BF 01308 Hwy 540 Over Stimson Creek
Hydrotechnical Summary

Channel Capacity :

S = 0.0025
B = 9 m, h = 2.5 m, T_h = 18 m
Use n = 0.04

At Bank Height : Y = 2.5 m, V = 1.8 m/s, Q = 60 cms
At Channel Capacity : Y = 3.5 m, V = 2.5 m/s, Q = 125 cms

Historical Highwater Data :

HW was noted in 1920 (washout), 1932 (approach washed out), 1948 (Y = 2.7m, over grade), 1967 (Y = 2.4m, scour at east abutment), and 1969 (washout, Y = 2.7m). A 1909 cross section notes a HWM with Y = 1.8m, a 1967 report notes a HWM with Y = 1.5m, and a 1995 BIM report notes a HWM with Y = 3m.

WSC gauge 05BL007 (DA = 263km^2, 1912 – 1919, 1938 - Now) reports Q = 98cms in June 1995 (stage increase = 2m). The largest gauging is at Q = 60cms and stage increase = 1.6m. The largest storms in the database for this area are June 1963 (160mm), May 1923 (150mm), June 1932 and May 1942 (140mm).

Basin Runoff Potential :

d = 70mm, T_p = 20 hrs, q = 1.0 cms/km^2.
Gross DA = 311 km^2.
Q_p = 310 cms.

Conclusion :

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

Recommended parameters : Y = 3.5 m, V = 2.5 m/s, Q = 125 cms.