BF 00183 Hwy 520 Over Willow Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0008
B = 30 m, h = 3.5 m, T_h = 50 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.6 m/s, Q = 220 cms
At Channel Capacity : Y = 4.5 m, V = 2.0 m/s, Q = 380 cms

Historical Highwater Data :

HW was observed in June 1908 (lateral erosion), 1923 (Y ~ 3m), 1942 (Y ~ 4m), 1953 (Y ~ 4m), June 1963 (over road, Y ~ 4.5m), June 1993 (Y ~ 3.5m), June 1995 (Y ~ 4 – 4.5m), and June 2005 (Y ~ 5m). The 1980 design was based on Y ~ 6m (Q ~ 370cms).

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 = 1230 km^2, exceeds range of technique.

Conclusion :

Historic observations govern. Recommended parameters :

Y = 5.0 m, V = 2.1 m/s, Q = 450 cms.
EL 942.0 m (DD678)