BF 00277 Hwy 836 Over Kneehills Ck
Hydrotechnical Summary

Channel Capacity :

S = 0.0016
B = 15 m, h = 4.0 m, T_h = 28 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.3 m/s, Q = 200 cms
At Channel Capacity : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms

Historical Highwater Data :

A bridge at this site was washed out in 1916. Sandbags were placed on the bridge and ice floes directed through the opening in April 1948. HW was again observed in April 1952 to 0.6m over the deck (Y = 5.0 – 5.4m). HW was also noted in April 1971 with V = 2.1 – 2.4m/s at Y = 3.6m and high ice marks noted to Y = 4.5m.

WSC Gauge 05CE002 (DA = 2430km^2, 1921-1930, 1957 – Now) is located d/s and reports Q = 150cms in April 1997. Gauging records show that the stream was gauged at Q = 170cms in April 1969 (stage rise = 3.2m). The largest storms for this area in the storm database are about 100mm of rainfall in June 1928 and 1970.

Basin Runoff Potential :

d = 35 mm, T_p = 40 hrs, q = 0.25 cms/km^2.
Gross DA = 2186 km^2.
Q_p = 550 cms.

Conclusion :

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

Recommended parameters : Y = 5.0 m, V = 2.7 m/s, Q = 310 cms.