BF 02008 Local Road Over Prairie Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 15 m, h = 2.5 m, T_h = 25 m
Use AT equation

At Bank Height : Y = 2.5 m, V = 2.0 m/s, Q = 100 cms
At Channel Capacity : Y = 3.5 m, V = 2.7 m/s, Q = 200 cms

Historical Highwater Data :

HW was noted in 1923 (damage to bridge), June 1972 (Y ~ 3.3m, erosion), and July 1999 (Y ~ 3m). The 1959 design was based on Y = 4m.

WSC Gauge 05DB002 (DA = 859km^2, 1922 - 1925, 1952 - Now) reports Q = 130cms (July 1999, gauged at Q ~ 110cms, stage rise ~ 2m), with other HW events in July 1986, June 1972, August 1954, and May 1964.

Basin Runoff Potential :

d = 70mm, T_p = 20 hrs, q = 1 cms/km^2.
Gross DA = 830 km^2.
Q_p = 830 cms.

Conclusion :

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

Y = 3.5 m, V = 2.7 m/s, Q = 200 cms.
EL 28.5 m (2371-P)