BF 78224 Local Road Over Waiparous Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.010
B = 12 m, h = 1.5 m, T_h = 22 m
Use AT equation

At Bank Height : Y = 1.5 m, V = 2.4 m/s, Q = 60 cms
At Channel Capacity : Y = 2.3 m, V = 3.4 m/s, Q = 140 cms

Historical Highwater Data :

The 1993 BIM report notes a HWM with Y = 1.5m and the 1994 BIM report notes a HWM with Y = 2.5m (no description). A 1975 report notes a HWM with Y = 1.2m.

WSC Gauge 05BG006 (DA = 334km^2, 1966 – Now) is located d/s and reports HW events in June 1990 (Q = 150cms, Y = 1.8m from rating curve), May 1967 (Q = 110cms), and June 1995 (Q = 93cms). The largest gauged flow is Q = 68cms in June 1970 (Y = 1.2m, T = 25m, A = 25m2). WSC gauge 05BG009 (DA = 230km2, 1977 – 1984) reports a highest flow of Q = 48cms in July 1983. The largest storms in the database for this area are June 1928 with 115mm of rainfall, and June 1970 with 105mm.

Basin Runoff Potential :

d = 75 mm, T_p = 20 hrs, q = 1.05 cms/km^2
Gross DA = 161 km^2.
Q_p = 170 cms.

Conclusion :

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

Recommended parameters : Y = 2.3 m, V = 3.4 m/s, Q = 140 cms.