BF 71889 Local Road Over Beaverlodge River
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 5 m, h = 1.5 m, T_h = 9 m
Use n = 0.045

At Bank Height : Y = 1.5 m, V = 1.0 m/s, Q = 11 cms
At Channel Capacity : Y = 2.3 m, V = 1.5 m/s, Q = 25 cms

Historical Highwater Data :

A 1951 report notes a HWM with Y = 1.5m and estimates Q = 7cms. A 1988 report notes a HWM with Y = 2m, and subsequent design was based on Q = 26cms. A 1999 BIM report notes a HWM with Y = 1.9m.

WSC Gauge 07GD002 (DA = 662km^2, 1983 – Now) located on Beavertail Ck reports Q = 123cms in June 1990 (highest gauging at Q = 35cms). Gauge 07GD001 (DA = 1610km^2, 1968 – Now) located d/s reports Q = 123cms in June 1990 (gauged at Q = 117cms, V = 1.3m/s, T = 29m, Y = 4.8m > zero stage), with the next highest flows being Q = 104cms (April 1974), and Q = 85cms (April 1997). The largest storms for this area in the storm database are about 110mm of rainfall in June 1964 and 1990.

Basin Runoff Potential :

d = 65 mm, T_p = 20 hrs, q = 0.9 cms/km^2.
Gross DA = 170 km^2 .
Q_p = 153 cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 1.5 m/s, Q = 25 cms.