BF 09341 Hwy 723 Over Bear River
Hydrotechnical Summary

Channel Capacity :

S = 0.0006
B = 7 m, h = 2.5 m, T_h = 15 m
Use n = 0.045

At Bank Height : Y = 2.5 m, V = 0.8 m/s, Q = 20 cms
At Channel Capacity : Y = 3.5 m, V = 1.0 m/s, Q = 45 cms

Historical Highwater Data :

Spring 1963 – HW over deck (Y = 3.2m). At BF 8233 (just u/s) : Around 1958 HW 0.3m below deck (Y = 3.2m), Spring 1963 HW up to girders (Y = 2.9m), June 1964 HW 1.0m below deck, April 1997 HW close to deck (Y = 3.5m, V = 0.6 m/s). The bank height appears to be a bit higher near this bridge.

Gauge 07GE007 (DA = 180 sq. km, 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= 180km^2.
Q_p = 150 cms.

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 1.0 m/s, Q = 45 cms.