BF 72640 Hwy 40 Over McLeod River
Hydrotechnical Summary

Channel Capacity :

S = 0.008
B = 25 m, h = 1.6 m, T_h = 45 m (LIDAR – compound channel)
Use AT equation

At Bank Height : Y = 1.6 m, V = 2.3 m/s, Q = 130 cms
At Channel Capacity : Y = 2.4 m, V = 3.3 m/s, Q = 300 cms

Historical Highwater Data :

HW was observed in 1942 (washout), 1950 (washout), 1969 (Y ~ 2.4m, west grade washed out), 1980 (Y ~ 2m, left bank erosion), 1982 (Y ~ 1.5m), and 1986 (Y ~ 1.5m).

WSC Gauge 07AF013 (DA = 330km^2, 1984 – Now) reports Q ~ 100cms (stage increase ~ 1.6m) in 1989, 1999, and 2005 (max gauging ~ 45cms). Gauge 07AF002 (DA ~ 2550km^2, 1954 – Now) reports Q ~ 1250cms in June 1980 and August 1969, and Q ~ 600cms in July 1986 and July 1999. The storm database suggests large rainfall events in Aug. 1969 and June 1980 (~130mm) and July 1986 and 1987 (~100mm).

Basin Runoff Potential :

d ~ 70 – 80mm (Q ~ 1cms/km^2)
DA = 330km^2
Q_p ~ 330cms

Conclusion :

Historic observations govern. Recommended parameters :

Y = 2.4m, V = 3.3 m/s, Q = 300 cms
EL 305.0m (5354-P)