BF 71311 Hwy 677 Over Saddle River Tributary
Hydrotechnical Summary

Channel Capacity :

S = 0.007
B = 2.5 m, h = 2.0 m, T_h = 6 m
Use n = 0.05

At Bank Height : Y = 2.0 m, V = 1.8 m/s, Q = 15 cms
At Channel Capacity : Y = 3.0 m, V = 2.7 m/s, Q = 40 cms

Historical Highwater Data :

An additional span was added to the bridge in 1935 following a washout. HW was noted over the grade at the one pipe crossing in 1964 and 1968, and at the 2 pipe crossing in June 1990. A large d/s scour hole was noted in 1997.

There are no WSC gauges on this stream. WSC gauge (DA = 538km^2, 1968 – Now) located on the Saddle River reports Q = 440cms in June 1968 and June 1990 (largest gauged measurement Q = 365cms in June 1990 with stage rise = 4.5m). The largest storms for this area in the storm database are about 110 - 120mm of rainfall in June 1964, 1965, and 1990.

Basin Runoff Potential :

d = 70 - 80 mm, T_p = 20 hrs, q = 1 – 1.1 cms/km^2.
Gross DA = 35 km^2.
Q_p = 40 cms.

Conclusion :

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

Recommended parameters : Y = 3.0 m, V = 2.7 m/s, Q = 40 cms.