BF 00786 Hwy 19 Over Whitemud Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0008
B = 8 m, h = 3.5 m, T_h = 16 m
Use n = 0.04

At Bank Height : Y = 3.5 m, V = 1.2 m/s, Q = 50 cms
At Channel Capacity : Y = 4.5 m, V = 1.6 m/s, Q = 90 cms

Historical Highwater Data :

HW was noted in April 1974 with Y ~ 4 – 4.5m. Reports from 1902, 1955, and 1973 note HWM with Y ~ 3.5m.

Gauge 05DF006 (DA = 335km2, 1970 – Now) reports Q = 114cms in April 1974 and Q ~ 50cms in April 1971 and 1982). The rating curve suggests Y ~ 4.0m at Q = 114cms at the gauge. The largest storms in the storm database are about 135mm of rainfall in June 1944, and about 120mm in July 1937 and July 1982.

Basin Runoff Potential :

d = 40mm, T_p = 20hrs, q = 0.55 cms/km^2.
Gross DA = 265 km^2.
Q_p = 150 cms.

Conclusion :

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

Recommended parameters : Y = 4.5 m, V = 1.6 m/s, Q = 90 cms.