BF 81531 Hwy 510 Over Oldman River
Hydrotechnical Summary

Channel Capacity :

S = 0.0035 (hydraulic gradeline governed by BW from Oldman Dam)
B = 60 m, h = 5 m, T_h = 90 m (u/s channel, crossing is causeway)
Use AT Equation

At Bank Height : Y = 5.0 m, V = 3.8 m/s, Q = 1400 cms
At Channel Capacity : Y = 6.0 m, V = 4.4 m/s, Q = 2000 cms

Historical Highwater Data :

Reservoir elevation at time of peak inflow in 1995 was just below 1118.0m. Estimated total peak inflow into dam was estimated to be Q ~ 3500cms (DA ~ 4400km^2), with peak outflow routed to Q ~ 2700cms.

WSC Gauge 05AA023 (DA ~ 1450km^2, 1950 – Now) reports Q ~ 1320 in 1995 (max gauging at Q < 500cms, stage rise to peak ~ 5.5m), Q ~ 450cms in 1953 and 2005, and Q ~ 370cms in 1975. Gauge 05AA001 (DA ~ 1940km^2, 1908 – 1931, 1944 – 1949) reports Q ~ 950cms in 1923 and Q ~ 500cms in 1929.

Basin Runoff Potential :

Gross DA = 1900 km^2, runoff potential is not applicable.

Conclusion :

Dam design and operation governs (1995). Recommended parameters :

Y = 19 m, V = 0.8 m/s (Q/A), Q = 1700 cms.
HW EL 1118.6m (Dwg. 14920)