BF 01241 Hwy 505 Over Belly River
Hydrotechnical Summary

Channel Capacity :

S = 0.003
B = 35 m, h = 2.5 m, T_h = 60 m
Use AT equation

At Bank Height : Y = 2.5 m, V = 2.2 m/s, Q = 250 cms
At Channel Capacity : Y = 3.5 m, V = 2.8 m/s, Q = 500 cms

Historical Highwater Data :

HW has been recorded in June 1953 (north abutment scoured out), June 1964 (over approaches, Y ~ 3.0m, significant bank erosion), June 1975 (Y ~ 2.5m, 0.6m headloss through opening), and June 1995 (Y ~ 3.5m).

WSC gauge 05AD041 (DA = 657km^2, 1985 – Now) is located at this site. The largest flows reported are June 1995 (Q = 570cms, gauged at Q ~ 175cms) and June 2002 (Q = 220cms). Gauge 05AD005 (DA = 319km^2, 1912 – Now) is located u/s and reports the highest events in June 1964 (Q = 465cms), June 1975 (Q = 415cms), and June 1995 (Q = 330cms). The largest storms in the database for this area are June 1964 with about 160mm of rainfall, June 1995 with 150mm, May 1964 with 130mm, and June 1975 with 125mm.

Basin Runoff Potential :

Area covers 150, 100 and 40mm ranges.
Gross DA = 660 km^2.
Q_p = 780 cms (based on d = 40mm over area d/s of BF06960).

Conclusion :

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

Y = 3.5 m, V = 2.8 m/s, Q = 500 cms
EL 1068.0 m (4634-P)