BF 02401 Hwy 893 Over Vermilion River
Hydrotechnical Summary

Channel Capacity :

S = 0.0002
B = 10 m, h = 2.5 m, T_h = 25 m
Use AT equation

At Bank Height : Y = 2.5 m, V = 0.7 m/s, Q = 30 cms
At Channel Capacity : Y = 3.5 m, V = 0.9 m/s, Q = 60 cms

Historical Highwater Data :

HW was observed in April 1974 (Y ~ 3.3m). The 1959 design was based on Y ~ 4.3m.

WSC gauge 05EE001 (DA = 5740 km^2, 1958 – 1970, 1976 - 1983) reports Q ~ 40cms (April 1963, 1979). WSC gauge 05EE007 (DA = 7270 km^2, 1979 – Now) reports Q ~ 50cms (April 1990, May 1997). WSC gauge 05EE003 (DA = 1560 km^2, 1968 – 1986) reports Q ~ 80cms in April 1974. WSC gauge 05EE009 (DA = 1630 km^2, 1987 – Now) reports Q ~ 45cms in April 1997.

Basin Runoff Potential :

Gross DA = 5400 km^2 (beyond range of technique)

Conclusion :

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

Y = 3.5 m, V = 0.9 m/s, Q = 60 cms.
EL 573.5 m (2586-P)