BF 09259 Hwy 658 Over Freeman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0033
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 observed in 1920 (washout, flooded flats, drift, bank erosion), 1941 (washout, bank erosion), 1946 (approach washout), June 1965 (Y ~ 3 – 3.3m, over grade, partial headslope washout, drift damage to low chord, channel realignment ~ 150m u/s), July 1971 (Y ~ 2.7 – 3m, collapse due to pier scour and drift during 2nd peak), April 1975 (ice run, Y ~ 2.1m, July 1986, August 1989, and July 2004.

WSC Gauges 07AH001 (DA = 1660km^2, 1965 – Now) reports Q ~ 450cms in June 1965 (gauged at Q = 230cms, stage rise ~ 2m), and Q ~ 420cms in July 1971.

Basin Runoff Potential :

Gross DA = 1690 km^2 (beyond range of technique)

Conclusion :

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

Y = 3.5 m, V = 2.8 m/s, Q = 500 cms.
EL 660.5 m (6915-P)