BF 08138 Local Road Over Raven River
Hydrotechnical Summary

Channel Capacity :

S = 0.0007
B = 10 m, h = 3.2 m, T_h = 18 m
Use AT equation

At Bank Height : Y = 3.2 m, V = 1.4 m/s, Q = 65 cms
At Channel Capacity : Y = 4.2 m, V = 1.8 m/s, Q = 110 cms

Historical Highwater Data :

HW was noted at this site in June 1972 (Y = 2.4m) and July 1999 (Y = 2.3m). A cross section from 1914 notes a HWM with Y = 2.1m. The 1967 report notes drift on the bank to Y = 3.0m. A 1989 inspection noted an ice scar on a tree d/s at Y = 2.0m. HW has been observed at other sites on this stream in 1915, 1954, 1972, 1982, and 1999.

Gauge 05CB004 (DA = 647km^2, 1972 – Now) is located d/s, and reports the highest flows in June 1972 (Q = 35cms) and July 1999 (Q = 40cms). The highest gauged flow is Q = 36cms with a stage rise of just under 3.0m. The largest storms in the database for this area are June 1970 with about 115mm of rainfall, and June 1928 with about 105mm.

Basin Runoff Potential :

d = 50mm, T_p = 20hrs, q = 0.7 cms/km^2.
Gross DA = 430 km^2.
Q_p = 300 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and is within the basin runoff potential.

Recommended parameters : Y = 4.2 m, V = 1.8 m/s, Q = 110 cms.