

APPENDIX C

Detailed Model Simulation Results for Proposed Situation

Figure C-1 to C-15 complement the tabulated peak flood level and discharge predictions in Tables 4-3 and 4-4 (Section 4) for the proposed situation in the Mangapouri Stream and the unnamed watercourse draining the Racecourse Catchment.

Figures C-1 to C-7 show water level hydrographs for selected flood cases above at the following locations:

- upstream of the old railway culvert on the Mangapouri Stream (Figure C-1)
- upstream of the new Expressway culvert on the Mangapouri Stream (Figure C-2)
- upstream of the existing SH1 culvert on the Mangapouri Stream (Figure C-3)
- within the remnant railway wetland area (Figure C-4)
- within the second wetland area (Figure C-5)
- upstream of the new Expressway / railway culvert on the unnamed watercourse draining the Racecourse Catchment (Figure C-6)

Figure C-7 shows backwater profiles along the Mangapouri Stream for the same selected flood cases.

Figures C-8 to C-14 show flood discharge hydrographs at:

- the old railway culvert on the Mangapouri Stream (Figure C-8)
- the existing SH1 culvert on the Mangapouri Stream (Figure C-9)
- total Rahui Road outflow – overflow plus relief culvert outflow (Figure C-10)
- the remnant railway wetland outlet culvert (Figure C-11)
- the outlet culvert from the second wetland (Figure C-12)
- the new Expressway / railway culvert on the unnamed watercourse draining the Racecourse Catchment (Figure C-13)

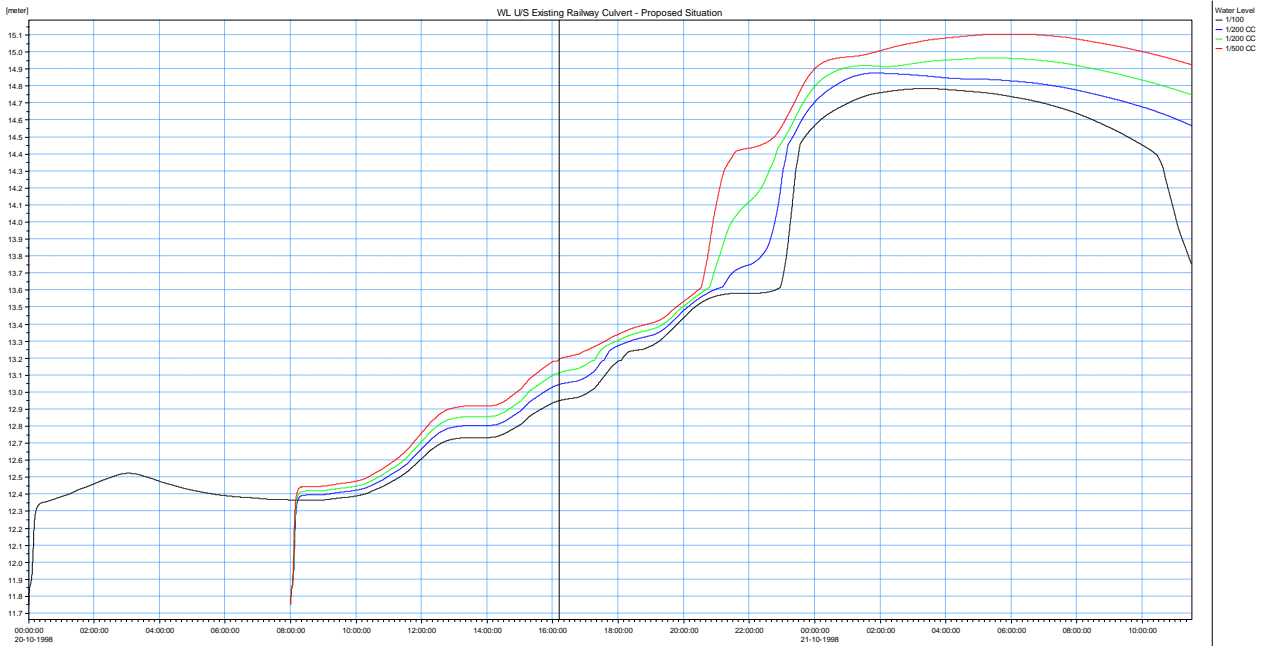


Figure C-1 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of old railway embankment on Mangapouri Stream

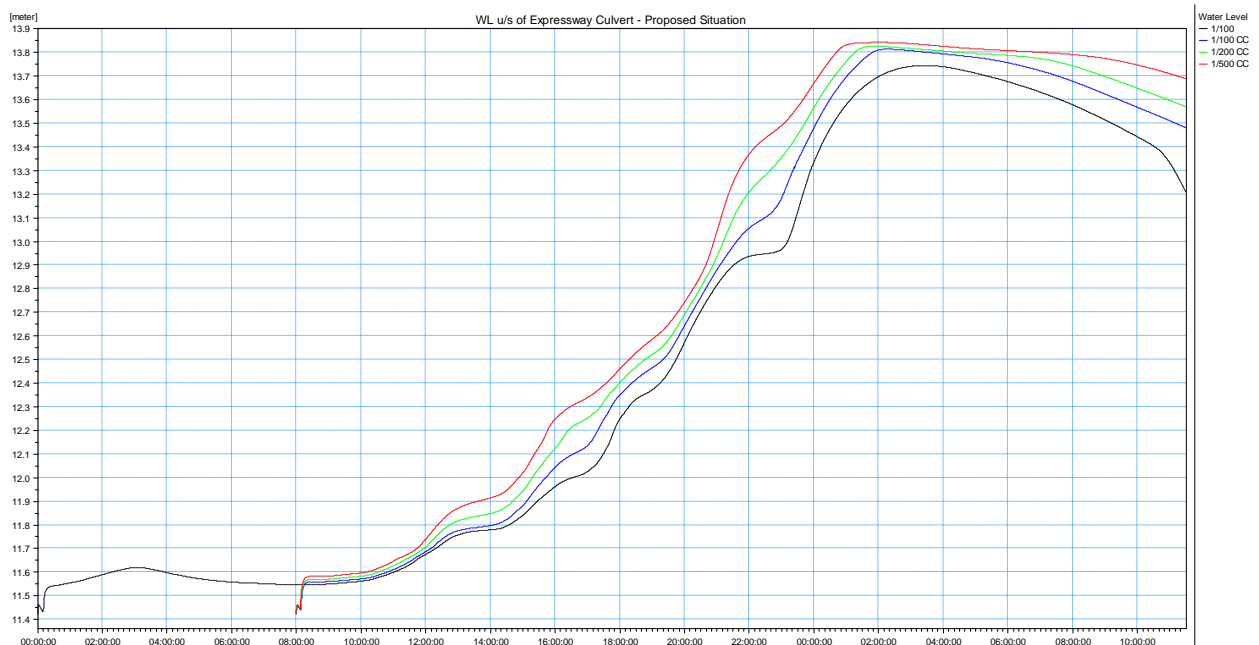


Figure C-2 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods in front of proposed Expressway culvert on Mangapouri Stream

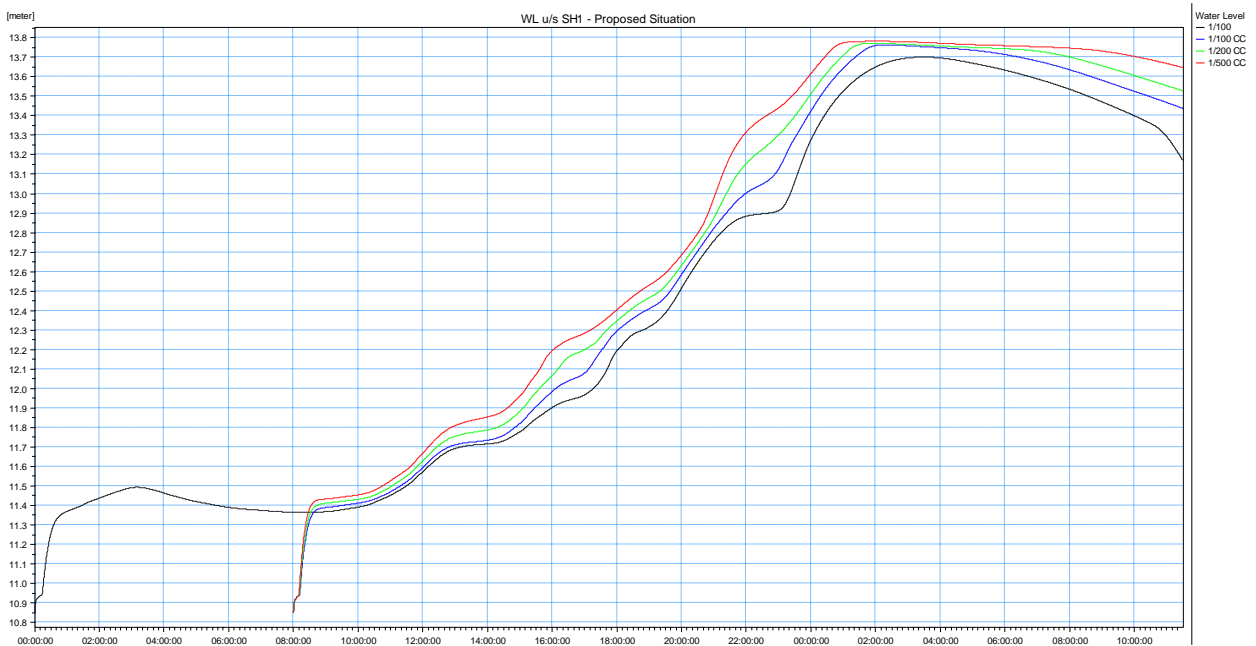


Figure C-3 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of SH1 culvert on Mangapouri Stream

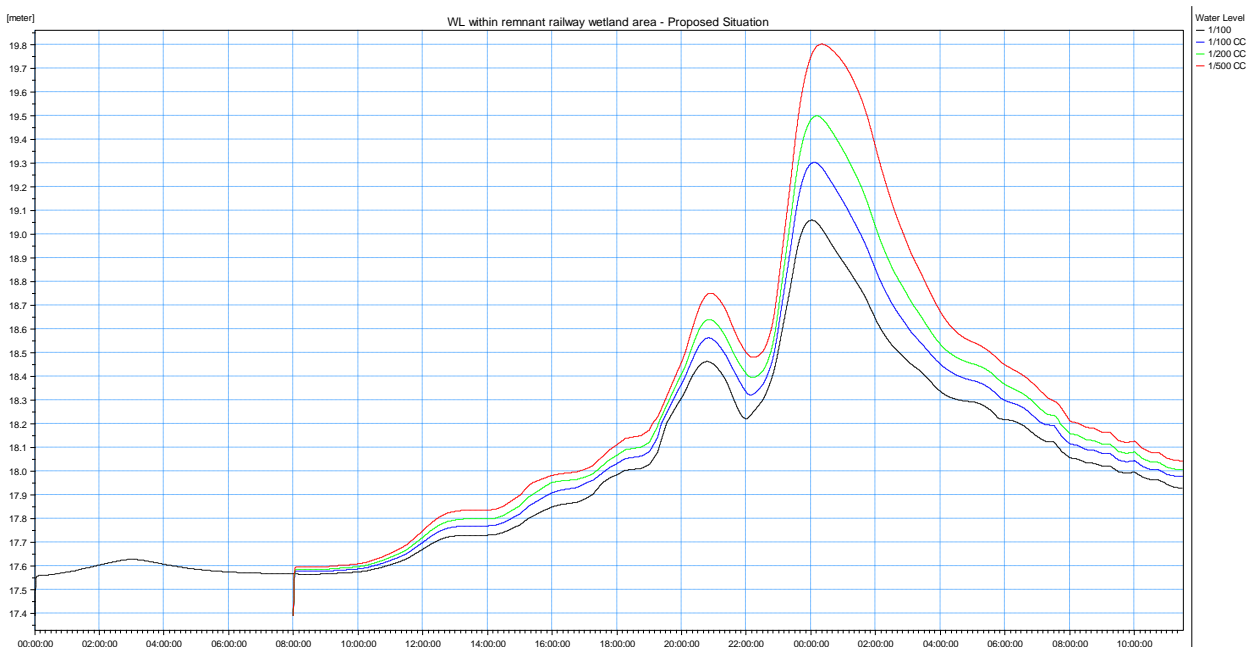


Figure C-4 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods in remnant railway wetland area

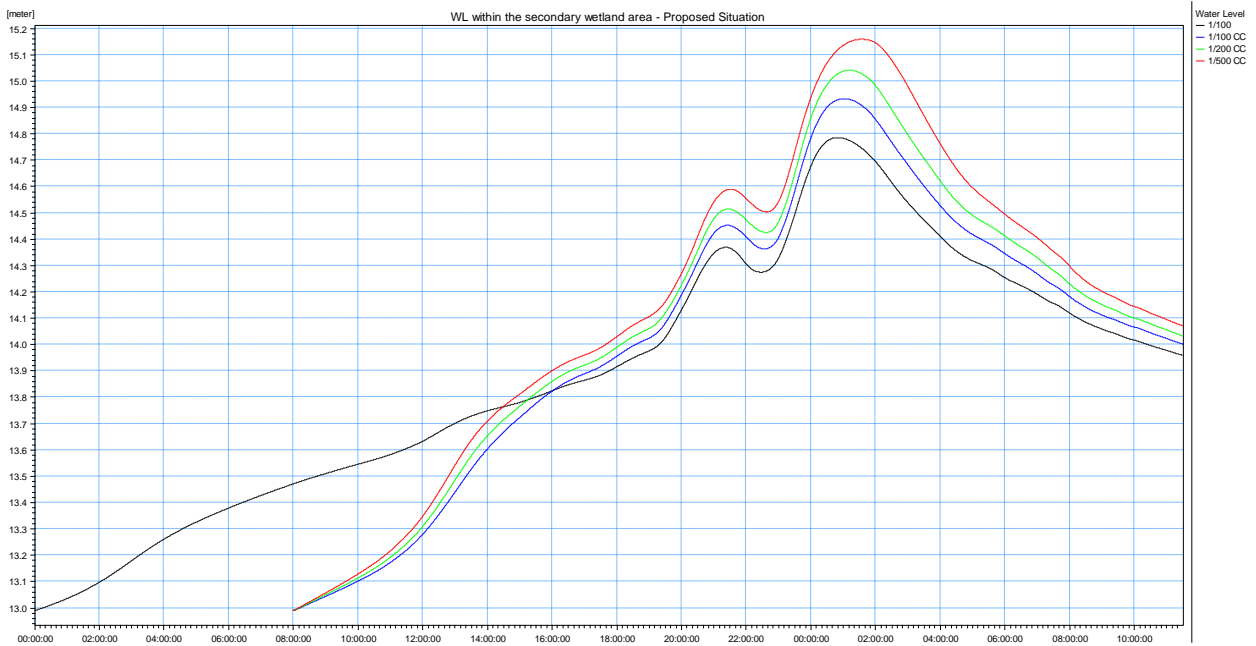


Figure C-5 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods in second railway wetland area for the proposed situation

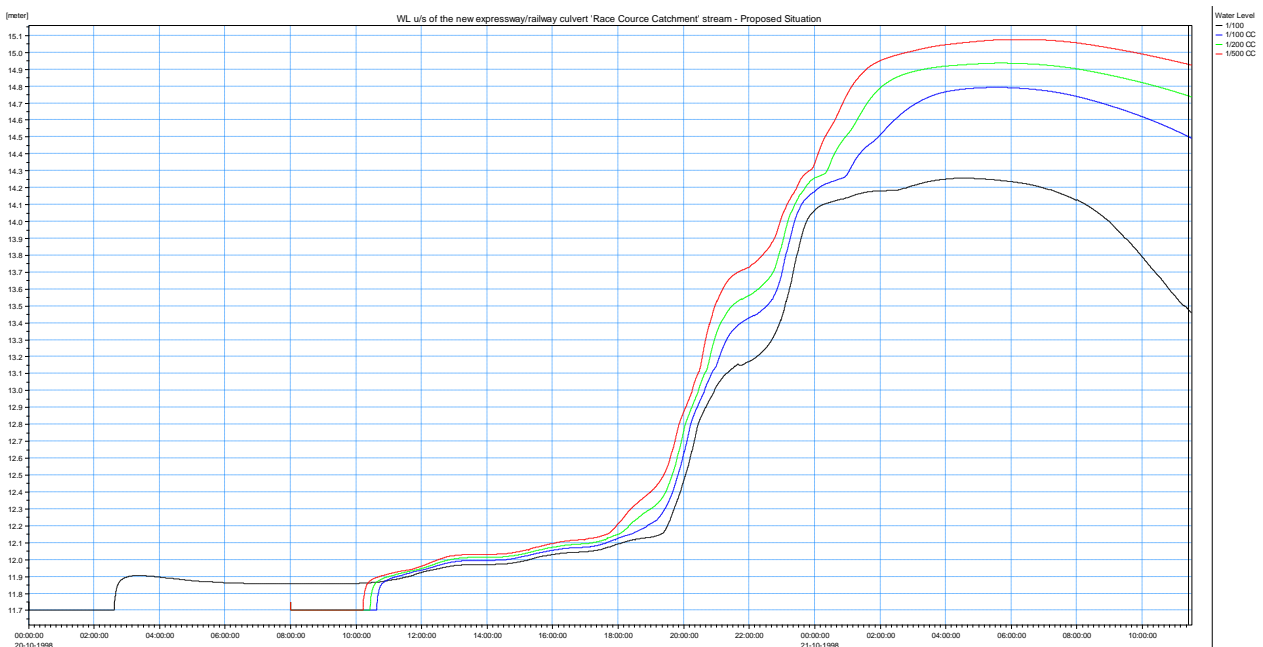


Figure C-6 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of the new Expressway / railway culvert on the unnamed watercourse draining the Racecourse Catchment (Figure C-6)

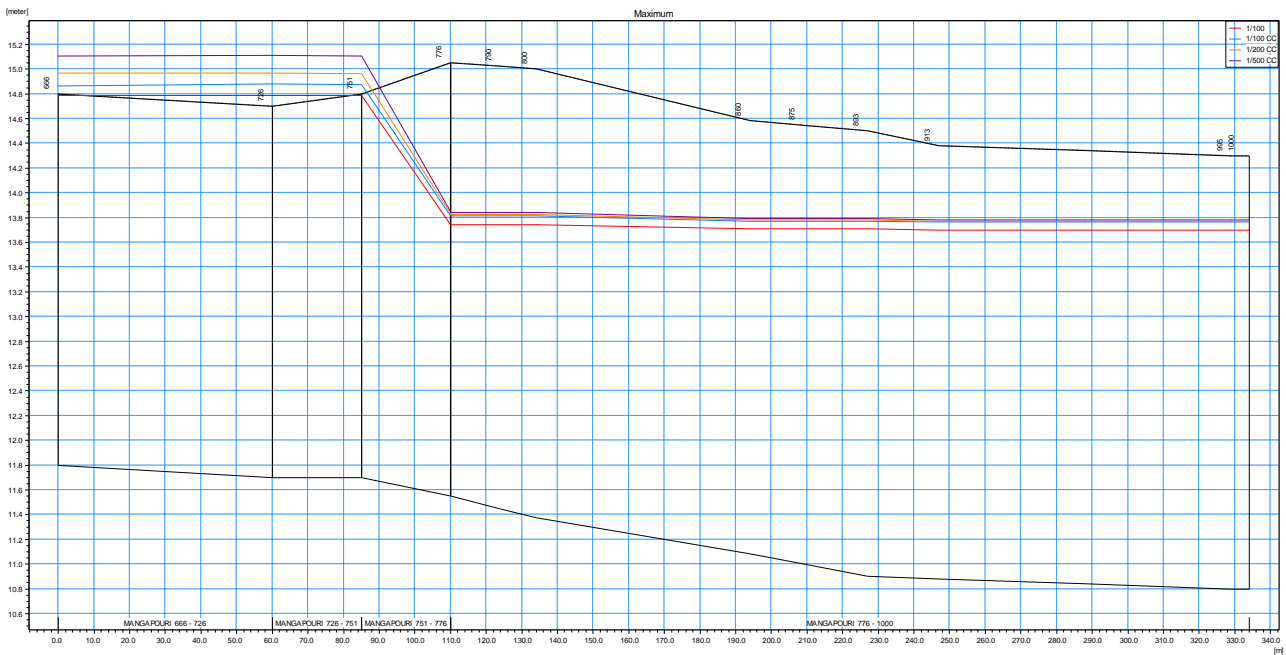


Figure C-7 Backwater profiles along the Mangapouri Stream for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

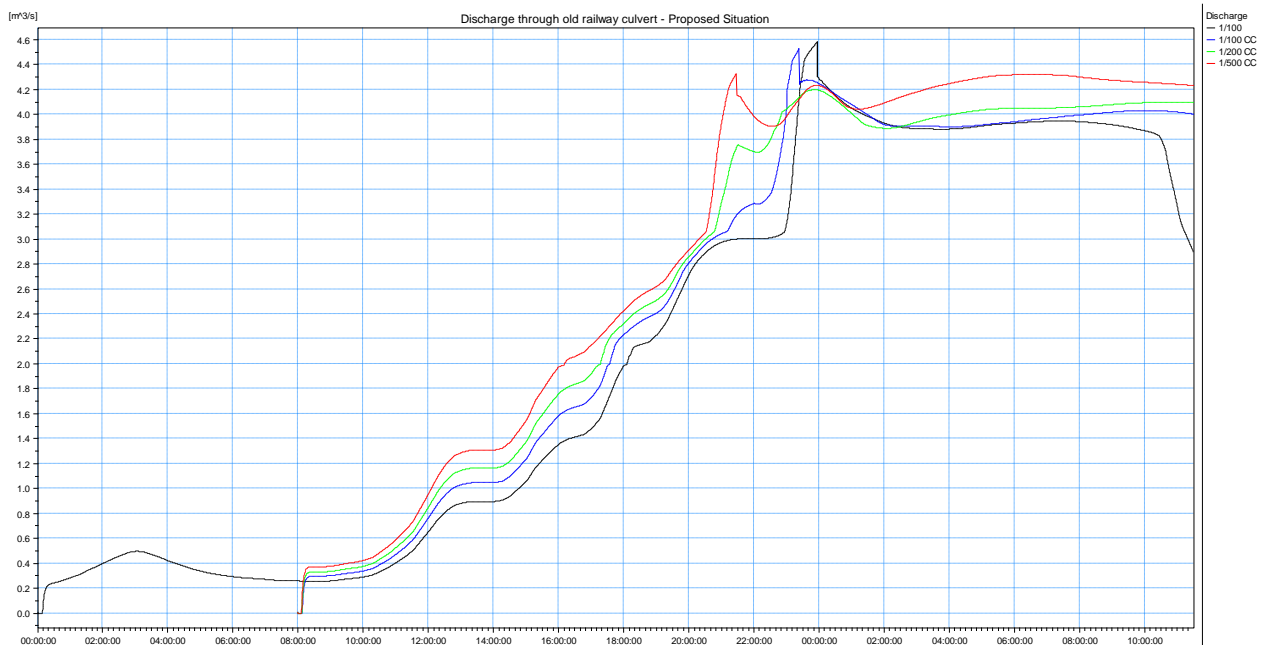


Figure C-8 Discharge hydrographs for the old railway culvert on the Mangapouri Stream for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

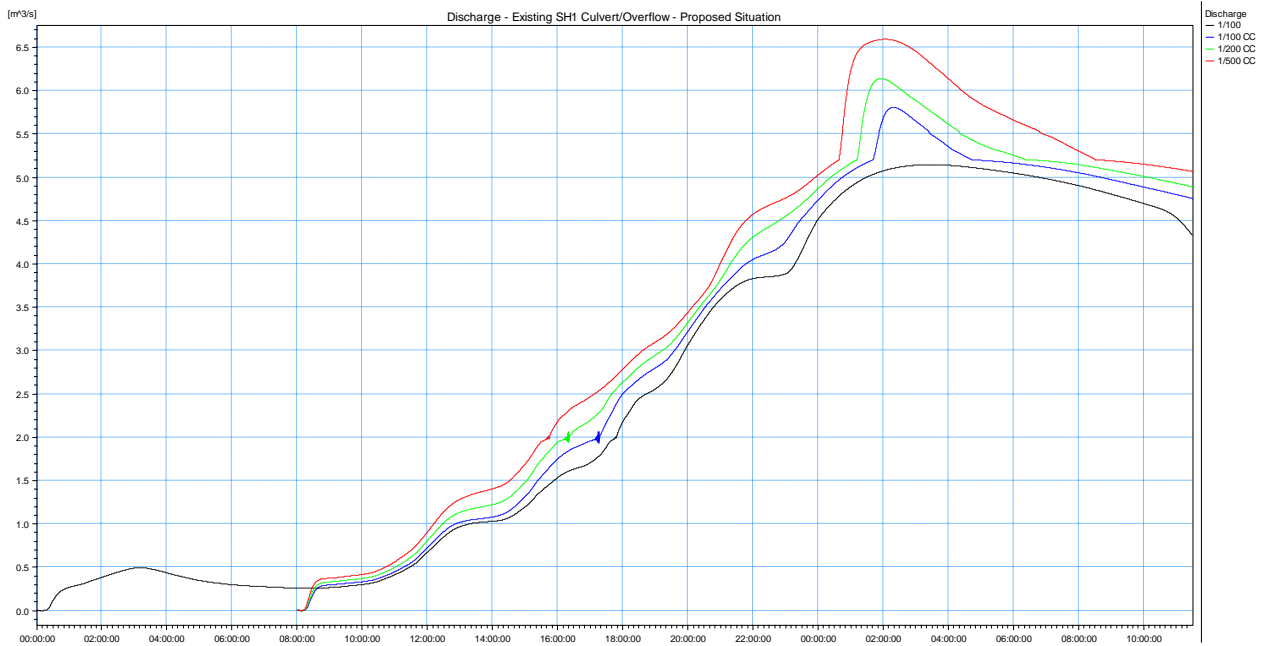


Figure C-9 Discharge hydrographs for the existing SH1 culvert on the Mangapouri Stream for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

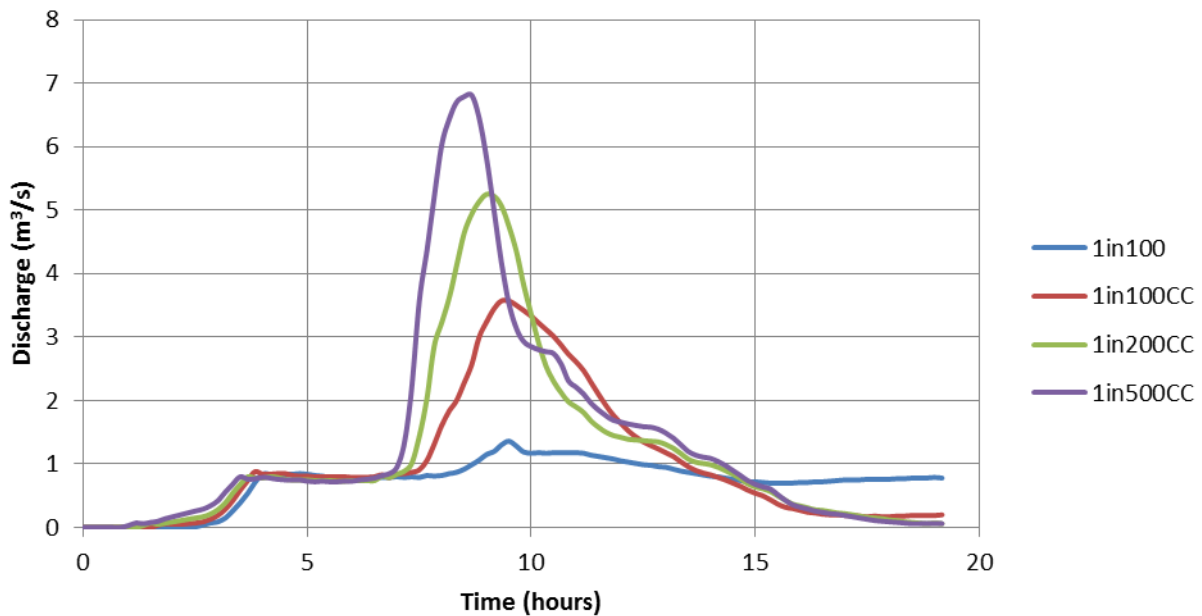


Figure C-10 Discharge hydrographs for the total Rahui Road outflow - overflow plus relief culvert outflow for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

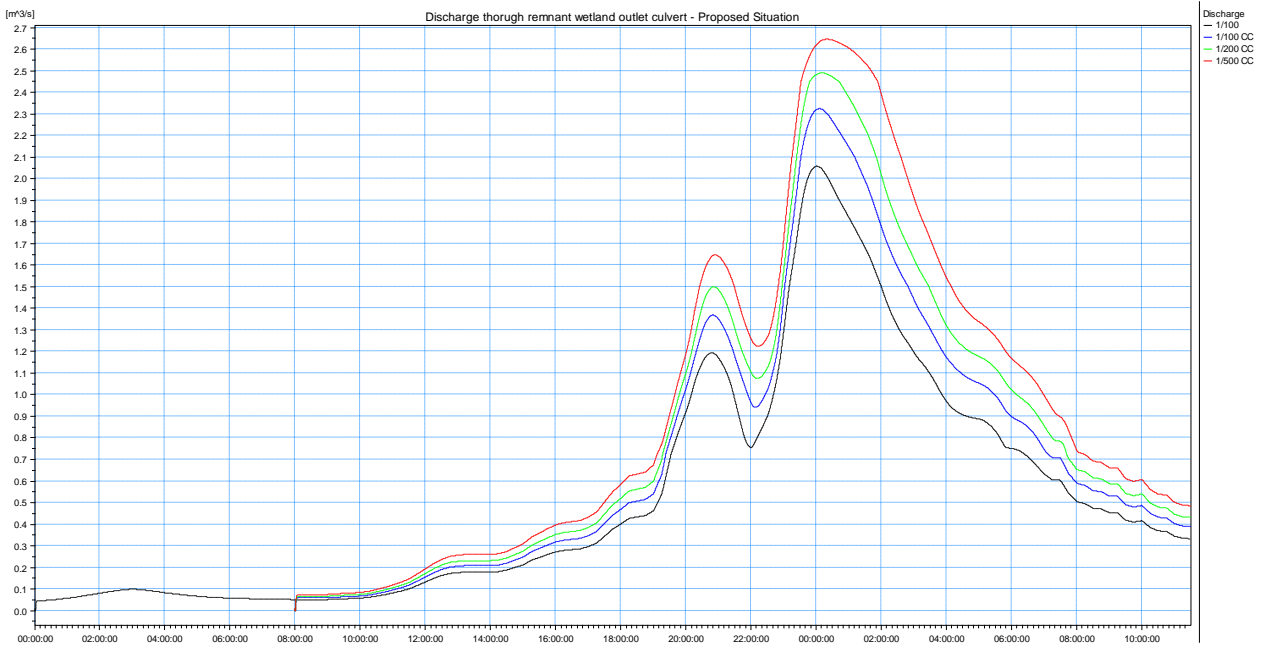


Figure C-11 Discharge hydrographs for the remnant railway wetland outlet culvert for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

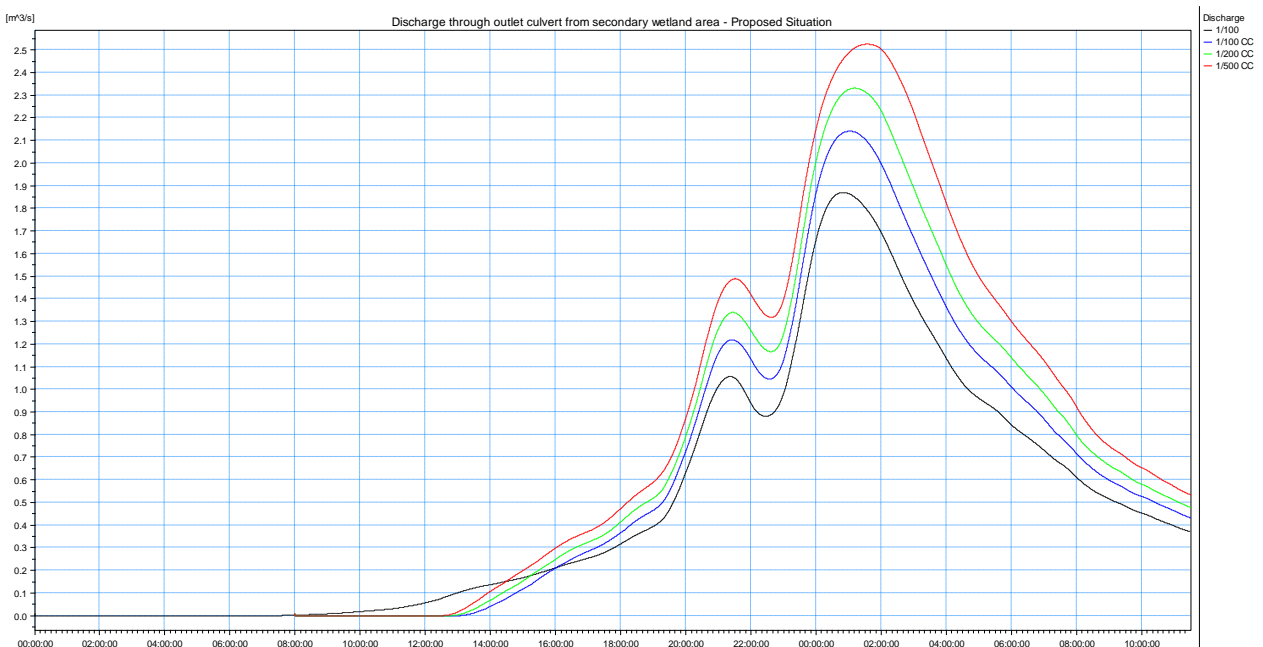


Figure C-12 Discharge hydrographs for the outlet culvert from the second wetland for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

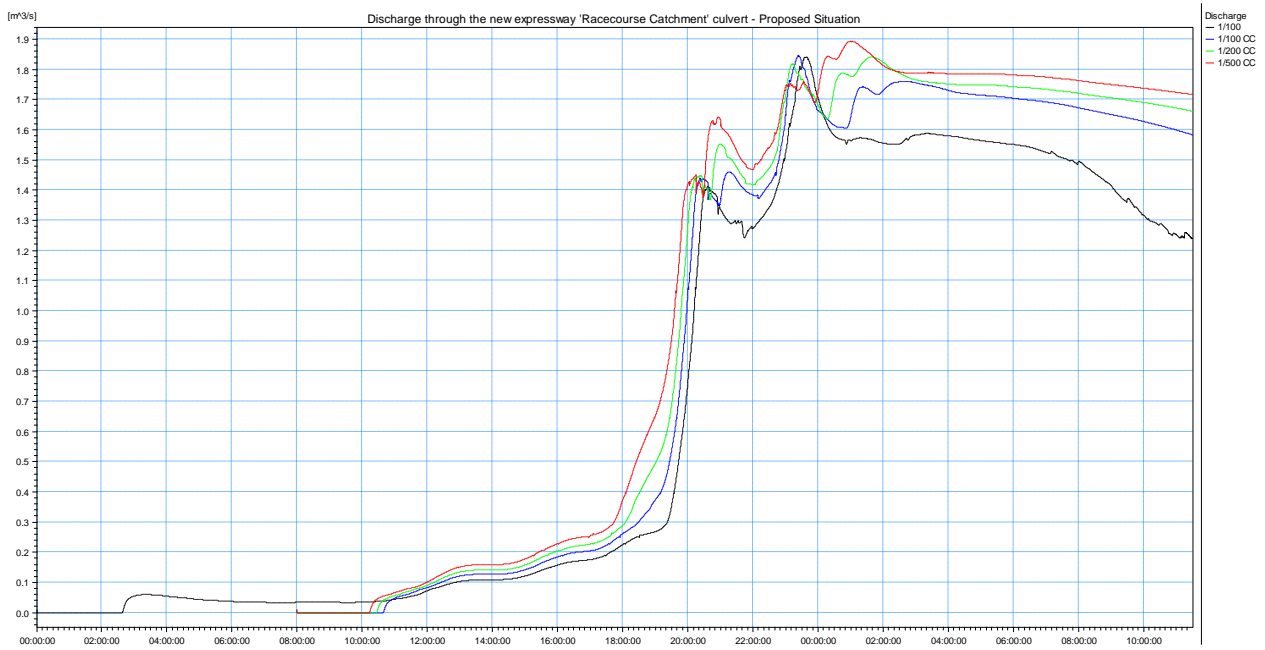


Figure C-13 Discharge hydrographs for the new Expressway / railway culvert on the unnamed watercourse draining the Racecourse Catchment for the 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods

This page deliberately left blank.