BF 76423 Hwy 100 Over North Saskatchewan River Tributary Hydrotechnical Summary

Channel Capacity :

S = 0.008
B = 1.5 m, h = 1.0 m, T_h = 3 m
Use n = 0.055

At Bank Height : Y = 1.0 m, V = 1.1 m/s, Q = 3 cms
At Channel Capacity : Y = 1.5 m, V = 1.7 m/s, Q = 6 cms

Historical Highwater Data :

The 1967 design was based on Q = 4 cms.

There are no gauges on this stream. Gauges in the area suggest large runoff events in April 1974, April 1982, April 1985, and April 1997. The largest storms in the storm database are 135mm in June 1965, 125mm in July 1953, and 110mm in July 1937 and July 1990.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 17 km^2.
Q_p = 9 cms.

Conclusion :

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

Recommended parameters : Y = 1.5 m, V = 1.7 m/s, Q = 6 cms.