BF 01427 Hwy 5 Over Belly River
Hydrotechnical Summary

Channel Capacity :

S = 0.0075
B = 28 m, h = 2.2 m, T_h = 40 m
Use AT equation

At Bank Height : Y = 2.2 m, V = 3.0 m/s, Q = 220 cms
At Channel Capacity : Y = 3.2 m, V = 4.0 m/s, Q = 450 cms

Historical Highwater Data :

HW has been recorded in June 1908 (Y = 2.7m), June 1964 (Y = 3.3m), June 1975 (Y = 2.7m), and June 1995 (Y = 2.1m).

WSC gauge 05AD005 (DA = 319km^2, 1912 – Now) is located a short distance u/s. The largest reported flows are Q = 465cms (June 1964, 3.2m stage rise), Q = 415cms (June 1975, 3.0m stage rise), and Q = 330cms (June 1995, 2.5m stage rise). The largest gauged event was Q = 320cms with a stage rise of 2.5m in June 1964, with water just overbank. The largest storms in the database for this area are June 1964 with about 190mm of rainfall, June 1995 with 140mm, May 1964 with 130mm, and June 1975 with 125mm.

Basin Runoff Potential :

d = 120mm (covers 150 and 100mm areas), T_p = 20hrs, q = 1.7 cms/km^2.
Gross DA = 330 km^2.
Q_p = 550 cms.

Conclusion :

The channel capacity estimate is consistent with historic information and is within the basin runoff potential. Recommended parameters :

Y = 3.2 m, V = 4.0 m/s, Q = 450 cms
EL 1310.5 m (1717-P)