BF 13798 Hwy 36 Over Stony Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 4 m, h = 1.4 m, T_h = 8 m
Use n = 0.045

At Bank Height : Y = 1.4 m, V = 1.0 m/s, Q = 8 cms
At Channel Capacity : Y = 2.1 m, V = 1.4 m/s, Q = 20 cms

Historical Highwater Data :

HW was noted in 1974 with Y = 0.9m d/s, 1.8m u/s (estimated Q = 6cms). A 1961 report notes a HWM with Y = 1.8m and estimates Q = 14 - 17cms. The 1984 design was based on Y = 1.5m and Q = 15cms. The 1989 design was based on Y = 2.3m.

WSC gauge 05ED001 (DA = 540 km^2, 1973 to 1976) reports Q = 14cms in April 1974. Other gauges in the area suggest HW events in April of 1971, 1974, 1979, and 1997, as well as June 1978 and July 1986. The storm database shows 100mm in June 1973.

Basin Runoff Potential :

d = 40mm, T_p = 20 hrs, q = 0.55 cms/km^2.
Gross DA = 108 km^2.
Q_p = 59 cms.

Conclusion :

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

Recommended parameters : Y = 2.1 m, V = 1.4 m/s, Q = 20 cms.