BF 00315 Hwy 5 Over St Mary River
Hydrotechnical Summary

Channel Capacity :

S = 0.0023
B = 50 m, h = 3 m, T_h = 90 m
Use AT equation

At Bank Height : Y = 3 m, V = 2.2 m/s, Q = 450 cms
At Channel Capacity : Y = 4 m, V = 2.8 m/s, Q = 850 cms

Historical Highwater Data :

HW was observed in June 1964 (Y ~ 4m, headslope damage), and June 1975 (Y ~ 3 – 3.5m). The 1980 design was based on Y ~ 4m.

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). WSC Gauge 05AE006 (DA ~ 3530 km^2, 1911 – Now) reports Q ~ 730 cms (June 1975, gauged near peak, stage rise ~ 3m), and Q ~ 660cms (June 1995).

Basin Runoff Potential :

Gross DA = 2065 km^2 (beyond range of technique).

Conclusion :

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

Y = 4 m, V = 2.8 m/s, Q = 850 cms.
EL 1110.0 m (8440-P)