BF 06873 Local Road Over Atimoswe Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0006
B = 5 m, h = 1.8 m, T_h = 10 m
Use n = 0.045

At Bank Height : Y = 1.8 m, V = 0.6 m/s, Q = 8 cms
At Channel Capacity : Y = 2.7 m, V = 0.9 m/s, Q = 20 cms

Historical Highwater Data :

HW was noted in 1948 (over the grade), and in 1951 (flooding u/s due to backwater from culvert crossing). A 1956 report notes a HWM with Y = 3.5m and over the grade.

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 = 20 hours, q = 0.55 cms/km^2.
Gross DA = 399 km^2.
Q_p = 220 cms.

Conclusion :

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

Recommended parameters : Y = 2.7m, V = 0.9 m/s, Q = 20 cms.