01/12/05

BF 73641 Reserve Road Over Highwood River
Hydrotechnical Summary

Channel Capacity :

S = 0.0065
B = 20 m, h = 4 m, T_h = 35 m
Use AT equation

At Bank Height : Y = 4 m, V = 4.0 m/s, Q = 400 cms
At Channel Capacity : Y = 5 m, V = 4.8 m/s, Q = 700 cms

Historical Highwater Data :

HW was observed in May 1990 (Y ~ 3.0m), and June 1995 (0.6m above bottom chord u/s, Y ~ 5m d/s). The 1953 design was based on Y ~ 3m above low water and a 1972 report noted a HWM with Y ~ 2.5m above low water (Y ~ 3.5m).

WSC gauges 05BL021 (DA = 132km^2, 1966 - 1985) reports Q ~ 50cms (1974). Gauge 05BL019 (DA = 774km^2, 1952 – Now) reports Q ~ 650cms (June 1995, max gauging at Q ~ 310cms), and Q ~ 260 – 280cms (1953, 1967). D/s gauges note other large events in 1923, 1929, and 1942. The largest rainfalls in the storm database for this basin are about 110mm in June 1929, June 1932, and May 1942.

Basin Runoff Potential :

d = 70mm, T_p = 20hrs, q = 1.0 cms/km^2.
Gross DA = 735 km^2.
Q_p = 735 cms.

Conclusion :

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

Recommended parameters : Y = 5.0 m, V = 4.8 m/s, Q = 700 cms.
EL 1375.0 m (22345-C)