BF 71824 Hwy 64 Over Montagneuse River
Hydrotechnical Summary

Channel Capacity :

S = 0.004
B = 7 m, h = 2 m, T_h = 15 m
Use n = 0.045

At Bank Height : Y = 2 m, V = 2.0 m/s, Q = 45 cms
At Channel Capacity : Y = 3 m, V = 2.8 m/s, Q = 100 cms

Historical Highwater Data :

HW was noted in 1965 with Y ~ 3.0m. A bridge report from 1963 notes a HWM with Y ~ 2.8m. Design notes from 1964 refer to HW with Y = 4.3 based on local observations, but this cannot be confirmed and appears unlikely (at least without blockage). A BIM report from 1992 notes a HWM with Y = 3.0m (no description, probably at inlet of culverts).

WSC Gauges 07FD012 (DA = 230, 1976 -2003) is located 6 km upstream of the structure. It suggests HW events in May 1984 (Qi = 30.6cms, stage rise = 2.2m), July 1988 (Qi = 19.9cms) and April 1997 (Qi = 28.4 cms). The largest storms in the storm database are 123mm of rainfall in Aug 1982, and about 110mm in Jul 1963.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 250 km^2.
Q_p ~ 200 cms.

Channel capacity at BF70050 u/s (DA = 230km^2, B = 8m, T = 15m, h ~ 2m, S ~ 0.001) suggests Q ~ 50 – 60cms. Therefore, the runoff potential would limit flow at this site to Q ~ 70cms.

Conclusion :

Basin runoff potential governs and is close to the range of historic observations.

Recommended parameters : Y = 2.5 m, V = 2.4 m/s, Q = 70 cms.