01/12/05

BF 00589 Hwy 2A Over Highwood River
Hydrotechnical Summary

Channel Capacity :

S = 0.0018
B = 40 m, h = 3.5 m, T_h = 65 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 2.2 m/s, Q = 400 cms
At Channel Capacity : Y = 4.5 m, V = 2.7 m/s, Q = 700 cms

Historical Highwater Data :

The largest HW observations are in June 1932 (Y ~ 4.5m), and June 1995 (Y ~ 4.5m). HW was also noted in 1897, 1902, 1923, 1929, 1953, 1963 (scour hole at abutment), 1967, 1969, and 1990.

Gauge 05BL004 (DA = 1980km^2, 1909 – 1915, 1986 – Now) reports Q ~ 800cms (June 1995, max gauging at Q ~ 70cms, 3.5m stage increase), and Q ~ 290 - 320cms (1990, 1998). Gauge 05BL009 (DA = 2340km^2, 1912 – 1993 (missing 1932)) reports Q = 710cms(June 1942) and Q = 640cms (June 1923).

Basin Runoff Potential :

Gross DA = 1815 km^2 (beyond range of technique)

Conclusion :

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

Y = 4.5 m, V = 2.7 m/s, Q = 700 cms.
EL 1037.5 m (3594-P)