BF 13103 Local Road Over Carrot Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 9 m, h = 4 m, T_h = 18 m
Use n = 0.04

At Bank Height : Y = 4.0 m, V = 1.8 m/s, Q = 100 cms
At Channel Capacity : Y = 5.0 m, V = 2.3 m/s, Q = 170 cms

Historical Highwater Data :

HW was noted in July 1954 (Y = 4.9m), 1969 (piles damaged, scour at north headslope, drift), June 1972 (over deck, Y = 4m, opening plugged with drift, superstructure partially removed), and July 1986 (superstructure lifted off and deposited on d/s bank, Y = 4.8m). A 1997 BIM report notes a HWM with Y = 5m (drift on top of pier sheeting). A 1992 assessment was based on Q = 150cms and the 2002 design was based on Q = 125cms.

There are no WSC gauges on Carrot Ck. Nearby gauges suggest HW in July 1986. The storm database shows rainfall of about 140mm in June 1944.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 236 km^2.
Q_p = 200 cms.

Conclusion :

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

Recommended parameters : Y = 5.0 m, V = 2.3 m/s, Q = 170 cms.