BF 00681 Local Road Over Camrose Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0006
B = 4 m, h = 1.5 m, T_h = 7 m
Use n = 0.045

At Bank Height : Y = 1.5 m, V = 0.5 m/s, Q = 4 cms
At Channel Capacity : Y = 2.3 m, V = 0.8 m/s, Q = 10 cms

Historical Highwater Data :

HW was noted at this site in April 1974 with flow over the road (max 0.6m deep), Q_{est} = 10 – 11cms, Y = 2.4m d/s. Consultant report for u/s reservoir suggests Q = 20cms (believed to be too much for channel to handle) and recommends replacing crossing. Replacement with larger pipe and bridges considered - not done due to right-of-way concerns, low impact on u/s flooding, and possible increase of flooding d/s.

WSC Gauge 05FA010 (DA = 496km^2, 1929 – 1930) did not record any HW events. Gauges in the area suggest HW events in April 1974, April 1982, July 1983, April 1985, and April 1997. The largest event in the storm database for this area is June 1965 with 120mm of rainfall.

Basin Runoff Potential :

d = 35mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 315 km^2.
Q_p = 80 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 = 0.8 m/s, Q = 10 cms.