BF 72964 Hwy 727 Over Howard Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0085
B = 8 m, h = 2.0 m (low bank within ravine), T_h = 14 m
Use n = 0.045

At Bank Height : Y = 2.0 m, V = 2.6 m/s, Q = 60 cms
At Channel Capacity : Y = 3.0 m, V = 3.7 m/s, Q = 150 cms

Historical Highwater Data :

HW was noted in spring 1963 (1.5m above u/s crown), June 1964 (1.8m above u/s crown), August 1964 (2.7m above u/s crown), and June 1990 (over road, 11m cover, massive drift jam, outlet flowing almost full with high velocities). With no blockage, Q ~ 180cms and V_{out} = 8m/s. Assuming partial blockage with V_{out} ~ 6m/s, Q = 130cms. Photos of the d/s channel indicate that the tailwater was below the d/s crown, and the mean channel velocity much lower (Y ~ 3m). A 1960 report notes a HWM with Y = 3m and estimates Q = 62cms.

There are no gauges on Howard Ck. Gauges in the area suggest HW events in June 1990, April 1997, and July 1988. The largest storms in the database for this area are about 110mm in July 1987 and 95mm in June 1988. The June 1990 storm was very large just to the south of this area.

Basin Runoff Potential :

d = 60mm, T_p = 20hrs, q = 0.83 cms/km^2.
Gross DA = 202 km^2.
Q_p = 170 cms.

Conclusion :

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

Recommended Parameters : Y = 3 m, V = 3.7 m/s, Q = 150 cms.