BF 73836 Hwy 43 Over Little Smoky River
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 50 m, h = 4 m, T_h = 80 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.1 m/s, Q = 550 cms
At Channel Capacity : Y = 5.0 m, V = 2.5 m/s, Q = 850 cms

Historical Highwater Data :

HW was observed in 1963 (Y ~ 3m), 1965 (Y ~ 3m), 1982 (Y ~ 4m), 1983 (Y ~ 3m), 1996 (Y ~ 3.5m), and 1997 (Y ~ 3m). The 2001 design was based on Y ~ 5m (Q ~ 750cms).

WSC Gauge 07GG002 (DA = 3,010km^2, 1967 – Now) reports Q ~ 450cms (1982, 4m stage rise) and Q ~ 330 – 360cms in 1971, 1987, 1990, 1996, and 1997. WSC Gauge 07GH002 (DA = 11,100km^2, 1959 – Now) reports Q ~ 2200cms in June 1996 (gauged at Q ~ 1000cms, stage increase ~ 4m), and Q ~ 1100cms in April 1965 and July 1983.

Basin Runoff Potential :

DA = 3,003 km^2, beyond range of technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 5.0 m, V = 2.5 m/s, Q = 850 cms.
EL 657.0 m (22076-P)