BF 01394 Local Road Over West Arrowwood Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0015
B = 9 m, h = 2.5 m, T_h = 15 m
Use n = 0.04

At Bank Height : Y = 2.5 m, V = 1.5 m/s, Q = 40 cms
At Channel Capacity : Y = 3.5 m, V = 2.0 m/s, Q = 85 cms

Historical Highwater Data :

HW was noted in 1947, 1948, and 1958 with the bridge washed out (associated with ice). Ice damage was observed to Y = 2.5m in 1958. A 1959 design was based on Y = 2.7m, and a 1972 design was based on Y = 3.0 – 3.6m.

WSC gauge 05BM014 (DA = 775km^2, 1967 – Now) reports Q = 90cms in March 1997 (gauged at Q = 74cms, stage increase = 2.6m), with Q = 82cms in April 1971 and Q = 72cms in March 1967. No storms have been recorded over this basin with rainfall exceeding 100mm.

Basin Runoff Potential :

d = 35mm, T_p = 40hrs, q = 0.25 cms/km^2.
Gross DA = 400 km^2.
Q_p = 100 cms.

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 1.9 m/s, Q = 85 cms.