BF 01461 Hwy 41 Over Ross Ck Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0065
B = 3 m, h = 1.2 m, T_h = 8 m
Use n = 0.05

At Bank Height : Y = 1.2 m, V = 1.4 m/s, Q = 9 cms
At Channel Capacity : Y = 1.8 m, V = 2.0 m/s, Q = 23 cms

Historical Highwater Data :

The bridge was washed out at this site twice in 1931 and a span added in 1932. A BIM estimate of HW in 1994 was Y = 1.5m, with photos showing debris (weeds) on a fence. Icing had been noticed prior to the 1950 structure.

WSC gauge 05AH003 (1911 – Now, 647 km^2) located on Ross Ck d/s reports Q = 90cms in April 1955, and shows several high volume events in the 1950's and a low volume high peak response in spring 1994. Gauge 05AH037 (1944 – Now, 215 km^2) on Gros Ventre Ck reports Q = 36cms in April 1955 and also shows a high runoff event in June 2002. The largest storms in the database are June 2002 with 180mm of rainfall and June 1998 with 140mm.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2 (use q = 0.35 – Cypress Hills).
Gross DA = 29 km^2.
Q_p = 10 cms.

Conclusion :

Basin runoff potential governs for this site and is consistent with historical observations.

Recommended parameters : Y = 1.3 m, V = 1.5 m/s, Q = 10 cms.