BF 78653 Local Road Over Little Smoky River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.0035
B = 2 m, h = 1.2 m, T_h = 4 m
Use n = 0.05

At Bank Height : Y = 1.2 m, V = 0.9 m/s, Q = 3 cms
At Channel Capacity : Y = 1.8 m, V = 1.4 m/s, Q = 8 cms

Historical Highwater Data :

A 1976 report notes that HW was just over the grade at the existing small pipe crossing (capacity ~ 5cms), with a large d/s scour hole, and estimated design Q = 7cms. A 1998 BIM report notes a HWM with Y = 1.5m at the current 2 – 1.6m pipe crossing (modelling suggests Q ~ 5 cms).

There are no WSC gauges on this stream. Gauges in the area suggest HW events in April 1990, 1994, and 1997. The largest storms for this area in the storm database are about 110mm of rainfall in August 1982 and June 1993.

Basin Runoff Potential :

d = 60 mm, T_p = 20 hrs, q = 0.83 cms/km^2.
Gross DA = 19 km^2.
Q_p = 16 cms.

Conclusion :

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

Recommended parameters : Y = 1.8 m, V = 1.4 m/s, Q = 8 cms.