BF 06921 Local Road Over Grande Prairie Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0017
B = 6 m, h = 2.5 m, T_h = 15 m
Use n = 0.045

At Bank Height : Y = 2.5 m, V = 1.3 m/s, Q = 35 cms
At Channel Capacity : Y = 3.5 m, V = 1.7 m/s, Q = 70 cms

Historical Highwater Data :

HW was noted in 1960 (Y = 3.0m), and 1965 (Y = 3.0 – 3.5m, apparent degradation). A 1997 BIM report notes a HWM with Y = 5m (no description).

WSC gauges 07GE003 (1969 – Now, DA = 152 km^2) reports Q = 64cms (stage rise = 5.7m, located u/s of culvert) in June 1990 with highest measured Q = 23cms (Y = 2.8m, April 1974). The largest storms in the database for this basin are in the range of 100 – 110mm in July 1935, and June 1964, 1965, and 1990.

Basin Runoff Potential :

d = 60mm, T_p = 20hrs, q = 0.85 cms/km^2.
DA = 250 km^2.
Q_p = 210 cms.

Conclusion :

The channel capacity estimate appears to be consistent with historic data and within the range of basin runoff potential.

Recommended Parameters : Y = 3.5 m, V = 1.7 m/s, Q = 70 cms.