BF 01714 Local Road Over Kneehills Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0016
B = 15 m, h = 4.0 m, T_h = 28 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.3 m/s, Q = 200 cms
At Channel Capacity : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms

Historical Highwater Data :

Reports from 1955 and 1962 note HW marks with Y = 5.0 to 5.5m. Nearby bridges suggest large HW events in April 1948 and April 1952, with y in the 5m range.

WSC Gauge 05CE002 (DA = 2430km^2, 1921-1930, 1957 – Now) is located d/s and reports Q = 150cms in April 1997. Gauging records show that the stream was gauged at Q = 170cms in April 1969 (stage rise = 3.2m). The largest storms for this area in the storm database are about 100mm of rainfall in June 1928 and 1970.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 2141 km^2.
Q_p = 450 cms.

Conclusion :

The channel capacity estimate is consistent with historic observations and is within the basin runoff potential. Flow may be reduced at this site due to an overflow cutoff channel, but depth will likely not be affected.

Recommended parameters : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms.