BF 01145 Hwy 2A Over Sheep River
Hydrotechnical Summary

Channel Capacity :

S = 0.004
B = 40 m, h = 3 m, T_h = 70 m
Use AT equation

At Bank Height : Y = 3 m, V = 2.7 m/s, Q = 450 cms
At Channel Capacity : Y = 4 m, V = 3.5 m/s, Q = 800 cms

Historical Highwater Data :

HW was observed in 1899 (Y ~ 2.5m), 1902 (adjacent flooding, Y ~ 3m), 1915 (rail track damage, adjacent flooding), 1916 (bank erosion, flooding in town), 1923 (north approach washed out), 1929 (approach washout), 1932 (Y ~ 4m), 1942 (Y ~ 2.5m), 1963 (Y ~ 3.5 - 4m), 1967 (Y ~ 3.5m), June 1995 (Y ~ 3 – 3.5m). The 1985 design was based on Y ~ 4m (Q ~ 950cms).

WSC Gauge 05BL012 (DA ~ 1500km^2, 1908 – 1920, 1965 – 1968) reports Q ~ 650cms (June 1915), and Q ~ 600cms (May 1967). WSC Gauge 05BL020 (DA ~ 1570km^2, 1957 - 1965) reports Q ~ 500cms (June 1963). WSC Gauge 05BL018 (DA ~ 455km^2, 1950 – 1969) reports Q ~ 340cms (June 1963), and Q ~ 300cms (May 1967). WSC Gauge 05BL014 (DA ~ 595 km^2, 1909 – 1916, 1968 – Now) reports Q ~ 380 cms (June 2005), Q ~ 365cms (June 1995), and Q ~ 320cms (June 1916).

Basin Runoff Potential :

Gross DA = 1400 km^2 (beyond range of technique)

Conclusion :

The channel capacity estimate is consistent with historic observations. Recommended parameters :

Y = 4.0 m, V = 3.5 m/s, Q = 800 cms.
EL 1054.5 m (17265-C)