BF 73901 Hwy 28 Over Atimoswe Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 4 m, h = 1.5 m, T_h = 7 m
Use n = 0.045

At Bank Height : Y = 1.5 m, V = 0.7 m/s, Q = 6 cms
At Channel Capacity : Y = 2.3 m, V = 1.0 m/s, Q = 14 cms

Historical Highwater Data :

HW was noted with washouts and water over the grade at small pipes in 1951 and 1952. A 1962 note refers to a HWM from a local resident suggesting Y = 2.7m. A 1963 report notes a HWM with Y = 1.5m and estimates Q = 28cms. The 1996 design was based on Y = 1.5m and Q = 15cms.

WSC gauge 05ED002 (DA = 364km^2, 1977 – Now) reports Q = 17cms in April 1997 (gauged at Q = 11cms with 1.5m stage rise). Other gauges in the area suggest HW events in April 1963 and 1974. The largest storms in the database for this area are in June of 1944, 1962, and 1970 with about 100 mm.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 300 km^2.
Q_p = 165 cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 1.0 m/s, Q = 14 cms.