# BF 01324 Local Road Over Pigeon Lake Creek
# Hydrotechnical Summary

**Channel Capacity** :

S = 0.001
B = 6 m, h = 1.8 m, $T_h$ = 12 m
Use n = 0.045

At Bank Height : Y = 1.8 m, V = 0.8 m/s, Q = 13 cms
At Channel Capacity : Y = 2.7 m, V = 1.2 m/s, Q = 30 cms

**Historical Highwater Data :**

HW was noted at this site in July 1990, with water to top of crown d/s and ponded close to the grade u/s (Q ~ 20 – 25cms), well overbank. A 1966 report notes a HWM with Y = 2.1m and over the grade to the east.

WSC gauge 05FA019 (DA = 377km$^2$, 1979 – 1995) reports Q = 51cms in July 1990 (highest gauging unknown, rating curve suggests stage increase of 2.5m), and Q = 10 – 12cms in April 1981, 1982, and 1985. The largest storms in the storm database for this area are 125mm in July 1982 and July 1990, and 115mm in June 1944.

**Basin Runoff Potential :**

d = 50 mm, $T_p$ = 20 hrs, q = 0.7 cms/km$^2$.
Gross DA = 367 km$^2$.
$Q_p$ = 255 cms.

**Conclusion :**

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

Recommended parameters : Y = 2.7 m, V = 1.2 m/s, Q = 30 cms.