# BF 13117 Hwy 2 Over Heart River
# Hydrotechnical Summary

**Channel Capacity** :

S = 0.001
B = 20 m, h = 3.5 m, $T_h$ = 40 m
Use AT equation

At Bank Height : Y = 3.5 m, V = 1.7 m/s, Q = 180 cms
At Channel Capacity : Y = 4.5 m, V = 2.1 m/s, Q = 300cms

**Historical Highwater Data :**

HW was noted at this site in June 1990 with Y ~ 2.5m (V = 1.4m/s). A 1945 cross section notes a HWM with Y = 5m. The 1955 design was based on Y = 4.5m. A 1996 BIM report notes a HWM with Y = 3m.

WSC gauge 07HA003 (DA = 1960km$^2$, 1963 – Now) reports Q ~ 170cms (April 1965, 1974, 1997, and August 1964, gauged at Q ~ 140cms, stage rise ~ 2.8m).

**Basin Runoff Potential :**

Gross DA = 1890 km$^2$ (beyond range of technique)

**Conclusion :**

The channel capacity estimate is consistent with historic HW observations. Recommended parameters :

Y = 4.5 m, V = 2.1 m/s, Q = 300 cms.
EL 553.5 m (21549-P)