BF 72049 Hwy 544 Over Onetree Ck Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0008
B = 3 m, h = 2.2 m, T = 7 m
Use n = 0.05

At Bank Height : Y = 2.2 m, V = 0.6 m/s, Q = 7 cms
At Channel Capacity : Y = 3.2 m, V = 1.0 m/s, Q = 17 cms

Historical Highwater Data :

A 1960 report notes a HWM over the grade with Y = 3m. A 1962 report estimates Q = 14cms. A 1995 BIM report notes a HWM with Y = 1m. The 2003 design was based on Y = 2.5m and Q = 14cms.

WSC Gauge 05CJ006 (DA = 496km^2, 1952 – Now) on Onetree Ck reports Q = 68cms in June 1953 (largest gauging at Q = 8cms with stage rise ~ 0.8m) and Q = 23cms in June 1973. The largest storm in the storm database is June 1953 with about 120mm of rainfall.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2.
Gross DA = 100 km^2.
Q_p = 25cms.

Conclusion :

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

Recommended parameters : Y = 3.2 m, V = 1.0 m/s, Q = 17 cms.