

# Appendix C1

**Flooding investigations:**

**Flooding investigations graphics**

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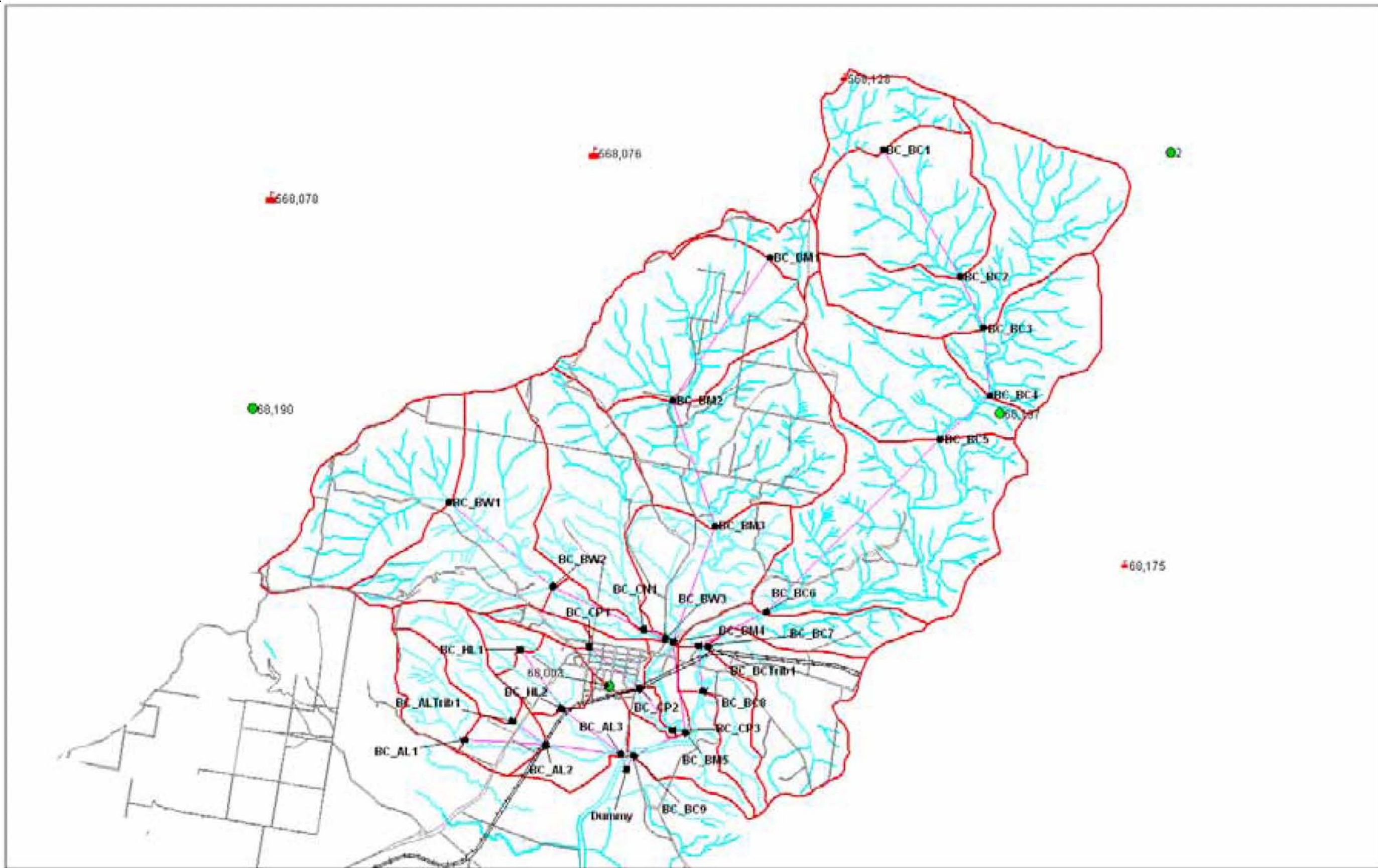


**Legend**

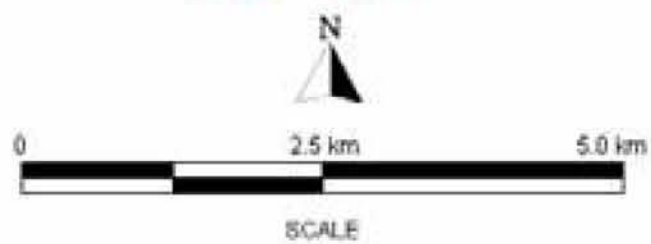
- Ground contours (10m interval)
- Watercourses and Drainage Lines







- LEGEND**
- ▭ Catchment Boundary
  - ▭ Roads
  - ▲ Plethograph
  - Daily Rainfall Station
  - ~ Watercourse
  - RAFTS Model Nodes
  - +—+— Railway



**Figure 2**  
Broughton Creek Catchment Area and RAFTS Subcatchment Layout

AECOM\160021933\_GBR4\_Tech\_work\_area\7\_GISMaps\FloodMapping\SRO\_A2\_SubcatchmentLayout.mxd Dated 21/05/2012





**Legend**

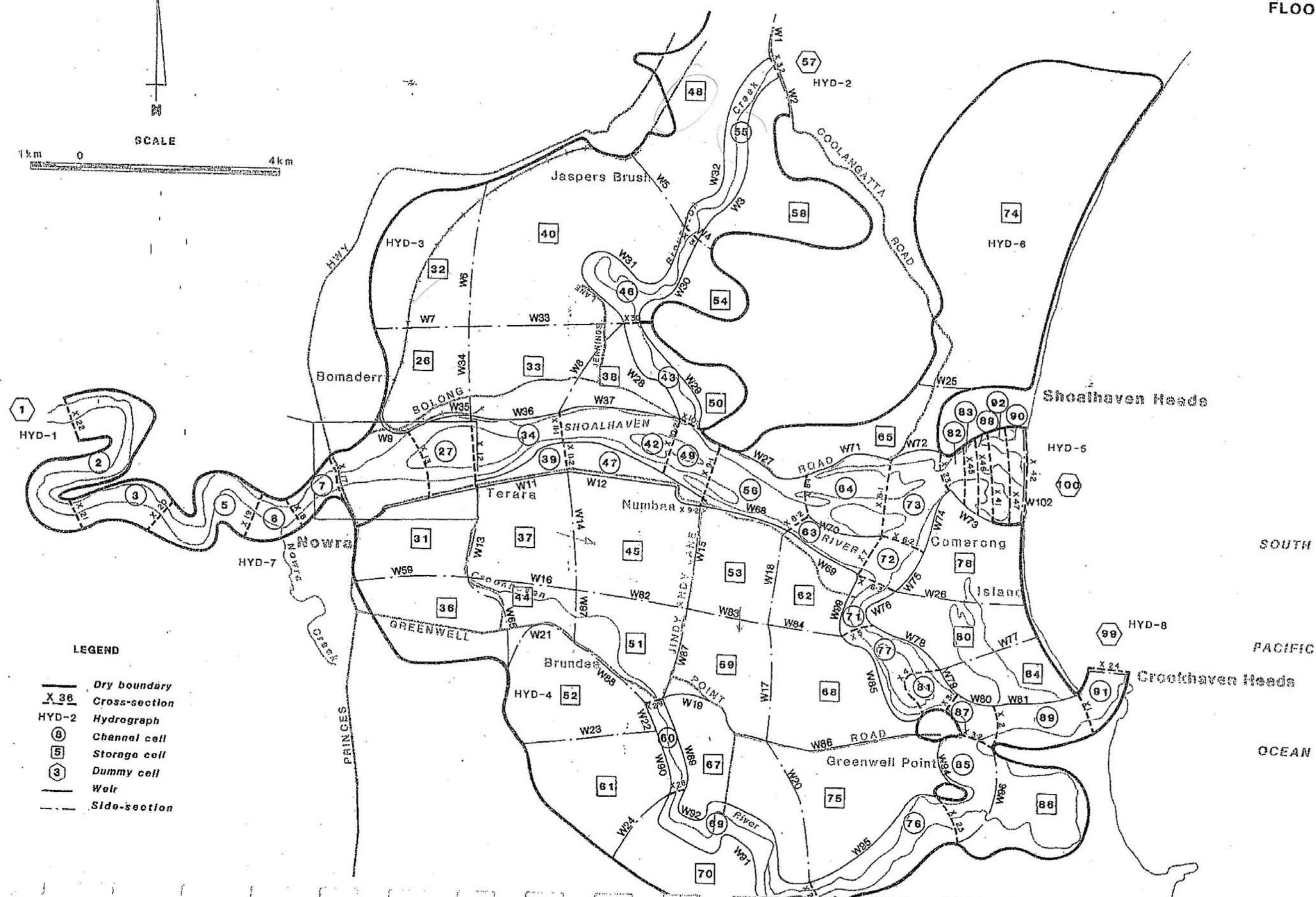
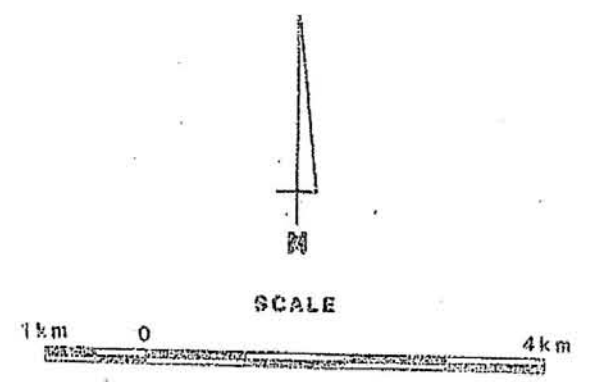
- Inflow boundary
- Downstream boundary
- 1D node
- 1D reach (culvert or open channel)
- Original model extent (CARDNO, 2011)
- Extended model extent



AECOM\IP\60021933\_GBR\Tech\_work\m\7\_GIS\Map\FloodMapping\SRC\_A3\_TUFLOW\_model\_layout.mxd, Drafted 21/05/2012

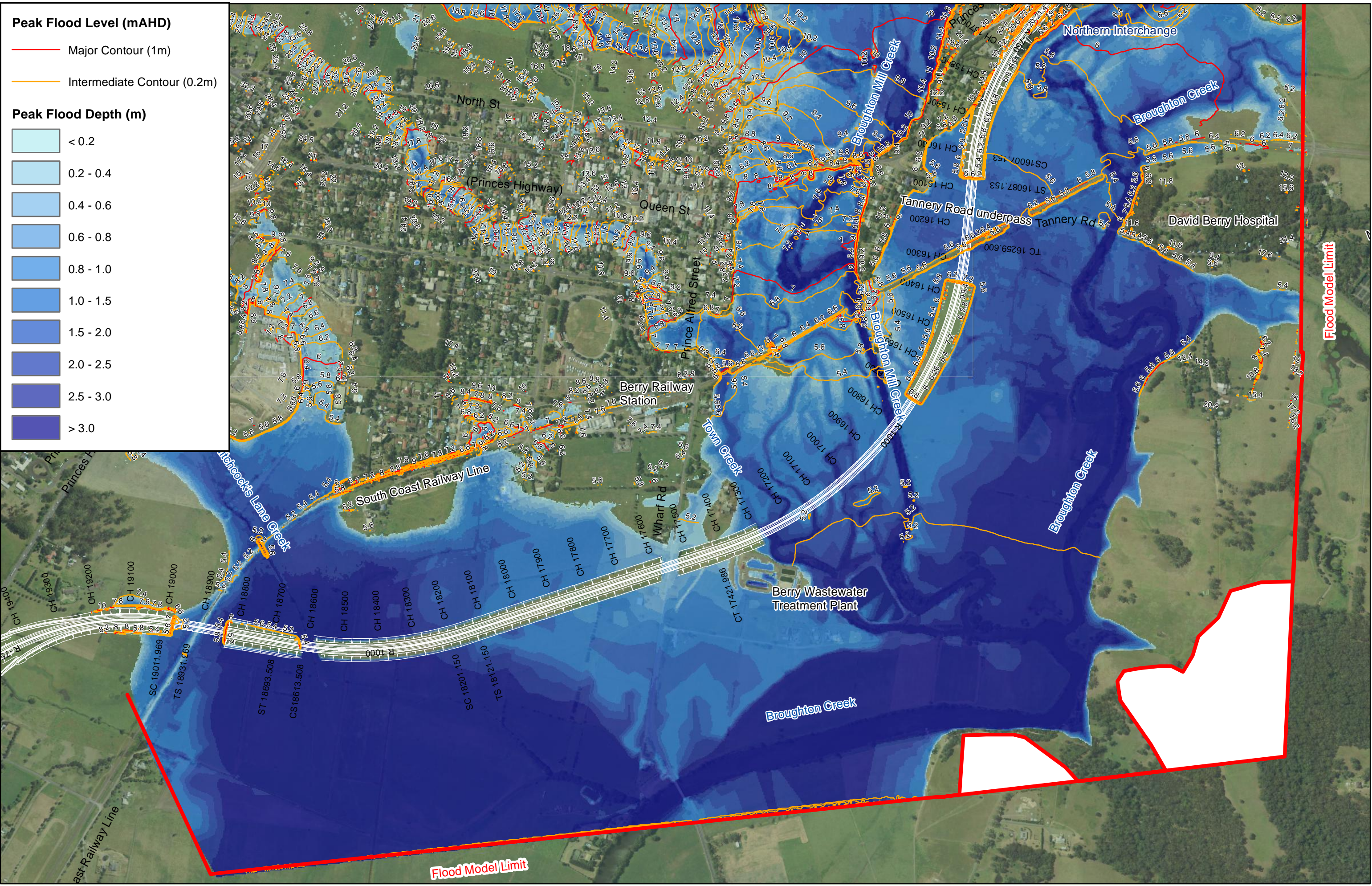


FIGURE 18  
CELL MODEL LAYOUT  
FLOODPLAIN



- LEGEND**
- Dry boundary
  - X 38 Cross-section
  - HYD-2 Hydrograph
  - ⑧ Channel cell
  - ⑤ Storage cell
  - ③ Dummy cell
  - Weir
  - - - Side-section





**Peak Flood Level (mAHD)**

- Major Contour (1m)
- Intermediate Contour (0.2m)

**Peak Flood Depth (m)**

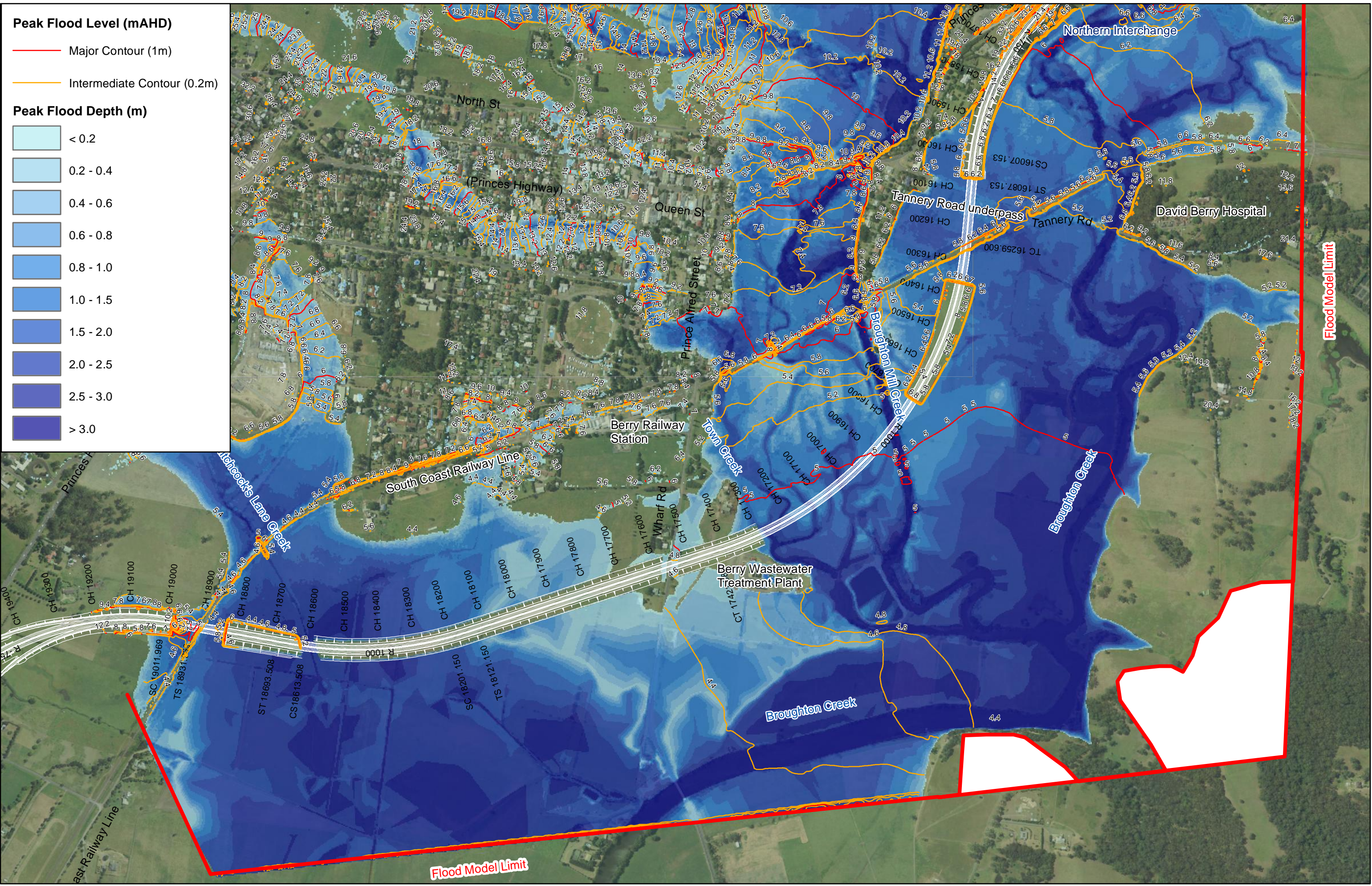
- < 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- 2.0 - 2.5
- 2.5 - 3.0
- > 3.0



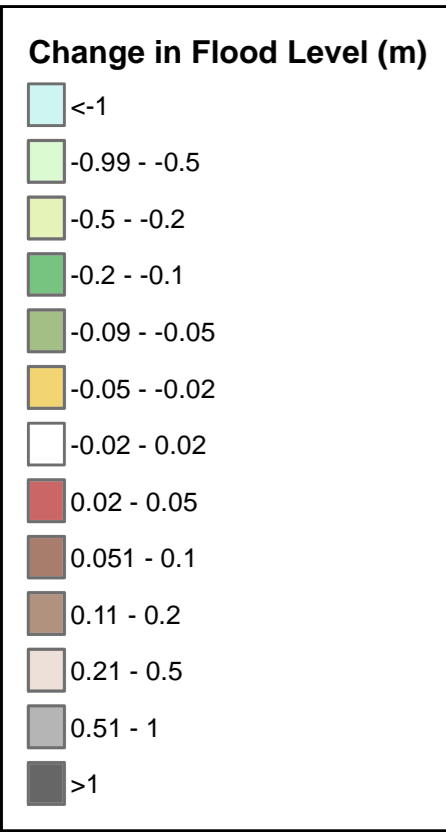
Flood Model Limit

AECOM\P\60021933\_CGPA\_Tech\_work\_area\7\_GISMaps\FloodMapping\SRO\_A5\_FloodDepth\_Scen1.mxd Drafted 10/6/2012





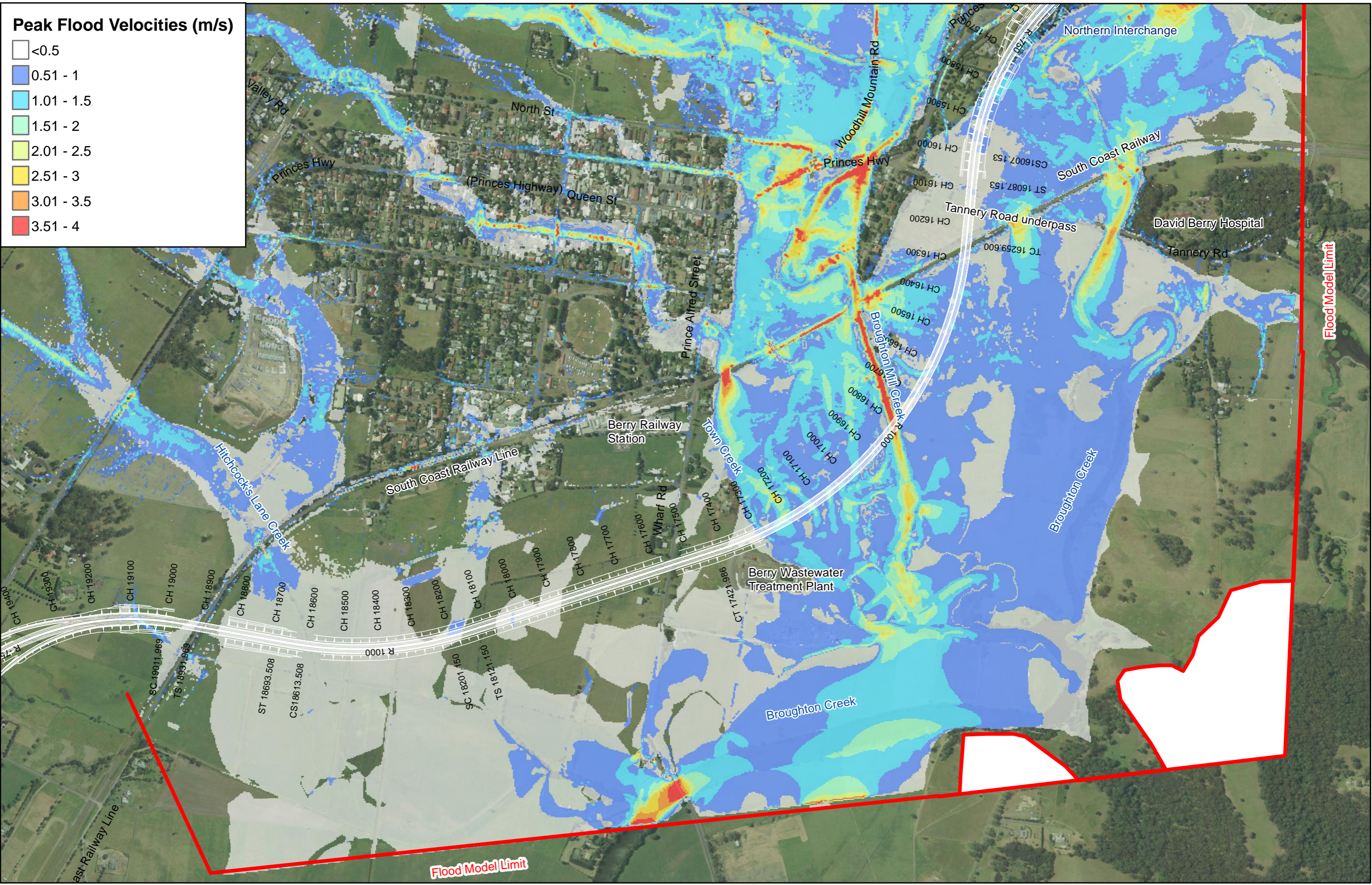
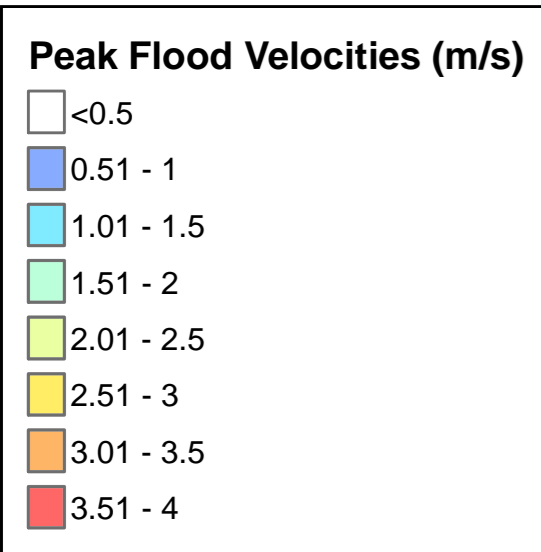




Note: A positive relative impact represents an increase in flood level under proposed conditions relative to existing conditions.



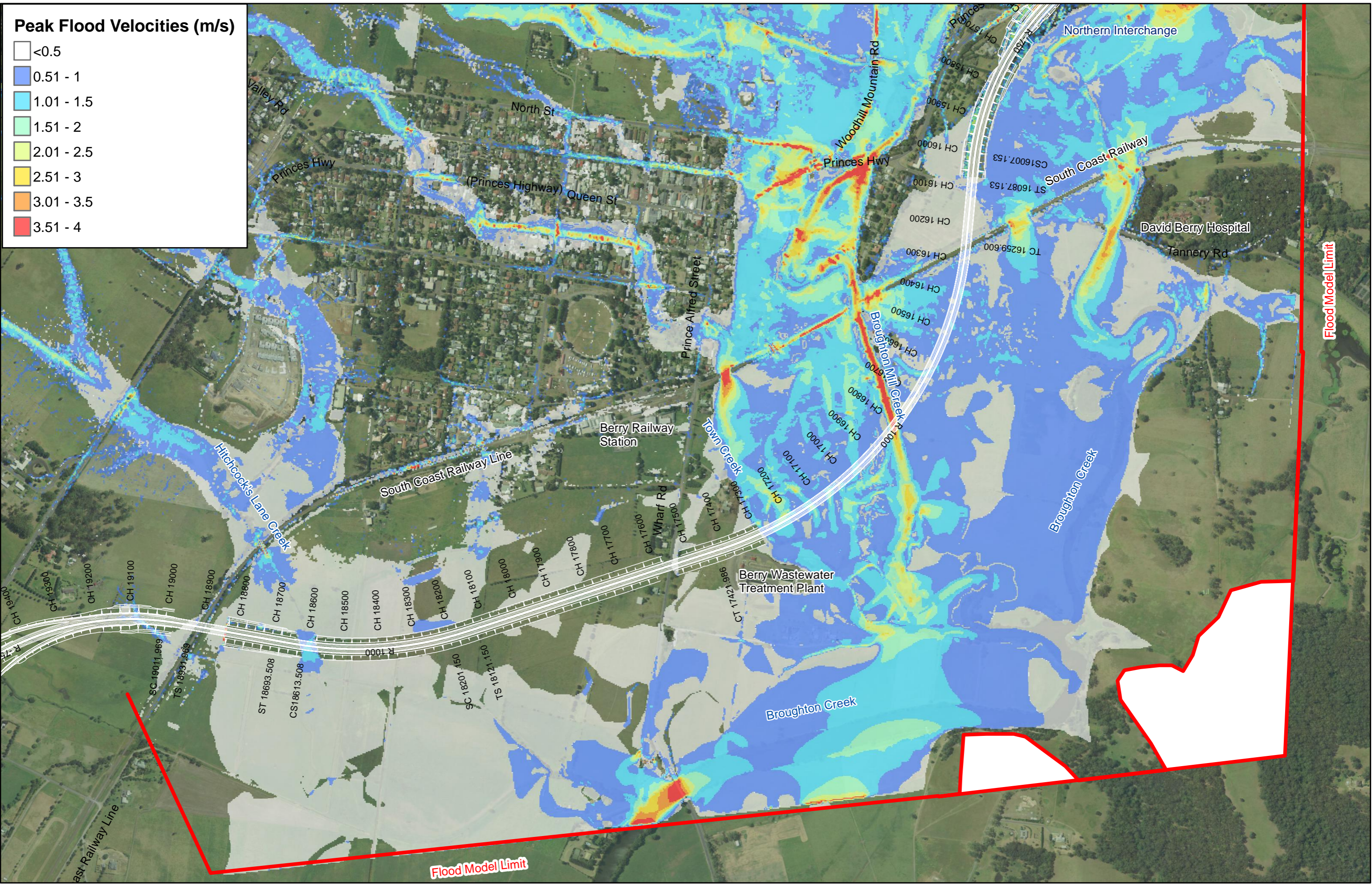






**Peak Flood Velocities (m/s)**

- <0.5
- 0.51 - 1
- 1.01 - 1.5
- 1.51 - 2
- 2.01 - 2.5
- 2.51 - 3
- 3.01 - 3.5
- 3.51 - 4



1,000      500      0      1,000 Meters

PRINCES HIGHWAY UPGRADE - BERRY BYPASS SOUTHERN ROUTE OPTION

**PEAK FLOOD VELOCITIES**  
**DESIGN CONDITIONS - 100 YEAR ARI FLOOD**

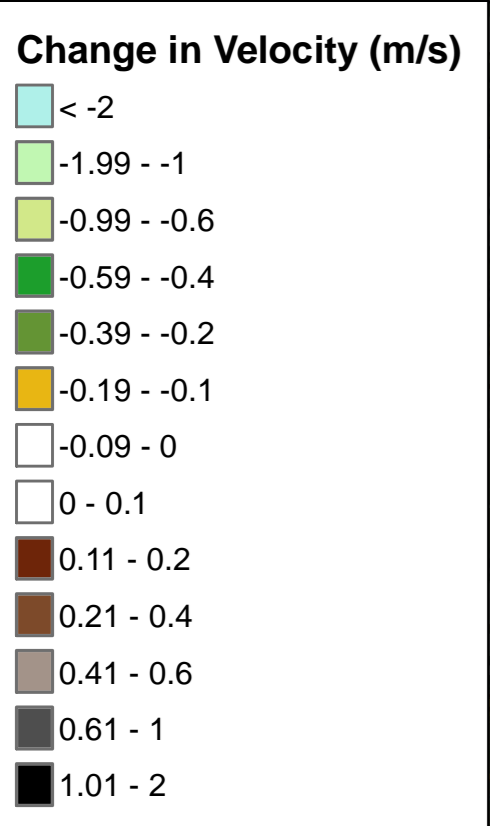
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Fig. **A9**

Flood Model Limit

AECOM P:60021933\_GBA\_Tech\_wrk\_araw\_2\_GISMap/FloodMapping/SRO\_A9\_FloodVelocities\_Design.mxd Dated: 10/6/2012





Note: A positive relative impact represents an increase in flow velocity under proposed conditions relative to existing conditions.



Flood Model Limit

AECOM P:\60021933\_GBA\Tech\work\area\GIS\Map\FloodMapping\SRO\_A10\_VelocityImpacts.mxd Drafted: 10/06/2012





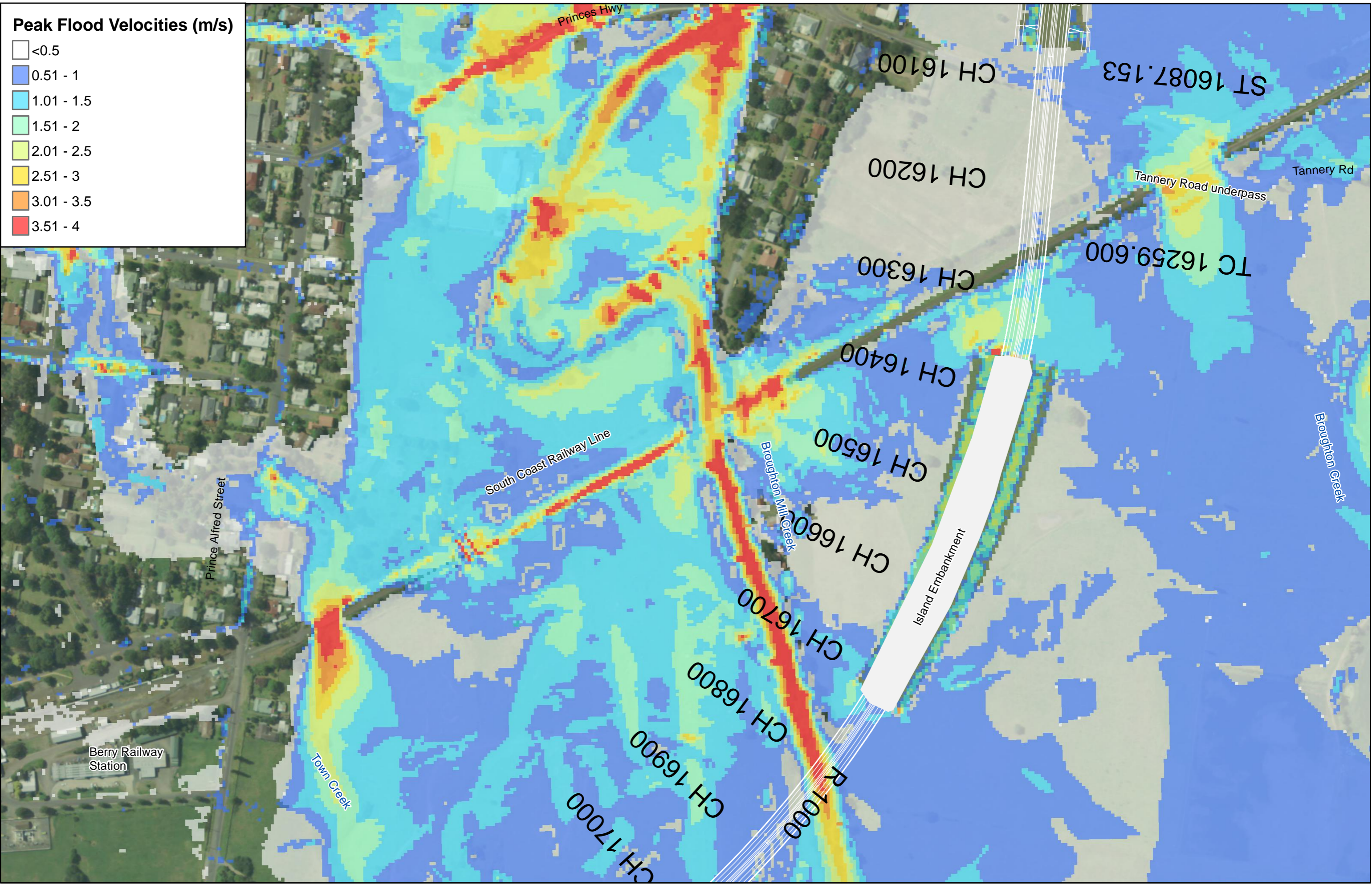
**Change in Flood Level (m)**

<-1
-0.99 - -0.5
-0.5 - -0.2
-0.2 - -0.1
-0.09 - -0.05
-0.05 - -0.02
-0.02 - 0.02
0.02 - 0.05
0.05 - 0.1
0.11 - 0.2
0.2 - 0.5
0.5 - 1
1.01 - 2

Note: A positive relative impact represents an increase in flood level under proposed conditions relative to existing conditions.











**Change in Velocity (m/s)**

- <math>< -2</math>
- 1.99 - -1
- 0.99 - -0.6
- 0.59 - -0.4
- 0.39 - -0.2
- 0.19 - -0.1
- 0.09 - 0
- 0 - 0.1
- 0.11 - 0.2
- 0.21 - 0.4
- 0.41 - 0.6
- 0.61 - 1
- 1.01 - 2

Note: A positive relative impact represents an increase in flow velocity under proposed conditions relative to existing conditions.

