 6.8m). The 1991 design was based on Y ~ 8.3m, elev 671.3m)

Gauge 05FC001 (DA = 7680km2, 1966 – Now) is located upstream and reports Q = 243cms in April 1974 (7m stage rise, gauges at Q = 160cms). The largest storms in the storm database are about 90 - 100mm of rainfall in June 1944, June 1970, June 1973, July 1982, and July 1990.

Basin Runoff Potential :

Gross DA = 9160 km^2 (beyond range of applicability).

Conclusion :

Flow at this site is influenced by the Alberta Power reservoir (backwater effects). The 12m high dam was installed in 1954. There is also a weir located about 5m downstream of the bridge site.

Historic observations govern.

Recommended parameters : Y = 8.3 m, V = 1.5 m/s, Q = 350 cms.
Elev 671.3m (Dwg 14284)