BF 00879 Local Road Over Sturgeon River
Hydrotechnical Summary

Channel Capacity :

S = 0.001
B = 15 m, h = 2.7 m, T_h = 25 m
Use AT equation

At Bank Height : Y = 2.7 m, V = 1.5 m/s, Q = 75 cms
At Channel Capacity : Y = 3.7 m, V = 1.9 m/s, Q = 140 cms

Historical Highwater Data :

The highest HW data on file is in 1974 with Y = 4.0m. HW was also recorded in 1971 (Y = 2.1m), and 1948 (Y = 3.4m). The bridge was displaced by ice in 1902, and ice scars were observed to Y = 2.4m in 1988. Similar HW data was recorded at BF70052 u/s in 1948 and 1974.

WSC gauge 05EA001 (DA = 3350 km^2, 1914 – Now) reports Q = 115cms in April 1974 (gauged at Q = 116cms, stage rise = 2.8m) and Q = 90cms in 1948 (stage rise = 2.5m). The storm database notes 130mm in July 1953, and 110mm in June 1944, June 1965, July 1937, and July 1982.

Basin Runoff Potential :

Gross DA = 3402 km^2 (exceeds range of applicability of runoff depth method).

Conclusion :

The channel capacity estimate is consistent with HW observations.

Recommended parameters : Y = 3.7 m, V = 1.9 m/s, Q = 140 cms.