BF 81659 Local Road Over Grande Prairie Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.012
B = 1.5 m, h = 1.1 m, T_h = 4 m
Use n = 0.055

At Bank Height : Y = 1.1 m, V = 1.5 m/s, Q = 5 cms
At Channel Capacity : Y = 1.7 m, V = 2.2 m/s, Q = 12 cms

Historical Highwater Data :

HW was noted in June 1990 with a washout and water over the grade at a small culvert crossing. A 1996 BIM report notes a HWM with Y = 1.0m.

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 = 15 km^2.
Q_p = 13 cms.

Conclusion :

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

Recommended Parameters : Y = 1.7 m, V = 2.2 m/s, Q = 12 cms.