BF 00286 Hwy 501 Over St Mary River
Hydrotechnical Summary

Channel Capacity :

S = 0.004
B = 45 m, h = 2.5 m, T_h = 70 m
Use AT equation

At Bank Height : Y = 2.5 m, V = 2.5 m/s, Q = 350 cms
At Channel Capacity : Y = 3.5 m, V = 3.2 m/s, Q = 700 cms

Historical Highwater Data :

HW was observed in June 1908 (span washed away), June 1964 (Y ~ 3m), and June 1995 (Y ~ 3m). The 1964 design was based on Y ~ 3.5m.

WSC Gauge 05AE027 (DA ~ 1200 km^2, 1902 – Now) reports Q ~ 1130 cms (June 1908, max gauging at Q ~ 80cms), Q ~ 660cms (June 1975, gauged at Q ~ 360cms, stage rise ~ 2.5m), and Q ~ 600cms (June 1964).

Basin Runoff Potential :

Gross DA = 1190 km^2 (beyond range of technique).

Conclusion :

The channel capacity estimate is consistent with historic observations. Recommended parameters :

Y = 3.5 m, V = 3.2 m/s, Q = 700 cms.
EL 1178.0 m (4001-P)