BF 70781 Local Road Over Tributary to North Sask. River
Hydrotechnical Summary

Channel Capacity :

S = 0.015
B = 4 m, h = 1.0 m, T_h = 7 m
Use n = 0.055

At Bank Height : Y = 1.0 m, V = 1.8 m/s, Q = 10 cms
At Channel Capacity : Y = 1.5 m, V = 2.5 m/s, Q = 23 cms

Historical Highwater Data :

This file contains no historic high water data. However, the structures upstream are designed for a maximum flow of 10 cms, Y = 1.5 m.

There are no WSC Gauges on this stream. Gauges in the area suggest HW events in June 1965, June 1970, and June 1972. The largest storms in the storm database are 123mm of rainfall in Aug 1982, and about 110mm in July 1963.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 35 km^2.
Q_p = 17 cms.

The drainage area corresponding to the crossing upstream (BF 13214) generates maximum 10 cms (after considering routing, infiltration, etc). The additional 10 km sq of drainage area is contributing to this location and has the potential to generate 8.3 cms with no routing. Because the additional drainage area is located on a very steep part of the basin, entering a large watercourse, it's likely that most of the runoff does not get routed, and actually enters the channel. Therefore, assuming that a very small percentage gets routed for the additional drainage area, the basin runoff for this crossing is 10 cms + 7 cms = 17 cms.

Conclusion :

The basin runoff potential is below the channel capacity and is consistent with historic observations upstream, therefore it governs the design.

Recommended parameters : : Y = 1.3 m, V = 2.3 m/s, Q = 17 cms