BF 01951 Local Road Over Beaverhill Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.00035
B = 5 m, h = 1.4 m, T_h = 10 m
Use n = 0.045

At Bank Height : Y = 1.4 m, V = 0.4 m/s, Q = 4 cms
At Channel Capacity : Y = 2.1 m, V = 0.6 m/s, Q = 10 cms

Historical Highwater Data :

A 1962 report notes a HWM with Y ~ 1.8m and a 1971 report notes a HWM with Y = 1.5m and estimates Q = 11cms. A 1980 photo shows a HWM about 1m above low water, and a 1989 BIM report notes a HWM with Y = 1.7m based on staining in the barrel.

Gauge 05EB015 (DA = 2930km^2, 1975 – 1986) is located well d/s of the influence of the lake, but reports highest flows in June 1983 and July 1986. Other gauges in the area suggest HW events in April 1974, April 1979, and April 1997. The largest storms in the storm database are 130mm of rainfall in June 1965, and about 90mm in July 1937 and June 1973.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 1950 km^2 (Beaverhill Lake just u/s)
Channel likely governs outlet rating curve.

Conclusion :

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

Recommended parameters : Y = 2.1 m, V = 0.6 m/s, Q = 10 cms.