# BF 71637 Local Road Over Bear River
# Hydrotechnical Summary

**Channel Capacity** :

S = 0.0015
B = 4 m, h = 1.2 m, $T_h$ = 7 m
Use n = 0.045

At Bank Height : Y = 1.2 m, V = 0.8 m/s, Q = 5 cms
At Channel Capacity : Y = 1.8 m, V = 1.1 m/s, Q = 12 cms

**Historical Highwater Data :**

HW was noted at this site in spring 1982 with water close to the bottom of the girders (Y = 1.5m), and the 1992 BIM report refers to a HWM with Y = 0.7m. The culverts built in 1989 were based on Y = 1.1m and Q = 15cms.

Gauge 07GE007 (DA = 180 $km^2$, 1985 - 1999) reports the highest recorded flow of 36cms on April 18, 1997. The rise in stage according to the rating curve is just over 2m for Q = 18cms. The 1990 event was not large at this gauge (Q = 10cms). The largest storm in the database for this area is June 1964 with about 130mm of rainfall, followed by June 1965, June 1971, and June 1990 (larger over lower parts of basin) with 100mm.

**Basin Runoff Potential :**

d = 60 mm, $T_p$ = 20 hrs, q = 0.83 cms/$km^2$.
Gross DA= 57 $km^2$.
$Q_p$ = 47 cms.

**Conclusion :**

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

Recommended parameters : Y = 1.8 m, V = 1.1 m/s, Q = 12 cms.