BF 08230 Local Road Over Prairie Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 14 m, h = 3.5 m, T_h = 24 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.7 m/s, Q = 110 cms
At Channel Capacity : Y = 4.5 m, V = 2.1 m/s, Q = 190 cms

Historical Highwater Data :

HW was noted in 1954 (Y = 4m), June 1972 (Y = 4m), and July 1999 (Y = 3m). The 2000 design was based on Y = 2.4m and Q = 120cms.

WSC Gauge 05DB002 (DA = 859km^2, 1922 - 1925, 1952 - Now) reports Q = 130cms in July 1999 (gauged at Q = 110cms, stage rise = 2m), with other HW events in July 1986, June 1972, August 1954, and May 1964. The largest storms in the database for this area are about 110 - 120mm in August 1925, June 1970, June 1972, and July 1986.

Basin Runoff Potential :

d = 70mm, T_p = 20 hrs, q = 1 cms/km^2.
Gross DA = 773 km^2.
Q_p = 770 cms.

Conclusion :

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

Recommended parameters : Y = 4.5 m, V = 2.1 m/s, Q = 190 cms.