BF 09939 Hwy 55 Over Pine Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.00025
B = 10 m, h = 3.5 m, T_h = 20 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.0 m/s, Q = 50 cms
At Channel Capacity : Y = 4.5 m, V = 1.2 m/s, Q = 90 cms

Historical Highwater Data :

HW was noted in spring 1971 (Y = 3.6m, over the deck), and 1974 (Y = 4.5m). The 1972 design was based on Q = 95cms.

WSC gauge 07CA005 (DA = 1450km^2, 1967 – Now) reports Q = 94cms (April 1997), Q = 87cms (April 1974), and Q = 74cms (April 1971). The largest gauging is for Q = 78cms with a stage rise of 4.4m and flow well overbank. Gauge 07CA901 (DA = 255km^2, 1981 – 1983) reports Q = 17cms in July 1981. There are no storms in the database that exceed 100mm of rainfall for this area.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 550 km^2.
Q_p = 300 cms.

Conclusion :

The channel capacity estimate is consistent with historic HW observations and within the basin runoff potential.

Recommended parameters : Y = 4.5 m, V = 1.2 m/s, Q = 90 cms.