BF 74222 Hwy 13 Over Battle River
Hydrotechnical Summary

Channel Capacity :

S = 0.0003
B = 20 m, h = 4 m, T_h = 45 m
Use AT equation

At Bank Height : Y = 4 m, V = 1.1 m/s, Q = 145 cms
At Channel Capacity : Y = 5 m, V = 1.4 m/s, Q = 250 cms

Historical Highwater Data :

HW was observed in April 1974 (Y ~ 6m) and May 1982 (Y~3.5m). The 1955 design was based on Y ~ 4m.

WSC Gauge 05FE004 (DA = 24800km^2, 1978 – Now) reports Q ~ 80 – 100cms in July 1983, April 1987, April 1990, and April 2005.cms. WSC Gauge 05FE001 (DA = 25600km^2, 1944 – 1979) reports Q ~ 400cms in May 1974 (no gauging or rating curve data available), Q ~ 280cms (1948), Q ~ 240cms (1952), Q ~ 210cms (1969), and Q ~ 180cms (1956 and 1965). July 1983, April 1987, April 1990, and April 2005.cms.WSC Gauge 05FC001 (DA = 7680km^2, 1966 – Now) reports Q ~ 240cms in April 1974.

Basin Runoff Potential :

Gross DA ~ 11, 980 km^2 (exceeds range of technique).

Conclusion :

Historic observations govern. Recommended parameters :

Y = 6 m, V = 1.6 m/s, Q = 350 cms.