BF 00992 Hwy 811 Over Willow Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0012
B = 30 m, h = 3.5 m, T_h = 50 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.9 m/s, Q = 250 cms
At Channel Capacity : Y = 4.5 m, V = 2.3 m/s, Q = 450 cms

Historical Highwater Data :

HW was observed in June 1953 (Y ~ 4.5m), June 1963 (Y ~ 5m), June 1993 (Y ~ 3.5 – 4m), June 1995 (Y ~ 4.5m), and June 2005 (Y ~ 4.5 – 5m). The 1955 design was based on Y ~ 4.5m.

WSC gauge 05AB002 (DA ~ 2290km^2, 1909 – 1924, 1942 - 1999) reports Q ~ 600cms (June 1953) and Q ~ 550cms in June 1942. Gauging data is not available, rating curve suggests 5m stage rise at Q ~ 500cms. WSC gauge 05AB046 (DA ~ 2510km^2, 1999 – Now) reports Q ~ 760cms (June 2005, gauged at Q ~ 390cms, stage rise at peak ~ 4m). WSC gauge 05AB021 (DA ~ 1180km^2, 1944 – Now) reports Q = 700cms (June 2005, gauged at Q ~ 440cms but inconsistent flow area, stage rise ~ 4.5m at peak) and Q ~ 500cms (June 1995).

Basin Runoff Potential :

Gross DA = 2250 km^2, exceeds range of technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 5.0 m, V = 2.5 m/s, Q = 550 cms.
EL 937.0 m (1484-P)