BF 02044 Local Road Over East Prairie River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0007
B = 5 m, h = 2.0 m, T_h = 10 m
Use n = 0.045

At Bank Height : Y = 2.0 m, V = 0.7 m/s, Q = 10 cms
At Channel Capacity : Y = 3.0 m, V = 1.0 m/s, Q = 25 cms

Historical Highwater Data :

HW was noted in May 1916 (erosion of road grade), and July 1927 (washout, deck carried off). A 1983 note states that a log jam on the East Prairie River forced overflow into this channel. A 1988 BIM report notes a HWM with Y = 4.2m (no description, inspected in May, prior to 1988 storm). The 1994 design was based on Y = 2.2m and Q = 21cms.

There are no WSC gauges on this stream. Gauges in the area suggest HW in June 1920, July 1986, July 1988, and April 1997. The largest storms in the database for this area are in July 1931 with 130mm of rainfall and June 1970 with about 105mm.

Basin Runoff Potential :

d = 60mm, T_p = 20hrs, q = 0.83 cms/km^2.
Gross DA = 44 km^2.
Q_p = 36 cms.

Conclusion :

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

Recommended parameters : Y = 3.0 m, V = 1.0 m/s, Q = 25 cms.