BF 09437 Local Road Over Heart River
Hydrotechnical Summary

Channel Capacity :

S = 0.0006
B = 13 m, h = 4.5 m, T_h = 26 m
Use AT equation

At Bank Height : Y = 4.5 m, V = 1.6 m/s, Q = 140 cms
At Channel Capacity : Y = 5.5 m, V = 1.9 m/s, Q = 220 cms

Historical Highwater Data :

A 1957 report notes a HWM over the deck with Y = 6m u/s. A 1984 report notes a HWM with Y = 4m. A 1990 BIM report notes a HWM with Y = 1.5m.

WSC gauge 07HA003 (DA = 1960km^2, 1963 – Now), reports Q = 168cms in April 1997, with other high runoff events in August 1964, April 1965, and April 1974. The largest gauging was for Q = 139cms with a stage rise of 2.6m. There are no storms in the database that exceed 100mm of rainfall for this area.

Basin Runoff Potential :

d = 50 mm, T_p = 20 hrs, q = 0.7 cms/km^2.
Gross DA = 1600 km^2.
Q_p = 1120 cms.

Conclusion :

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

Recommended parameters : Y = 5.5 m, V = 1.9 m/s, Q = 220 cms.