BF 09997 Local Road Over Castor Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 4 m, h = 2.2 m, T_h = 9 m
Use n = 0.045

At Bank Height : Y = 2.2 m, V = 1.0 m/s, Q = 15 cms
At Channel Capacity : Y = 3.2 m, V = 1.5 m/s, Q = 35 cms

Historical Highwater Data :

The 1924 design was based on a HWM with Y = 3.0m. Scour at the abutments was repaired in 1994.

There are no WSC gauges on Castor Ck. Gauges in the area suggest HW events in April 1974. Gauge 05FC007 (DA = 77 km^2, 1986 - Now) on Young Ck reports Q = 53cms in July 1999 (mean daily Q = 23cms, maximum gauging at Q = 18cms, stage rise = 1.7m). The two largest storms in the database for this area are July 1962 with about 160mm of rainfall, and June 1973 with about 140m.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 181 km^2.
Q_p = 45 cms.

Conclusion :

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

Recommended parameters : Y = 3.2 m, V = 1.5 m/s, Q = 35 cms