BF 70164 Local Road Over North Saskatchewan River Tributary Hydrotechnical Summary

Channel Capacity :

S = 0.013
B = 2 m, h = 1.0 m, T_h = 5 m
Use n = 0.055

At Bank Height : Y = 1.0 m, V = 1.5 m/s, Q = 5 cms
At Channel Capacity : Y = 1.5 m, V = 2.2 m/s, Q = 13 cms

Historical Highwater Data :

HW was noted in 1945 with a bridge washout. A 1956 report notes a HWM with Y = 1.8m and estimates Q = 10cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW events in April 1974, April 1985, April 1996, and April 1997. The largest storms in the database for this basin are about 115mm in June 1962, and 95mm in June 1944 and June 1988.

Basin Runoff Potential :

Use q = 0.4 cms/km^2 (near border of d = 40mm and d = 35mm).
Gross DA = 32 km^2.
Q_p = 13 cms.

Conclusion :

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

Recommended Parameters : Y = 1.5 m, V = 2.2 m/s, Q = 13 cms.