BF 74405 Local Road Over Irrigation Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.014
B = 1 m, h = 0.6 m, T_h = 2 m
Use n = 0.05

At Bank Height : Y = 0.5 m, V = 1.1 m/s, Q = 1 cms
At Channel Capacity : Y = 1.0 m, V = 2.1 m/s, Q = 4 cms

Historical Highwater Data :

The 1954 report refers to water over the grade at the 8' bridge with a 1.2m deck height. The fill washed out in April 1959, but under light runoff conditions, as the culvert extensions uplifted due to no fill being placed, blocking the flow and ponding water.

WSC gauge 05AF008 (DA = 202km^2, 1917 – 1930, 1936) is located d/s and reports the largest flows in March 1928 (Q = 11cms), and April 1922 (Q = 8cms). Gauges in the area suggest HW events in March 1943, April 1955, and March 1994. The largest storms in the database for this area are June 2002 with about 140mm of rainfall, and September 1986 and June 1998 with 100mm.

Basin Runoff Potential :

d = 35mm, T_p = 20hrs, q = 0.25cms/km^2 (possibly 0.3 – 0.4 due to Cypress Hills)
Gross DA = 8 km^2.
Q_p = 2 – 3 cms.

Conclusion :

Basin runoff potential governs for this site and is consistent with historic observations.

Recommended parameters : Y = 1.0 m, V = 2.0 m/s, Q = 3 cms.