BF 09941 Local Road Over Redwillow River
Hydrotechnical Summary

Channel Capacity :

S = 0.002
B = 25 m, h = 4.0 m, T_h = 45 m
Use AT equation

At Bank Height : Y = 4.0 m, V = 2.5 m/s, Q = 350 cms
At Channel Capacity : Y = 5.0 m, V = 3.0 m/s, Q = 550 cms

Historical Highwater Data :

HW was noted in 1968 (Y = 4.9m), June 1972 (Y = 4.0m), July 1982 (Y = 4.7m), and June 1990 (Y = 4.7m, over grade). The 1978 design was based on Y = 5.5m and Q = 450cms.

WSC Gauge 07GD004 (DA = 1249km^2, 1993 – Now) reports Q = 190cms in July 2001 (gauged at Q = 171cms, stage rise = 2.2m). Gauge 07GD003 (DA = 1610km^2, 1983 – 1993) reports Q = 660cms (stage rise = 4.7m, gauging info not available). Storm database coverage is limited for this basin as much of it is located in BC.

Basin Runoff Potential :

d = 60 – 70 mm, T_p = 20 hrs, q = 0.9 cms/km^2.
DA = 1270 km^2 .
Q_p = 1140 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 = 3.0 m/s, Q = 550 cms.