

APPENDIX B

Detailed Model Simulation Results for Existing Situation

Figures B-1 to B-8 complement the tabulated peak flood level and discharge predictions in Tables 3-2 and 3-3 for the existing situation in the Mangapouri Stream.

Figures B-1 to 3-9 show water level hydrographs for selected flood cases above at the following locations from the model simulations for the existing situation:

- upstream of the County Road culvert (Figure B-1)
- upstream of the existing NIMT railway culvert (Figure B-2)
- upstream of the existing SH1 culvert (Figure B-3)
- within the railway wetland area (Figure B-4)

Figure B-5 shows backwater profiles along the Mangapouri Stream for the same selected flood cases.

Figures B-6 to B-8 show flood discharge hydrographs at:

- the existing NIMT railway culvert (Figure B-6)
- the existing SH1 culvert (Figure B-7)
- the railway wetland outlet culvert (Figure B-8)

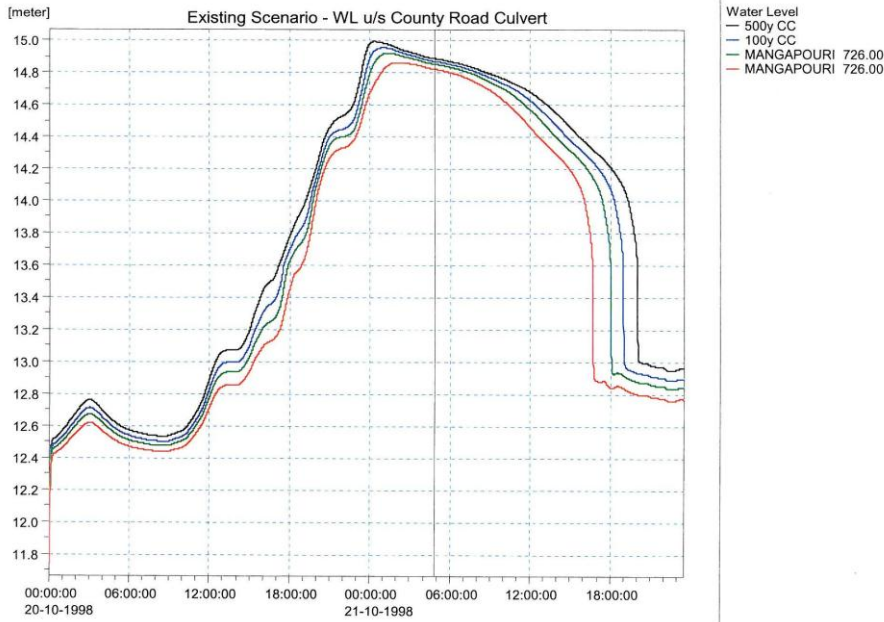


Figure B-1 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of County Road culvert

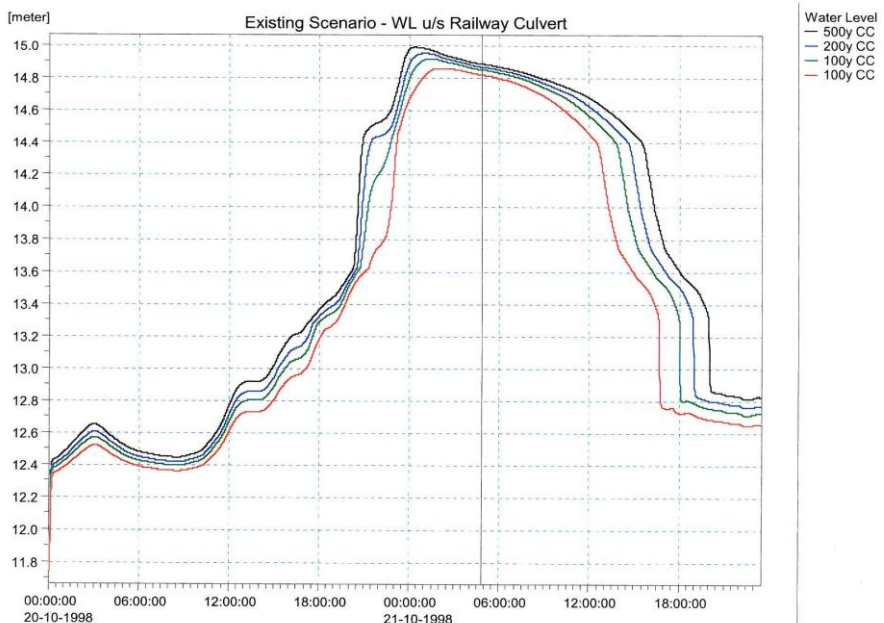


Figure B-2 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of existing NIMT railway embankment

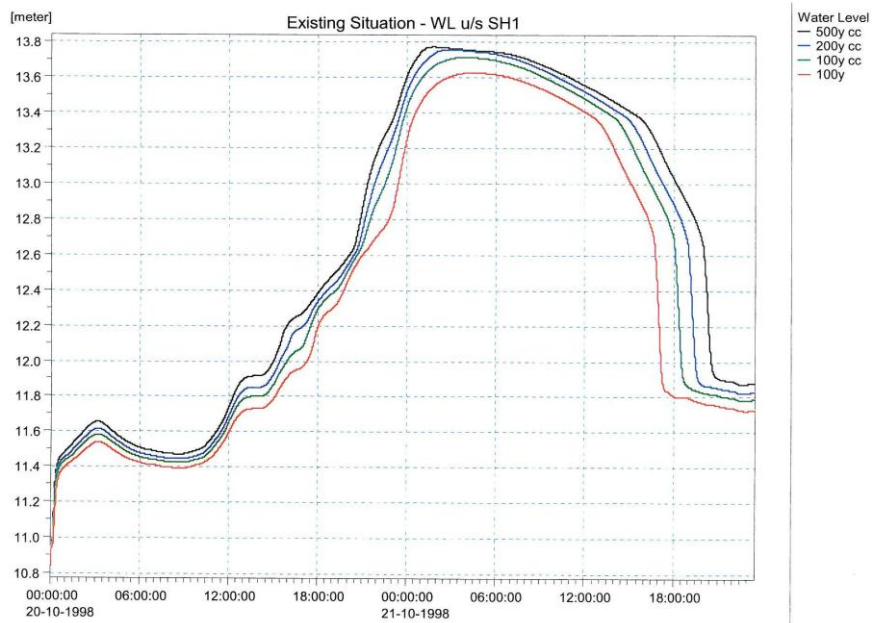


Figure B-3 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of SH1 culvert

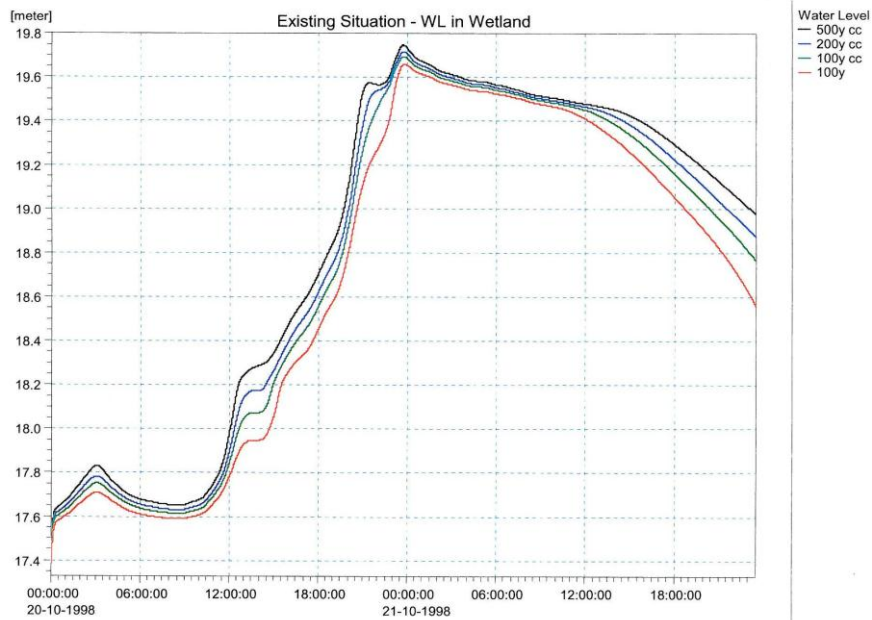


Figure B-4 Water level hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods in existing railway wetland

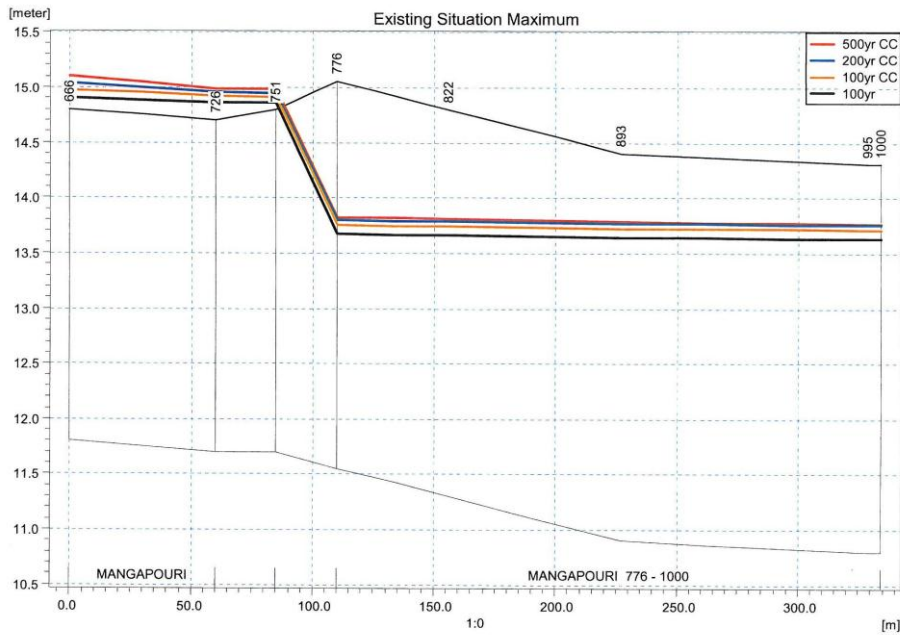


Figure B-5 Backwater profiles for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods along Mangapouri Stream upstream of SH1 culvert

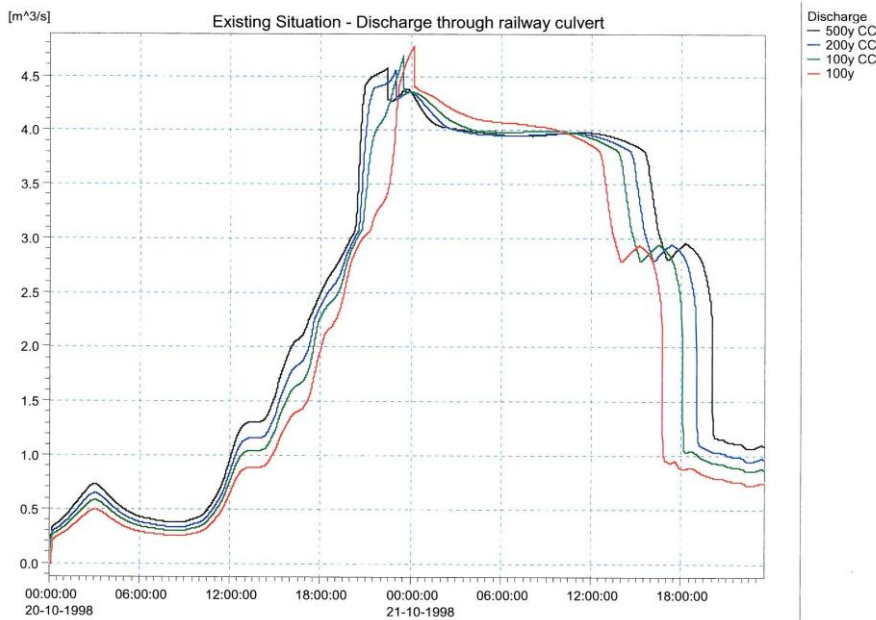


Figure B-6 Flood discharge hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of existing NIMT railway embankment

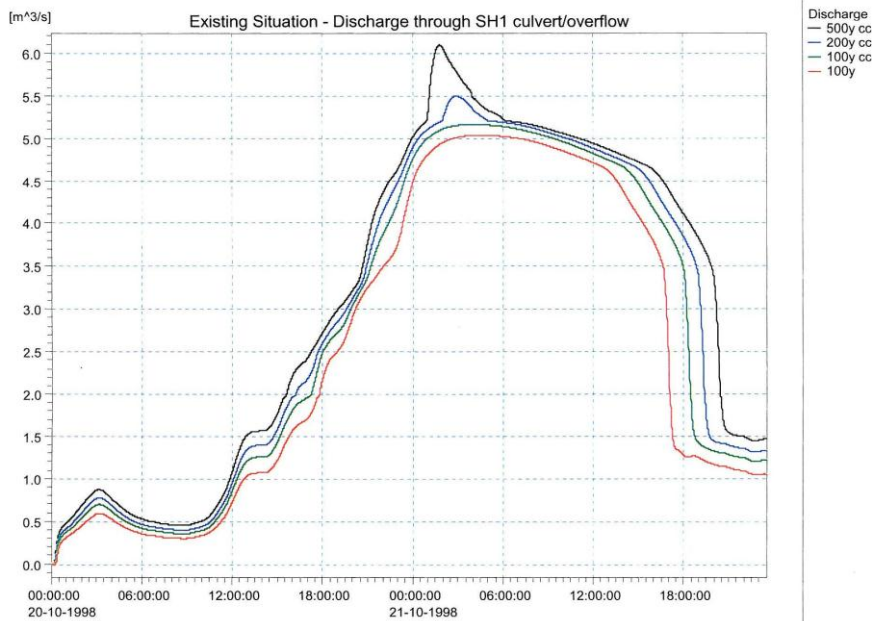


Figure B-7 Flood discharge hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods upstream of existing SH1 culvert

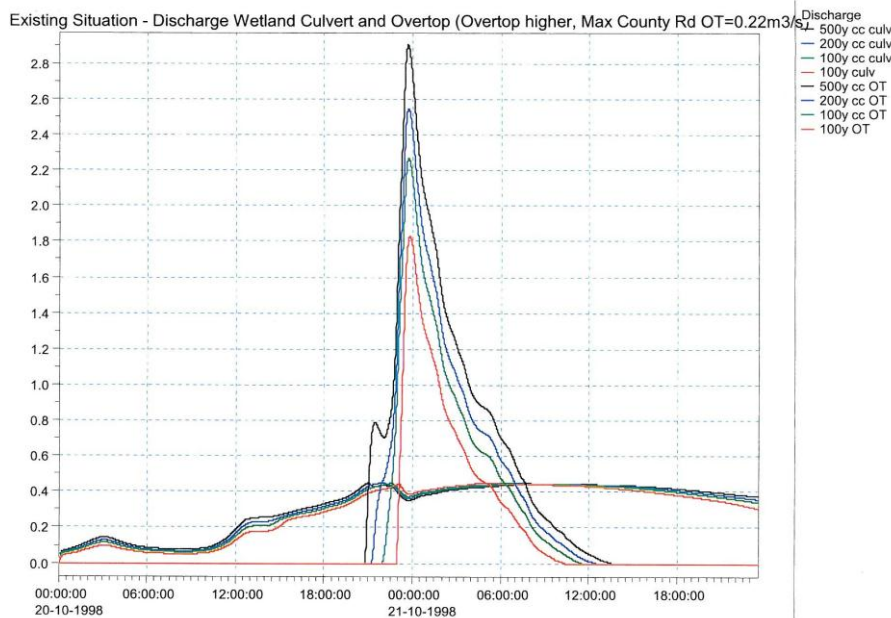


Figure B-8 Flood discharge hydrographs for 1% AEP, 1% AEP + CC, 0.5% AEP + CC and 0.2% AEP + CC floods out of railway wetland