BF 07090 Local Road Over Beaverlodge River
Hydrotechnical Summary

Channel Capacity :

S = 0.0008
B = 13 m, h = 4.0 m, T_h = 22 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 1.8 m/s, Q = 120 cms
At Channel Capacity : Y = 5.0 m, V = 2.1 m/s, Q = 190 cms

Historical Highwater Data :

HW was observed in 1963 (ice jam 800m d/s, top of ice 0.6m below bottom chord (Y ~ 5m). Lower HW events were also observed in July 1982 and June 1990. A 1914 cross section notes a HWM with Y = 4.3m, and the 1960 design was based on Y = 4.6m.

WSC Gauge 07GD002 (DA = 662km^2, 1983 – Now) located on Beavertail Ck u/s reports Q = 123cms in June 1990 (highest gauging at Q = 35cms). Gauge 07GD001 (DA = 1610km^2, 1968 – Now) located at this site 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 = 1610 km^2 .
Q_p = 1450 cms.

Conclusion :

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

Recommended parameters : Y = 5.0 m, V = 2.1 m/s, Q = 190 cms.