BF 07052 Local Road Over Arcadia Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 8 m, h = 3.5 m, T_h = 20 m
Use n = 0.04

At Bank Height : Y = 3.5 m, V = 1.7 m/s, Q = 80 cms
At Channel Capacity : Y = 4.5 m, V = 2.1 m/s, Q = 150 cms

Historical Highwater Data :

HW was observed in 1922 (washout), May 1965 (close to deck, Y ~ 4.5m), and June 1996 (over grade, Y ~ 4.5m). A 1958 report also notes a HWM close to the deck (Y ~ 4.5m).

Gauge 07BH001 (DA = 180 km^2) is located on Arcadia Ck but has no published flow records. Gauges in the area suggest HW events in May 1917, June 1983, July 1988, and June 1996. The largest events in the storm database for this area are June 1993 with about 140mm of rainfall, and June 1996 with 100mm.

Basin Runoff Potential :

d = 80mm, Tp = 20hrs, q = 1.1 cms/km^2.
Gross DA = 258 km^2.
Q_p = 280 cms.

Conclusion :

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

Recommended parameters : Y = 4.5 m, V = 2.1 m/s, Q = 150 cms.