BF 71265 Hwy 22 Over Willow Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.006
B = 20 m, h = 1.6 m, T_h = 35 m
Use AT equation

At Bank Height : Y = 1.6 m, V = 2.1 m/s, Q = 100 cms
At Channel Capacity : Y = 2.4 m, V = 2.9 m/s, Q = 200 cms

Historical Highwater Data :

HW was observed in 1942 (washout, channel relocated), and June 1995 (1.8m < girders, Y ~ 2.5m accounting for standing wave). Calculations at dam (u/s) suggest outflow ~ 180cms in 1995.

WSC Gauge 05AB028 (1965 – 1994, DA ~ 160km^2) reports Q ~ 50cms in 1967, 1969, 1975, and 1981 and was likely washed out during 1995 event. WSC Gauge 05AB039 (1977 – 1997, DA ~ 730km^2) reports Q ~ 500cms in 1995. WSC Gauge 05AB041 (1997 – Now, DA ~ 830km^2) reports Q ~ 700cms in 2005 (max. gauging at Q ~ 150cms). WSC Gauge 05AB021 (1944 – Now, DA ~ 1180km^2) reports Q ~ 700cms in 2005 (max. gauging at Q ~ 440cms), Q ~ 500cms in 1995, abnd Q ~ 250 – 300cms in 1953 and 1963..

Basin Runoff Potential :

d = 60 - 100 mm, T_p = 20 hrs, q ~ 1.1 cms/km^2.
Gross DA = 210 km^2.
Q_p = 230 cms.

Conclusion :

Channel capacity estimate is consistent with historical observations. Recommended parameters :

Y = 2.4 m, V = 2.9 m/s, Q = 200 cms
EL 1283.5 m (6106-P)