BF 85020 Highway 216 Over Blackmud Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0028
B = 5 m, h = 3 m, T_h = 12 m
Use AT equation

At Bank Height : Y = 3 m, V = 1.7 m/s, Q = 45 cms
At Channel Capacity : Y = 4 m, V = 2.3 m/s, Q = 90 cms

Historical Highwater Data :

The 2007 design was based on Q ~ 90cms. Nearby structures on the creek report high water events in 1956 and 1974.

WSC gauge 05DF003 (DA = 645km^2, 1977 – Now) located upstream reports Q = 20cms in 1983 and Q = 18cms in 1985.

The storm on basin tool reports large events in July 1937 (112mm), July 1982 (112mm), June 1965 (110mm) and June 1944 (105mm).

Basin Runoff Potential :

d=40mm, Tp = 20 hrs, q = 0.56 cms/km^2
Gross DA= 695km^2
Qp= 385 cms

Conclusion :

The channel capacity estimate is consistent with historic highwater observations and within the runoff potential. Recommended parameters :

Y = 4 m, V = 2.3 m/s, Q = 90 cms.