BF 76301 Hwy 13 Over Pipestone Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.00035
B = 10 m, h = 3.5 m, T_h = 18 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.1 m/s, Q = 55 cms
At Channel Capacity : Y = 4.5 m, V = 1.4 m/s, Q = 100 cms

Historical Highwater Data :

HW was noted in April 1974 (EL. 710.8m, Y = 4.2m), and April 1982 (Y = 3m). The 1977 design was based on Y = 4.7m and Q = 120cms.

WSC Gauges 05FA012 and 05FA022 (DA = 1020km^2, 1972 - Now) reports Q = 98cms in April 1974 (gauged at Q = 96cms, stage rise = 2.7m) and Q = 40cms in July 1991. The largest storms in the area are in June of 1944 and July of 1982 and 1990 with rainfall of about 110 mm.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 1162 km^2.
Q_p = 640 cms.

Conclusion :

The channel capacity estimate appears to be consistent with historic data and is within the basin runoff potential.

Recommended parameters : Y = 4.5 m, V = 1.4 m/s, Q = 100 cms.