BF 73203 Hwy 40 Over Watson Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.016
B = 4 m, h = 1.2 m, T_h = 10 m (LIDAR)
Use n = 0.055

At Bank Height : Y = 1.2 m, V = 2.0 m/s, Q = 17 cms
At Channel Capacity : Y = 1.8 m, V = 2.9 m/s, Q = 40 cms

Historical Highwater Data :

HW was observed in 1969 (culverts washed out, Q ~ 14cms), 1970 (over road, Q ~ 8cms), 1980 (drift, road washout), 1986 (0.6m above crown), and 1999 (scour at NE corner). The 1991 design was based on Q = 43cms and Y = 1.5m. A 1953 report noted icing to underside of log bridge (Y ~ 1.0m).

There are no gauges on this stream. Gauges in the area suggest large events in 1969, and 1980. The storm database suggests large rainfall events in June 1980 (~160mm), Aug. 1969 (130mm), and about 110mm in June 1958, July 1986 and July 1987.

Basin Runoff Potential :

d ~ 70 – 80mm (Q ~ 1 – 1.1cms/km^2)
DA = 21km^2
Q_p ~ 24cms

Conclusion :

Basin runoff potential governs and is consistent with historic observations.

Recommended parameters : Y = 1.4m , V = 2.3 m/s, Q = 24 cms.