BF 07949 Local Road Over Spirit River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.003
B = 4 m, h = 2.5 m, T_h = 9 m
Use n = 0.05

At Bank Height : Y = 2.5 m, V = 1.4 m/s, Q = 23 cms
At Channel Capacity : Y = 3.5 m, V = 2.0 m/s, Q = 50 cms

Historical Highwater Data :

HW was observed at this site in June 1963 (0.3m below u/s crown, Q = 16cms, Y = 1.8m d/s), and July 2004 (1.2 – 1.5m below crown). A 1959 report refers to a HWM with Y = 3.3 – 4.0m, and a 2003 BIM report notes a HWM with drift above the u/s crown.

There are no WSC gauges on this stream. Gauges in the area suggest HW events in June 1968 and June 1990. The largest storms for this area in the storm database are about 110 mm of rainfall in July 1935, August 1982, and June 1990.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 100 km^2.
Q_p = 85 cms.

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 2.0 m/s, Q = 50 cms.