



Document Control

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Synopsis	Mapped results for design flood events from modelling undertaken for the Richmond Valley Flood Study.		
Author	Teegan Burke		
Reviewed By	Barry Rodgers		

Barry Rodgers

Amendment Record

The Amendment Record below records the history and issue status of this document.

Versi on	Version Date	Distribution	Record
00	25 February 2022	Richmond Valley Council	Draft Report
01	26 May 2023	Richmond Valley Council	Draft Report
02	01 June 2023	Richmond Valley Council	Draft Report
03	15 June 2023	Richmond Valley Council	Draft Report
04	12 September 2023	Richmond Valley Council	Final Report

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Project Manager



Explanatory Notes

Overview

This Volume 2 report of the Richmond Valley Flood Study contains the design flood mapping. The maps should be considered in conjunction with the accompanying technical report (Volume 1) which contains the supporting methodology and assumptions.

To assist in viewing the maps, the mapping has been presented across different regions. Regions A to F cover the study area with an additional localised region for Casino (Region G). A whole of study area region (Region H) is also included for the critical event mapping.

The maps contain the following model outputs:

- Peak flood levels (mAHD)
- Peak flood depth (m)
- Peak flood velocity (m/s)
- Critical events (durations) (Region H only)

The following processed model outputs are also included:

- Peak flood (classified) hazard (1%, 0.2% and 1%CC AEP events)
- Flood function mapping (1% and 0.2% AEP events)
- Flood Islands
- Flood Planning Levels (mAHD)

Classified Flood Hazard

Flood hazard output has been classified in accordance with general guidance from the Australian Institute for Disaster Resilience (AIDR, 2017a). Six hazard vulnerability categories are defined based on different combinations of flood depth and velocity. The categories increase in severity from category H1 to H6. The combinations of depth and velocity that define the categories are shown in Figure 1.1 below.

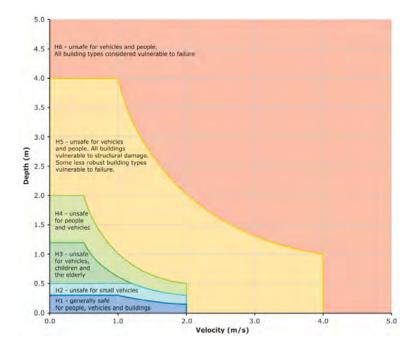


Figure 1.1 General Flood Hazard Vulnerability Curves (AIDR, 2017b)



Disclaimer

The mapping has been prepared for Richmond Valley Council for the purposes of the Richmond Valley Flood Study. Use of the mapping by third parties is done so at their own risk. BMT does not warrant the accuracy or completeness of information displayed in the mapping. BMT shall bear no responsibility or liability for any errors, faults, defects or omissions in the information.

Flood planning level information is shown at regional scale and should not be used without consulting with Richmond Valley Council.



Index of Design Flood Mapping

Map Reference	Map Title
R.A-1	Region A - 5% AEP Peak Flood Level
R.A-2	Region A - 2% AEP Peak Flood Level
R.A-3	Region A - 1% AEP Peak Flood Level
R.A-4	Region A - 0.2% AEP Peak Flood Level
R.A-5	Region A - PMF Peak Flood Level
R.A-6	Region A - 1% AEP Climate Change (CC3) Peak Flood Level
R.A-7	Region A - 5% AEP Peak Flood Depth
R.A-8	Region A - 2% AEP Peak Flood Depth
R.A-9	Region A - 1% AEP Peak Flood Depth
R.A-10	Region A - 0.2% AEP Peak Flood Depth
R.A-11	Region A - PMF Peak Flood Depth
R.A-12	Region A - 1% AEP Climate Change (CC3) Peak Flood Depth
R.A-13	Region A - 5% AEP Peak Flood Velocity
R.A-14	Region A - 2% AEP Peak Flood Velocity
R.A-15	Region A - 1% AEP Peak Flood Velocity
R.A-16	Region A - 0.2% AEP Peak Flood Velocity
R.A-17	Region A - PMF Peak Flood Velocity
R.A-18	Region A - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.A-19	Region A - 1% AEP Classified Hazard

Map Reference	Map Title
R.A-20	Region A - 0.2% AEP Classified Hazard
R.A-21	Region A - 1% AEP Climate Change (CC3) Classified Hazard
R.A-22	Region A - 1% AEP Flood Function
R.A-23	Region A - 0.2% AEP Flood Function
R.A-24	Region A - Flood Islands
R.A-25	Region A - Flood Planning Levels
R.B-1	Region B - 5% AEP Peak Flood Level
R.B-2	Region B - 2% AEP Peak Flood Level
R.B-3	Region B - 1% AEP Peak Flood Level
R.B-4	Region B - 0.2% AEP Peak Flood Level
R.B-5	Region B - PMF Peak Flood Level
R.B-6	Region B - 1% AEP Climate Change (CC3) Peak Flood Level
R.B-7	Region B - 5% AEP Peak Flood Depth
R.B-8	Region B - 2% AEP Peak Flood Depth
R.B-9	Region B - 1% AEP Peak Flood Depth
R.B-10	Region B - 0.2% AEP Peak Flood Depth
R.B-11	Region B - PMF Peak Flood Depth
R.B-12	Region B - 1% AEP Climate Change (CC3) Peak Flood Depth
R.B-13	Region B - 5% AEP Peak Flood Velocity





Map Reference	Map Title
R.B-14	Region B - 2% AEP Peak Flood Velocity
R.B-15	Region B - 1% AEP Peak Flood Velocity
R.B-16	Region B - 0.2% AEP Peak Flood Velocity
R.B-17	Region B - PMF Peak Flood Velocity
R.B-18	Region B - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.B-19	Region B - 1% AEP Classified Hazard
R.B-20	Region B - 0.2% AEP Classified Hazard
R.B-21	Region B - 1% AEP Climate Change (CC3) Classified Hazard
R.B-22	Region B - 1% AEP Flood Function
R.B-23	Region B - 0.2% AEP Flood Function
R.B-24	Region B - Flood Islands
R.B-25	Region B - Flood Planning Levels
R.C-1	Region C - 5% AEP Peak Flood Level
R.C-2	Region C - 2% AEP Peak Flood Level
R.C-3	Region C - 1% AEP Peak Flood Level
R.C-4	Region C - 0.2% AEP Peak Flood Level
R.C-5	Region C - PMF Peak Flood Level
R.C-6	Region C - 1% AEP Climate Change (CC3) Peak Flood Level
R.C-7	Region C - 5% AEP Peak Flood Depth
R.C-8	Region C - 2% AEP Peak Flood Depth
R.C-9	Region C - 1% AEP Peak Flood Depth
R.C-10	Region C - 0.2% AEP Peak Flood Depth

Map Reference	Map Title
R.C-11	Region C - PMF Peak Flood Depth
R.C-12	Region C - 1% AEP Climate Change (CC3) Peak Flood Depth
R.C-13	Region C - 5% AEP Peak Flood Velocity
R.C-14	Region C - 2% AEP Peak Flood Velocity
R.C-15	Region C - 1% AEP Peak Flood Velocity
R.C-16	Region C - 0.2% AEP Peak Flood Velocity
R.C-17	Region C - PMF Peak Flood Velocity
R.C-18	Region C - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.C-19	Region C - 1% AEP Classified Hazard
R.C-20	Region C - 0.2% AEP Classified Hazard
R.C-21	Region C - 1% AEP Climate Change (CC3) Classified Hazard
R.C-22	Region C - 1% AEP Flood Function
R.C-23	Region C - 0.2% AEP Flood Function
R.C-24	Region C - Flood Islands
R.C-25	Region C - Flood Planning Levels
R.D-1	Region D - 5% AEP Peak Flood Level
R.D-2	Region D - 2% AEP Peak Flood Level
R.D-3	Region D - 1% AEP Peak Flood Level
R.D-4	Region D - 0.2% AEP Peak Flood Level
R.D-5	Region D - PMF Peak Flood Level
R.D-6	Region D - 1% AEP Climate Change (CC3) Peak Flood Level
R.D-7	Region D - 5% AEP Peak Flood Depth





Map Reference	Map Title
R.D-8	Region D - 2% AEP Peak Flood Depth
R.D-9	Region D - 1% AEP Peak Flood Depth
R.D-10	Region D - 0.2% AEP Peak Flood Depth
R.D-11	Region D - PMF Peak Flood Depth
R.D-12	Region D - 1% AEP Climate Change (CC3) Peak Flood Depth
R.D-13	Region D - 5% AEP Peak Flood Velocity
R.D-14	Region D - 2% AEP Peak Flood Velocity
R.D-15	Region D - 1% AEP Peak Flood Velocity
R.D-16	Region D - 0.2% AEP Peak Flood Velocity
R.D-17	Region D - PMF Peak Flood Velocity
R.D-18	Region D - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.D-19	Region D - 1% AEP Classified Hazard
R.D-20	Region D - 0.2% AEP Classified Hazard
R.D-21	Region D - 1% AEP Climate Change (CC3) Classified Hazard
R.D-22	Region D - 1% AEP Flood Function
R.D-23	Region D - 0.2% AEP Flood Function
R.D-24	Region D - Flood Islands
R.D-25	Region D - Flood Planning Levels
R.E-1	Region E - 5% AEP Peak Flood Level
R.E-2	Region E - 2% AEP Peak Flood Level
R.E-3	Region E - 1% AEP Peak Flood Level
R.E-4	Region E - 0.2% AEP Peak Flood Level

Map Reference	Map Title
R.E-5	Region E - PMF Peak Flood Level
R.E-6	Region E - 1% AEP Climate Change (CC3) Peak Flood Level
R.E-7	Region E - 5% AEP Peak Flood Depth
R.E-8	Region E - 2% AEP Peak Flood Depth
R.E-9	Region E - 1% AEP Peak Flood Depth
R.E-10	Region E - 0.2% AEP Peak Flood Depth
R.E-11	Region E - PMF Peak Flood Depth
R.E-12	Region E - 1% AEP Climate Change (CC3) Peak Flood Depth
R.E-13	Region E - 5% AEP Peak Flood Velocity
R.E-14	Region E - 2% AEP Peak Flood Velocity
R.E-15	Region E - 1% AEP Peak Flood Velocity
R.E-16	Region E - 0.2% AEP Peak Flood Velocity
R.E-17	Region E - PMF Peak Flood Velocity
R.E-18	Region E - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.E-19	Region E - 1% AEP Classified Hazard
R.E-20	Region E - 0.2% AEP Classified Hazard
R.E-21	Region E - 1% AEP Climate Change (CC3) Classified Hazard
R.E-22	Region E - 1% AEP Flood Function
R.E-23	Region E - 0.2% AEP Flood Function
R.E-24	Region E - Flood Islands
R.E-25	Region E - Flood Planning Levels
R.F-1	Region F - 5% AEP Peak Flood Level



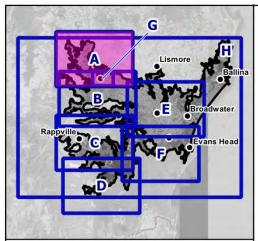


Map Reference	Map Title
R.F-2	Region F - 2% AEP Peak Flood Level
R.F-3	Region F - 1% AEP Peak Flood Level
R.F-4	Region F - 0.2% AEP Peak Flood Level
R.F-5	Region F - PMF Peak Flood Level
R.F-6	Region F - 1% AEP Climate Change (CC3) Peak Flood Level
R.F-7	Region F - 5% AEP Peak Flood Depth
R.F-8	Region F - 2% AEP Peak Flood Depth
R.F-9	Region F - 1% AEP Peak Flood Depth
R.F-10	Region F - 0.2% AEP Peak Flood Depth
R.F-11	Region F - PMF Peak Flood Depth
R.F-12	Region F - 1% AEP Climate Change (CC3) Peak Flood Depth
R.F-13	Region F - 5% AEP Peak Flood Velocity
R.F-14	Region F - 2% AEP Peak Flood Velocity
R.F-15	Region F - 1% AEP Peak Flood Velocity
R.F-16	Region F - 0.2% AEP Peak Flood Velocity
R.F-17	Region F - PMF Peak Flood Velocity
R.F-18	Region F - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.F-19	Region F - 1% AEP Classified Hazard
R.F-20	Region F - 0.2% AEP Classified Hazard
R.F-21	Region F - 1% AEP Climate Change (CC3) Classified Hazard
R.F-22	Region F - 1% AEP Flood Function
R.F-23	Region F - 0.2% AEP Flood Function

Map Reference	Map Title
R.F-24	Region F - Flood Islands
R.F-25	Region F - Flood Planning Levels
R.G-1	Region G - 5% AEP Peak Flood Level
R.G-2	Region G - 2% AEP Peak Flood Level
R.G-3	Region G - 1% AEP Peak Flood Level
R.G-4	Region G - 0.2% AEP Peak Flood Level
R.G-5	Region G - PMF Peak Flood Level
R.G-6	Region G - 1% AEP Climate Change (CC3) Peak Flood Level
R.G-7	Region G - 5% AEP Peak Flood Depth
R.G-8	Region G - 2% AEP Peak Flood Depth
R.G-9	Region G - 1% AEP Peak Flood Depth
R.G-10	Region G - 0.2% AEP Peak Flood Depth
R.G-11	Region G - PMF Peak Flood Depth
R.G-12	Region G - 1% AEP Climate Change (CC3) Peak Flood Depth
R.G-13	Region G - 5% AEP Peak Flood Velocity
R.G-14	Region G - 2% AEP Peak Flood Velocity
R.G-15	Region G - 1% AEP Peak Flood Velocity
R.G-16	Region G - 0.2% AEP Peak Flood Velocity
R.G-17	Region G - PMF Peak Flood Velocity
R.G-18	Region G - 1% AEP Climate Change (CC3) Peak Flood Velocity
R.G-19	Region G - 1% AEP Classified Hazard
R.G-20	Region G - 0.2% AEP Classified Hazard

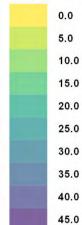


Map Reference	Map Title
R.G-21	Region G - 1% AEP Climate Change (CC3) Classified Hazard
R.G-22	Region G - 1% AEP Flood Function
R.G-23	Region G - 0.2% AEP Flood Function
R.G-24	Region G - Flood Islands
R.G-25	Region G - Flood Planning Levels
R.H-1	Region H - 5% AEP Selected Critical Events
R.H-2	Region H - 2% AEP Selected Critical Events
R.H-3	Region H - 1% AEP Selected Critical Events
R.H-4	Region H - 0.2% AEP Selected Critical Events
R.H-5	Region H - PMF Selected Critical Events
R.H-6	Region H - 1% AEP Climate Change (CC3) Selected Critical Events

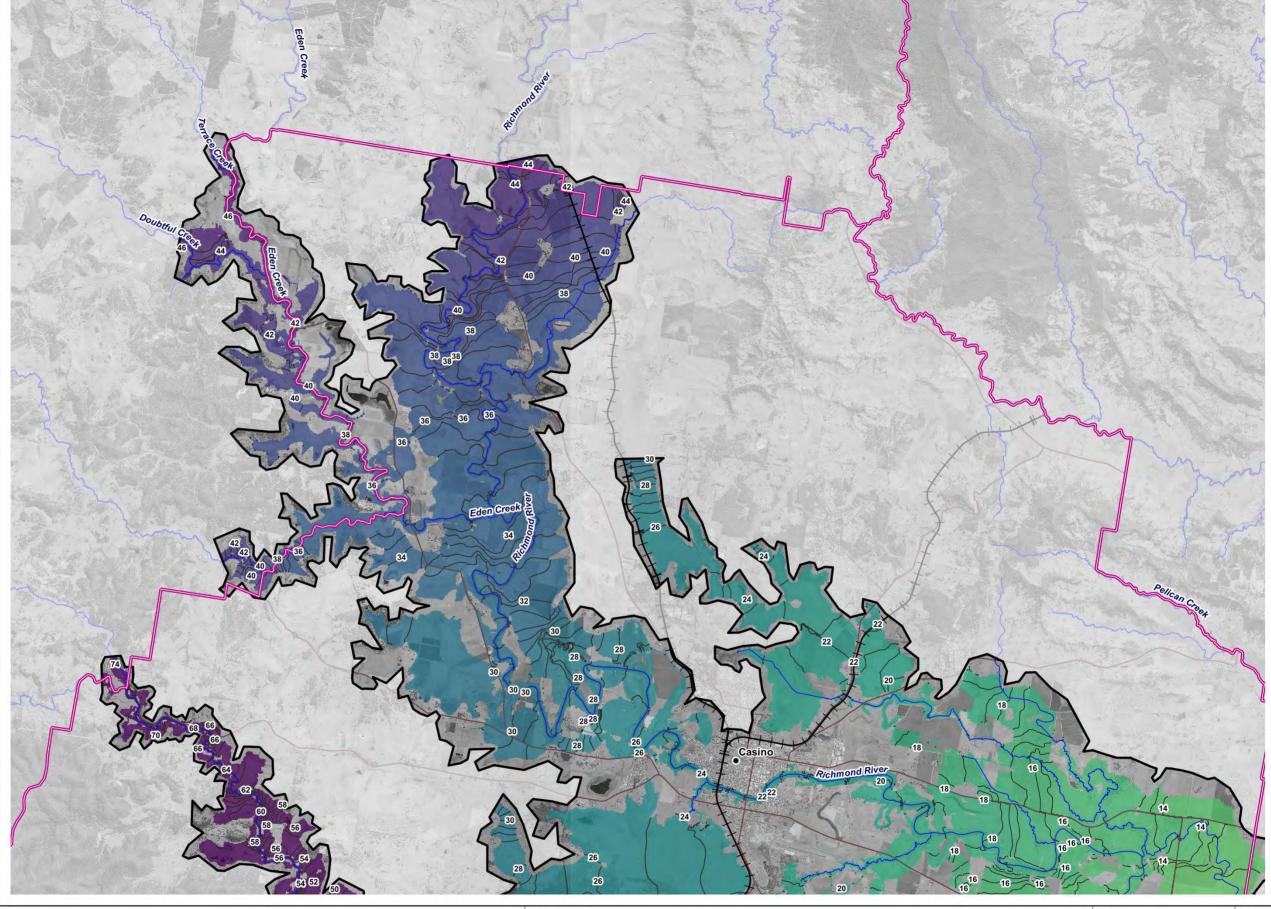


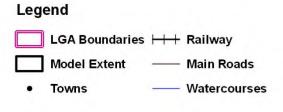
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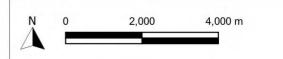
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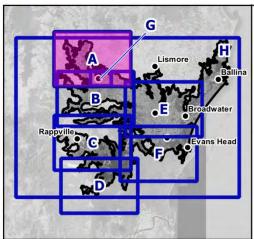
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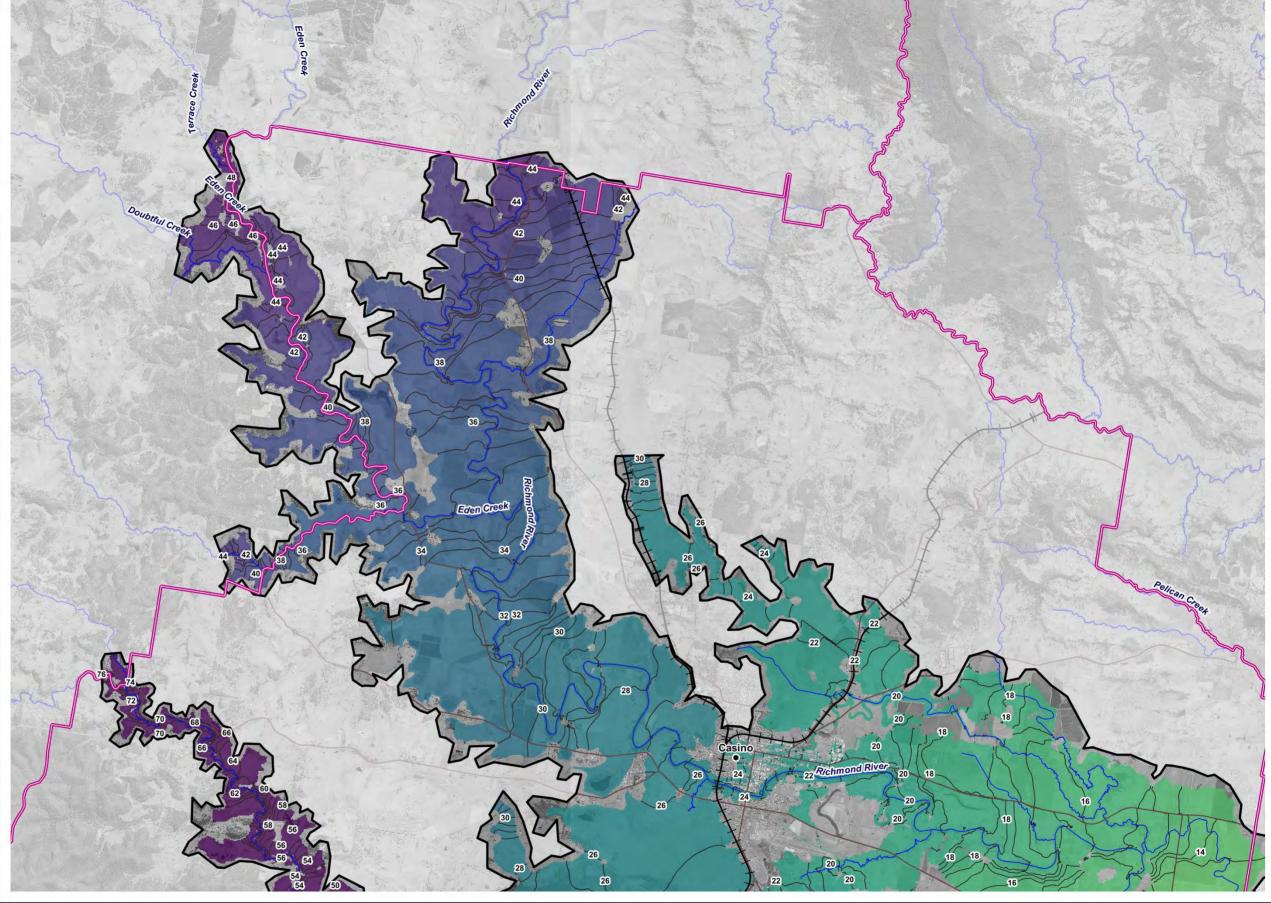


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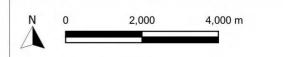
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Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



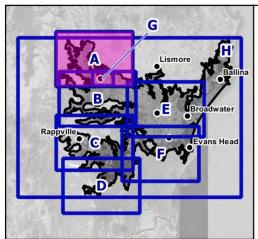
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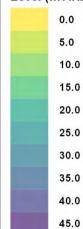
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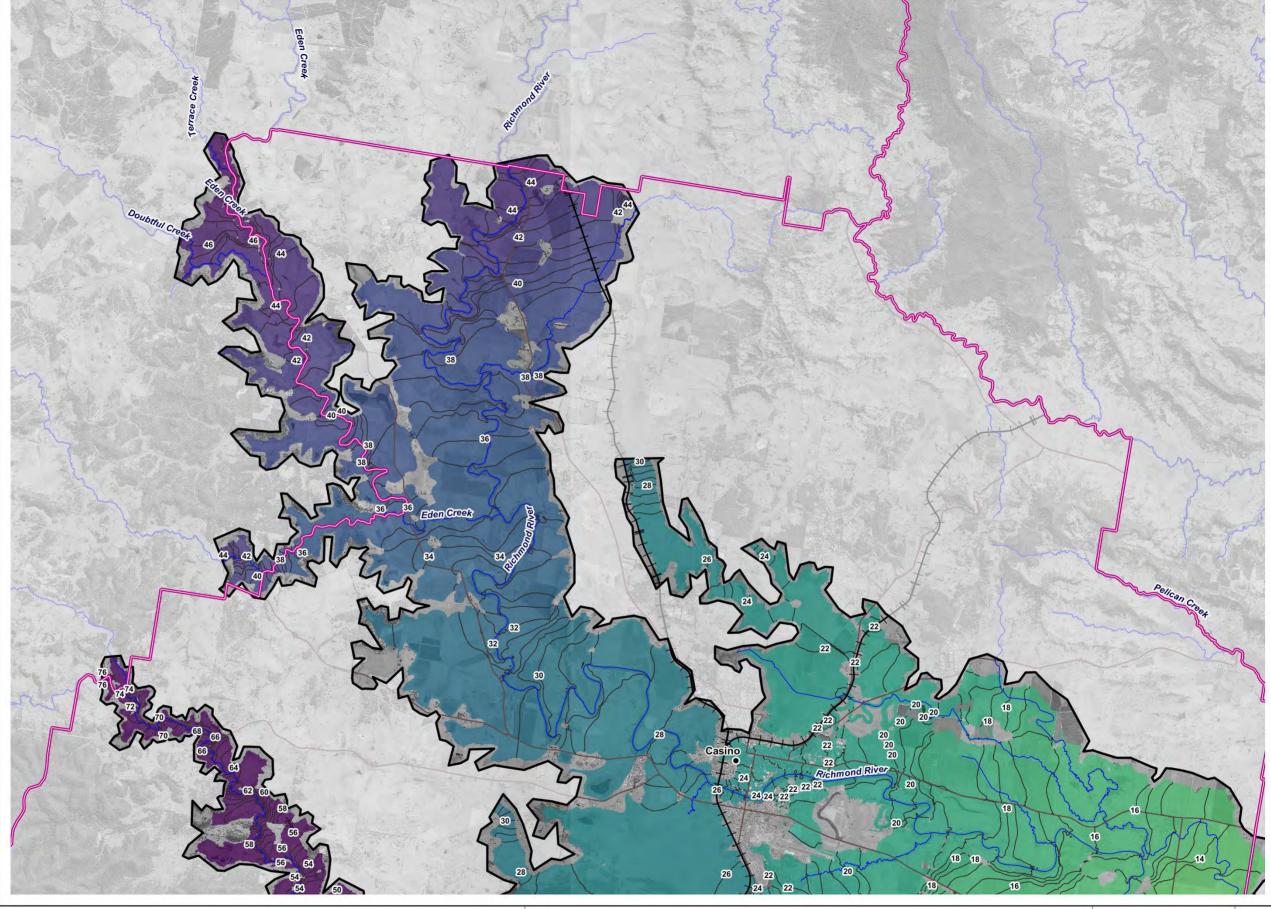


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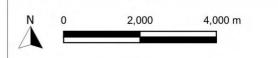
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Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

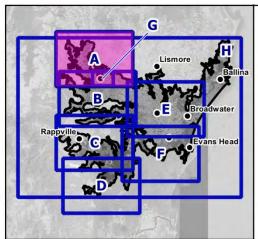


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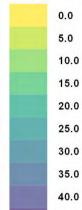
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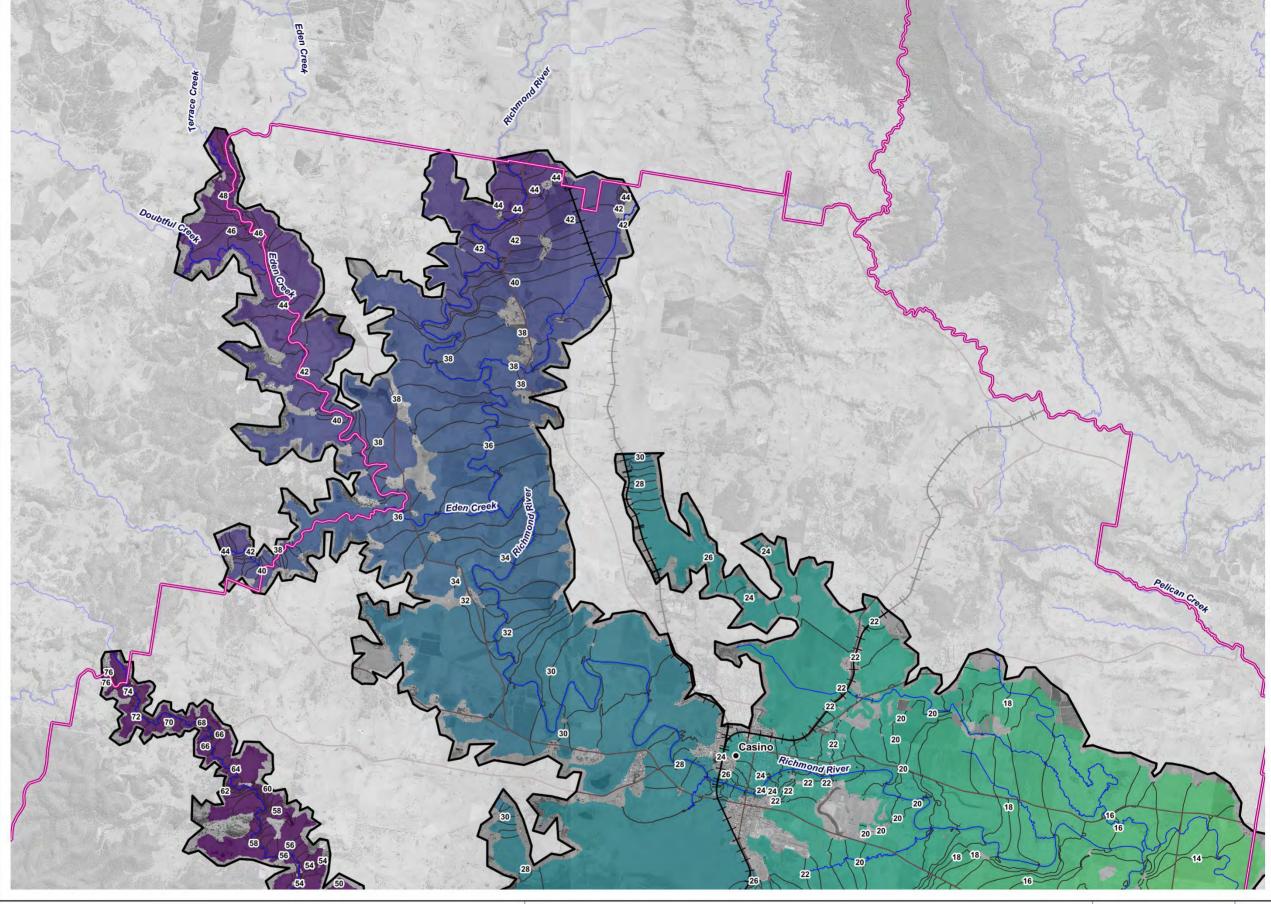


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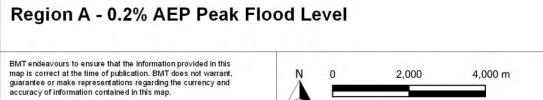
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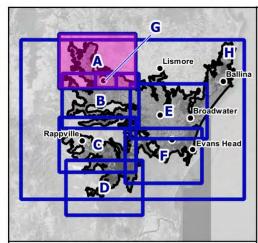


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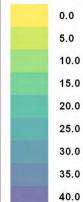
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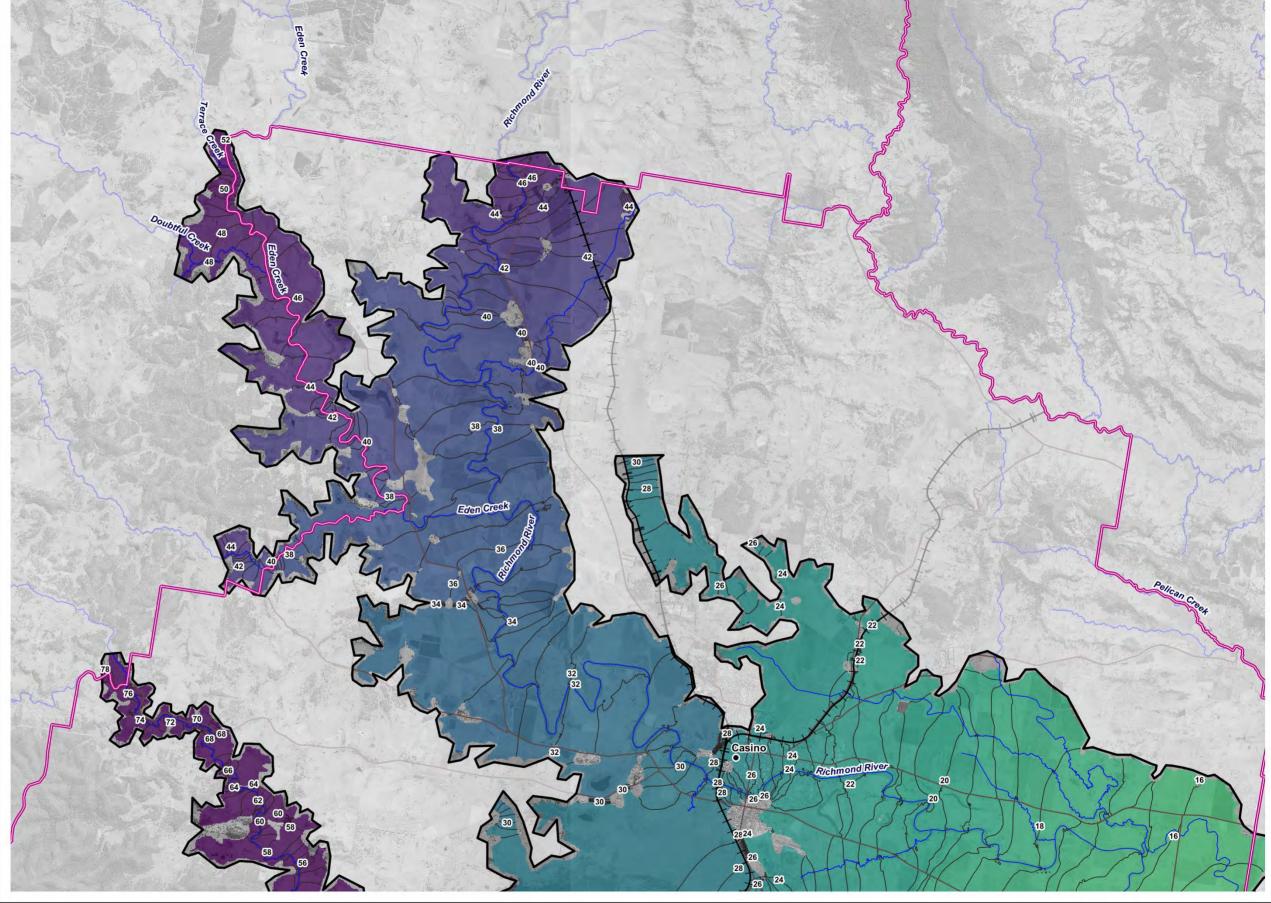


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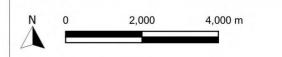
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Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

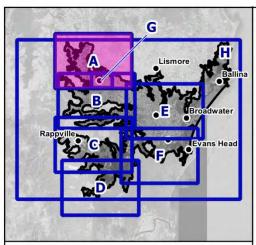


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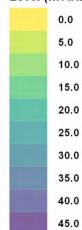




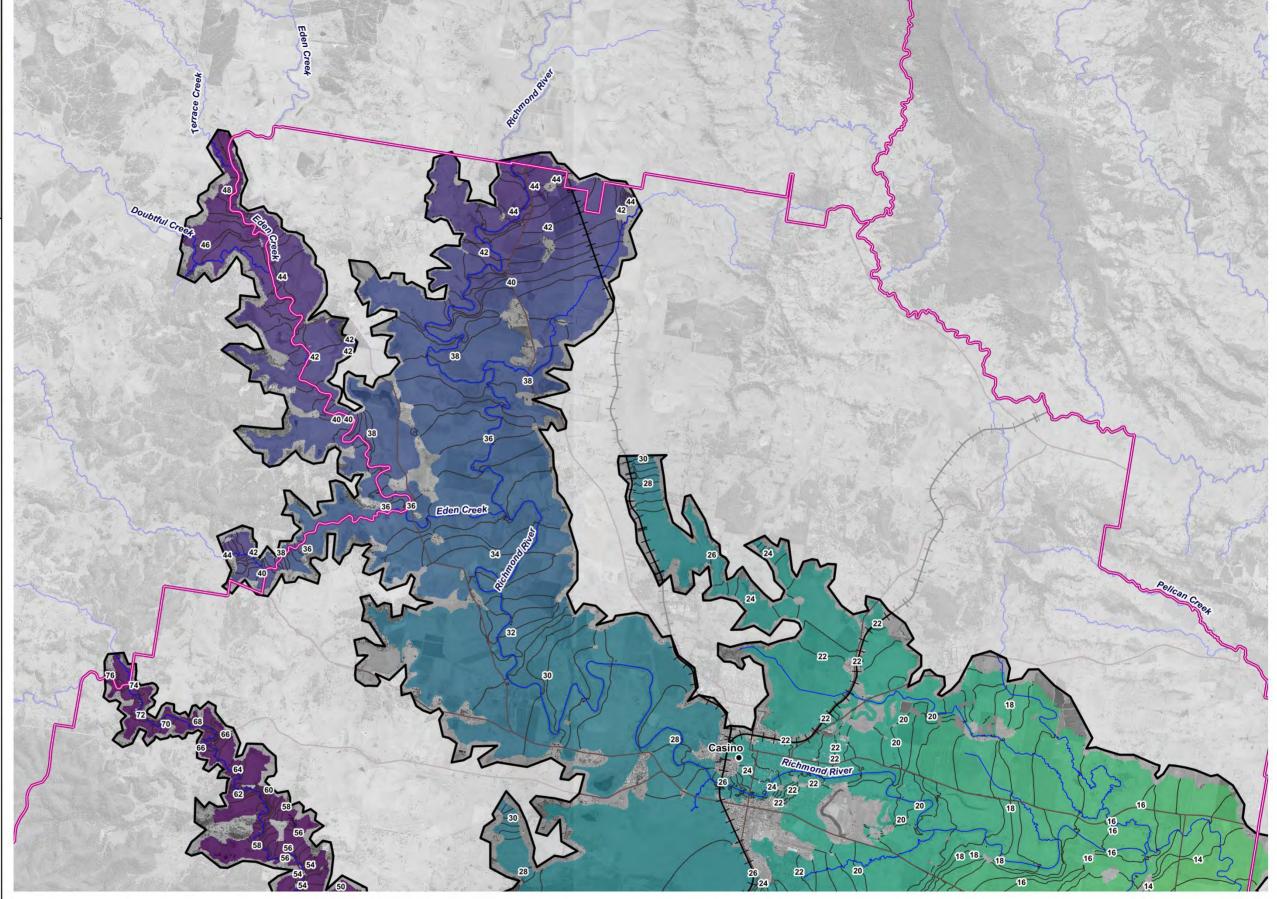


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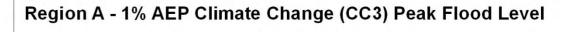
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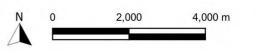
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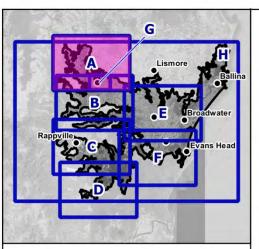
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



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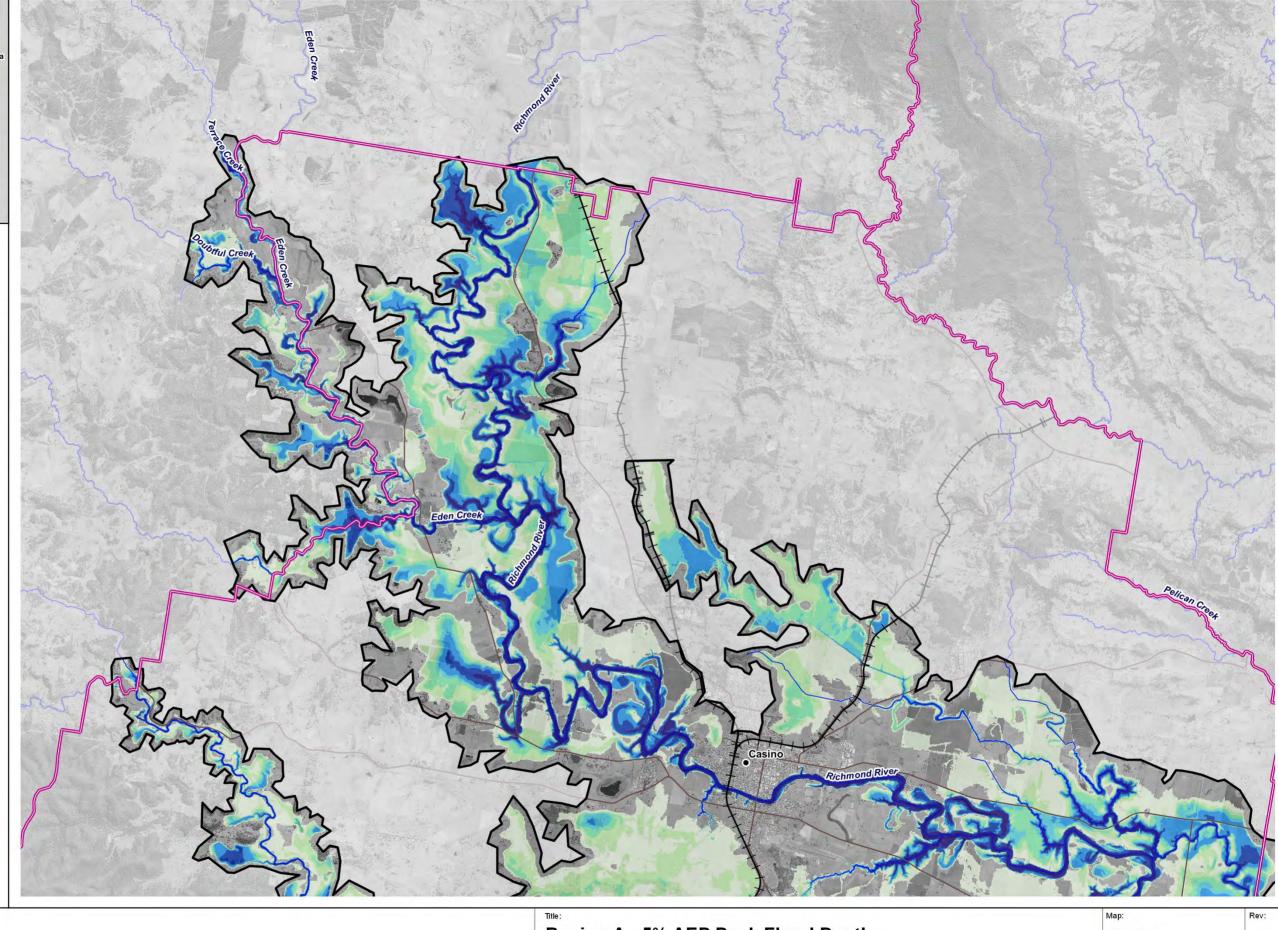
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0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

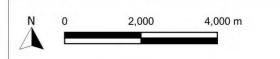
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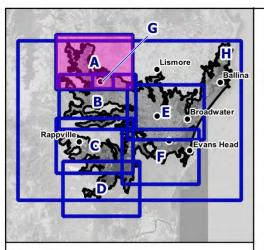
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



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0.25 to 0.5

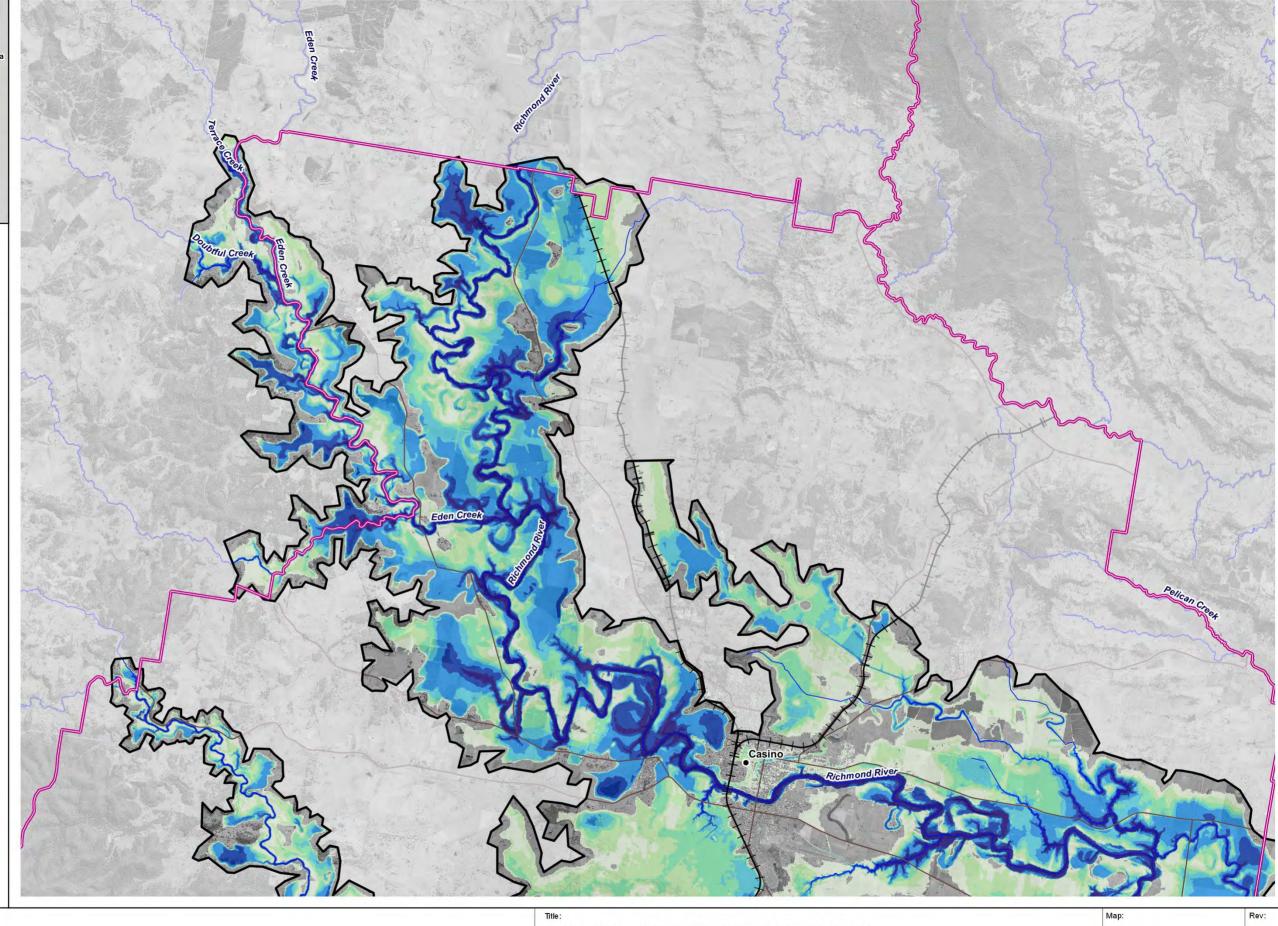
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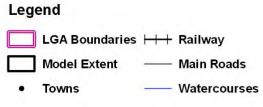
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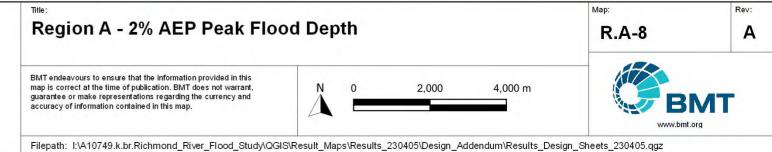
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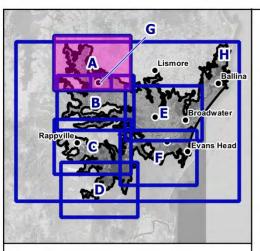
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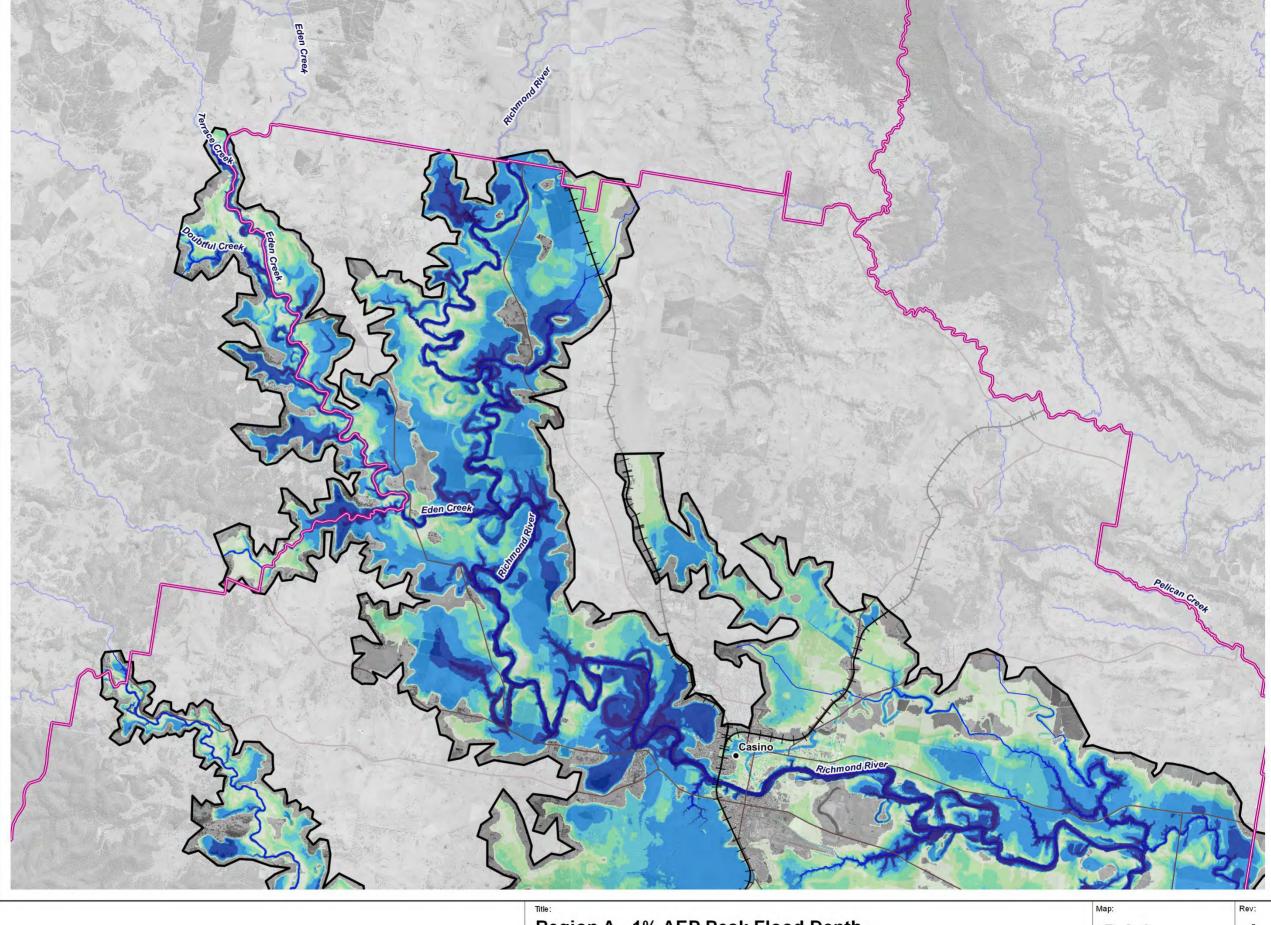
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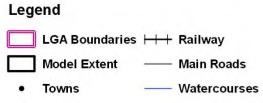
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0.75 to 1.0 1.0 to 2.0

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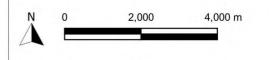
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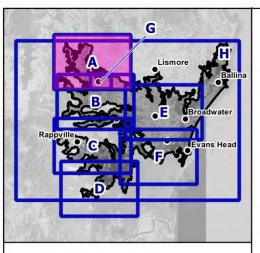


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R.A-9





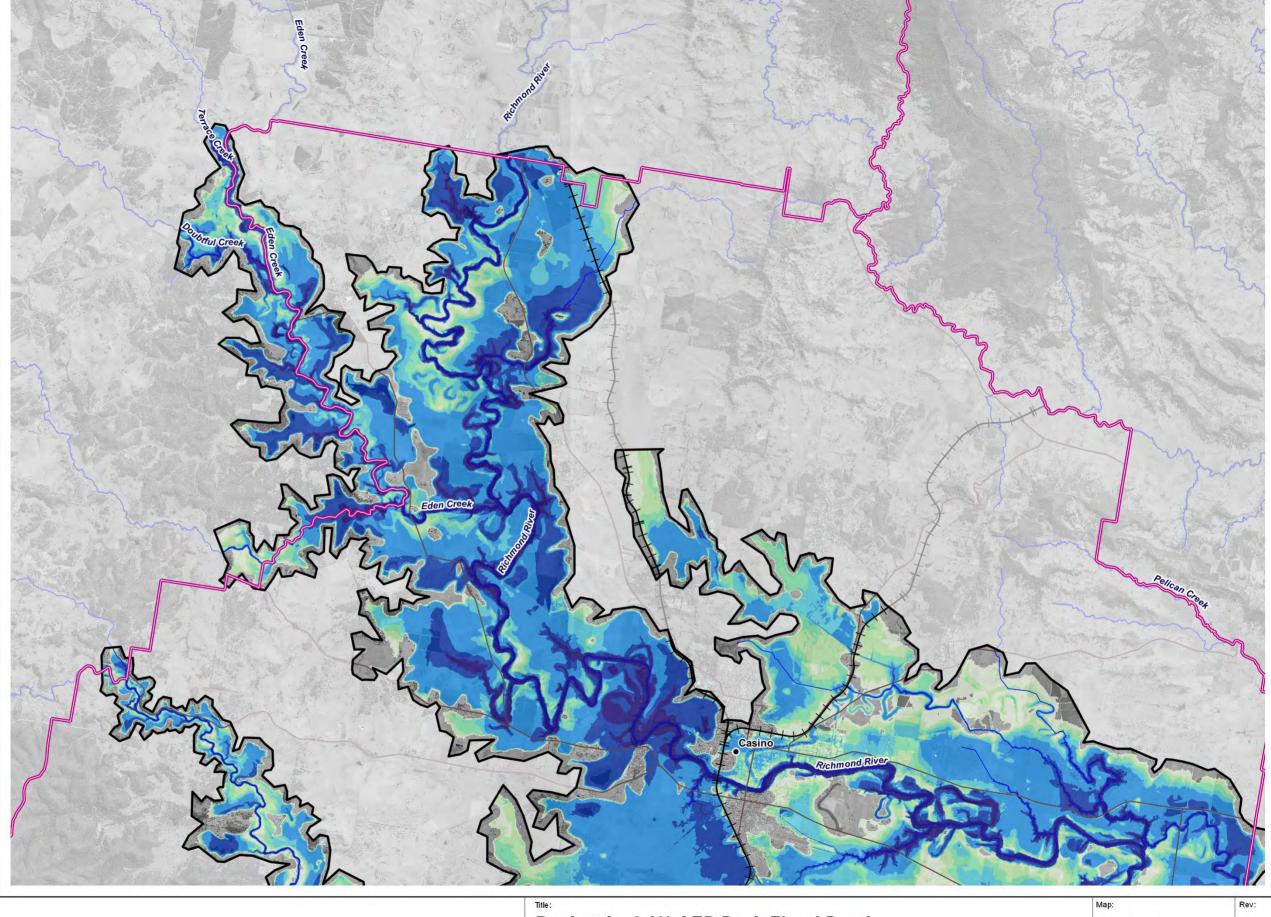
<0.25

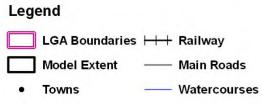
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

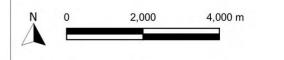
1.0 to 2.0 2.0 to 4.0





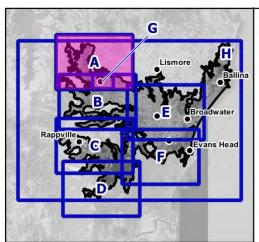


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R.A-10

BMT



< 0.25

0.25 to 0.5

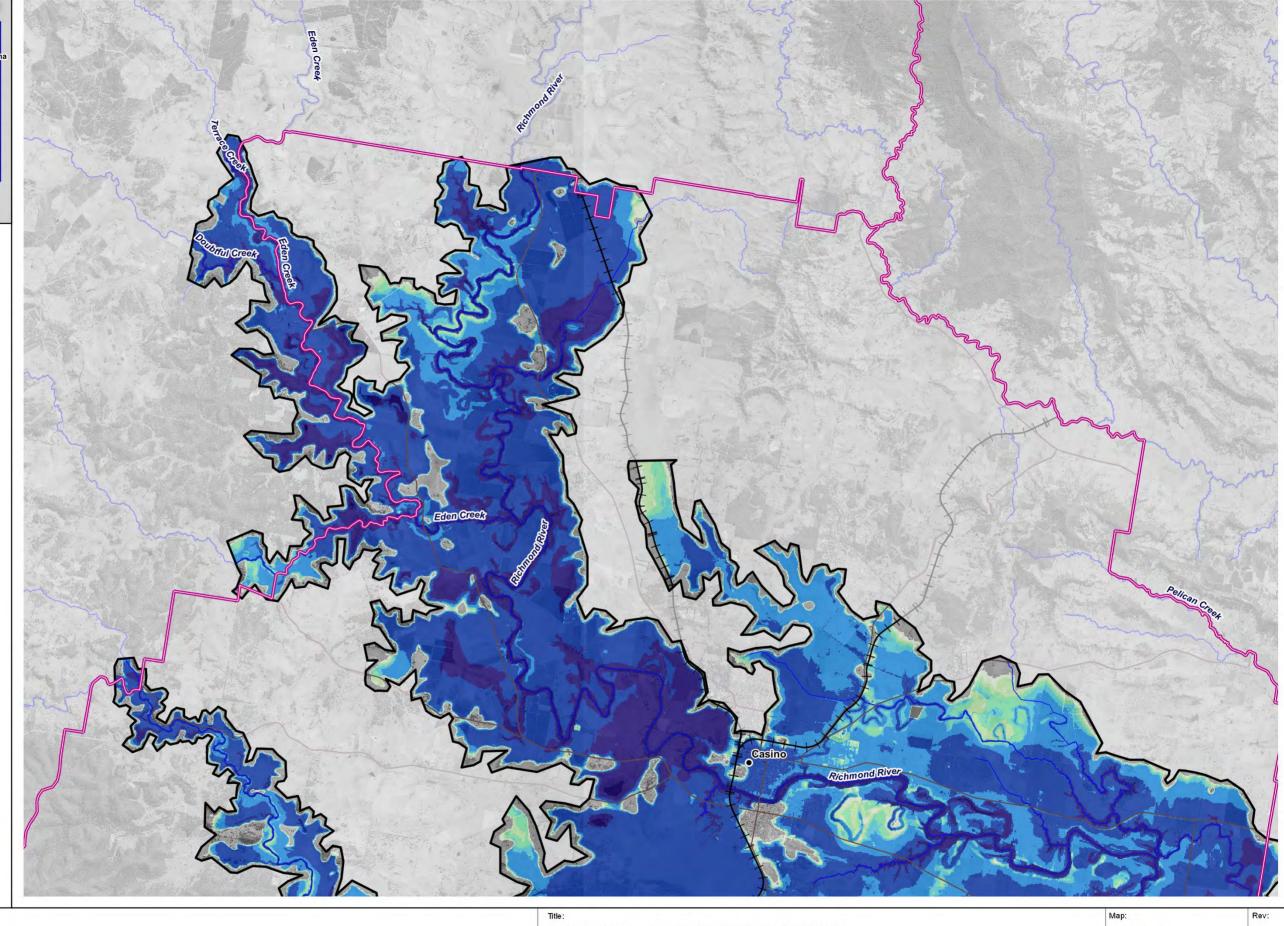
0.5 to 0.75

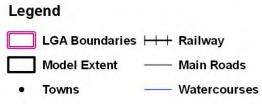
0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

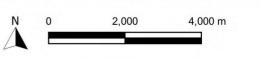
>4



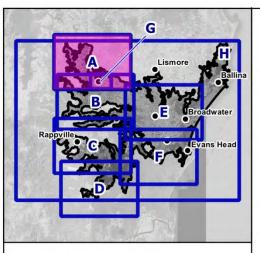




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<0.25

0.25 to 0.5

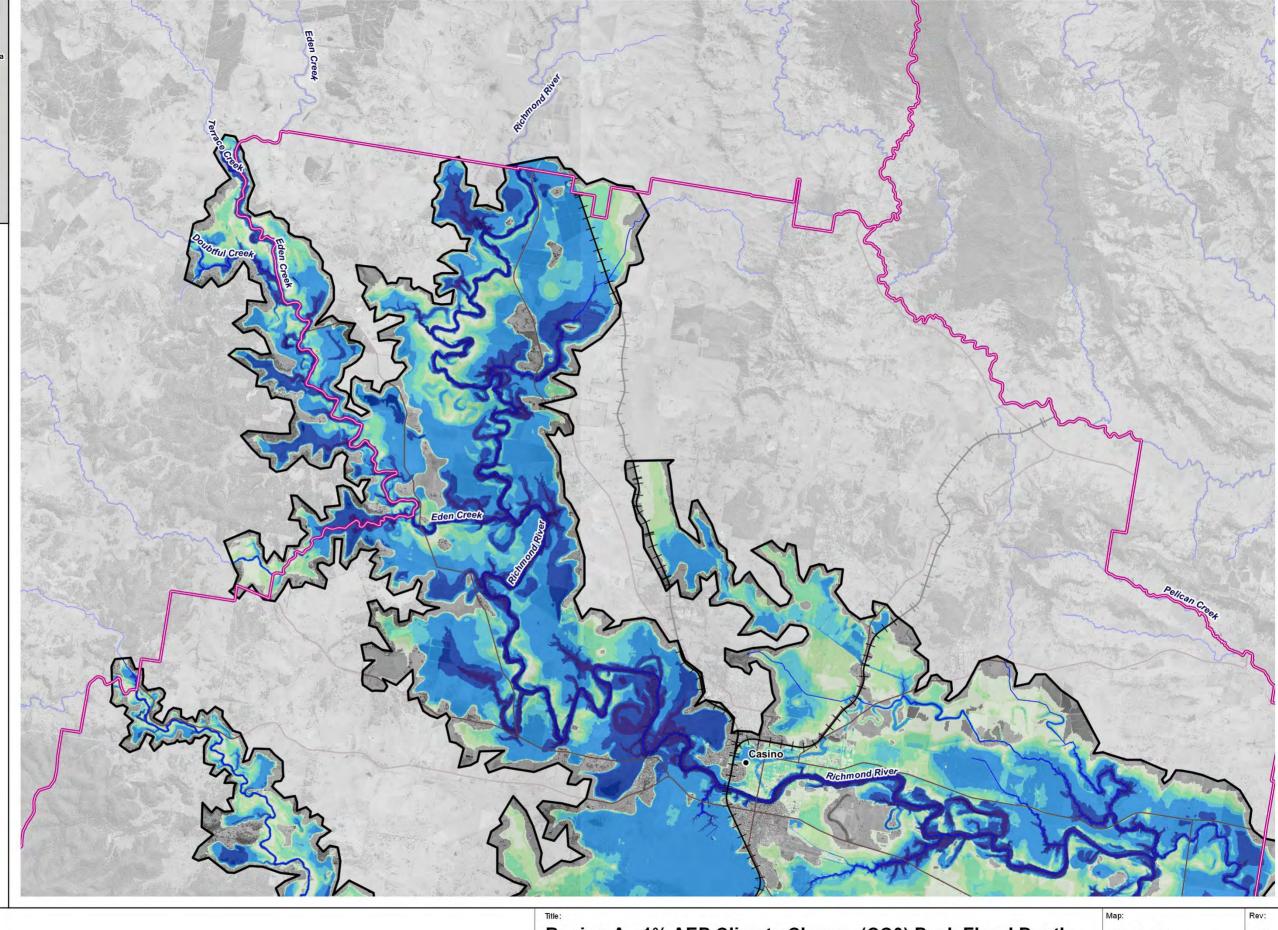
0.5 to 0.75

0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

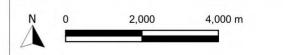
>4



Legend LGA Boundaries + Railway Model Extent - Main Roads Towns - Watercourses

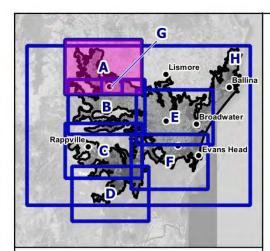


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<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

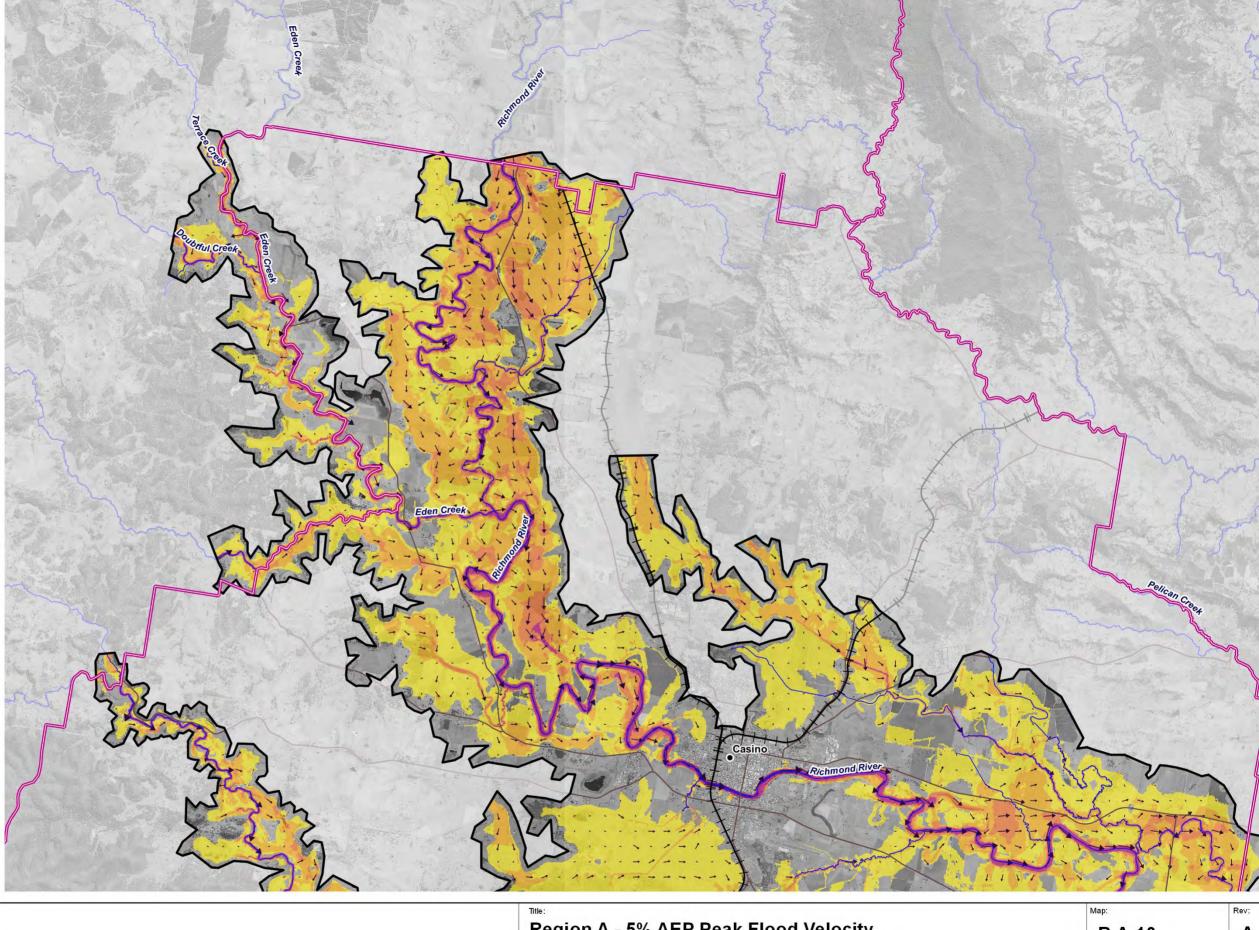
0.2 to 0.5

0.5 to 1.0

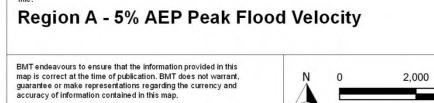
1.0 to 2.0

2.0 to 3.0

> 3.0

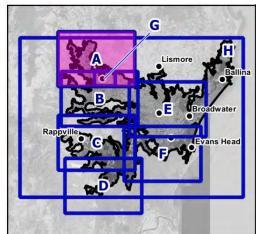


Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



N 0 2,000 4,000 m





0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

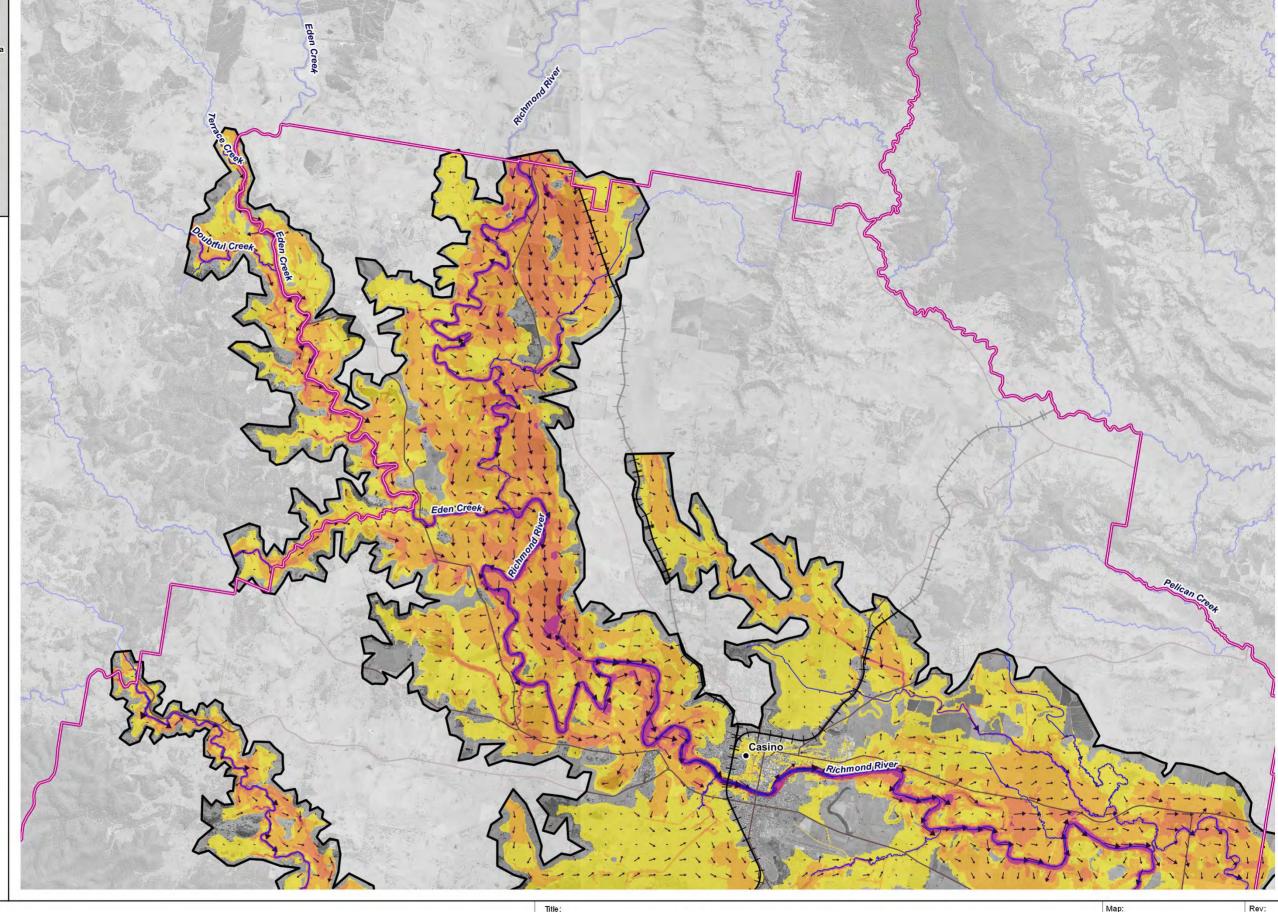
2.0 to 3.0

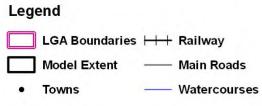
Velocity (m/s)

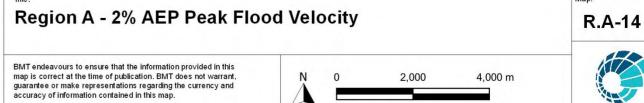
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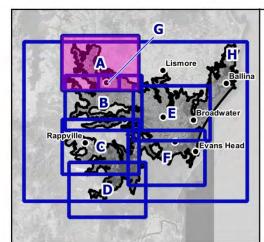
0.2 to 0.5 0.5 to 1.0 1.0 to 2.0

> 3.0









0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

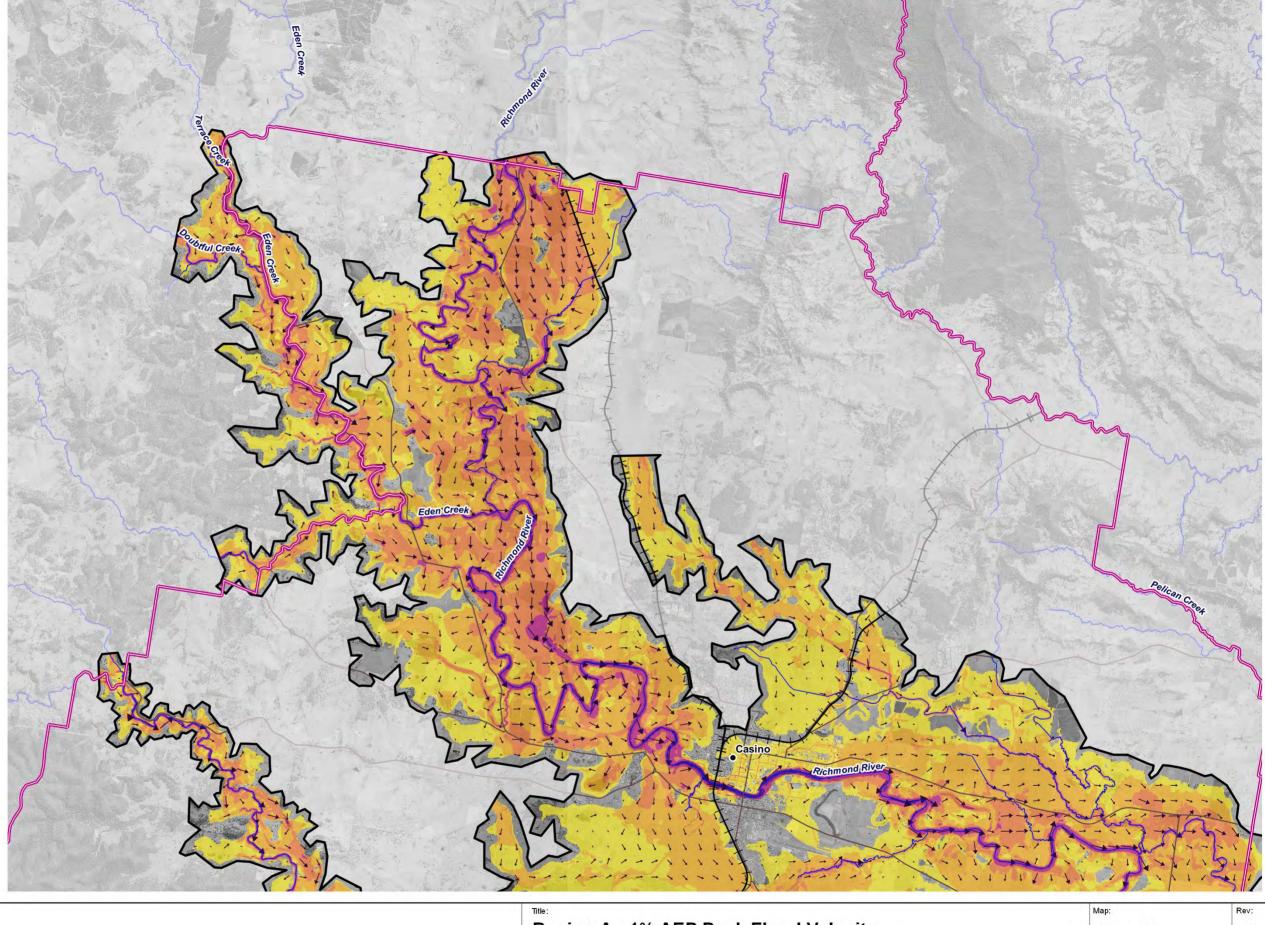
0.2 to 0.5

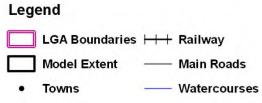
0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

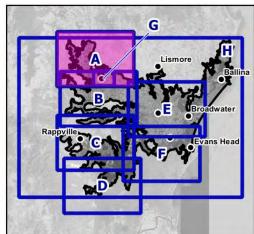
> 3.0











<0.1

0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

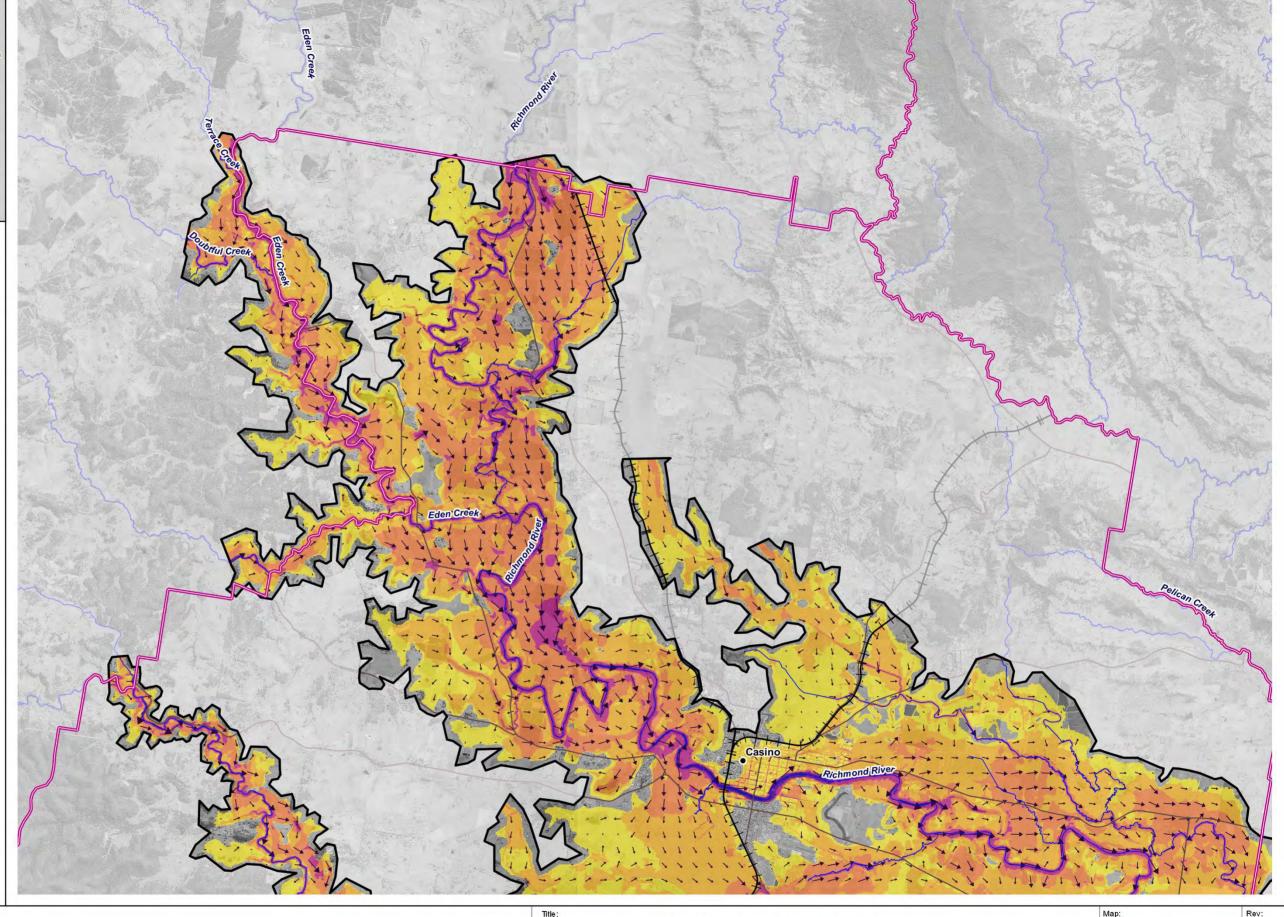
Velocity (m/s)

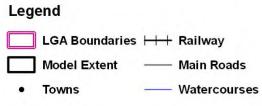
1.0 to 2.0

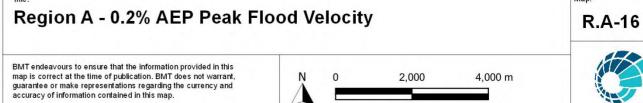
2.0 to 3.0

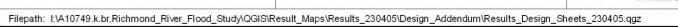
> 3.0

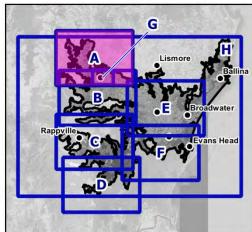
< 0.2 0.2 to 0.5 0.5 to 1.0











<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

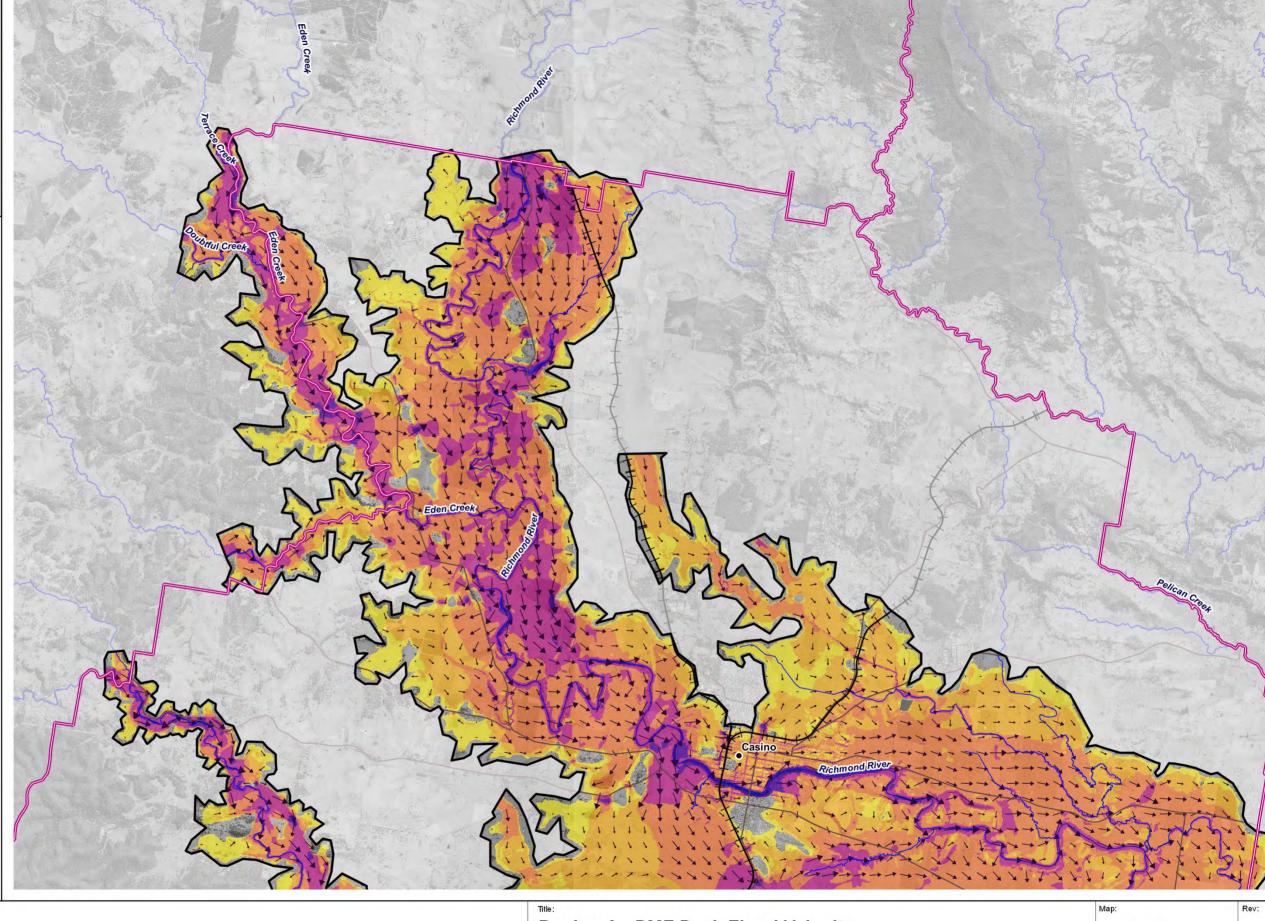
0.2 to 0.5

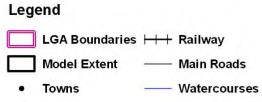
0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

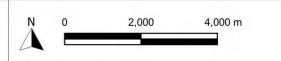
> 3.0







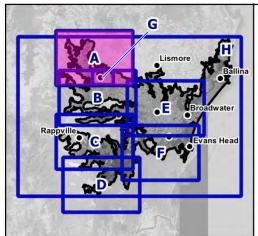
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R.A-17

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 $File path: \ l:\ A10749.k. br. Richmond_River_Flood_Study \land QGIS \land Result_Maps \land Results_230405 \land Design_Addendum \land Results_Design_Sheets_230405. qgz$



<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

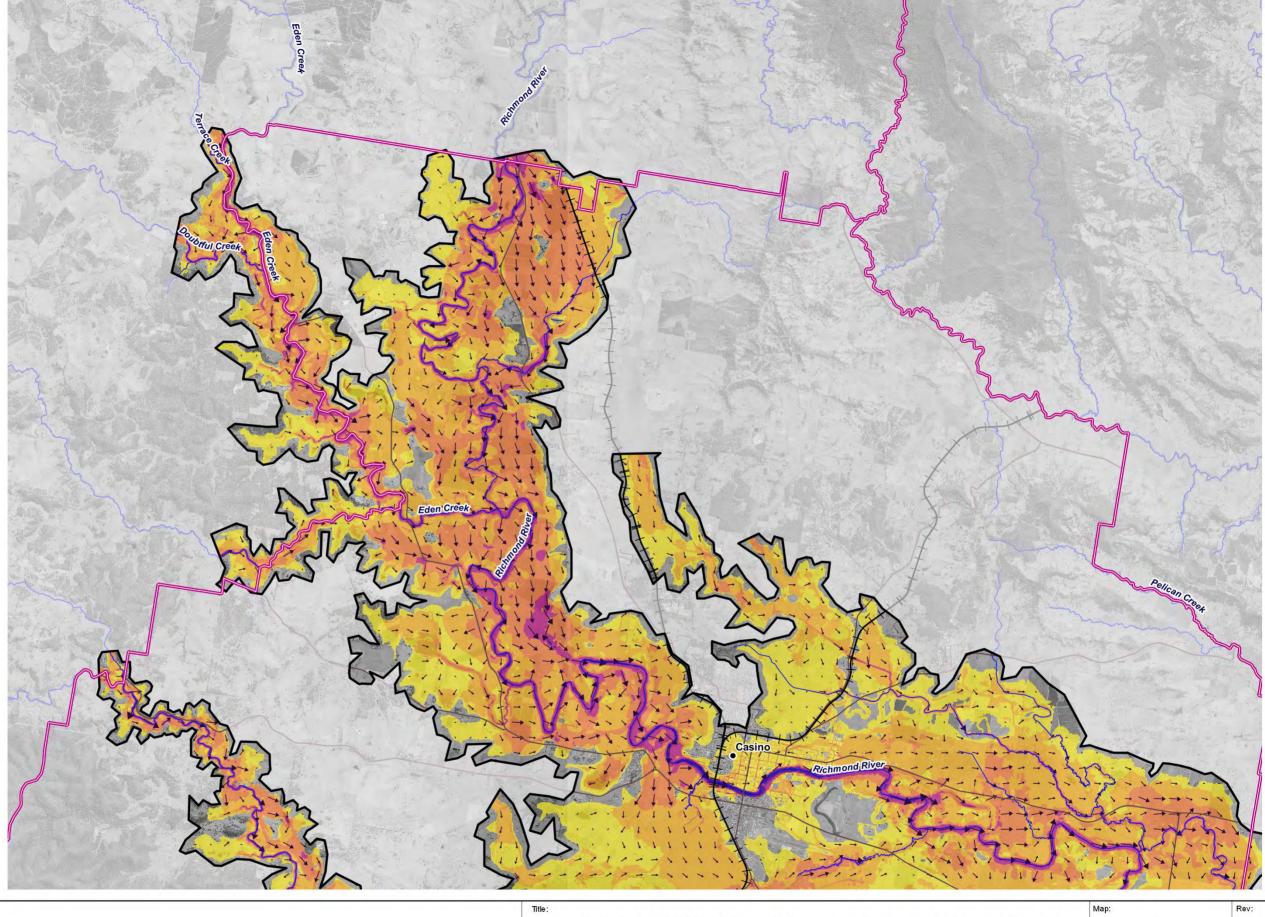
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0



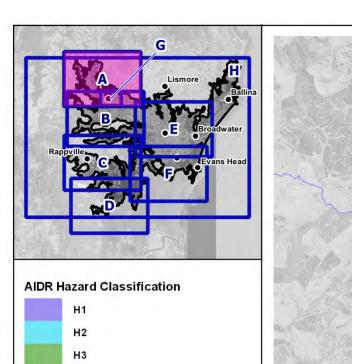
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



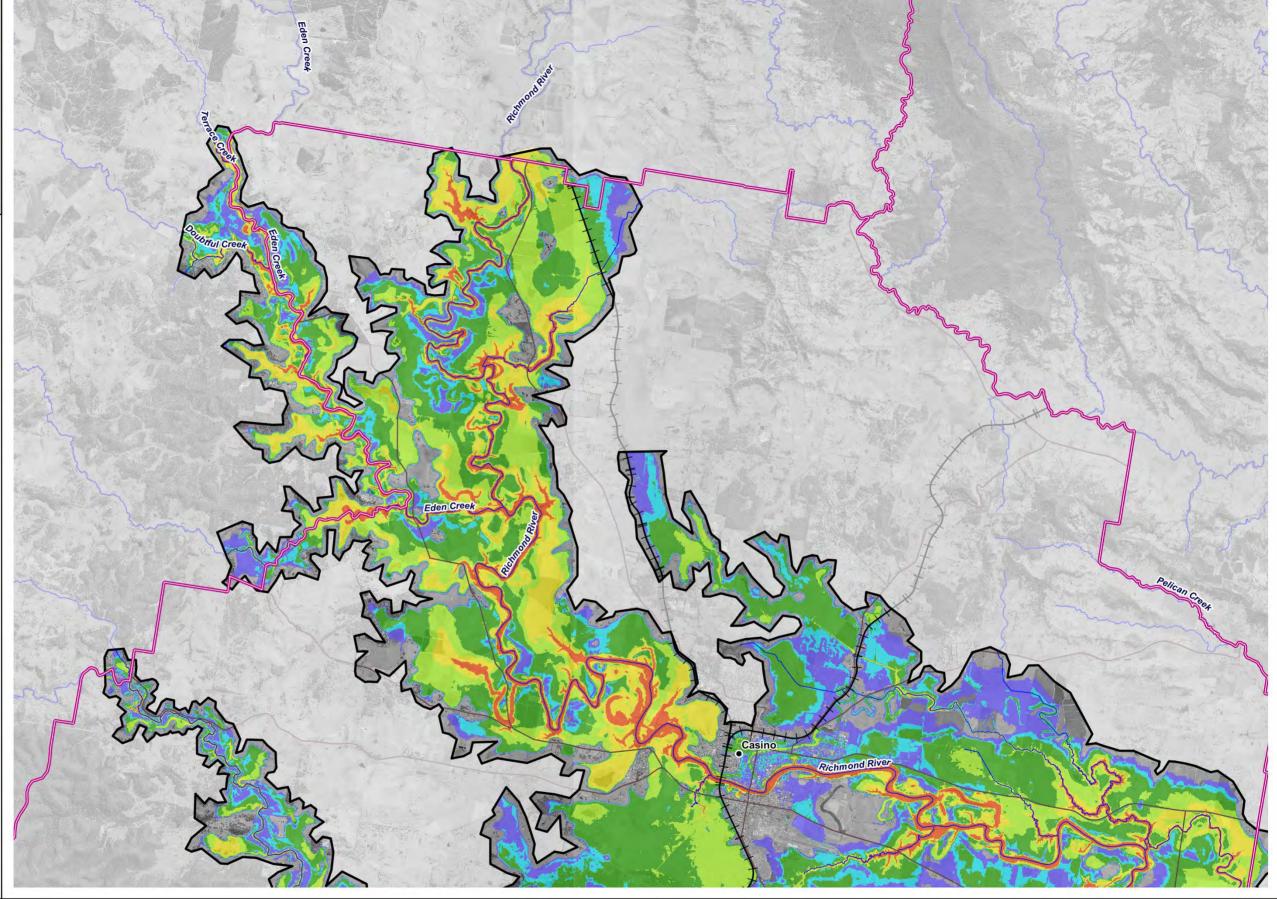
N 0 2,000 4,000 m

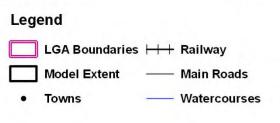


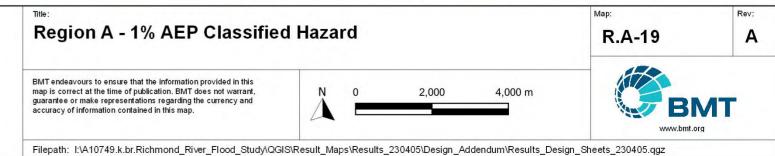
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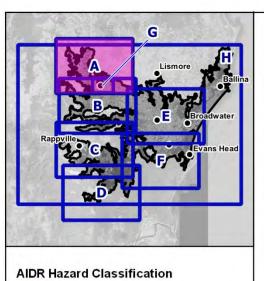


H5 H6







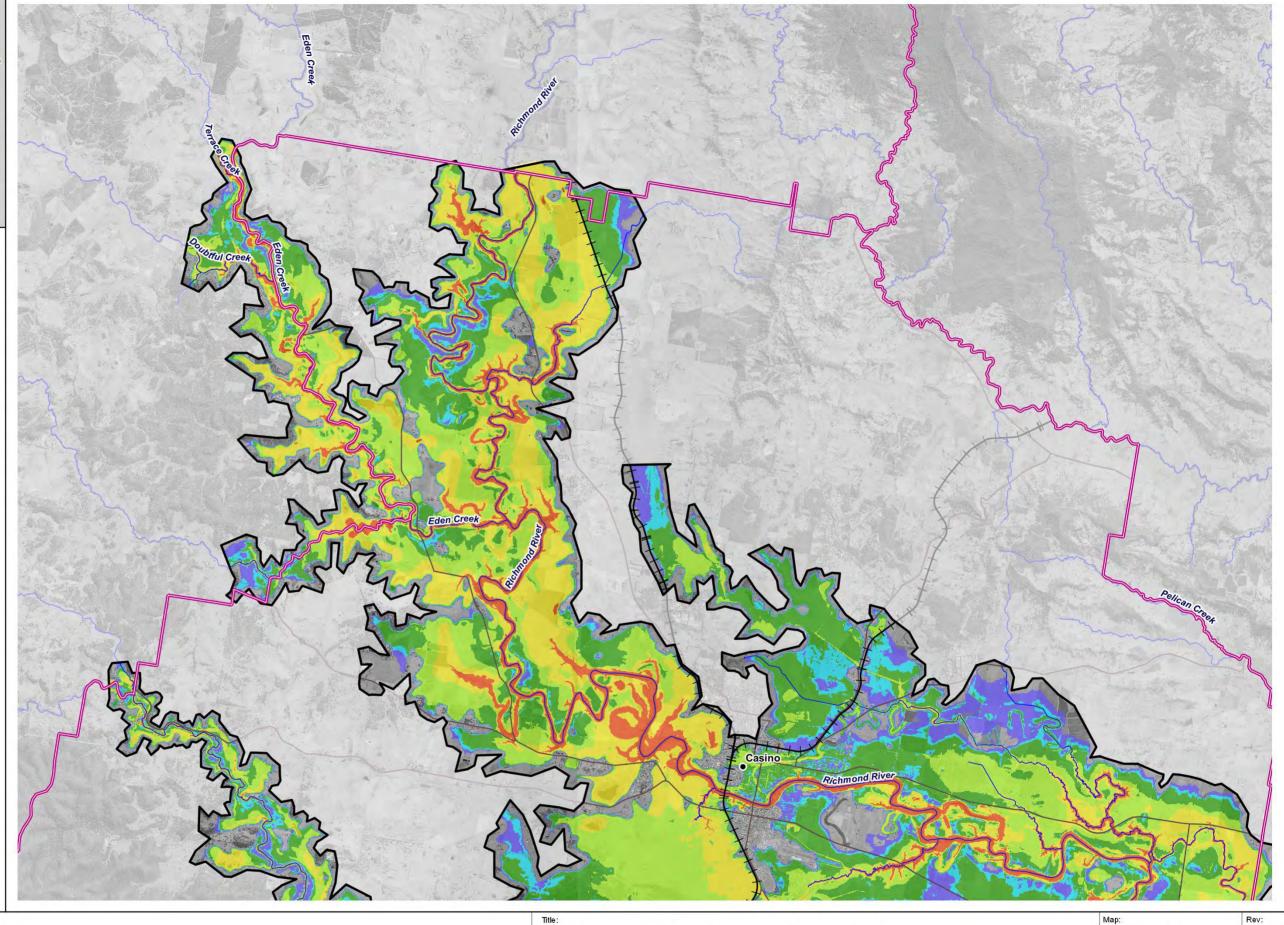


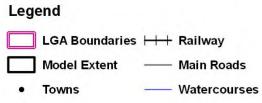
H1

H2 H3 H4

Н5

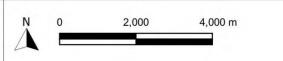
Н6





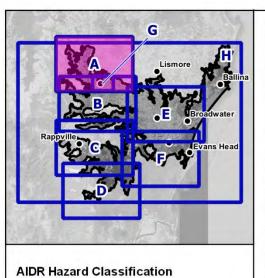


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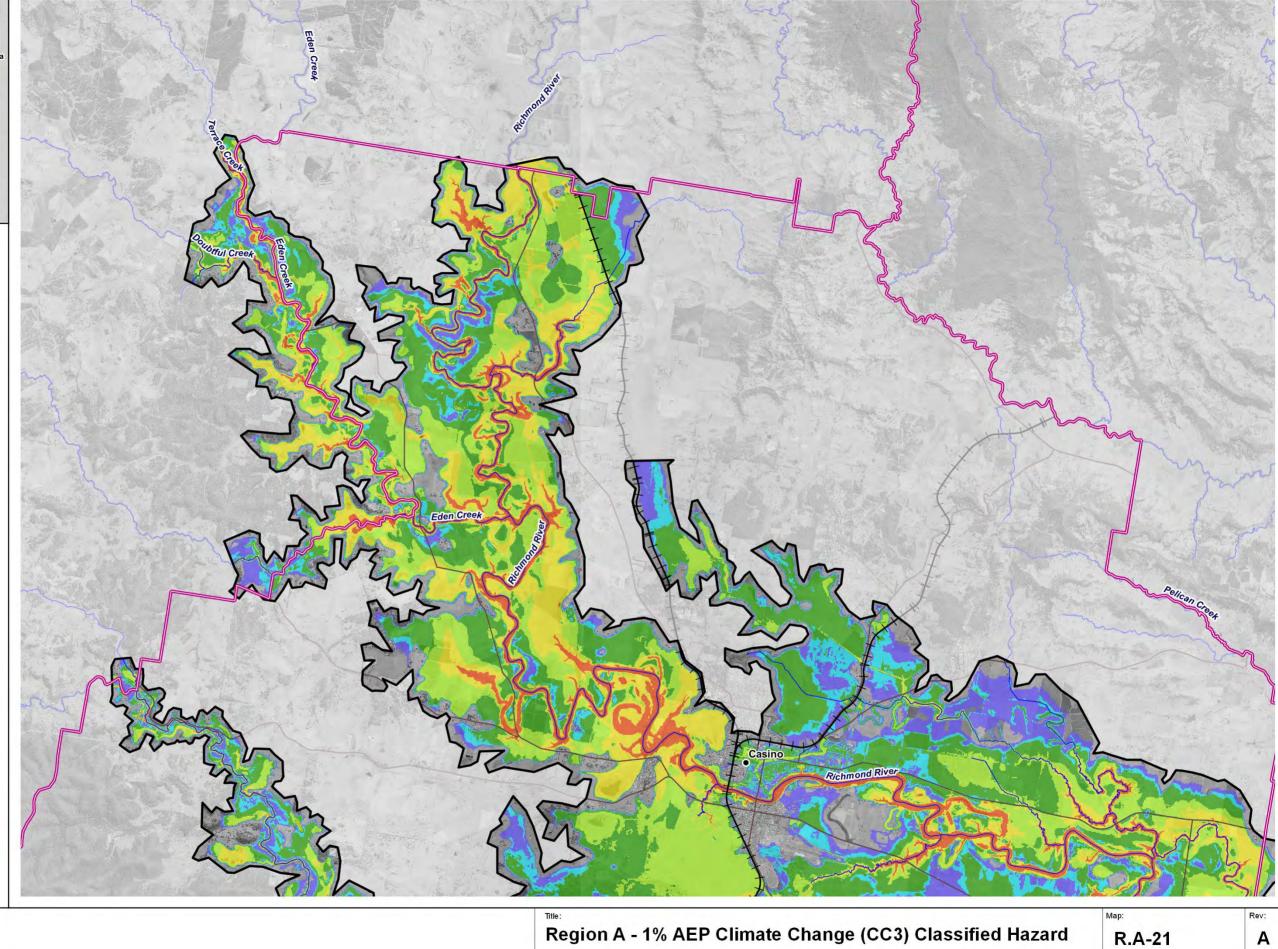
R.A-20

BMT





H5



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Legend Model Extent

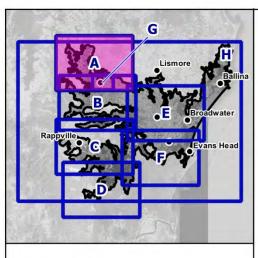
☐☐ LGA Boundaries ├── Railway

Towns

- Main Roads

--- Watercourses

Region A - 1% AEP Climate Change (CC3) Classified Hazard



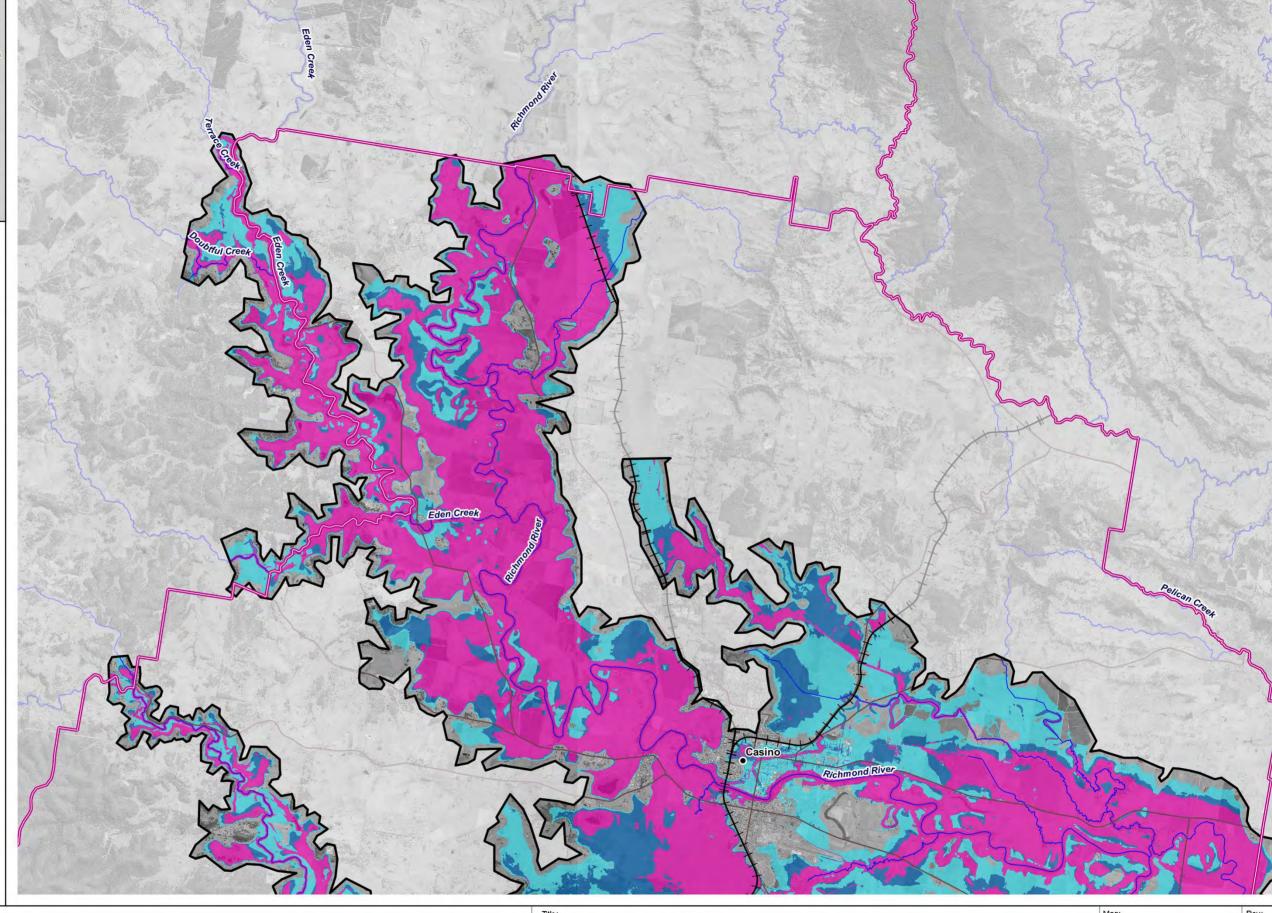
Flood Function

Flo

Floodway

Flood Fringe

Flood Storage



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

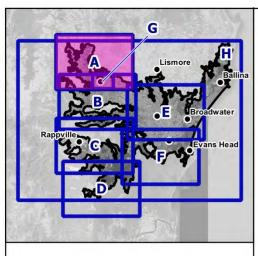


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0 2,000 4,000 m

R.A-22

BMT



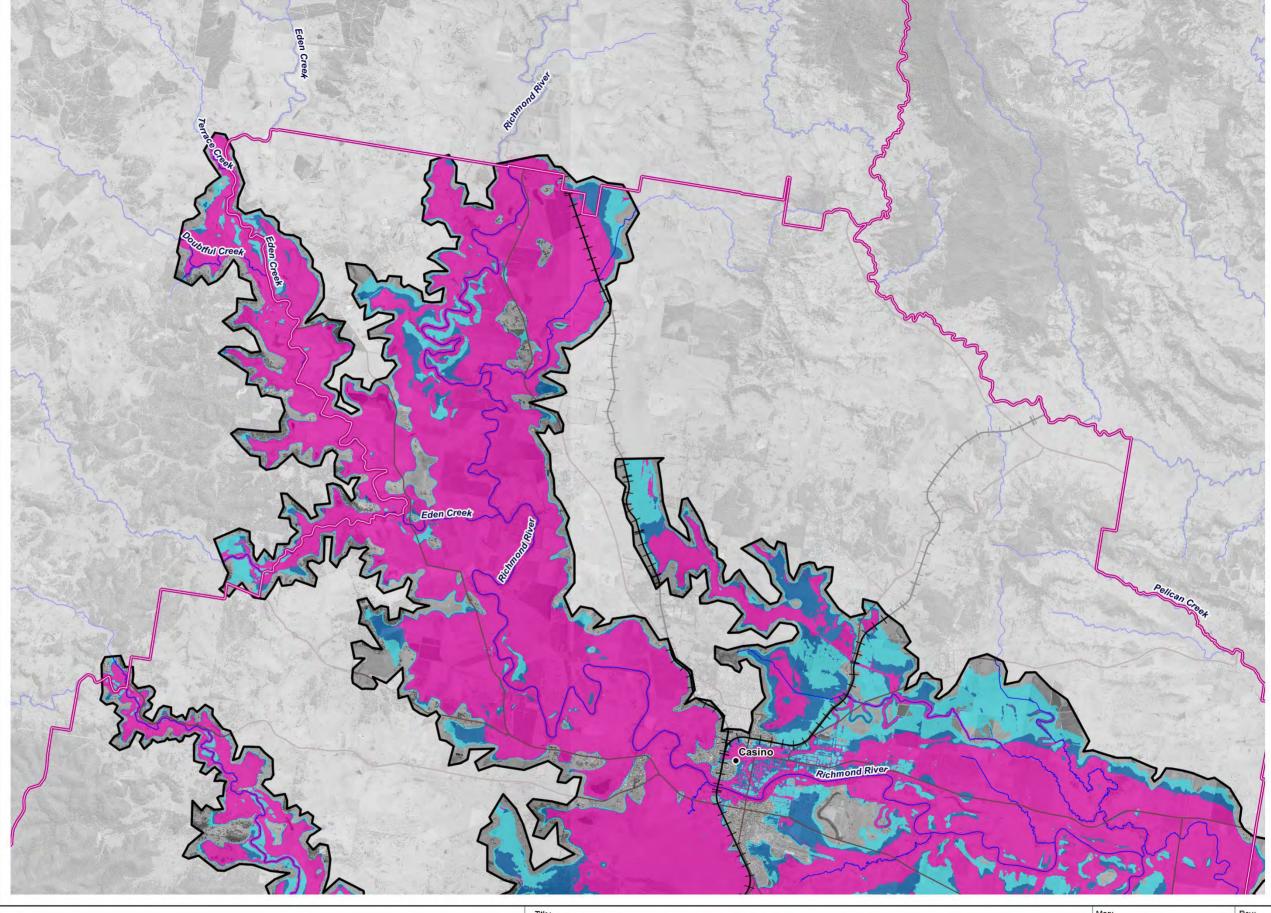
Flood Function

FI

Floodway

Flood Fringe

Flood Storage



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

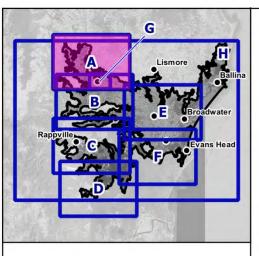


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N 0 2,000 4,000 m

R.A-23



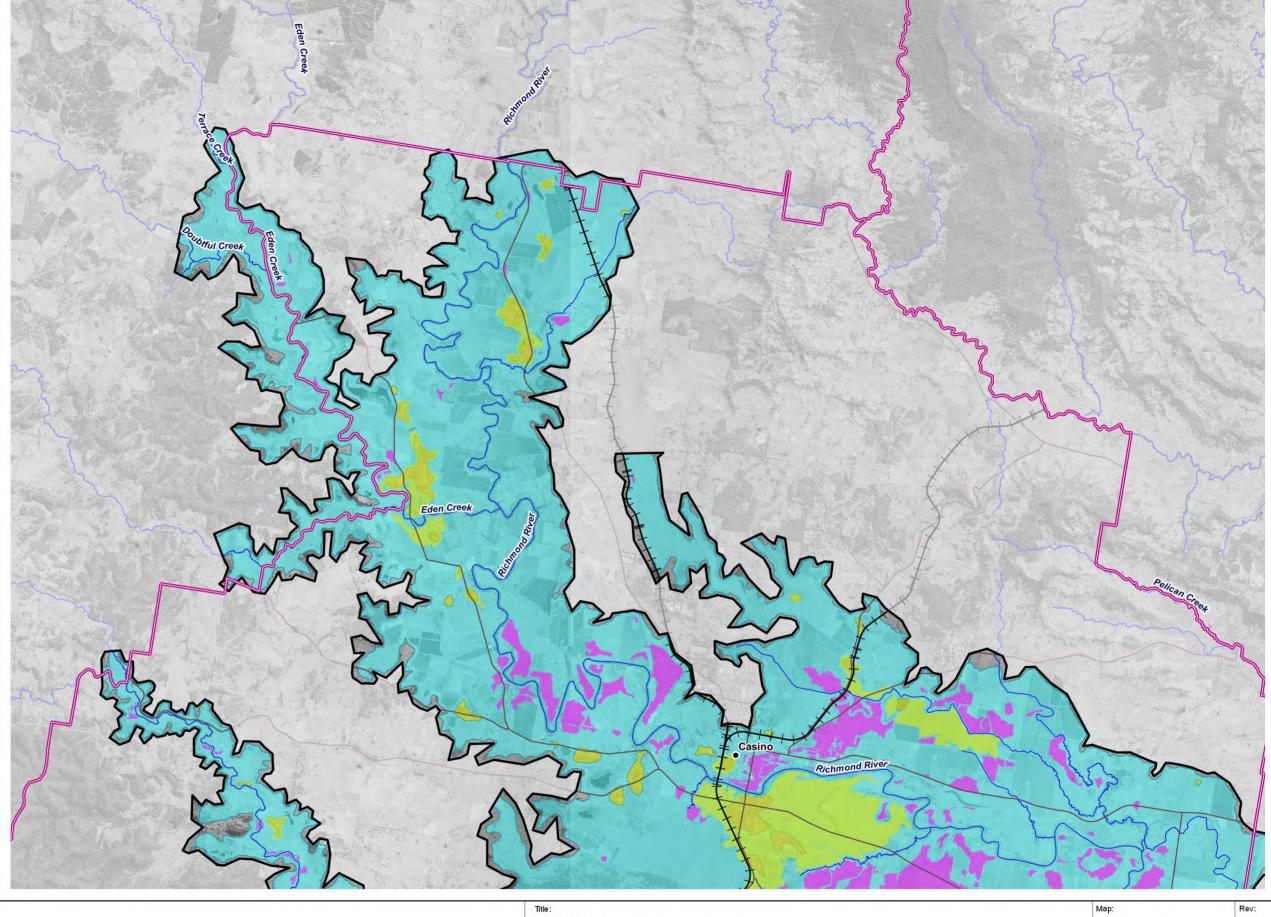


Flood Islands

Low Flood Island High Flood Island

PMF Extent

Extent



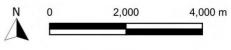
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



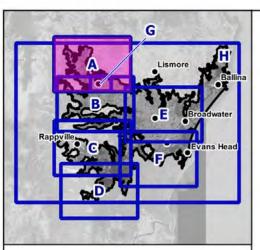
R.A-24

A-24

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Flood Planning Level (m AHD)

0.1m Interval Contours

<= 5

10 - 15

15 - 20

20 - 25 25 - 30

30 - 35

35 - 40

40 - 45 45 - 50

50 - 55

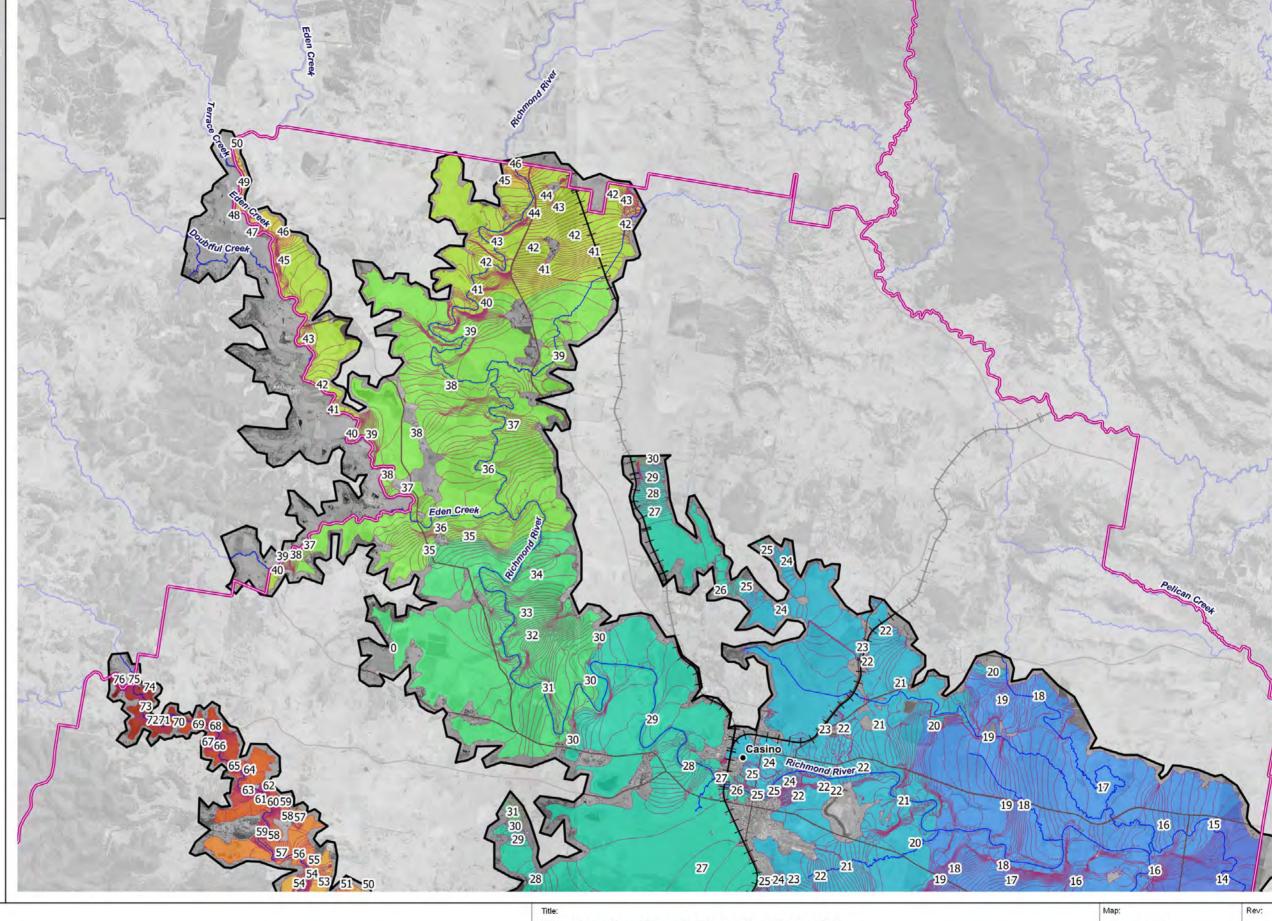
55 - 60

60 - 65

65 - 70

70 - 75

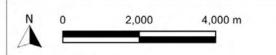
> 75



Legend LGA Boundaries + Railway Model Extent - Main Roads Towns - Watercourses

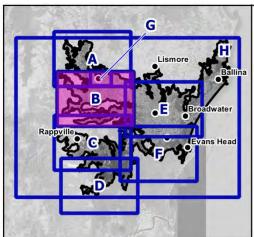
Region A - Flood Planning Levels

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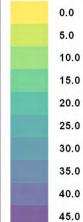
R.A-25

BMT

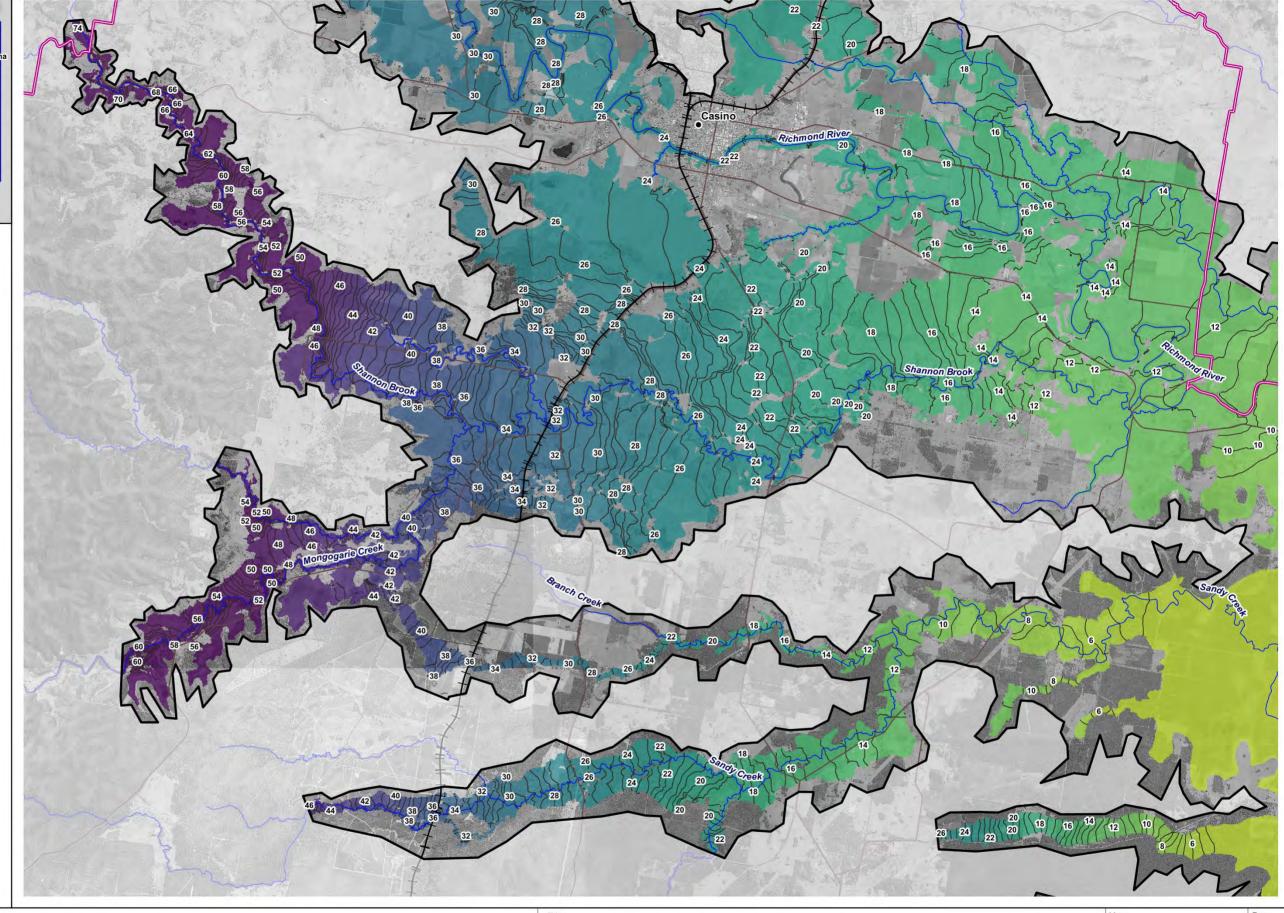


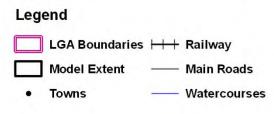
- 5% AEP 0.5m Contours

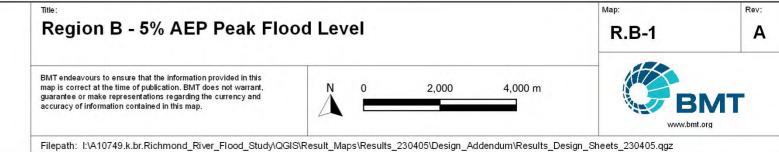
Level (m AHD)

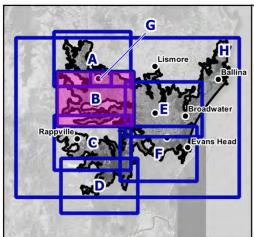


50.0



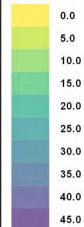




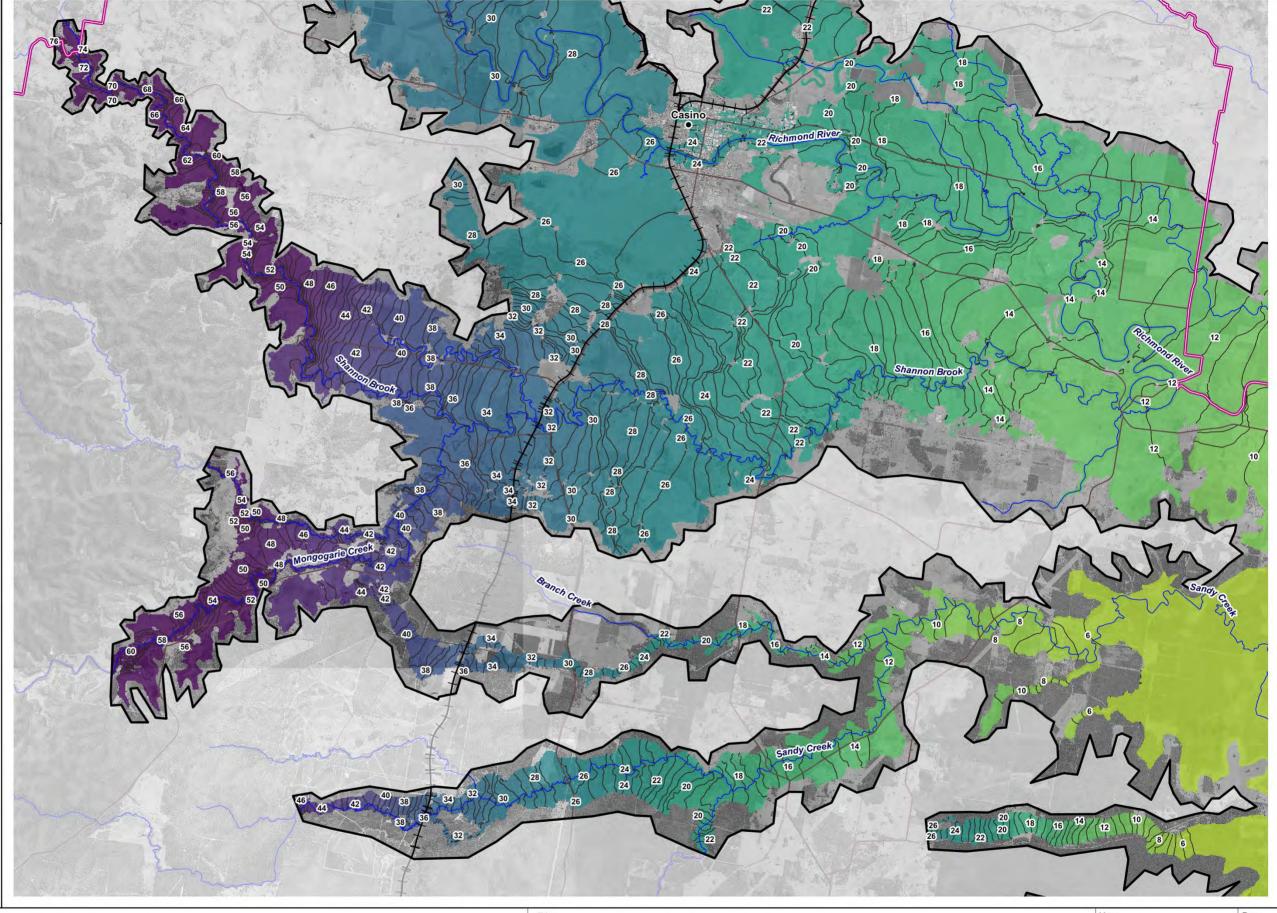


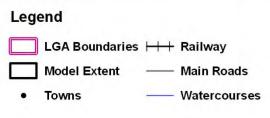
- 2% AEP 0.5m Contours

Level (m AHD)



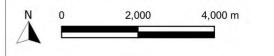
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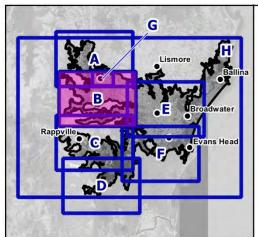


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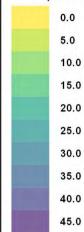


BMT

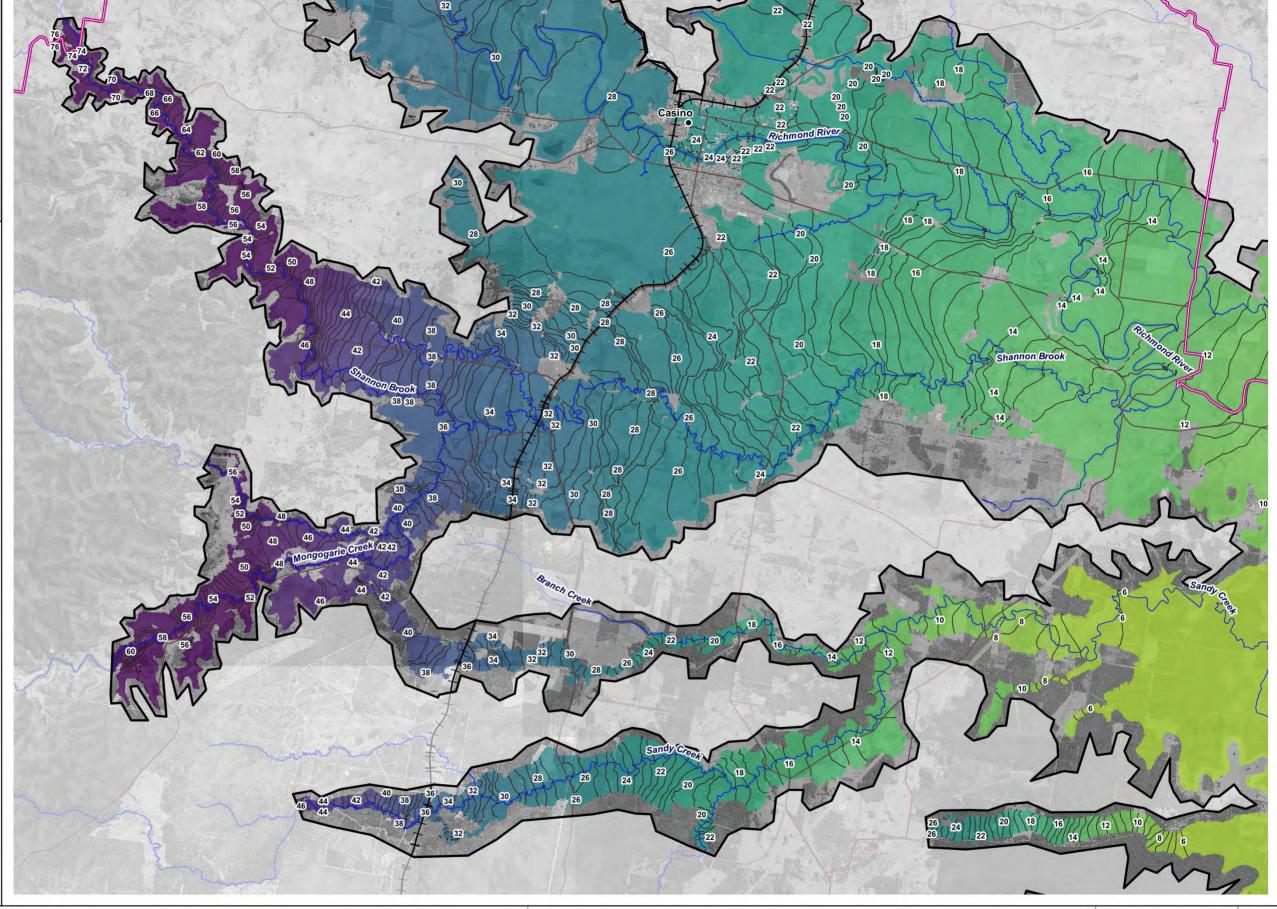


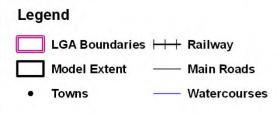
- 1% AEP 0.5m Contours

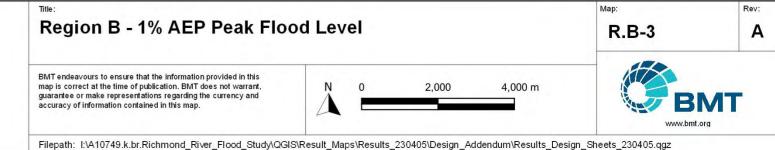
Level (m AHD)

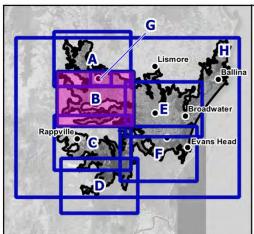


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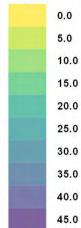




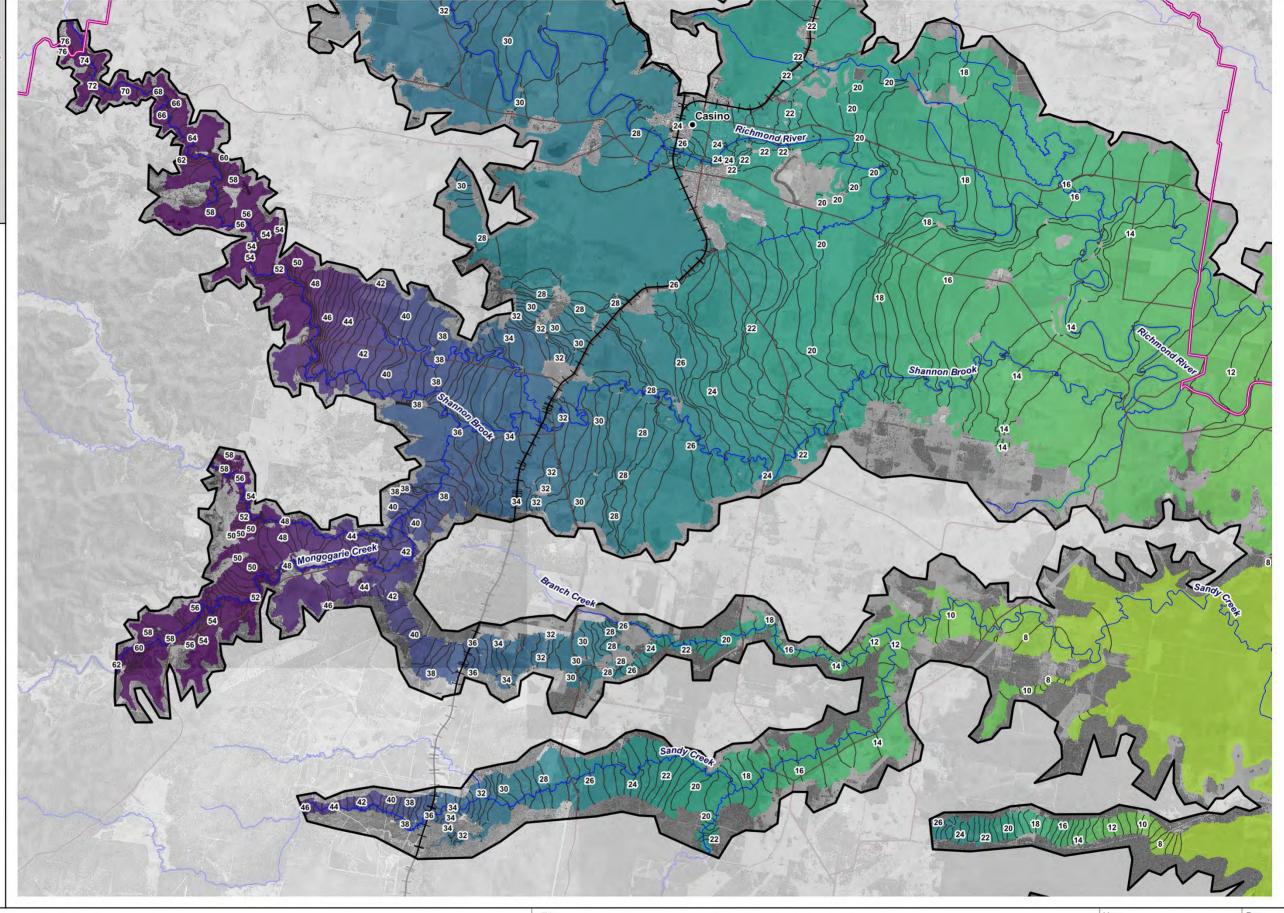


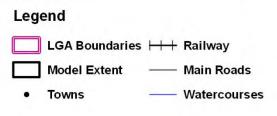
- 0.2% AEP 0.5m Contours

Level (m AHD)



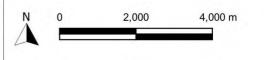
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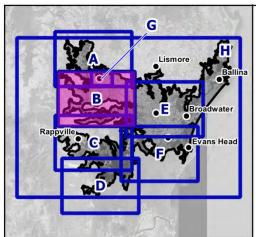




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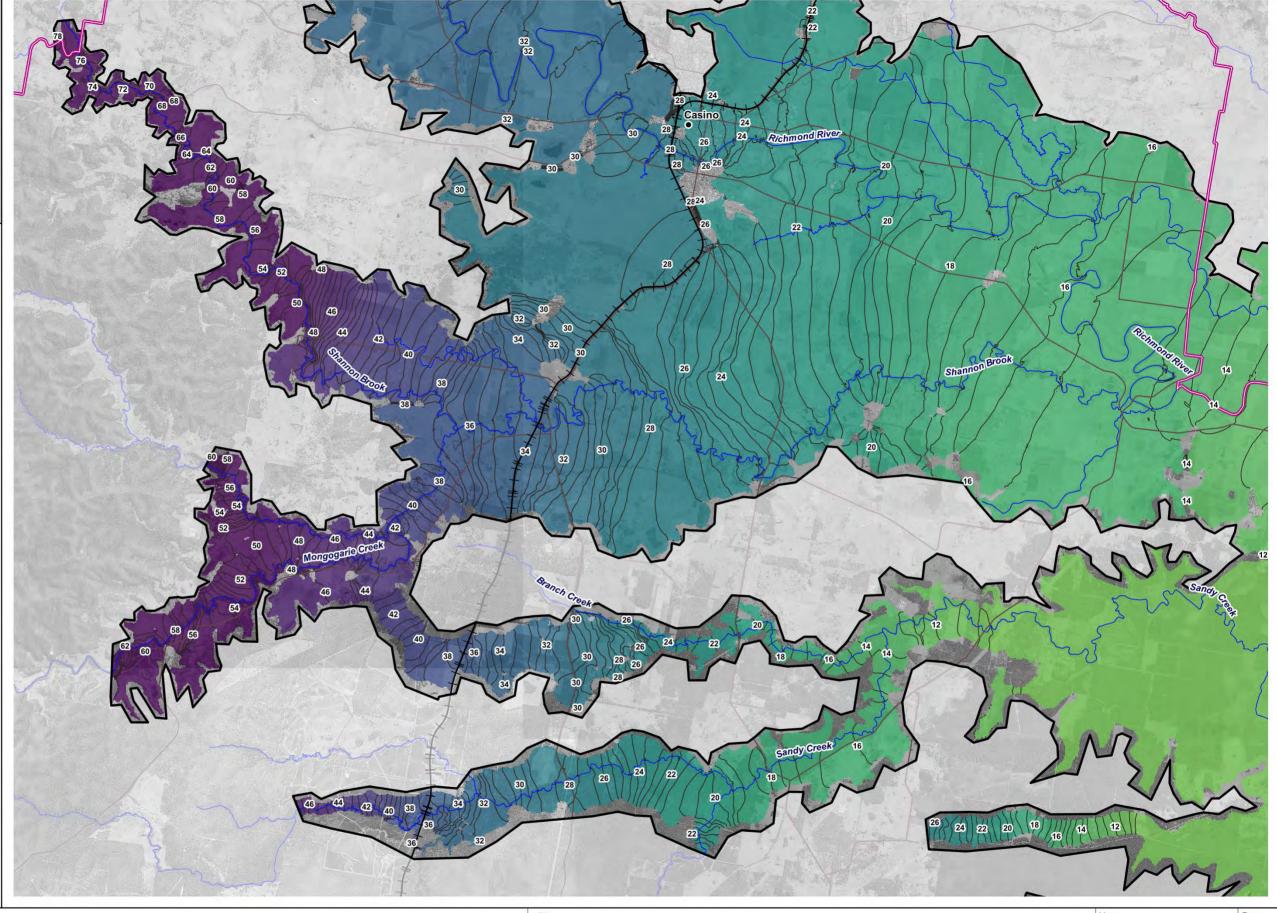


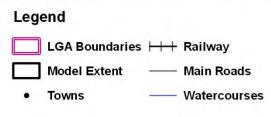
- PMF 0.5m Contours

Level (m AHD)



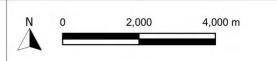
50.0



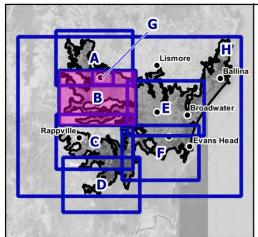




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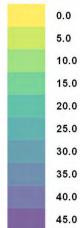




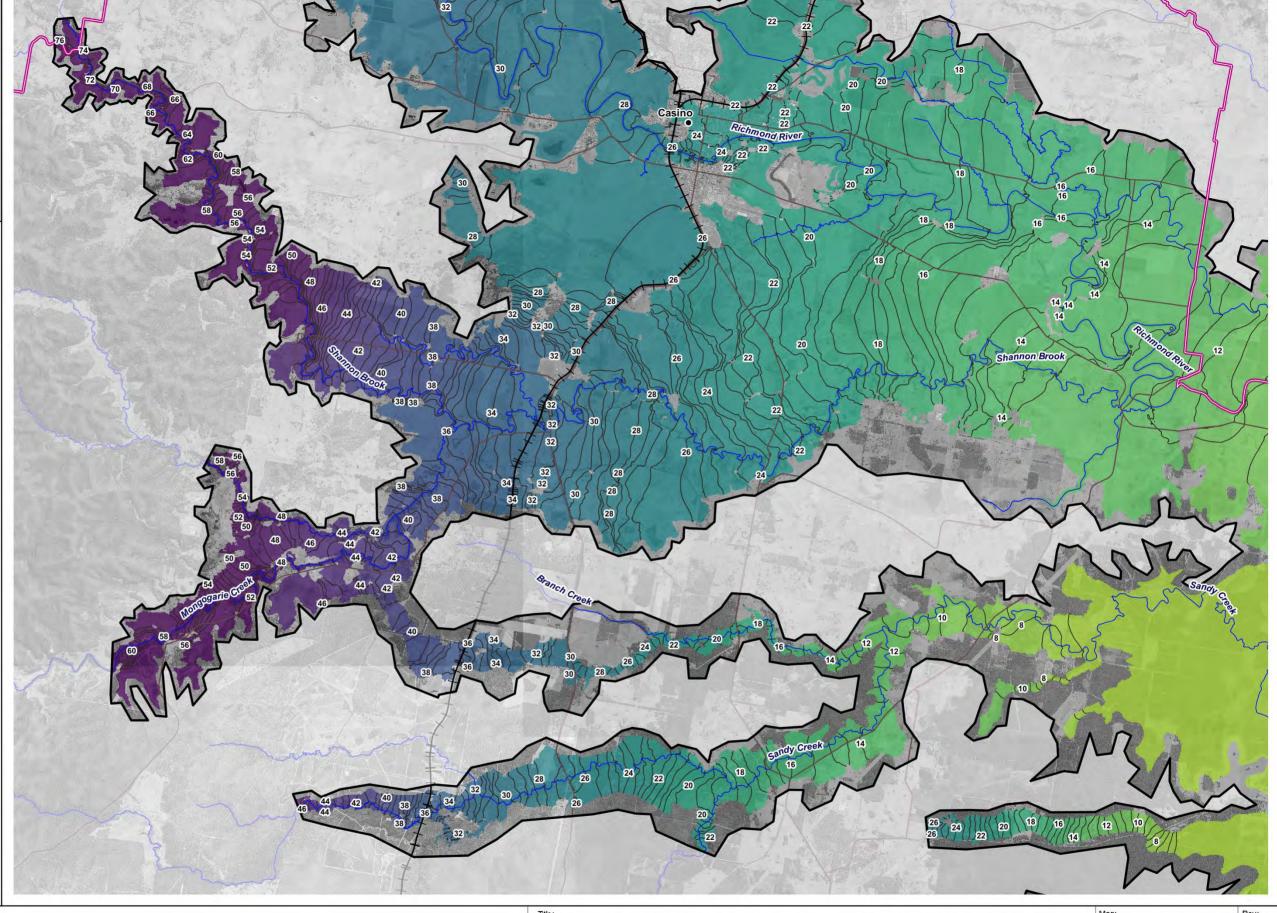


- 1% AEP CC3 0.5m Contours

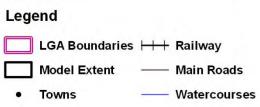
Level (m AHD)



50.0



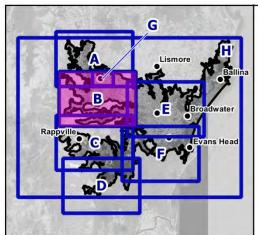
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Region B - 1% AEP Climate Change (CC3) Peak Flood Level

N 0 2,000 4,000 m

R.B-6 A



<0.25

0.25 to 0.5

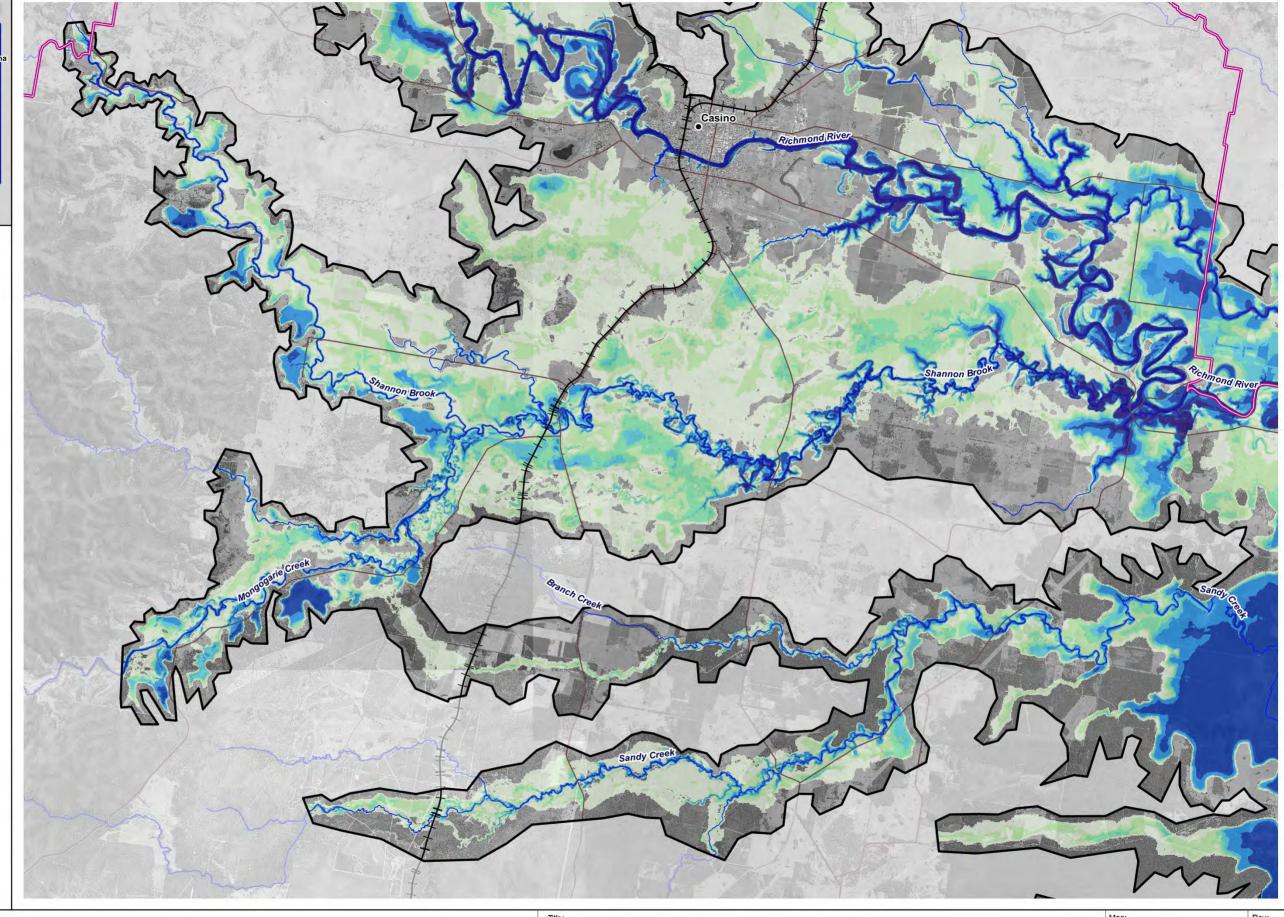
0.5 to 0.75

0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

>4

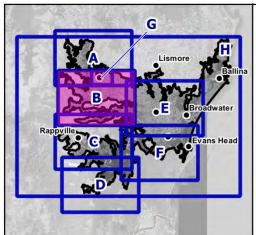


Legend □ LGA Boundaries → Railway □ Model Extent → Main Roads • Towns → Watercourses



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< 0.25

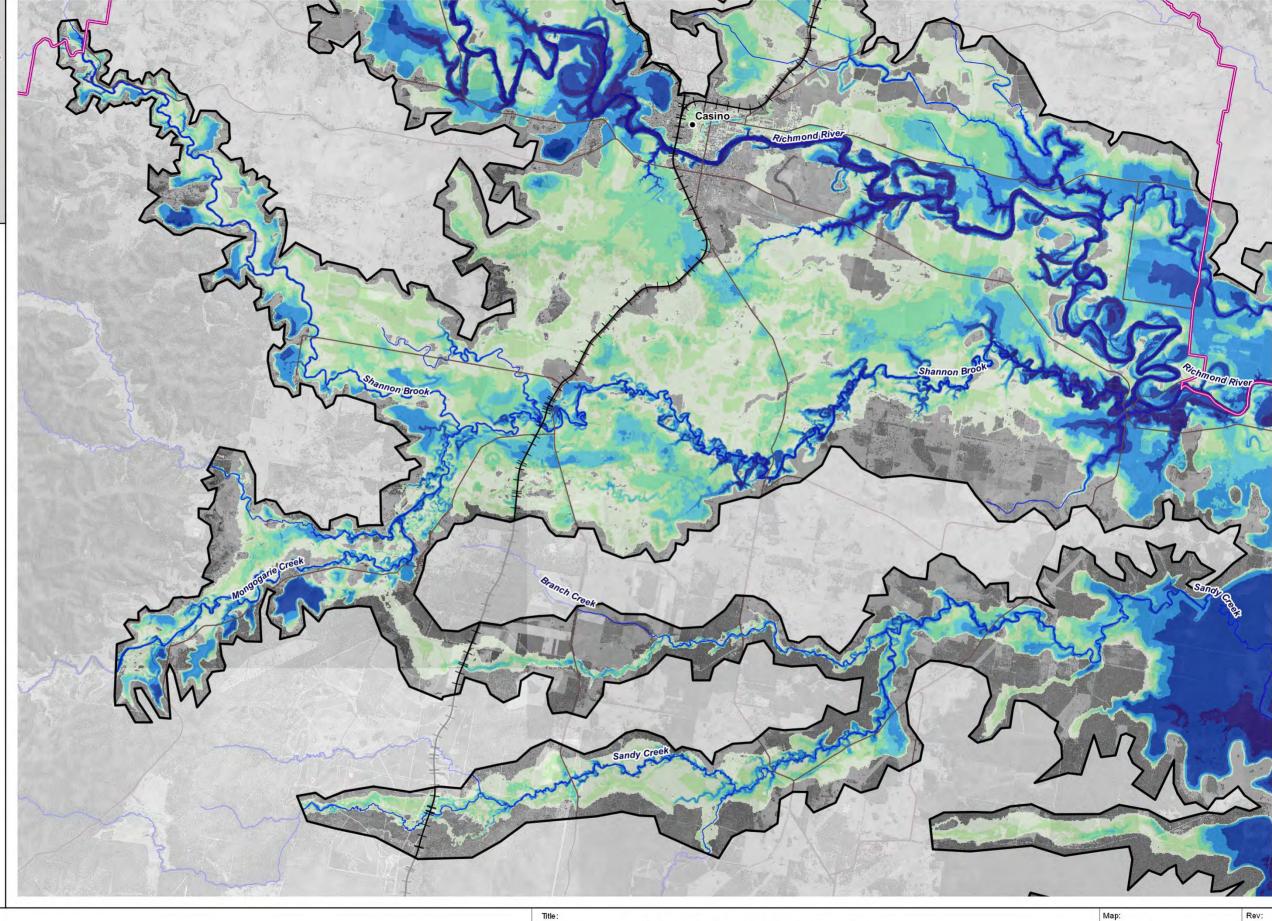
0.25 to 0.5

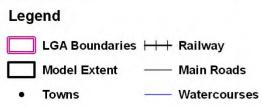
0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

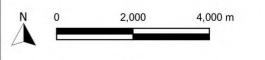
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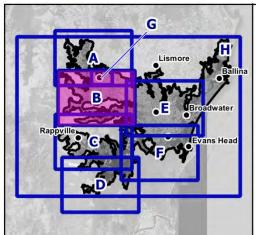


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R.B-8

BMT



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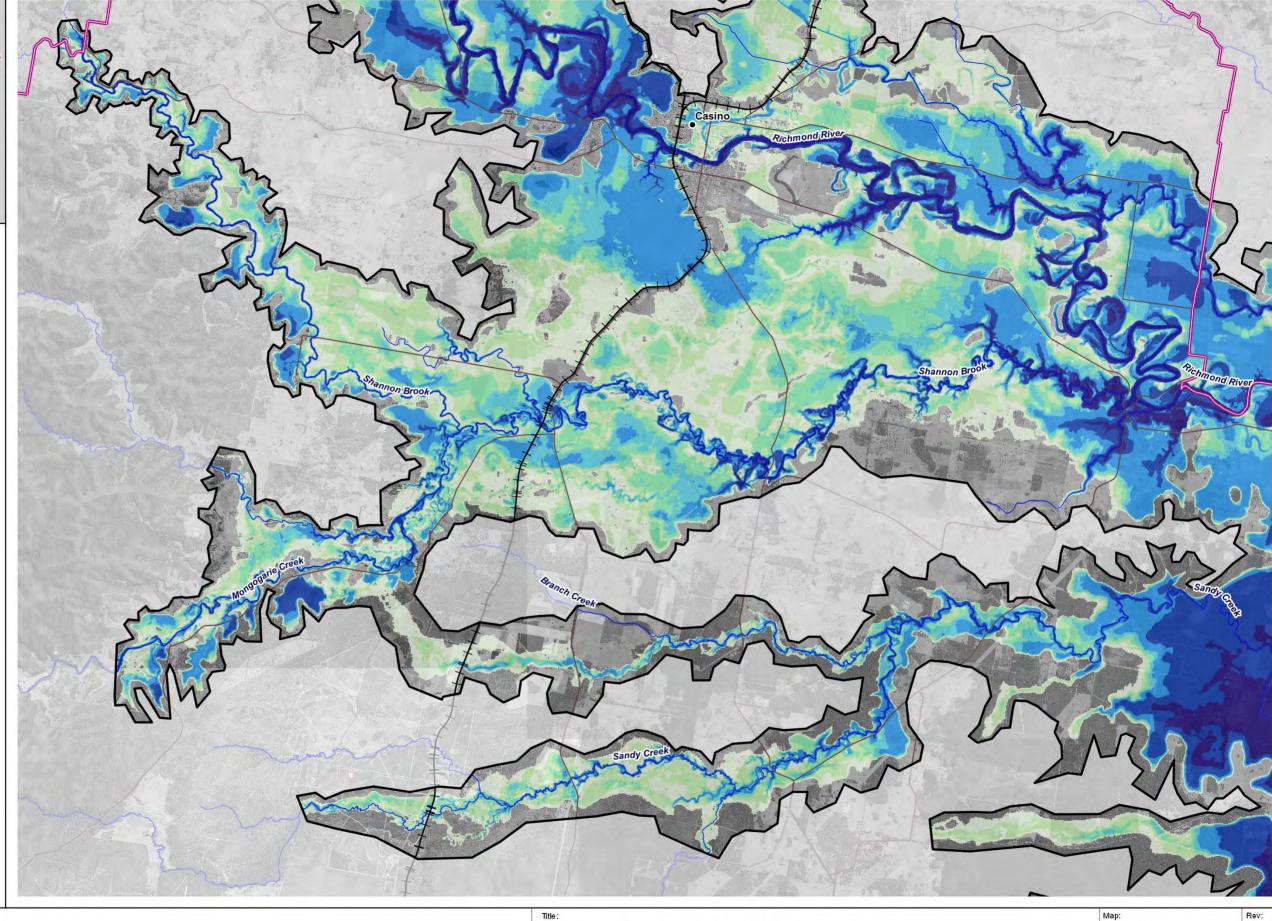
0.25 to 0.5

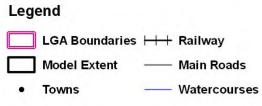
0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

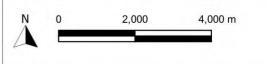
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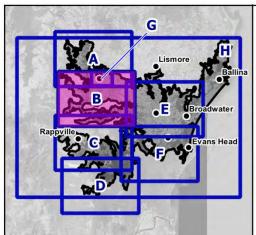


BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.





BMT



< 0.25

0.25 to 0.5

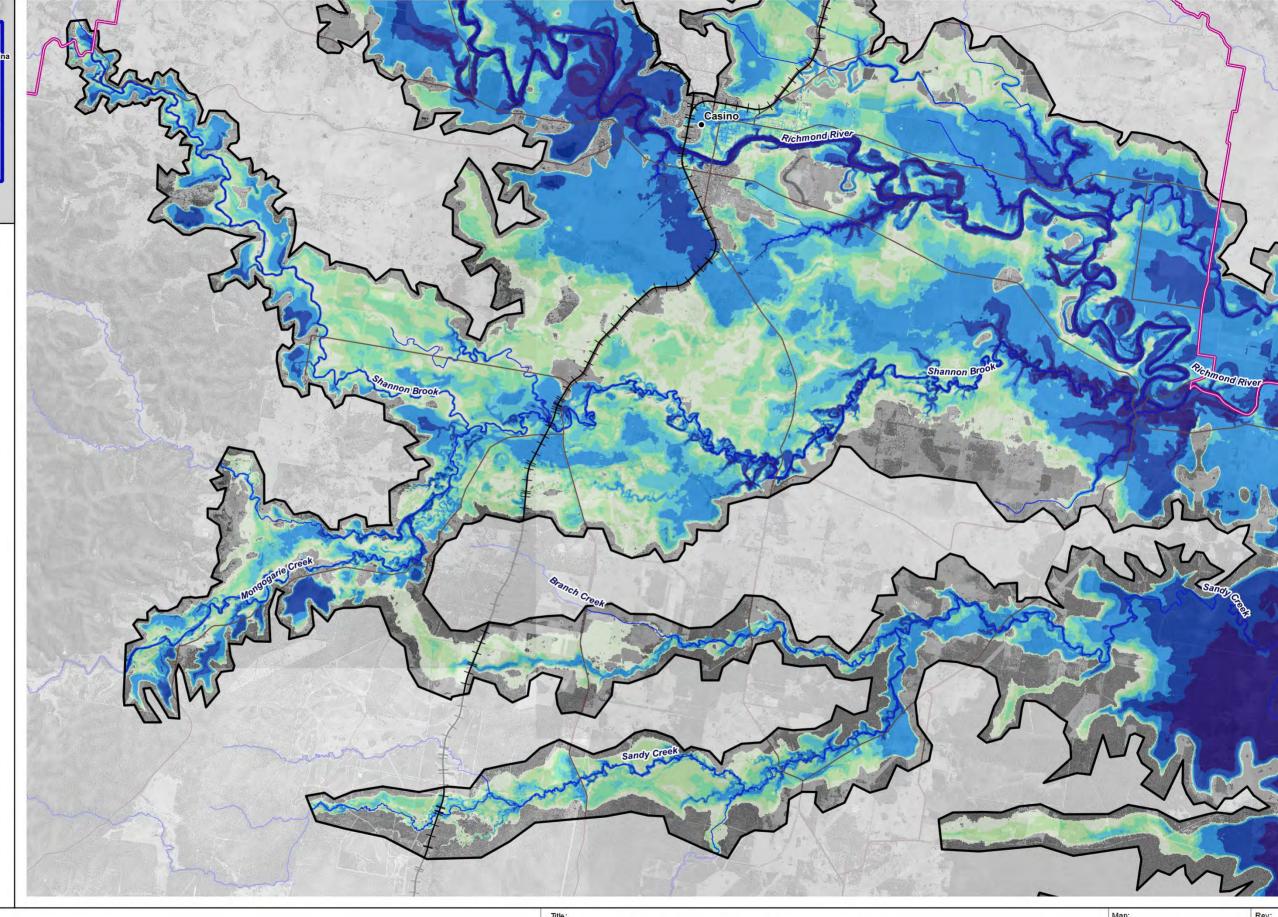
0.5 to 0.75

0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

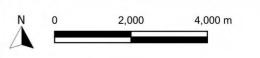
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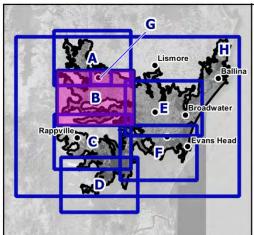
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



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< 0.25

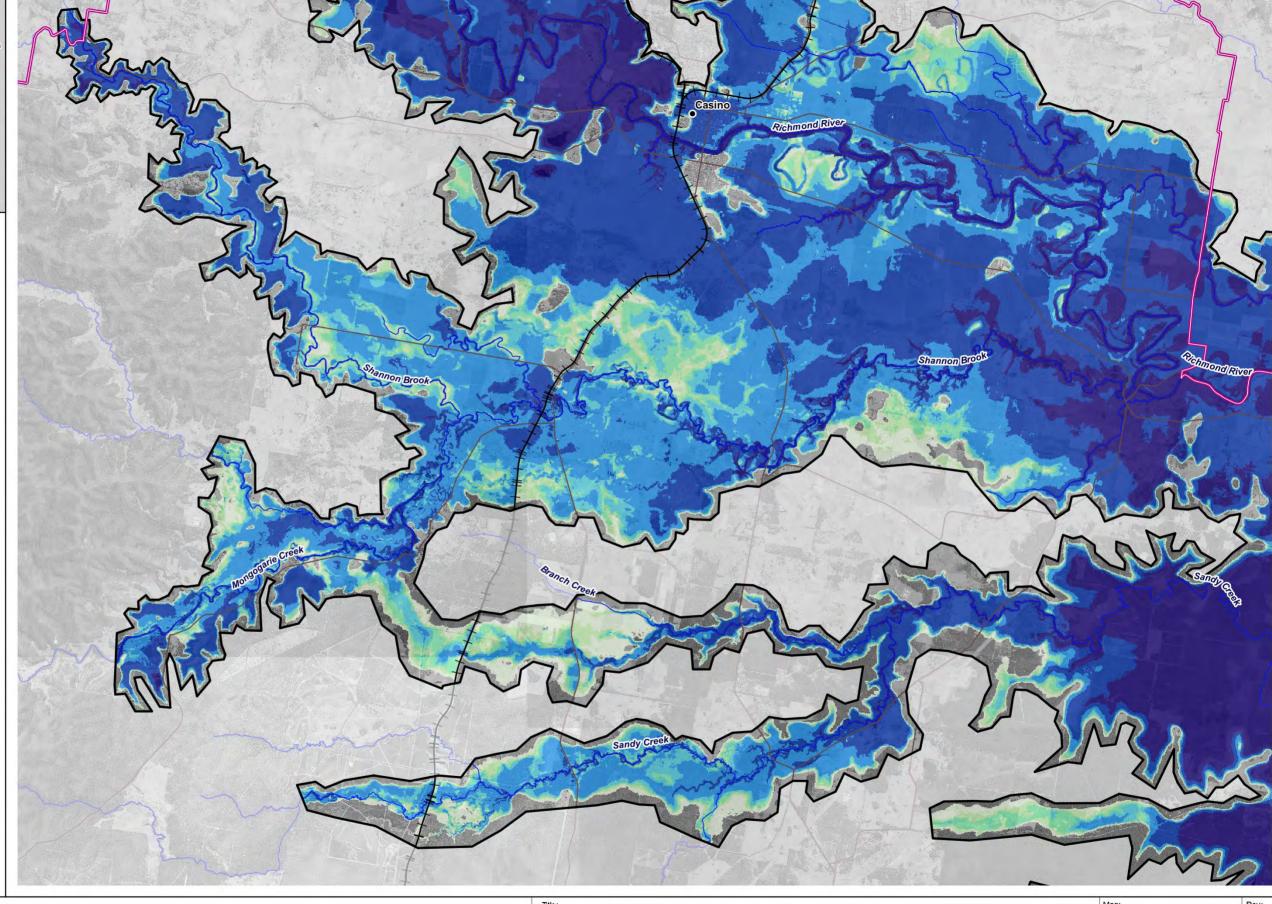
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

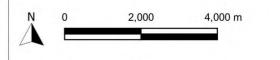
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Legend □ LGA Boundaries → Railway □ Model Extent → Main Roads • Towns → Watercourses

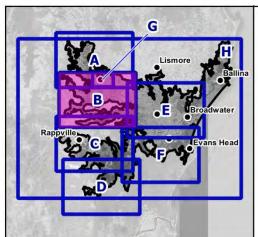


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<0.25

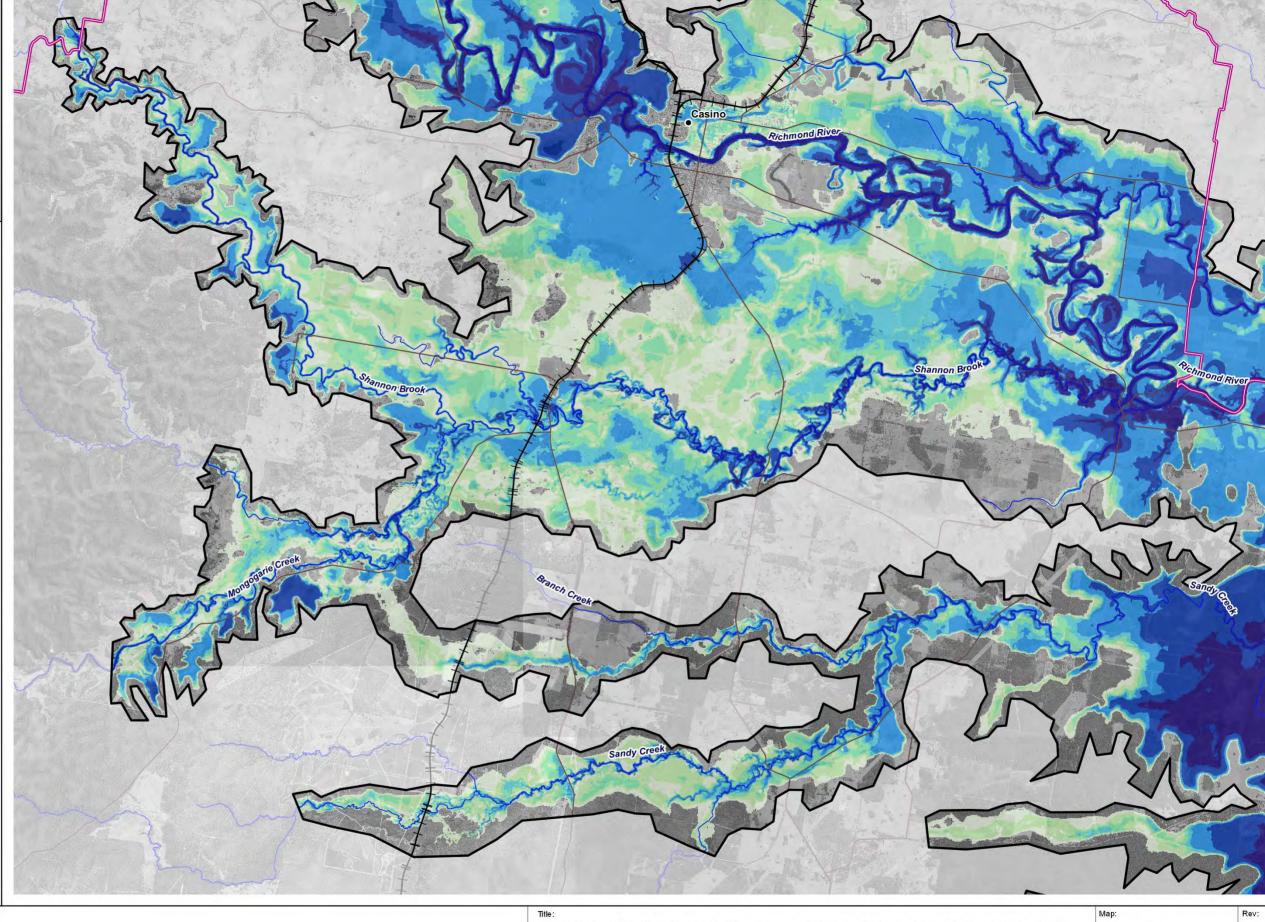
0.25 to 0.5

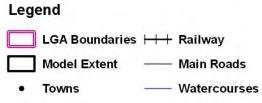
0.5 to 0.75

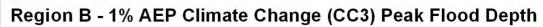
0.75 to 1.0

1.0 to 2.0 2.0 to 4.0

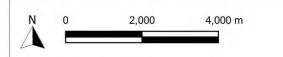
>4





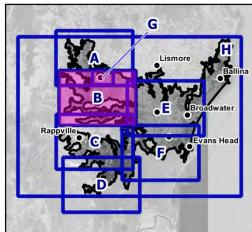


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<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

→ 1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

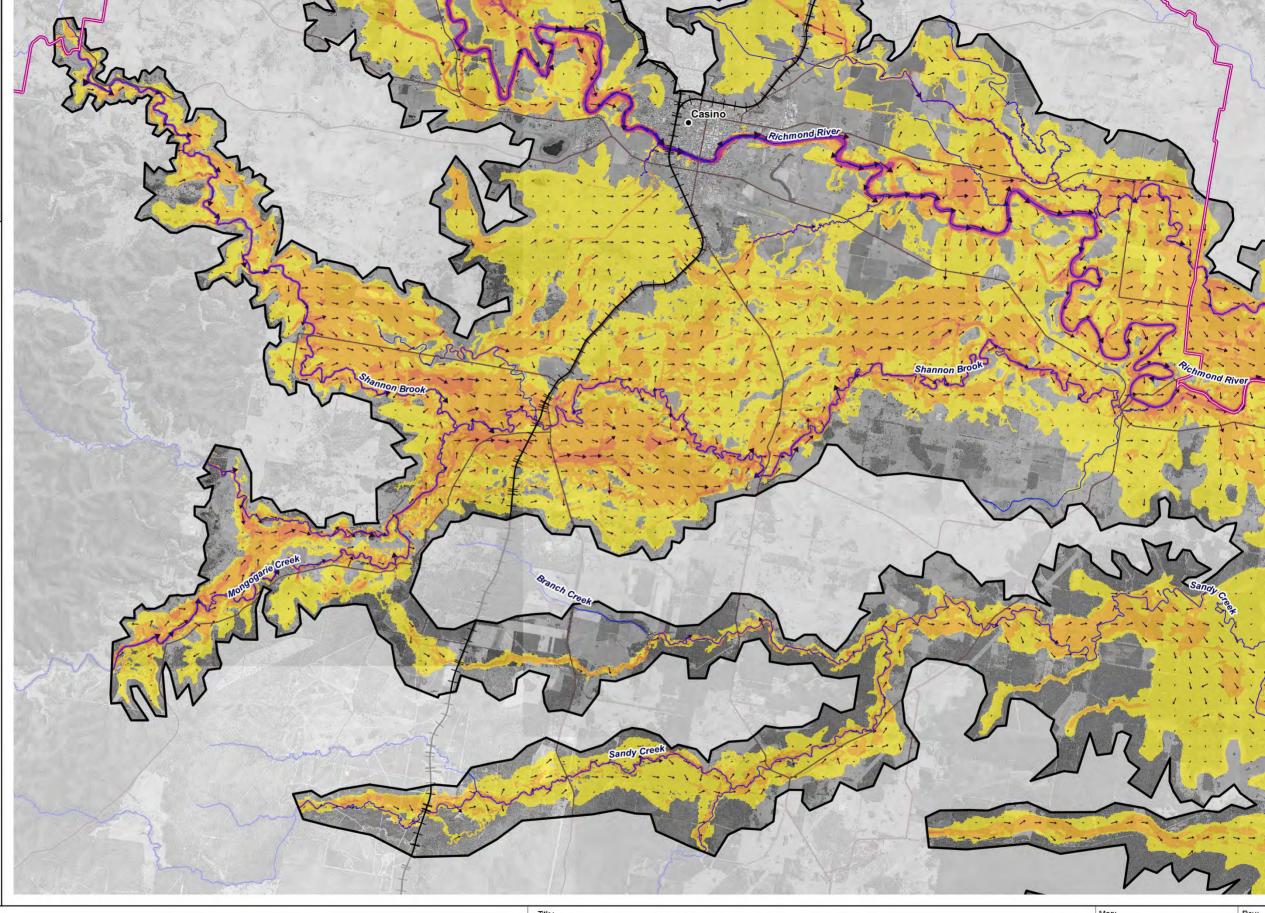
0.2 to 0.5

0.5 to 1.0

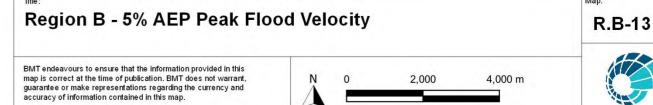
1.0 to 2.0

2.0 to 3.0

> 3.0

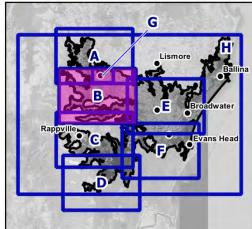


Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses





 $Filepath: \ l: \ A10749.k. br. Richmond_River_Flood_Study \land QGIS \land Result_Maps \land Results_230405 \land Design_Addendum \land Results_Design_Sheets_230405. qgz$



<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

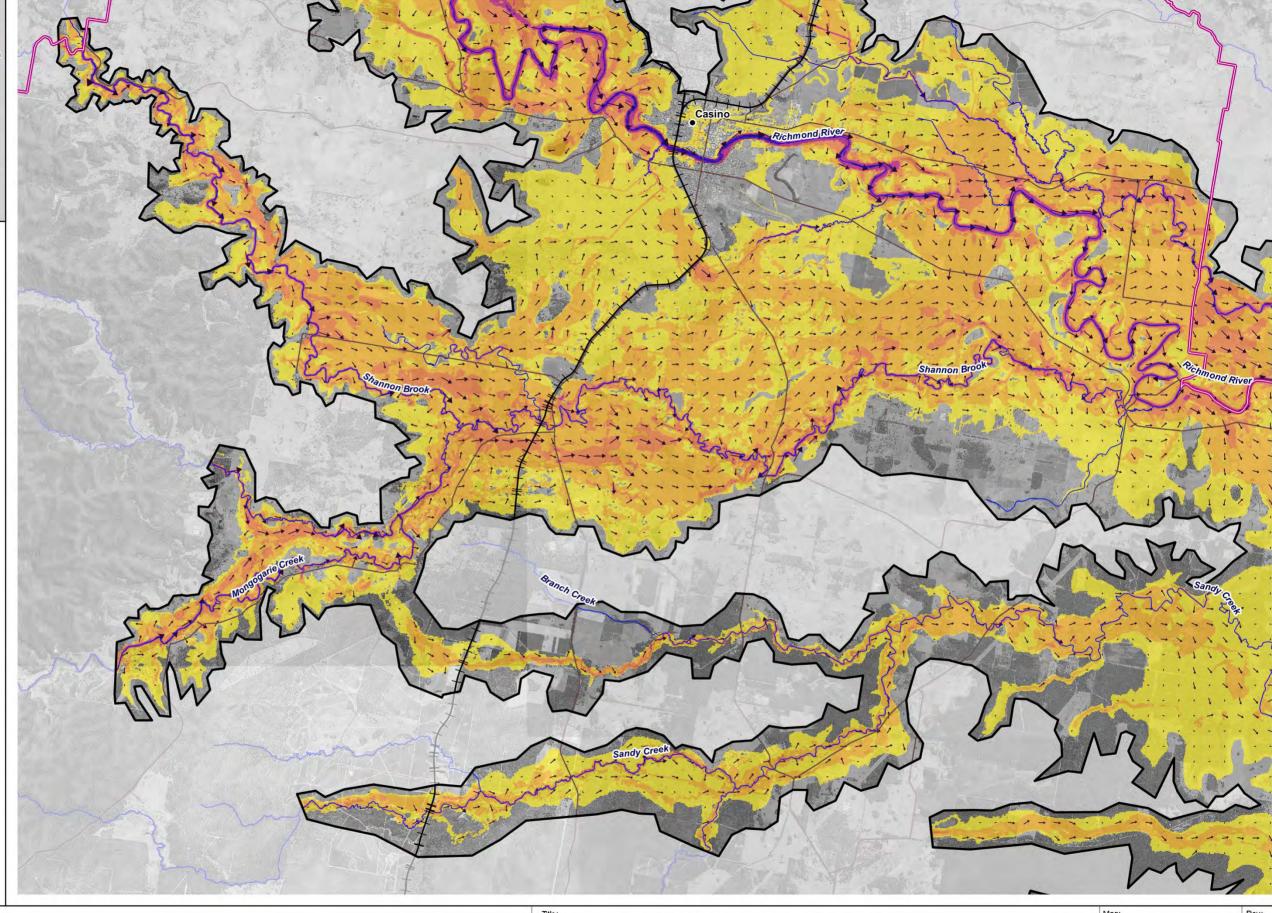
0.2 to 0.5

0.5 to 1.0

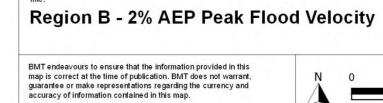
1.0 to 2.0

2.0 to 3.0

> 3.0

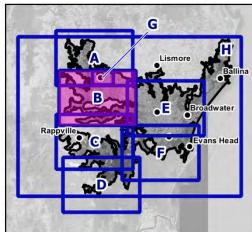


Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



N 0 2,000 4,000 m





<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

→ 1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

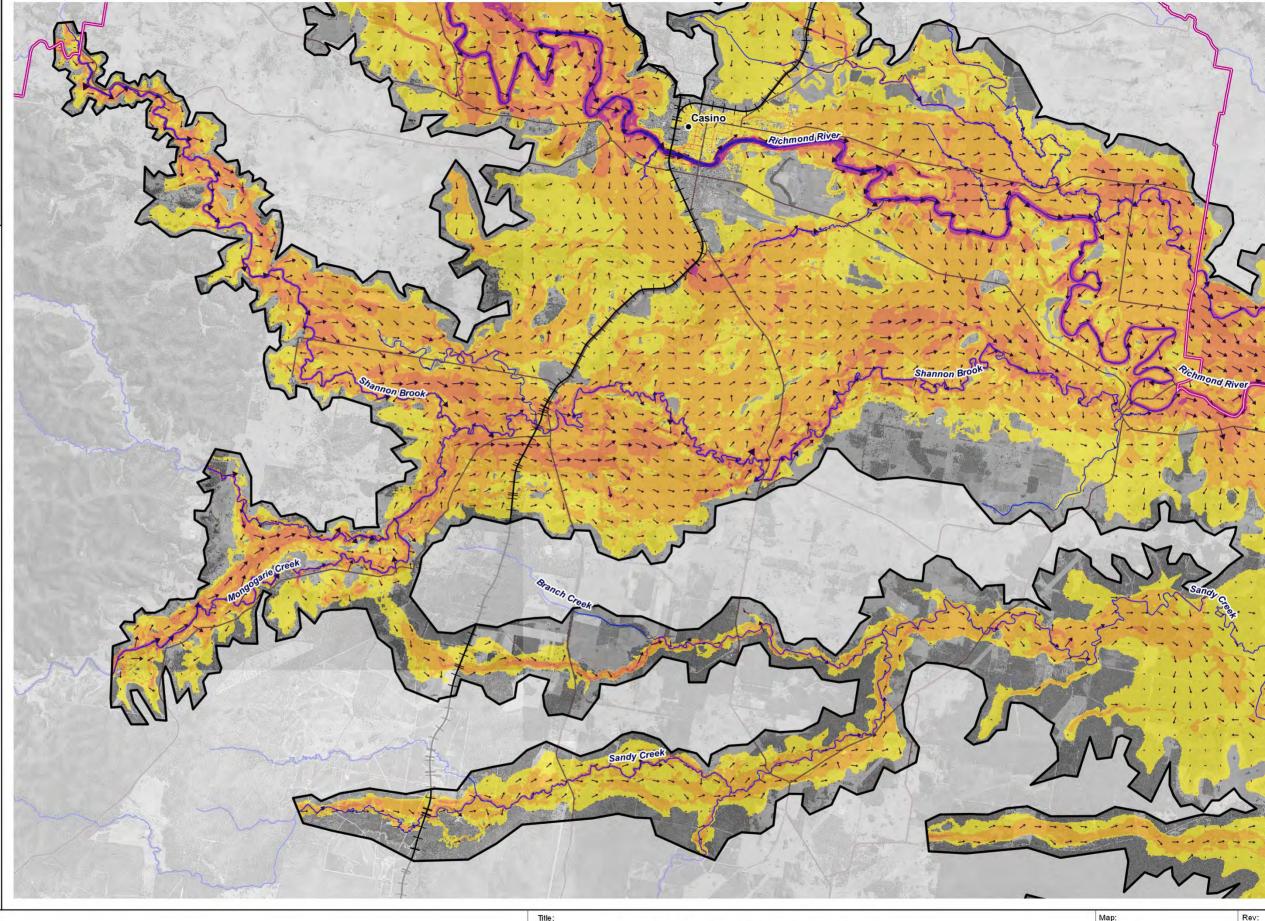
0.2 to 0.5

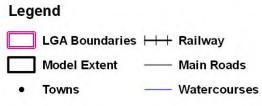
0.5 to 1.0

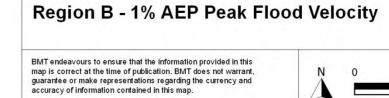
1.0 to 2.0

2.0 to 3.0

> 3.0



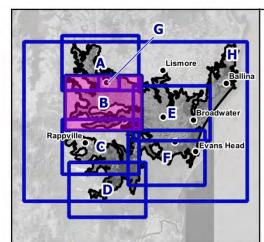




N 0 2,000 4,000 m



 $Filepath: \ l:\ A10749.k. br. Richmond_River_Flood_Study \land QGIS \land Result_Maps \land Results_230405 \land Design_Addendum \land Results_Design_Sheets_230405. qgz$



<0.

→ 01-0

. 05 47

→ 1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

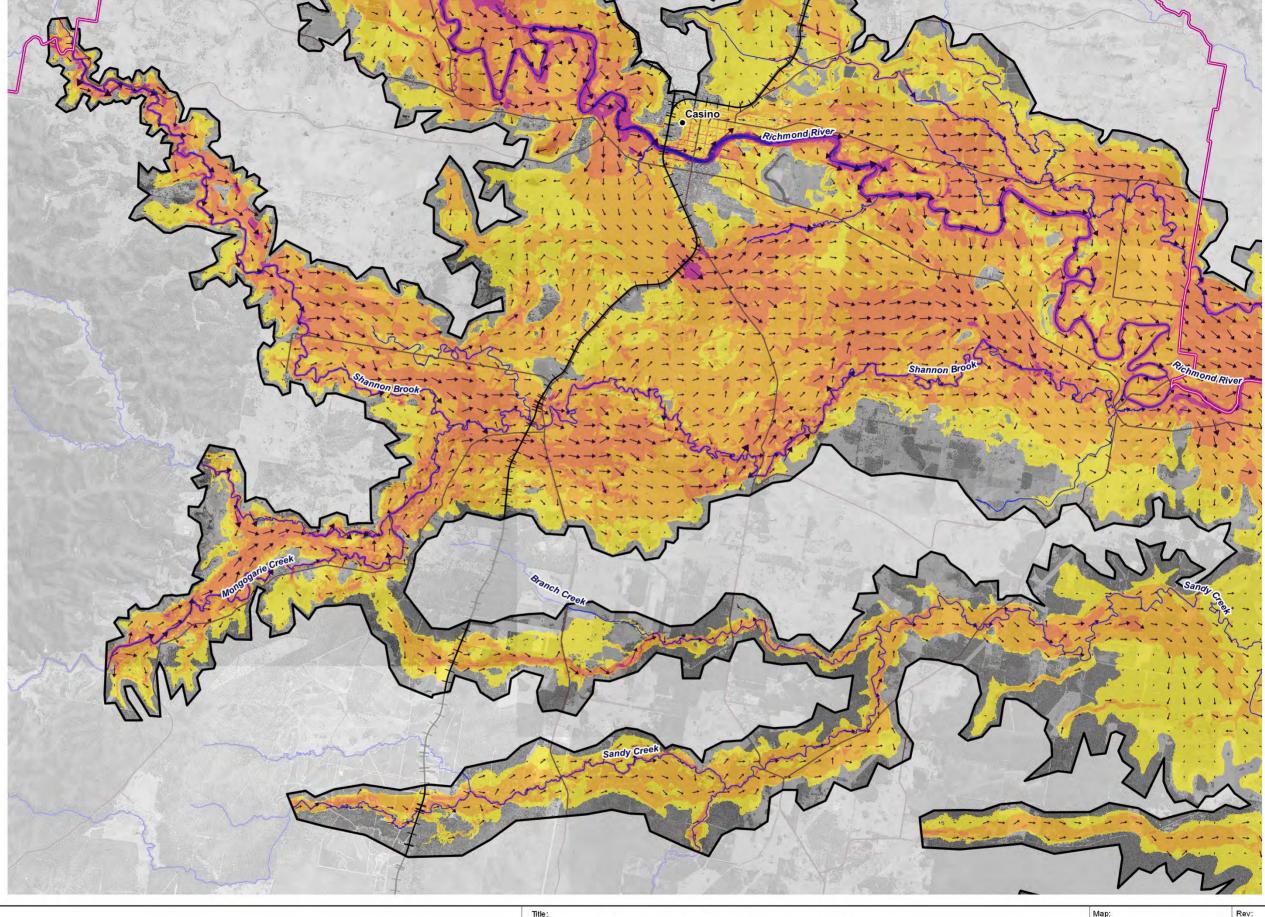
0.2 to 0.5

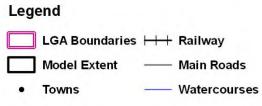
0.5 to 1.0

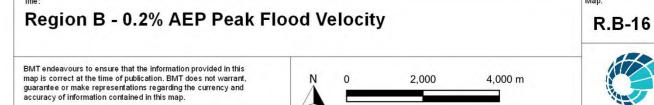
1.0 to 2.0

2.0 to 3.0

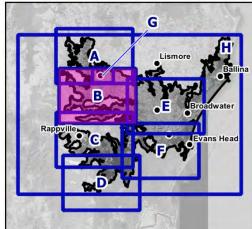
> 3.0











<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

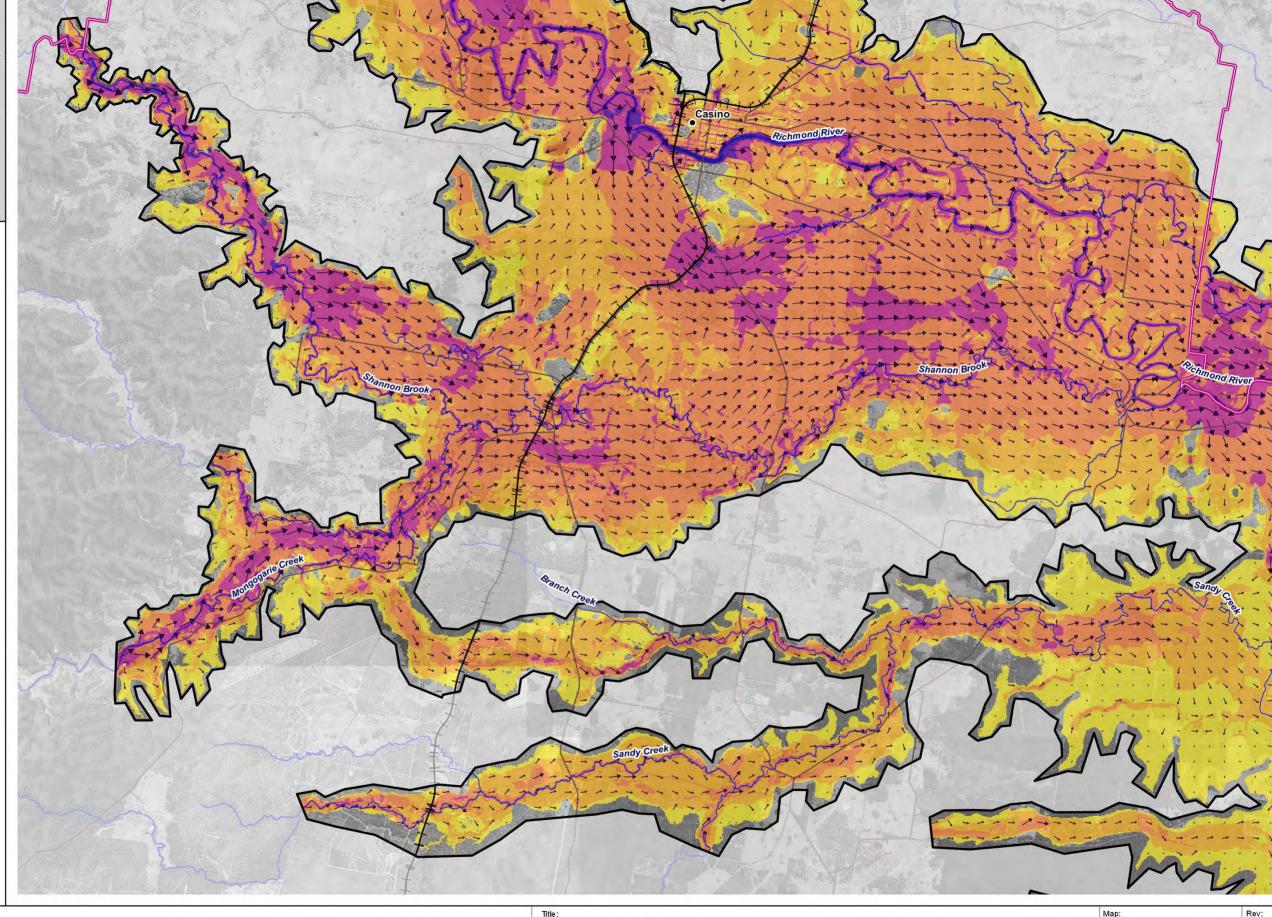
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

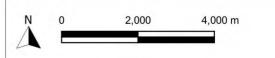
> 3.0



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

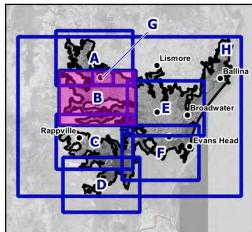


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R.B-17

BMT



<0.1

→ 01-0

→ 05-10

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

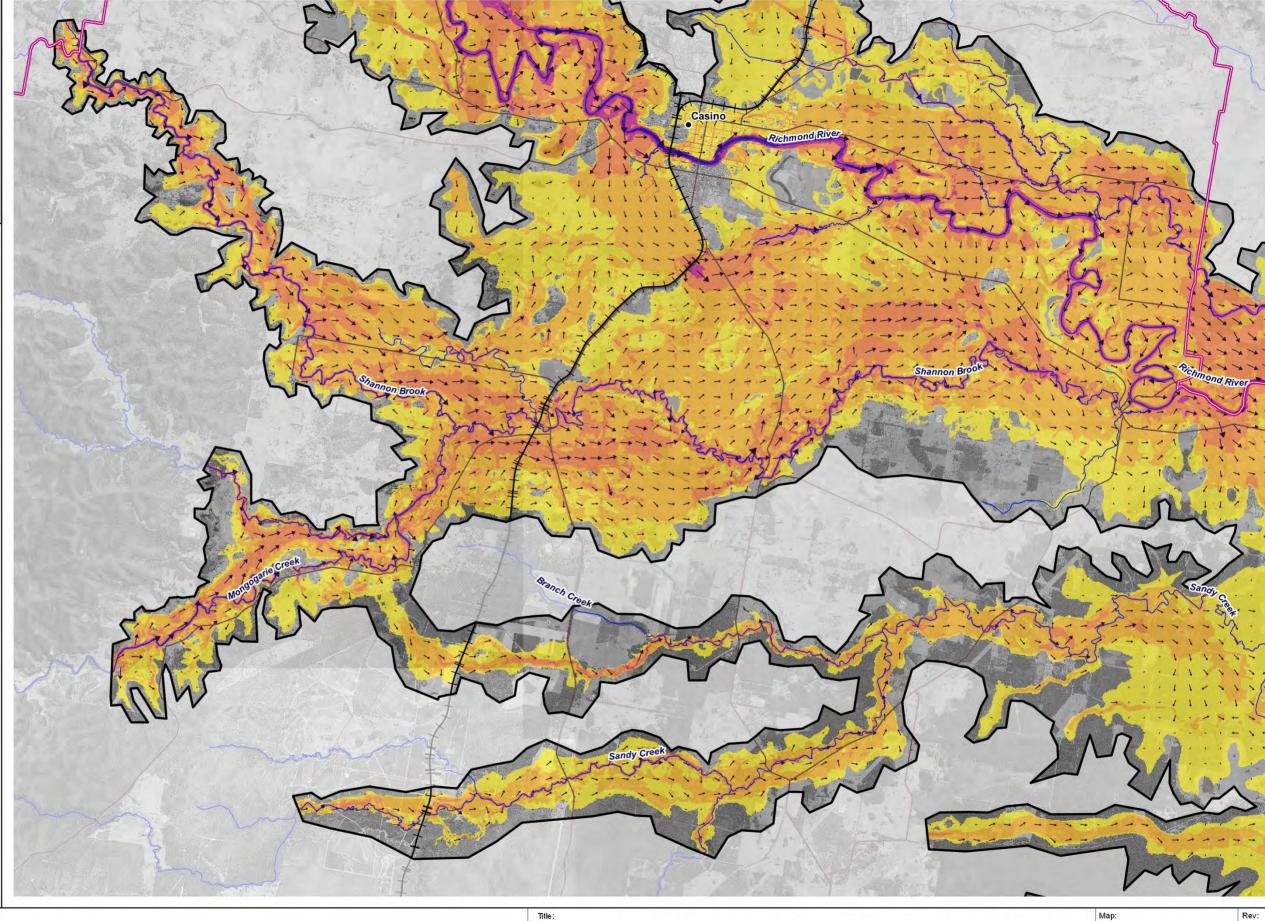
0.2 to 0.5

0.5 to 1.0

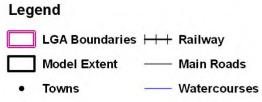
1.0 to 2.0

2.0 to 3.0

> 3.0



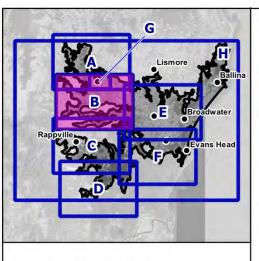
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N 0 2,000 4,000 m

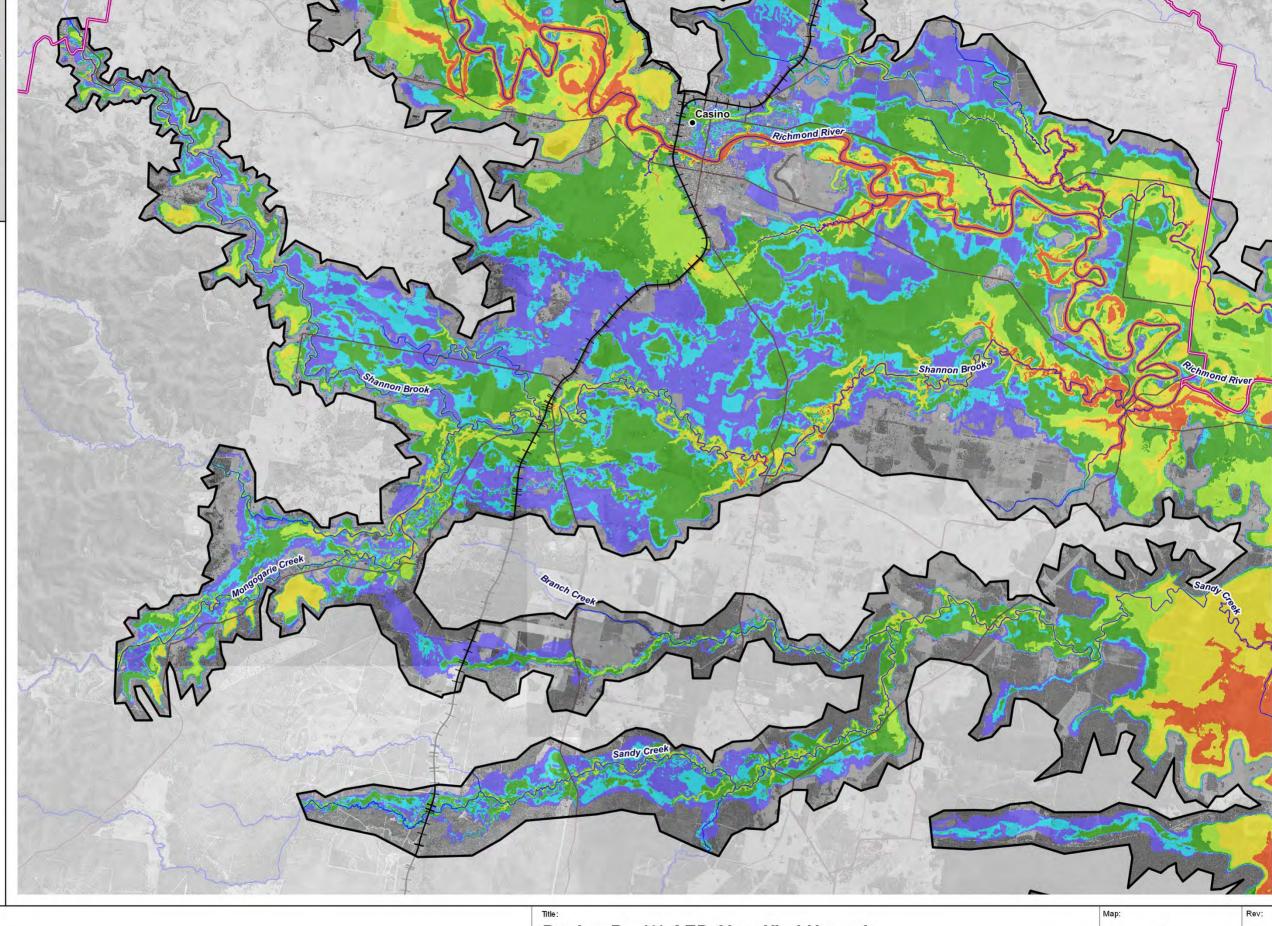




AIDR Hazard Classification



H5 H6

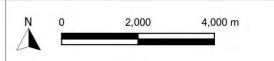


Legend Model Extent Towns

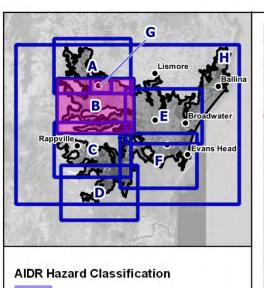
- Main Roads --- Watercourses

Region B - 1% AEP Classified Hazard

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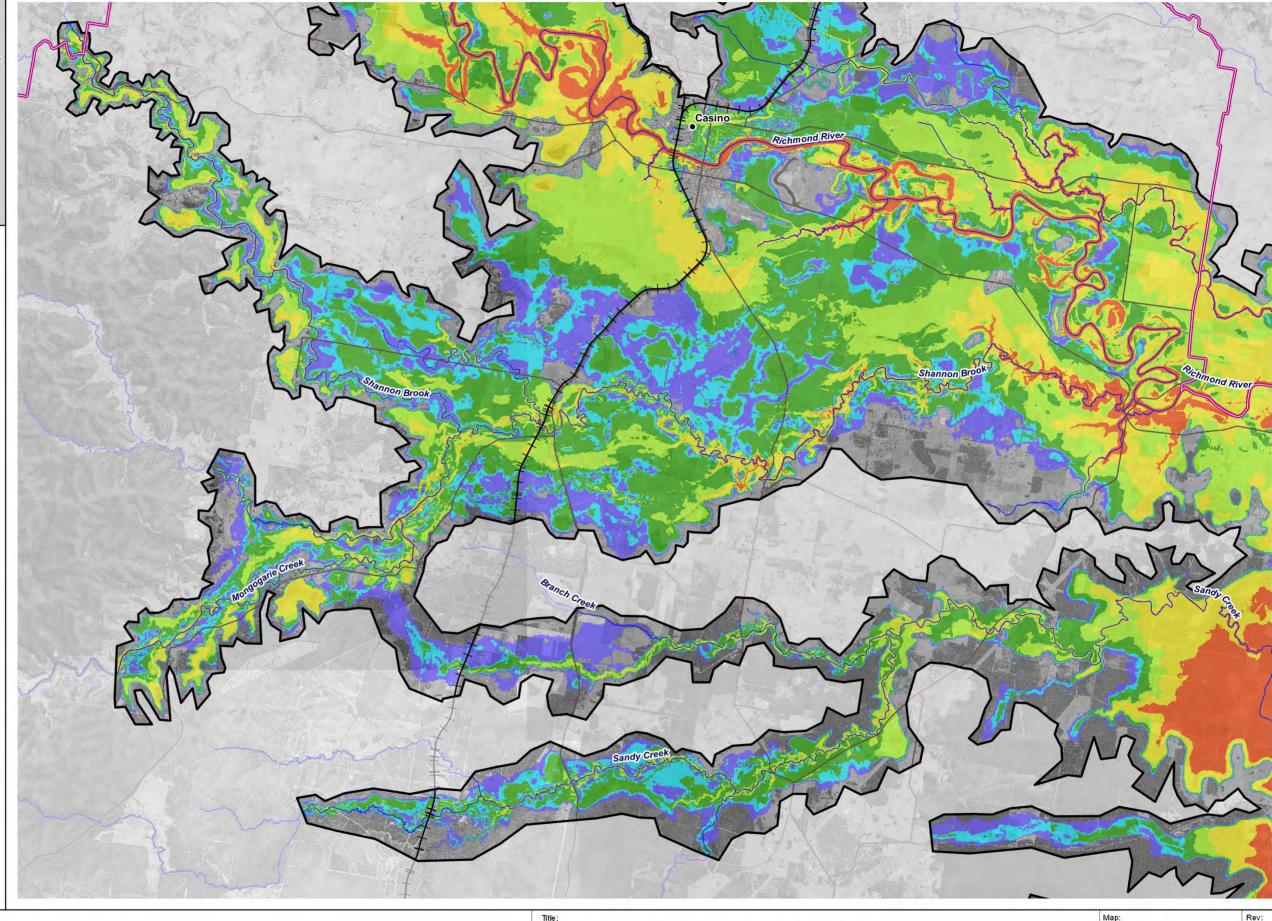
R.B-19





H5

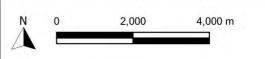




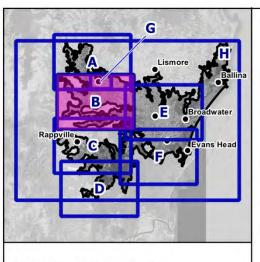
Legend Model Extent - Main Roads Towns --- Watercourses

Region B - 0.2% AEP Classified Hazard

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R.B-20



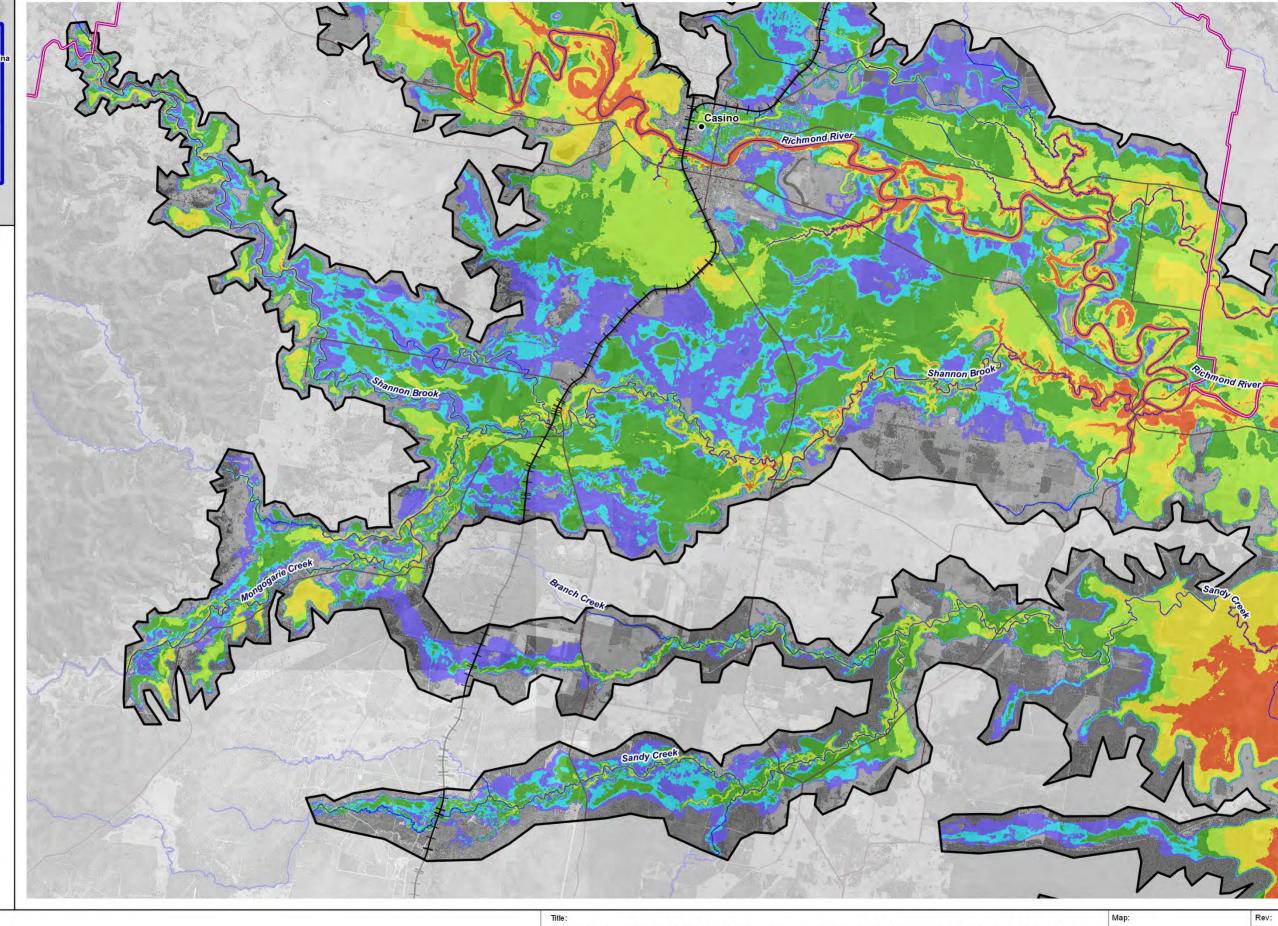
AIDR Hazard Classification











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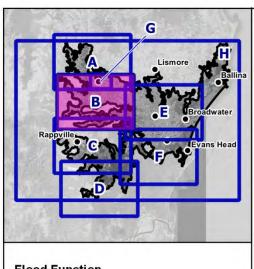
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

Region B - 1% AEP Climate Change (CC3) Classified Hazard

N 0 2,000 4,000 m

R.B-21



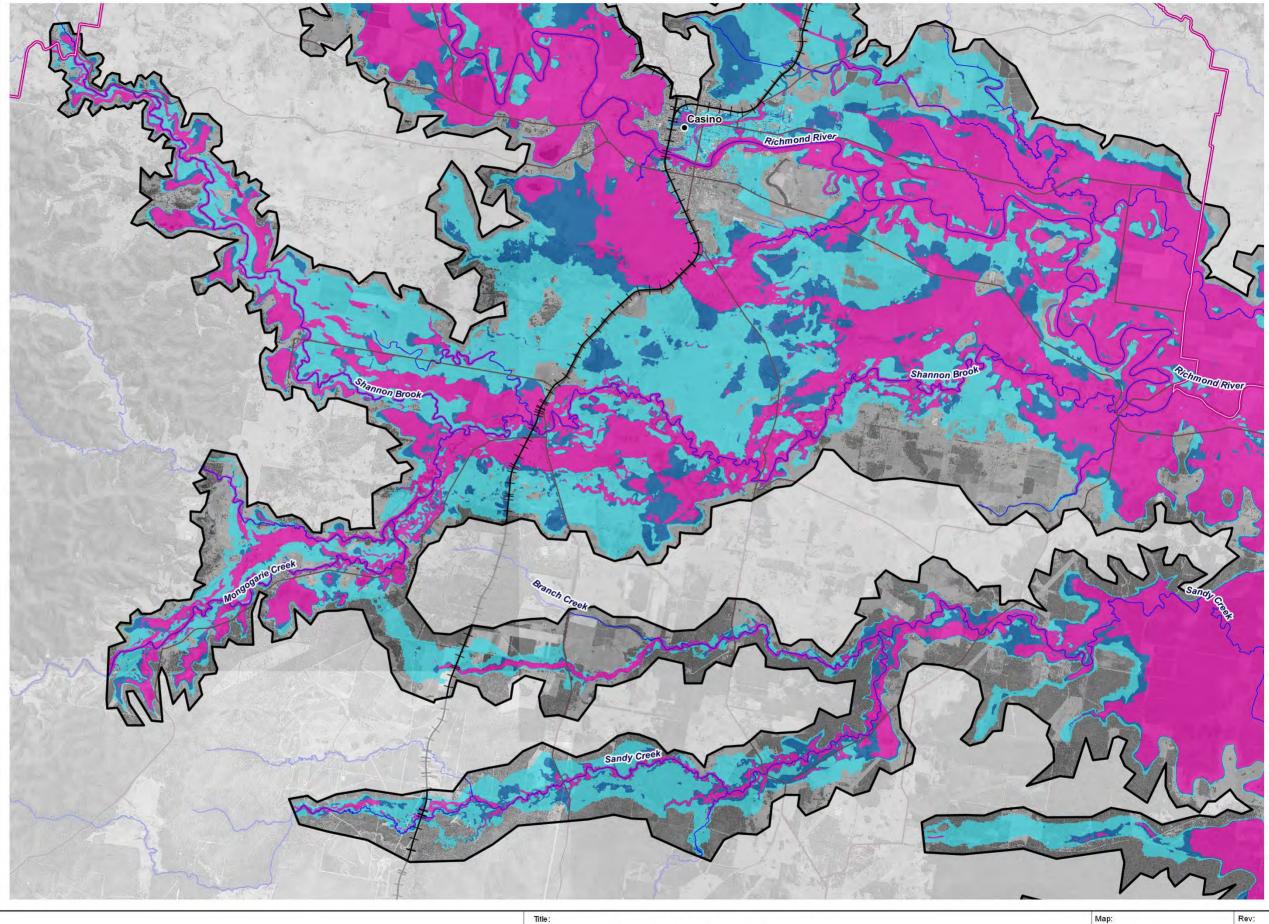


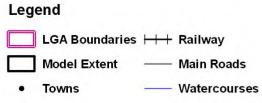
Flood Function

Floodway

Flood Fringe

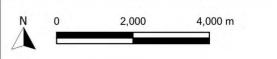
Flood Storage





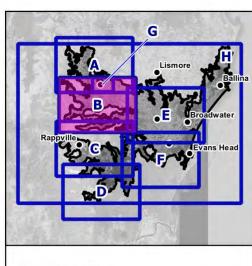


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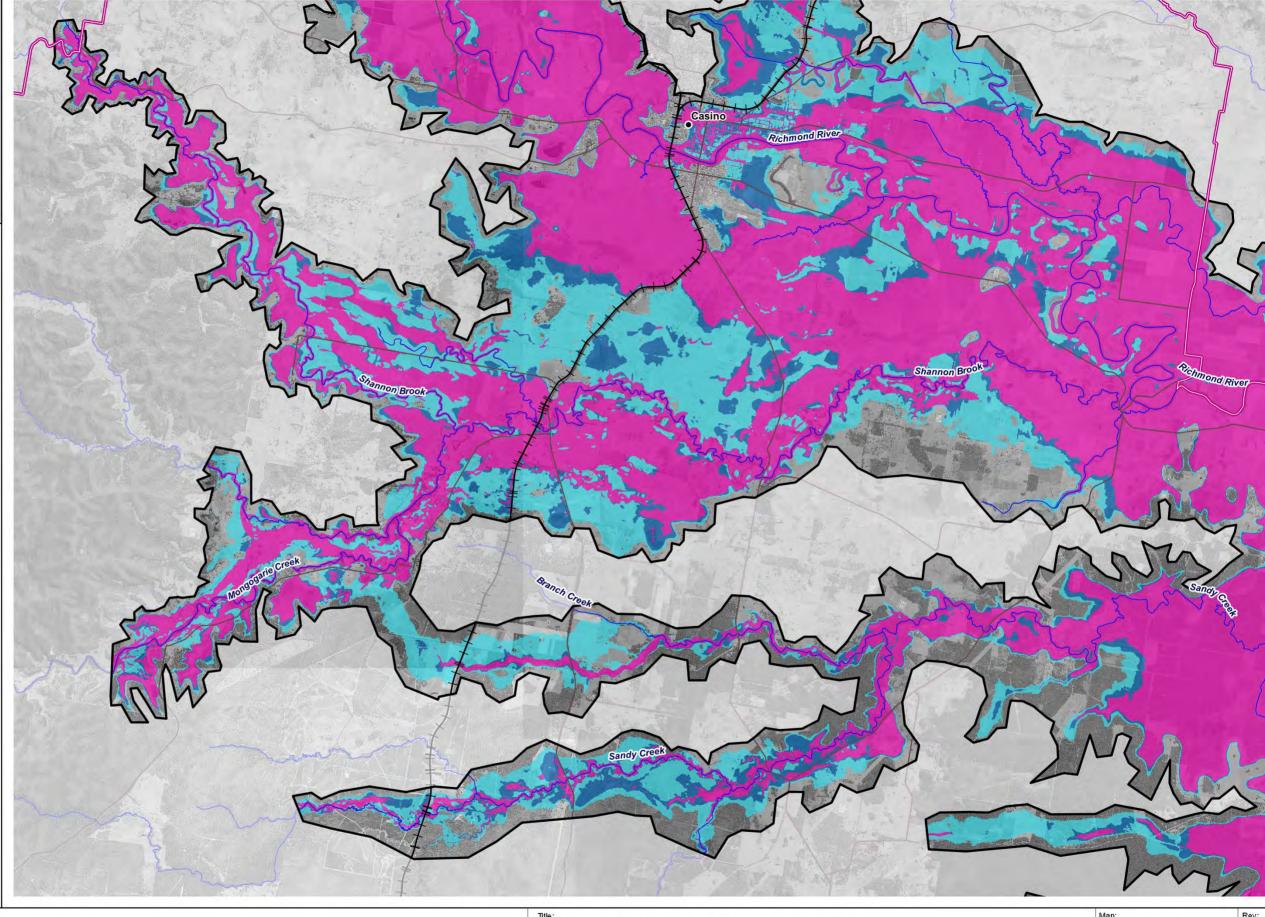


Flood Function

Floodway

Flood Fringe

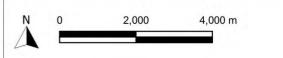
Flood Storage



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

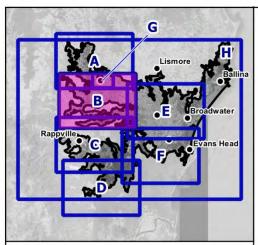


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R.B-23





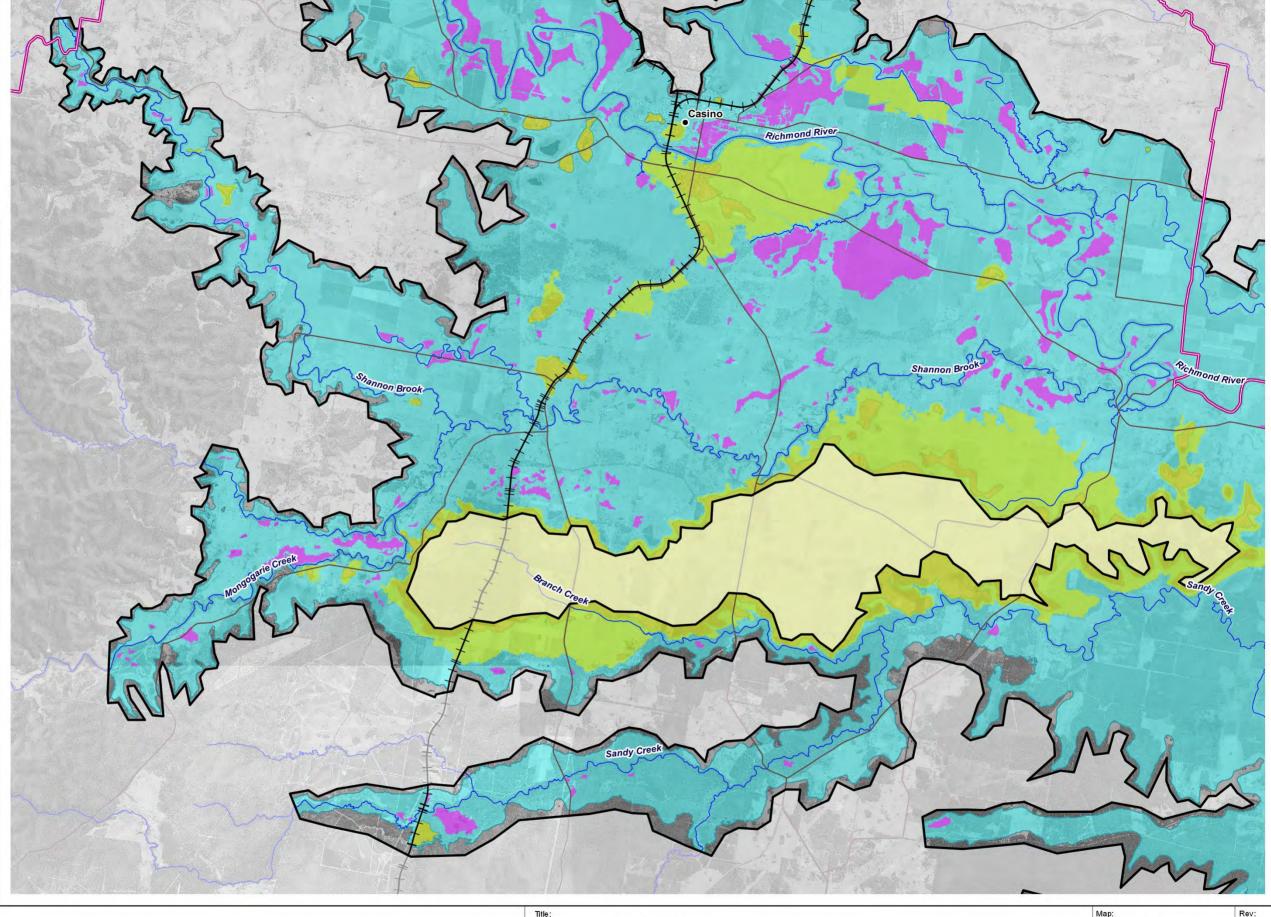
Flood Islands

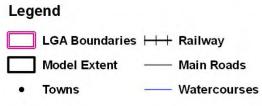
L

Low Flood Island High Flood Island

PMF Extent

Extent





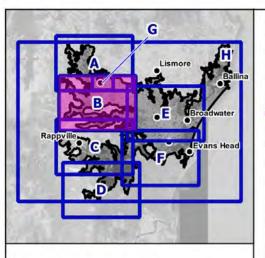


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R.B-24

N 0 2,000 4,000 m





Flood Planning Level (m AHD)

0.1m Interval Contours

<= 5

5 - 10

10 - 15 15 - 20

20 - 25

25 - 30

30 - 35 35 - 40

40 - 45

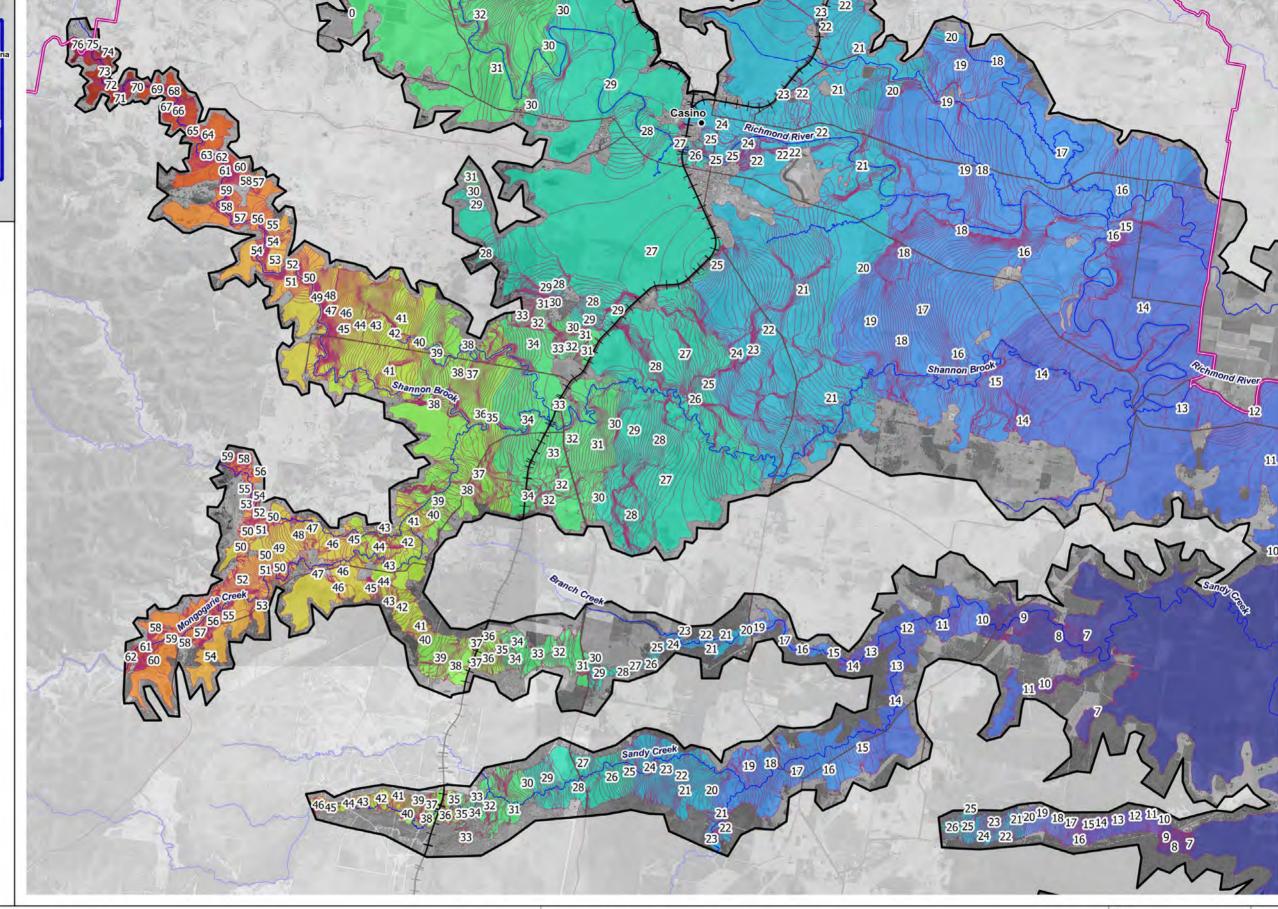
45 - 50 50 - 55

55 - 60

60 - 65

65 - 70 70 - 75

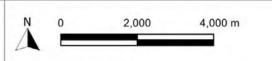
> 75



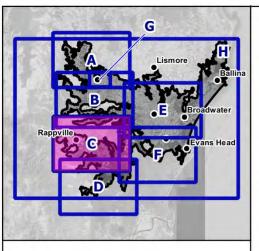
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



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R.B-25 A

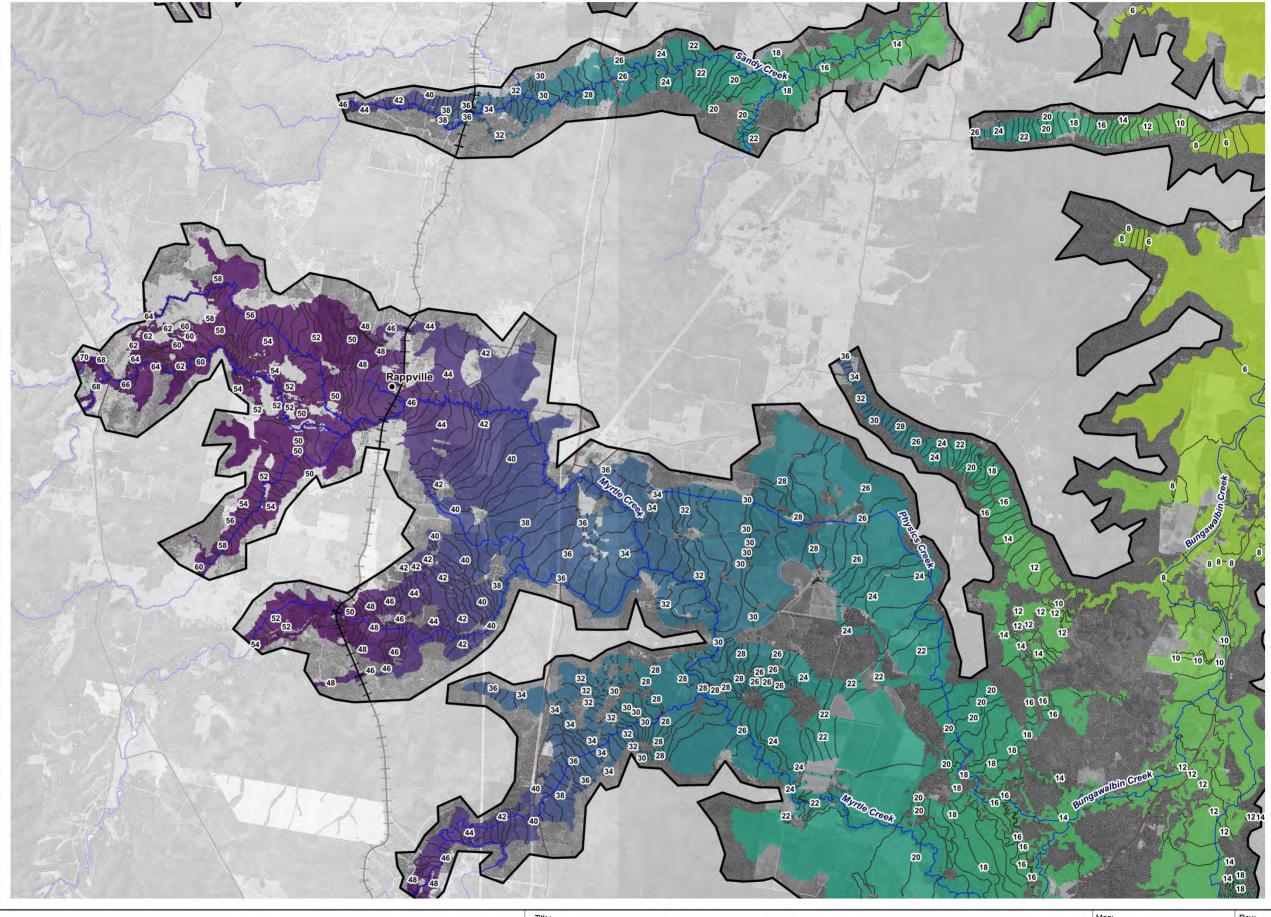


- 5% AEP 0.5m Contours

Level (m AHD)



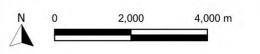
50.0



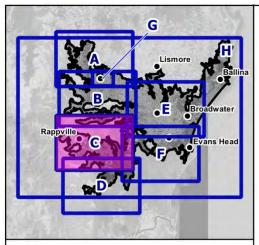
Legend □ LGA Boundaries → Railway □ Model Extent → Main Roads • Towns → Watercourses



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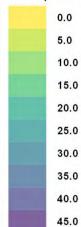




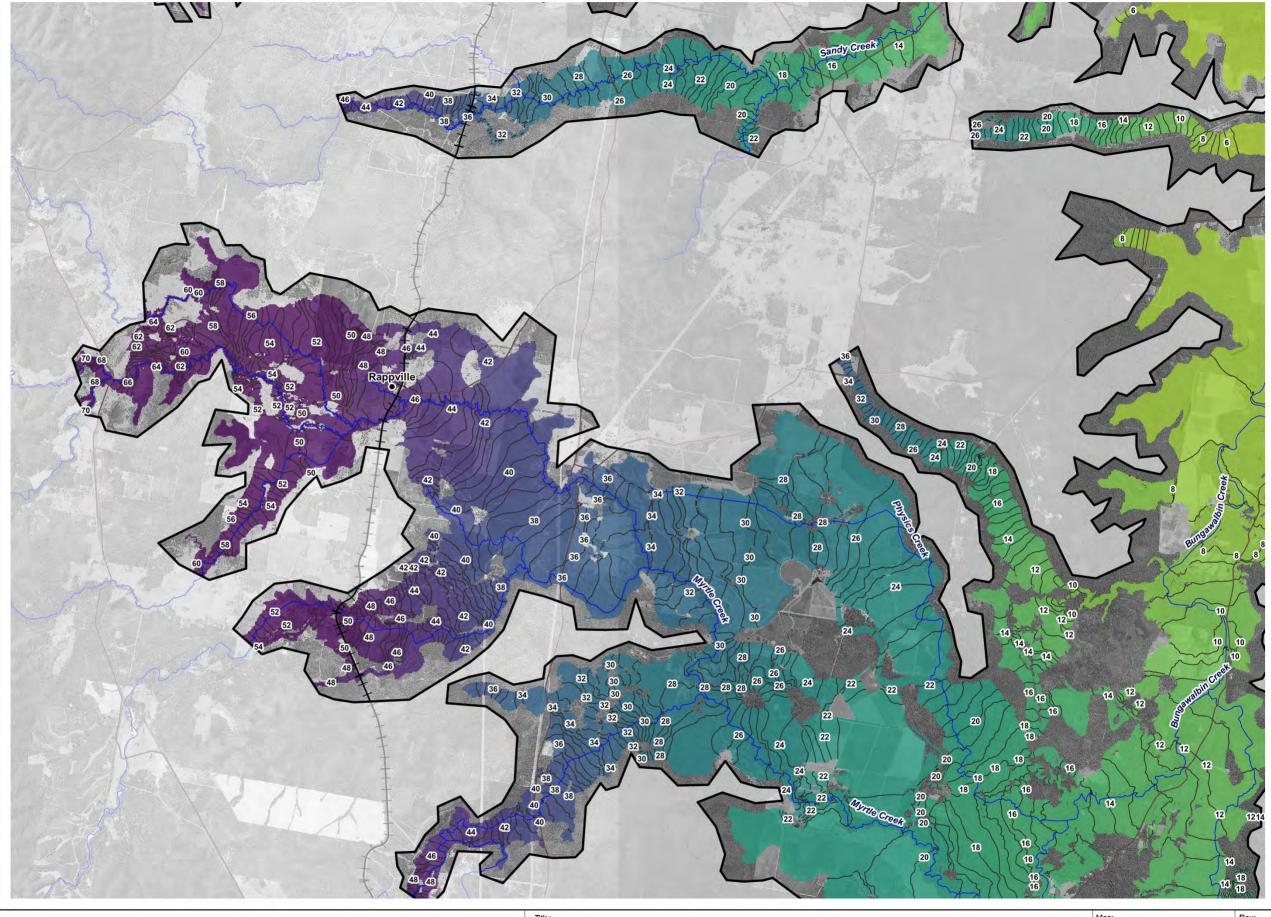


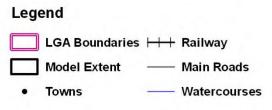
- 2% AEP 0.5m Contours

Level (m AHD)



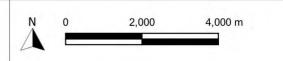
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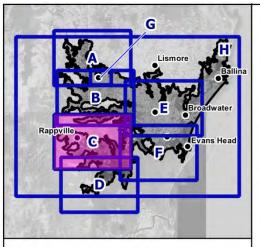
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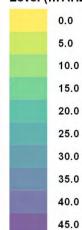
BMT www.bmt.org

Α

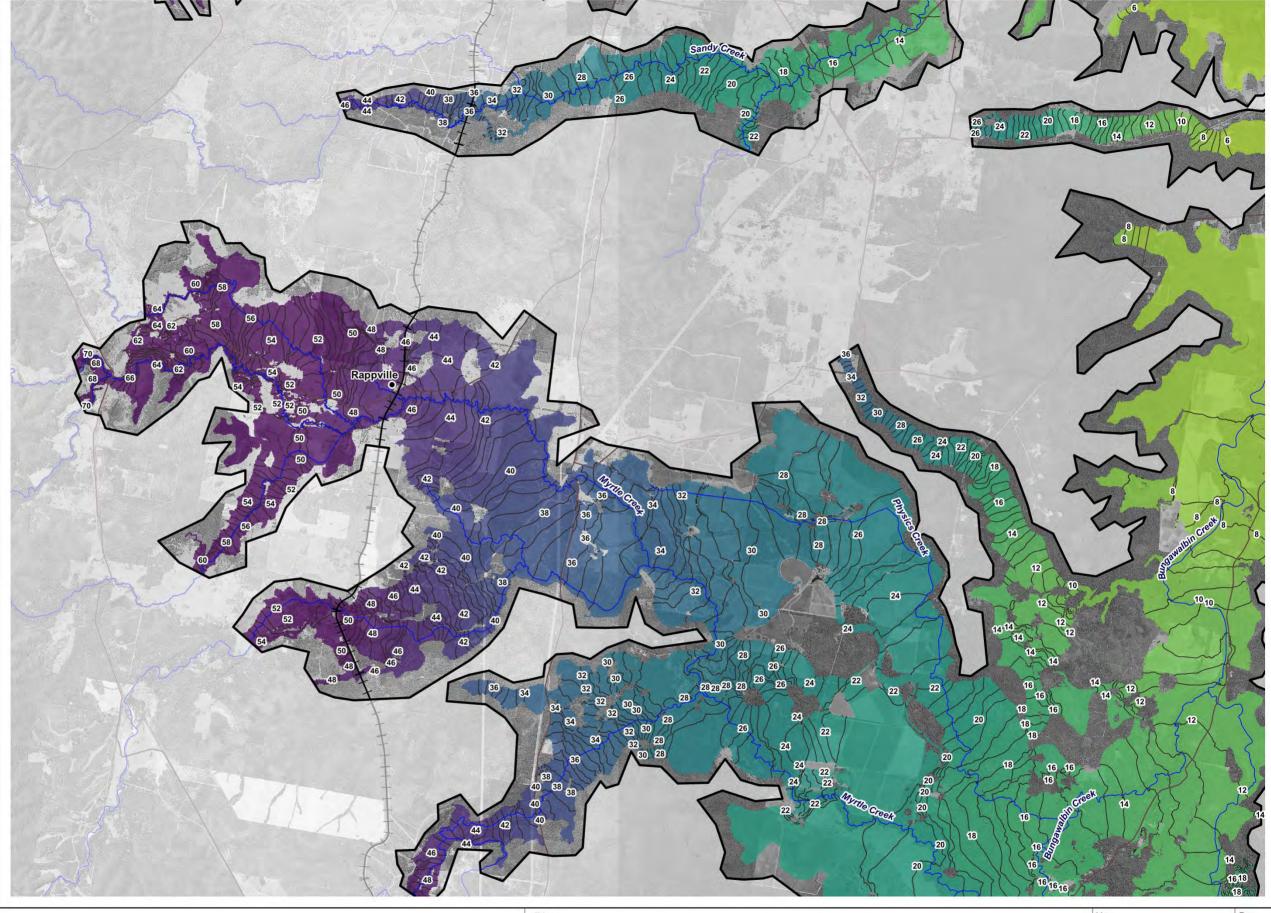


1% AEP 0.5m Contours

Level (m AHD)



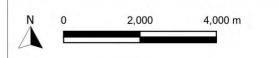
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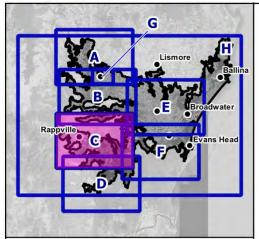
Legend ☐ LGA Boundaries ├── Railway ☐ Model Extent ── Main Roads • Towns ── Watercourses



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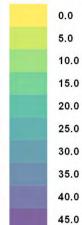




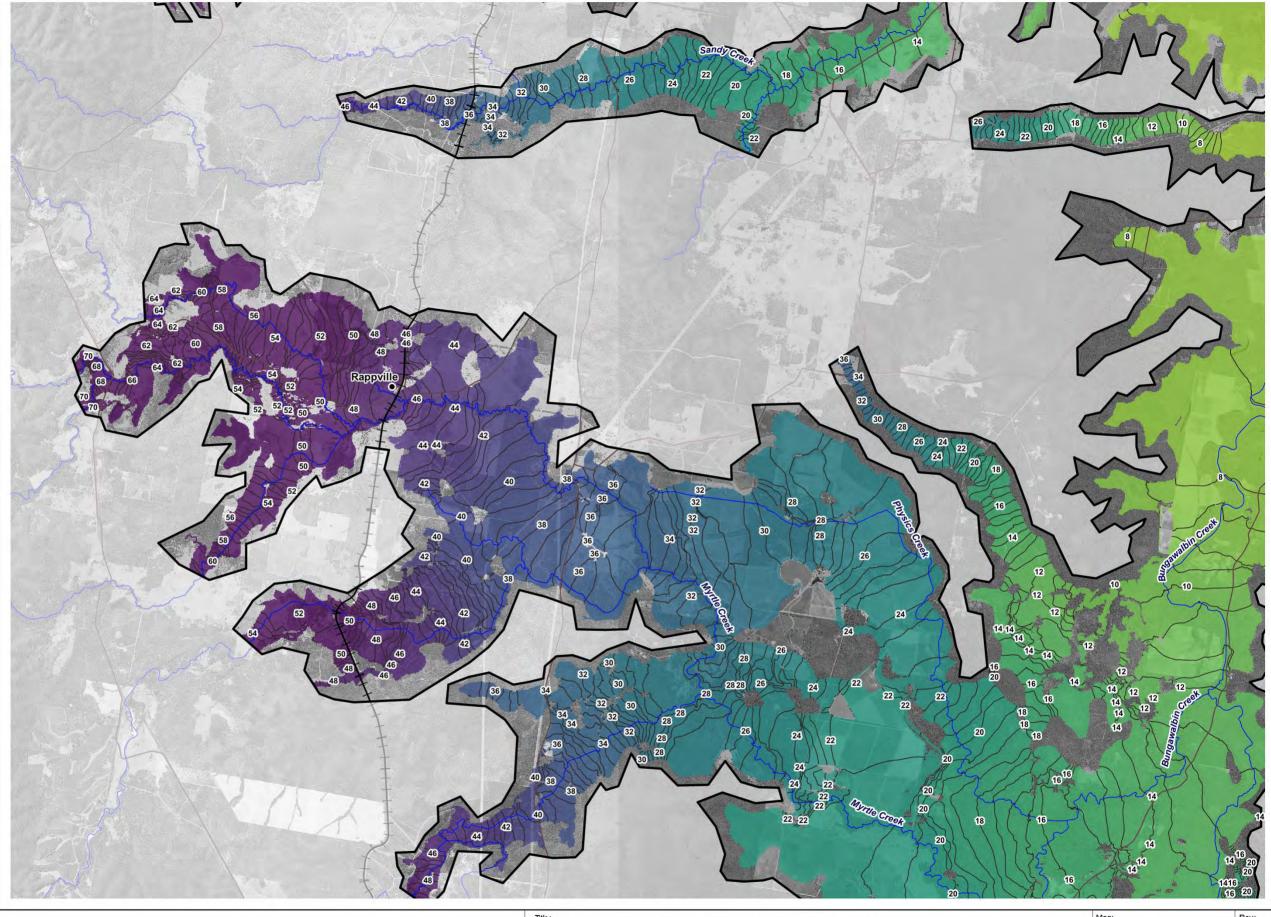


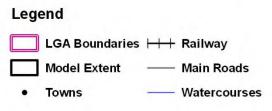
- 0.2% AEP 0.5m Contours

Level (m AHD)



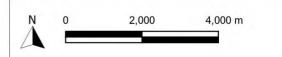
50.0



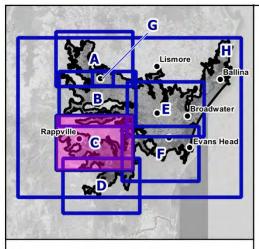




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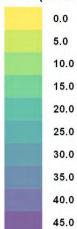




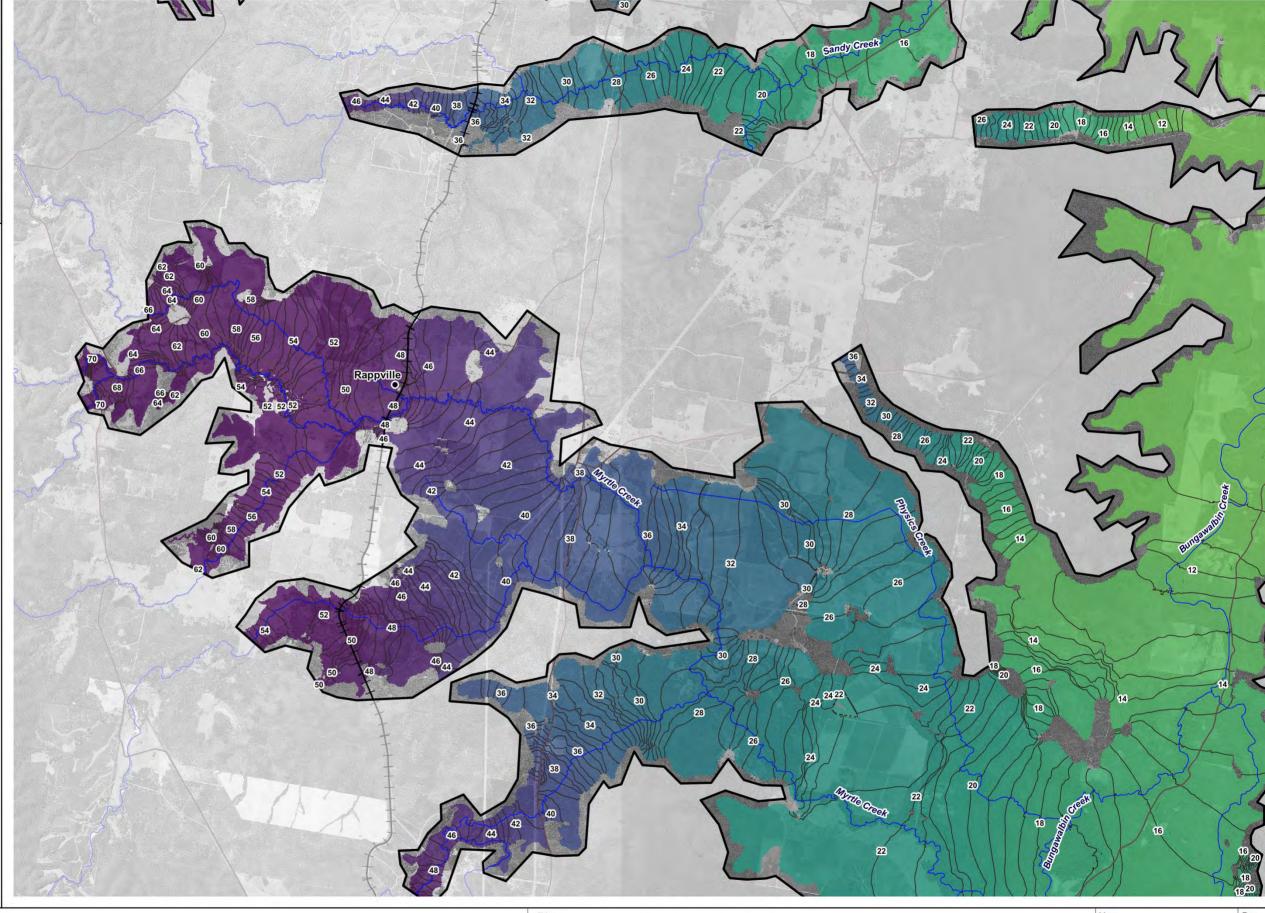


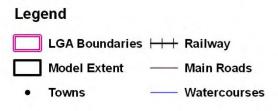
PMF 0.5m Contours

Level (m AHD)



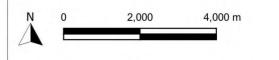
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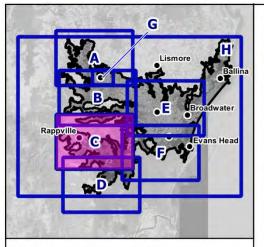
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R.C-5

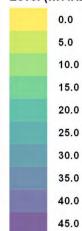
Α



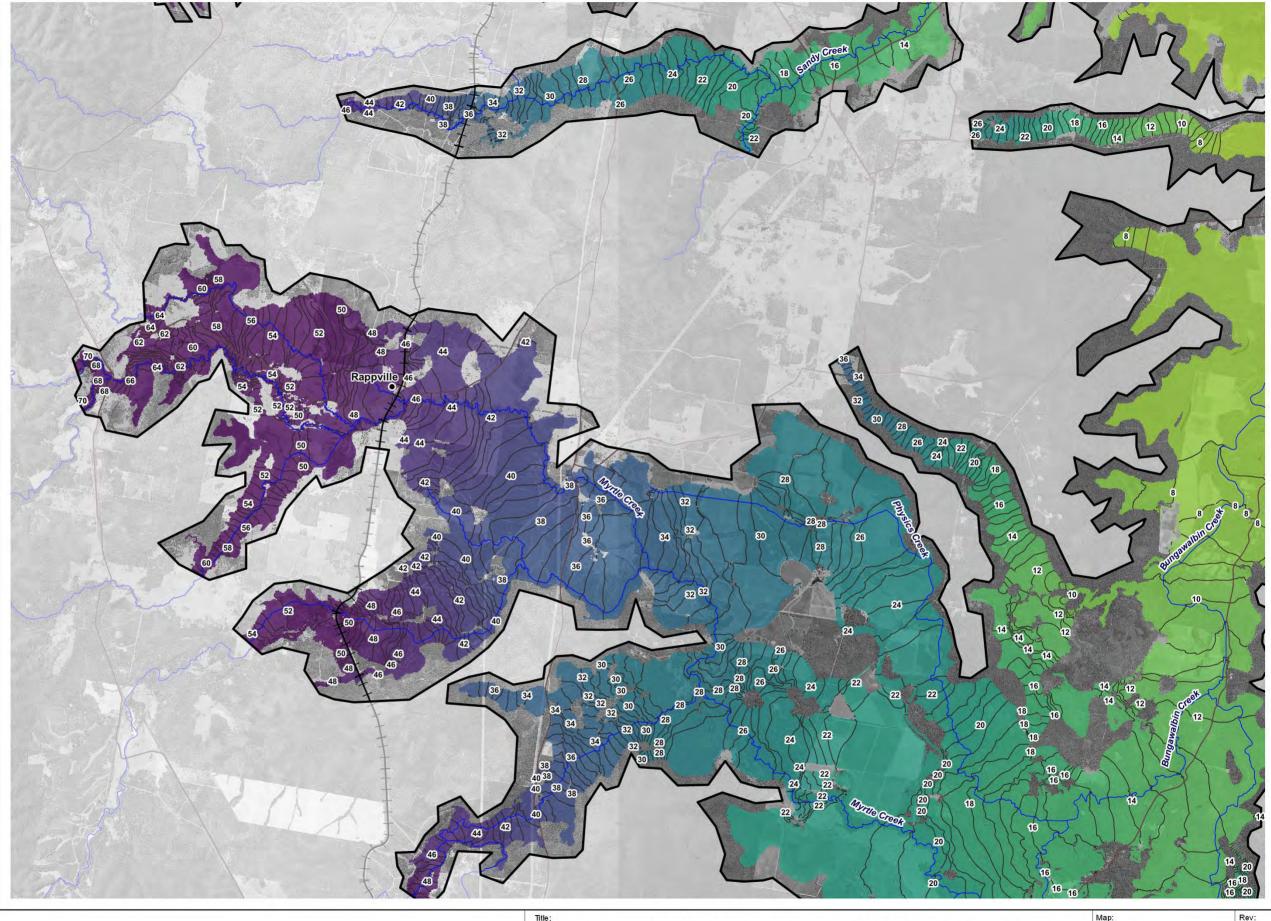


1% AEP CC3 0.5m Contours

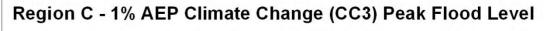
Level (m AHD)



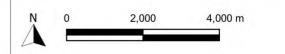
50.0



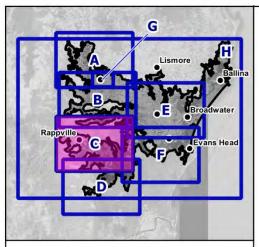
Legend ☐ LGA Boundaries ├── Railway ☐ Model Extent ── Main Roads • Towns ── Watercourses



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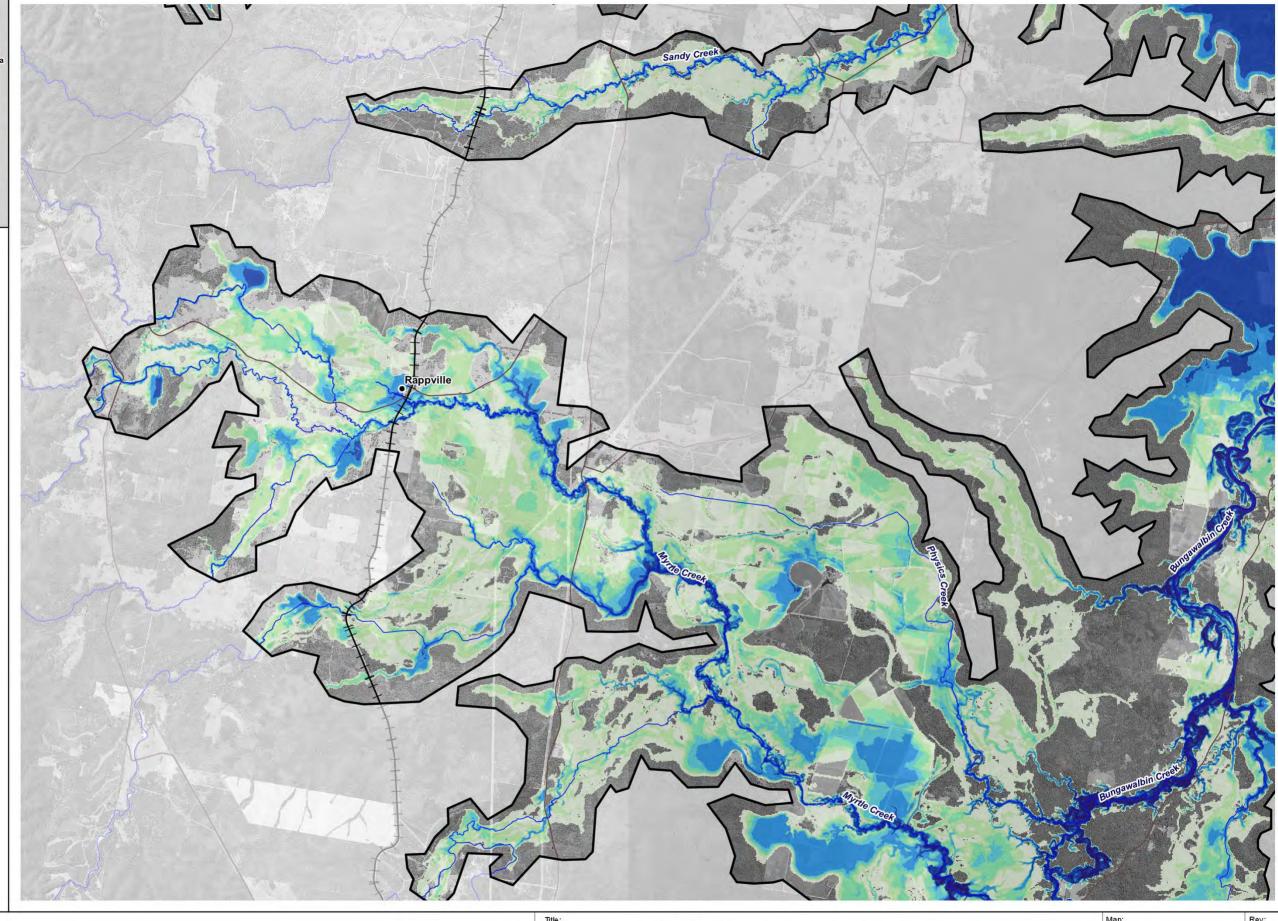
< 0.25

0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

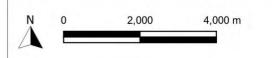
2.0 to 4.0



Legend Model Extent --- Main Roads Towns --- Watercourses

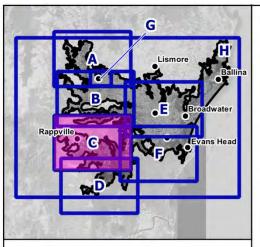


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R.C-7





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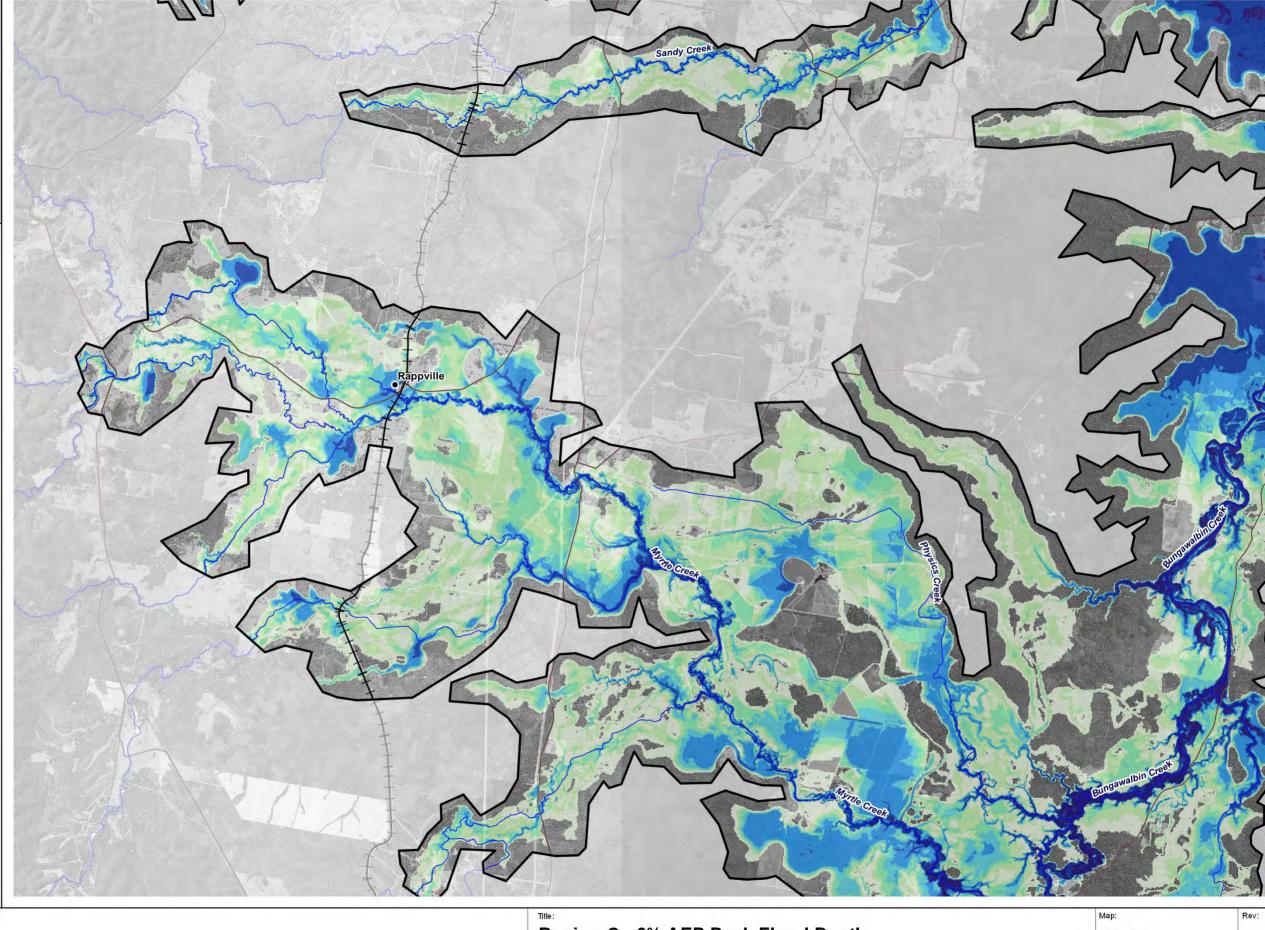
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

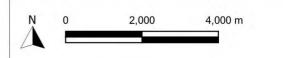
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Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

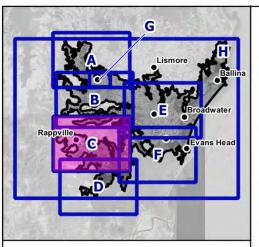


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R.C-8





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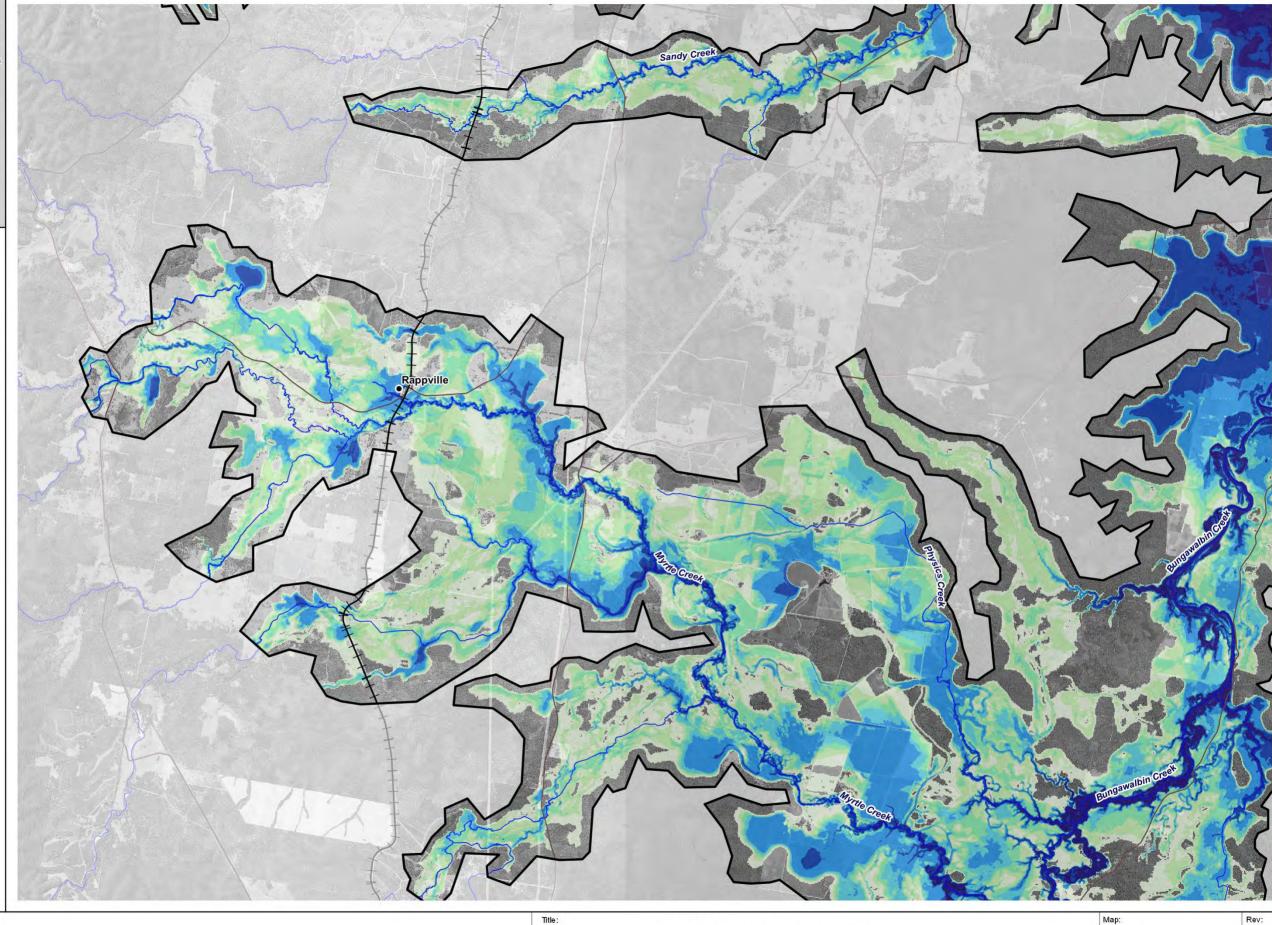
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

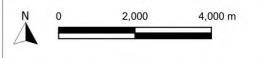
>4



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

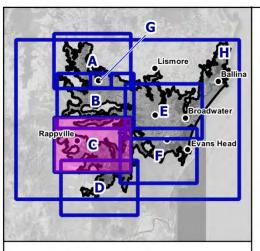


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R.C-9

BMT



<0.25

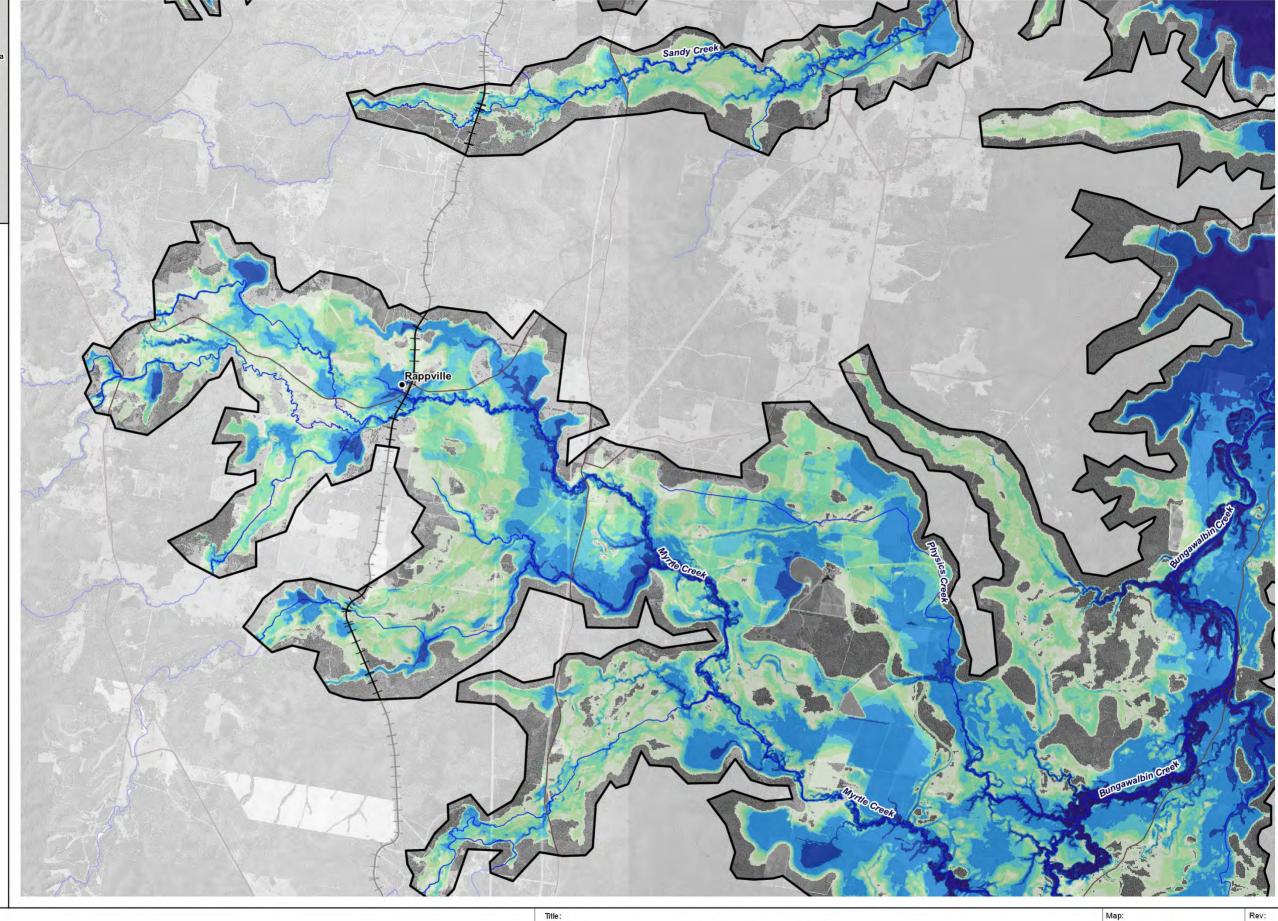
0.25 to 0.5

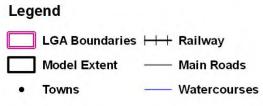
0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

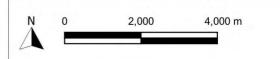
>4





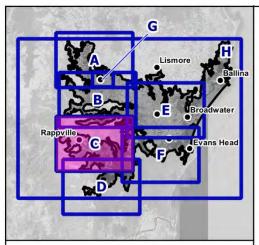


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R.C-10

BMT



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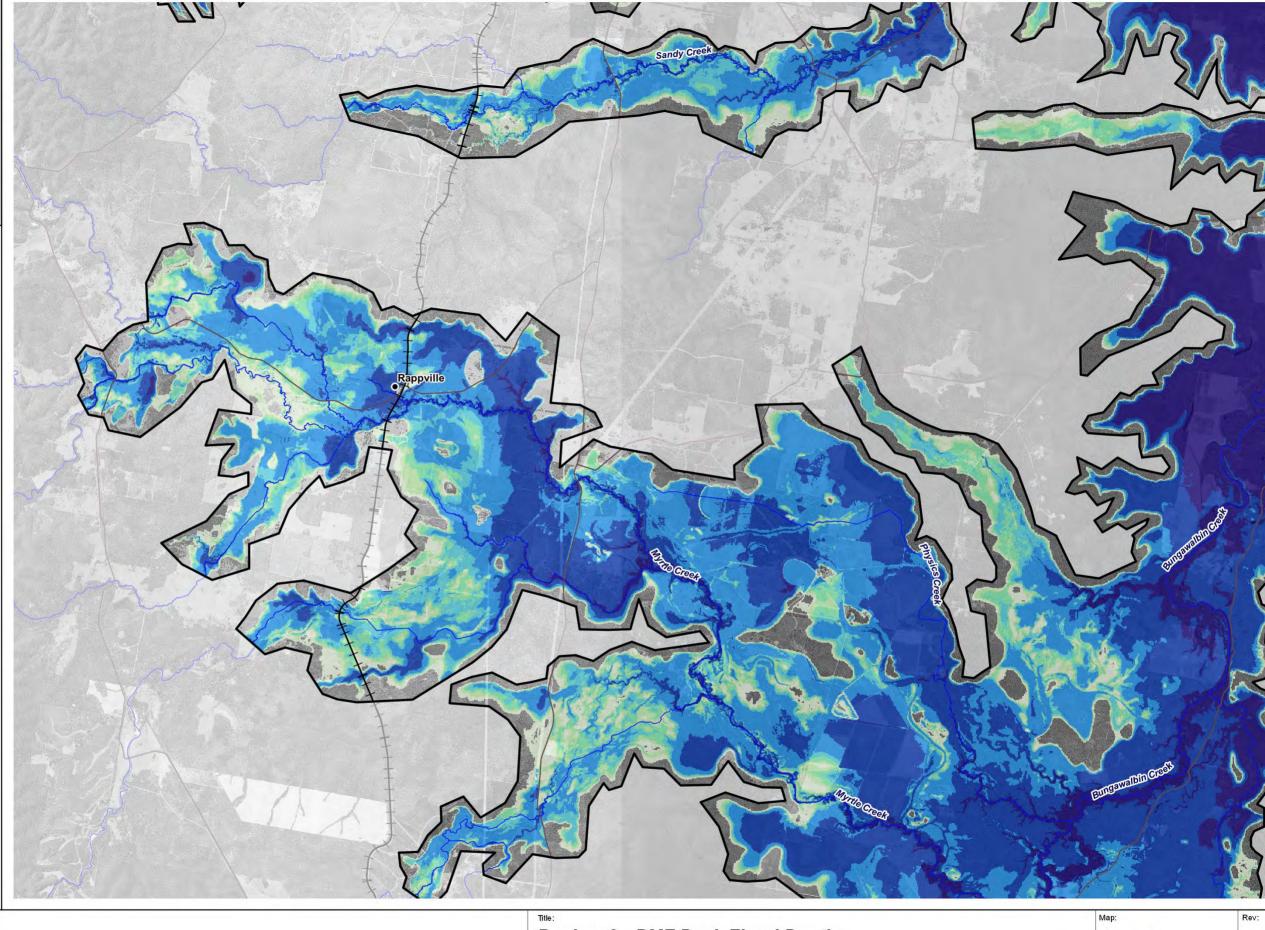
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

1.0 to 2.0 2.0 to 4.0

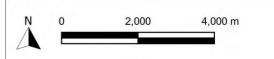
>4



Legend □ LGA Boundaries → Railway □ Model Extent → Main Roads • Towns → Watercourses

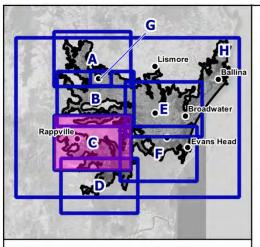


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R.C-11

BMT



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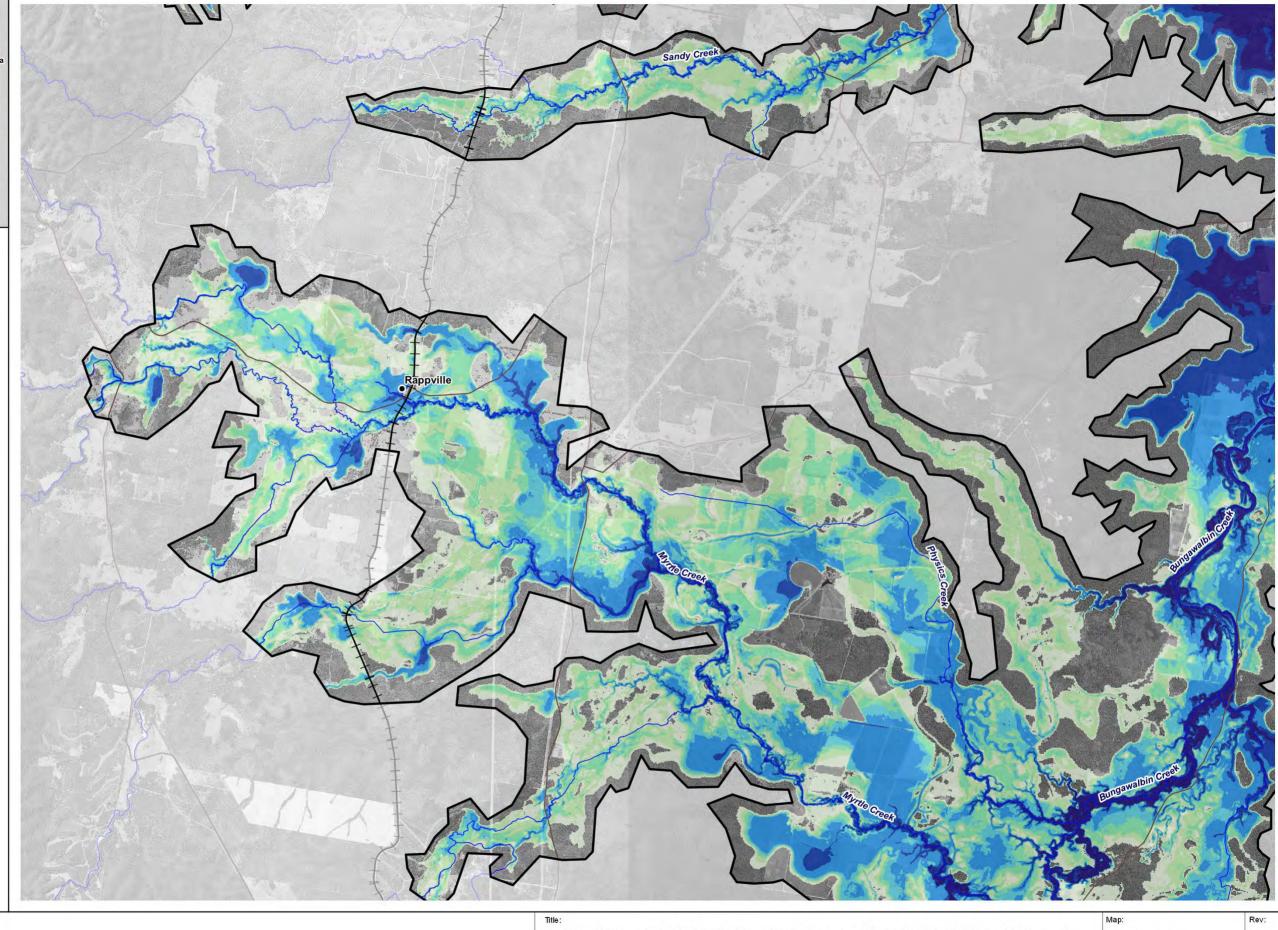
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

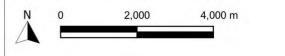
>4



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

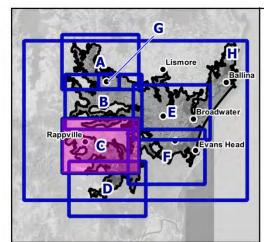
Region C - 1% AEP Climate Change (CC3) Peak Flood Depth

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R.C-12





<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

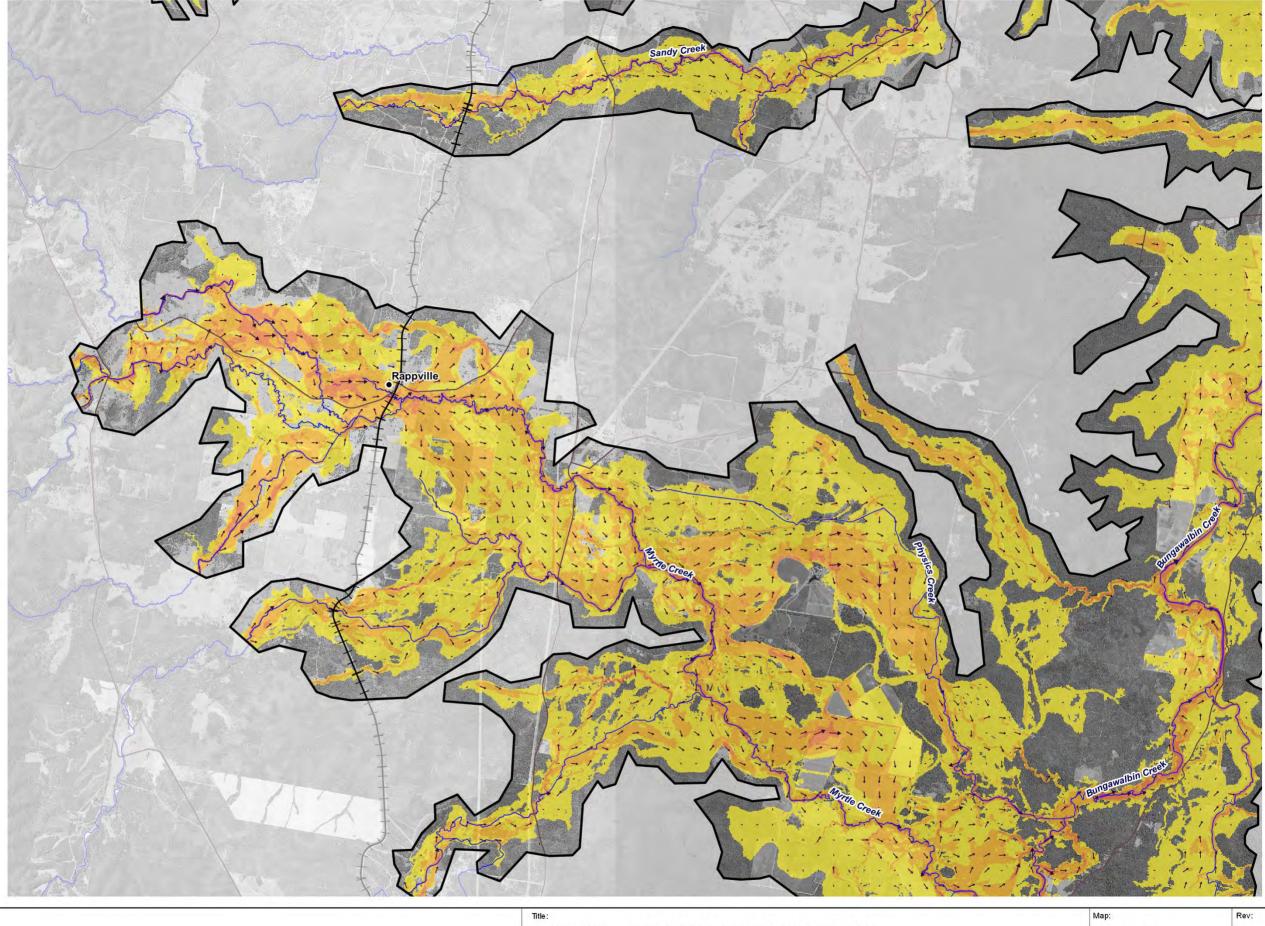
< 0.2

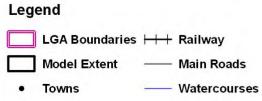
0.2 to 0.5

0.5 to 1.0 1.0 to 2.0

2.0 to 3.0

> 3.0





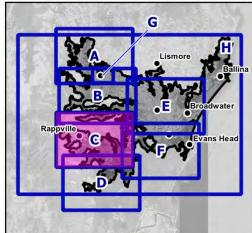


2,000

4,000 m

R.C-13

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<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

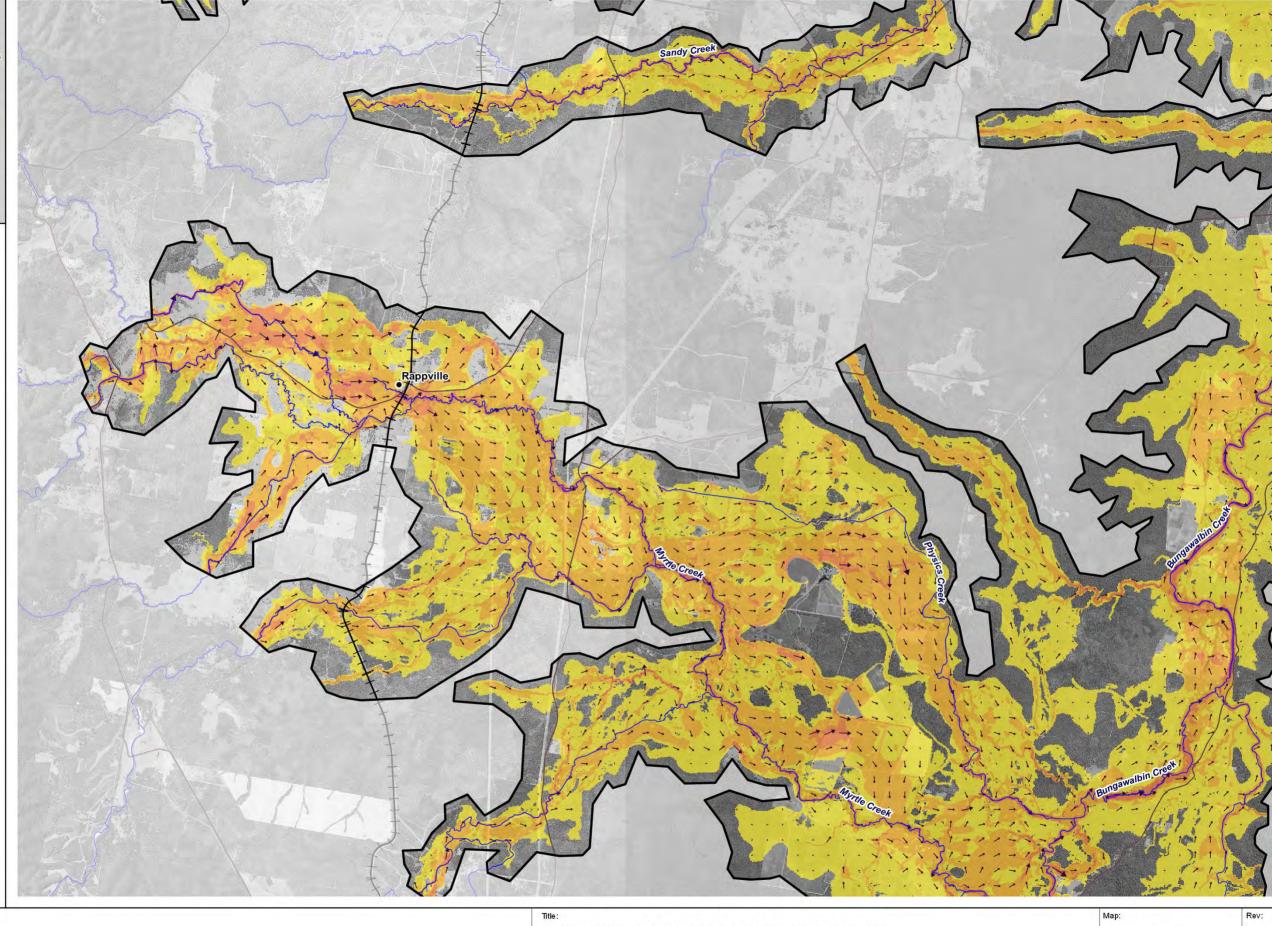
< 0.2 0.5 to 1.0

0.2 to 0.5

1.0 to 2.0

2.0 to 3.0

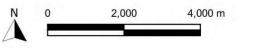
> 3.0



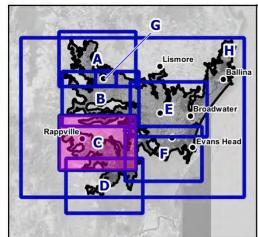
Legend Model Extent --- Main Roads Towns --- Watercourses



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R.C-14



<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

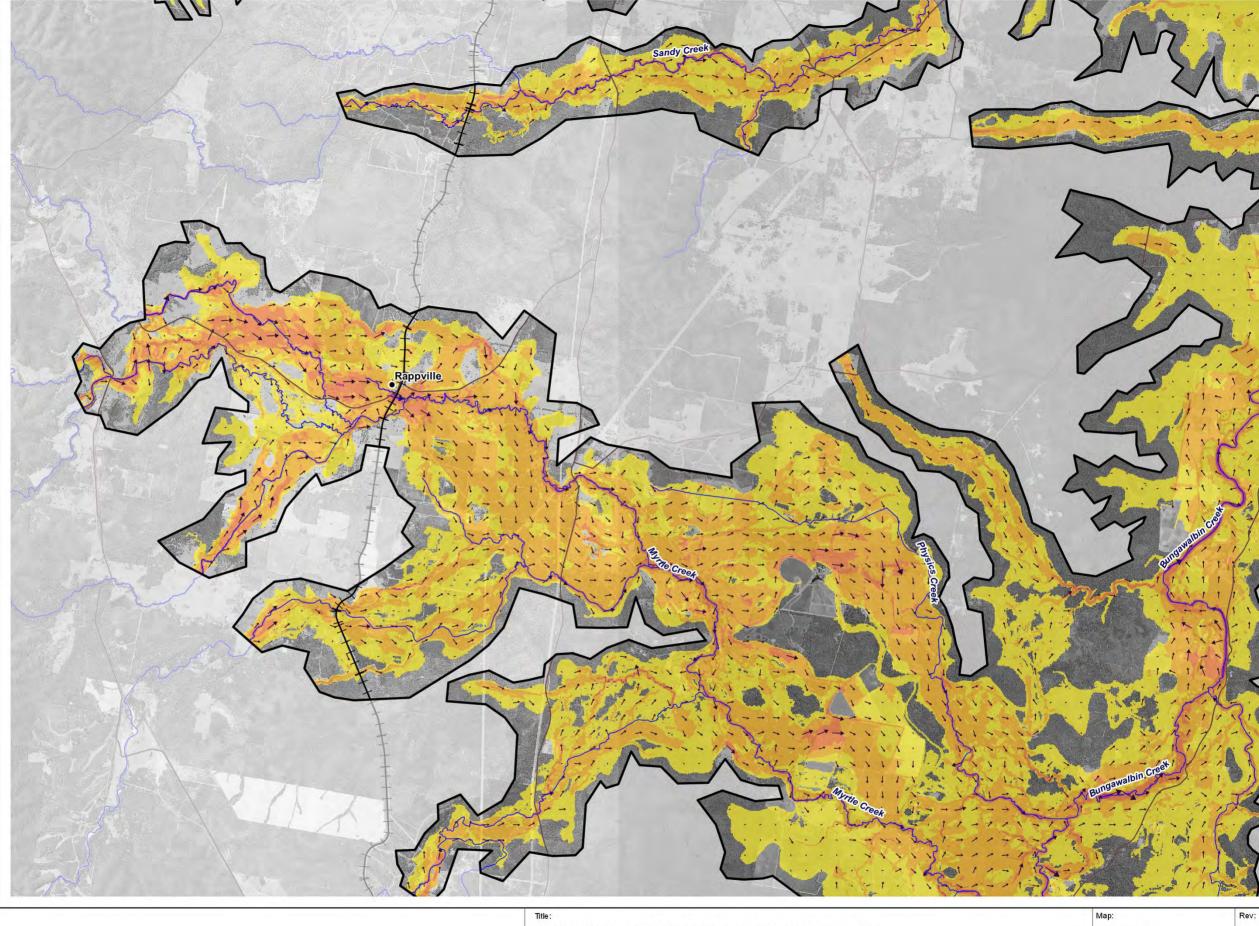
< 0.2 0.2 to

0.2 to 0.5 0.5 to 1.0

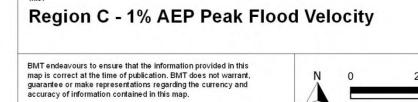
1.0 to 2.0

2.0 to 3.0

> 3.0



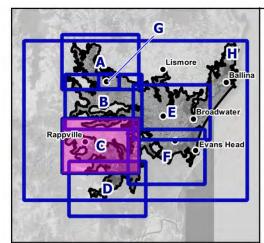
Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses



N 0 2,000 4,000 m



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<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

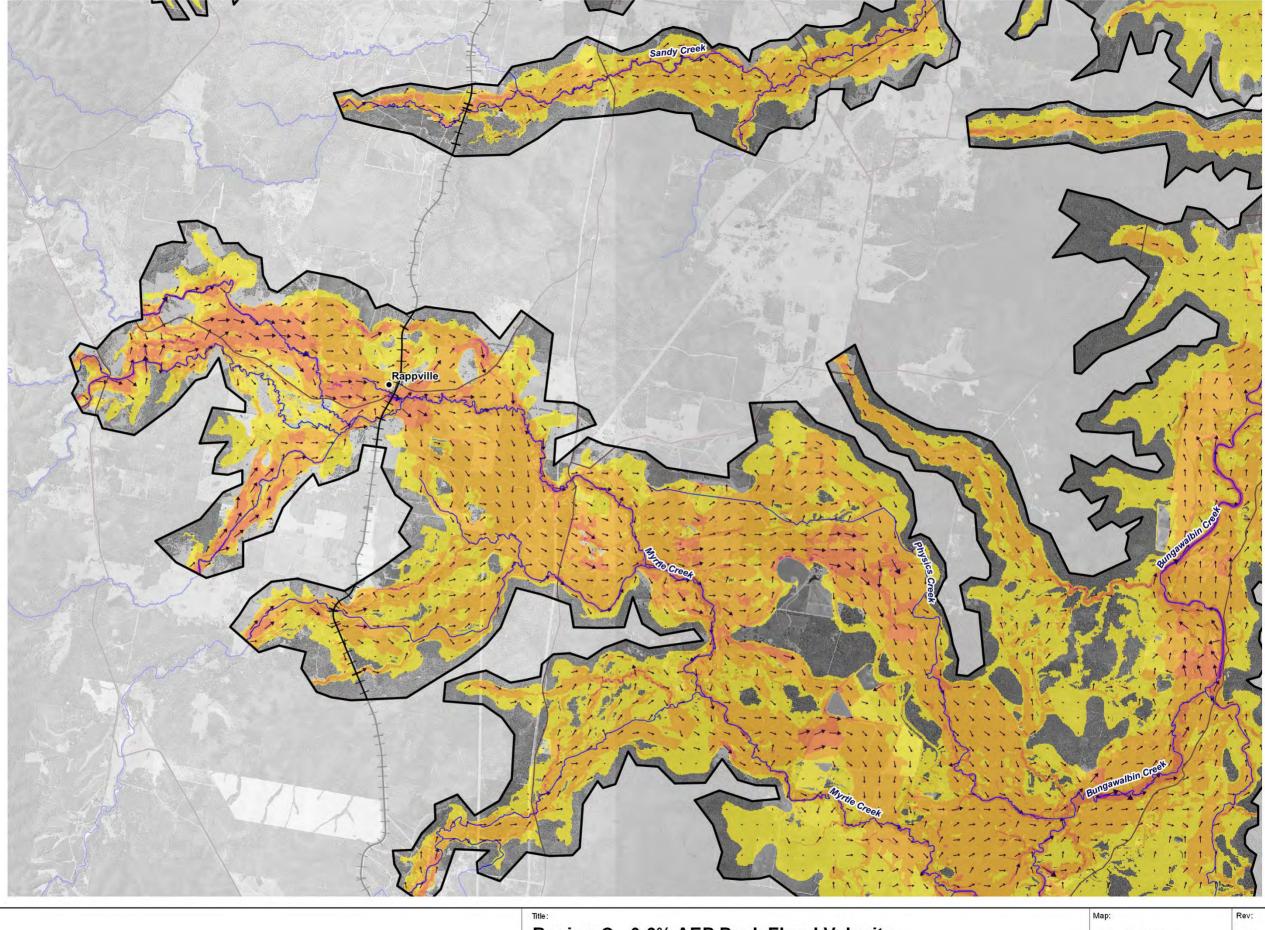
< 0.2 0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

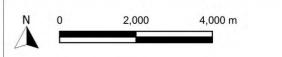
> 3.0



Legend Model Extent - Main Roads Towns --- Watercourses

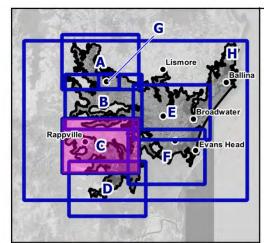


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R.C-16





<0.1

0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

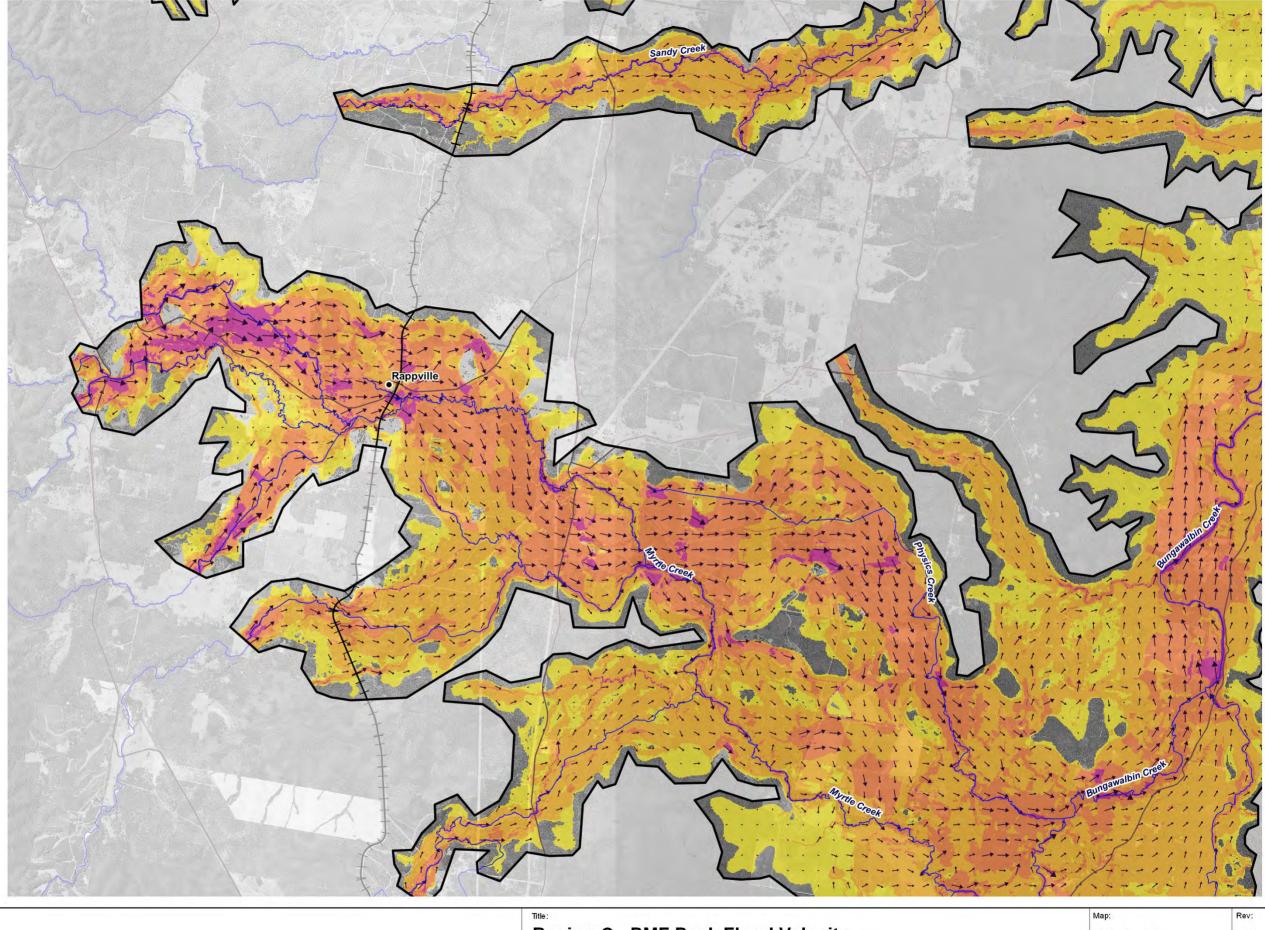
< 0.2 0.5 to 1.0

0.2 to 0.5

1.0 to 2.0

2.0 to 3.0

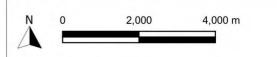
> 3.0



Legend Model Extent - Main Roads Towns Watercourses

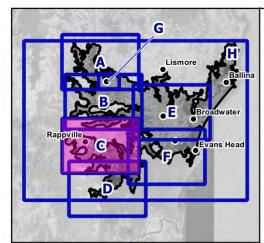


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R.C-17

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<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

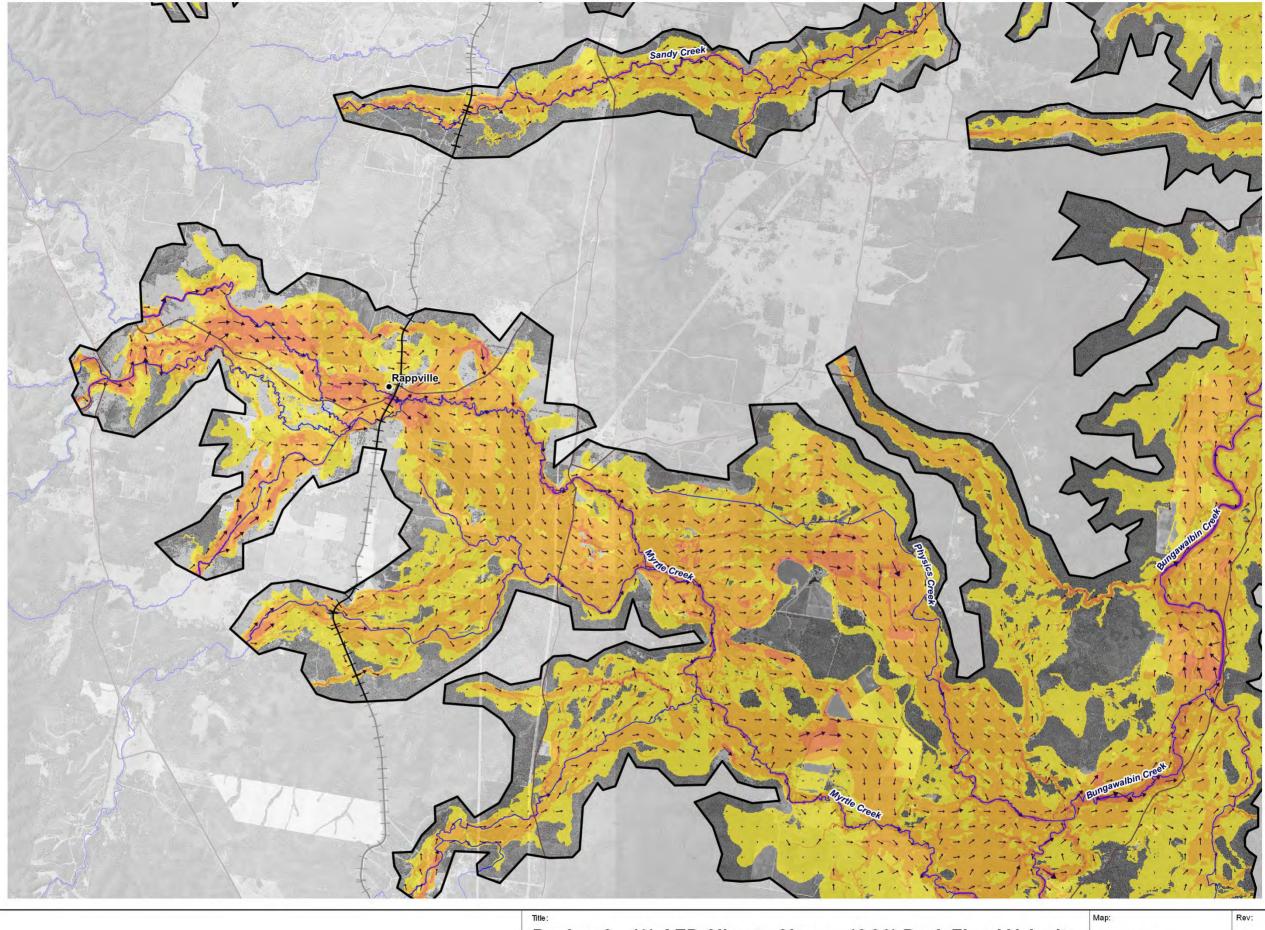
< 0.2 0.5 to 1.0

0.2 to 0.5

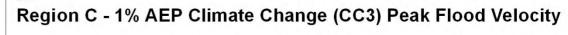
1.0 to 2.0

2.0 to 3.0

> 3.0



Legend ☐☐ LGA Boundaries ├── Railway Model Extent - Main Roads Towns --- Watercourses

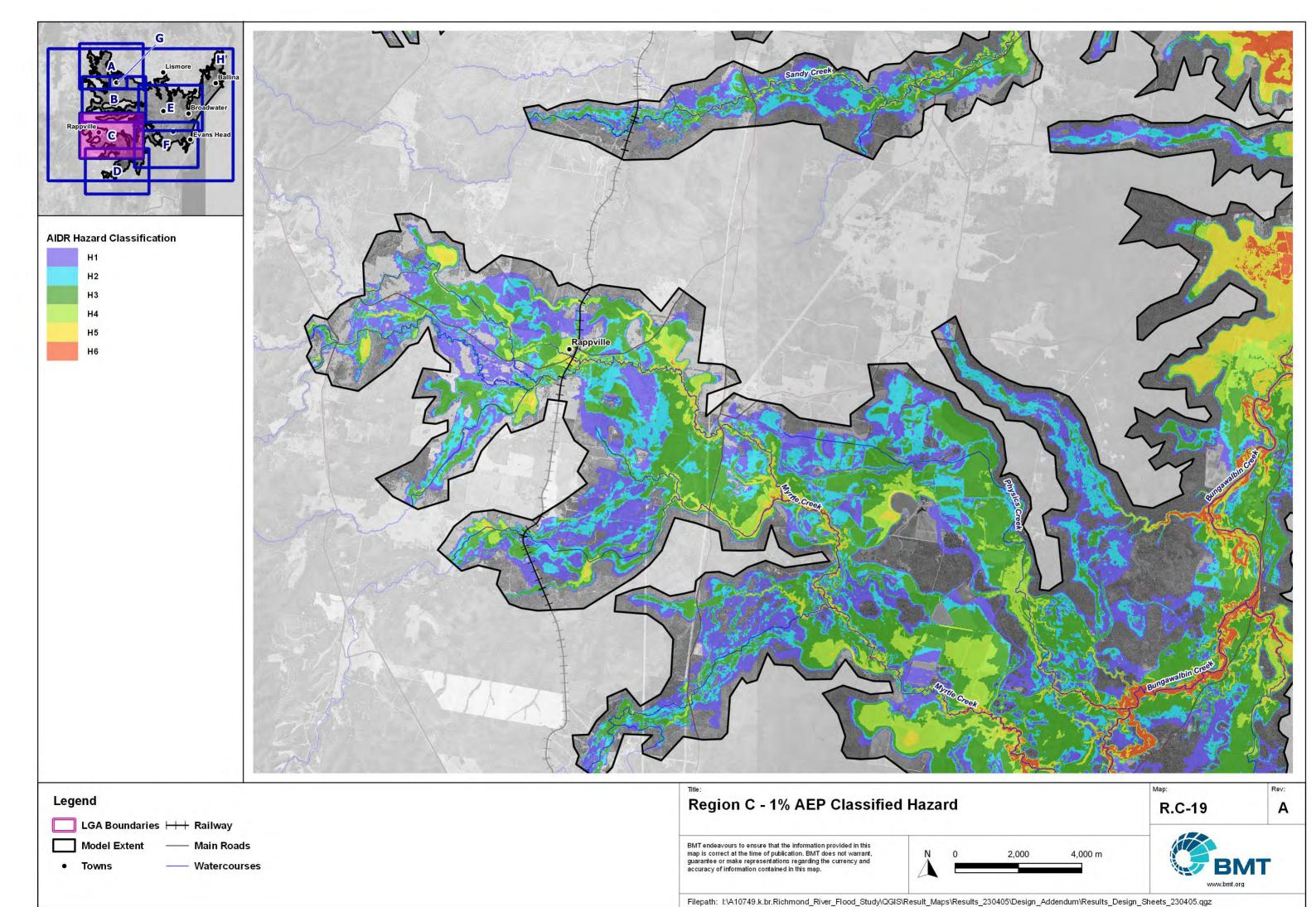


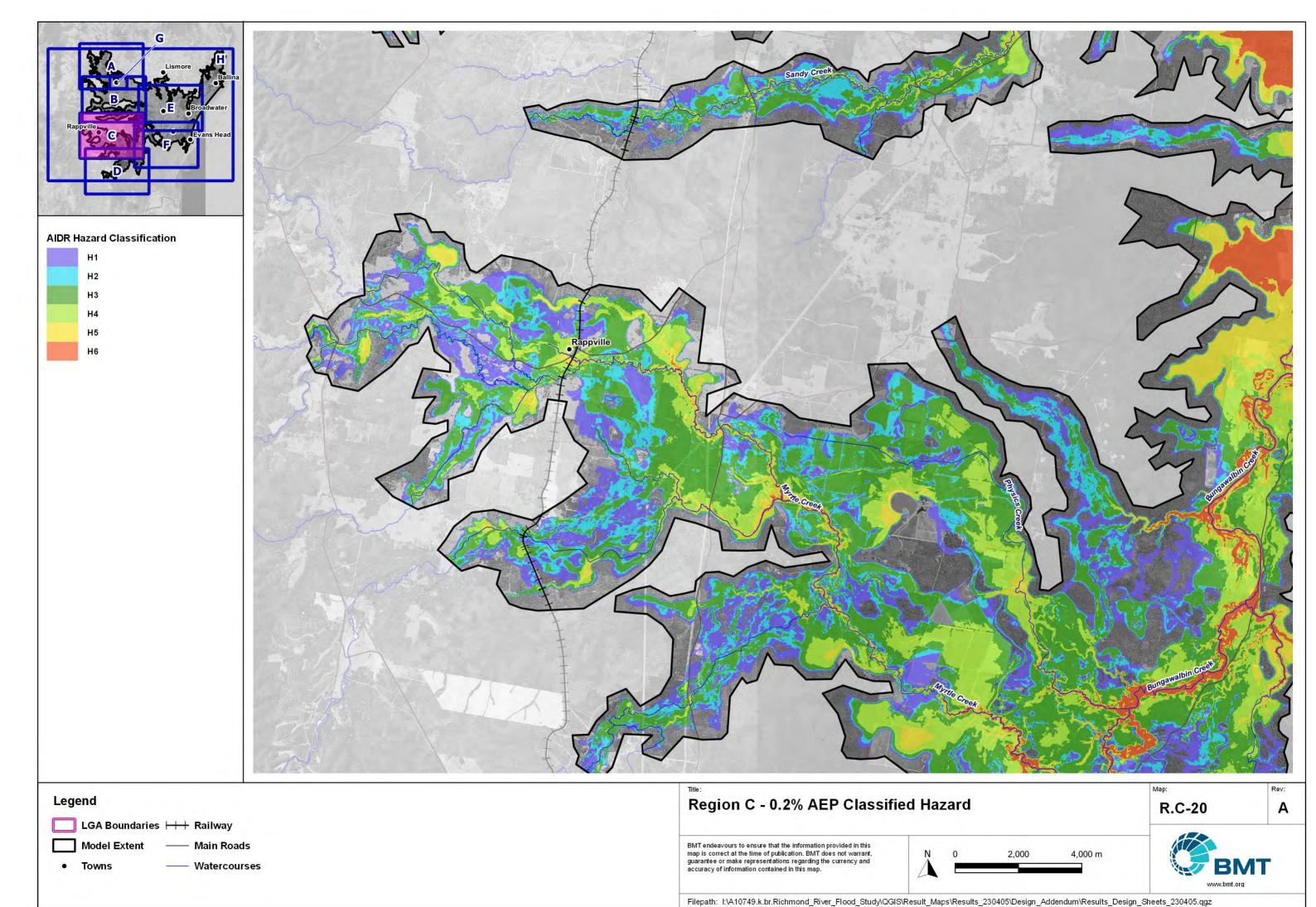
4,000 m 2,000

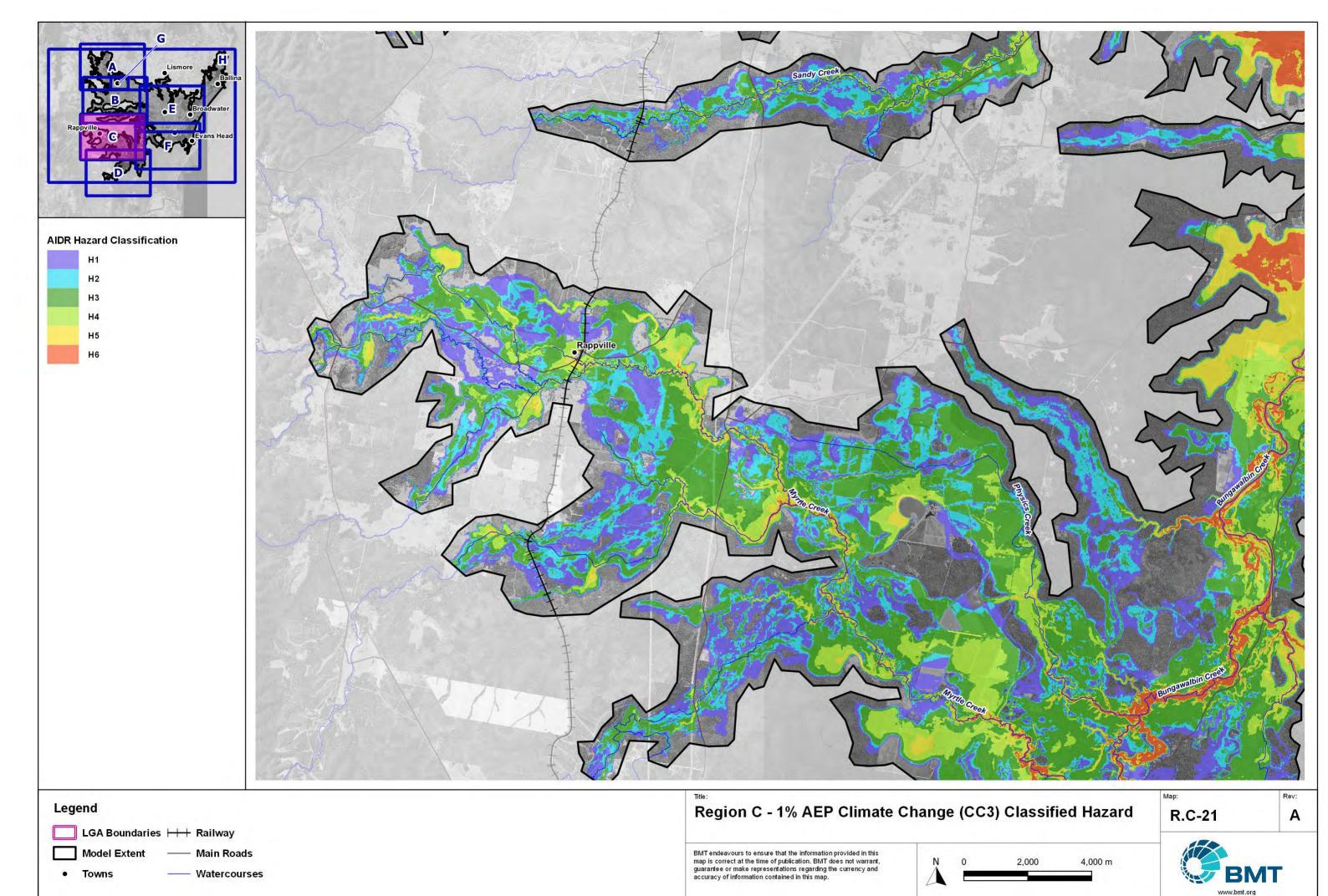
R.C-18

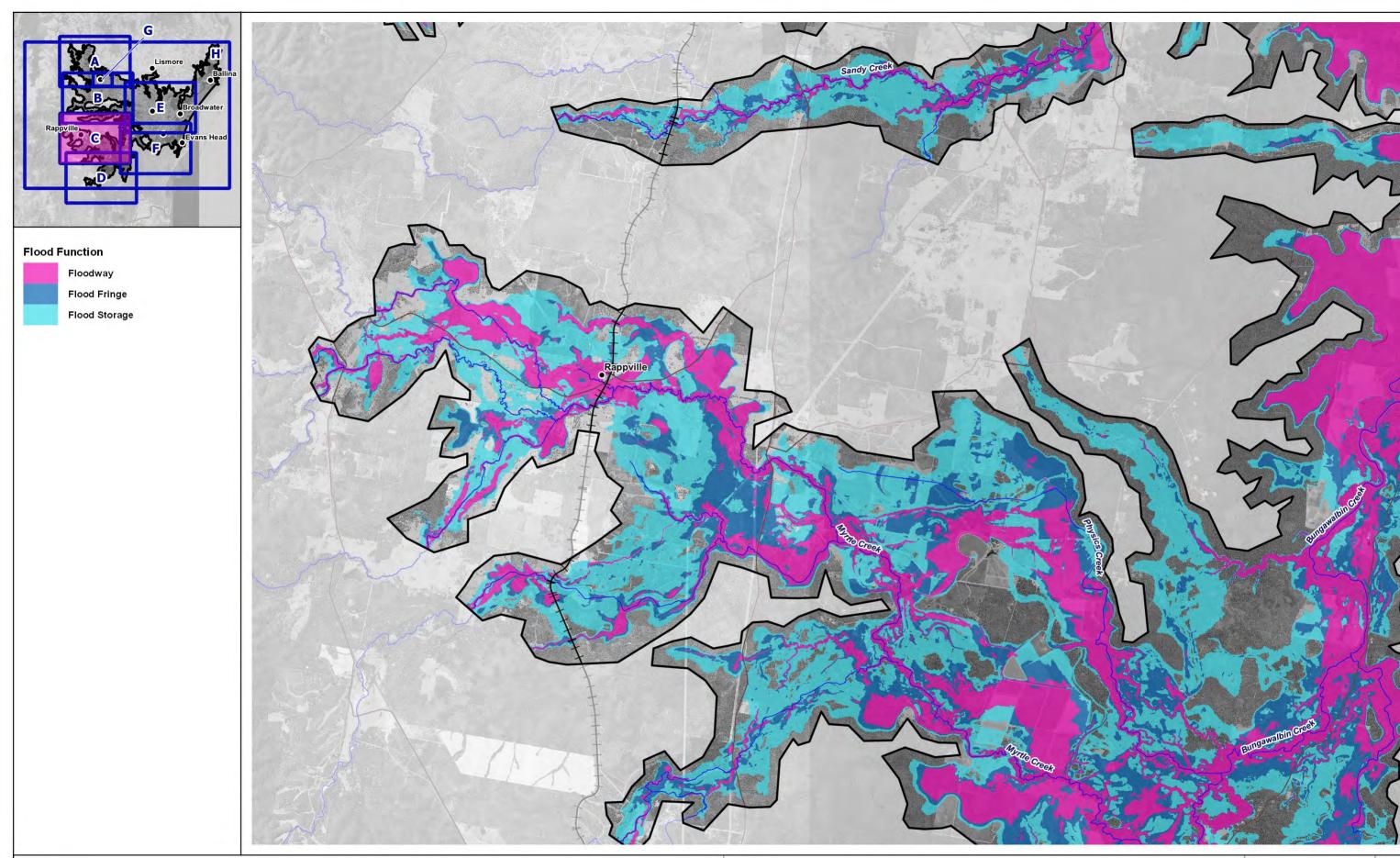
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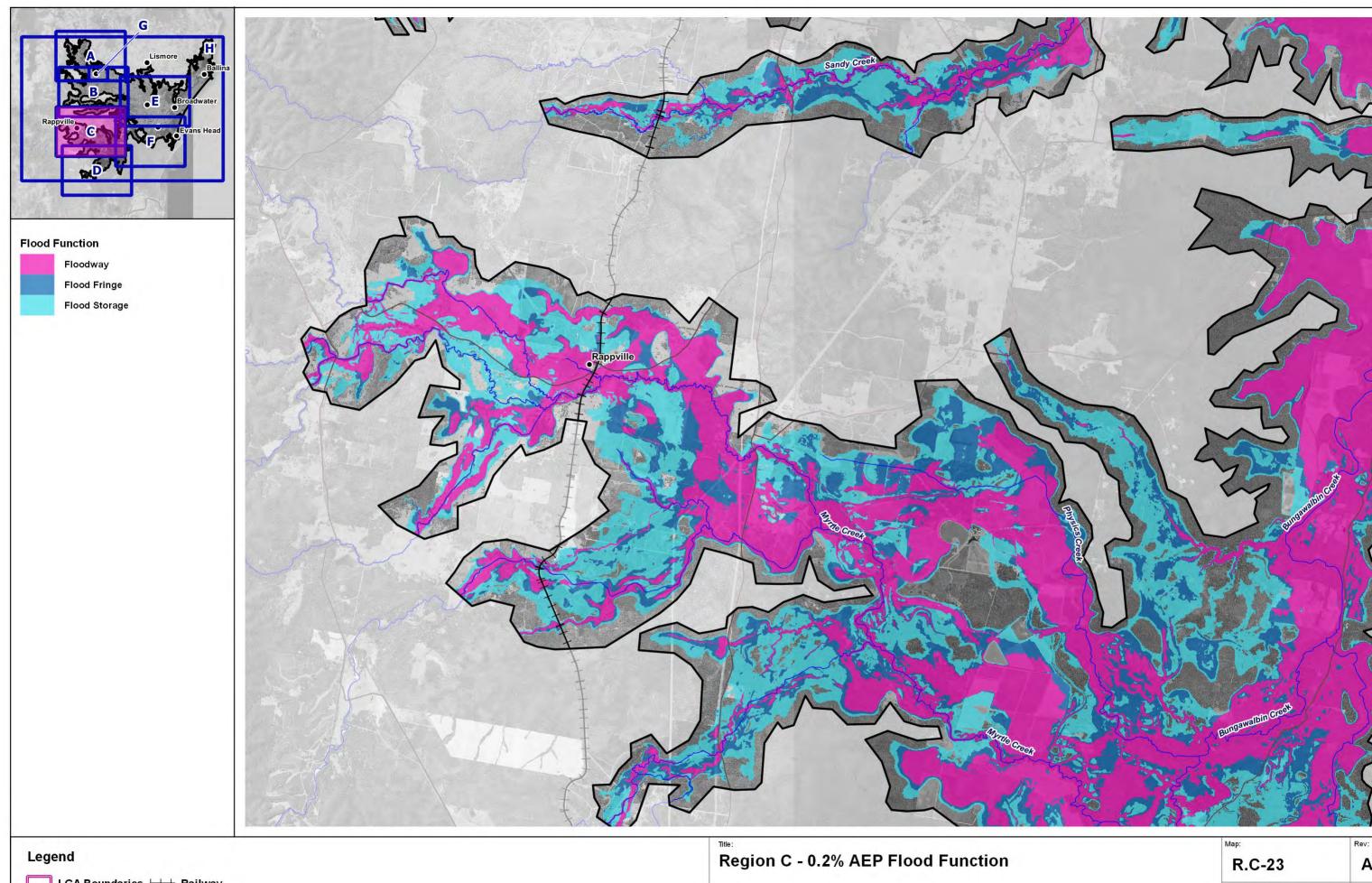




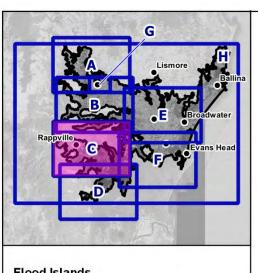












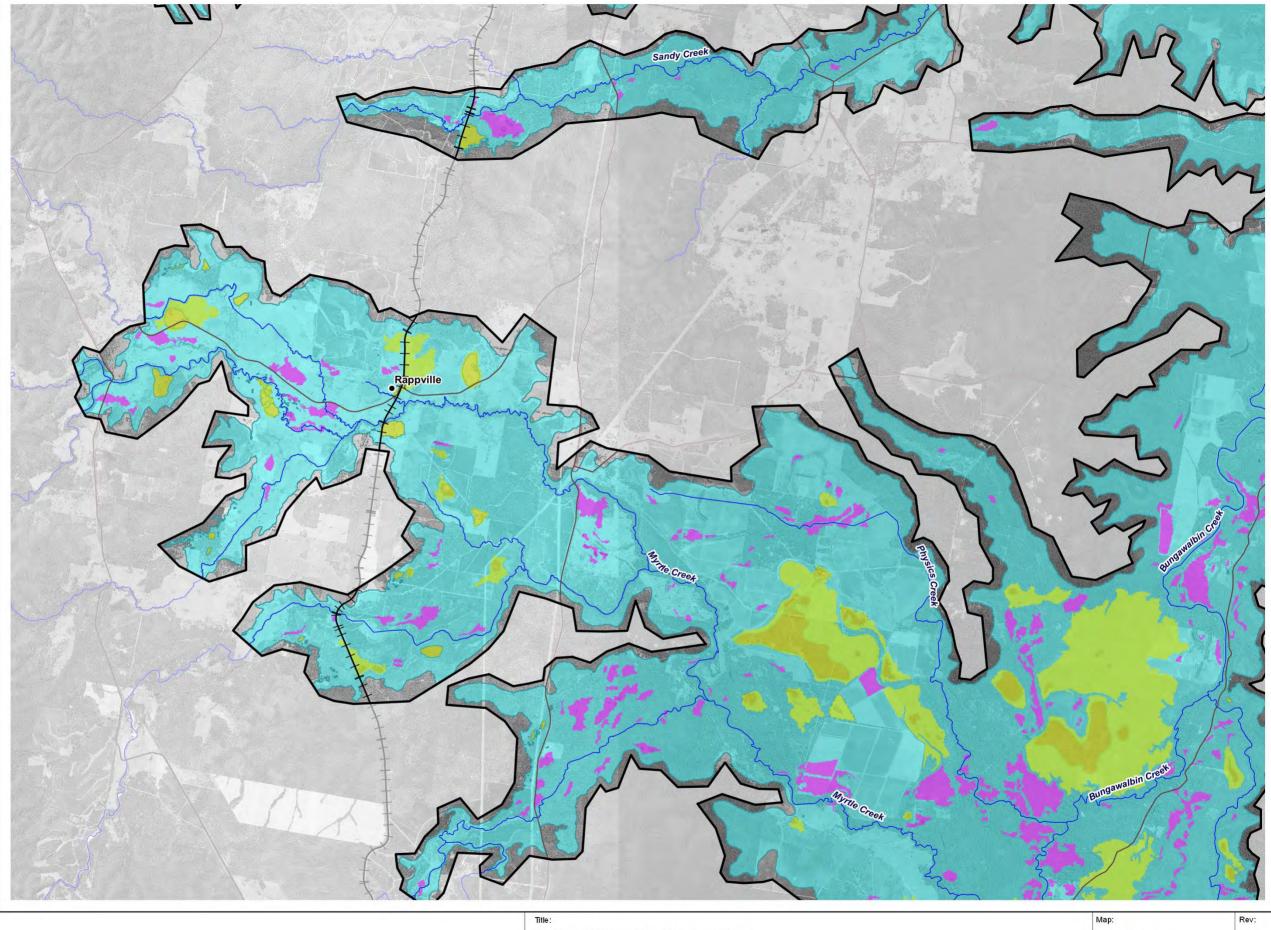
Flood Islands

Low Flood Island

High Flood Island

PMF Extent

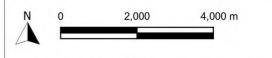
Extent



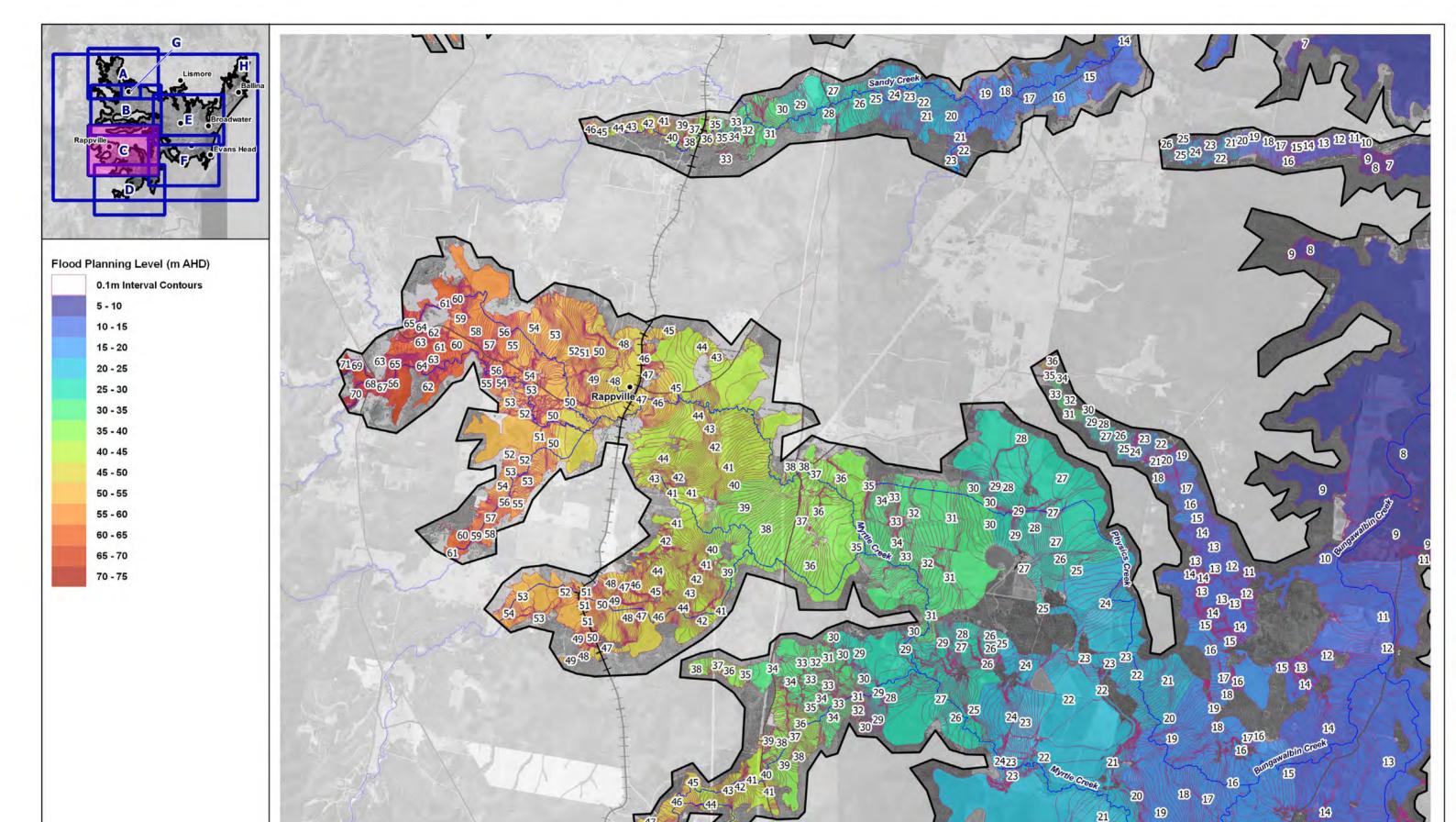
Legend Model Extent --- Main Roads Towns --- Watercourses

Region C - Flood Islands

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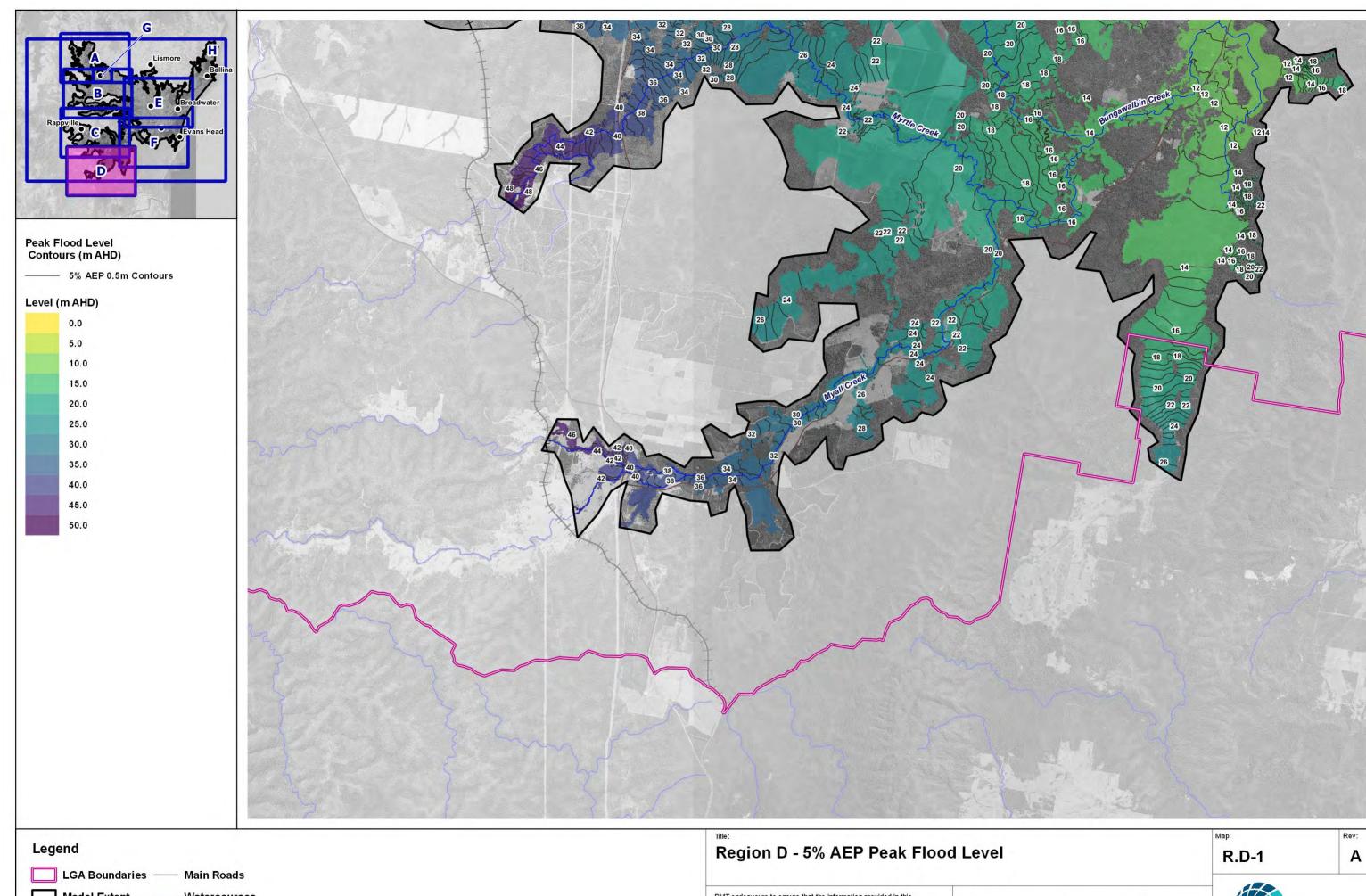


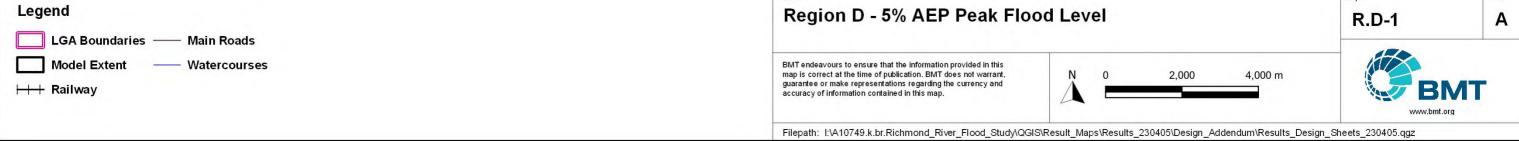
R.C-24

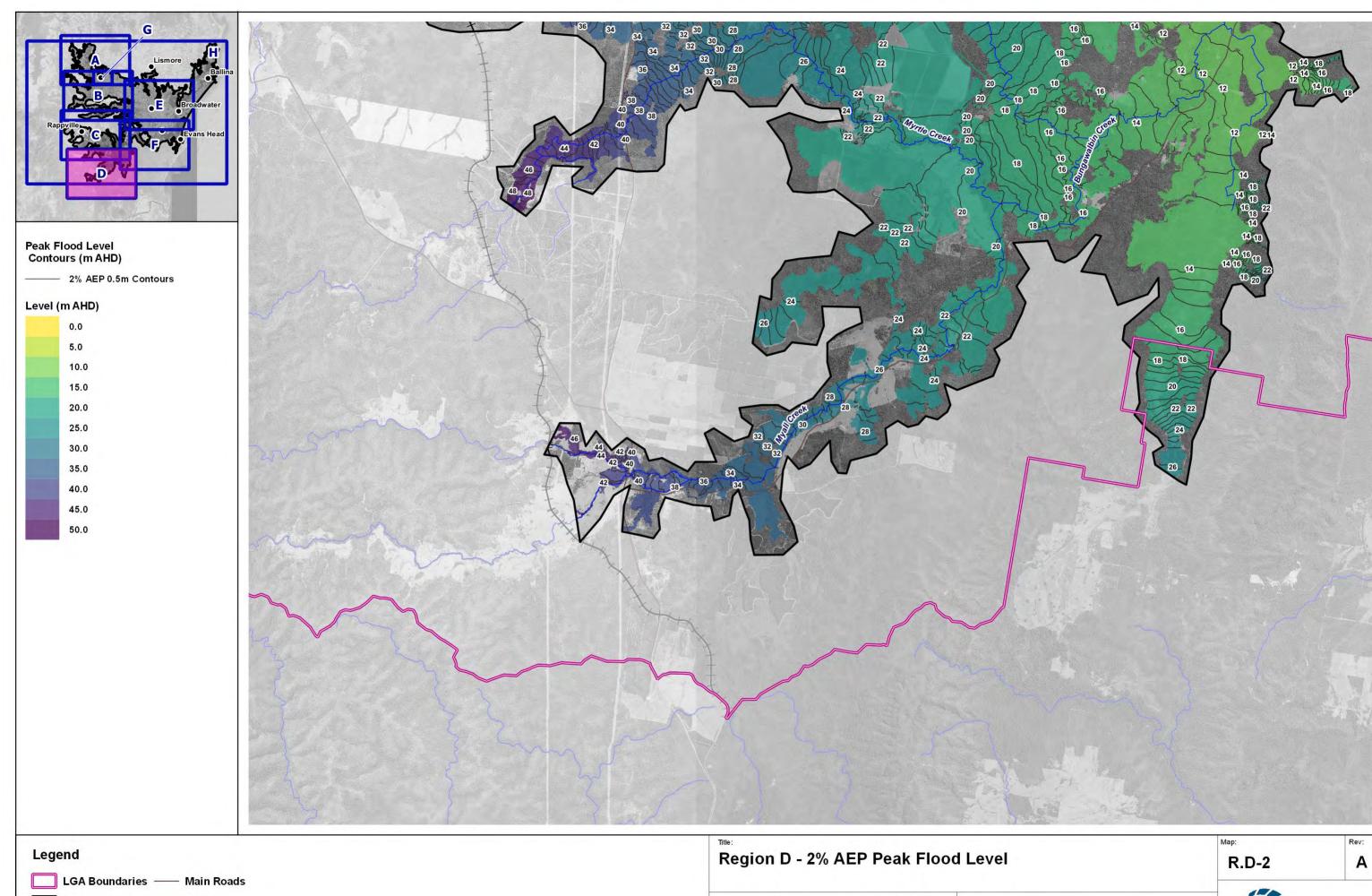




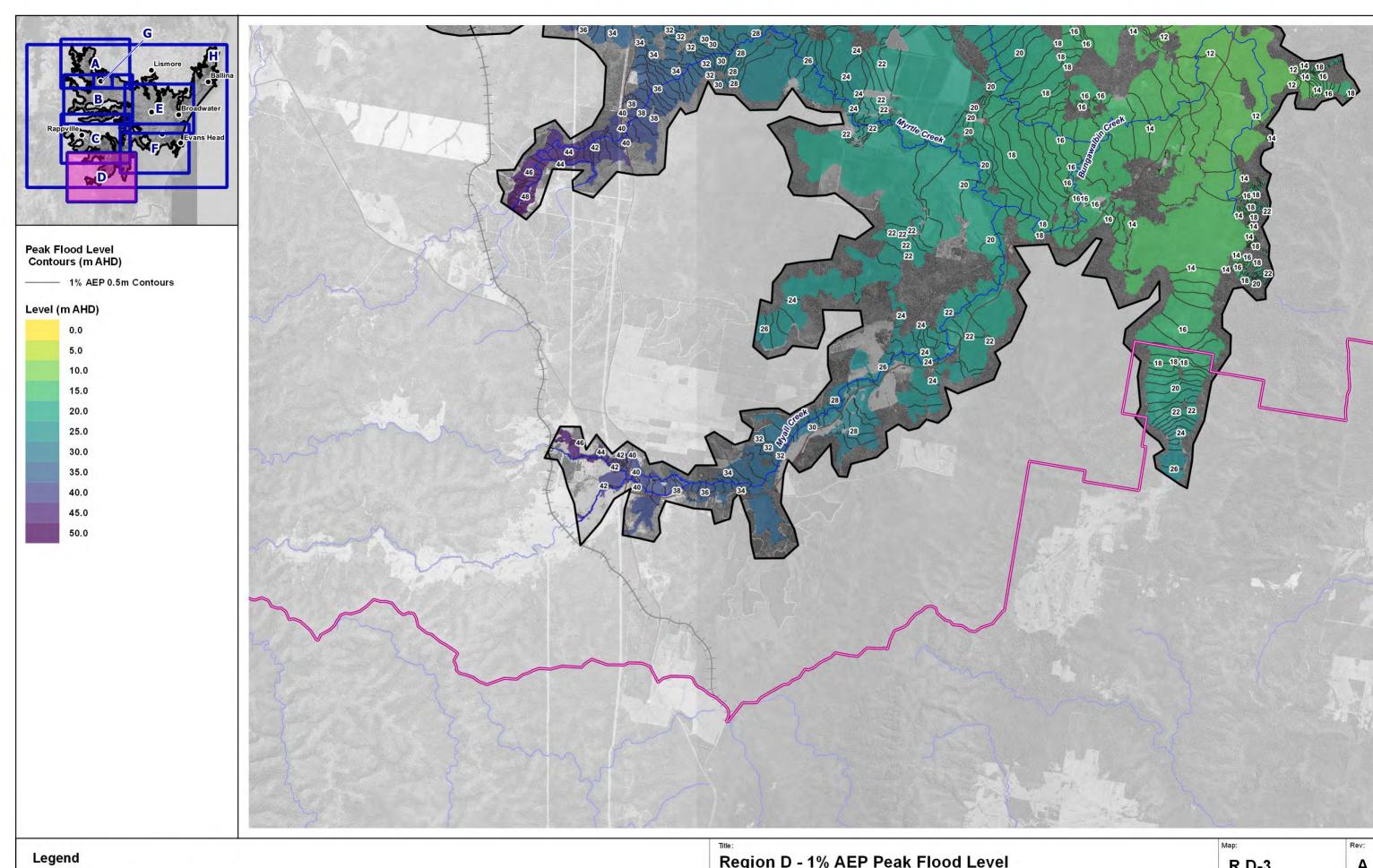
17 17 16



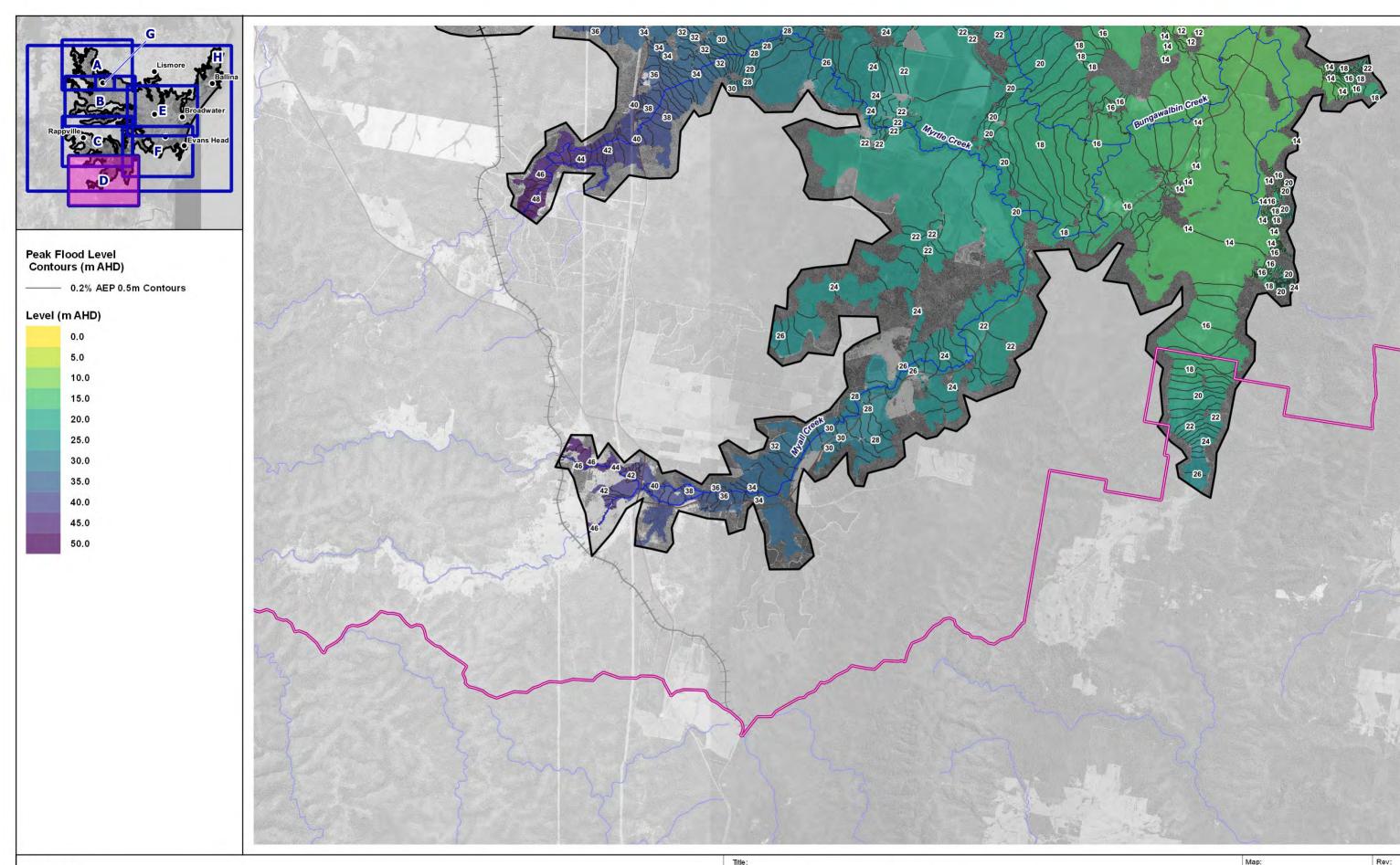




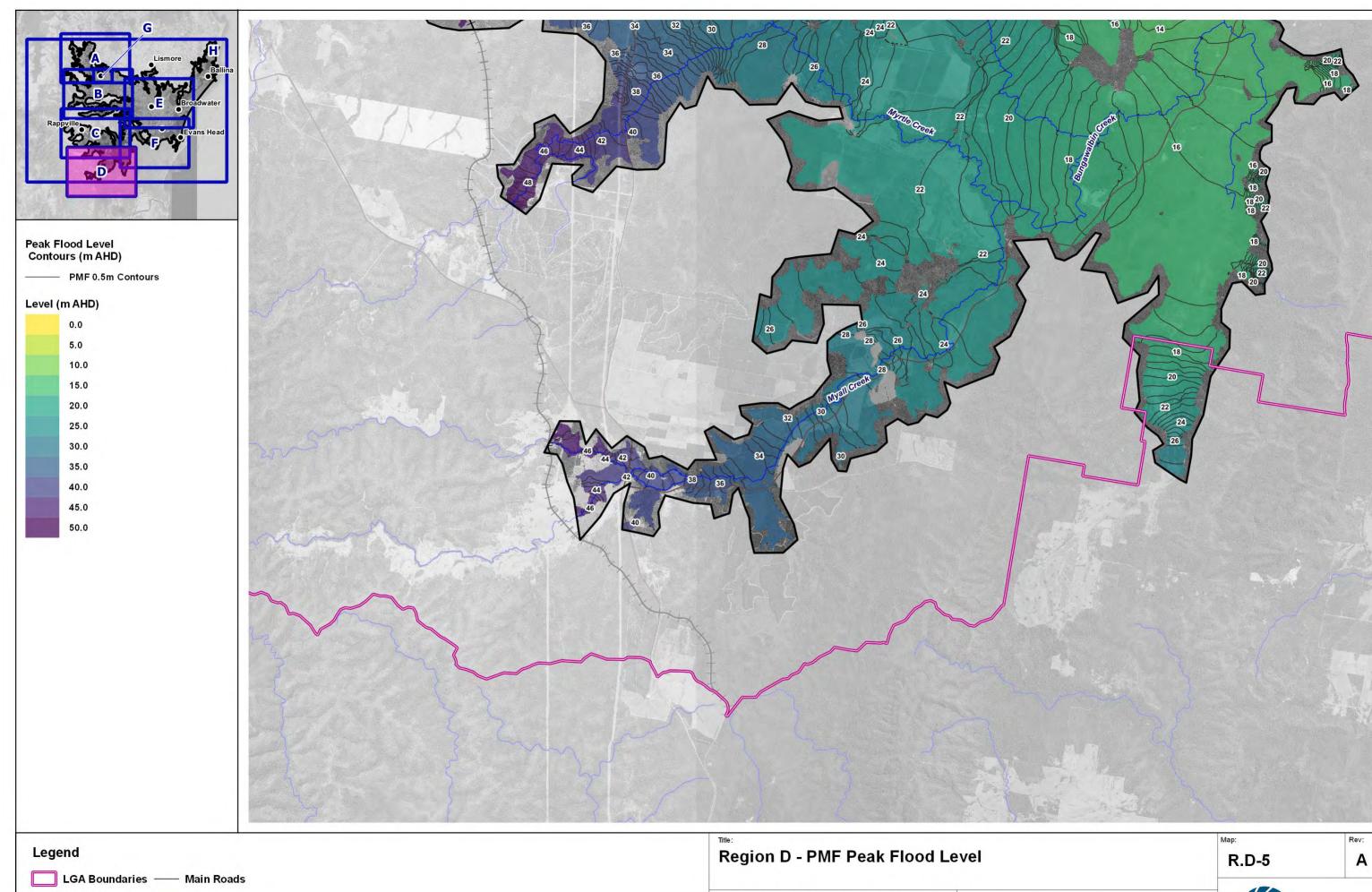




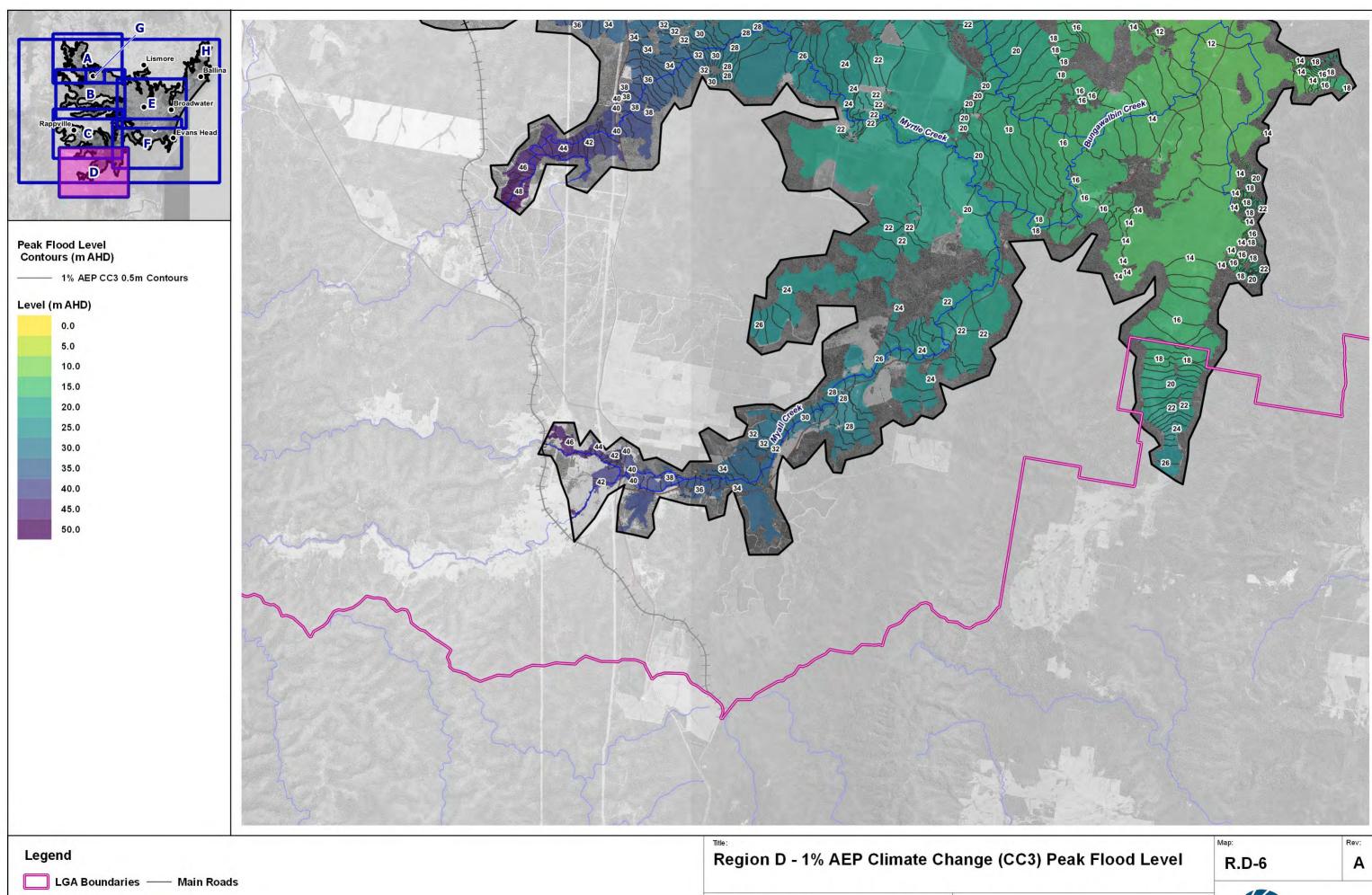




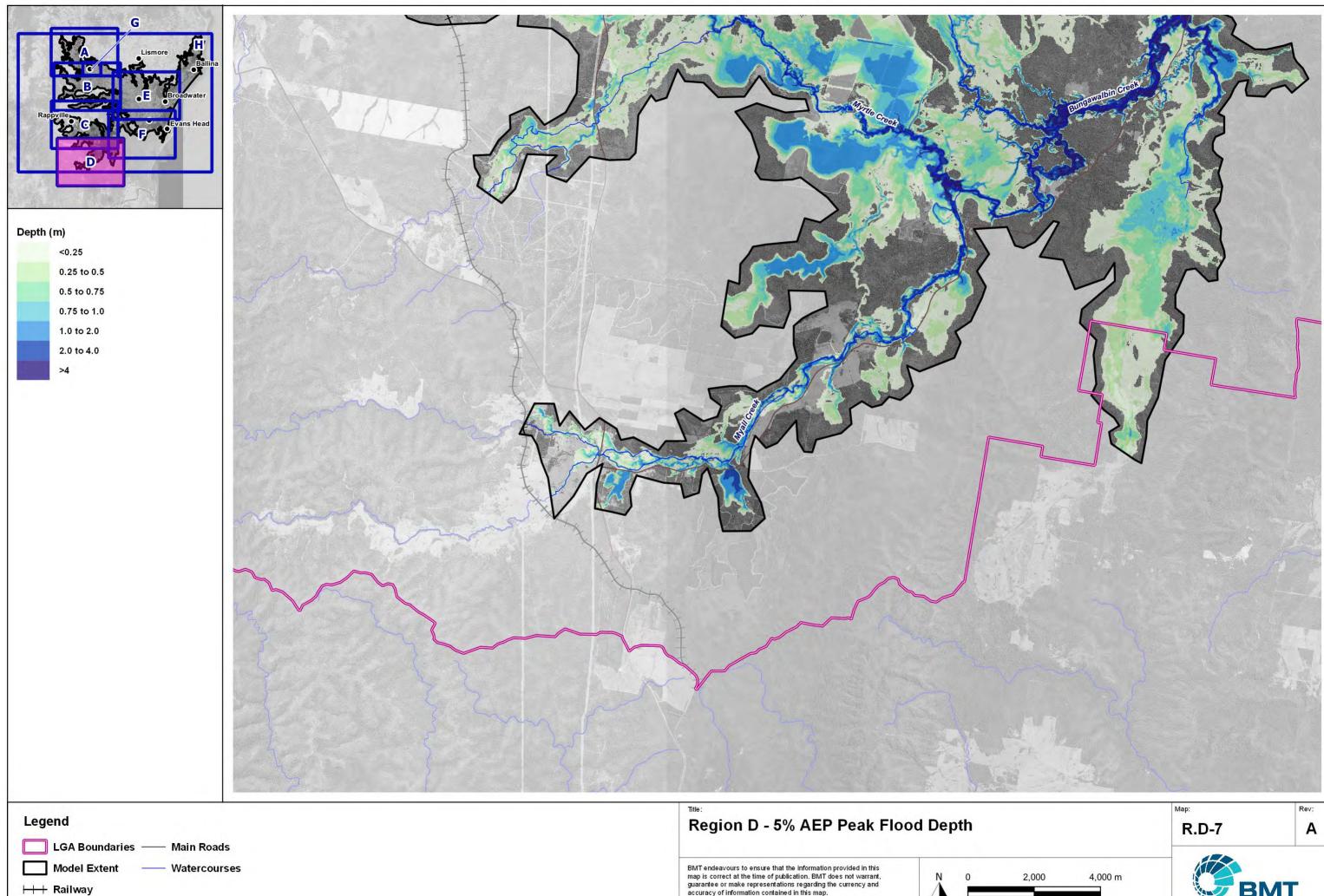


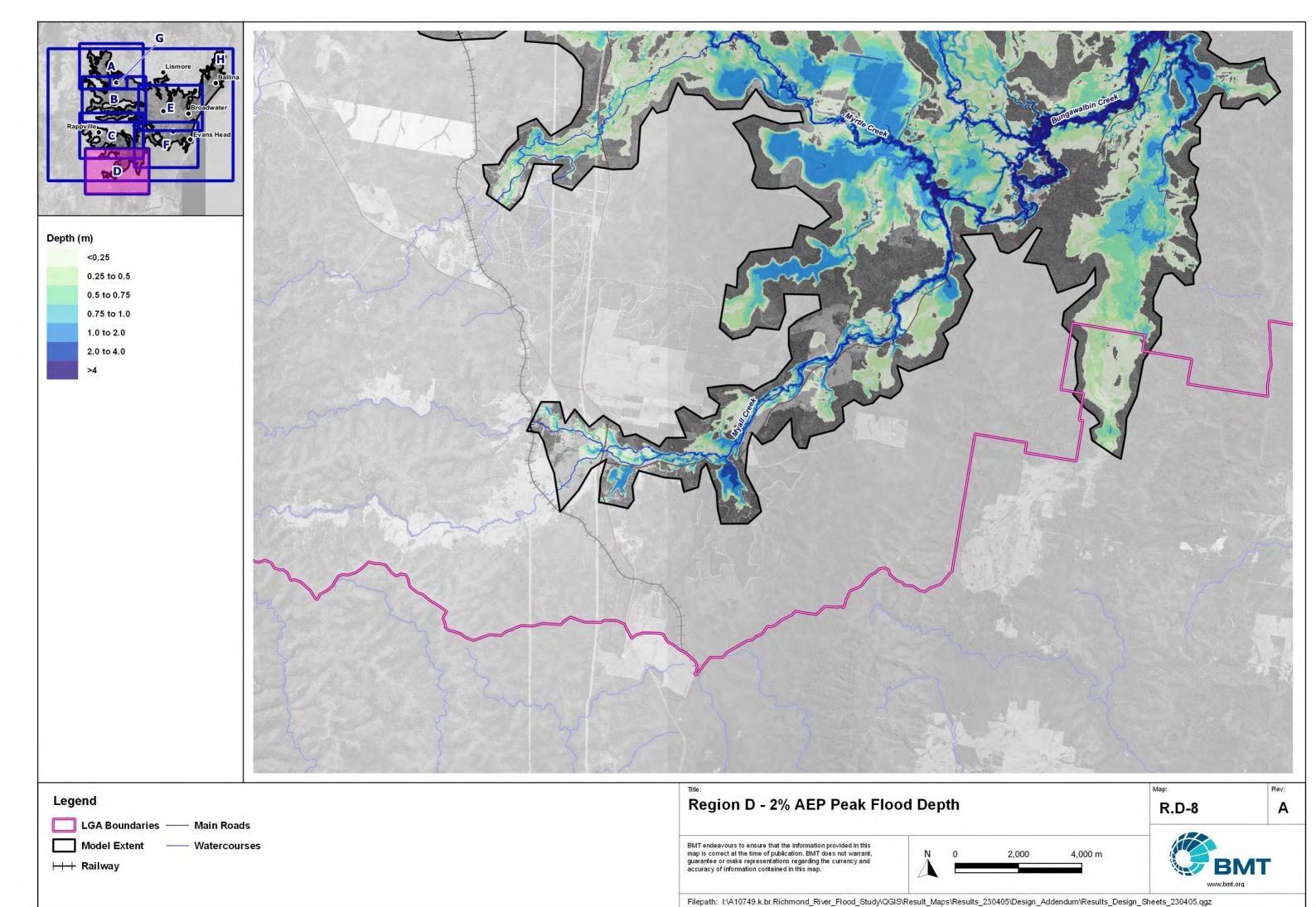


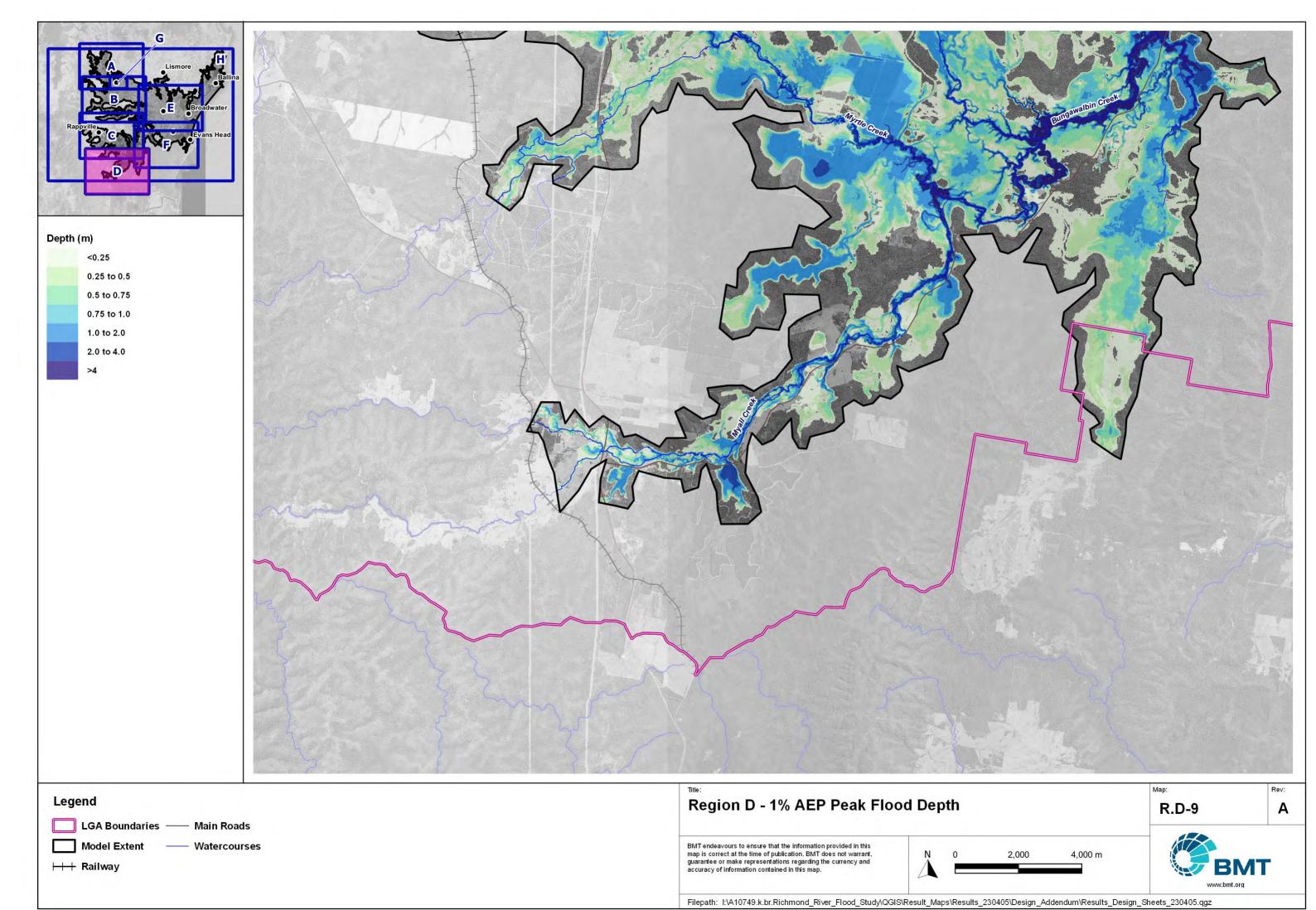


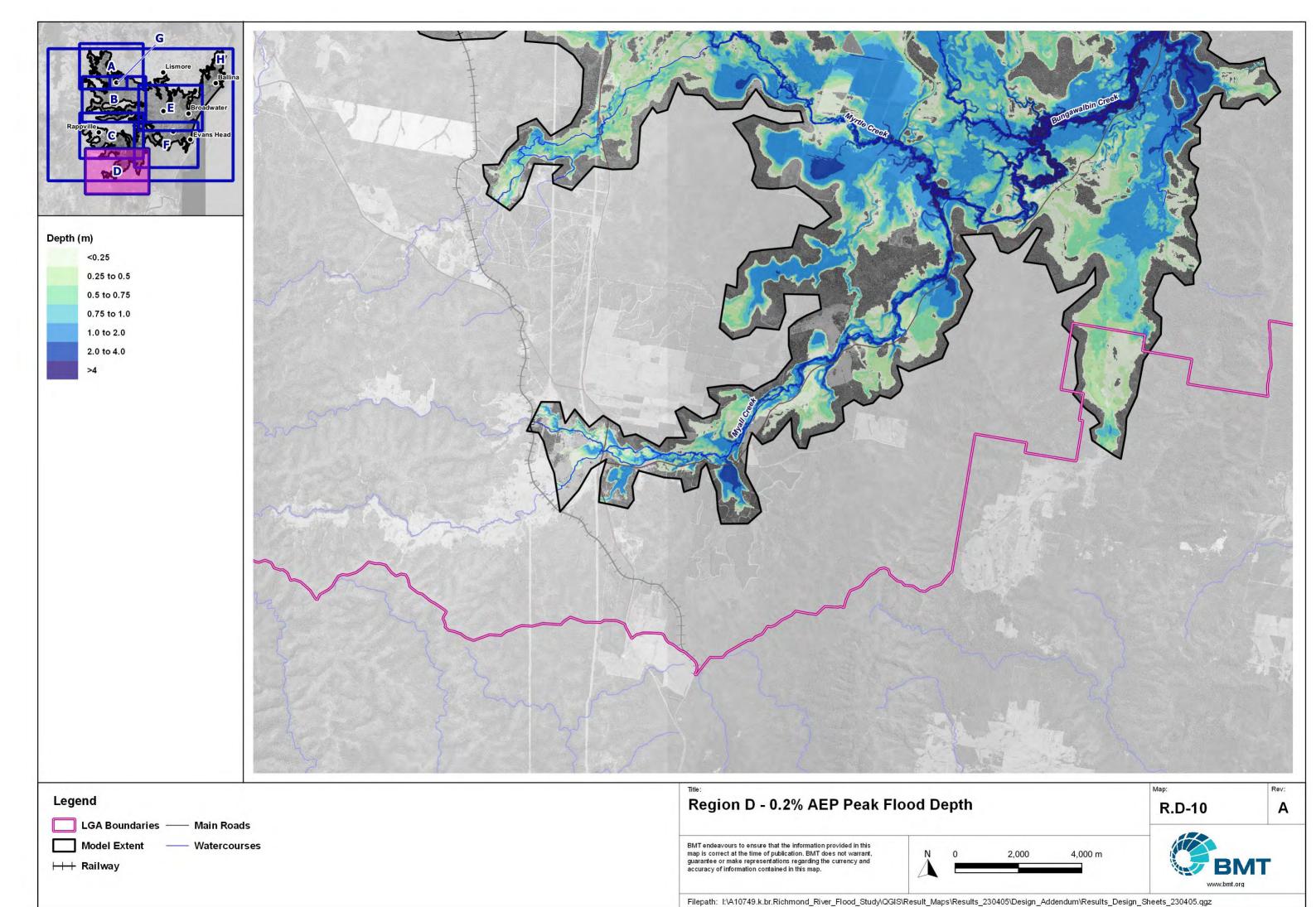


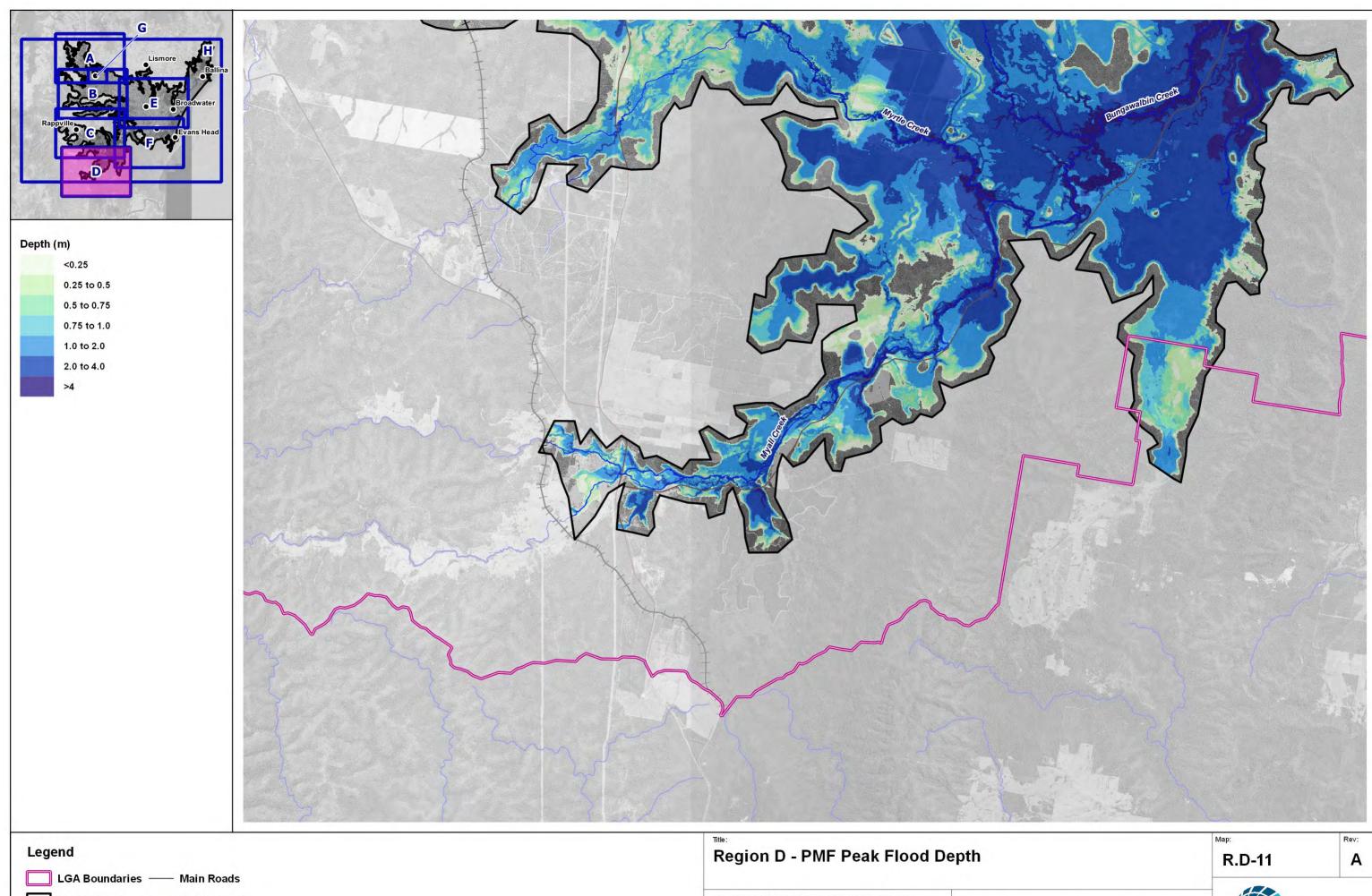




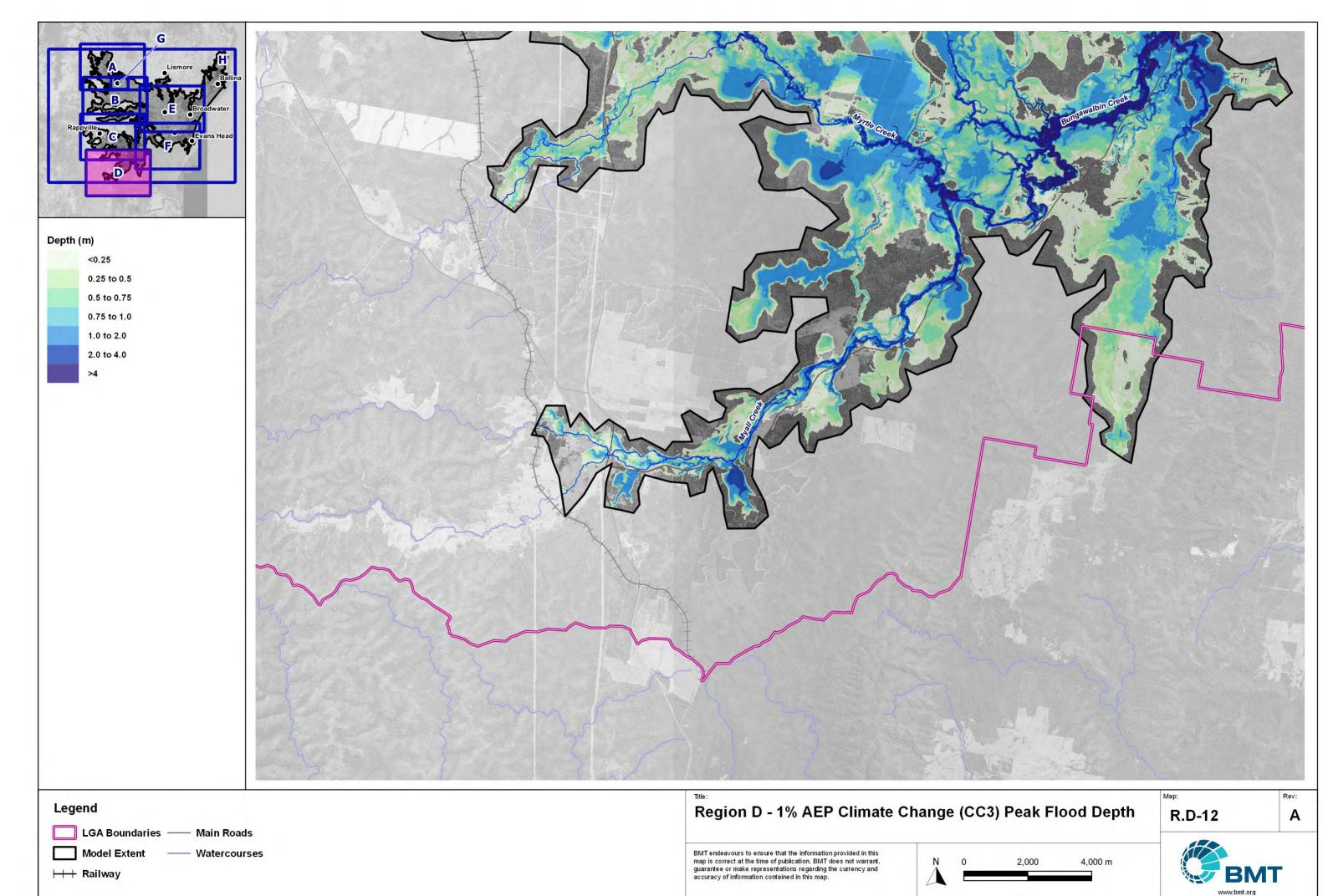


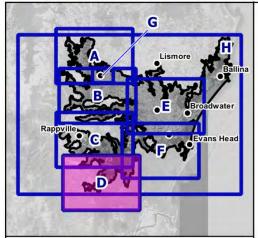












<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

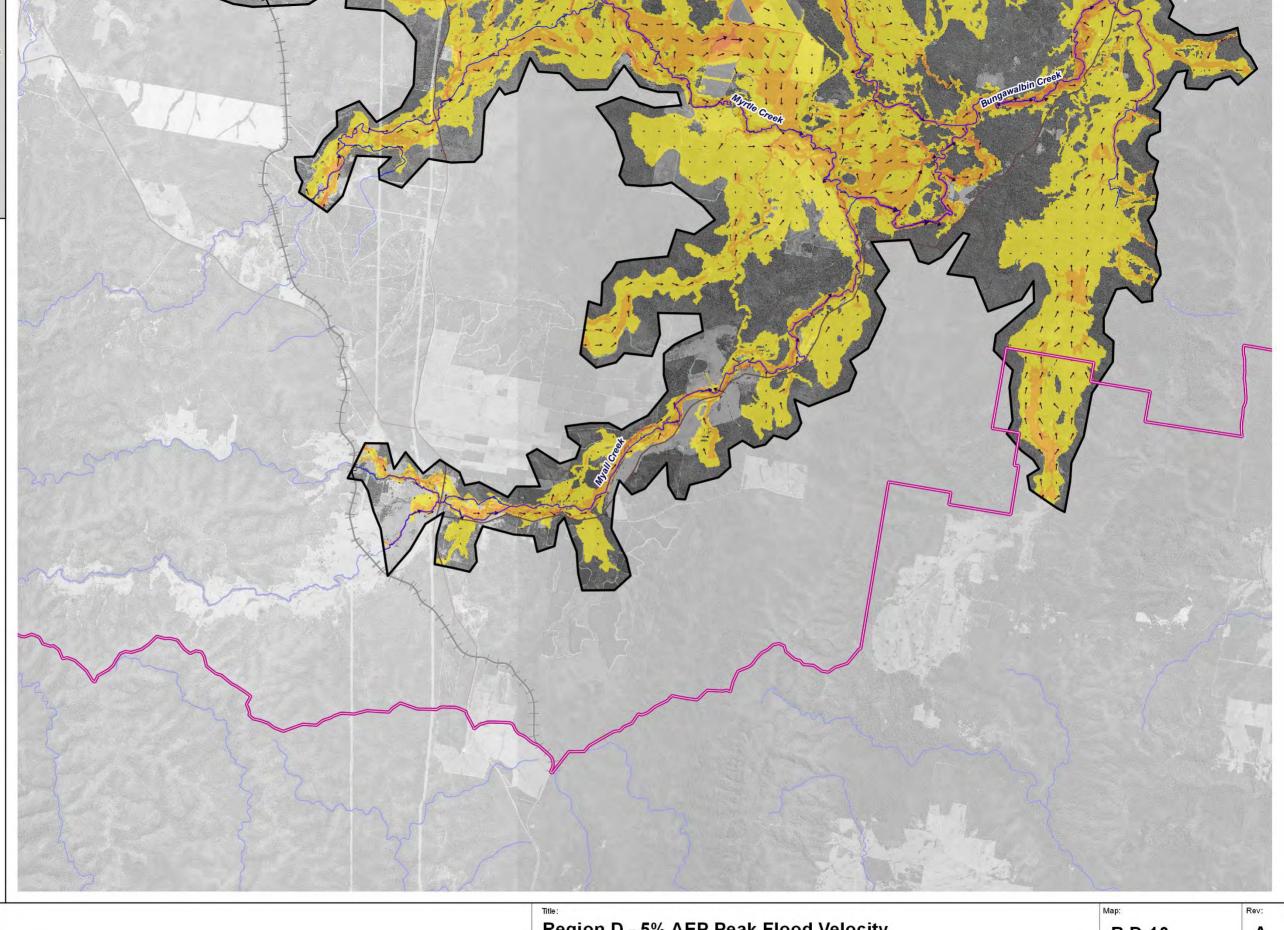
Velocity (m/s)

< 0.2 0.2 to 0.5 0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0



Legend LGA Boundaries — Main Roads Model Extent --- Watercourses → Railway

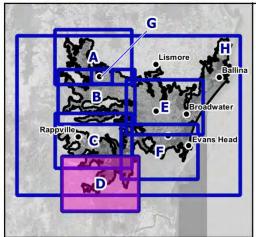
Region D - 5% AEP Peak Flood Velocity

4,000 m 2,000

R.D-13 Α

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<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

→ 1.0 - 2.0

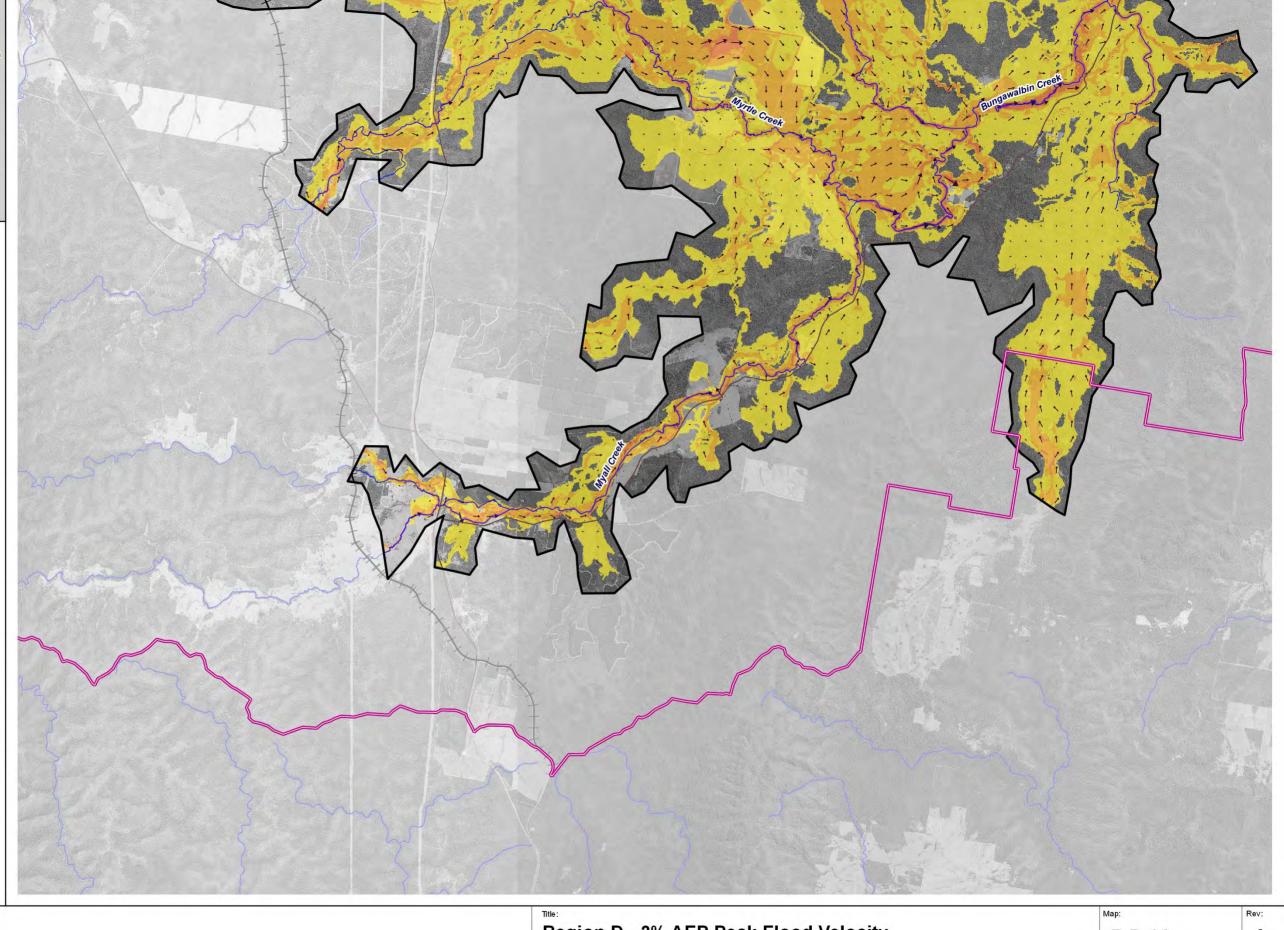
Velocity (m/s)

< 0.2 0.2 to 0.5 0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

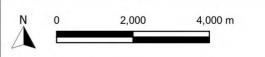
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses H Railway

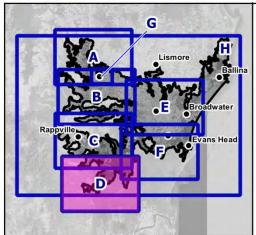
Region D - 2% AEP Peak Flood Velocity

BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



R.D-14

BMT



<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

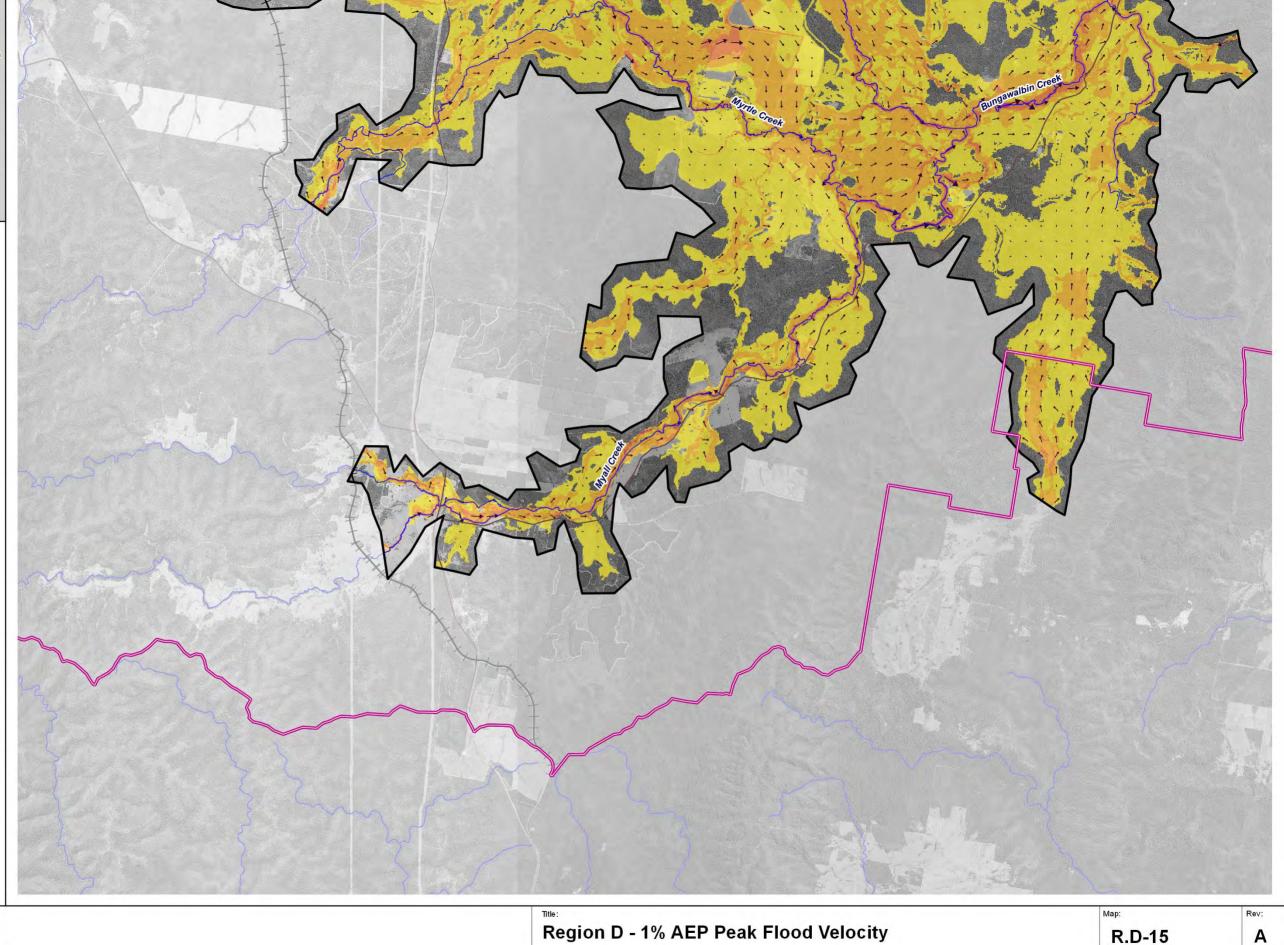
Velocity (m/s)

< 0.2 0.2 to 0.5

0.5 to 1.0 1.0 to 2.0

2.0 to 3.0

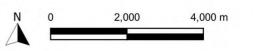
> 3.0



Legend LGA Boundaries — Main Roads Model Extent --- Watercourses → Railway



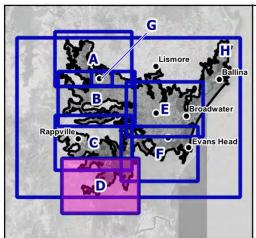
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R.D-15



 $Filepath: \ l:\ A10749.k. br. Richmond_River_Flood_Study\\ \land QGIS\\ Result_Maps\\ Results_230405\\ \land Design_Addendum\\ Results_Design_Sheets_230405. qgz$



<0.1

→ 0.1 - 0.5

→ 0.5 - 1.0

→ 1.0 - 2.0

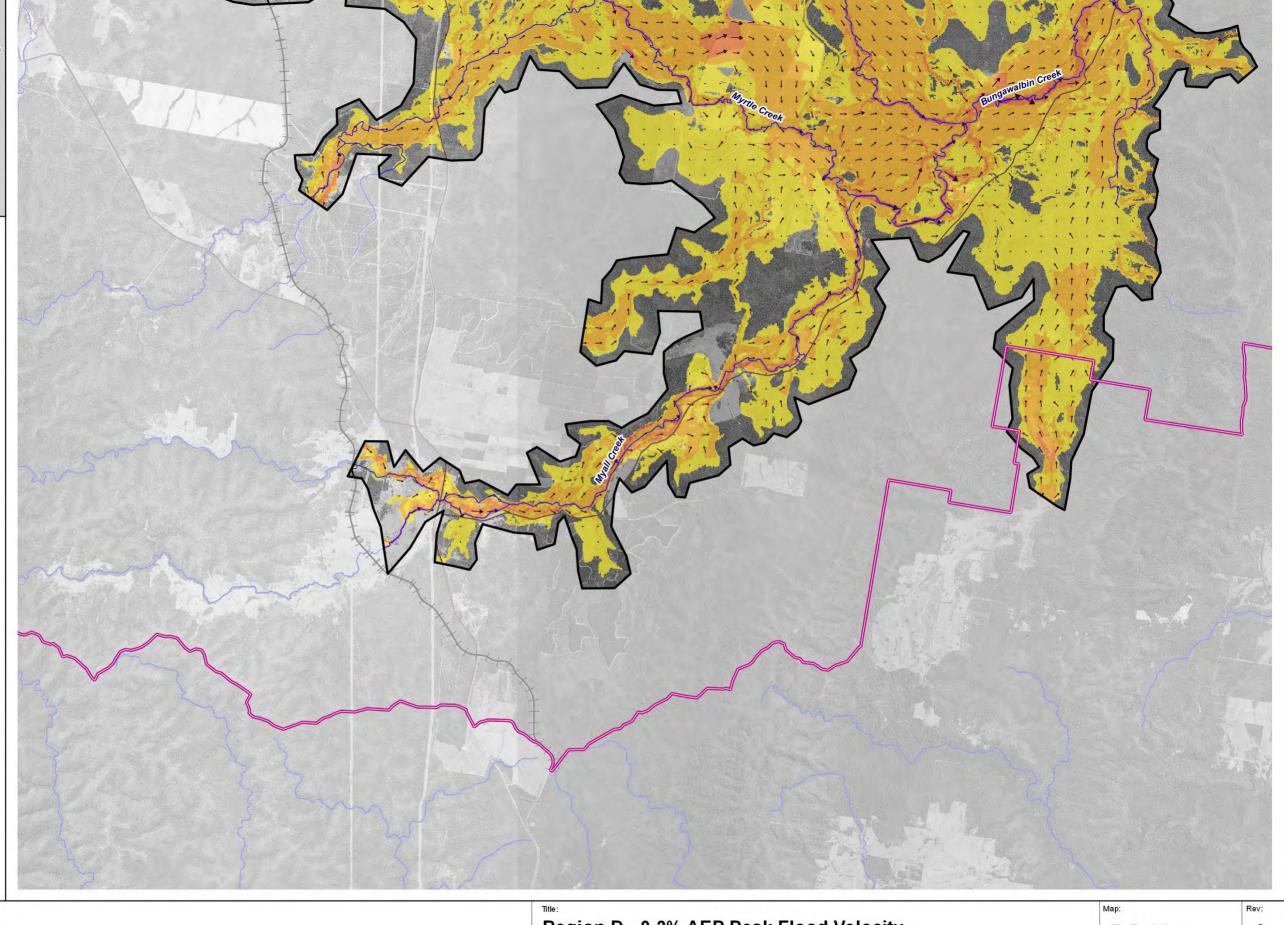
Velocity (m/s)

< 0.2 0.2 to 0.5 0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

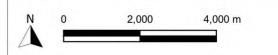
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses H Railway

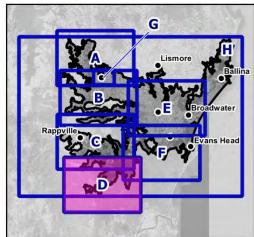


BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



R.D-16

BMT



<0.1

0.1 - 0.5

0.5 - 1.0

→ 1.0 - 2.0

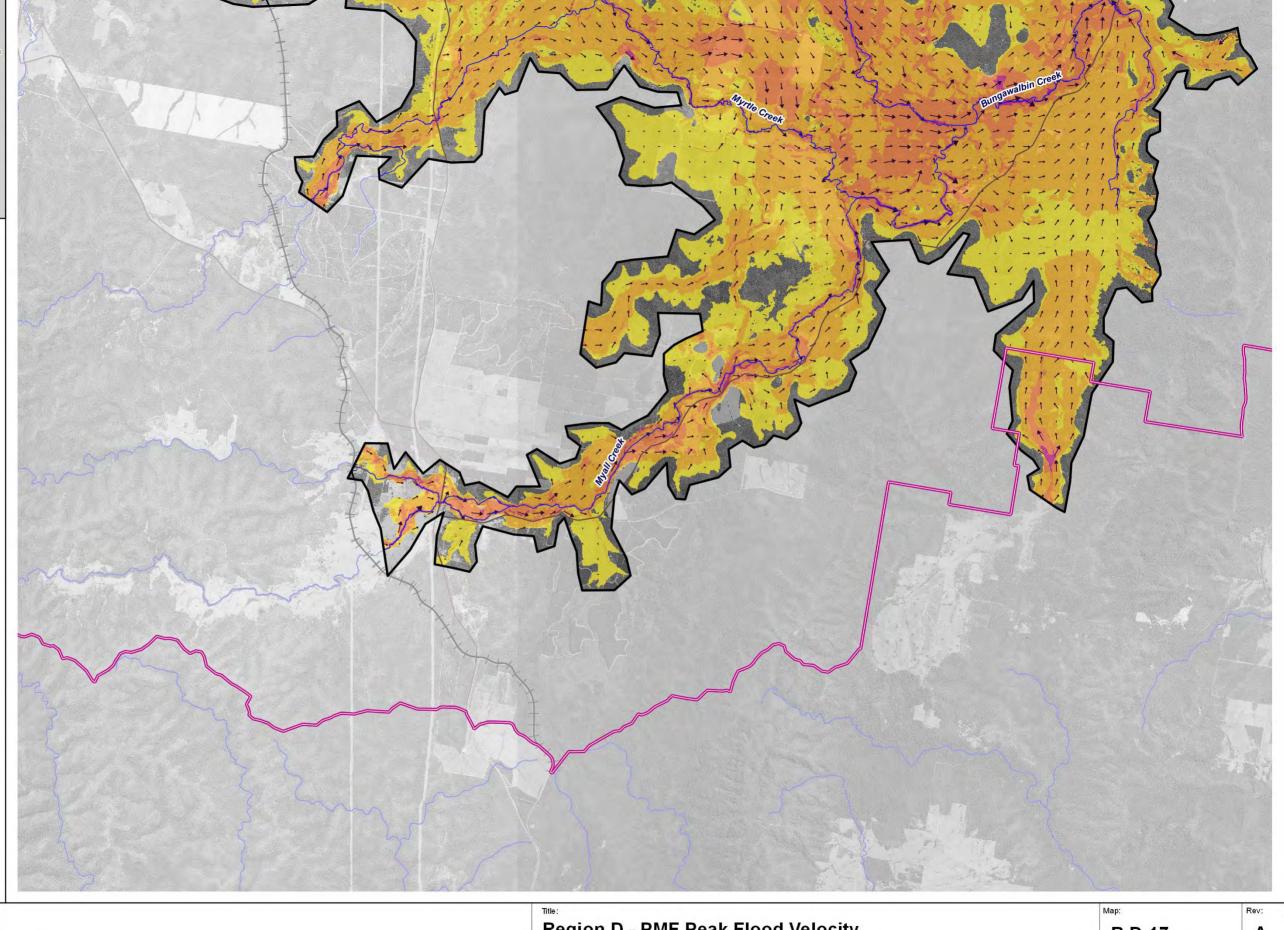
Velocity (m/s)

< 0.2 0.2 to 0.5

0.5 to 1.0 1.0 to 2.0

2.0 to 3.0

> 3.0



Legend LGA Boundaries — Main Roads Model Extent --- Watercourses → Railway

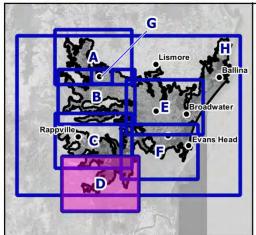
Region D - PMF Peak Flood Velocity

BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

4,000 m 2,000

R.D-17

 $Filepath: \ l:\ A10749.k. br. Richmond_River_Flood_Study\\ \land QGIS\\ Result_Maps\\ Results_230405\\ \land Design_Addendum\\ Results_Design_Sheets_230405. qgz$



<0.1

0.1 - 0.5

0.5 - 1.0

1.0 - 2.0

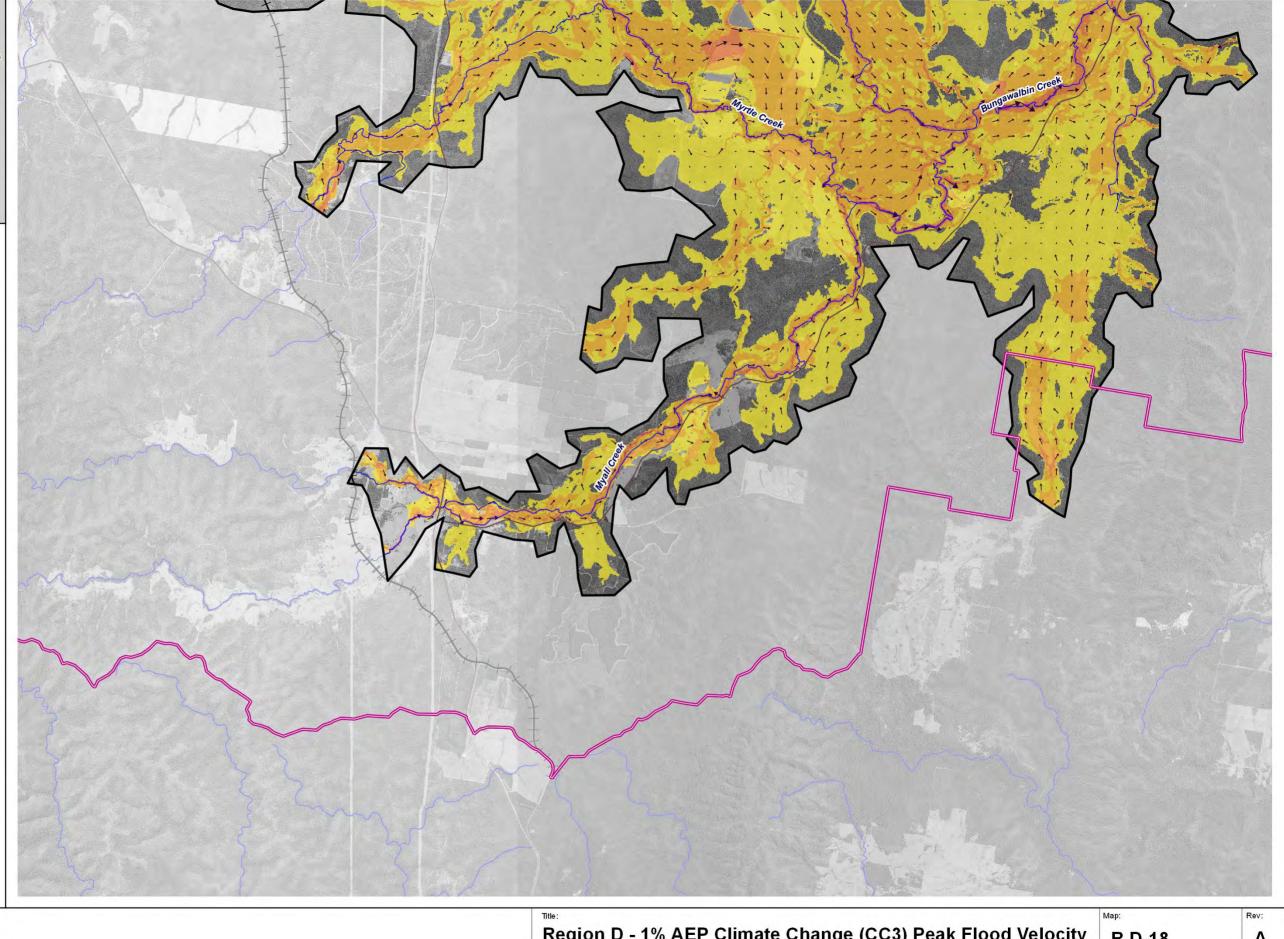
Velocity (m/s)

< 0.2 0.2 to 0.5 0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0



BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

Legend

LGA Boundaries — Main Roads

Model Extent

--- Watercourses

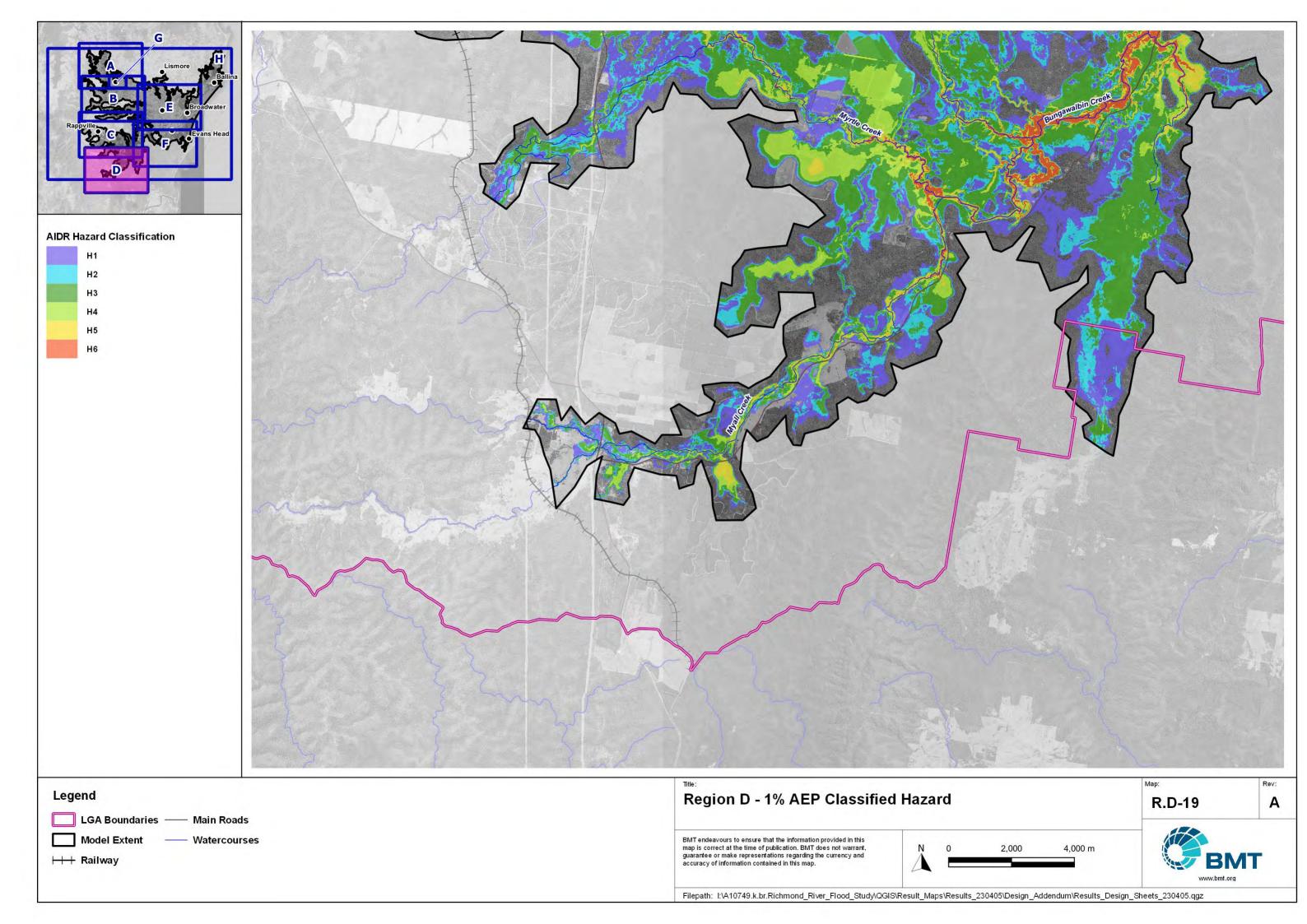
→ Railway

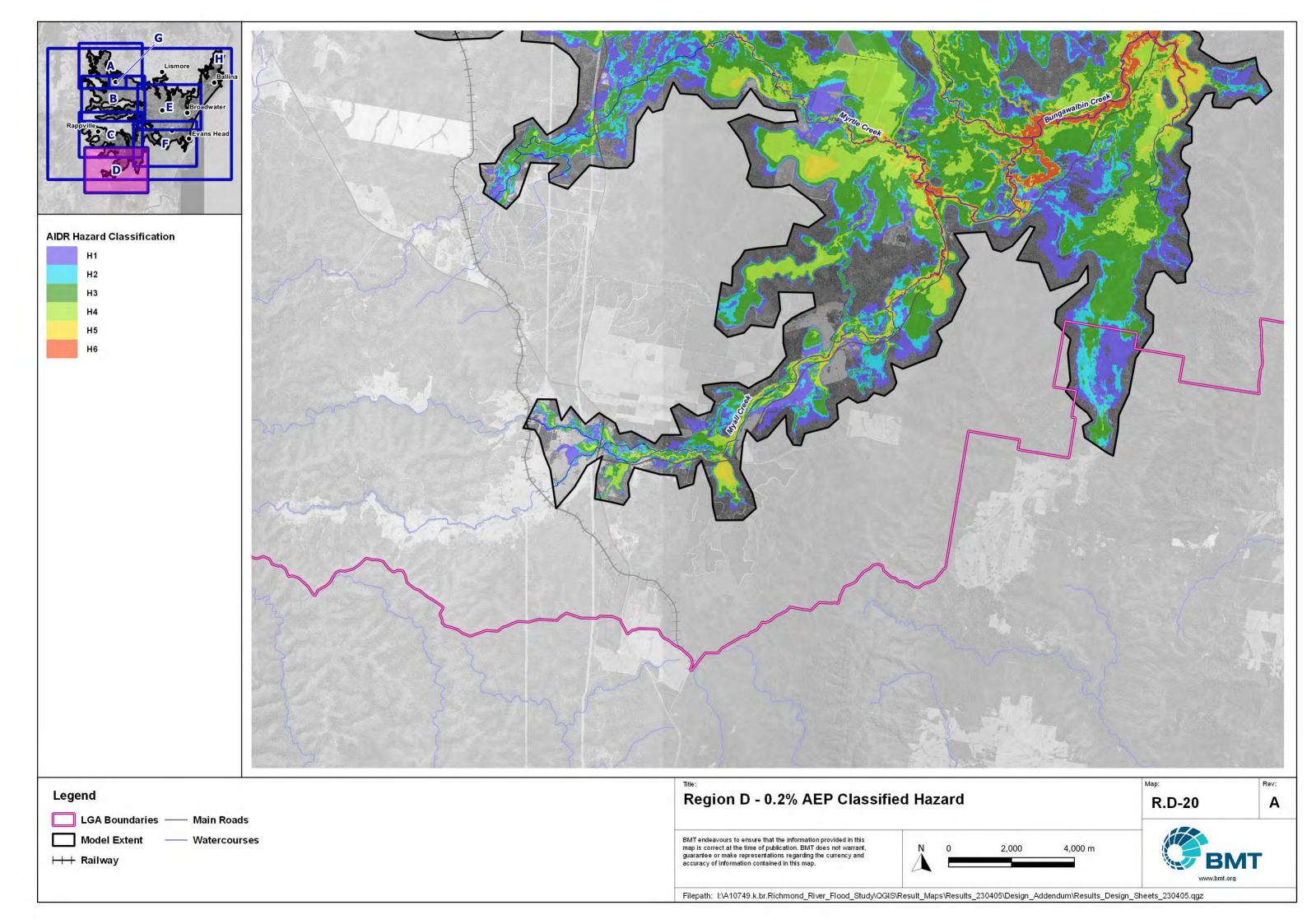


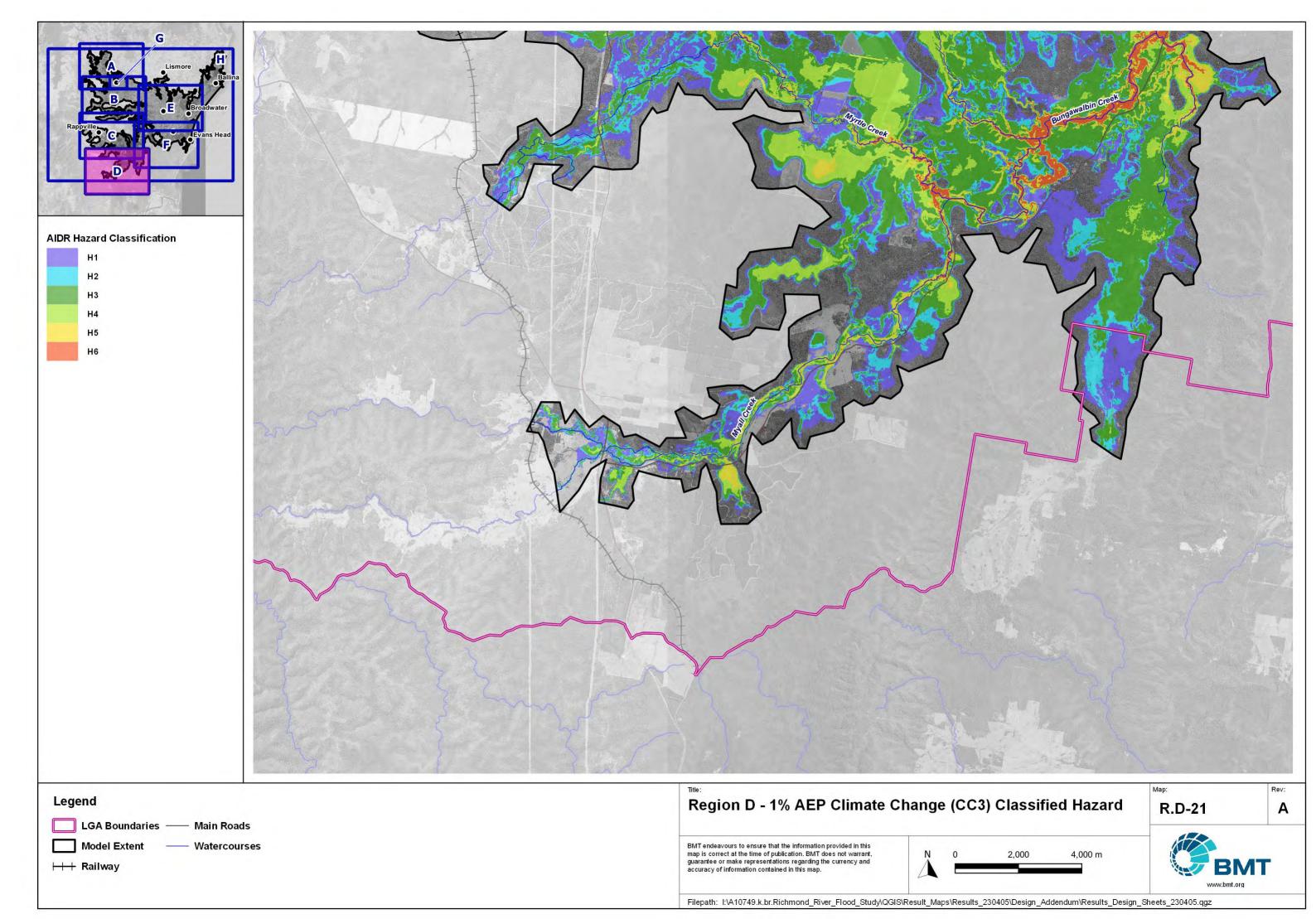
4,000 m 2,000

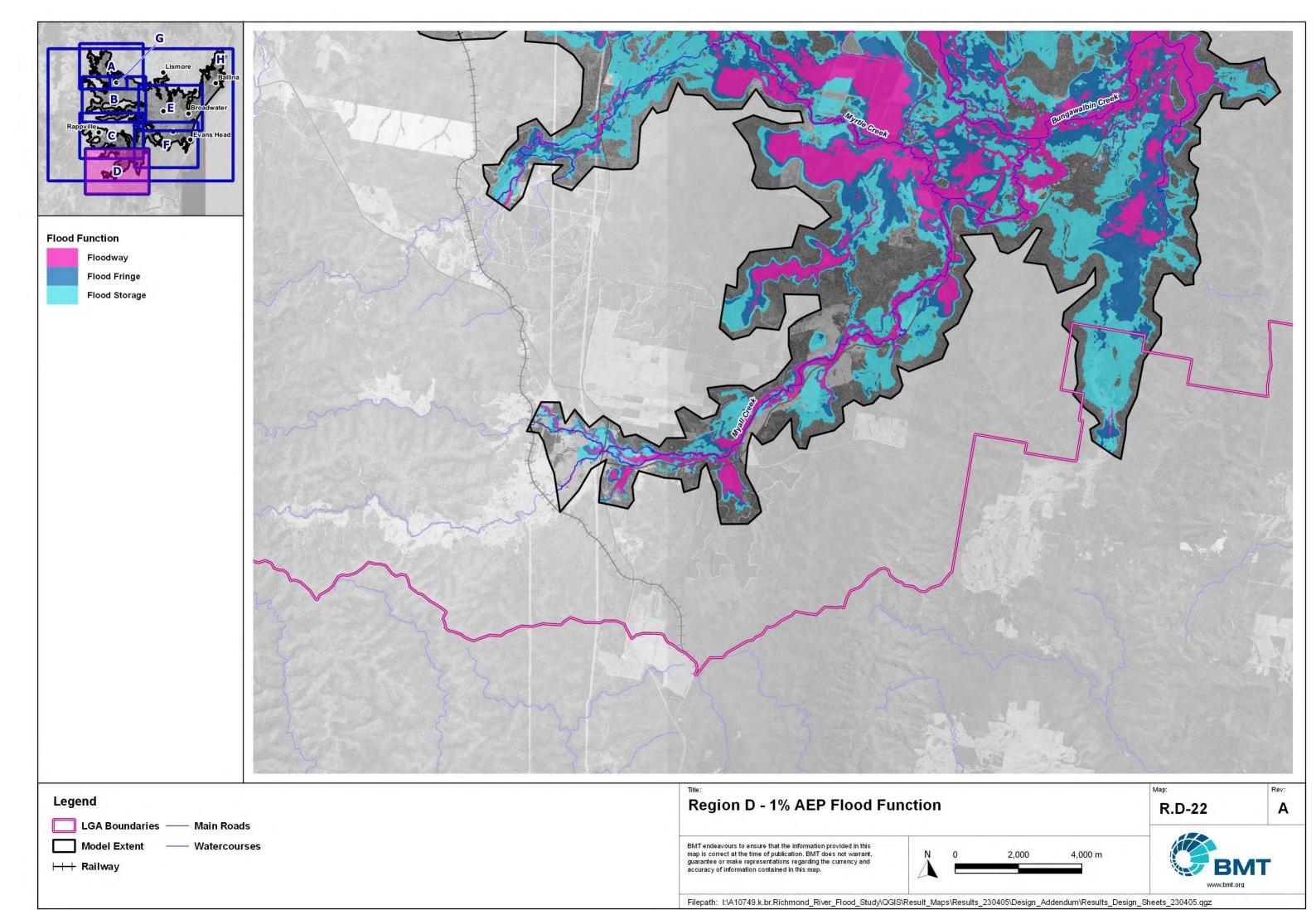
R.D-18

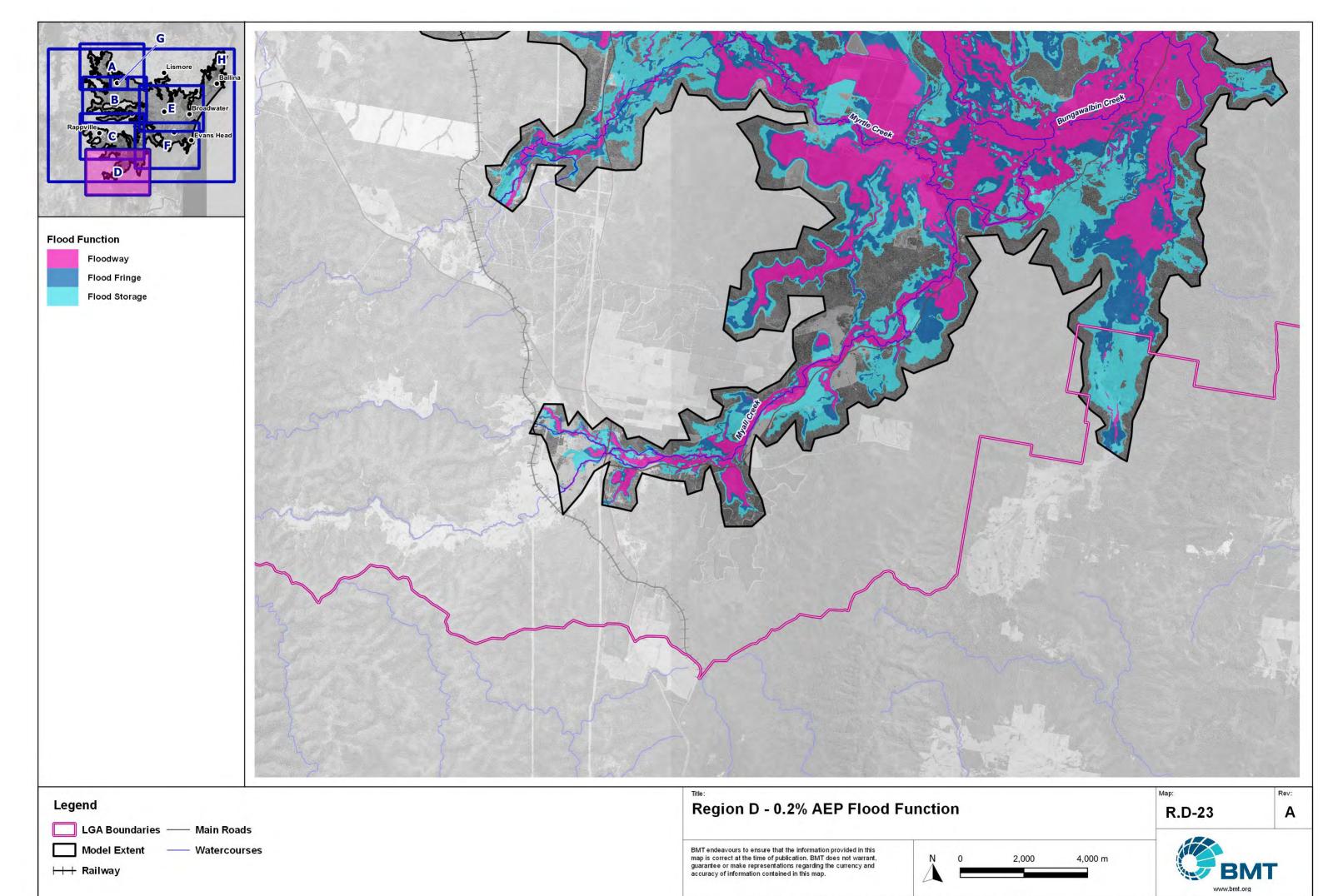


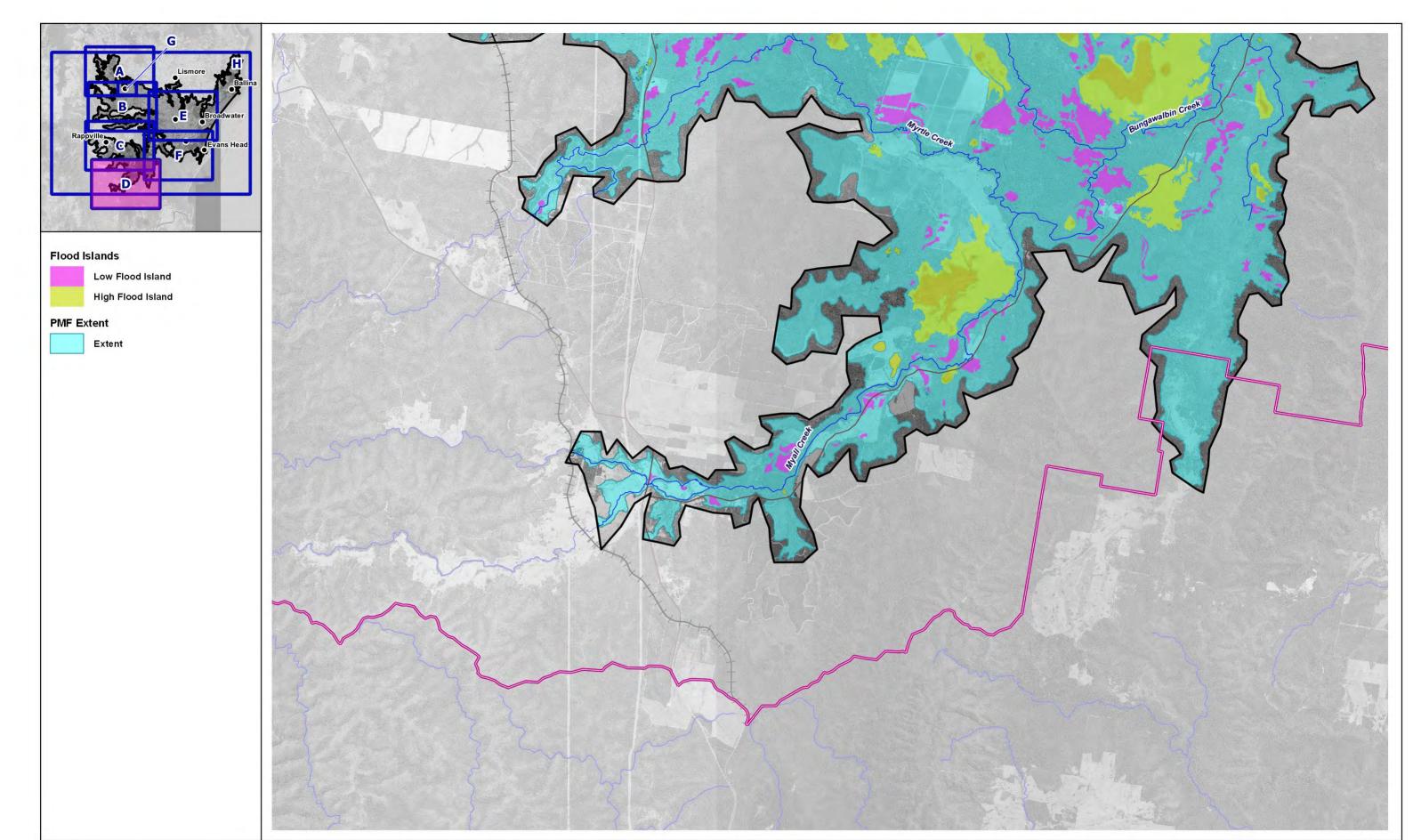




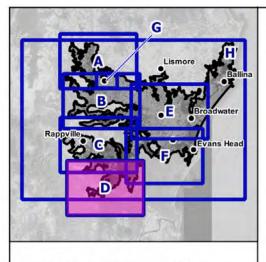












Flood Planning Level (m AHD)

0.1m Interval Contours

10 - 1

15 - 20

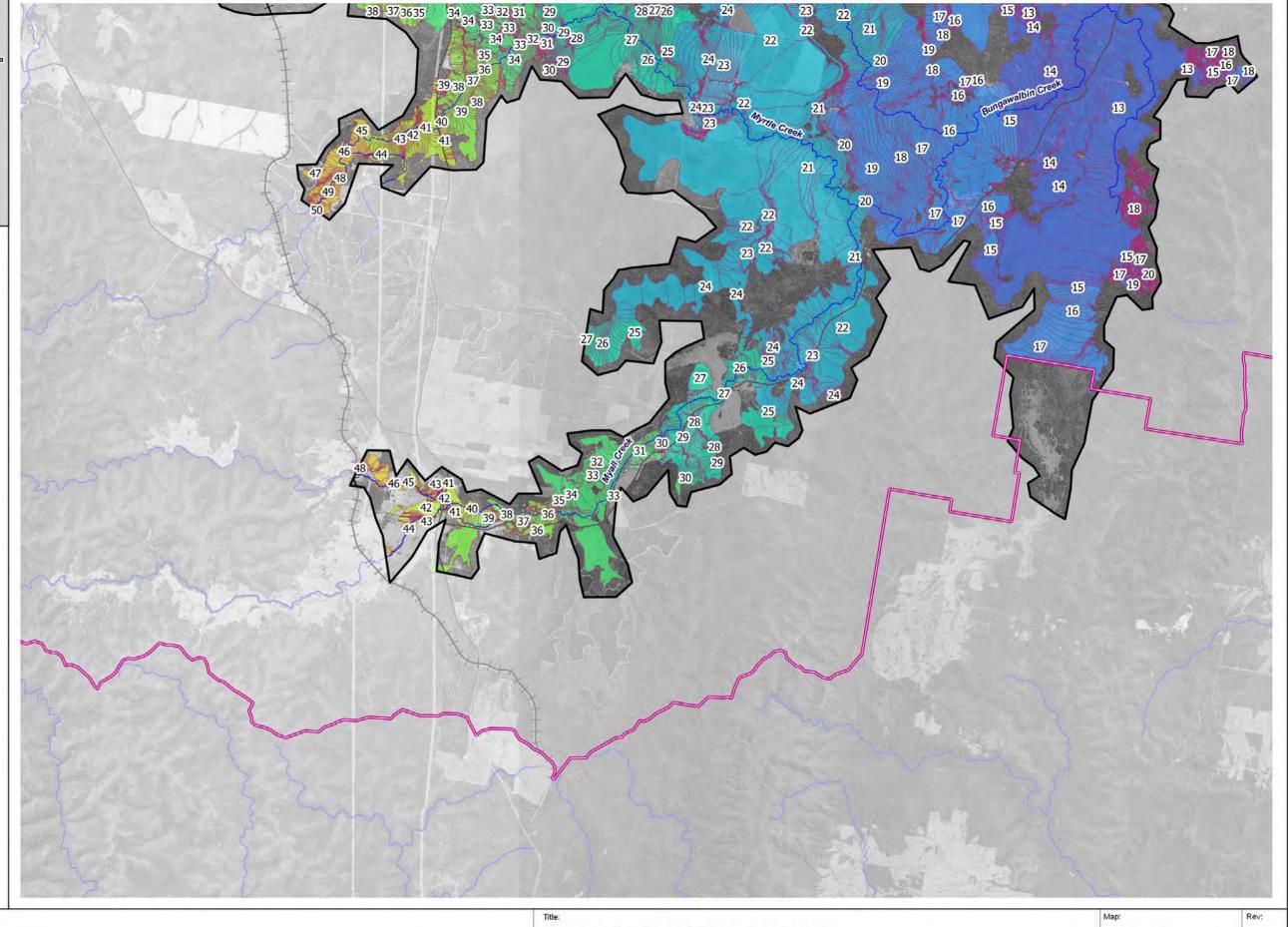
20 - 25 25 - 30

30 - 35

35 - 40

40 - 45 45 - 50

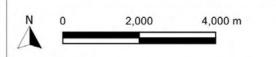
50 - 55





Region D - Flood Planning Levels

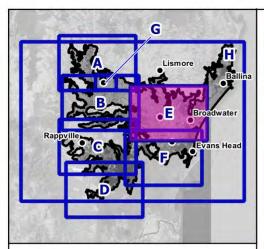
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R.D-25

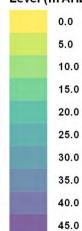
BMT

Α

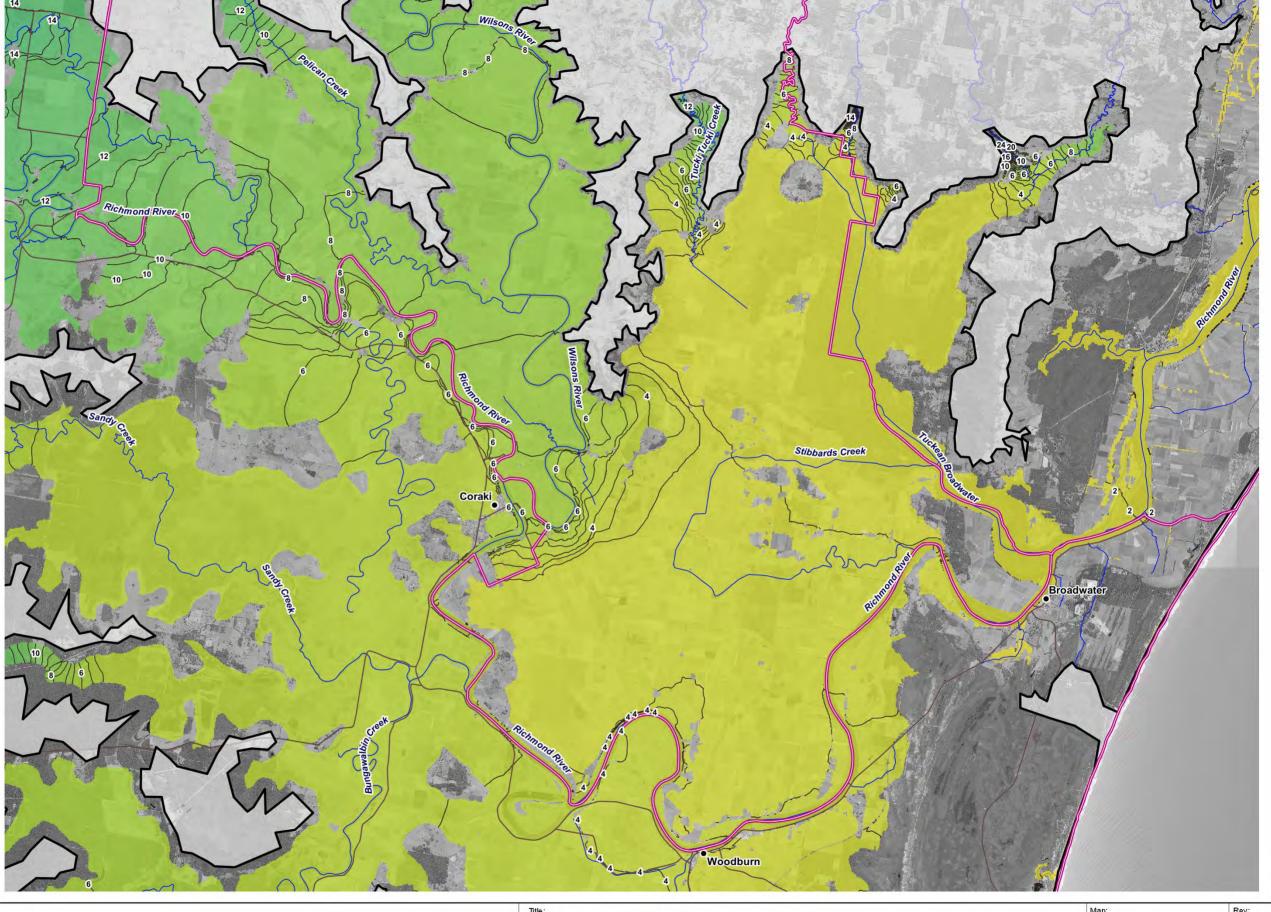


- 5% AEP 0.5m Contours

Level (m AHD)



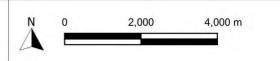
50.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

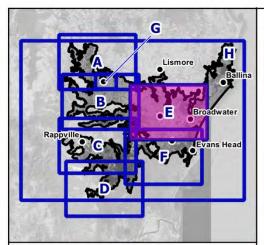
BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

Region E - 5% AEP Peak Flood Level



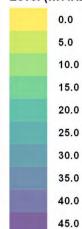
R.E-1



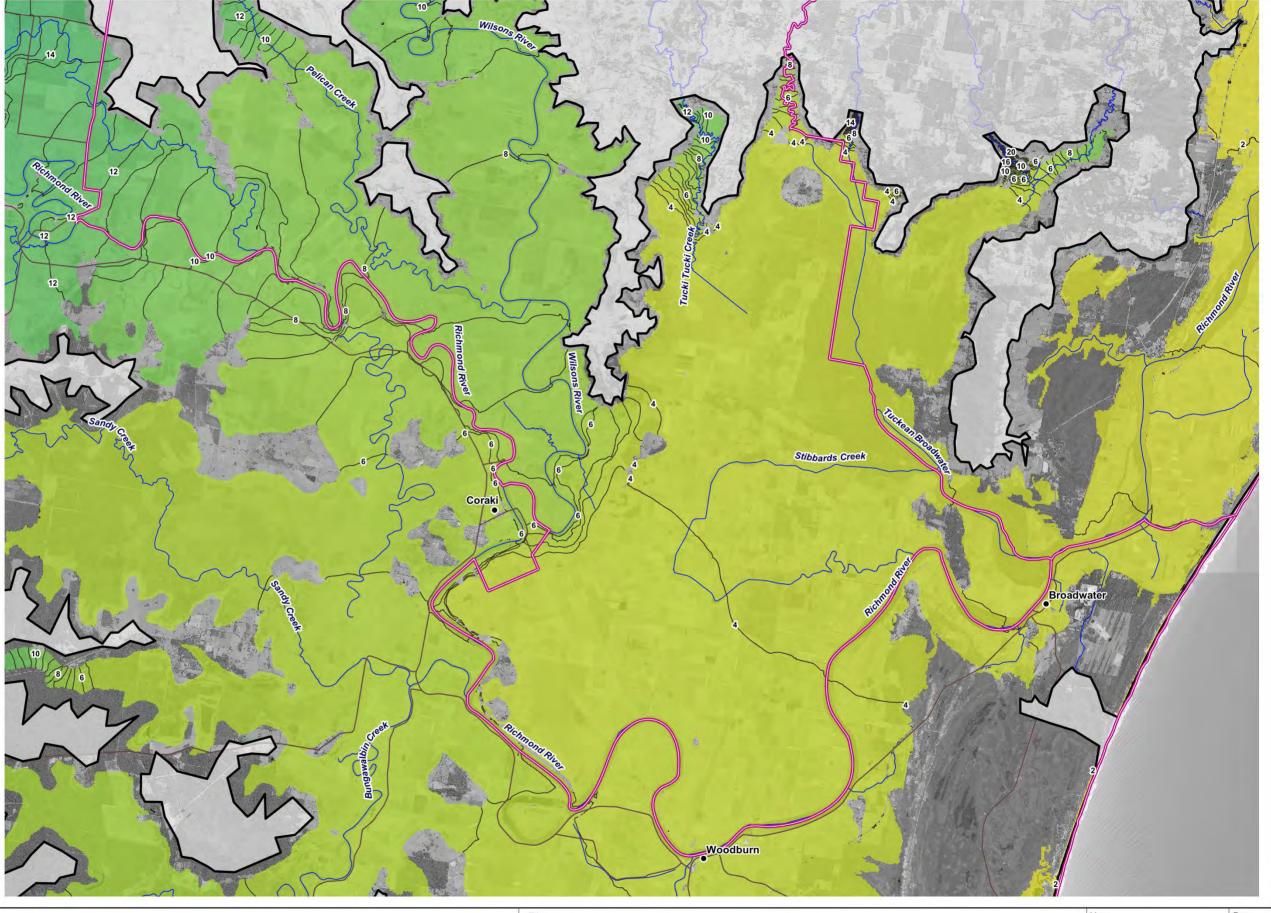


- 2% AEP 0.5m Contours

Level (m AHD)



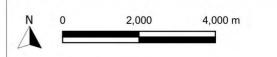
50.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

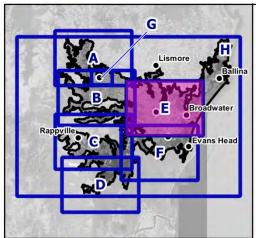
Region E - 2% AEP Peak Flood Level

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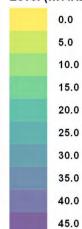
R.E-2



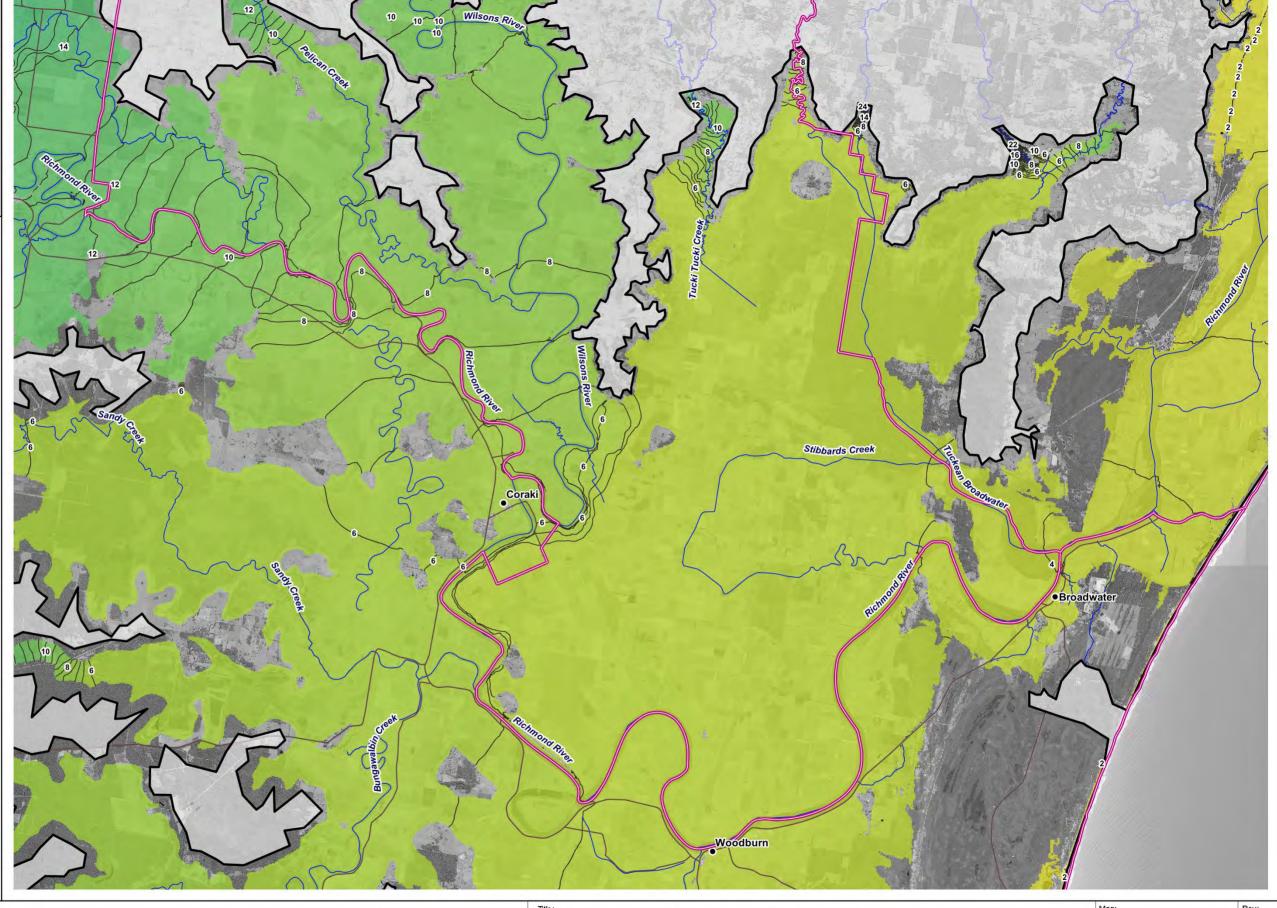


- 1% AEP 0.5m Contours

Level (m AHD)



50.0

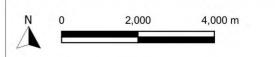




Region E - 1% AEP Peak Flood Level

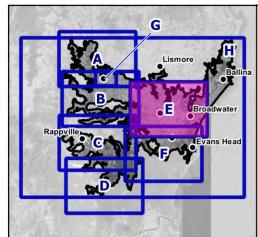
Region E - 1% AEP Peak Flood Leve

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R.E-3

BMT

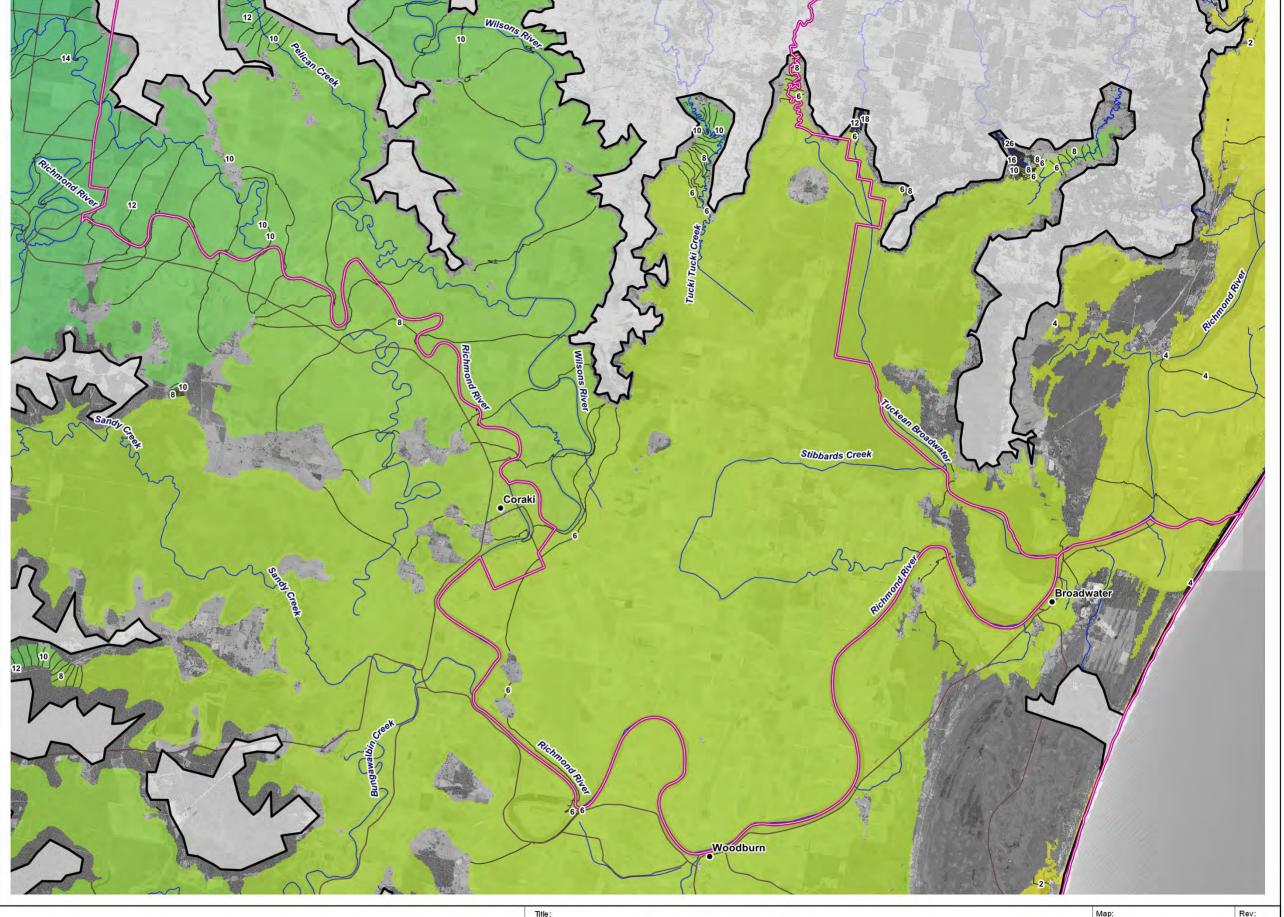


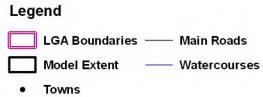
- 0.2% AEP 0.5m Contours

Level (m AHD)



50.0



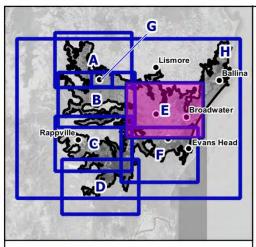


Region E - 0.2% AEP Peak Flood Level

N 0 2,000 4,000 m

R.E-4 A

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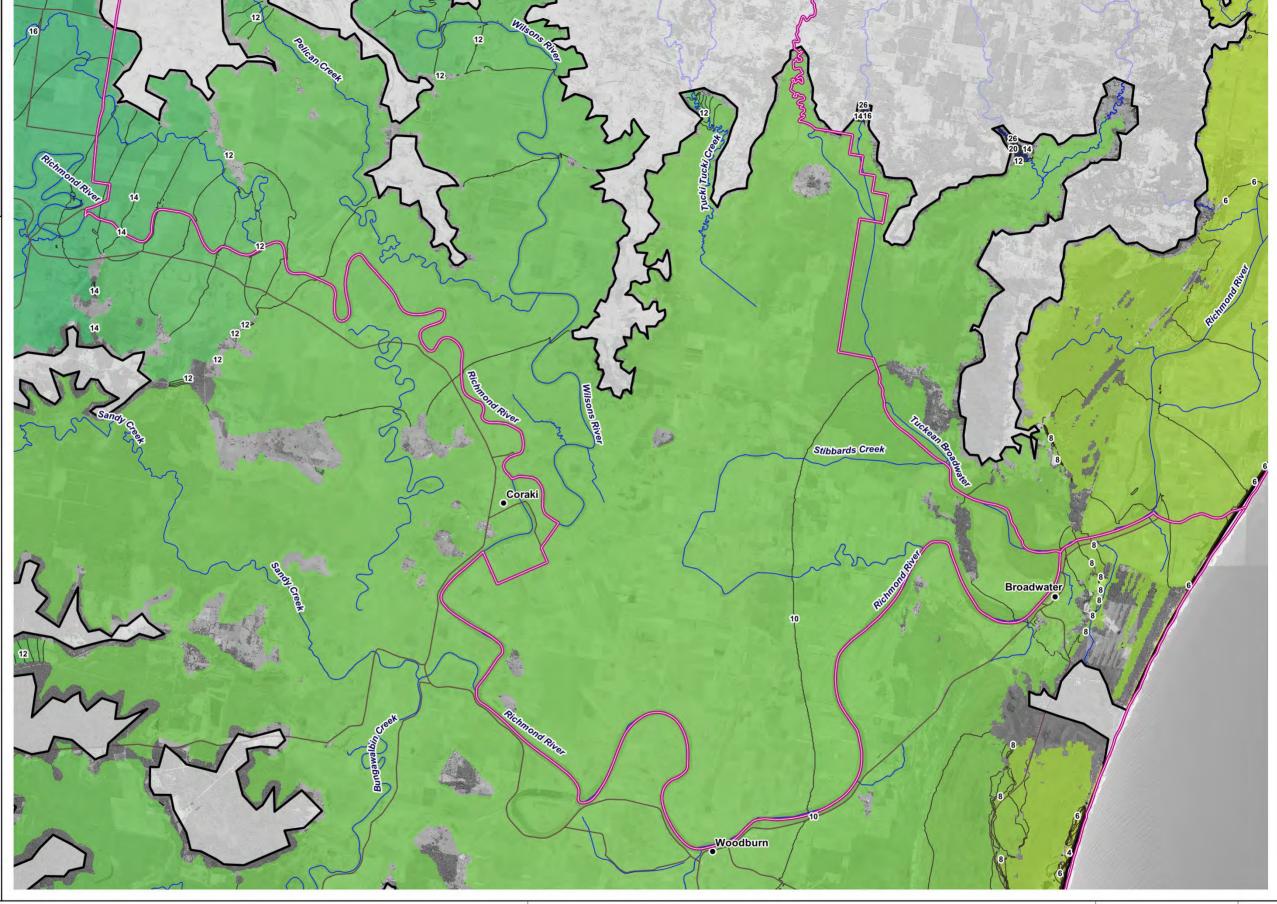


PMF 0.5m Contours

Level (m AHD)



45.0 50.0



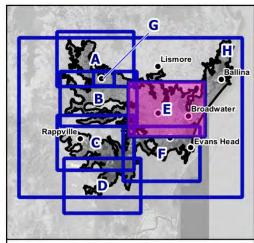
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

Region E - PMF Peak Flood Level

N 0 2,000 4,000 m

R.E-5 A

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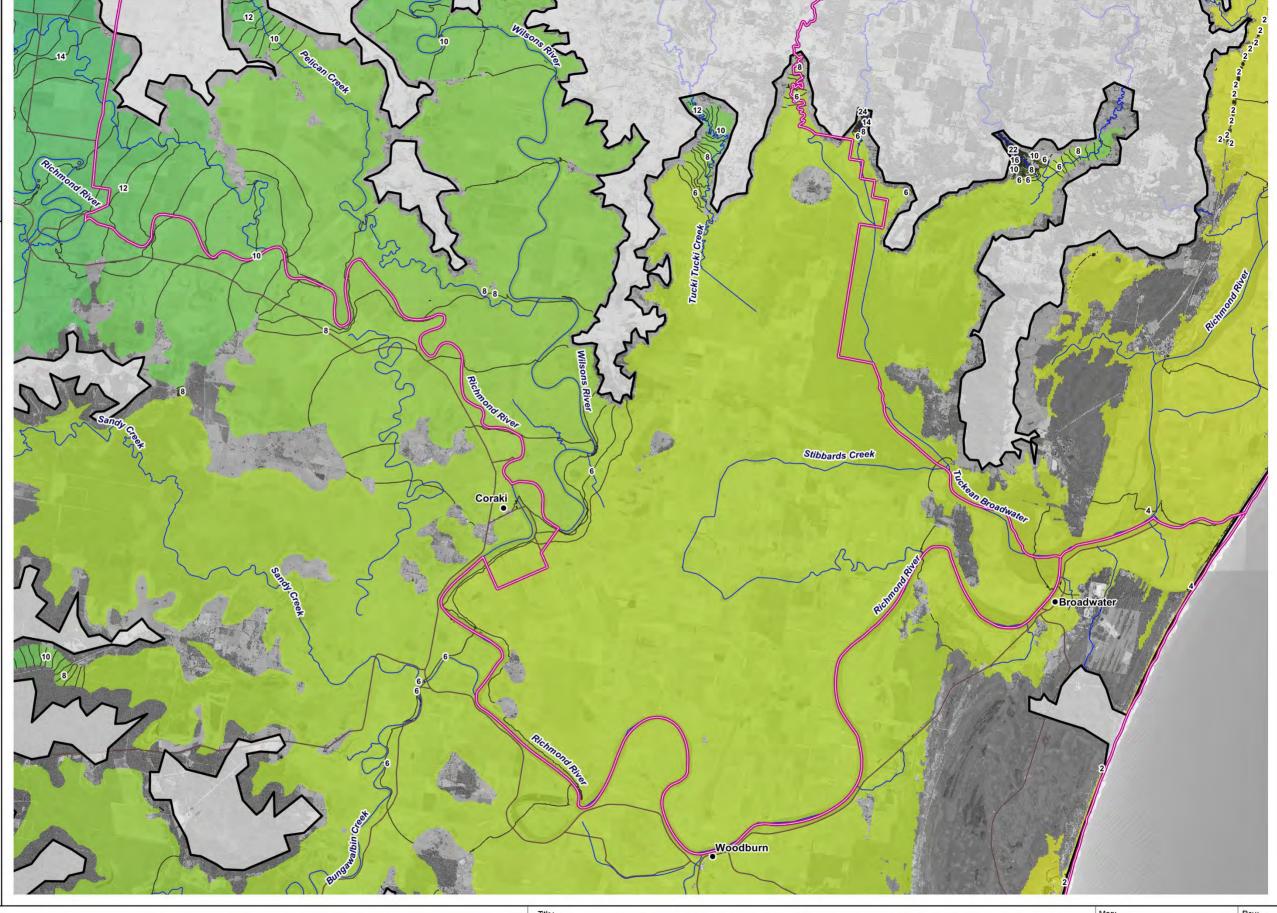


1% AEP CC3 0.5m Contours

Level (m AHD)



50.0



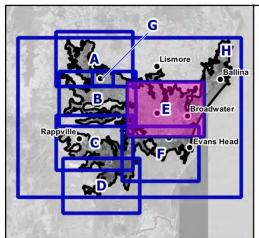
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

Region E - 1% AEP Climate Change (CC3) Peak Flood Level

N 0 2,000 4,000 m

R.E-6 A

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< 0.25

0.25 to 0.5

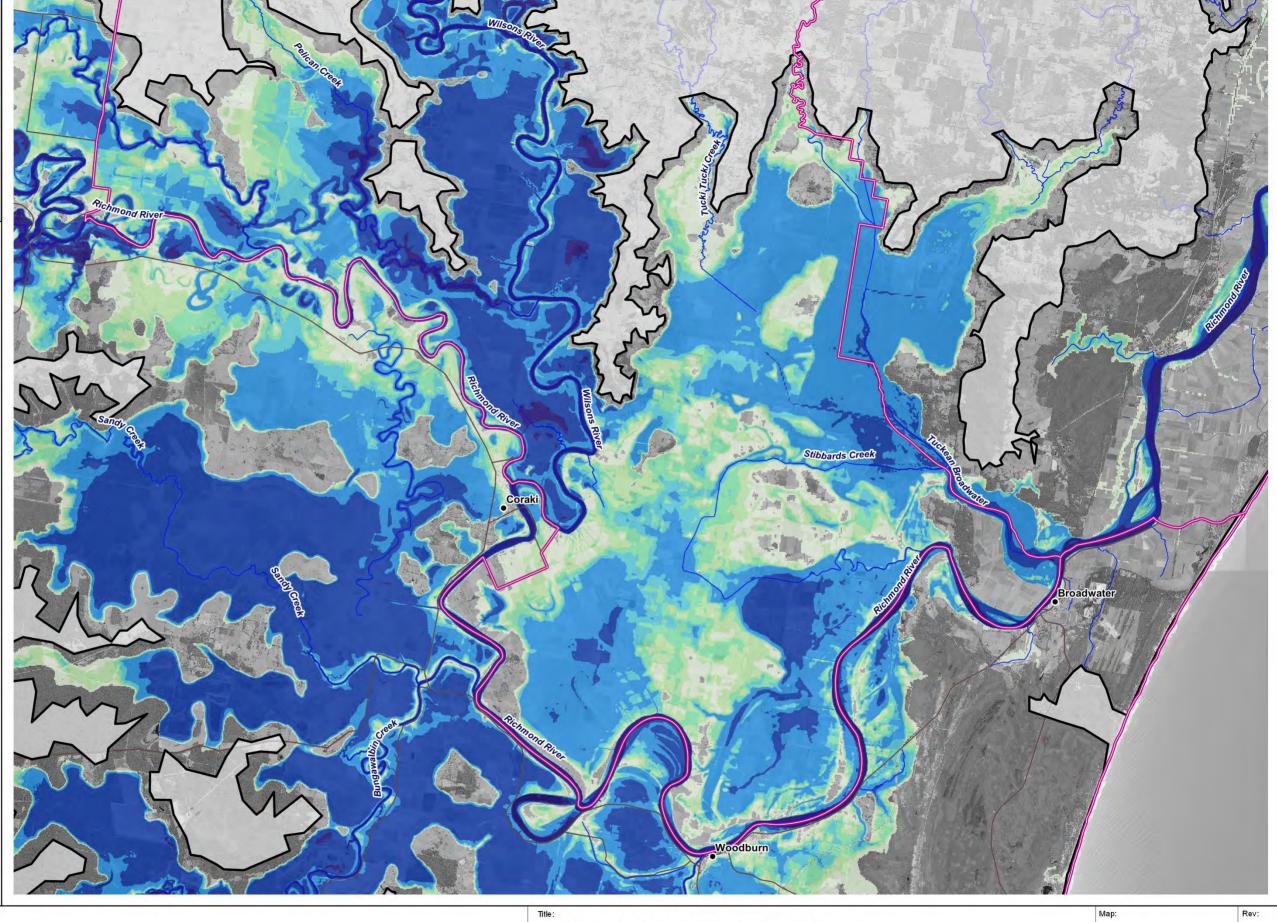
0.5 to 0.75

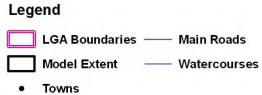
0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

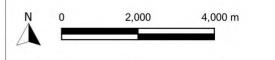
>4





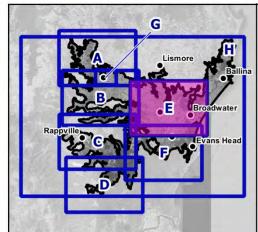


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R.E-7

BMT



< 0.25

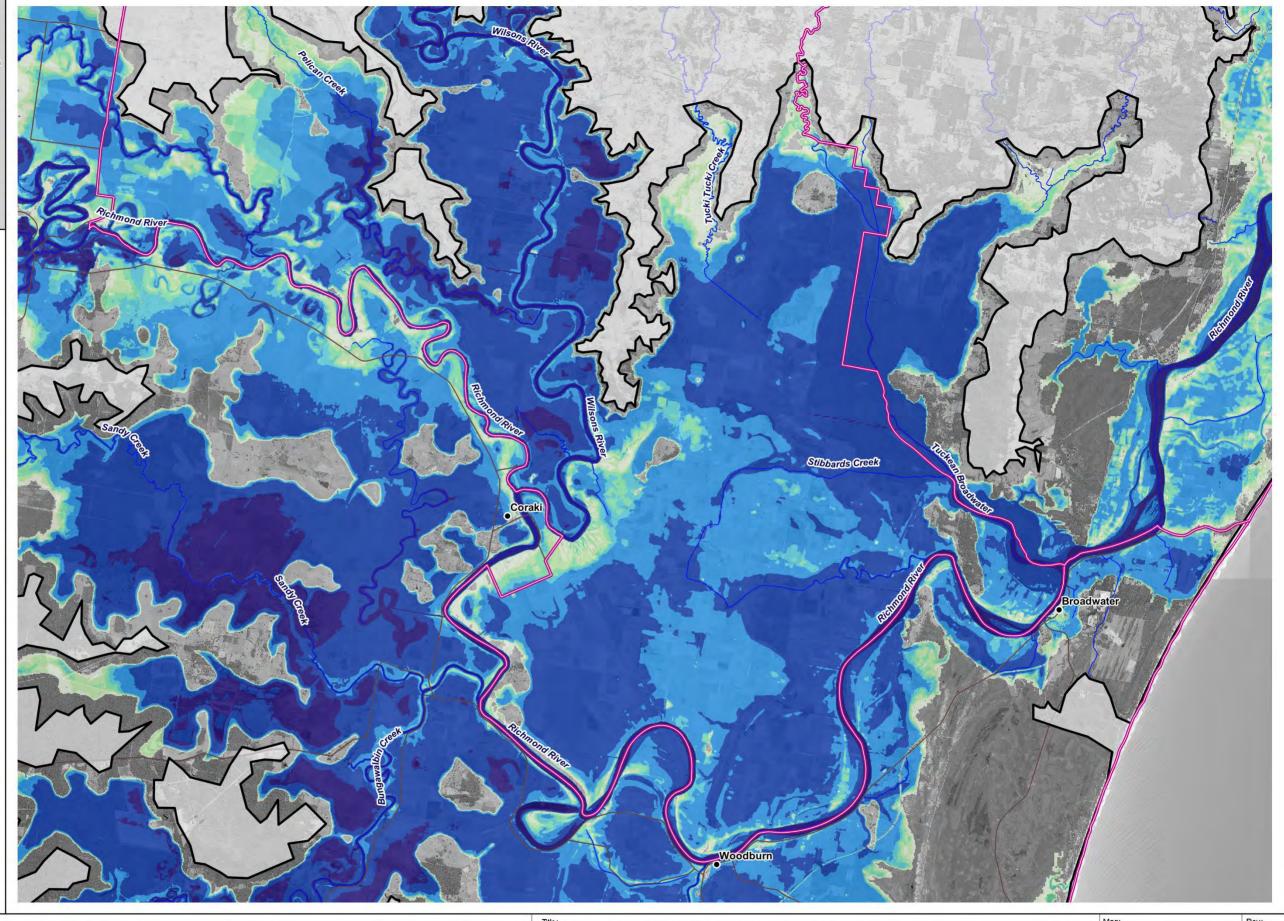
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

1.0 to 2.0

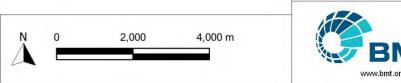




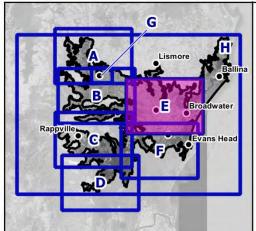
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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Region E - 2% AEP Peak Flood Depth



R.E-8



<0.25

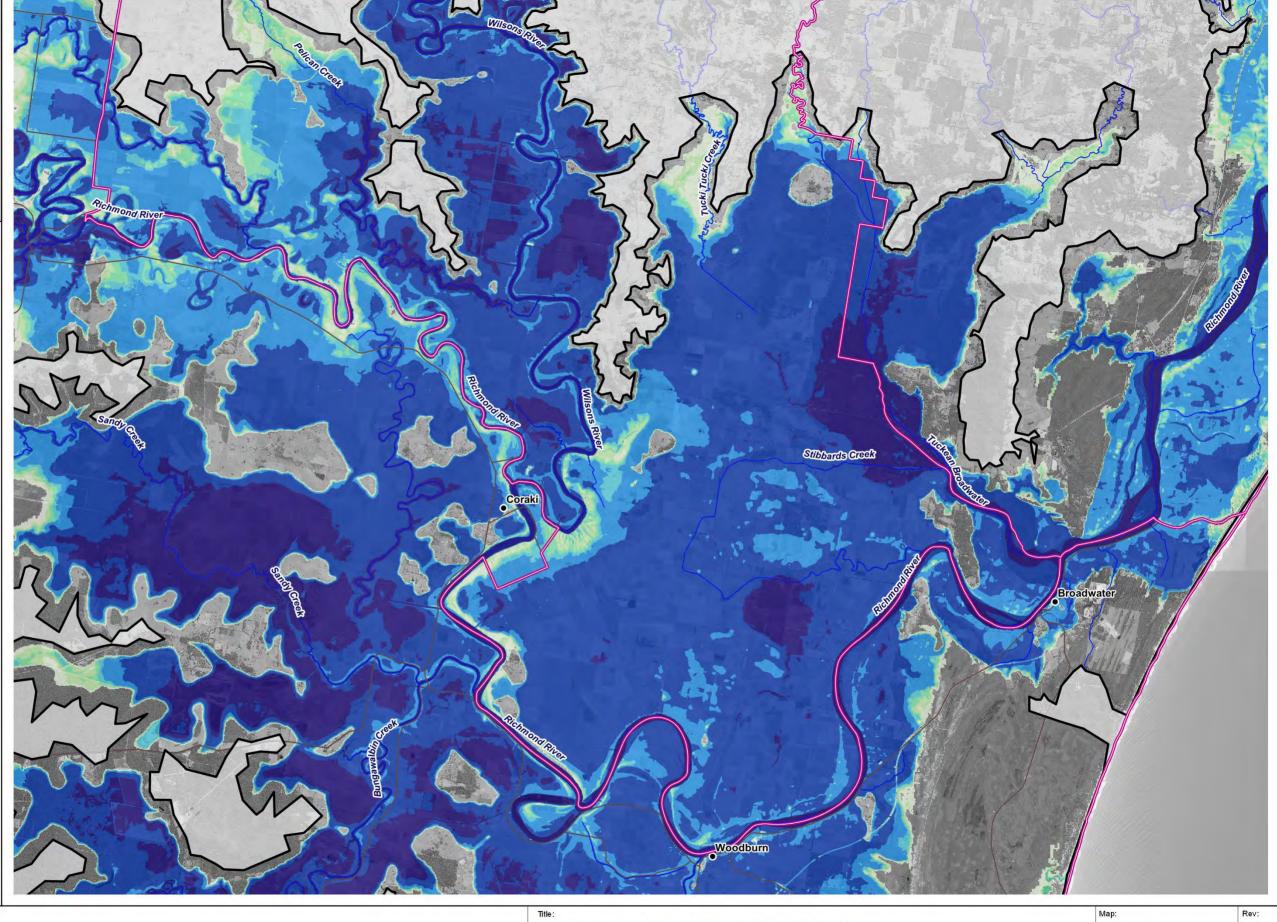
0.25 to 0.5

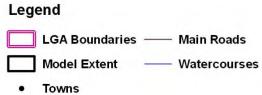
0.5 to 0.75

0.75 to 1.0

1.0 to 2.0 2.0 to 4.0

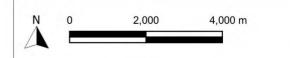
>4





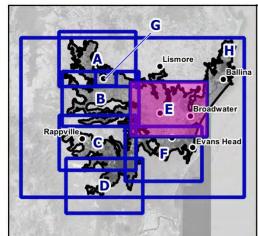


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R.E-9





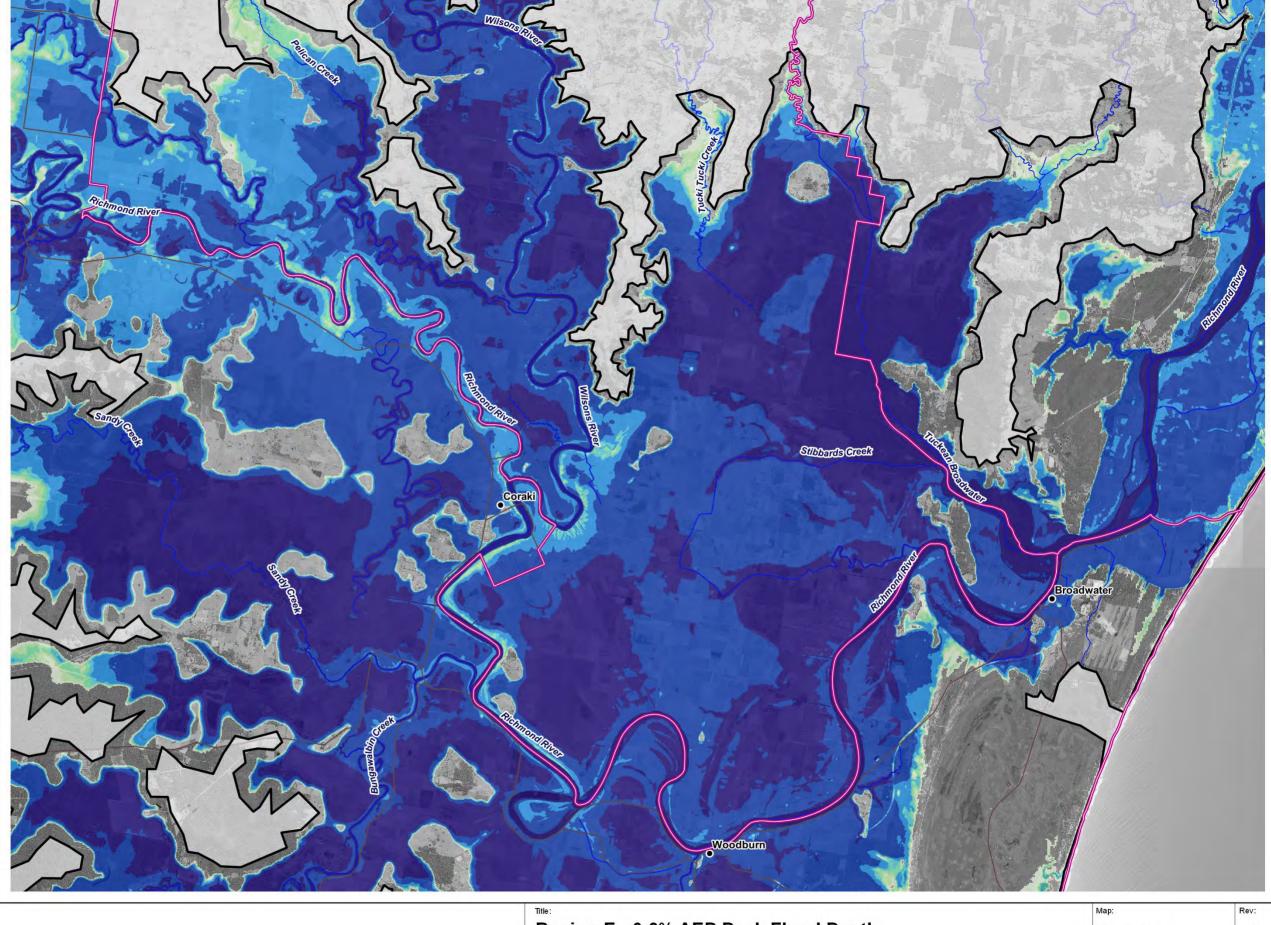
< 0.25

0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

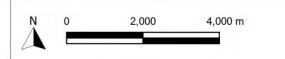
2.0 to 4.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

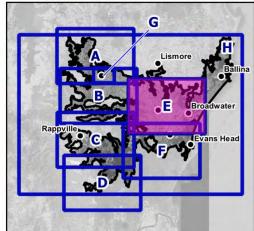
Region E - 0.2% AEP Peak Flood Depth

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R.E-10





< 0.25

0.25 to 0.5

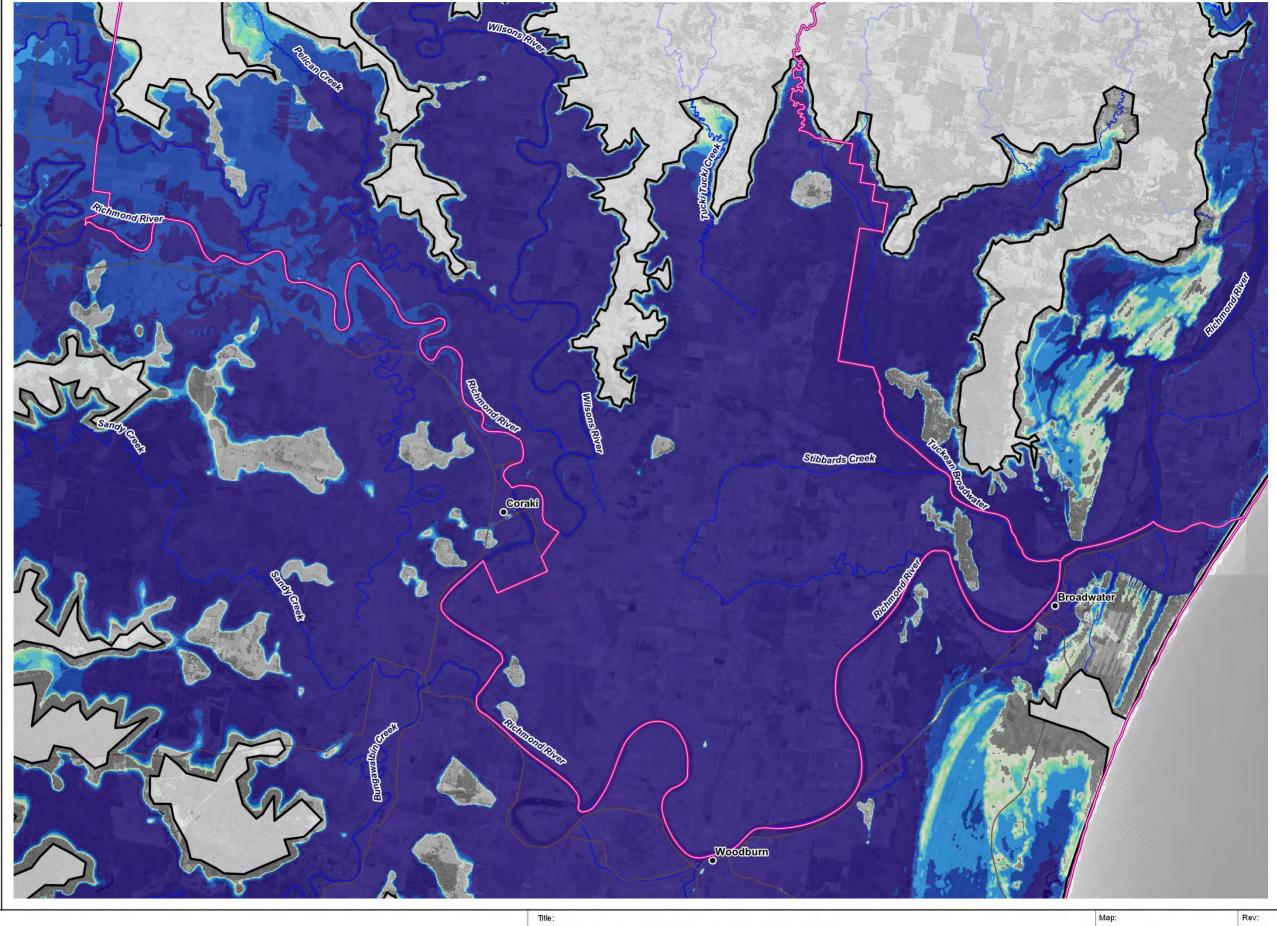
0.5 to 0.75

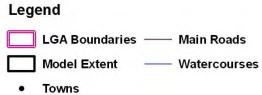
0.75 to 1.0

1.0 to 2.0

2.0 to 4.0

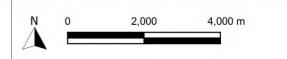
>4





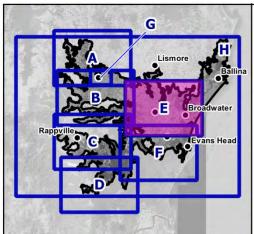


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R.E-11

BMT



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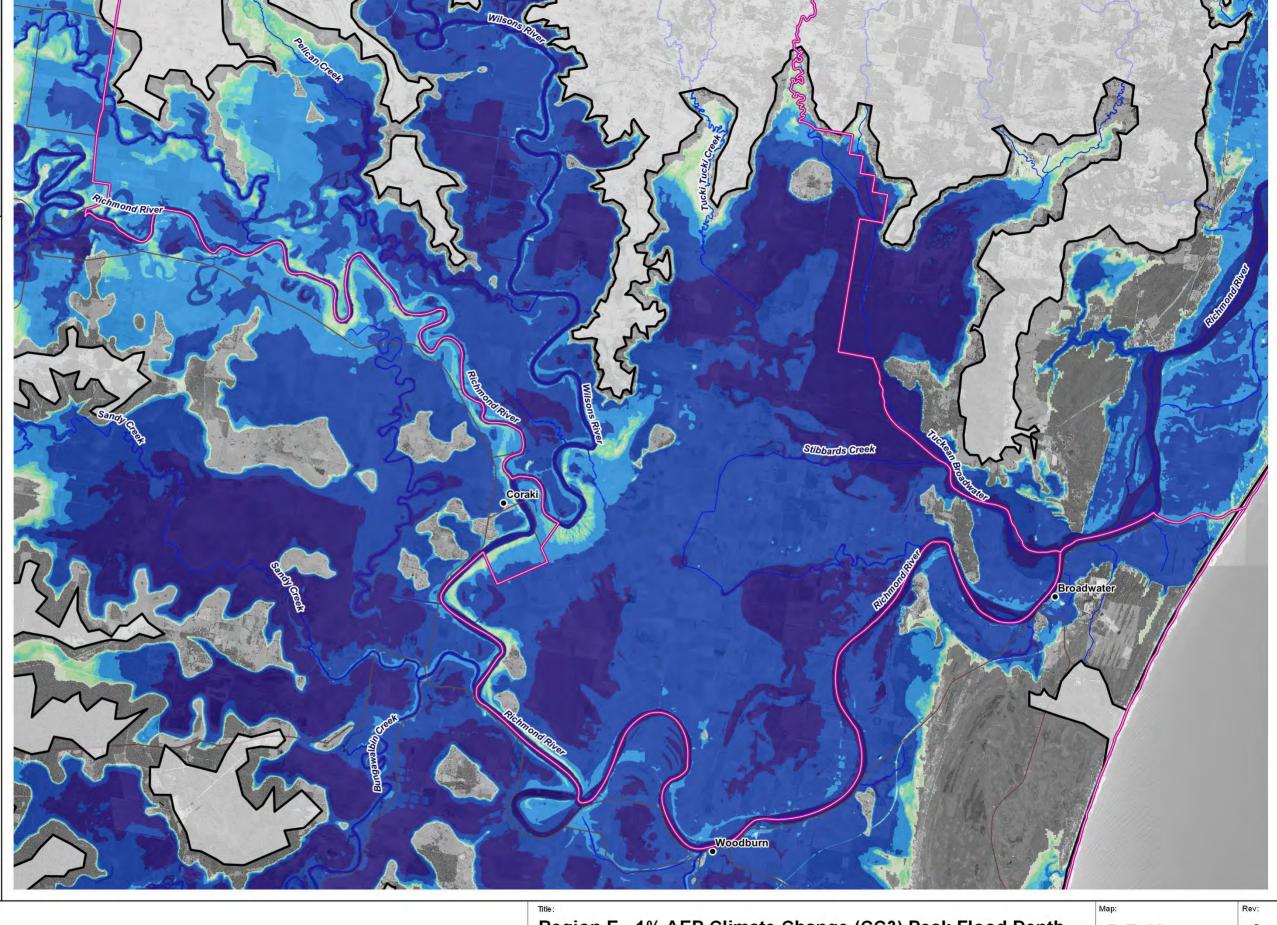
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

1.0 to 2.0

2.0 to 4.0



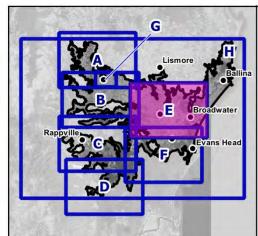
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

Region E - 1% AEP Climate Change (CC3) Peak Flood Depth

N 0 2,000 4,000 m

R.E-12 A

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<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.0

Velocity (m/s)

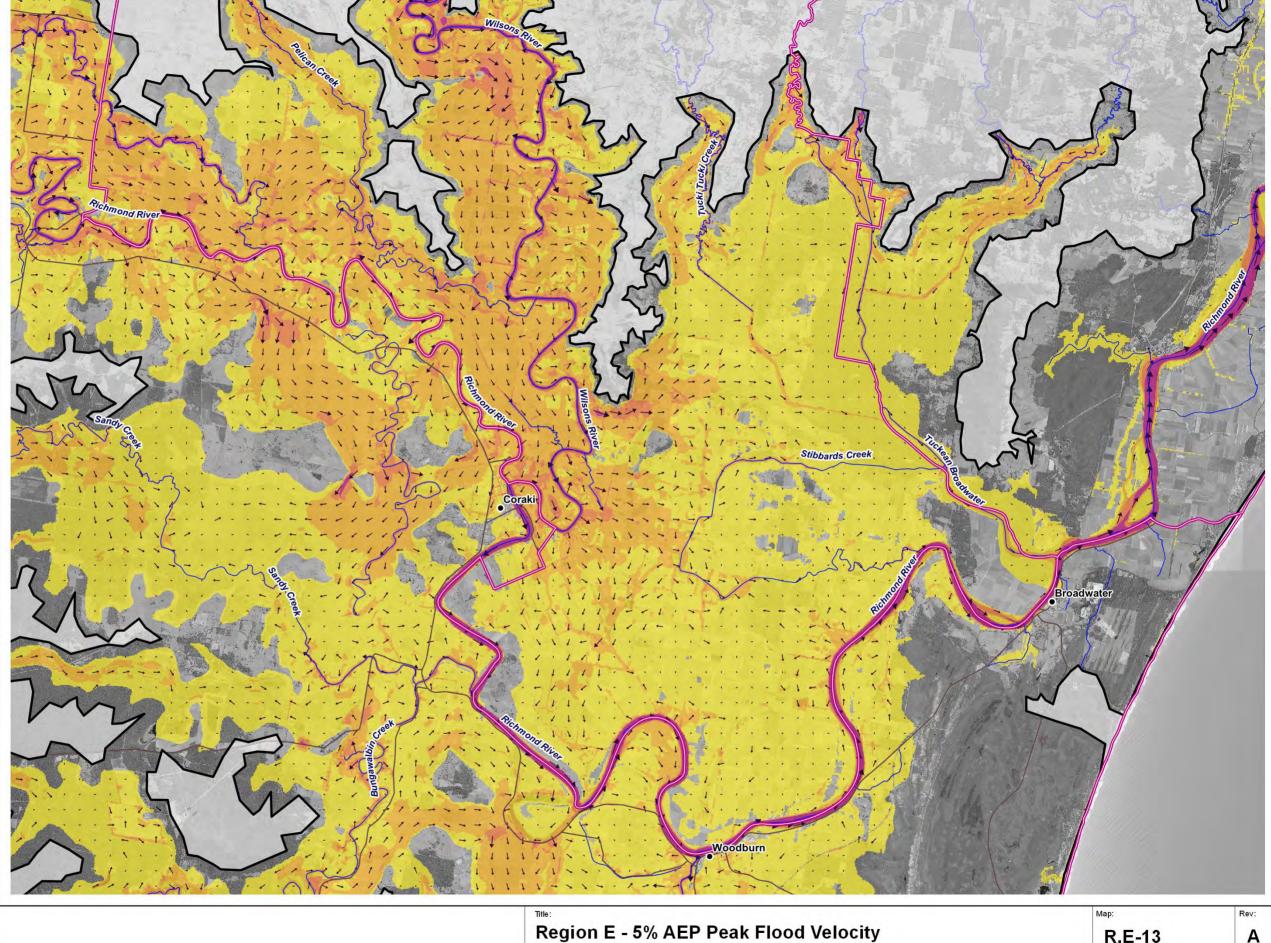
< 0.2 0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

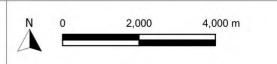
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses

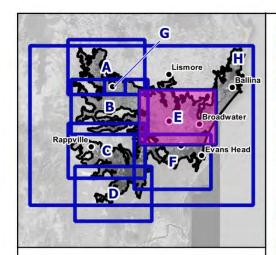
Towns

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R.E-13





<0.1

→ 0.1 - 0

→ 0.5 - 1.0

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

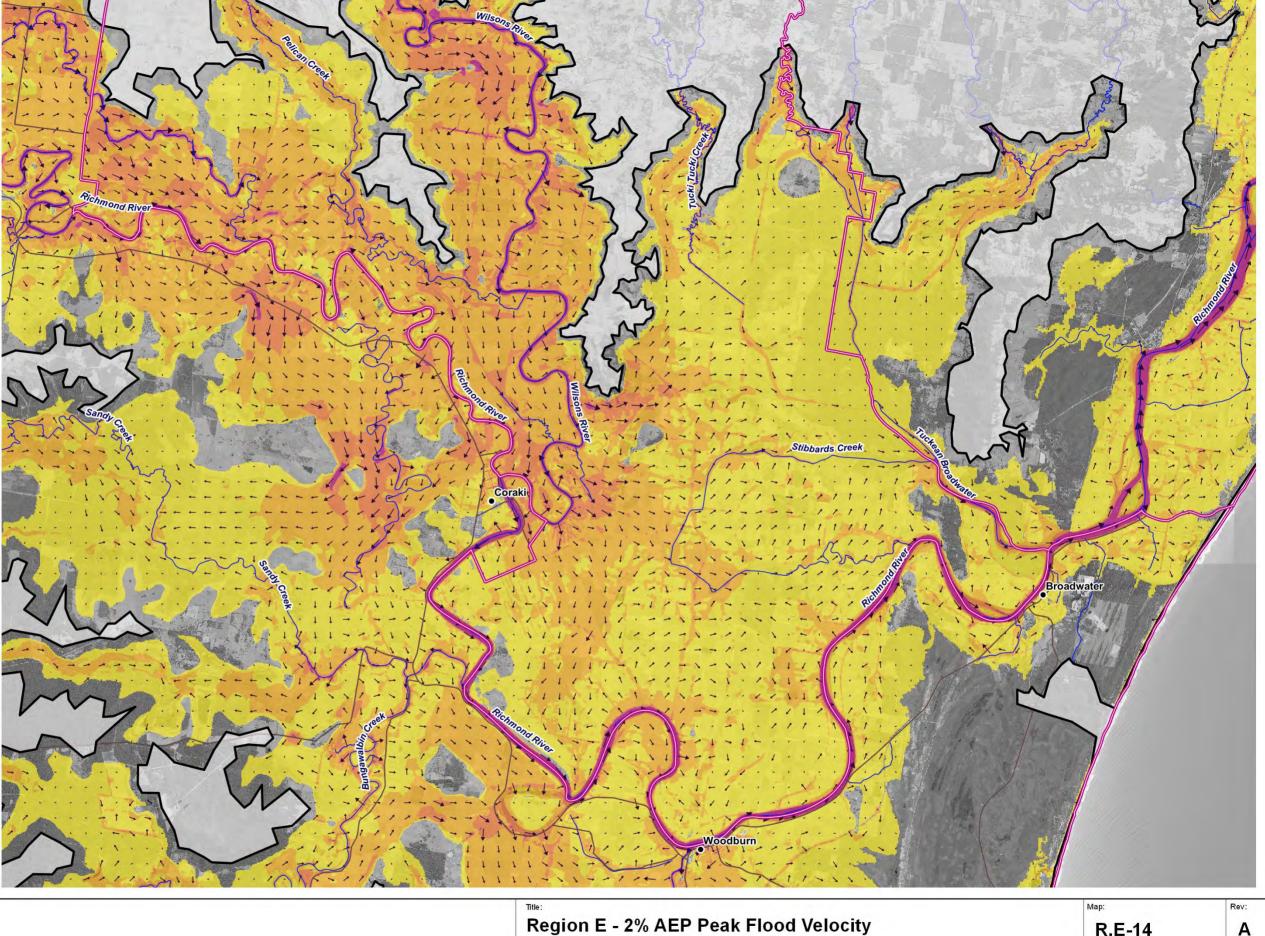
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

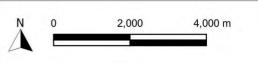
2.0 to 3.0

> 3.0

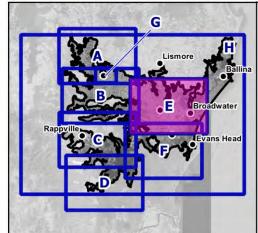


Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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R.E-14



<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

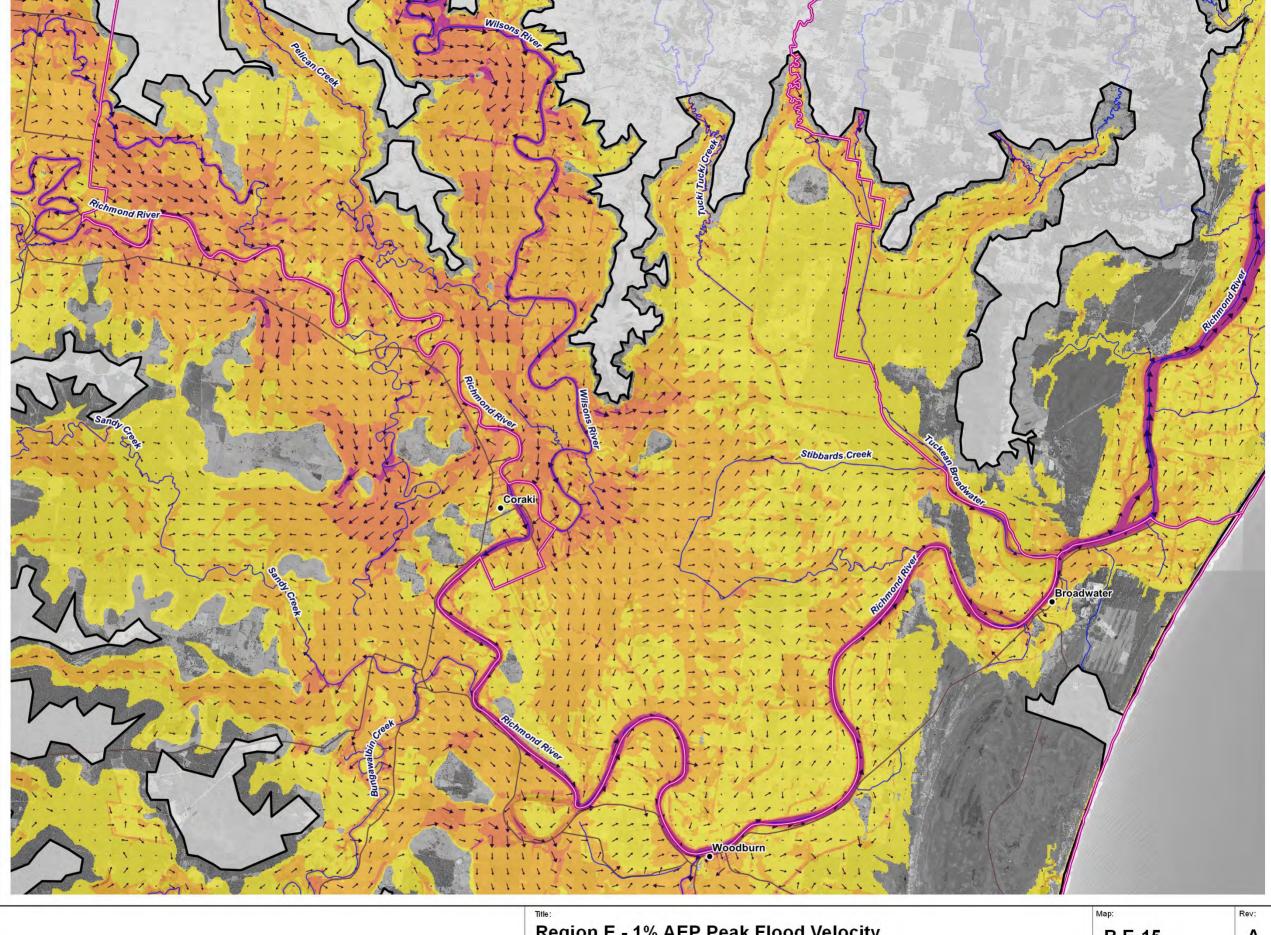
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

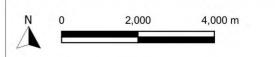
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

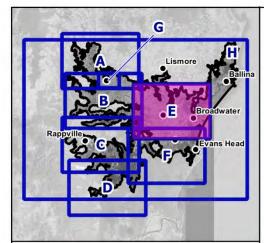
Region E - 1% AEP Peak Flood Velocity

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R.E-15

BMT



<0.1

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

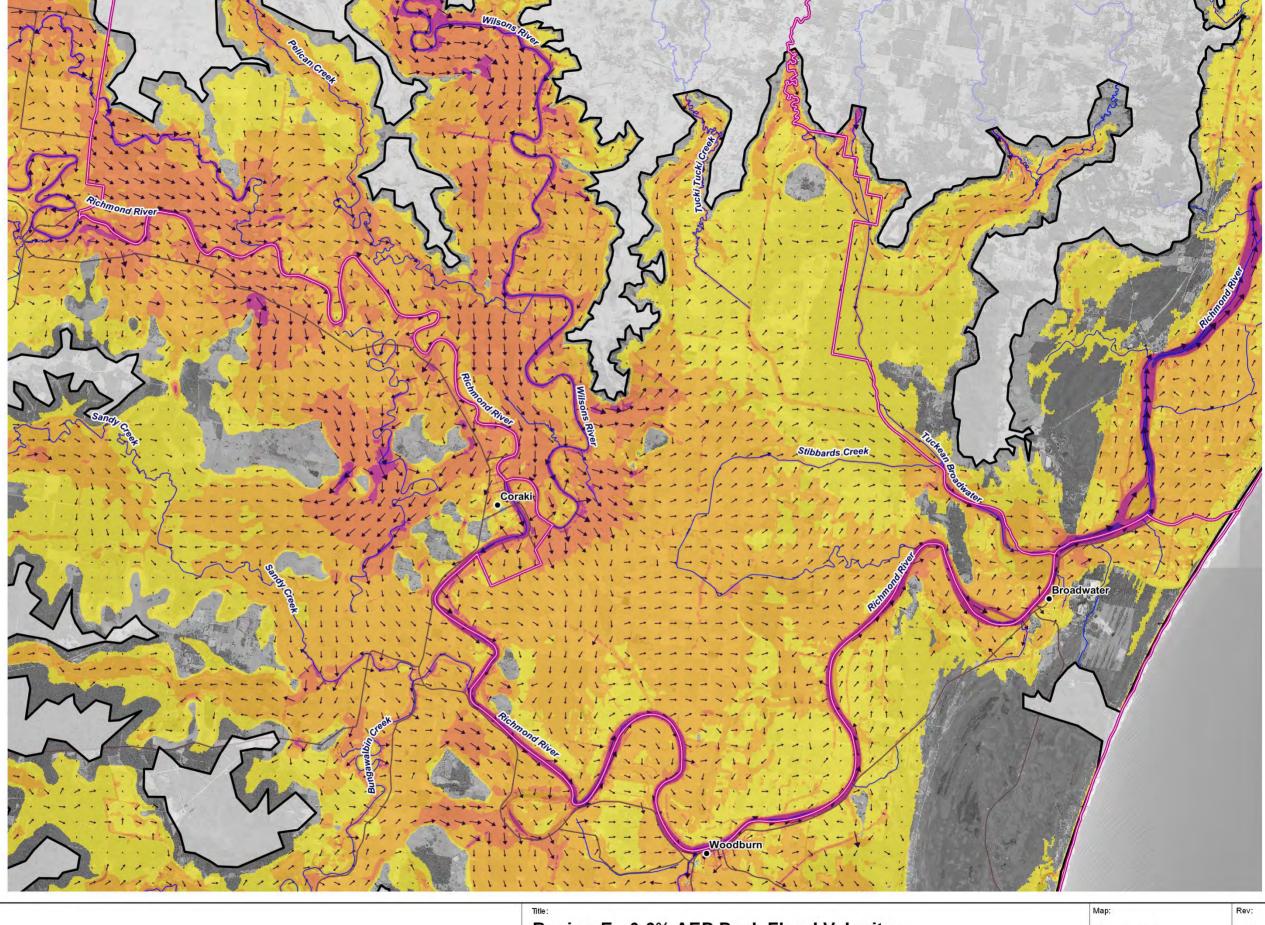
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0

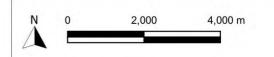




Watercourses

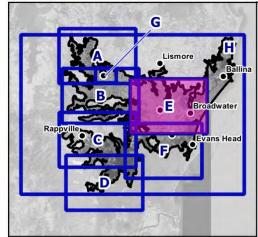
Region E - 0.2% AEP Peak Flood Velocity

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R.E-16





<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.

2.0 - 3.0

Velocity (m/s)

< 0.2

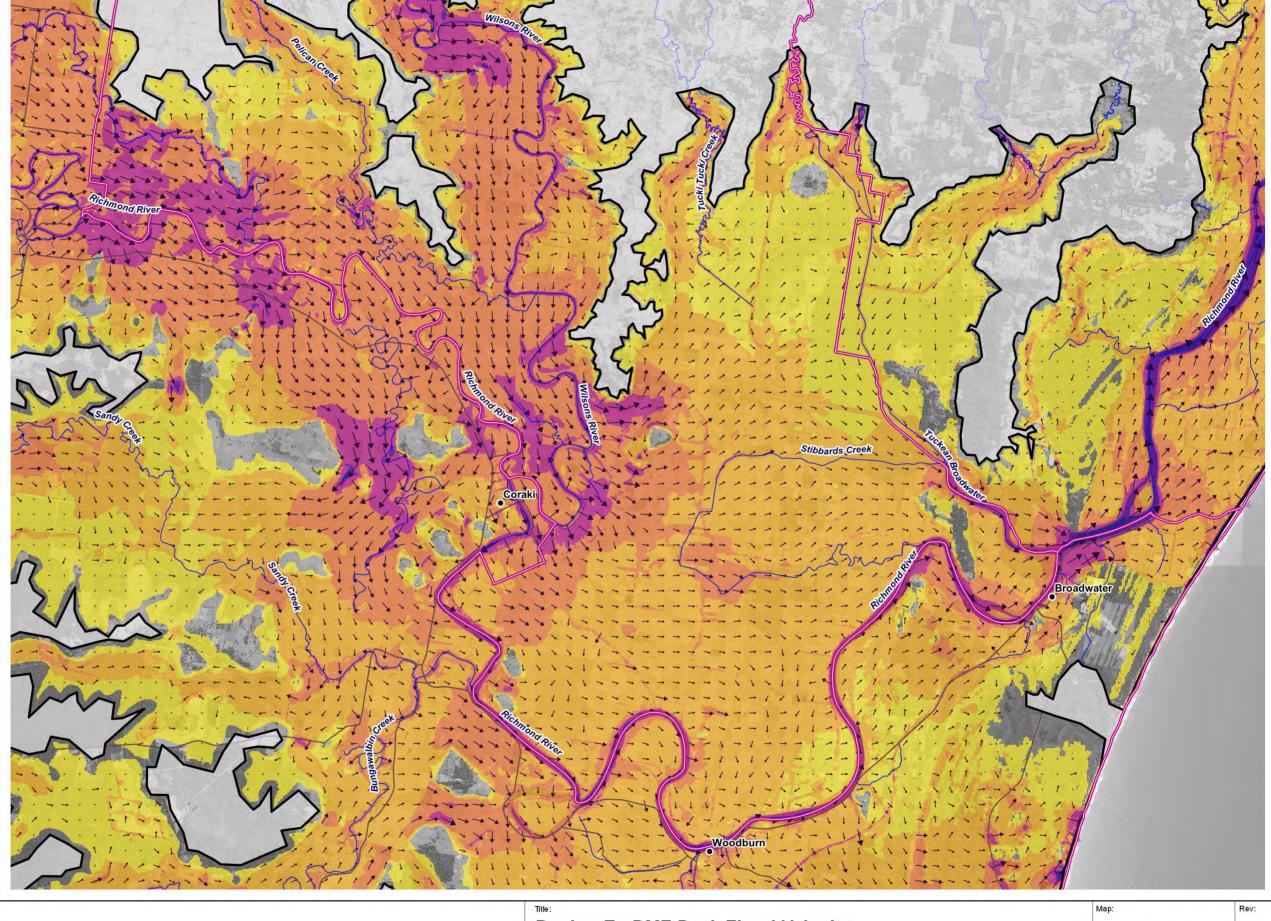
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

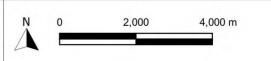
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

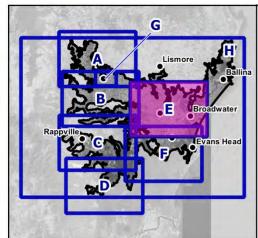
Region E - PMF Peak Flood Velocity

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R.E-17





<0.1

2.0 - 3.0

Velocity (m/s)

< 0.2

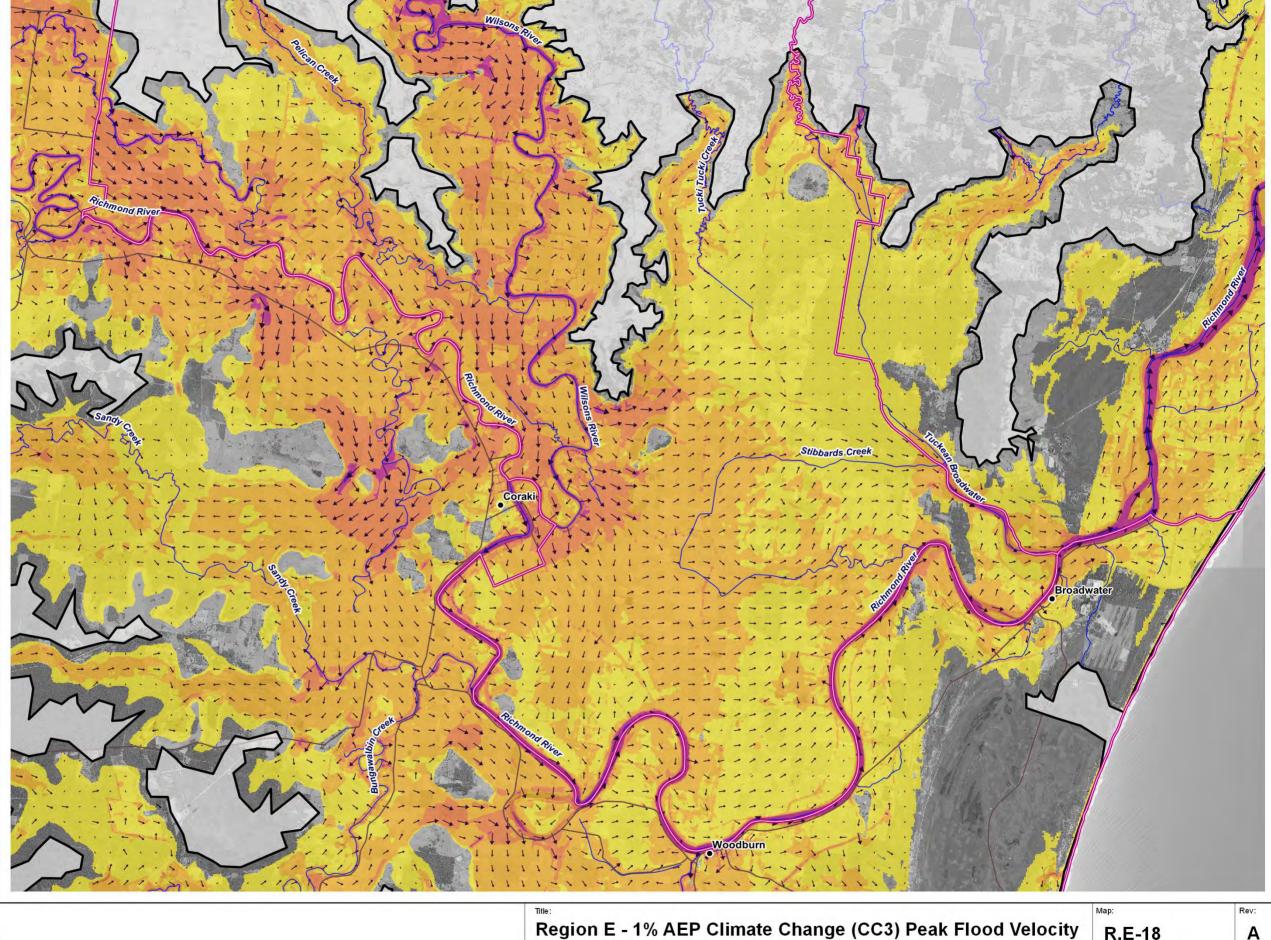
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

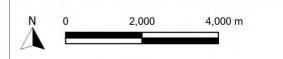
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Legend LGA Boundaries — Main Roads Watercourses Model Extent

Towns

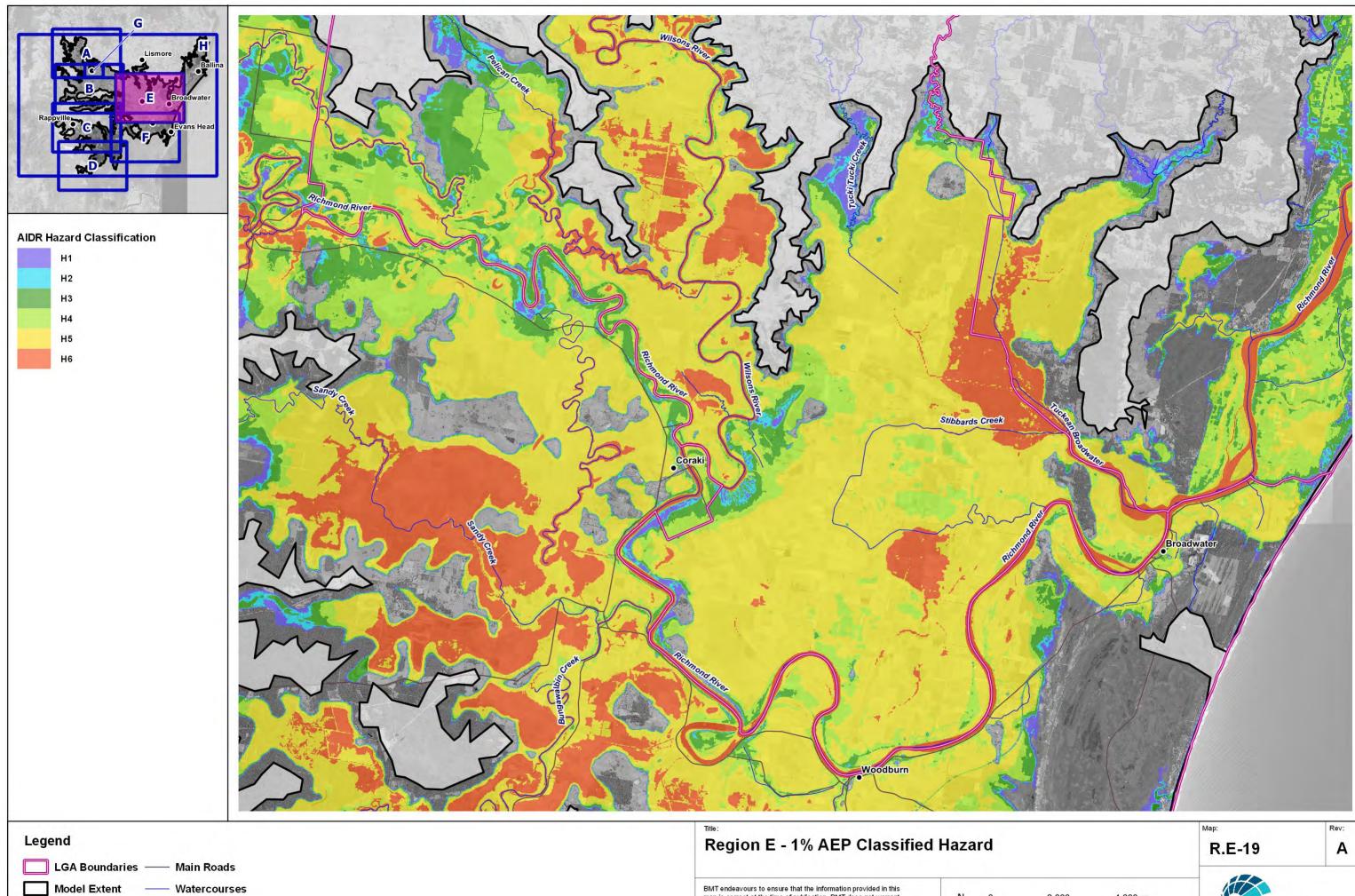
BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

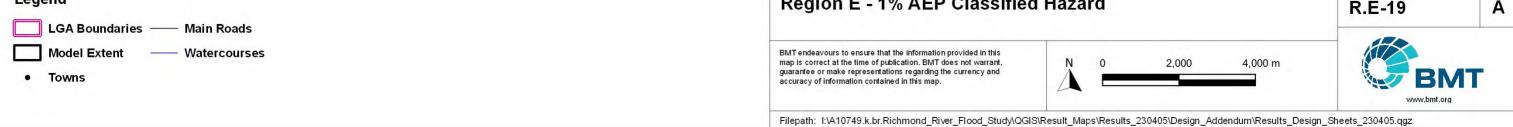


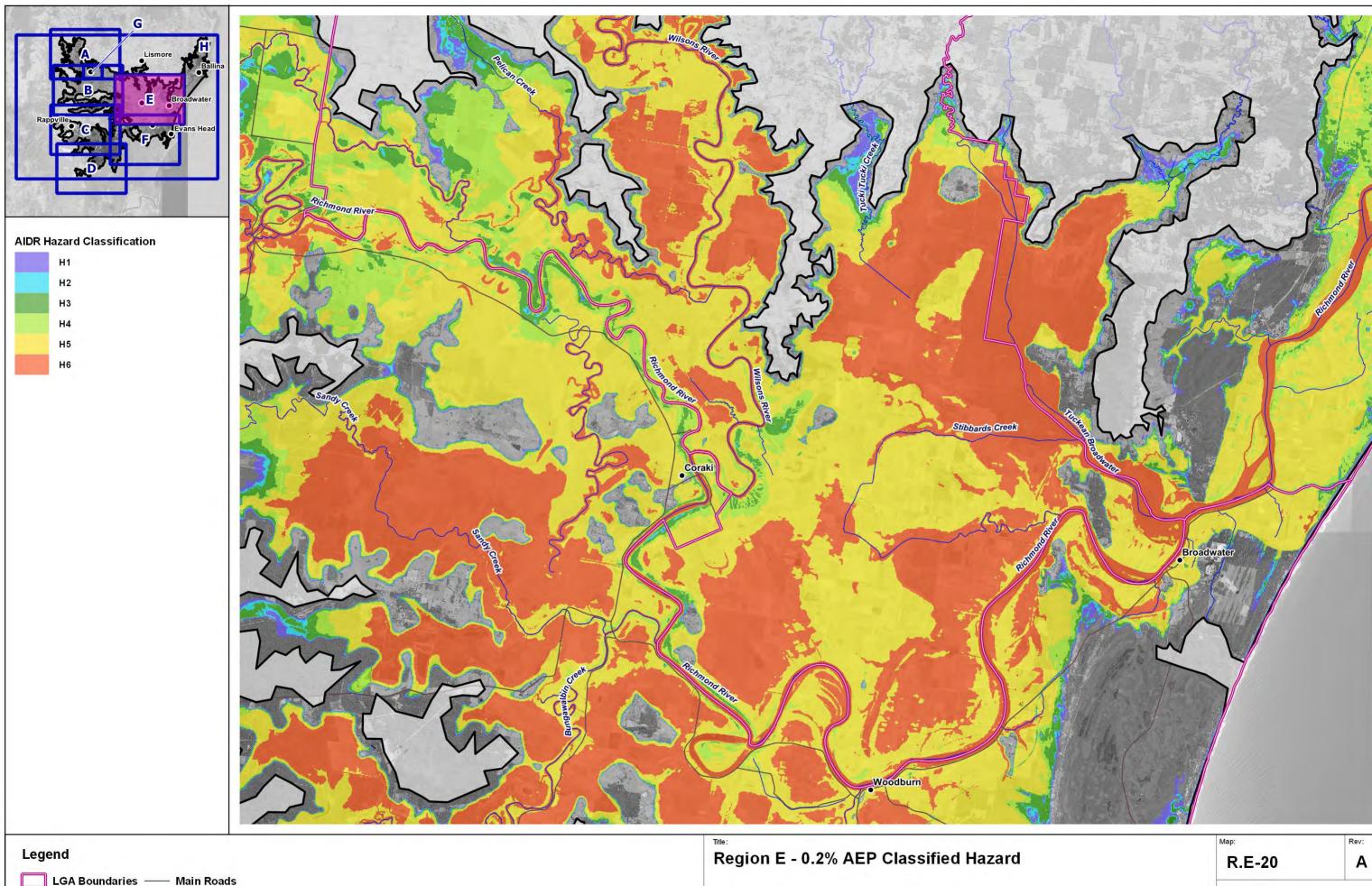
R.E-18



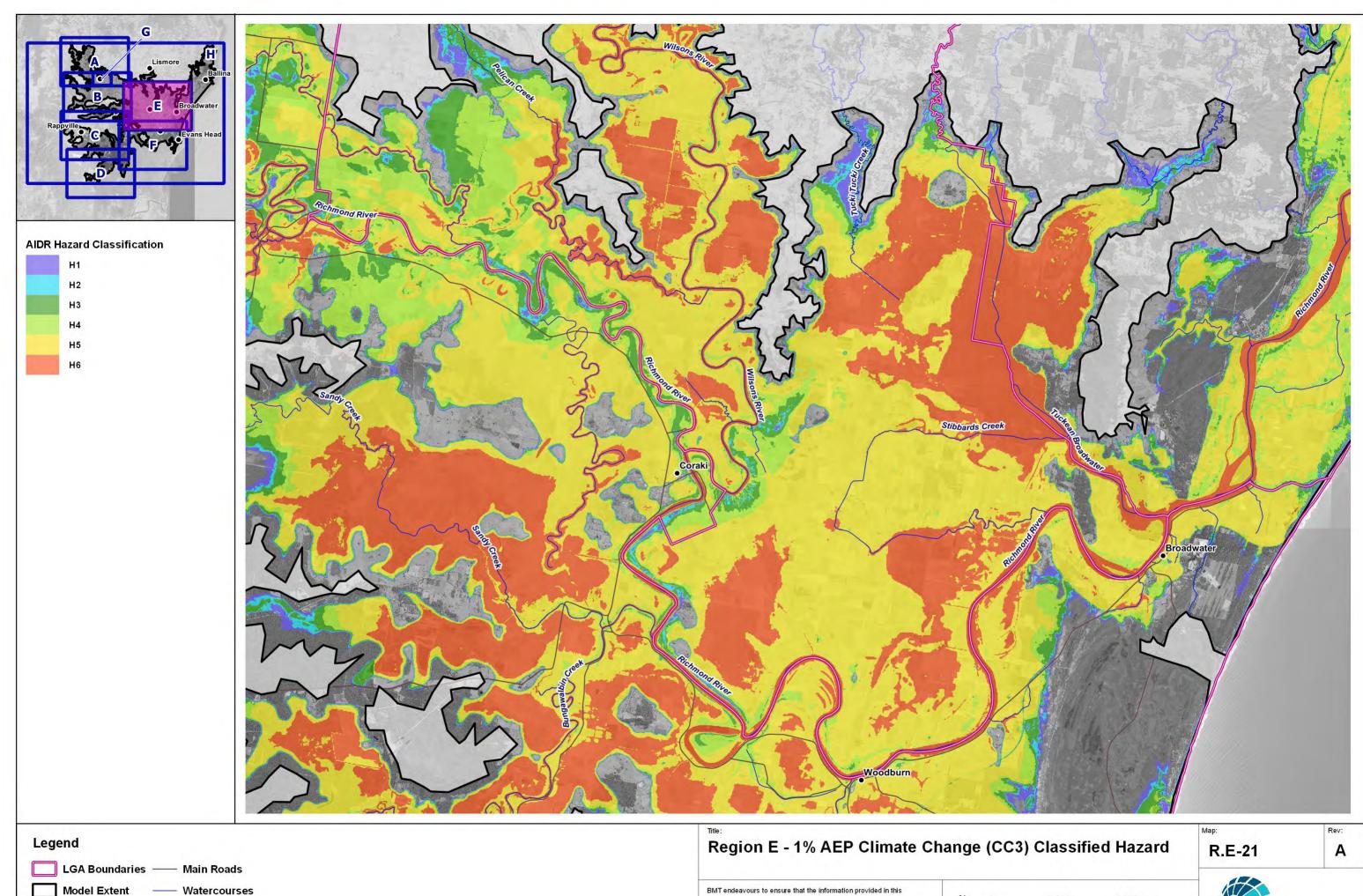
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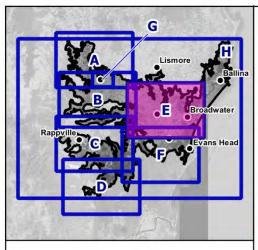


Towns

BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

N 0 2,000 4,000 m

Filepath: I:VA10749.k.br.Richmond_River_Flood_Study\QGIS\Result_Maps\Results_230405\Design_Addendum\Results_Design_Sheets_230405.qgz

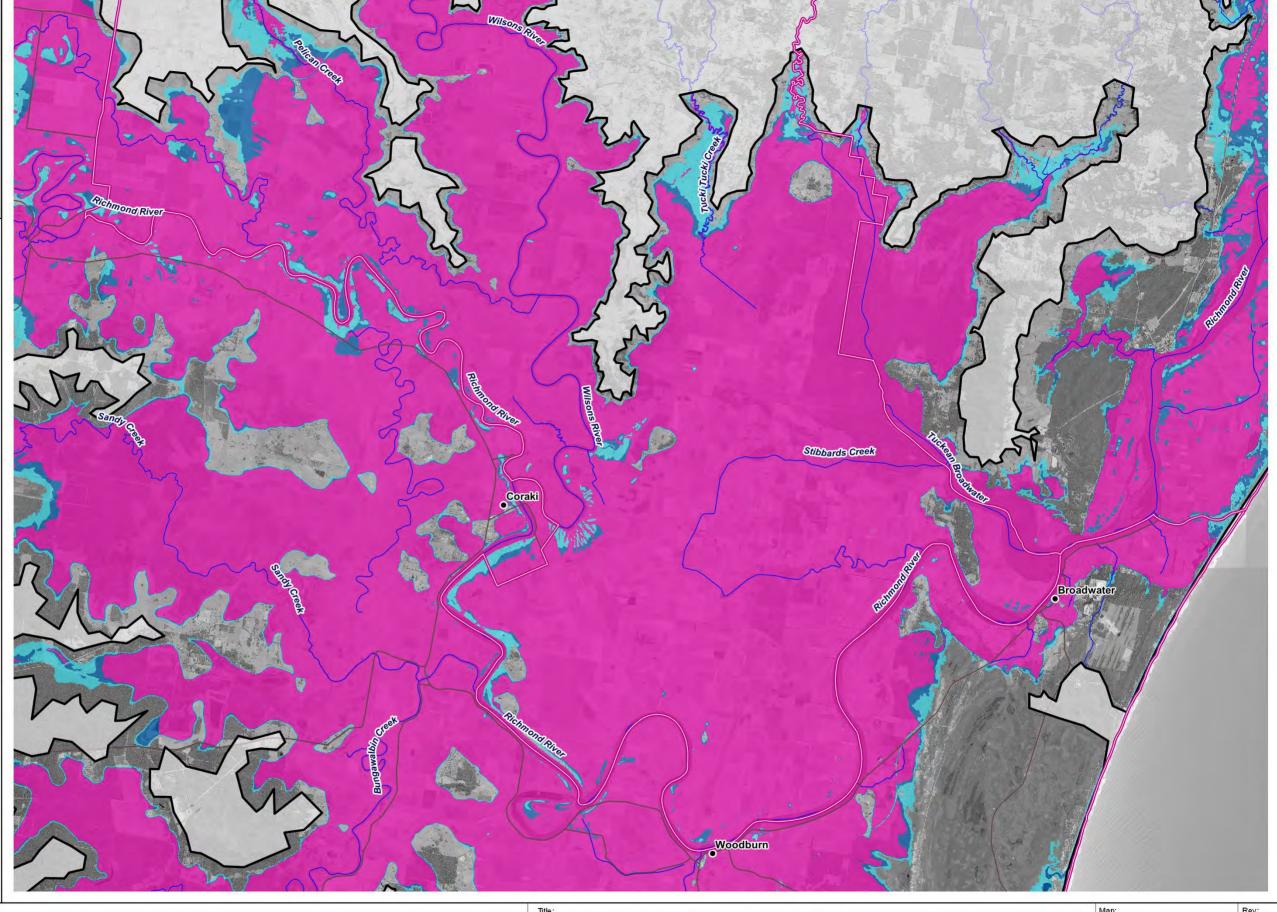


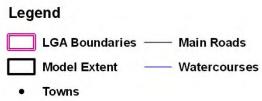
Flood Function

Floodway

Flood Fringe

Flood Storage





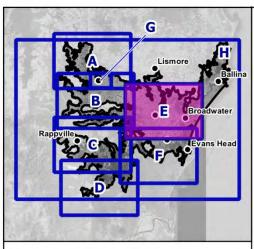


2,000 4.000 m R.E-22



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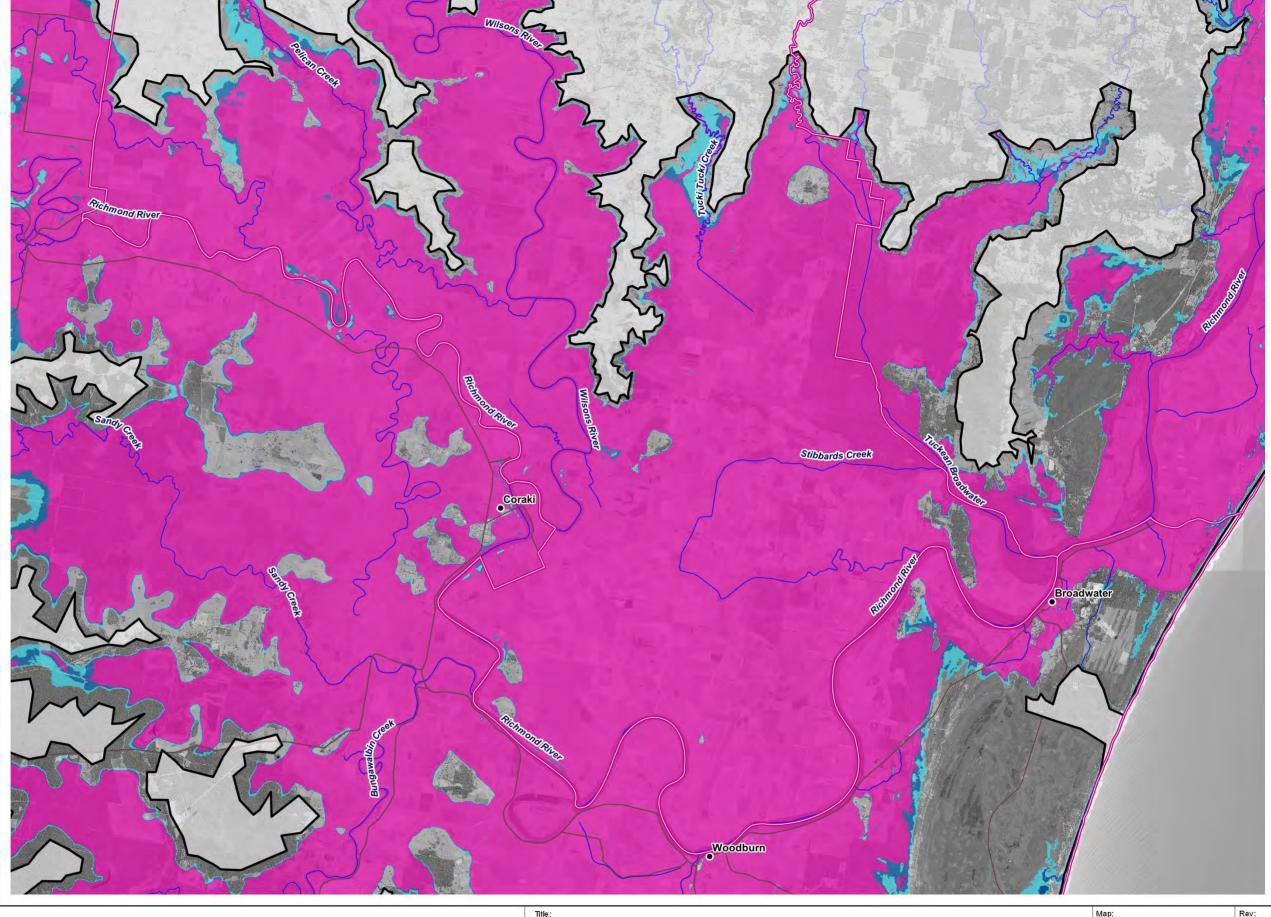


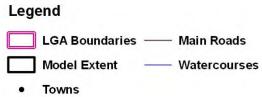
Flood Function

Floodway

Flood Fringe

Flood Storage





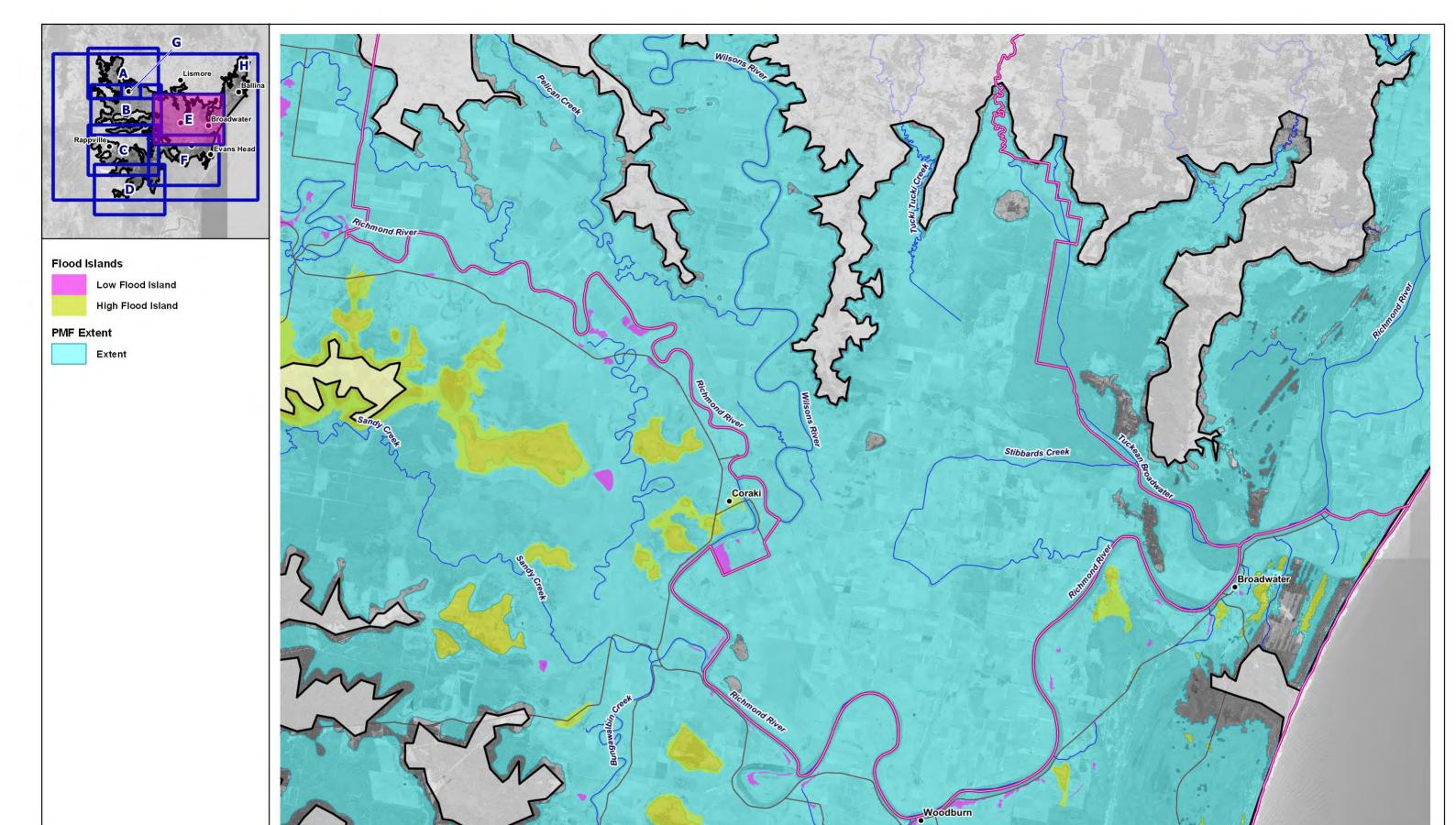


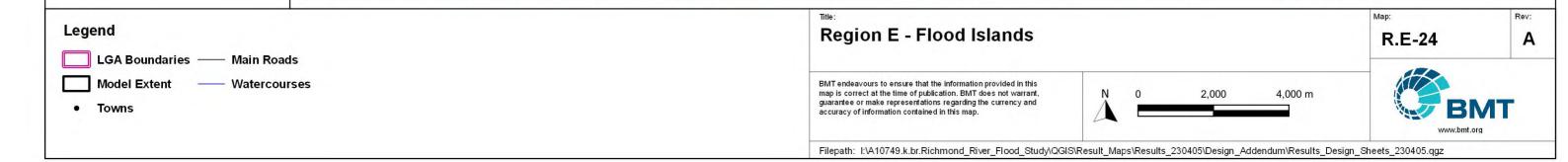
4,000 m 2,000

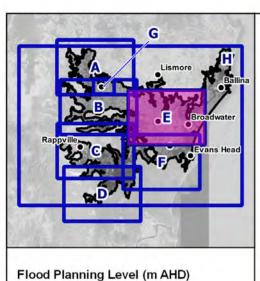
R.E-23

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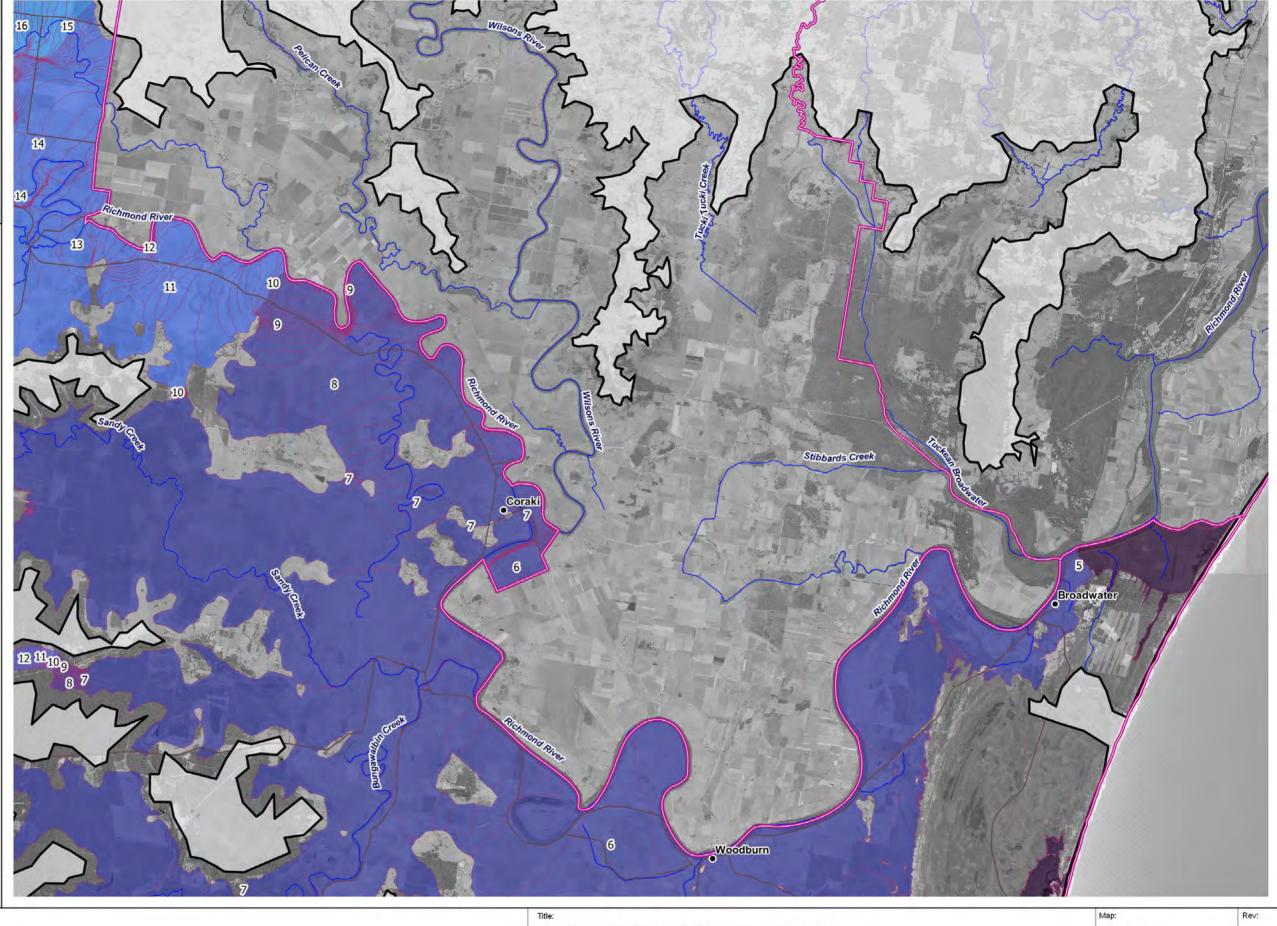


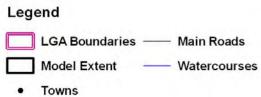
0.1m Interval Contours

5 - 10

10 - 15

15 - 20





Region E - Flood Planning Levels

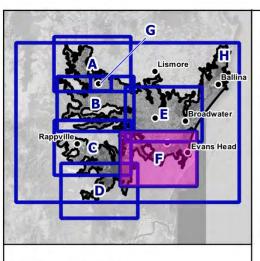
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4,000 m

R.E-25



Α

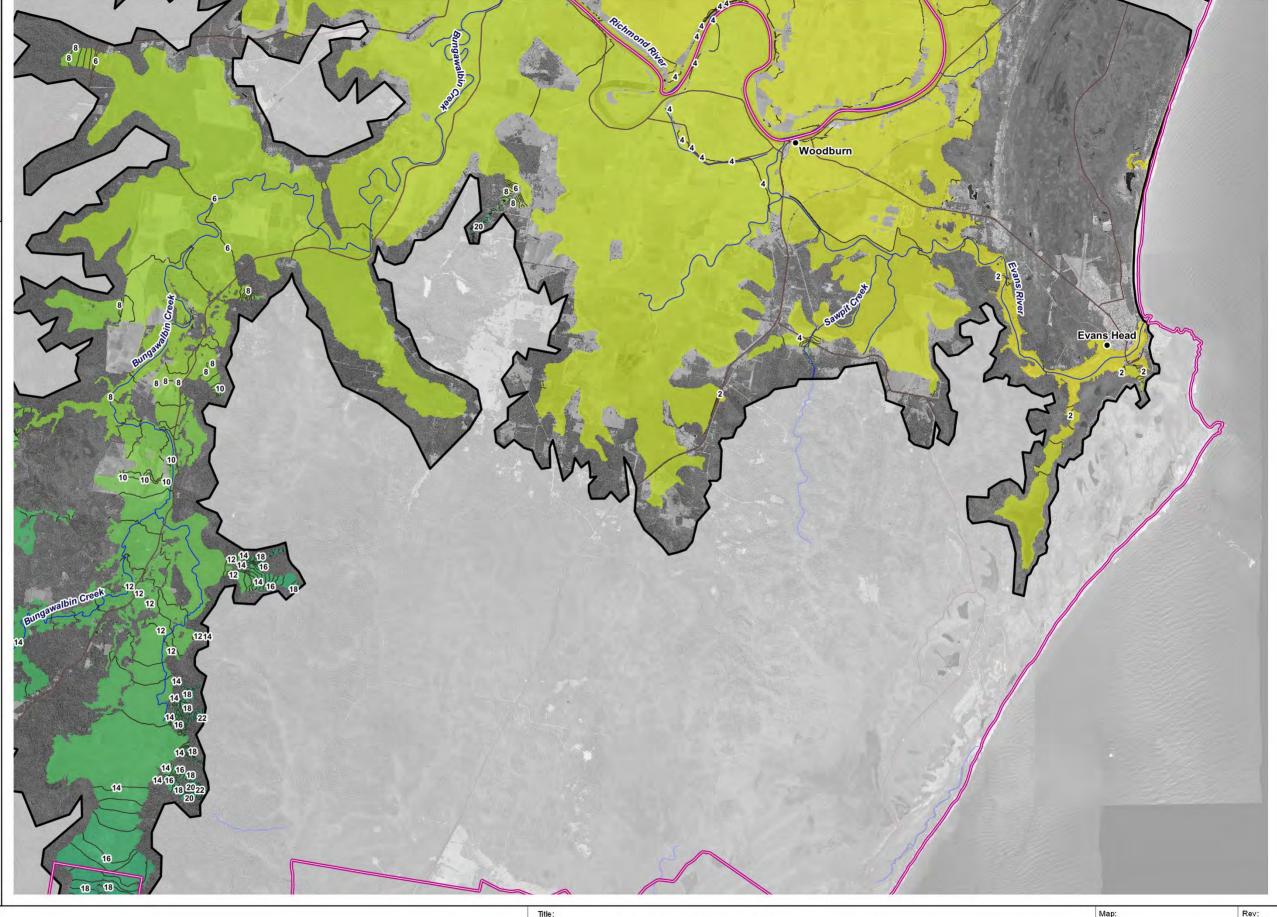


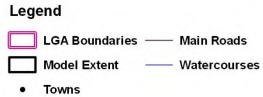
- 5% AEP 0.5m Contours

Level (m AHD)



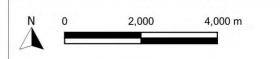
50.0





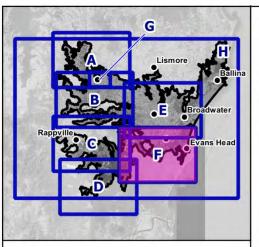
Region F - 5% AEP Peak Flood Level

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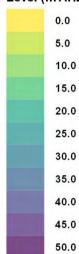
R.F-1

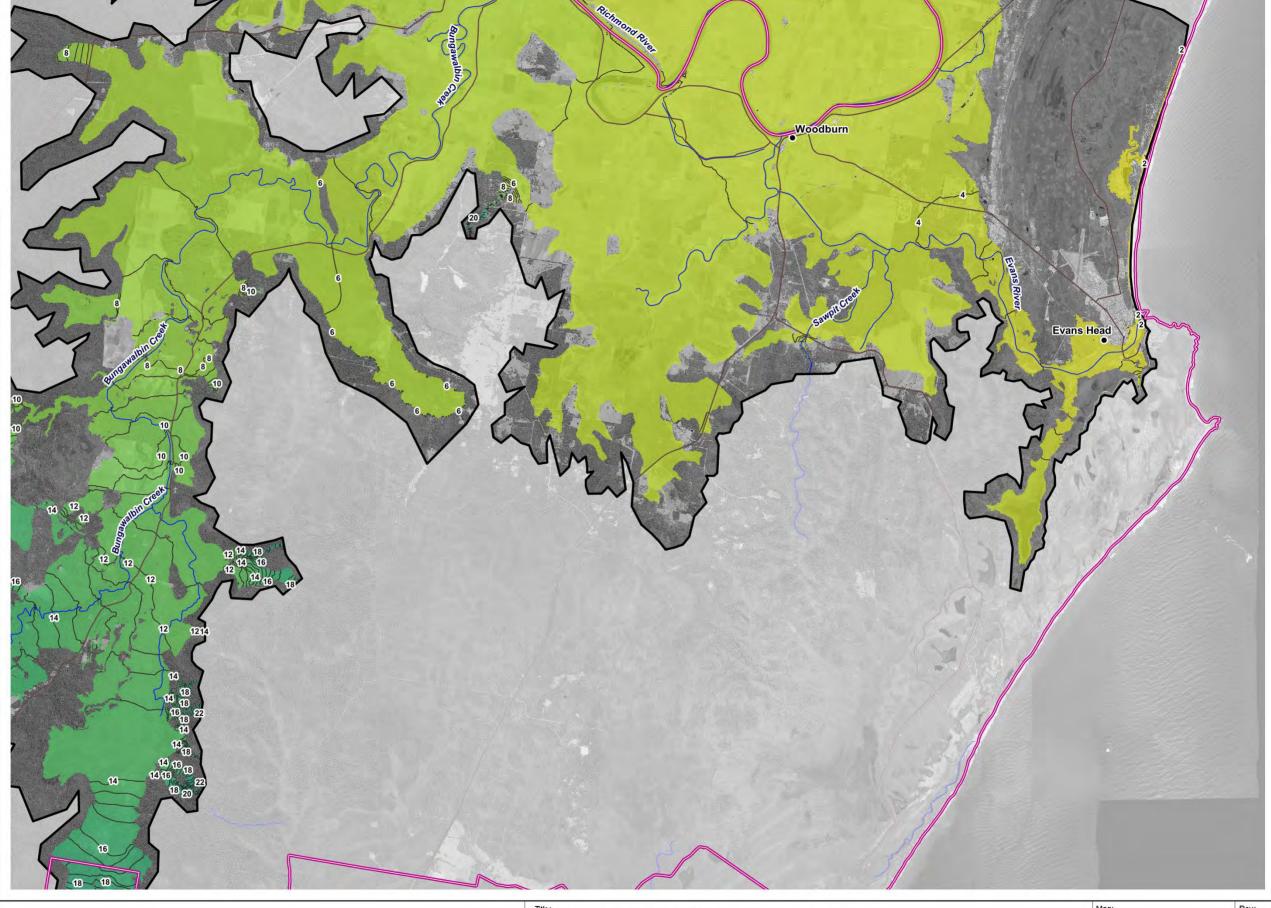


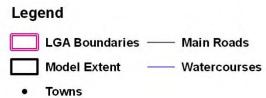


- 2% AEP 0.5m Contours

Level (m AHD)

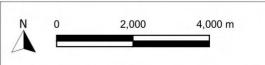






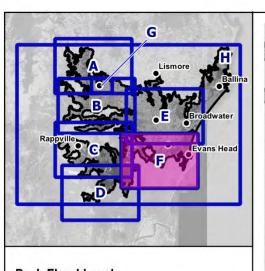
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Region F - 2% AEP Peak Flood Level



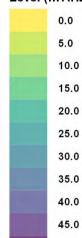
R.F-2

BMT

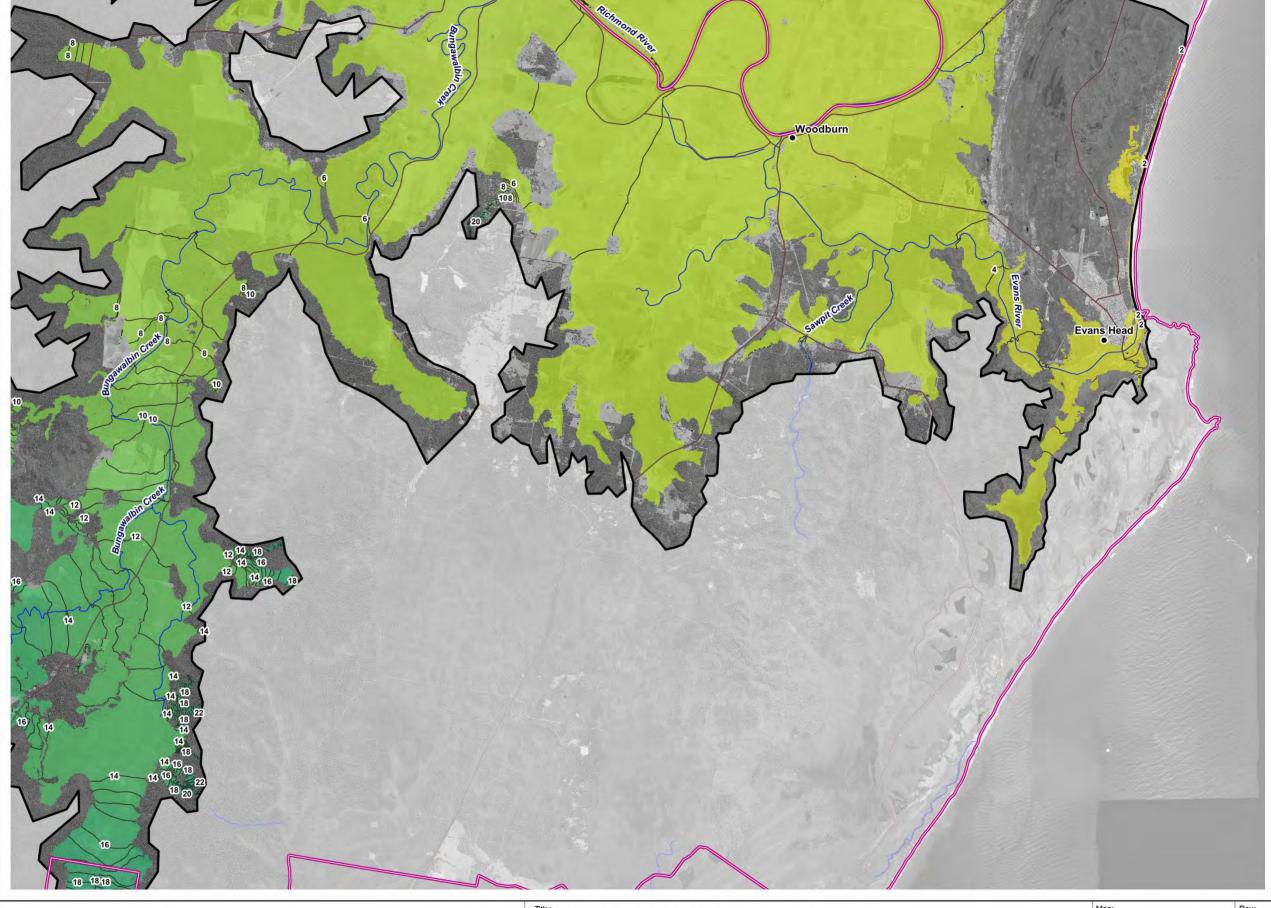


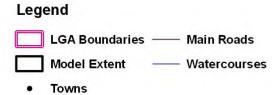
- 1% AEP 0.5m Contours

Level (m AHD)



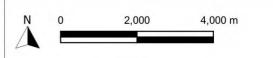
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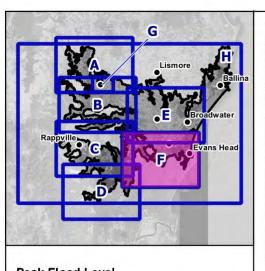
Region F - 1% AEP Peak Flood Level

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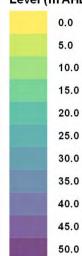
R.F-3

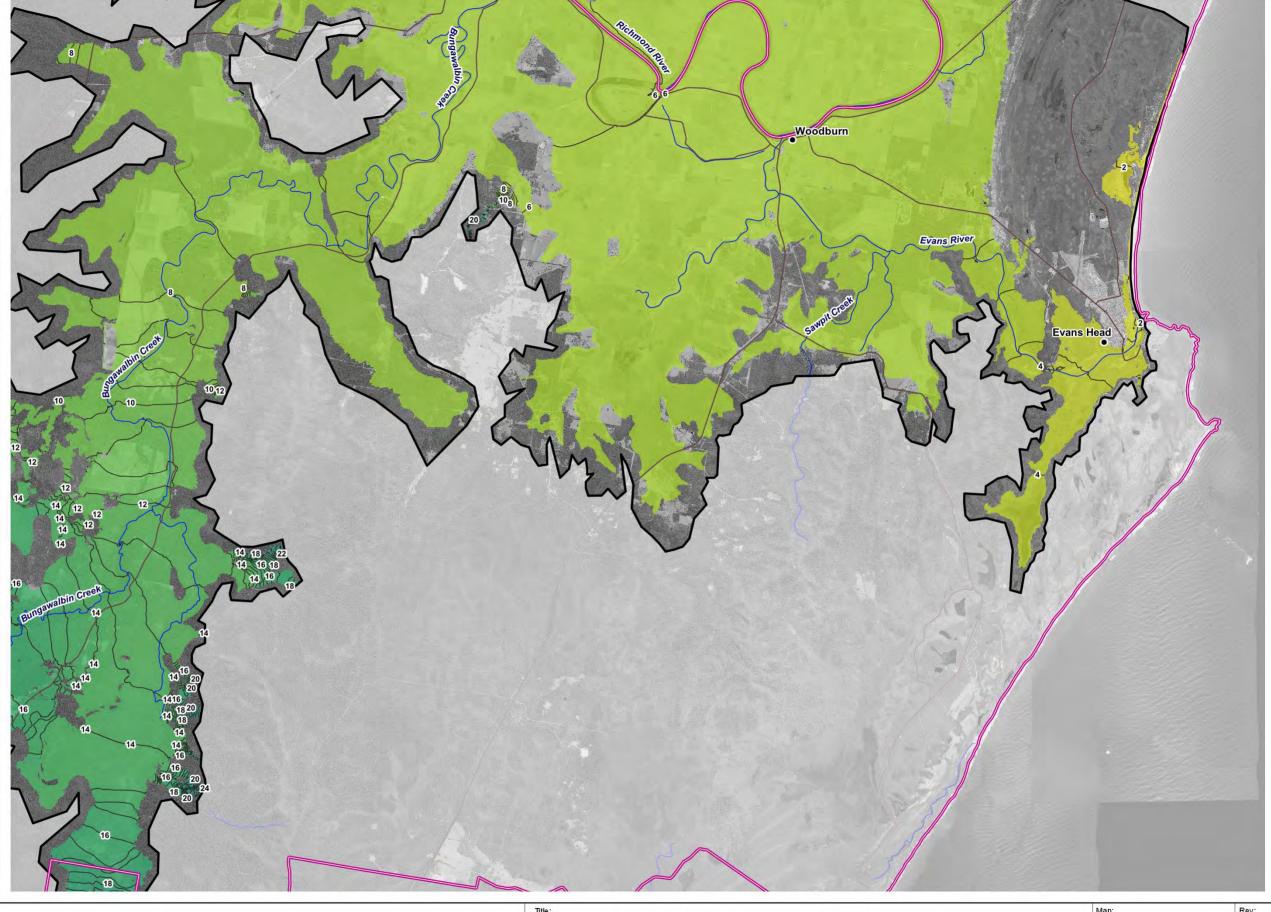




- 0.2% AEP 0.5m Contours

Level (m AHD)

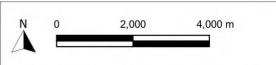




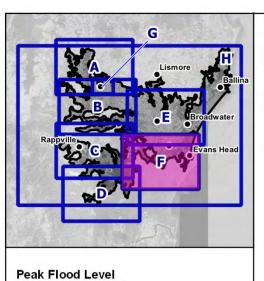
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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Region F - 0.2% AEP Peak Flood Level

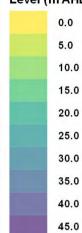




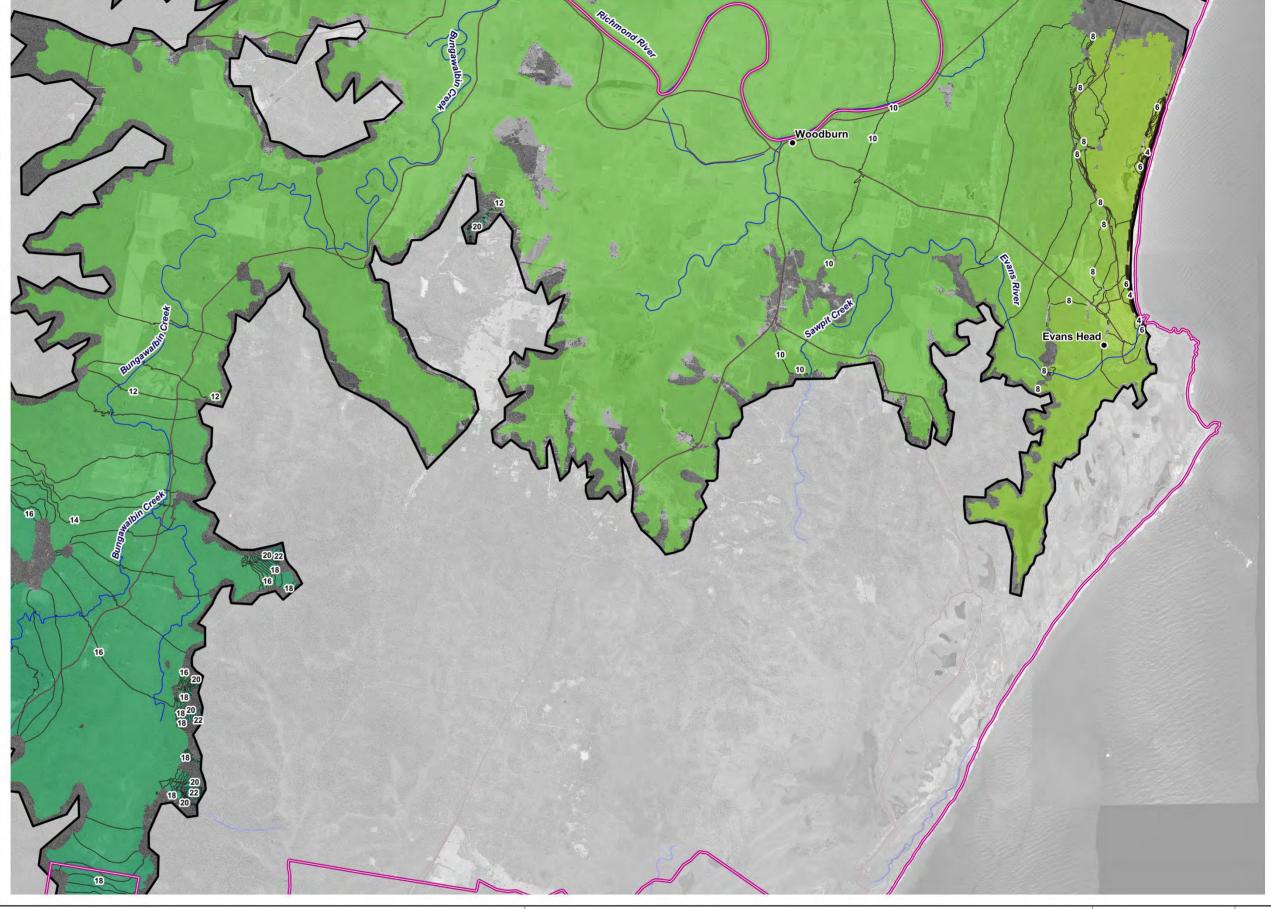


- PMF 0.5m Contours

Level (m AHD)



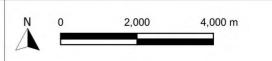
50.0



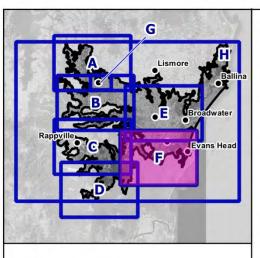
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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Region F - PMF Peak Flood Level

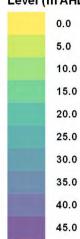


R.F-5 A

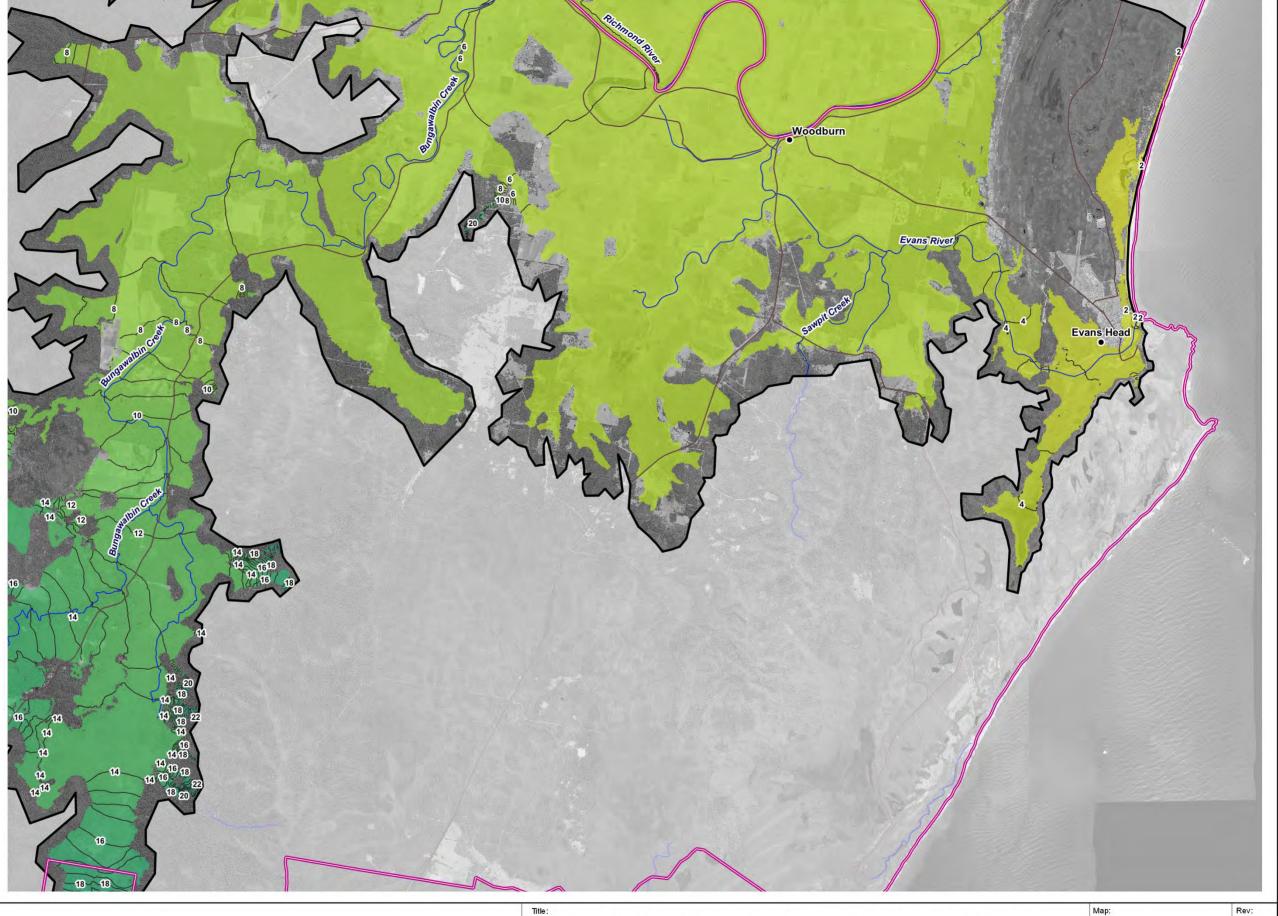


1% AEP CC3 0.5m Contours

Level (m AHD)

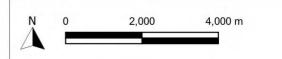


50.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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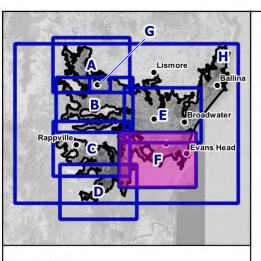


R.F-6



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Region F - 1% AEP Climate Change (CC3) Peak Flood Level



<0.25

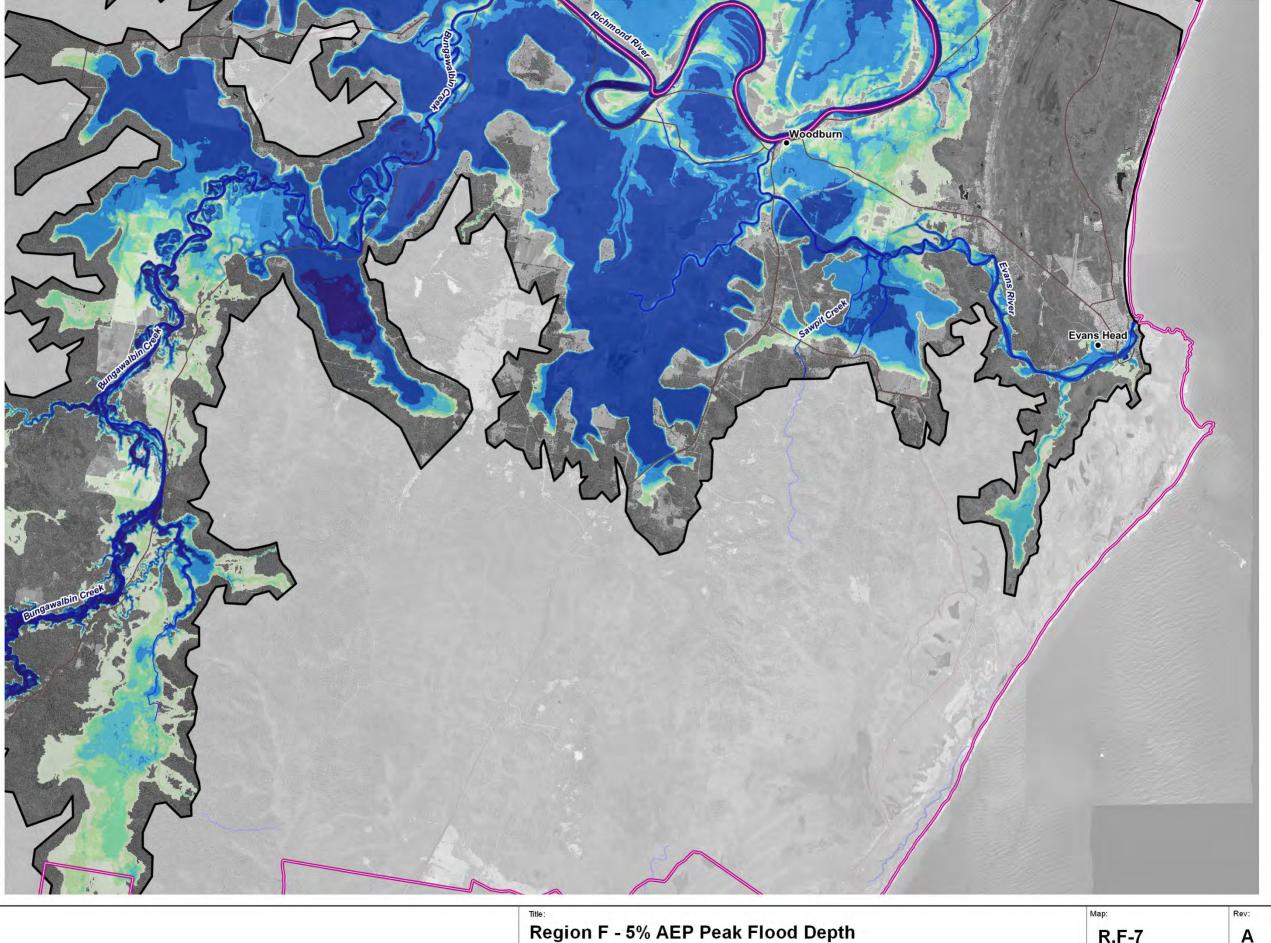
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

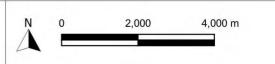
2.0 to 4.0

>4

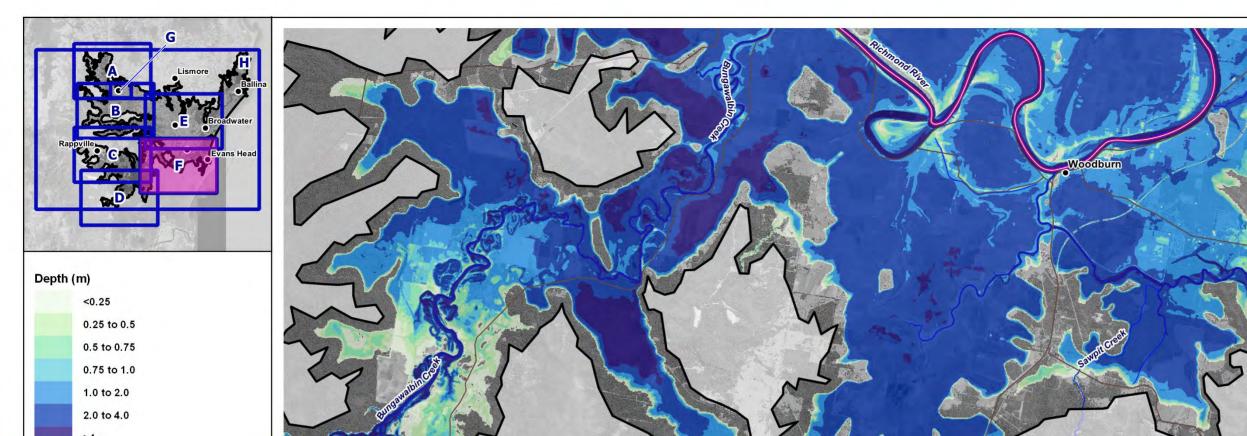


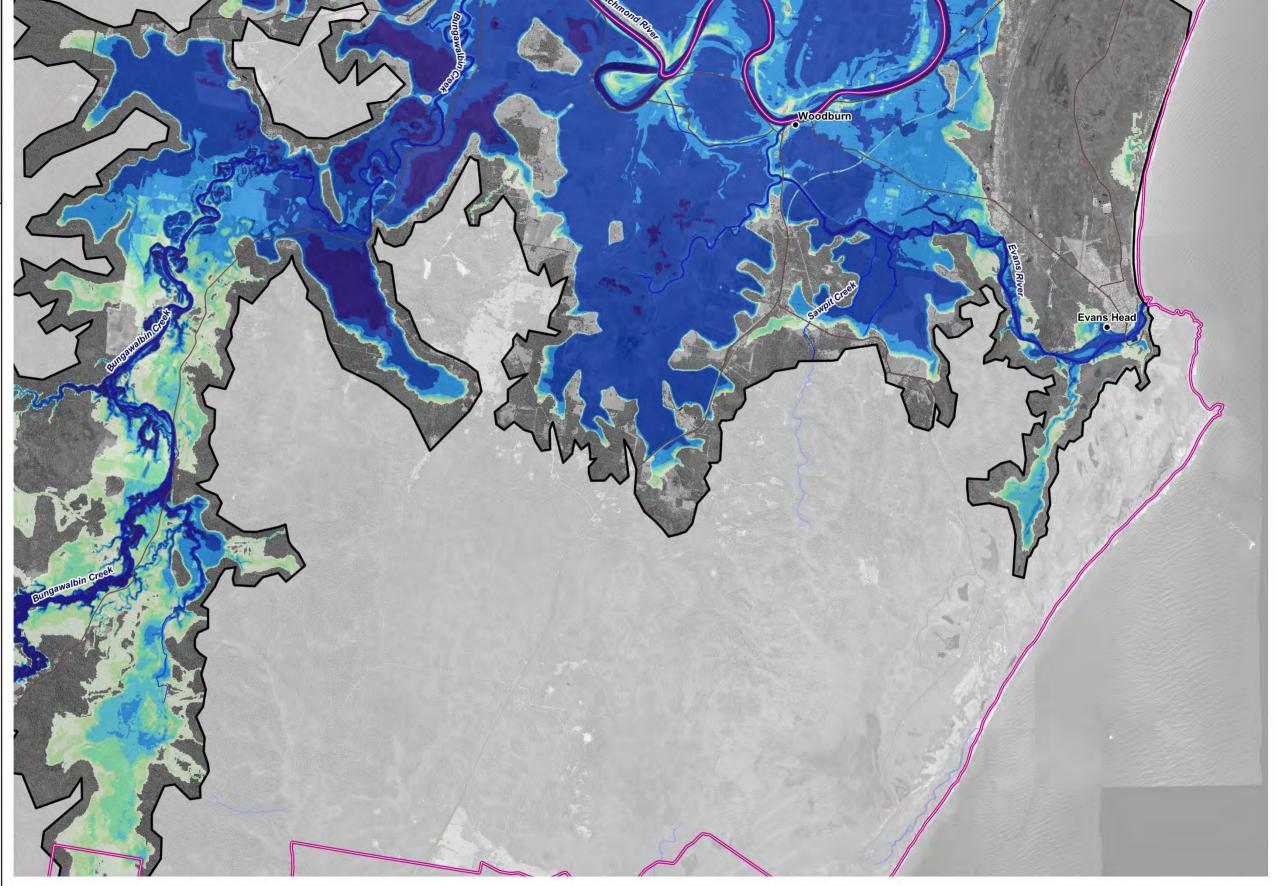
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

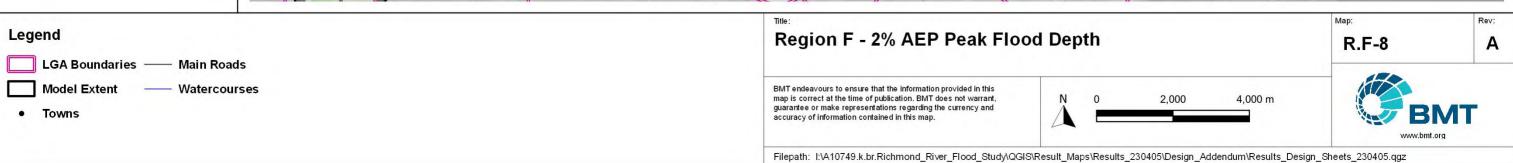
BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

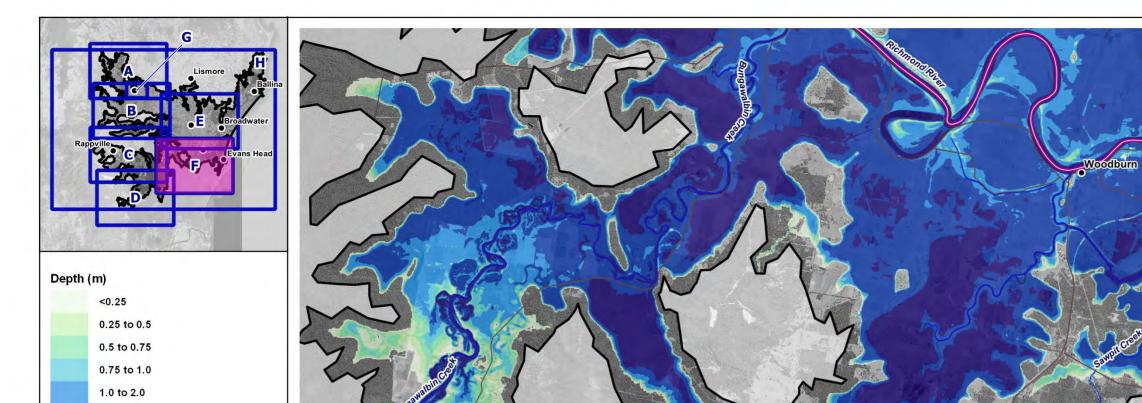




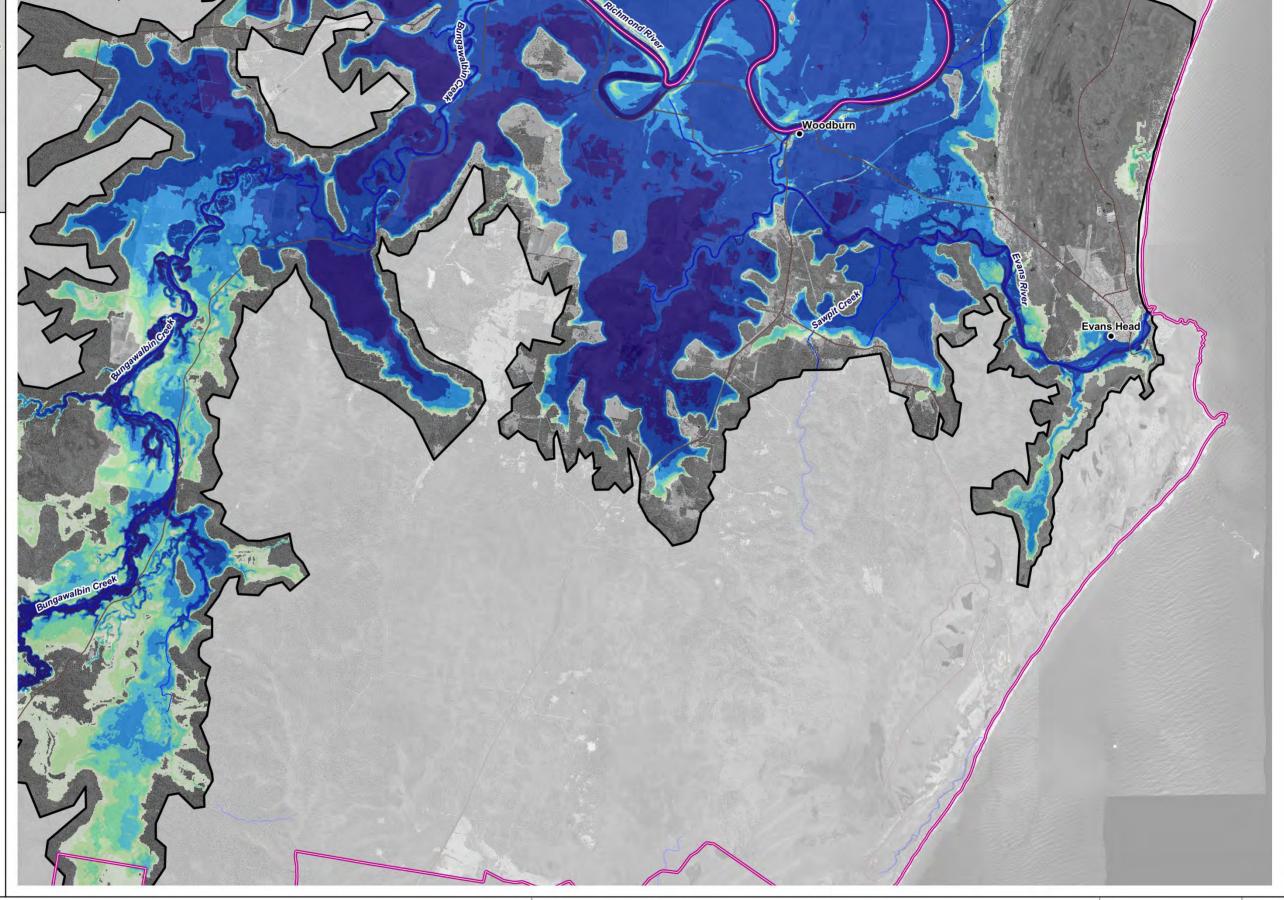


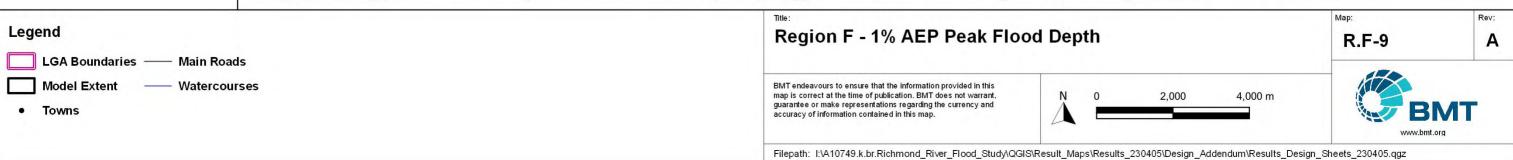


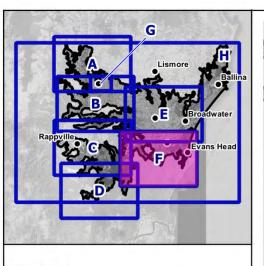




2.0 to 4.0







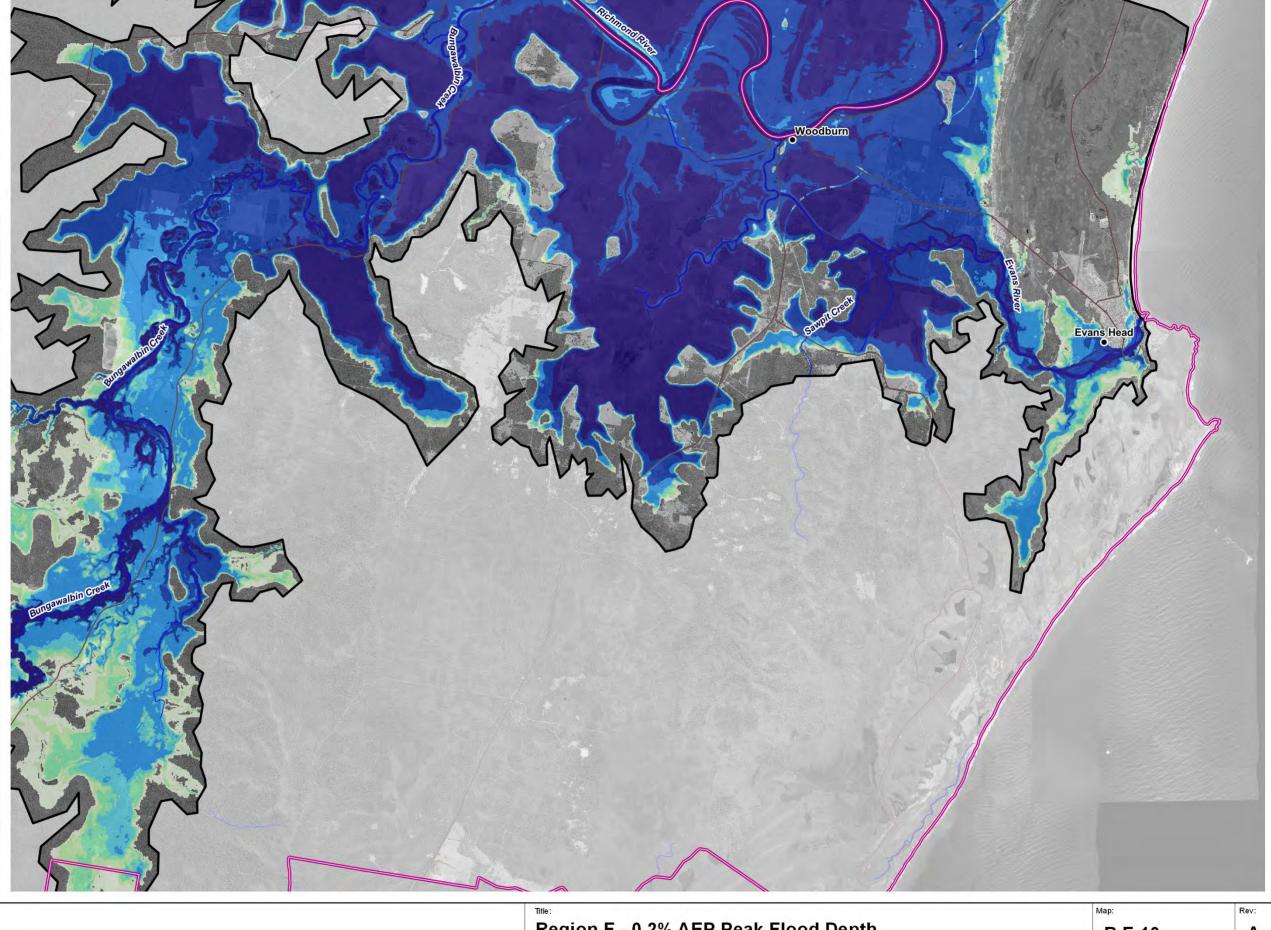
< 0.25

0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

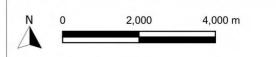
2.0 to 4.0



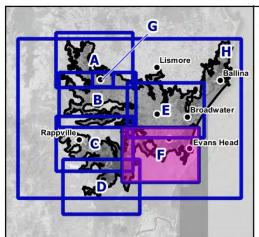
Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

Region F - 0.2% AEP Peak Flood Depth

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R.F-10



<0.25

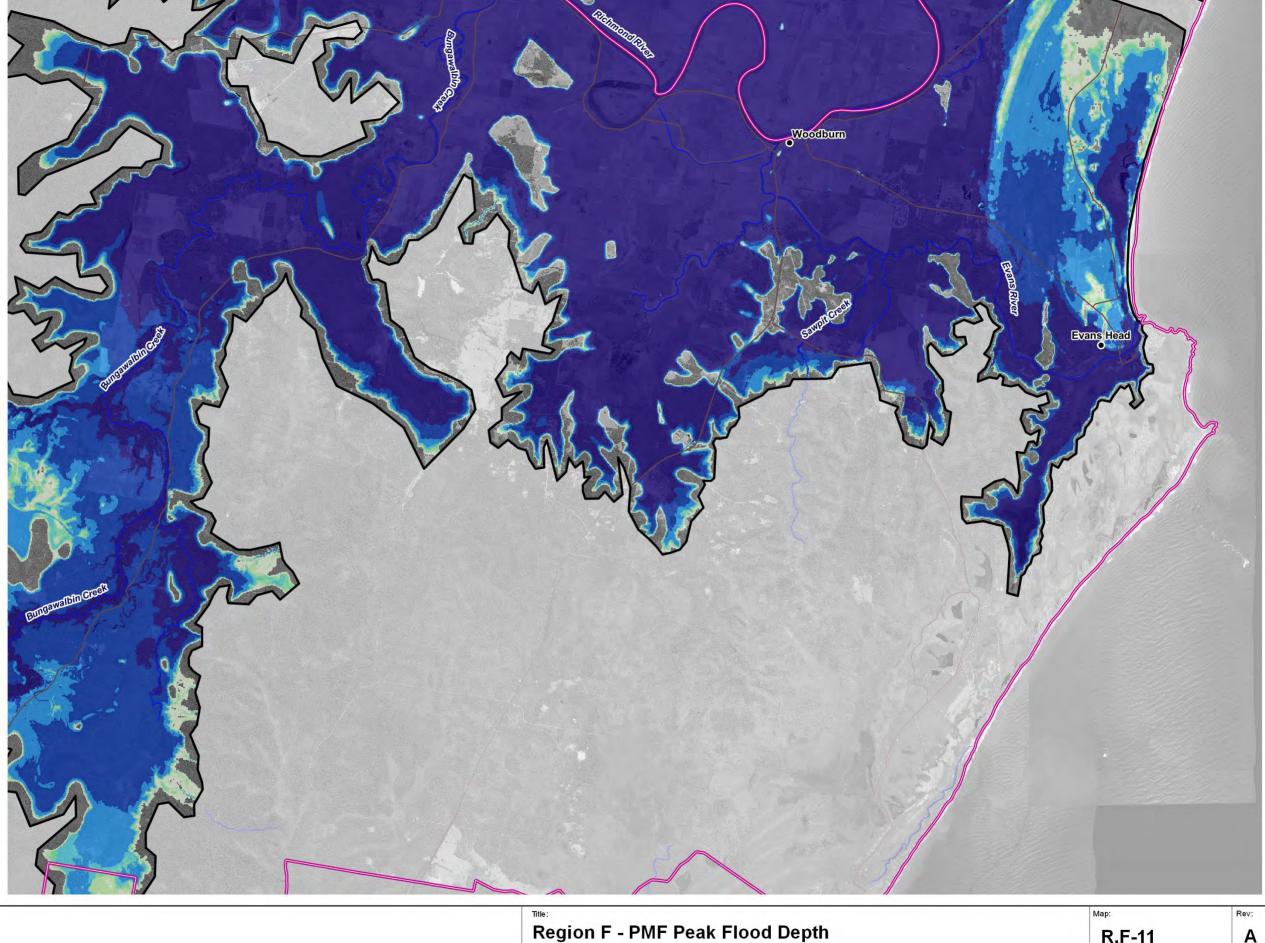
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

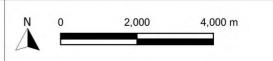
1.0 to 2.0 2.0 to 4.0

>4

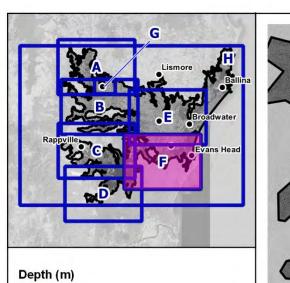


Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

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R.F-11



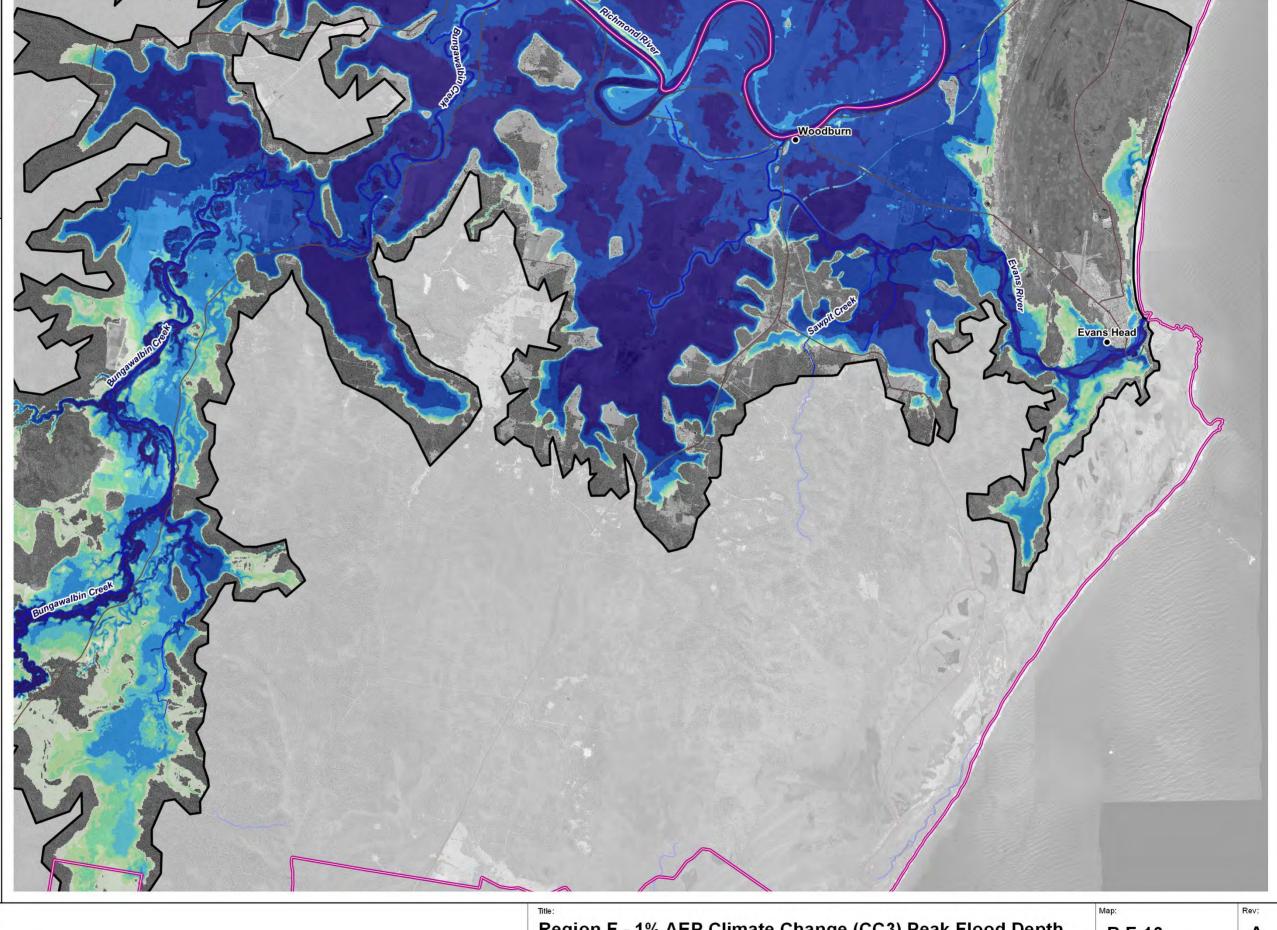
< 0.25

0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

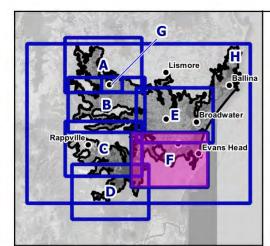
2.0 to 4.0



Legend LGA Boundaries — Main Roads Model Extent --- Watercourses Towns

Region F - 1% AEP Climate Change (CC3) Peak Flood Depth

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<0.1

0.5 - 1.0

1.0 - 2.0

Velocity (m/s)

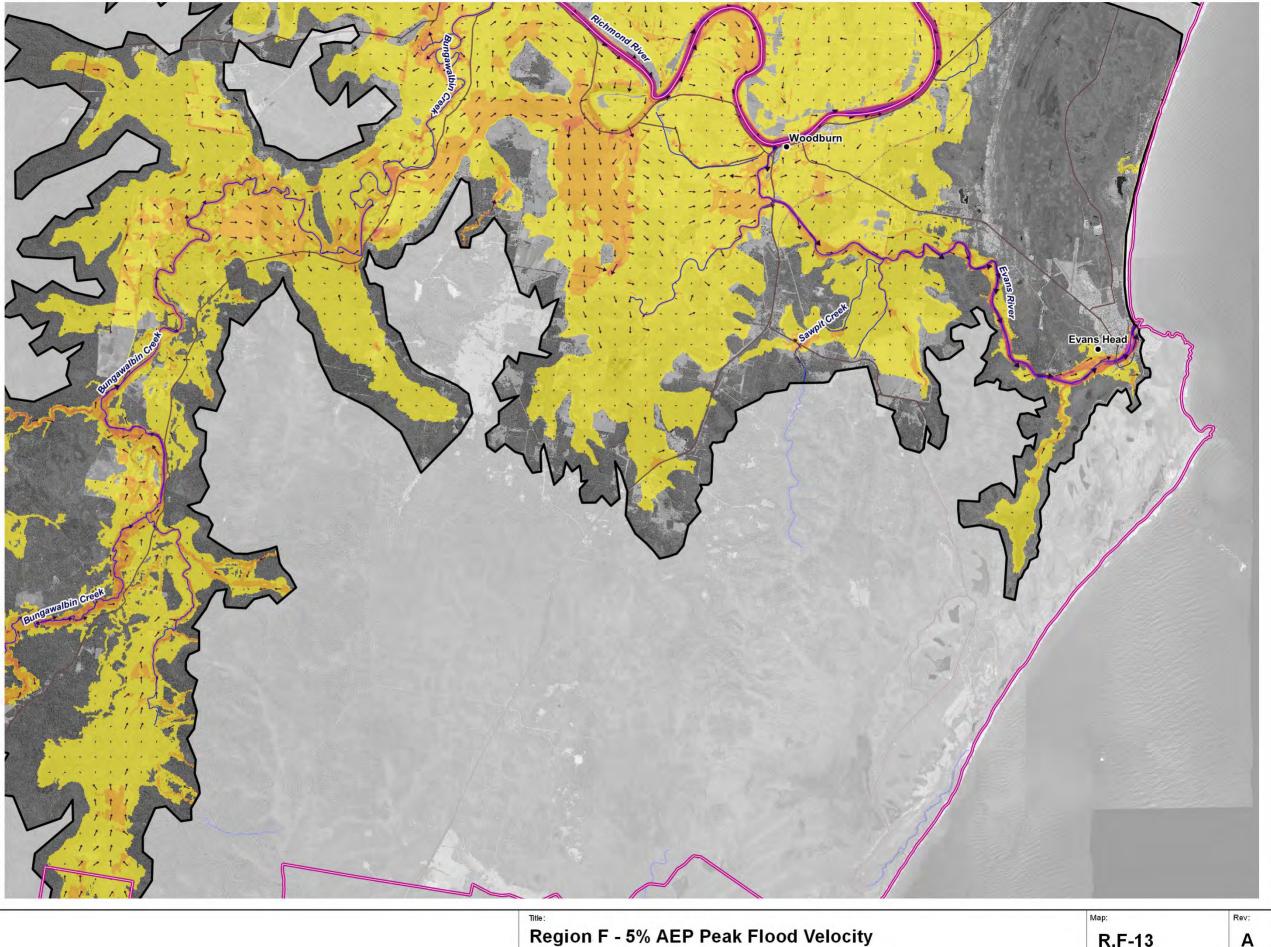
< 0.2 0.5 to 1.0

0.2 to 0.5

1.0 to 2.0

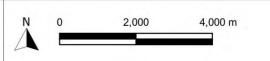
2.0 to 3.0

> 3.0



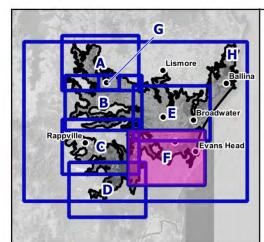
Legend LGA Boundaries — Main Roads Model Extent --- Watercourses Towns

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R.F-13

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<0.1

→ 0.1 - 0.

→ 05-10

1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

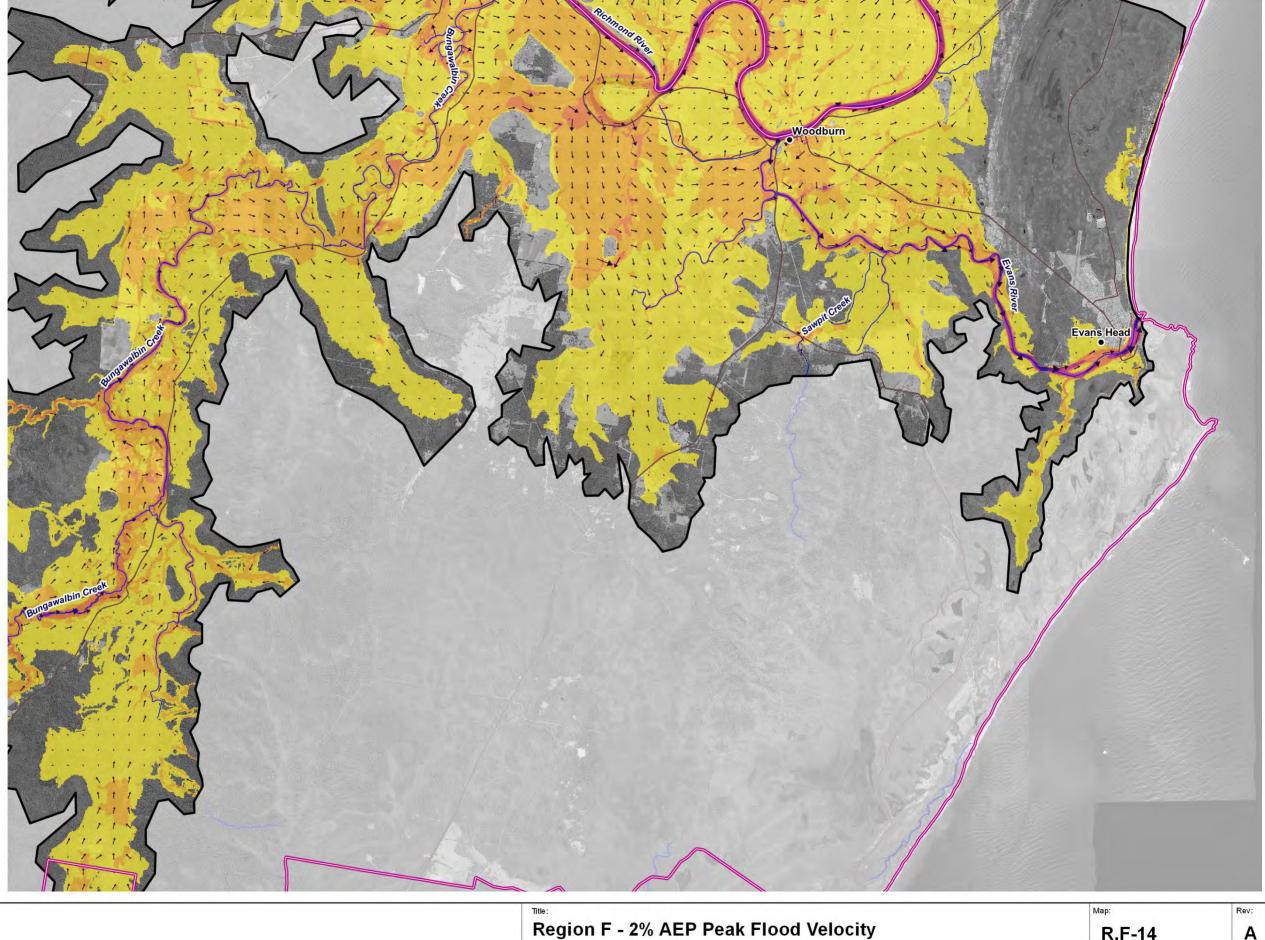
0.2 to 0.5

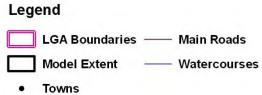
0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0

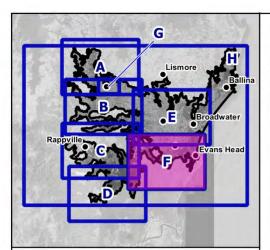




N 0 2,000 4,000 m

R.F-14

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<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.0 → 2.0 - 3.0

Velocity (m/s)

< 0.2

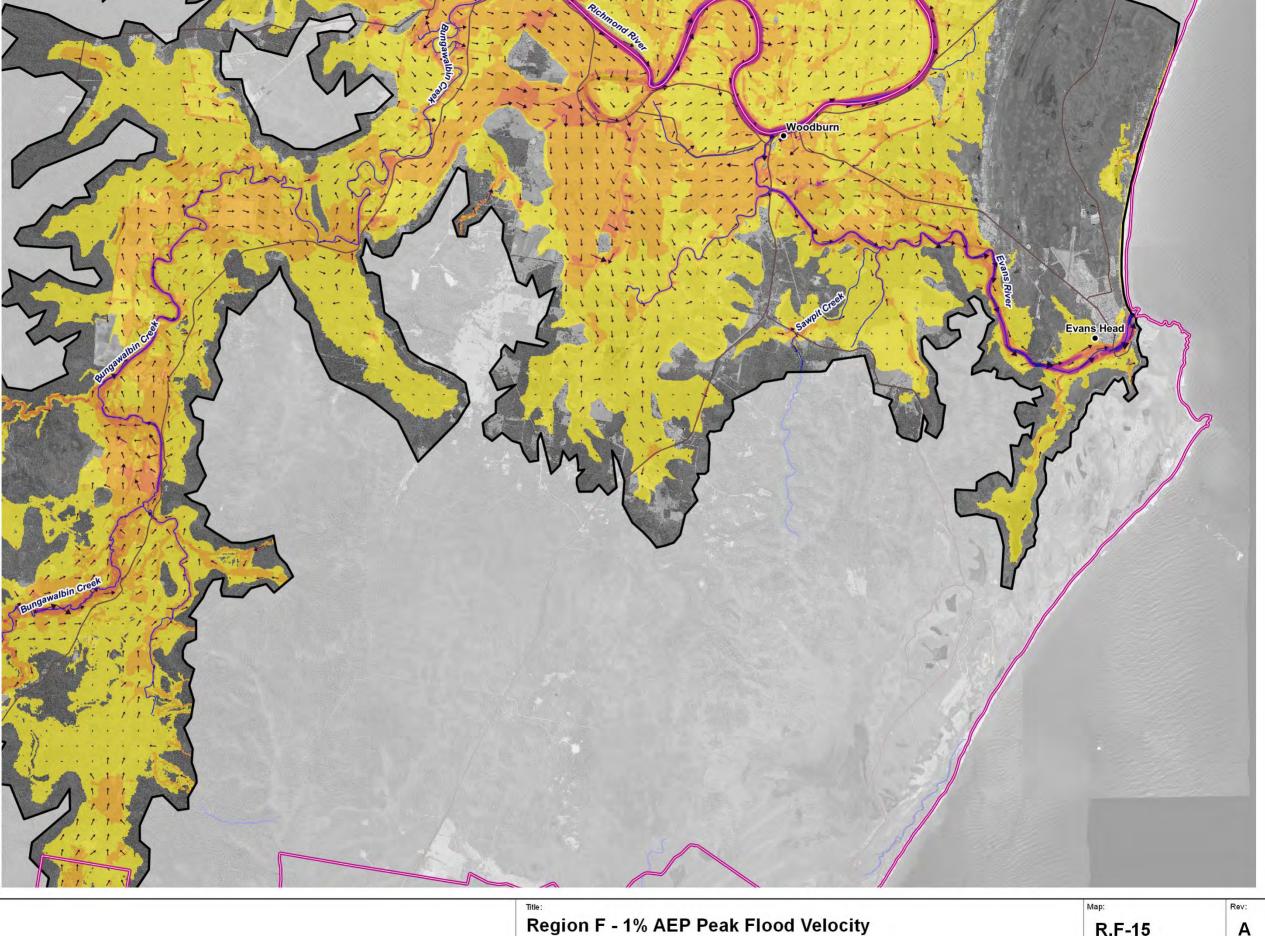
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

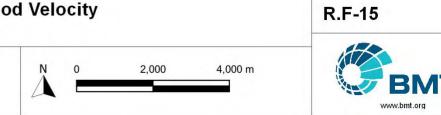
2.0 to 3.0

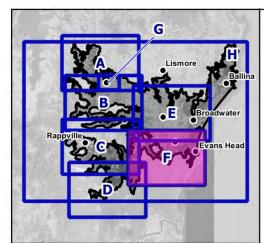
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.





<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.0 → 2.0 - 3.0

Velocity (m/s)

< 0.2

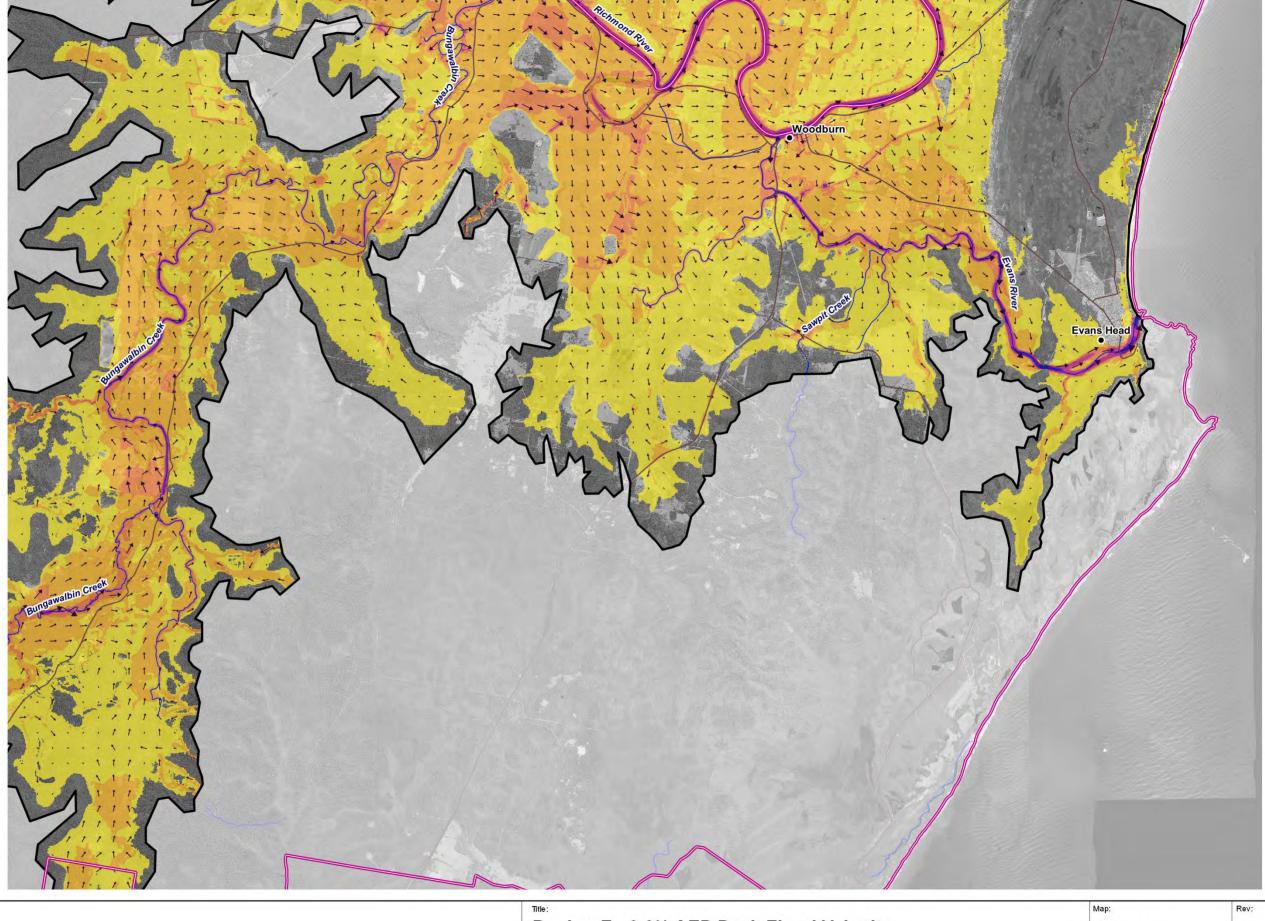
0.2 to 0.5

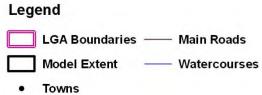
0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

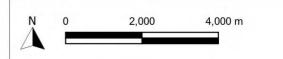
> 3.0





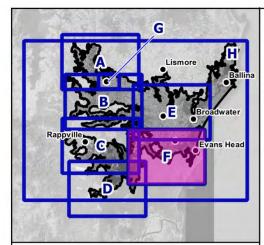
Region F - 0.2% AEP Peak Flood Velocity

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R.F-16





<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.0 → 2.0 - 3.0

Velocity (m/s)

< 0.2

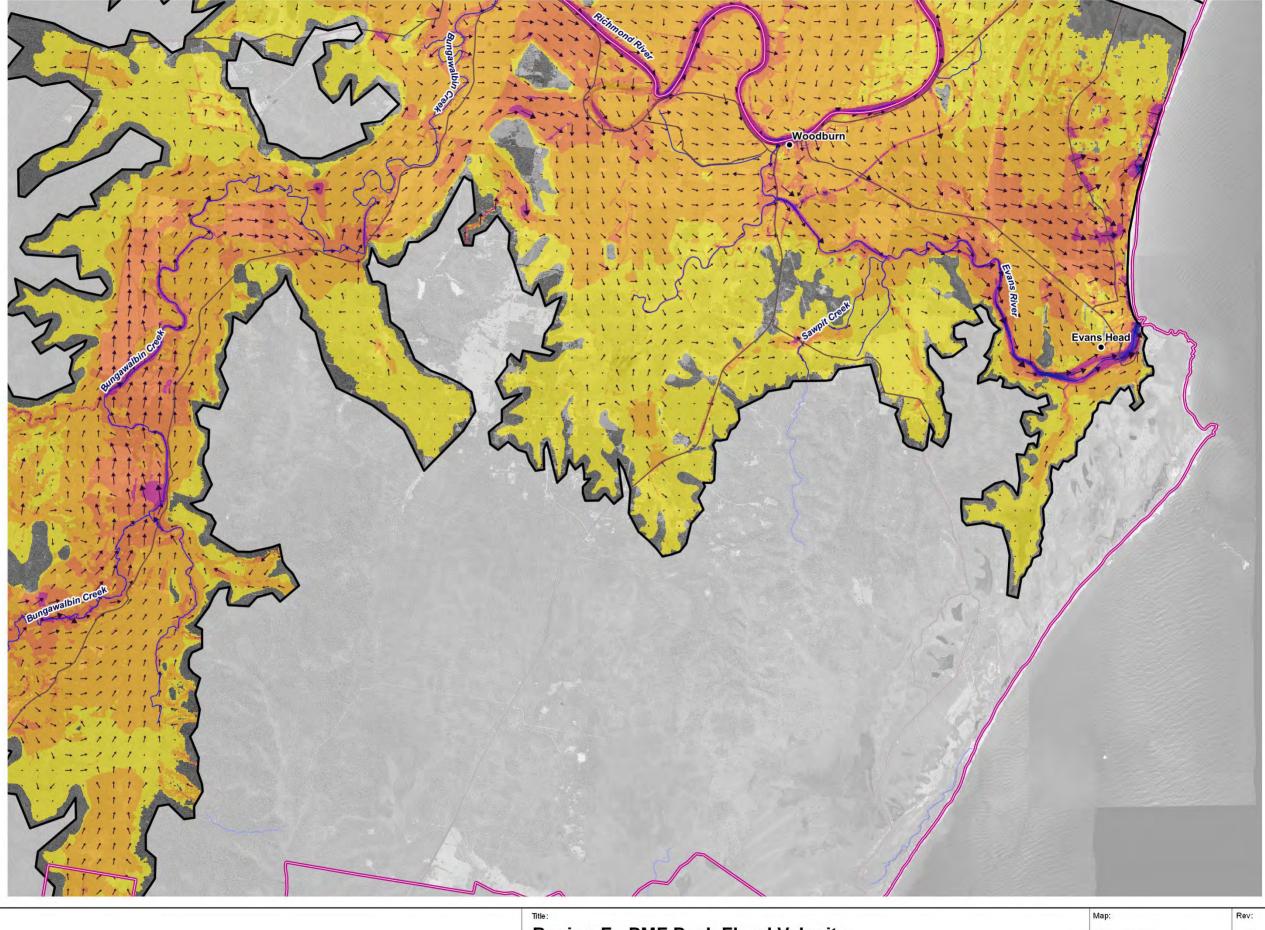
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

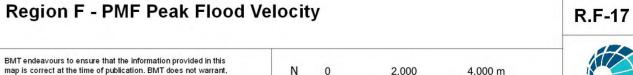
> 3.0



Legend LGA Boundaries — Main Roads Model Extent — Watercourses Towns

Watercourses

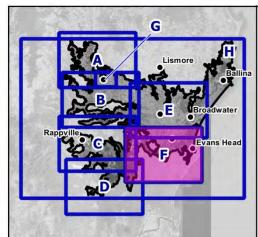
BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



N 0 2,000 4,000 m



 $Filepath: \ l:\ A10749.k.br. Richmond_River_Flood_Study\\ \land QGIS\\ \land Result_Maps\\ \land Results_230405\\ \land Design_Addendum\\ \land Results_Design_Sheets_230405. qgz$



<0.1

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

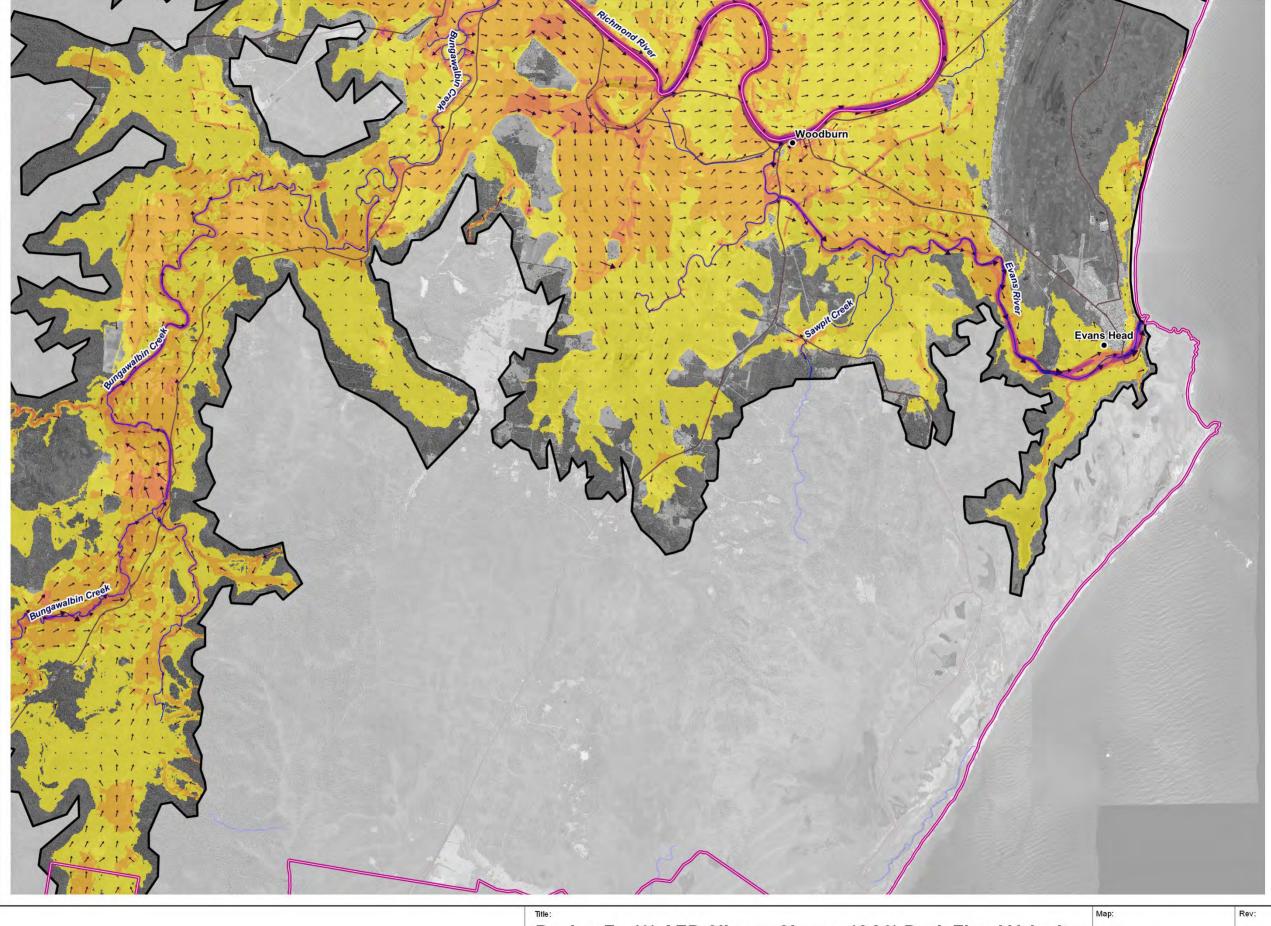
0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0



Legend LGA Boundaries — Main Roads Model Extent

--- Watercourses

Towns

Region F - 1% AEP Climate Change (CC3) Peak Flood Velocity

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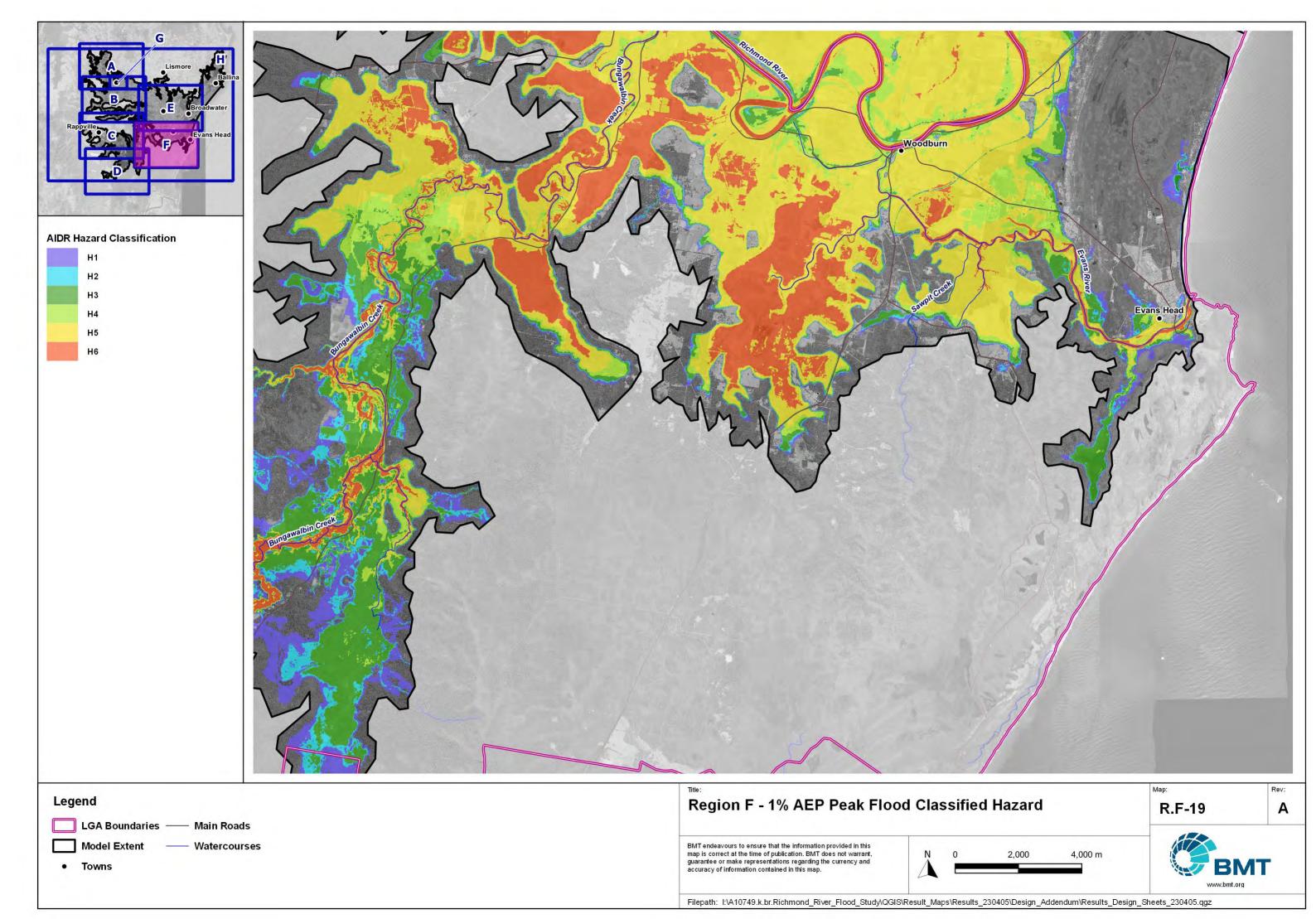
R.F-18

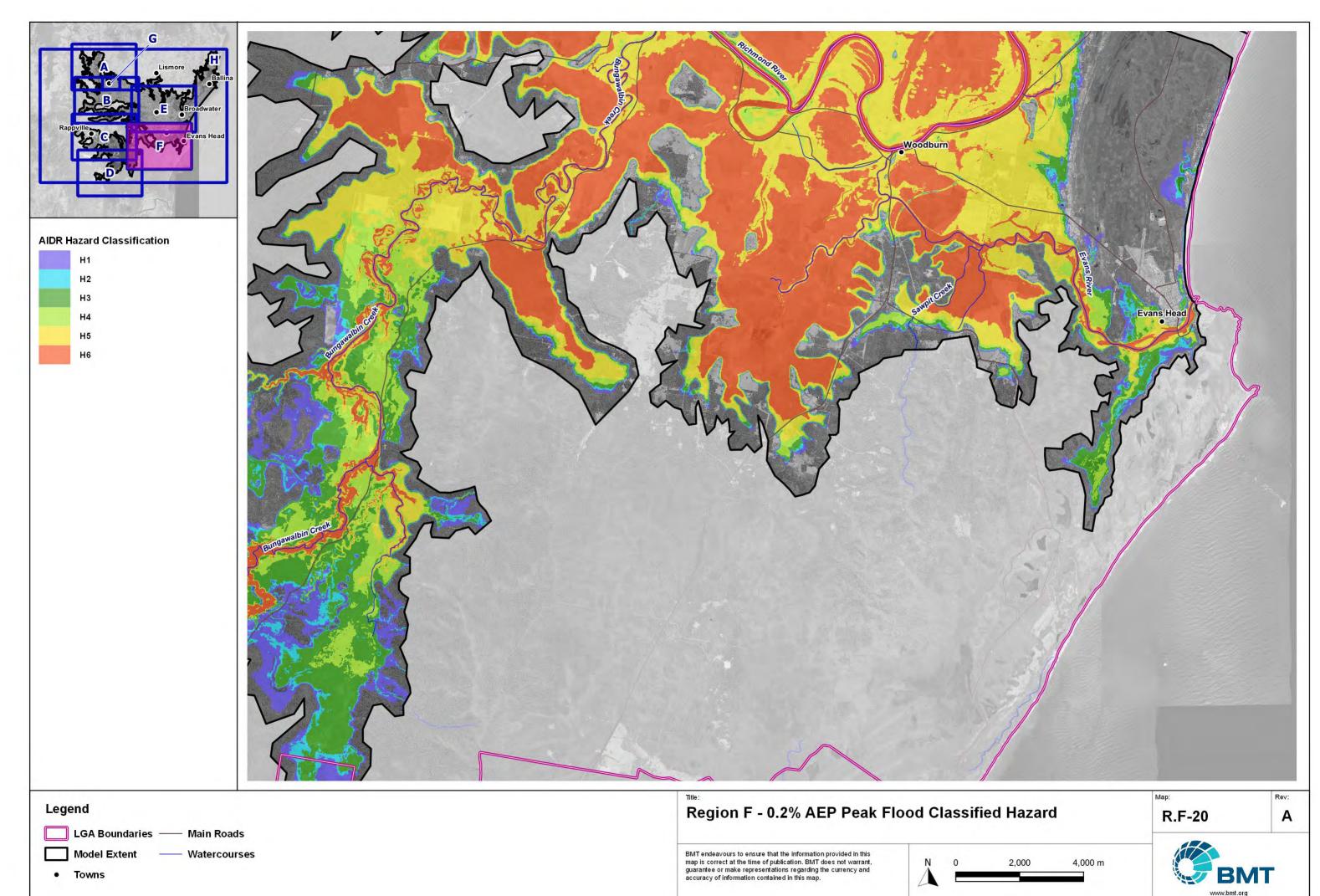
4,000 m

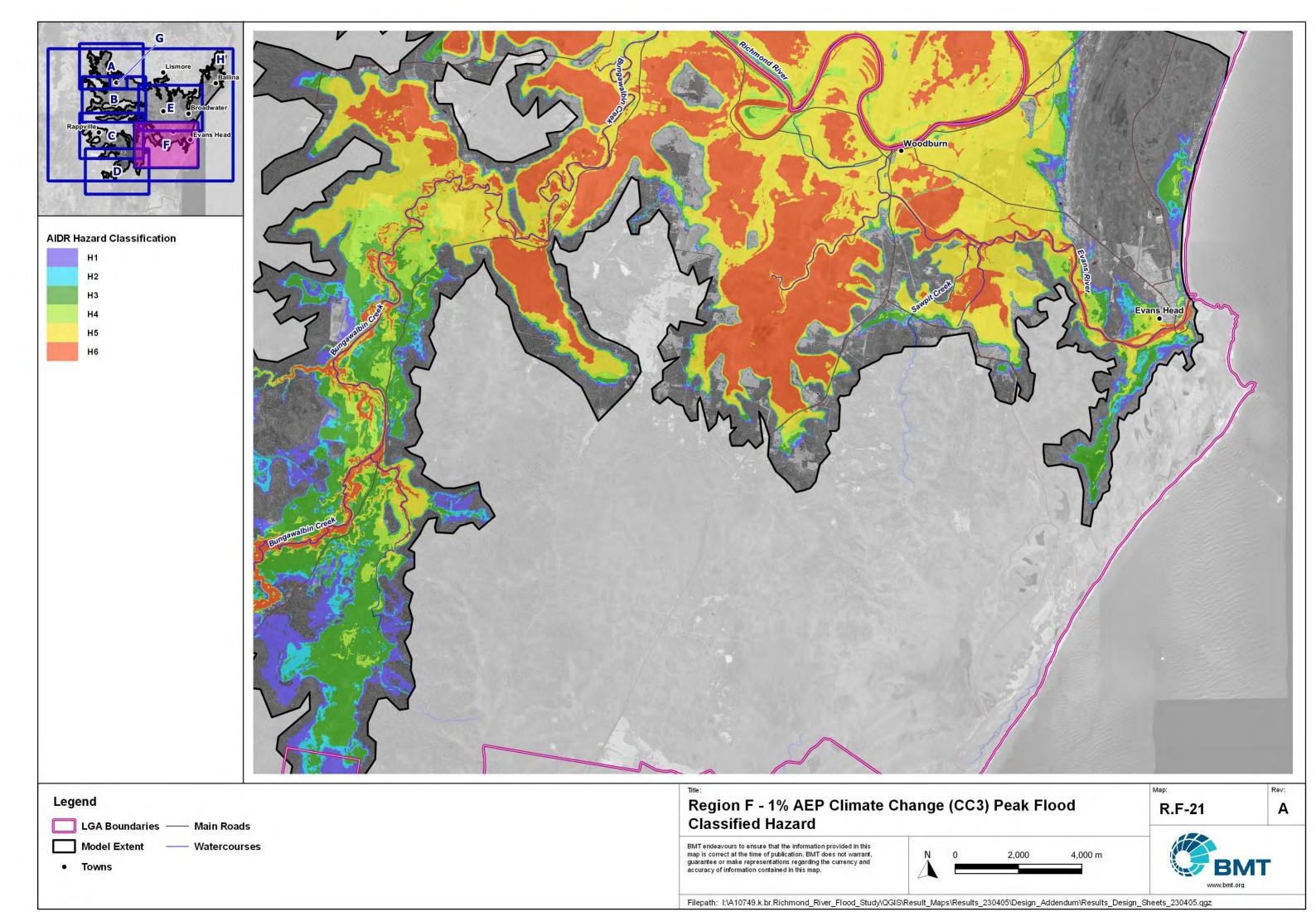


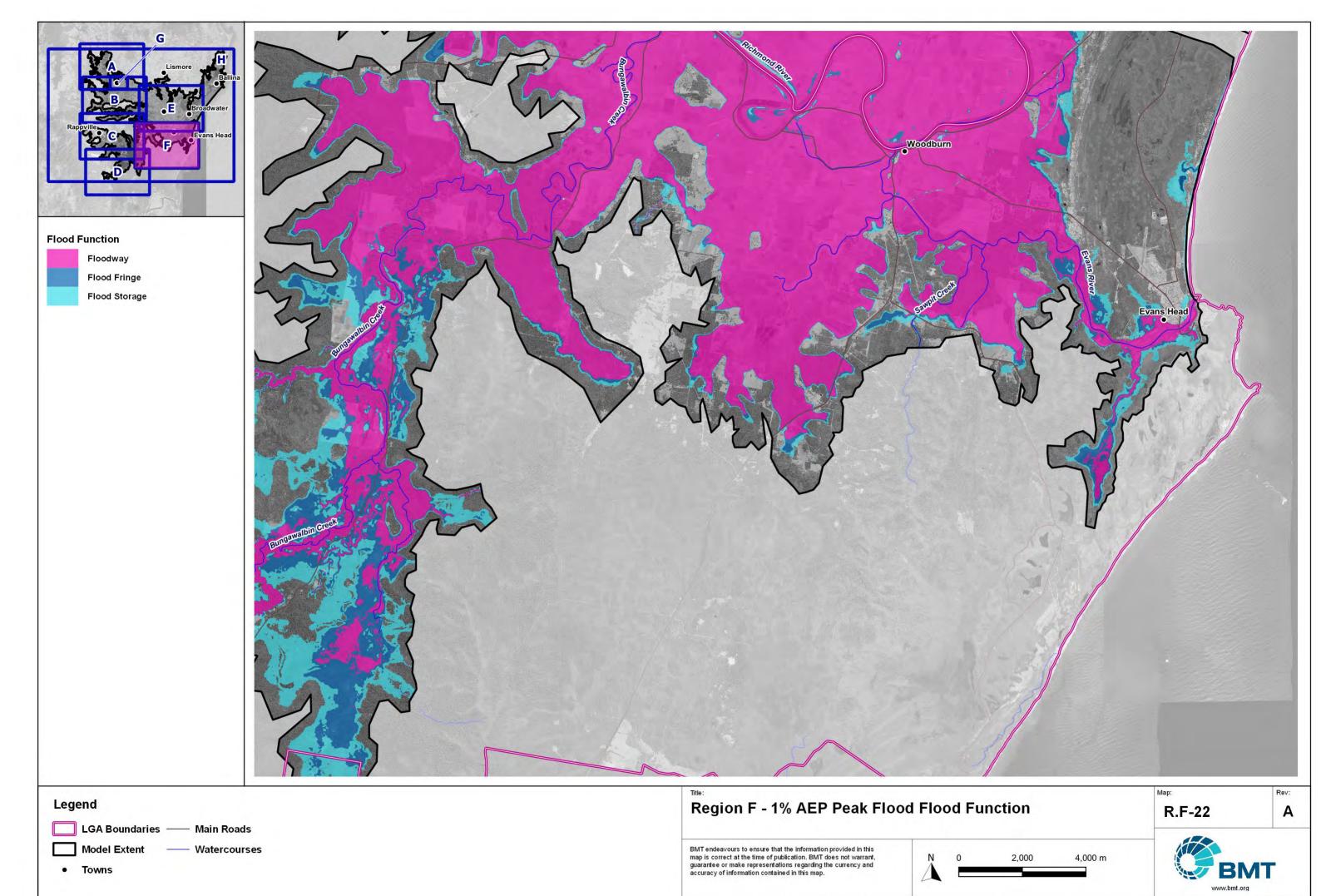
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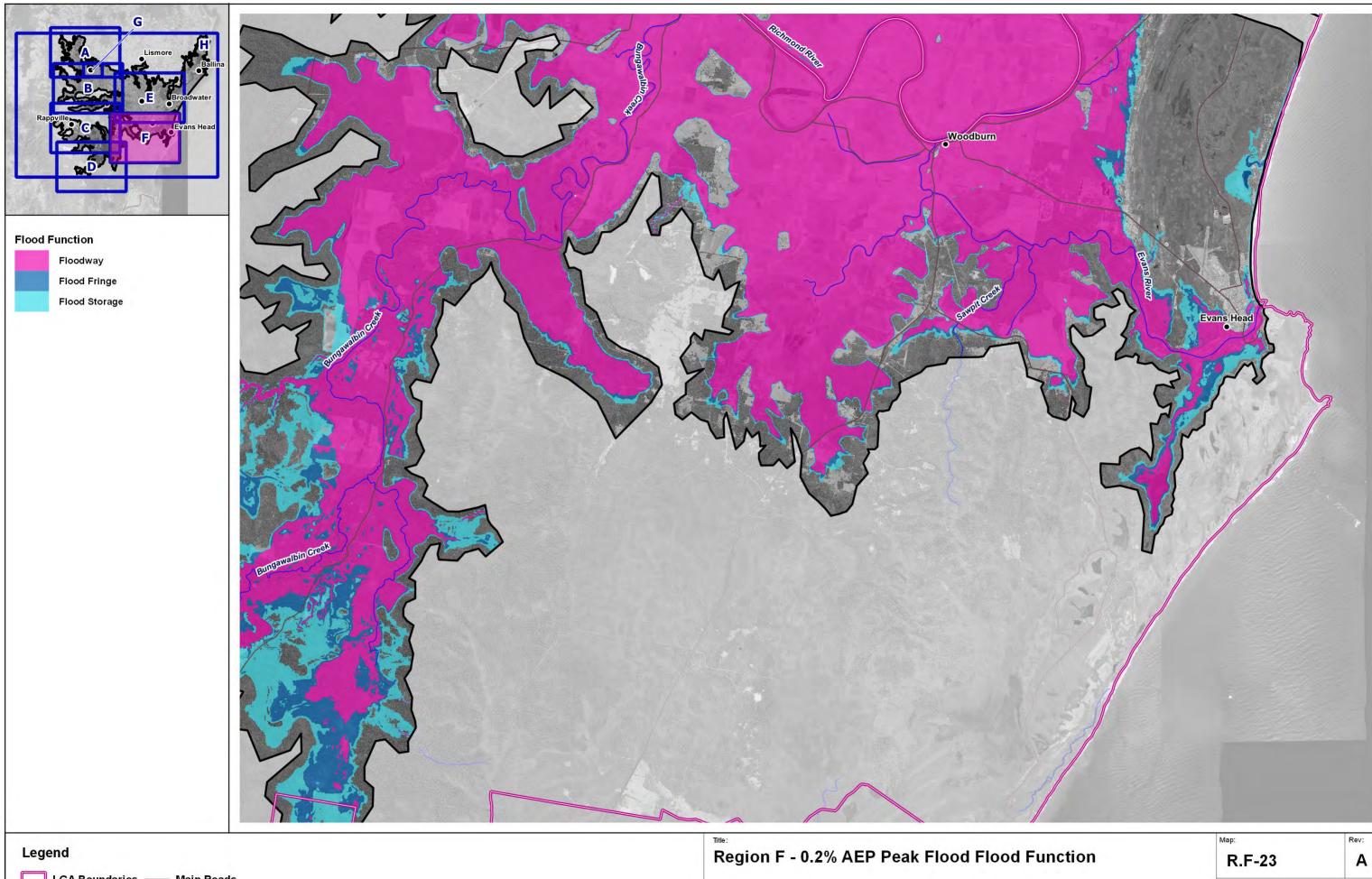
2,000



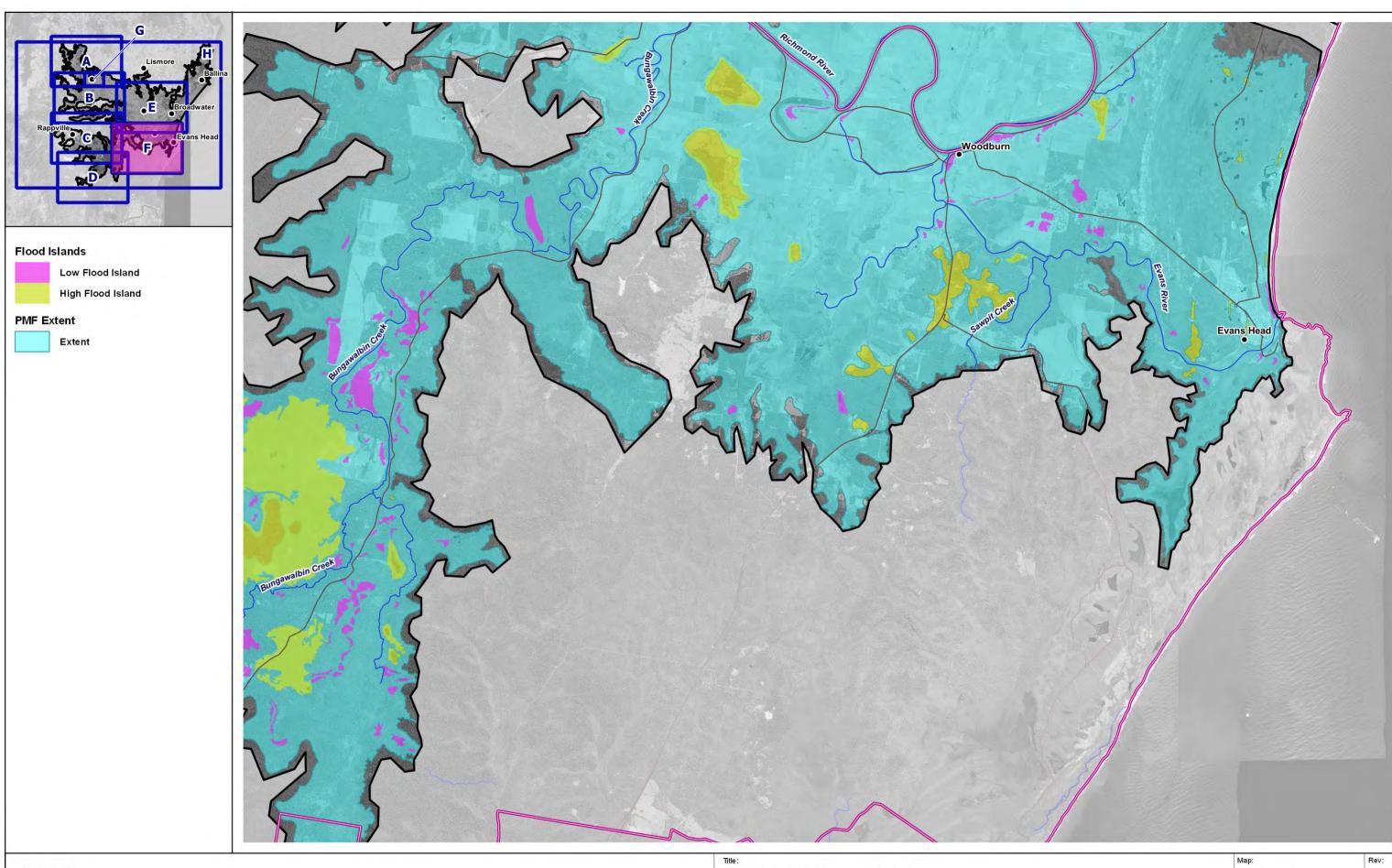




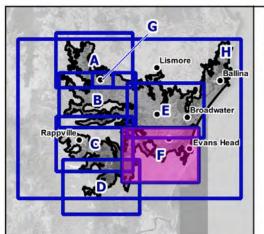












Flood Planning Level (m AHD)

0.1m Interval Contours

<= 5

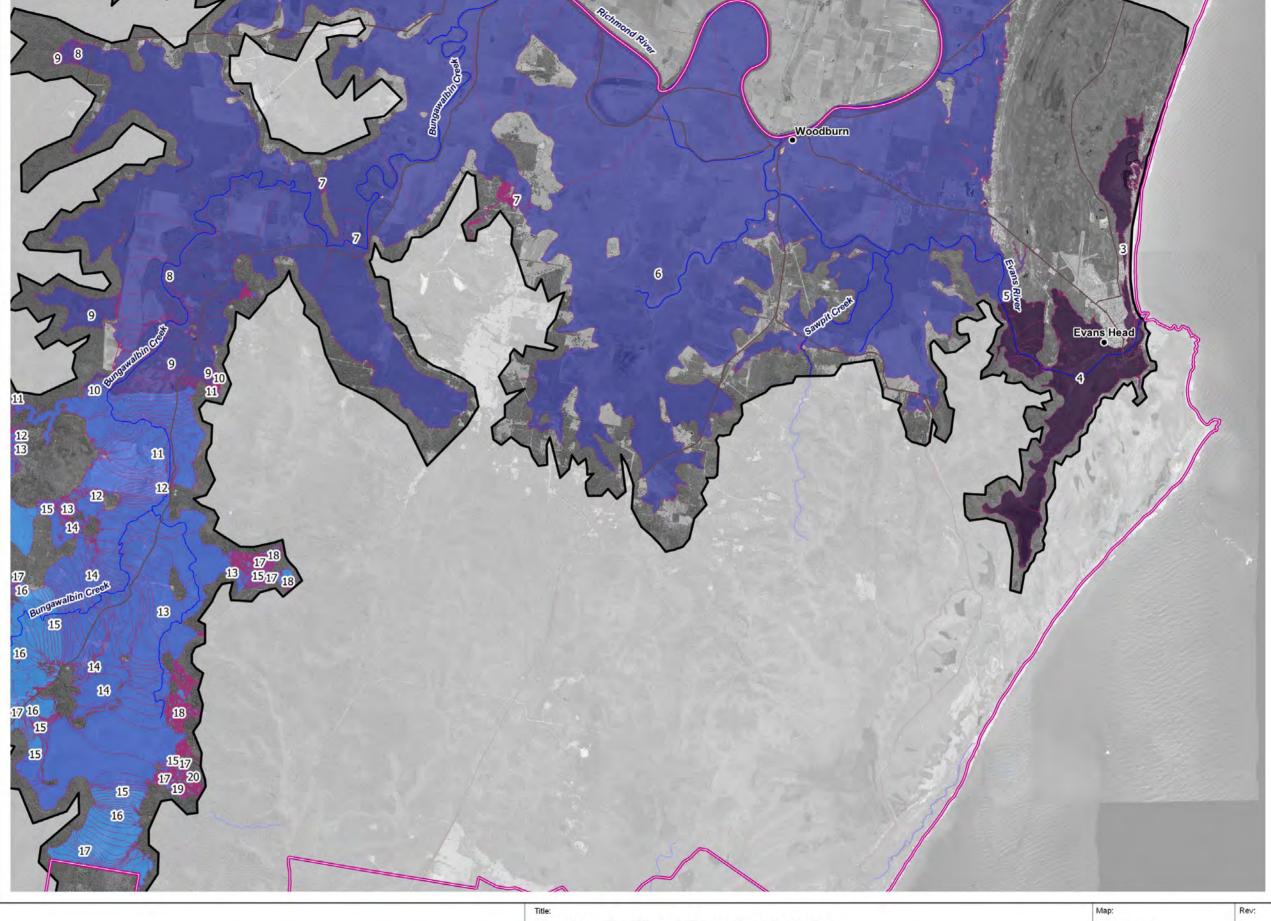
0 - 10

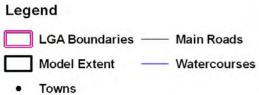
10 - 15 15 - 20

20 - 25

25 - 30

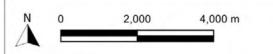
30 - 35





Region F - Flood Planning Levels

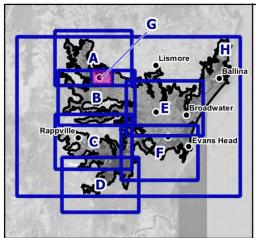
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R.F-25

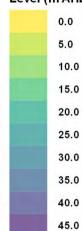
Α



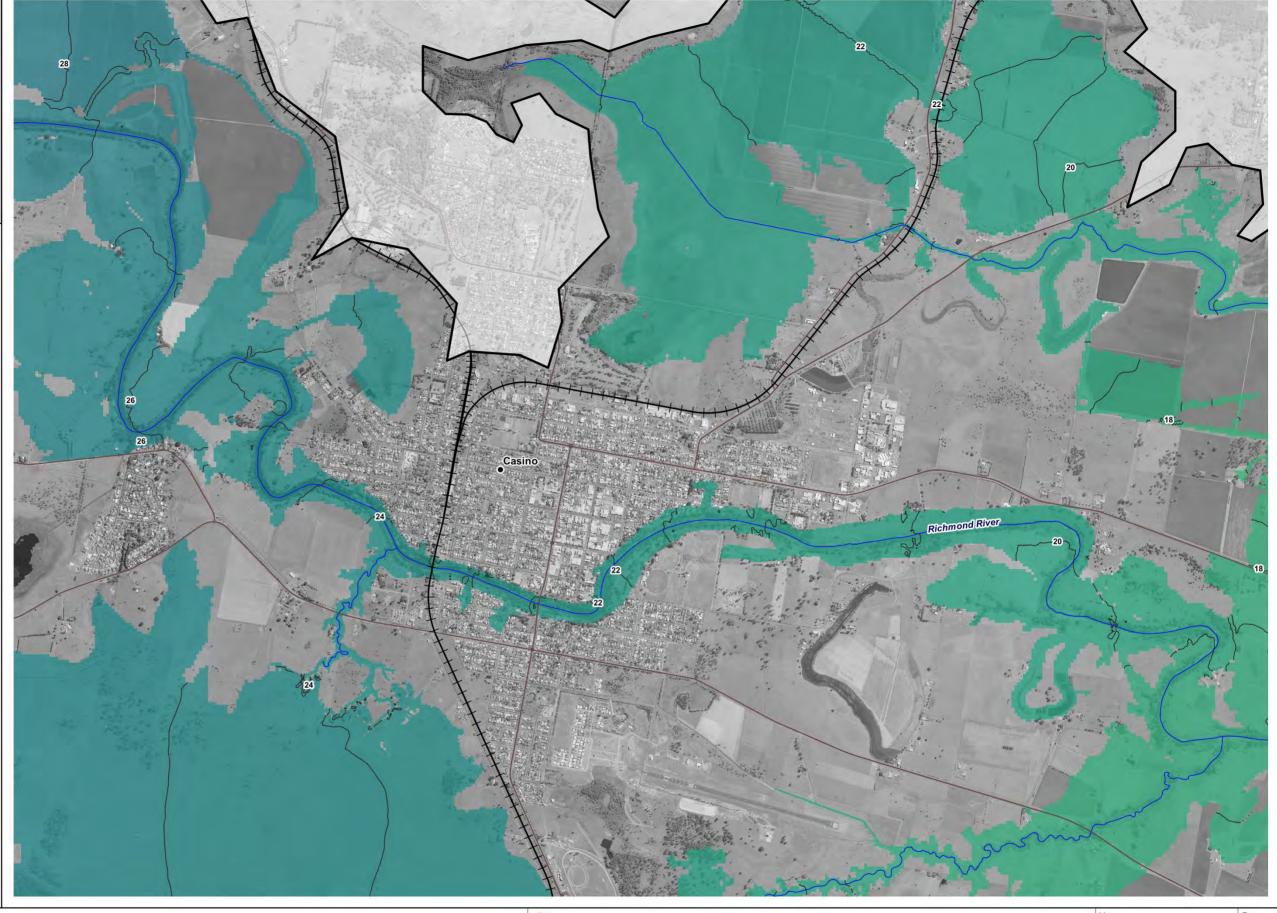


- 5% AEP 0.5m Contours

Level (m AHD)



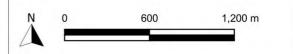
50.0



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

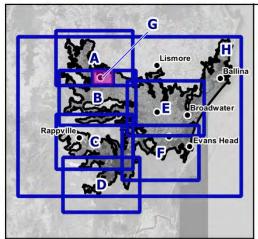


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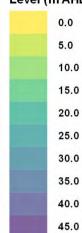
R.G-1



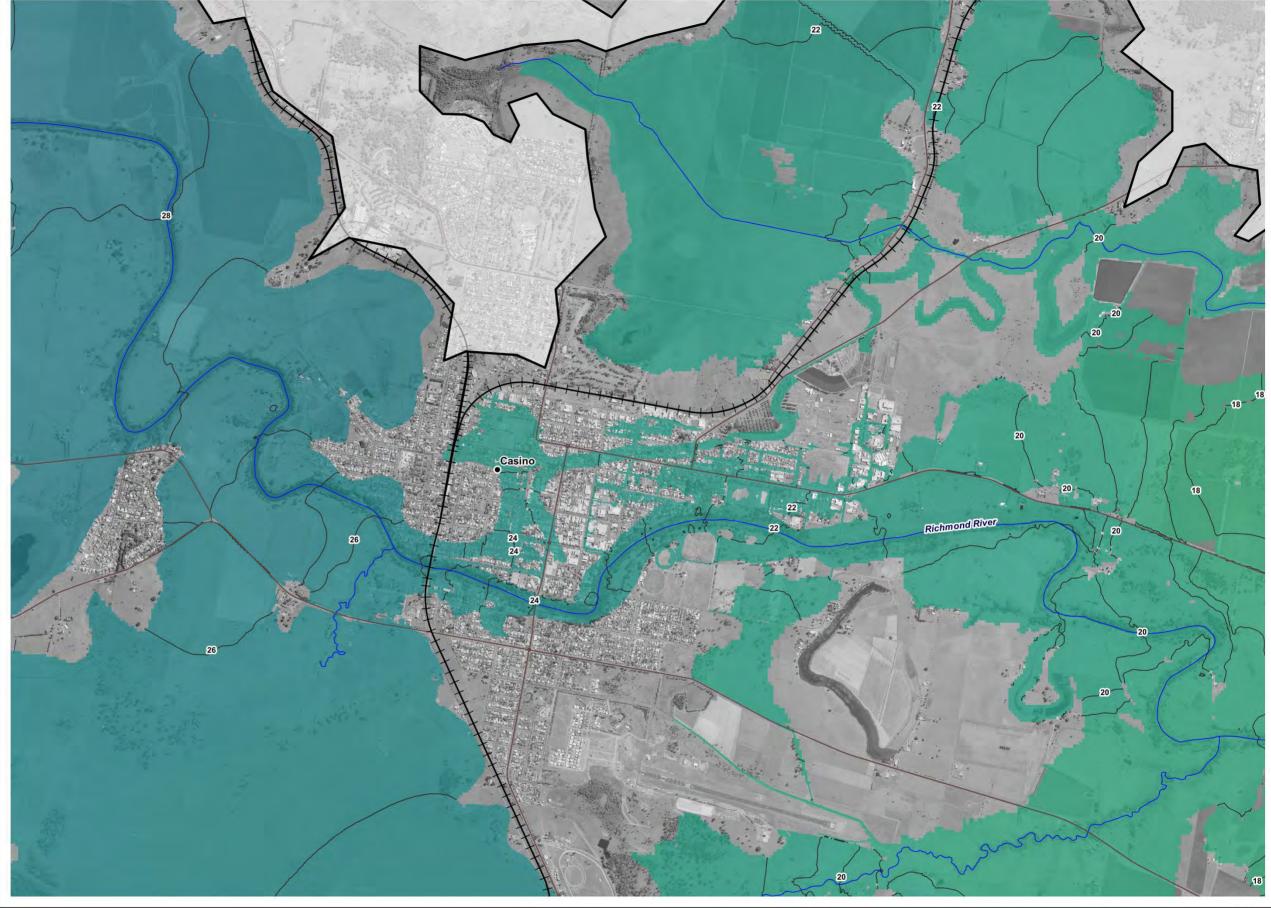


2% AEP 0.5m Contours

Level (m AHD)



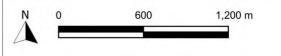
50.0



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

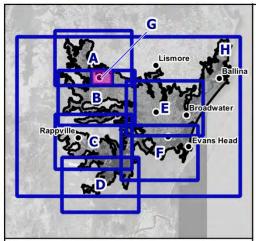


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R.G-2



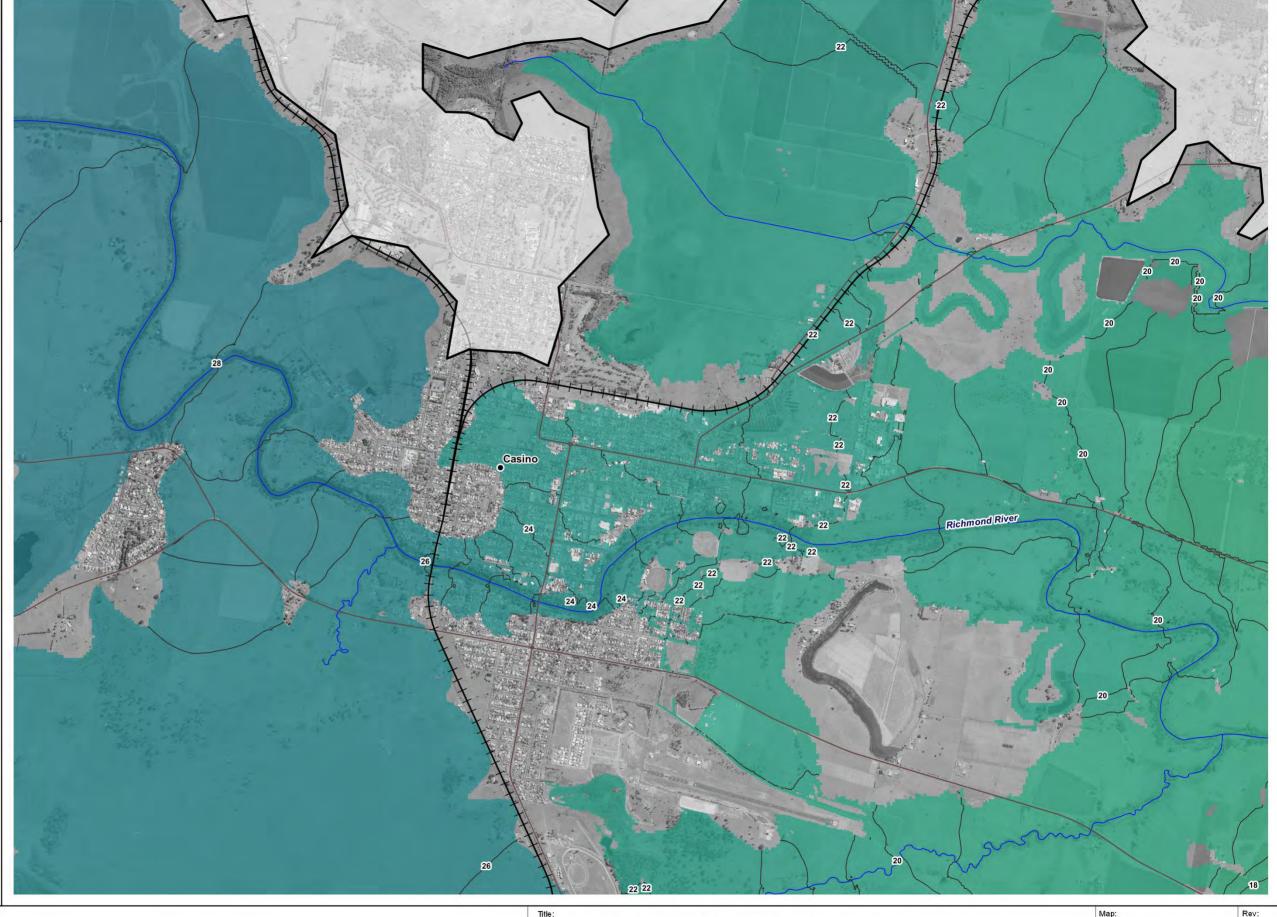


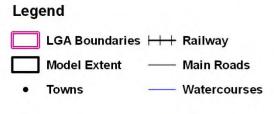
- 1% AEP 0.5m Contours

Level (m AHD)



50.0





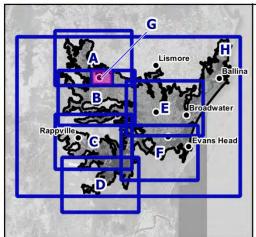


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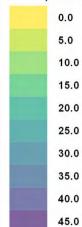
R.G-3



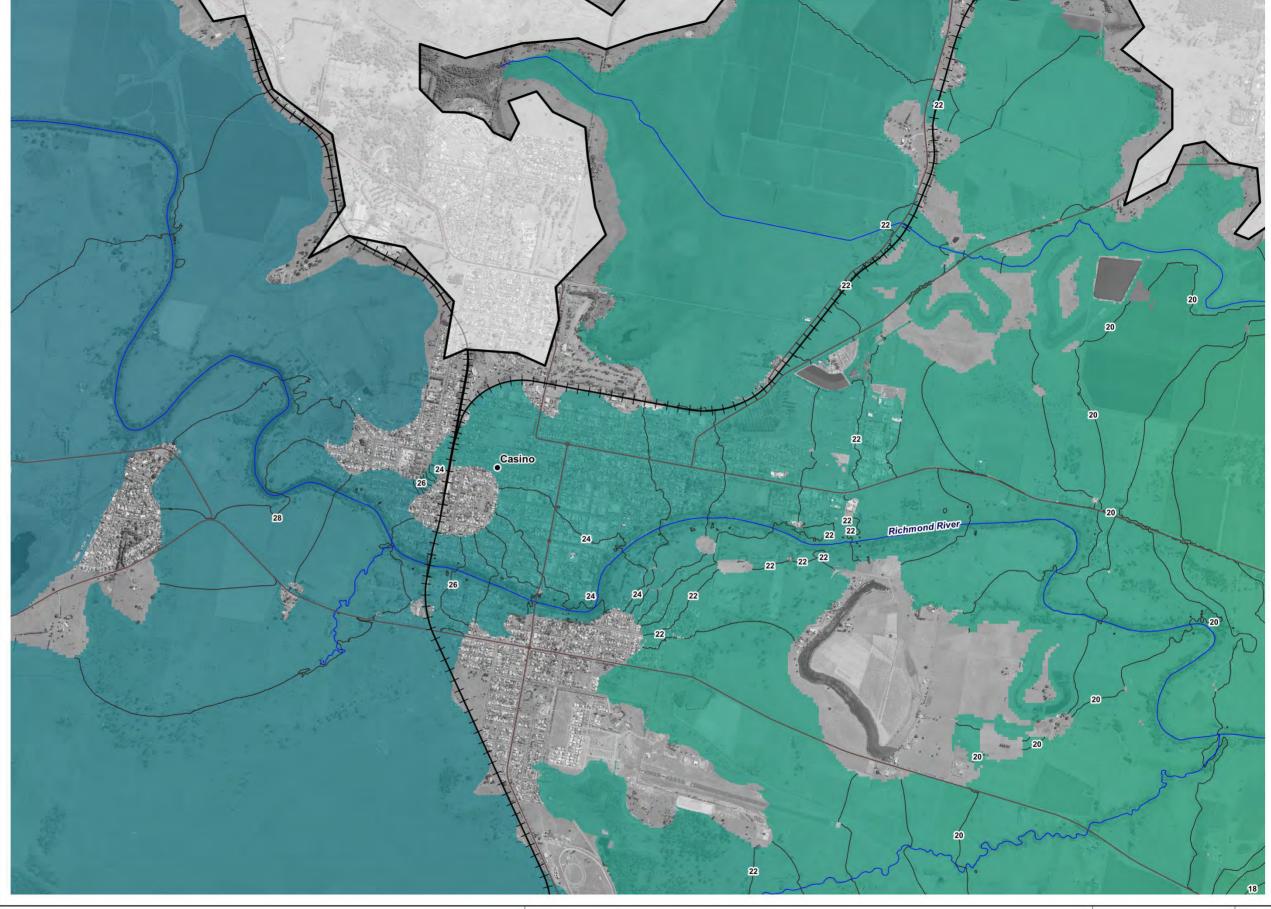


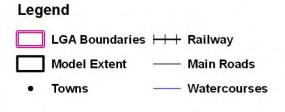
- 0.2% AEP 0.5m Contours

Level (m AHD)



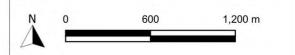
50.0



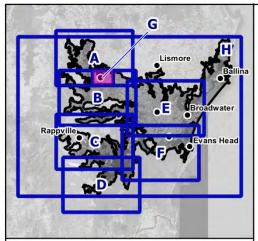




BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.

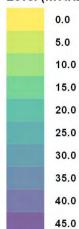




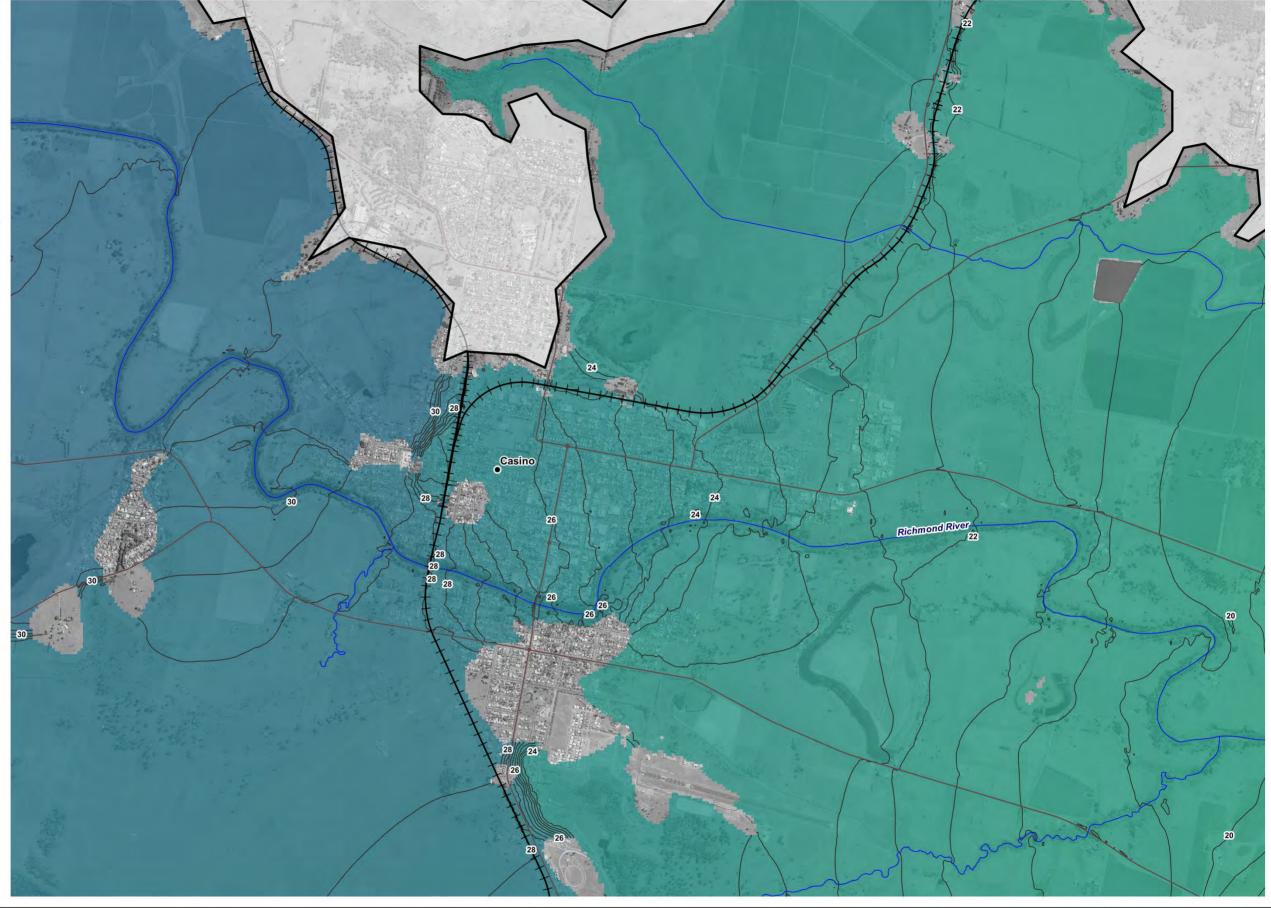


- PMF 0.5m Contours

Level (m AHD)



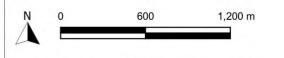
50.0



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

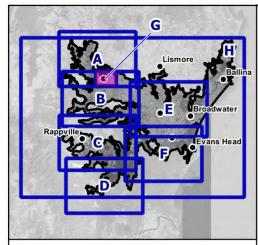


BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



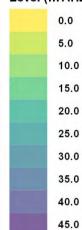
R.G-5



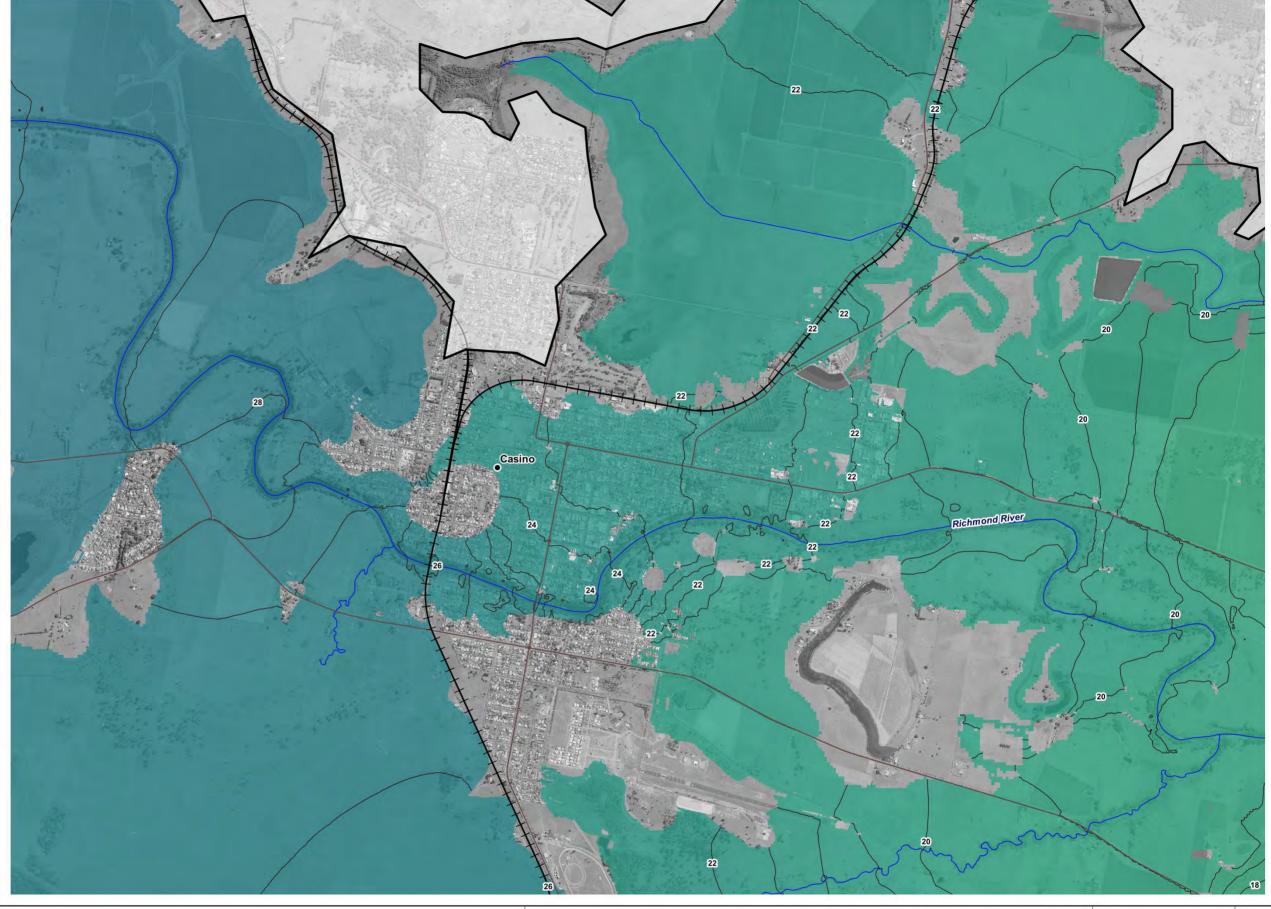


- 1% AEP CC3 0.5m Contours

Level (m AHD)



50.0



Legend LGA Boundaries +++ Railway Model Extent --- Main Roads Towns --- Watercourses

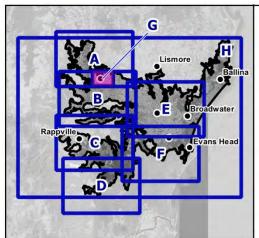
Region G - 1% AEP Climate Change (CC3) Peak Flood Level

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R.G-6 A

BMT www.bmt.org



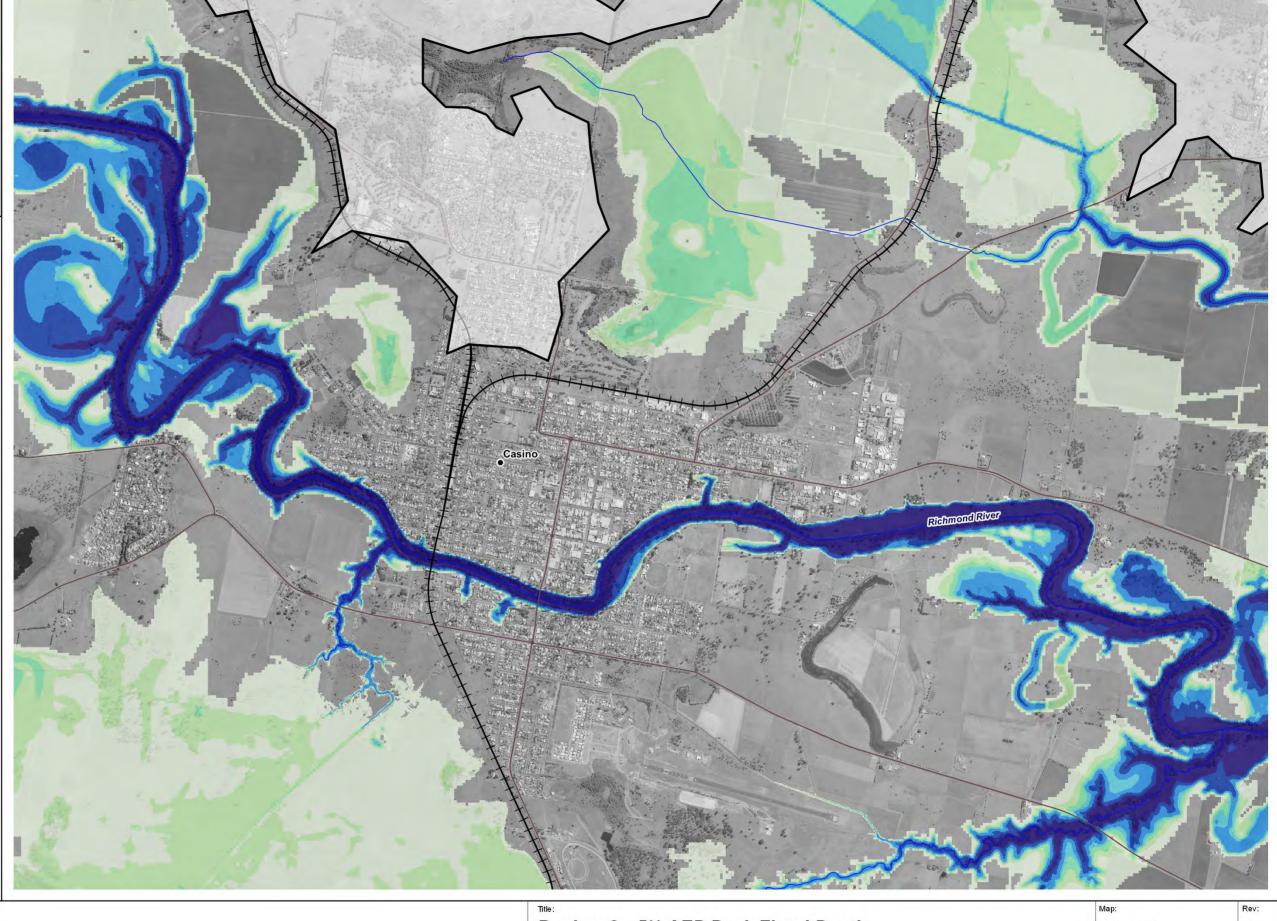
< 0.25

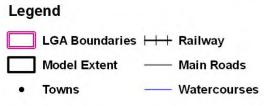
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0





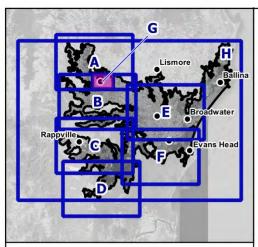


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R.G-7





< 0.25

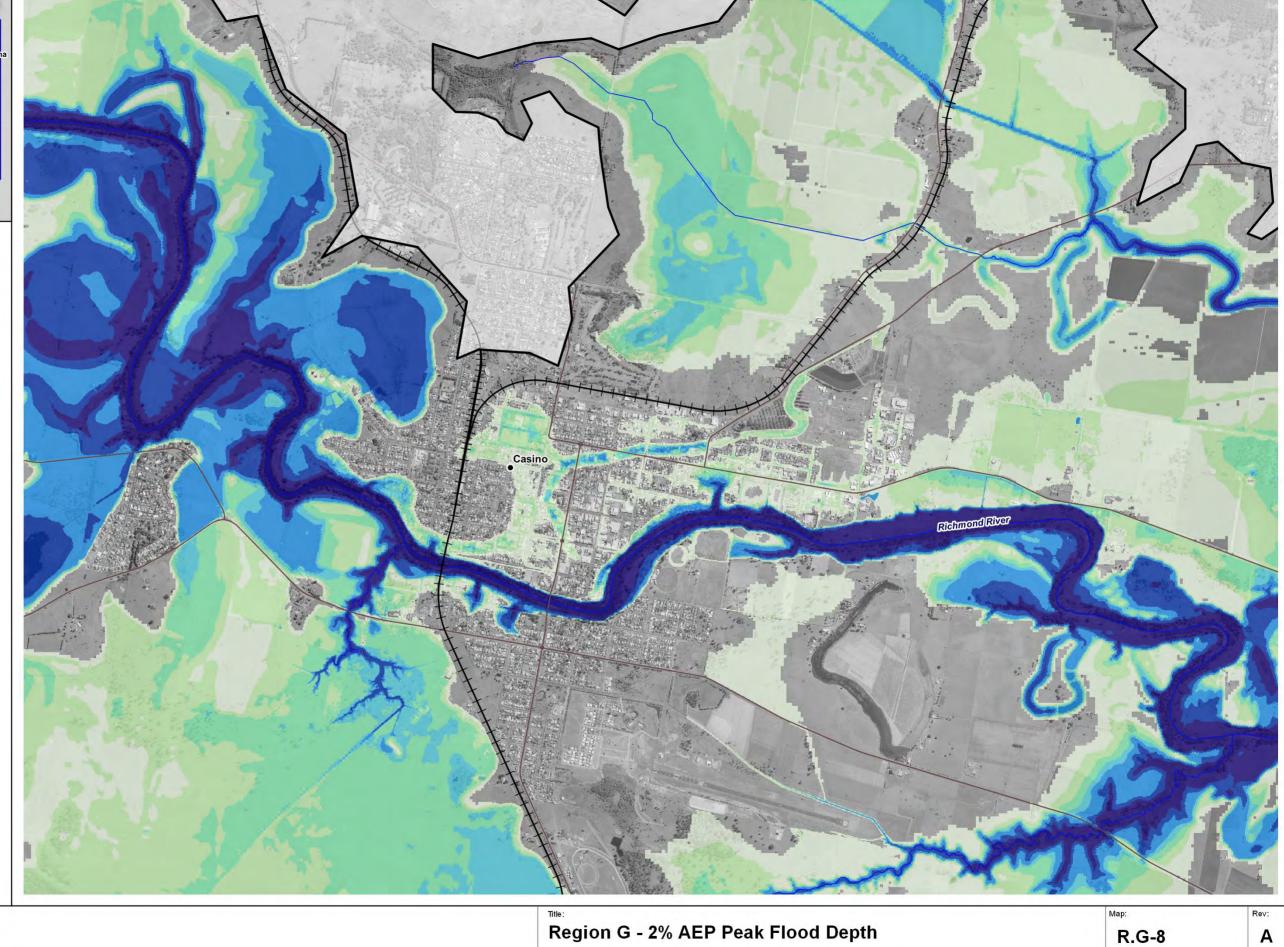
0.25 to 0.5

0.5 to 0.75

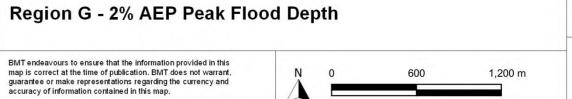
0.75 to 1.0

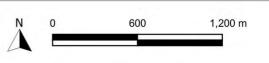
1.0 to 2.0

2.0 to 4.0



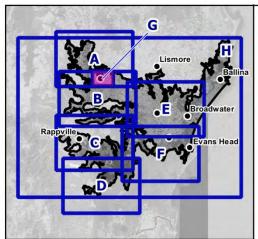
Legend ☐☐ LGA Boundaries ├── Railway Model Extent --- Main Roads Towns --- Watercourses







 $File path: \ l:\ A10749.k.br. Richmond_River_Flood_Study \land QGIS \land Result_Maps \land Results_230405 \land Design_Addendum \land Results_Design_Sheets_230405 \land QGIS \land Results_230405 \land Design_Addendum \land Results_Design_Sheets_230405 \land QGIS \land$



< 0.25

0.25 to 0.5

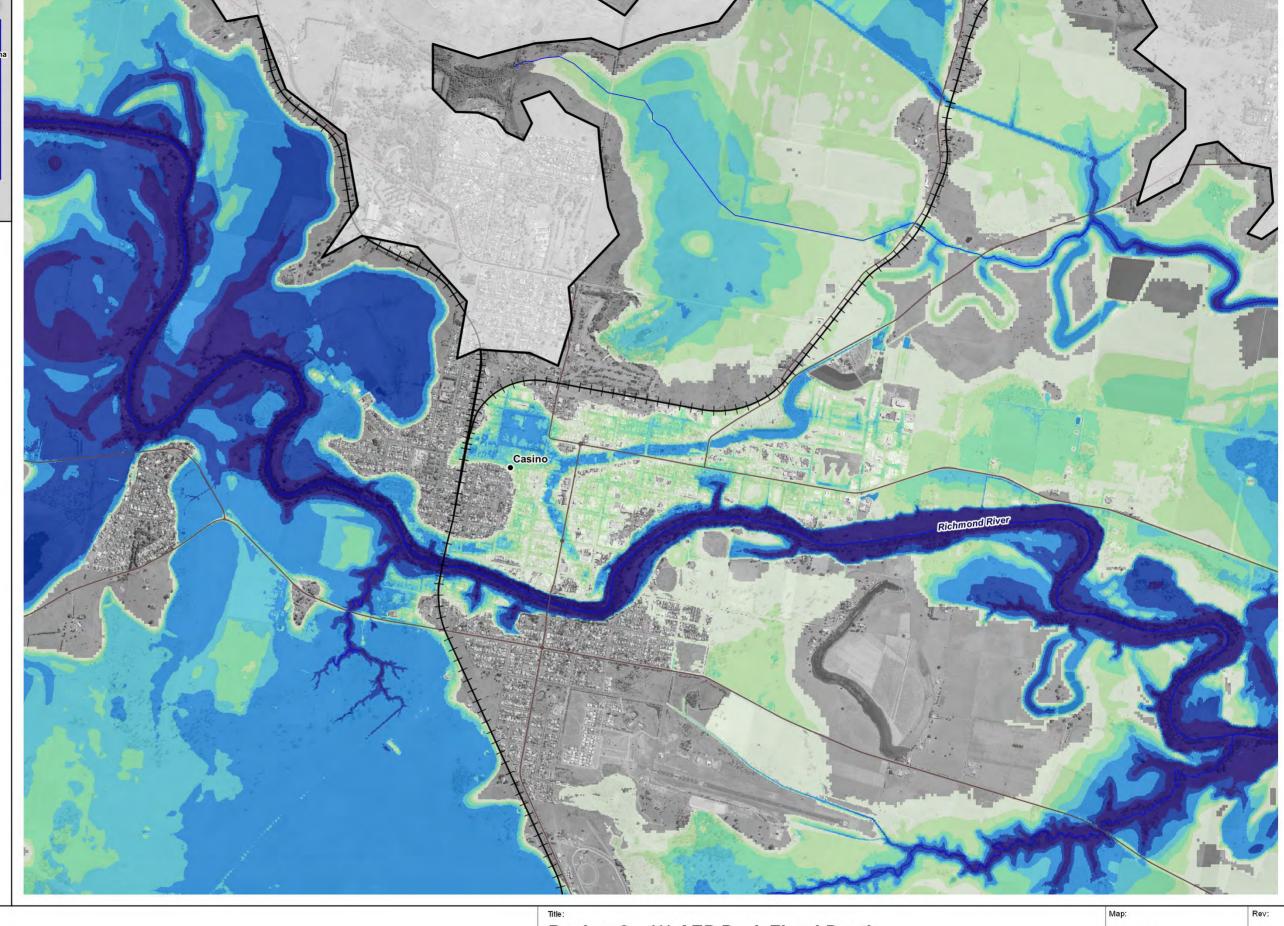
0.5 to 0.75

0.75 to 1.0

1.0 to 2.0 2.0 to 4.0

2.0 10 4

>4



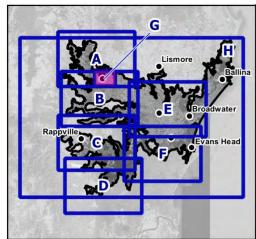
Legend □ LGA Boundaries → Railway □ Model Extent ← Main Roads • Towns ← Watercourses

Region G - 1% AEP Peak Flood Depth

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N 0 600 1,200 m

R.G-9 A



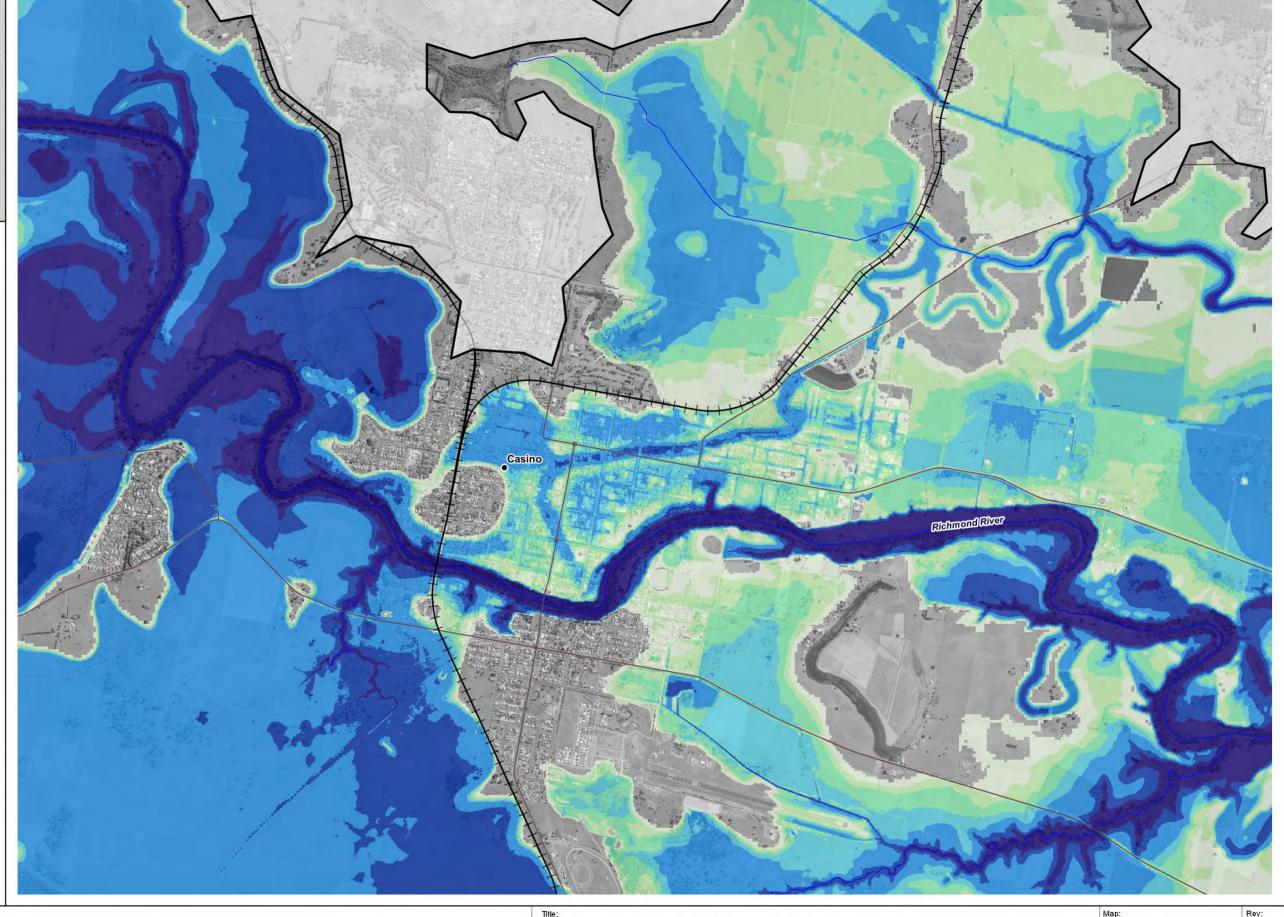
< 0.25

0.25 to 0.5

0.5 to 0.75

0.75 to 1.0

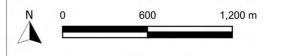
1.0 to 2.0 2.0 to 4.0



Legend ☐☐ LGA Boundaries ├── Railway Model Extent - Main Roads • Towns --- Watercourses



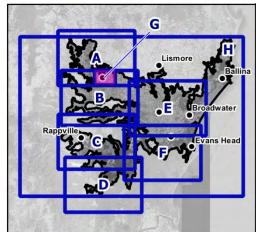
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R.G-10



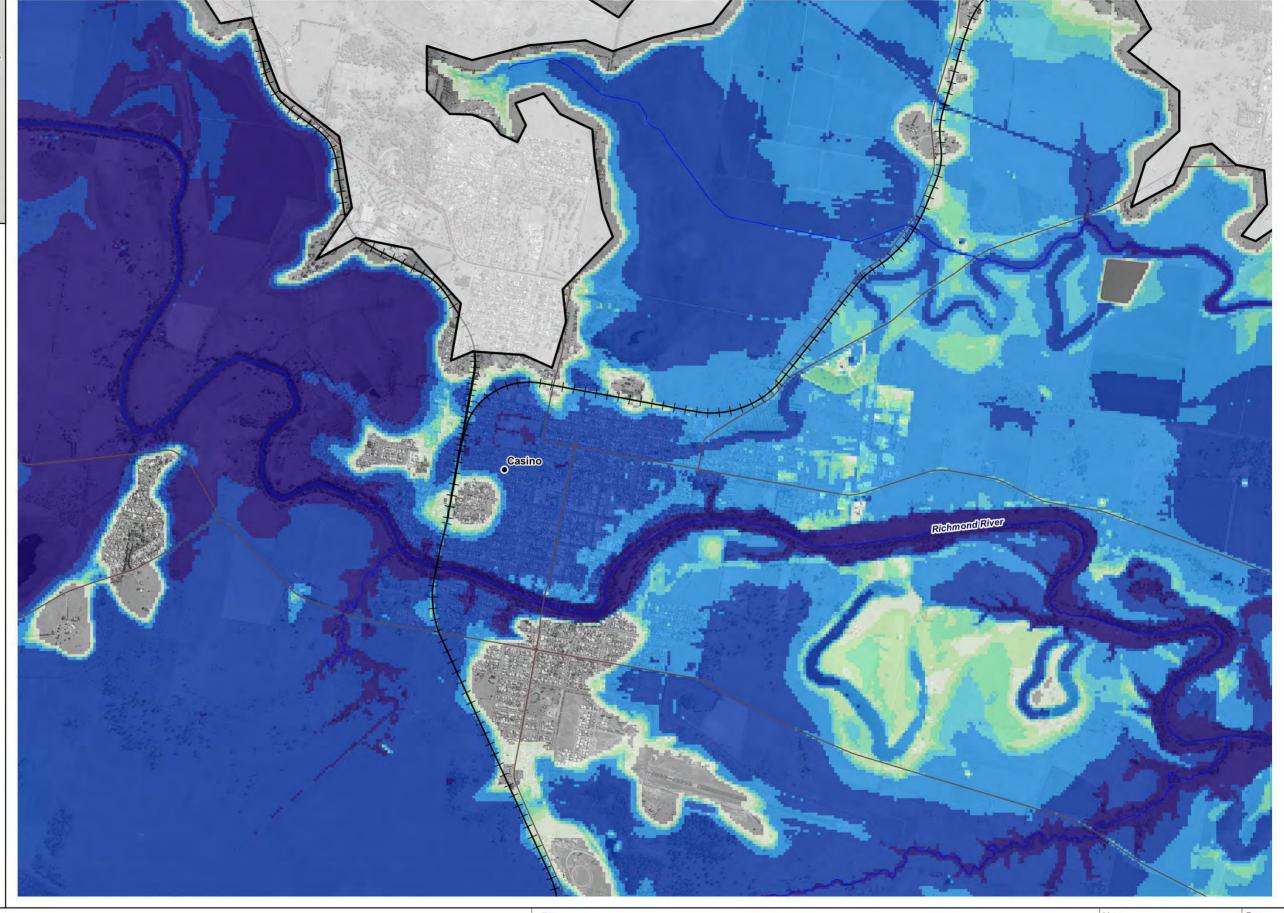
Α



<0.25

0.25 to 0.5

0.5 to 0.75 0.75 to 1.0 1.0 to 2.0 2.0 to 4.0



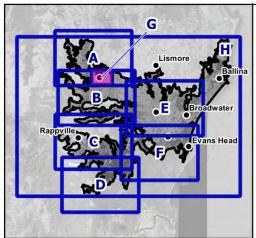


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R.G-11

BMT



< 0.25

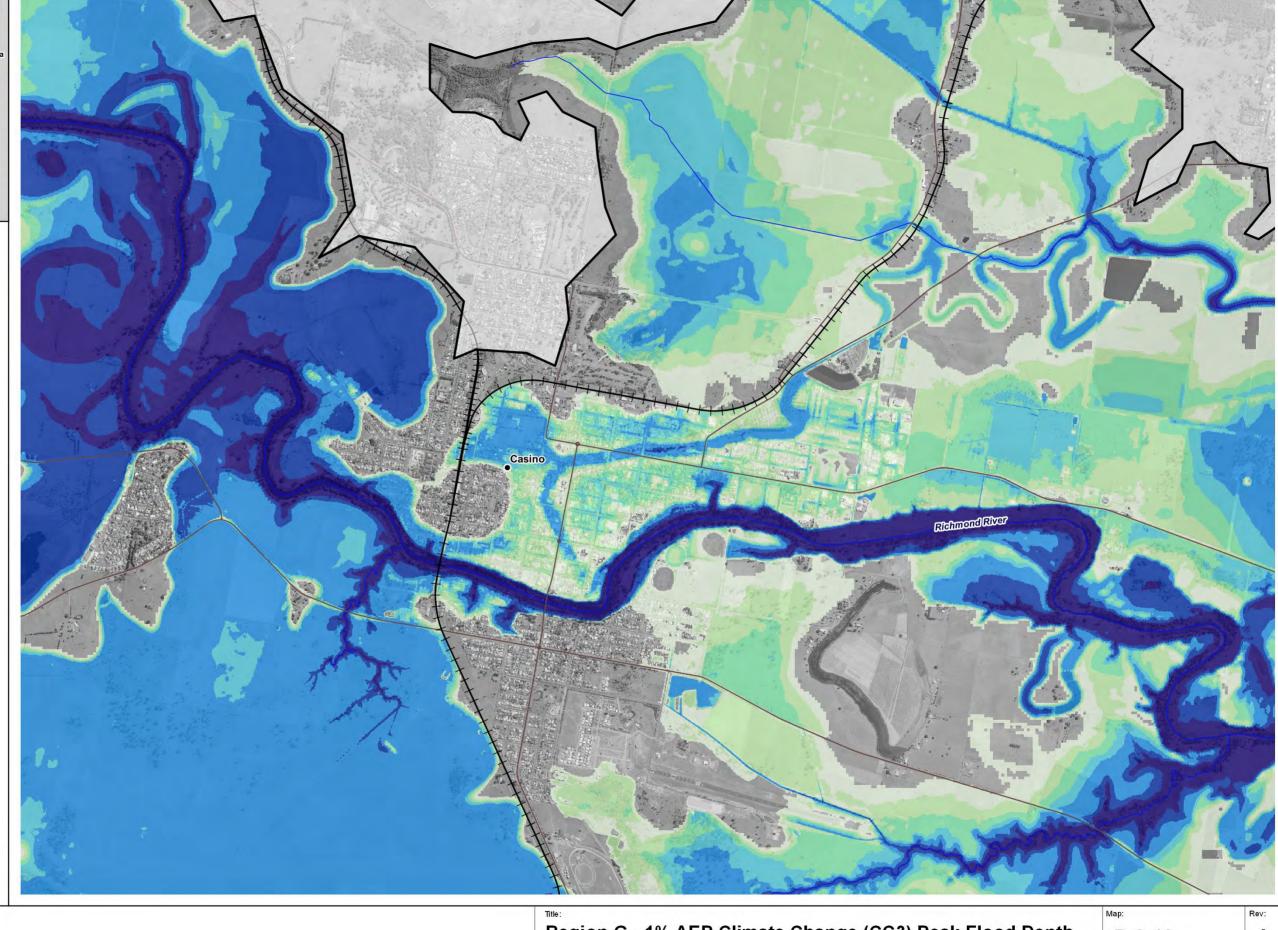
0.25 to 0.5

0.5 to 0.75

0.75 to 1.0 1.0 to 2.0

2.0 to 4.0

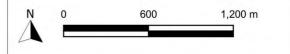
>4



Legend □ LGA Boundaries ├── Railway □ Model Extent ── Main Roads • Towns ── Watercourses

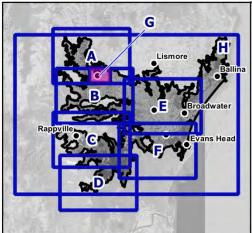
Region G - 1% AEP Climate Change (CC3) Peak Flood Depth

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R.G-12





<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

< 0.2

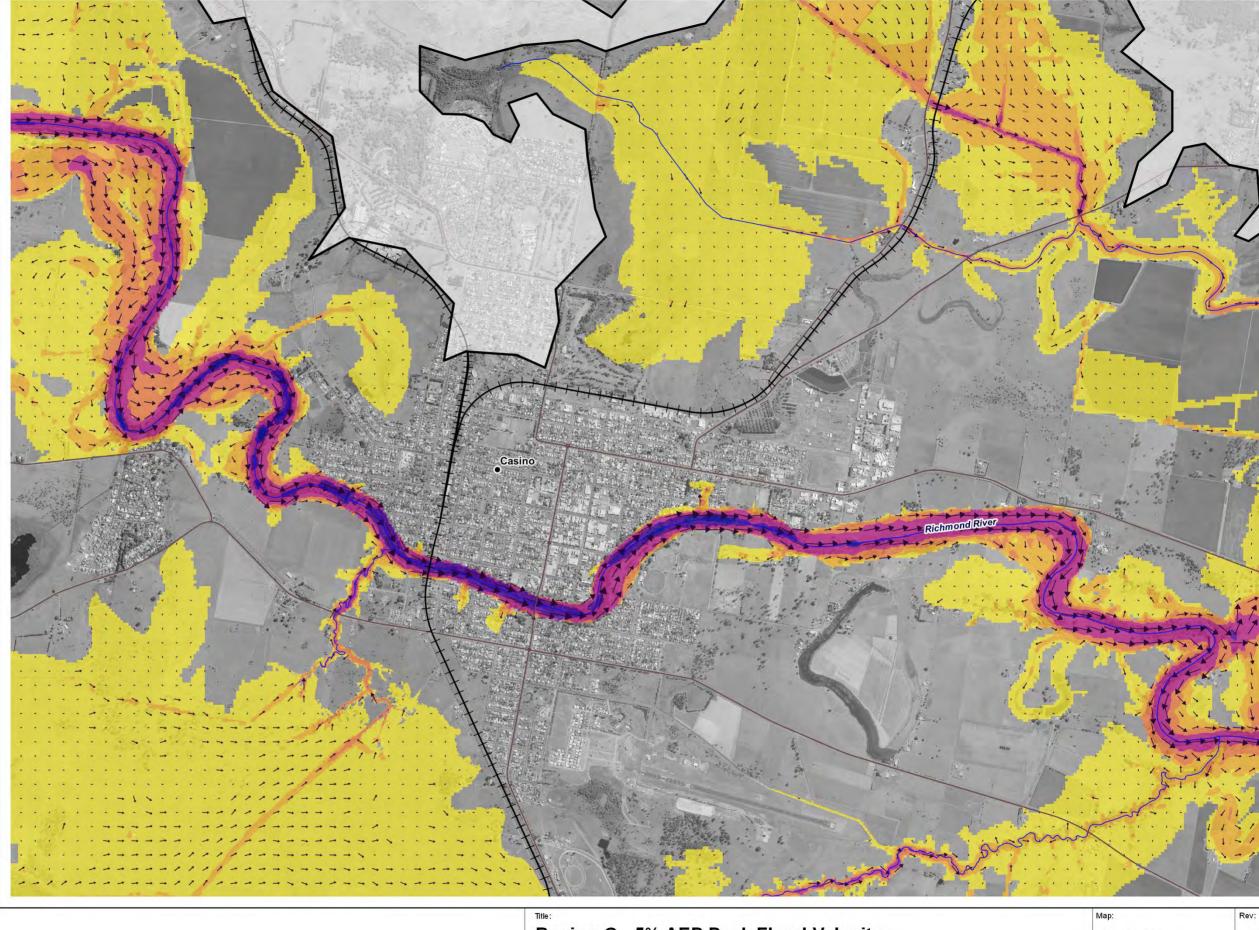
0.2 to 0.5

0.5 to 1.0 1.0 to 2.0

1.0 10 2.0

2.0 to 3.0

> 3.0



Legend □ LGA Boundaries → Railway ■ Model Extent ← Main Roads • Towns ← Watercourses

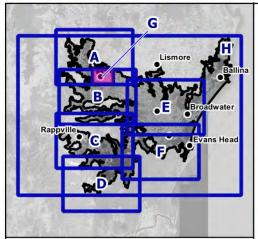
Region G - 5% AEP Peak Flood Velocity

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N 0 600

1,200 m

R.G-13 A



<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

→ 1.0 - 2.0

2.0-3.0

Velocity (m/s)

< 0.2

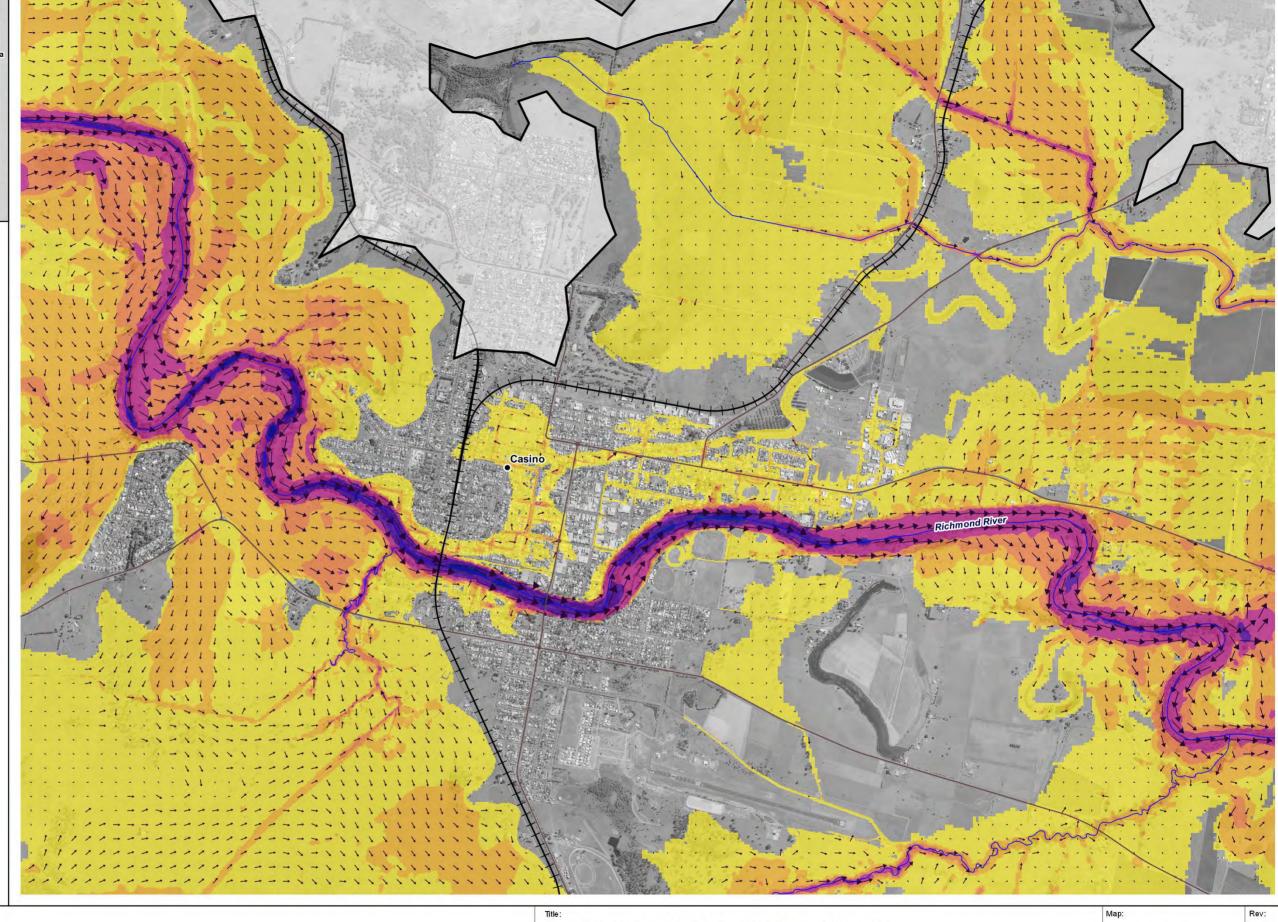
0.2 to 0.5

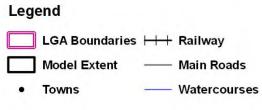
0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0





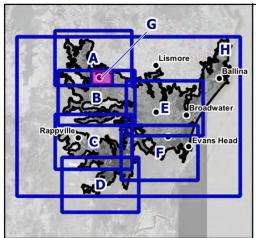


BMT endeavours to ensure that the information provided in this map is correct at the time of publication. BMT does not warrant, guarantee or make representations regarding the currency and accuracy of information contained in this map.



R.G-14

BMT



<0.1

→ 0.1 - 0.

→ 0.5 - 1.

1.0 - 2.0

2.0 - 3.0

Velocity (m/s)

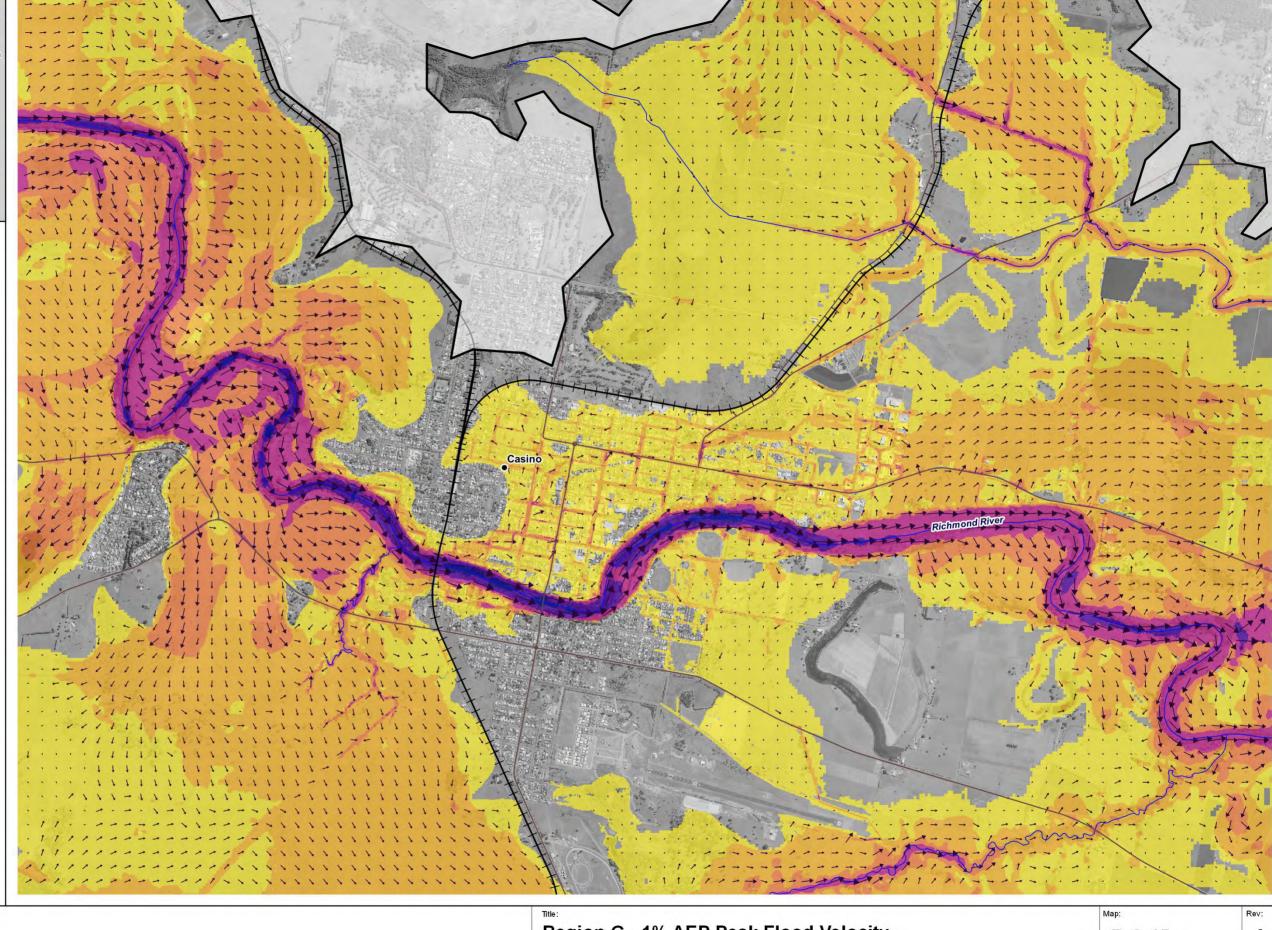
< 0.2 0.2 to 0.5

0.2 to 0.5 0.5 to 1.0

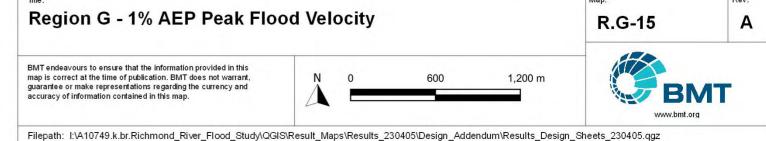
1.0 to 2.0

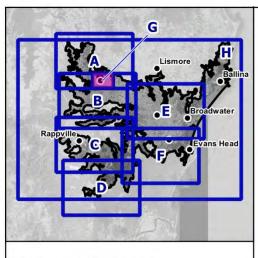
2.0 to 3.0

> 3.0



Legend □ LGA Boundaries → Railway □ Model Extent ← Main Roads • Towns ← Watercourses





<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

2.0 - 3.0

Velocity (m/s)

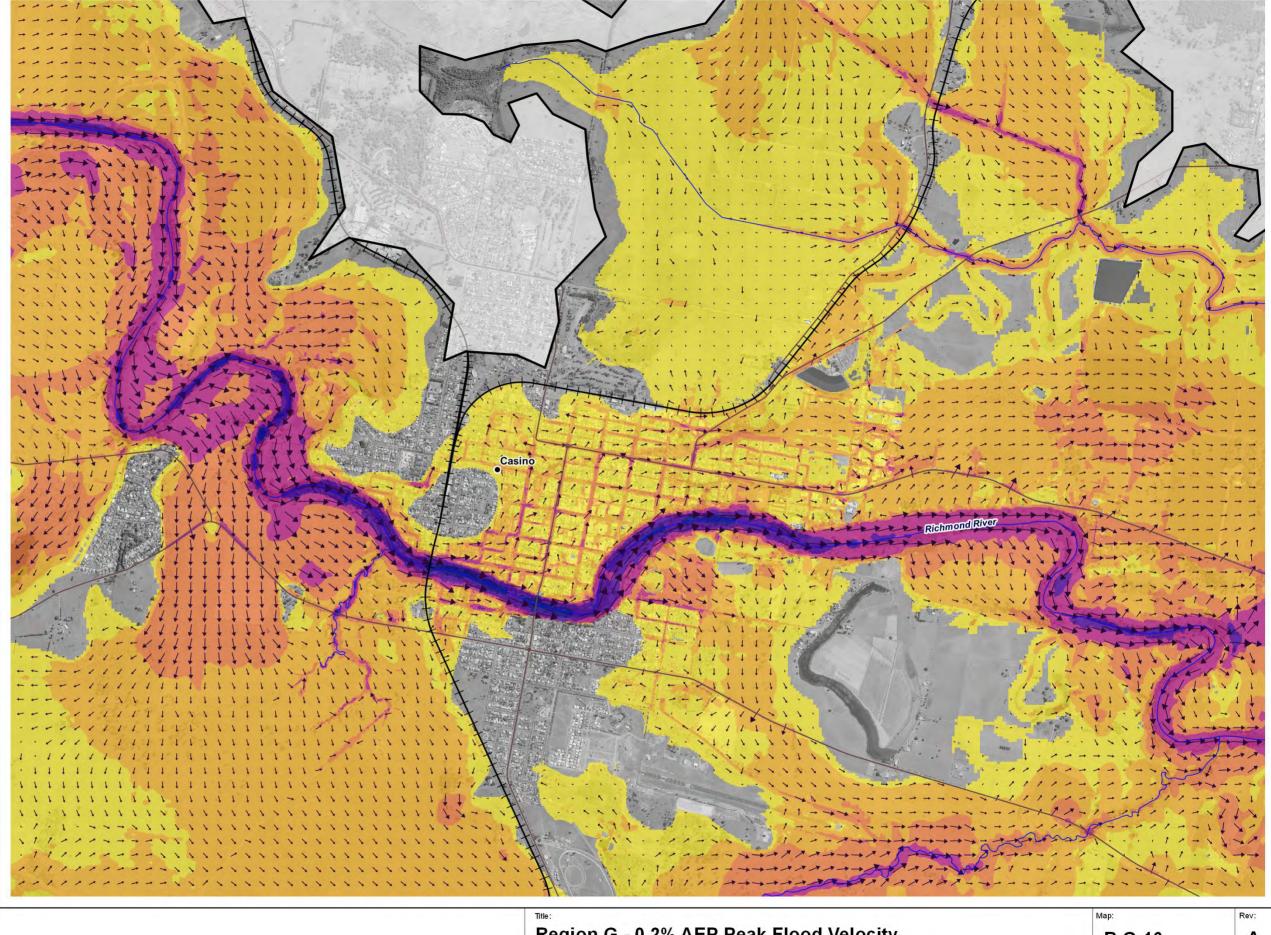
< 0.2 0.2 to 0.5

0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

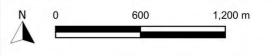
> 3.0



Legend □ LGA Boundaries → Railway □ Model Extent ← Main Roads • Towns ← Watercourses

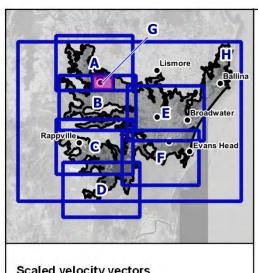


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R.G-16

BMT



<0.1

2.0 - 3.0

Velocity (m/s)

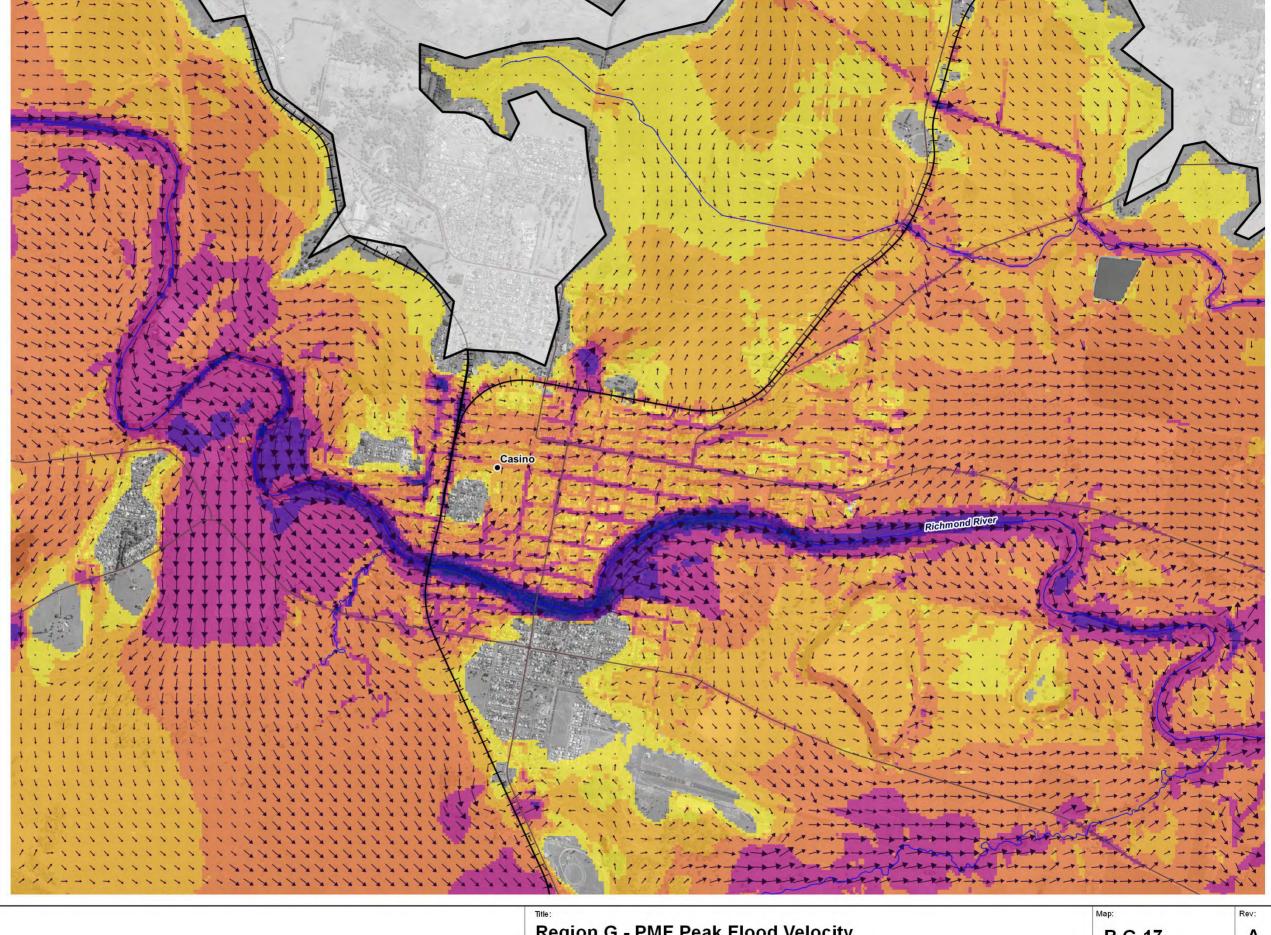
< 0.2

0.2 to 0.5 0.5 to 1.0

1.0 to 2.0

2.0 to 3.0

> 3.0



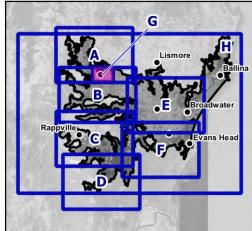
Legend ☐☐ LGA Boundaries ├── Railway Model Extent Main Roads • Towns Watercourses



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R.G-17



<0.1

→ 0.1 - 0.

→ 0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

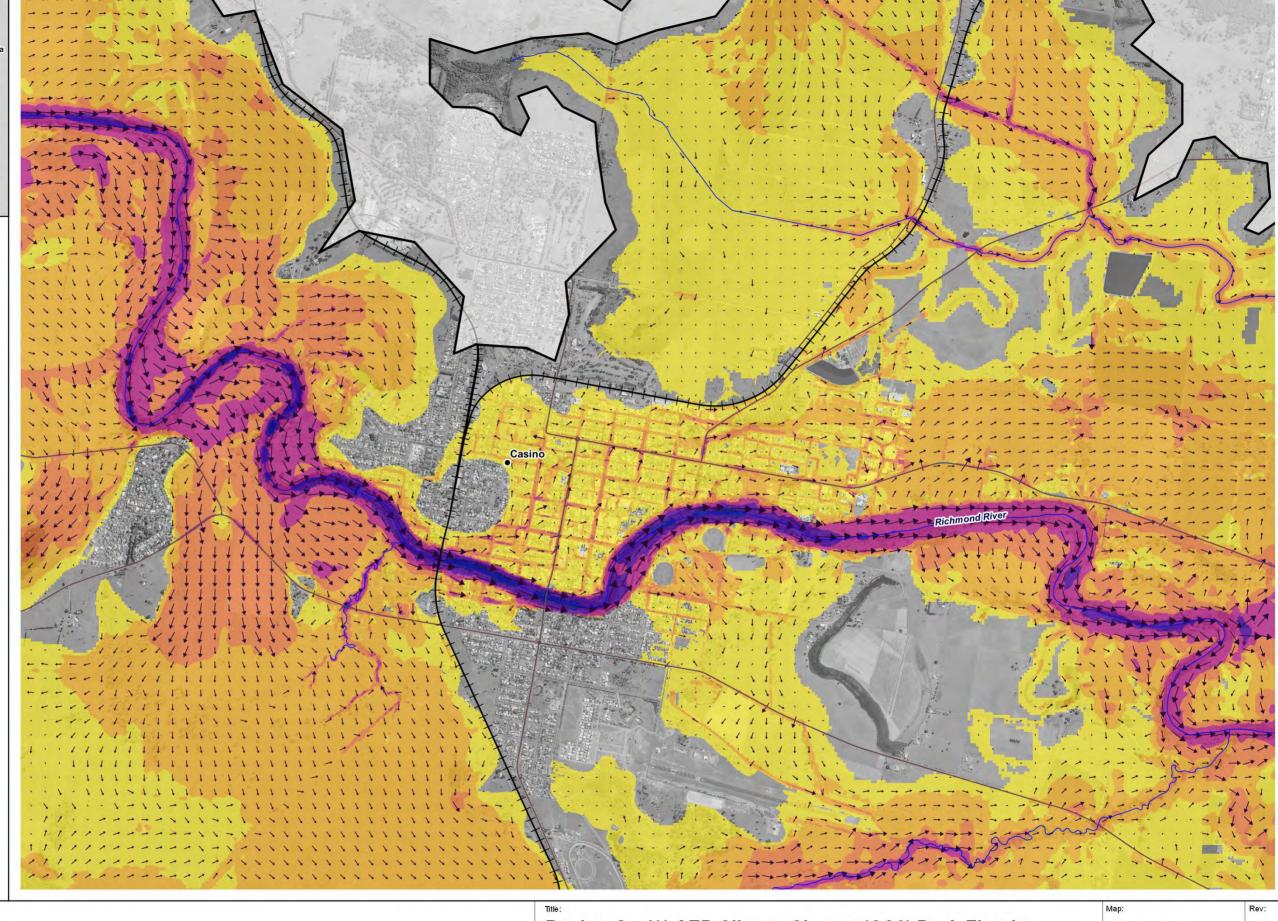
Velocity (m/s)

< 0.2 0.2 to 0.5

0.5 to 1.0

1.0 to 2.0 2.0 to 3.0

> 3.0



Legend LGA Boundaries + Railway Model Extent - Main Roads Towns - Watercourses

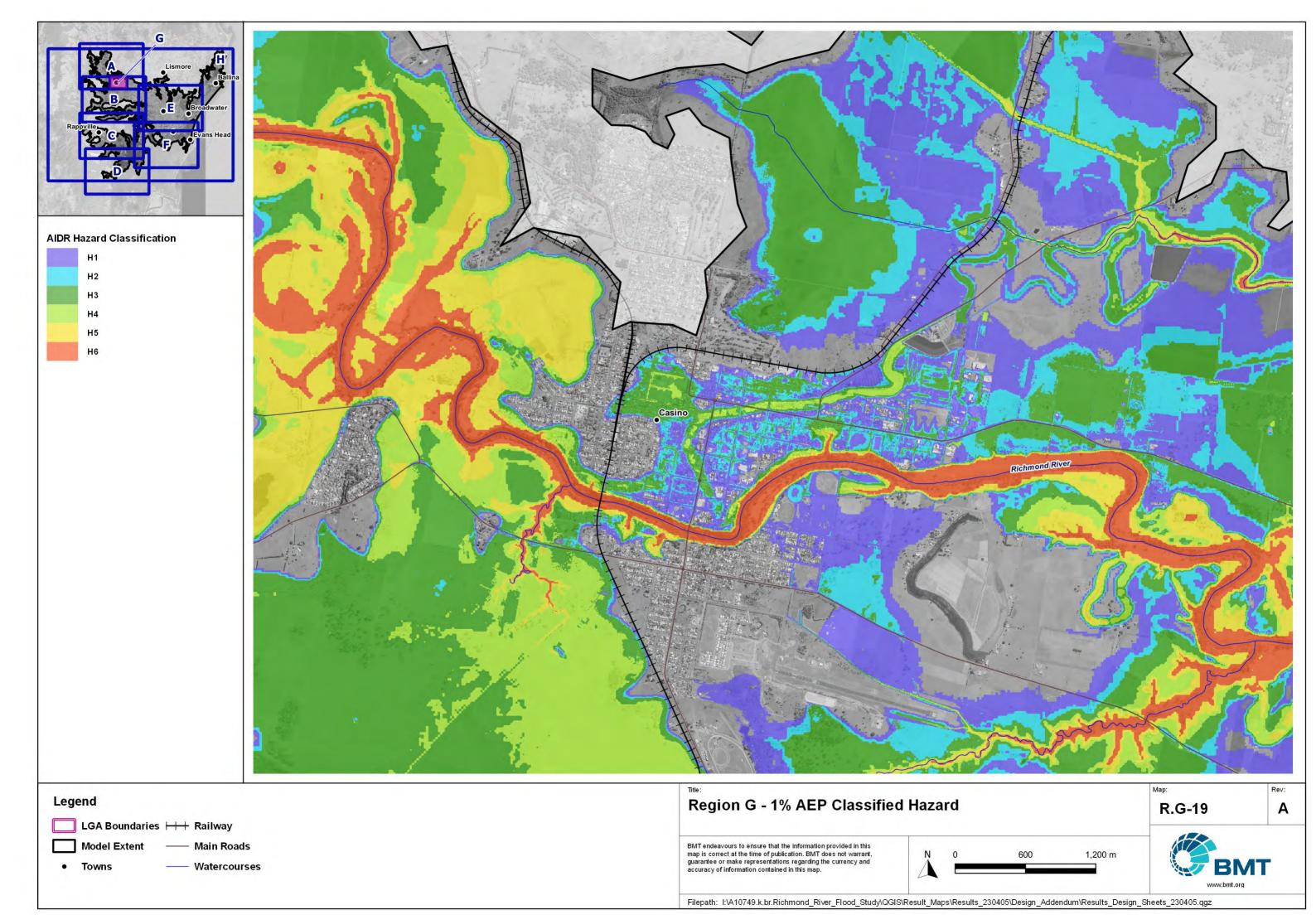


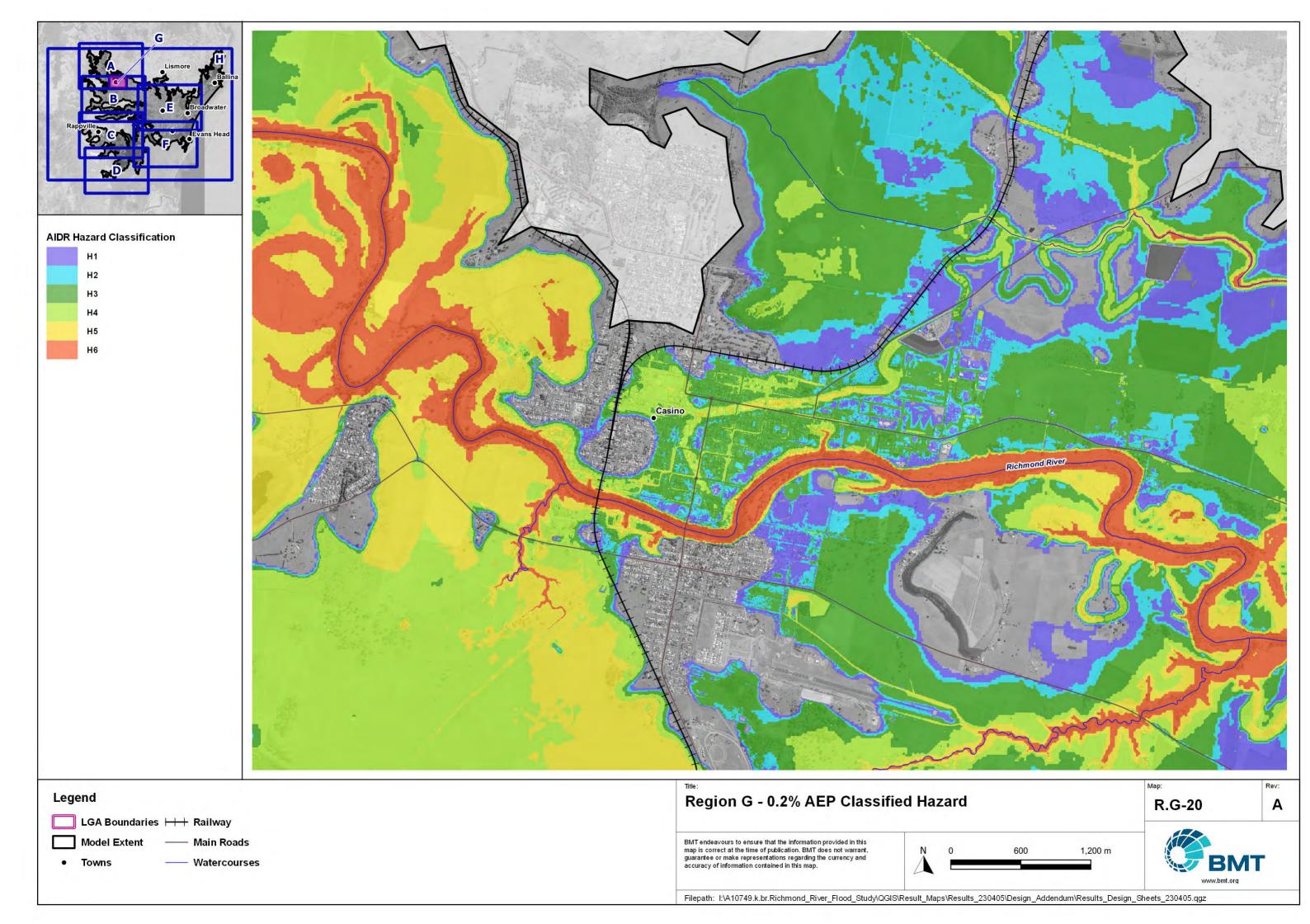
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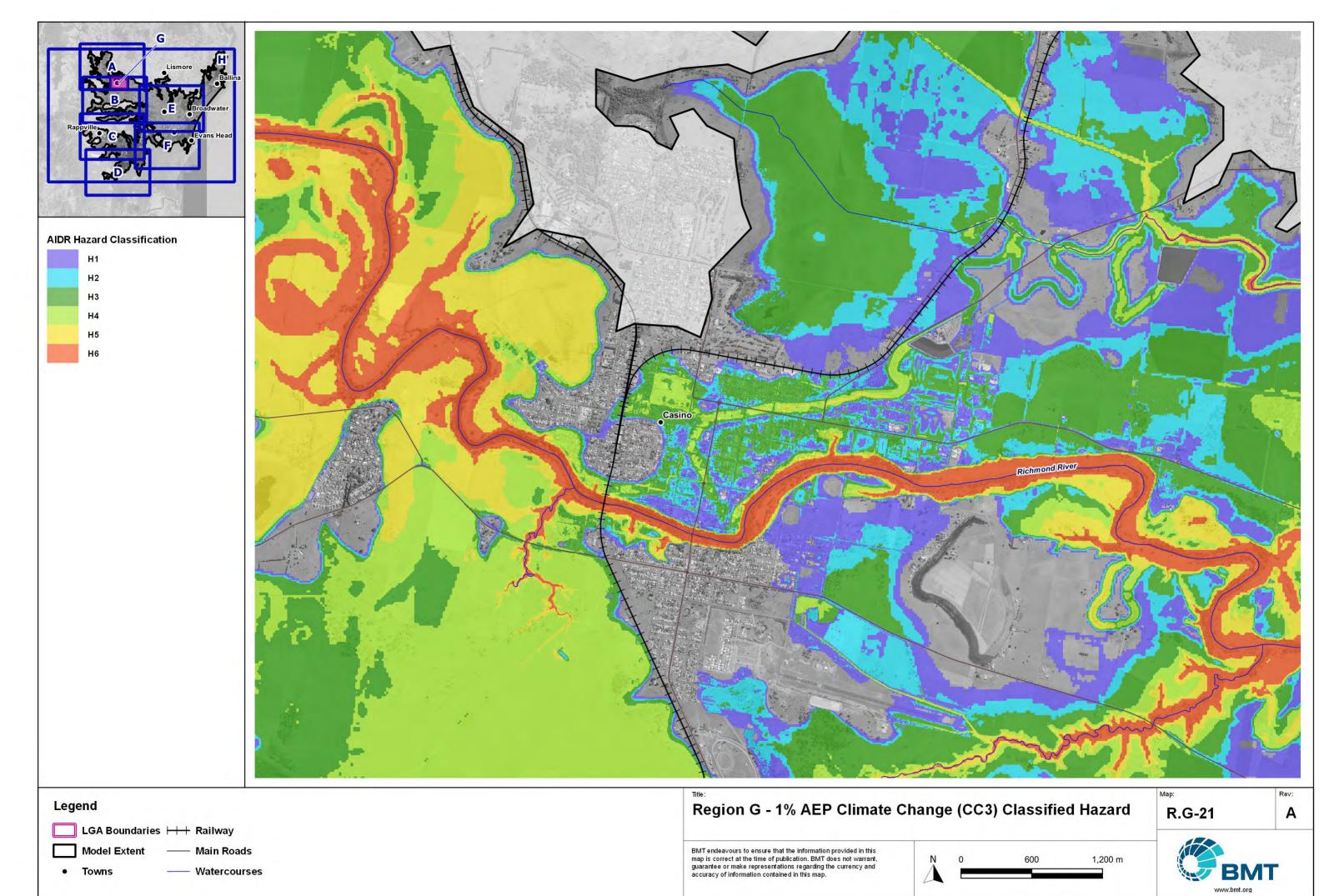


R.G-18

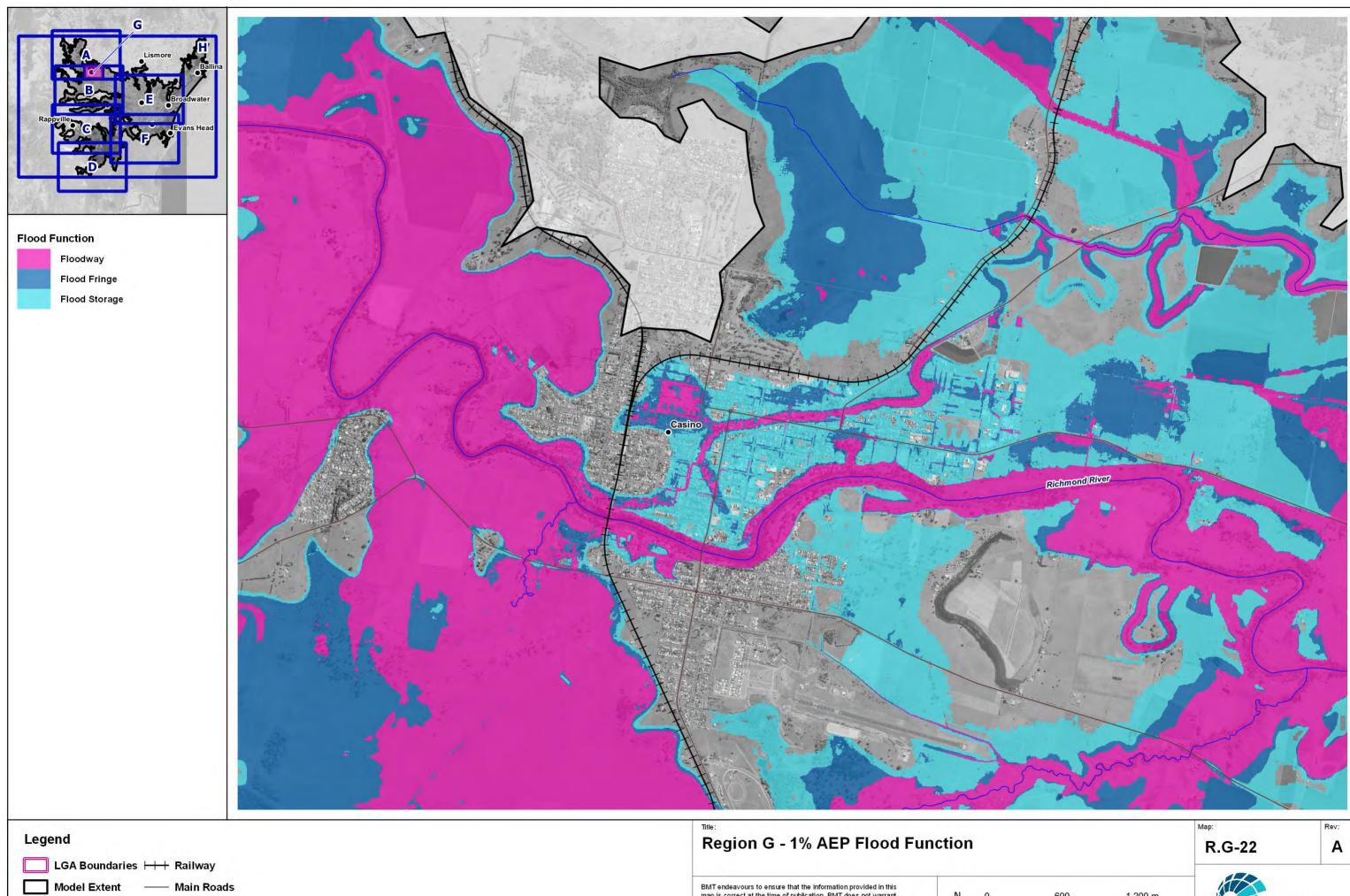




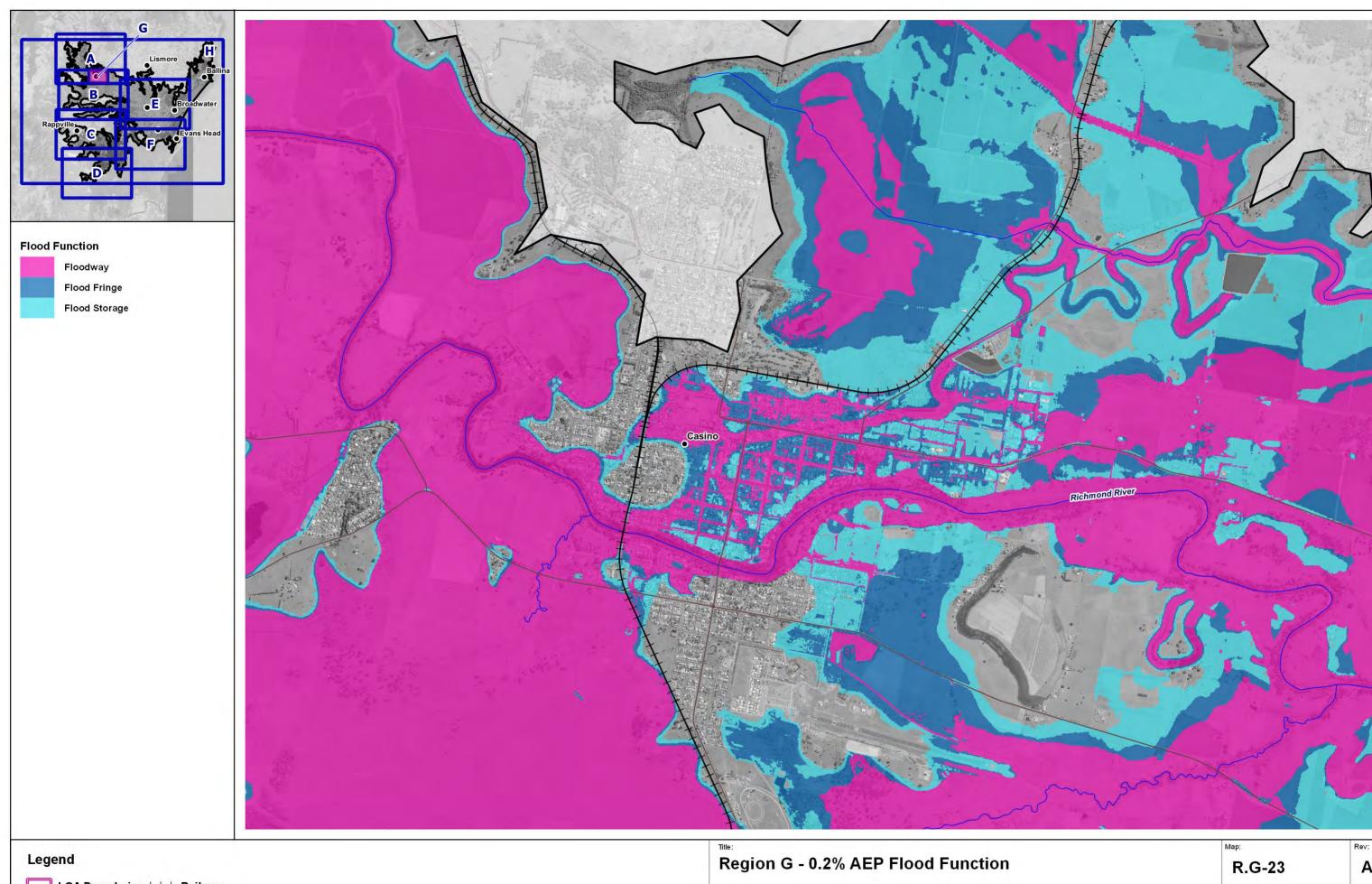




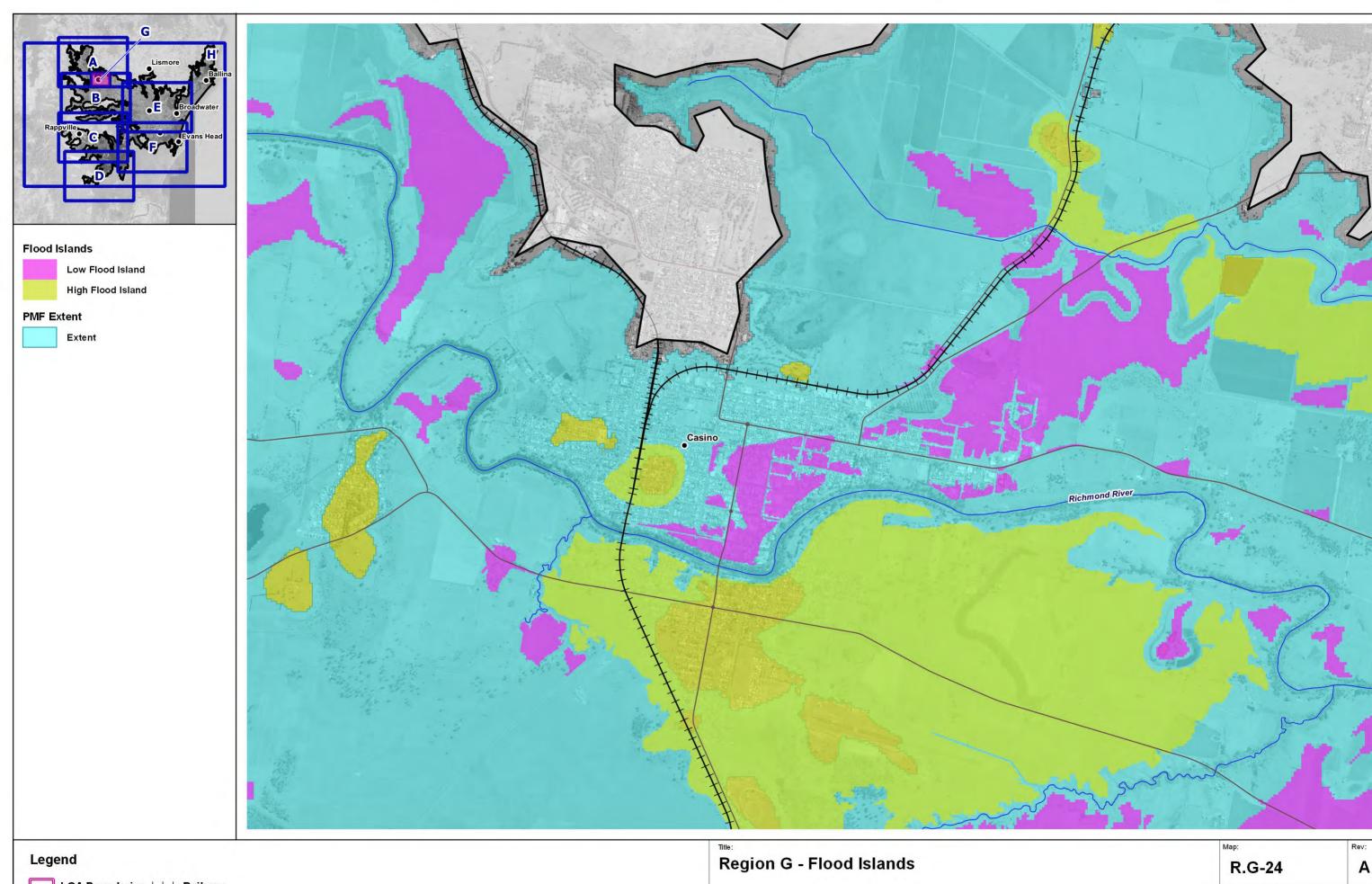
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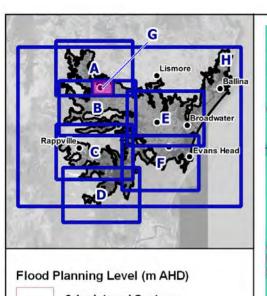










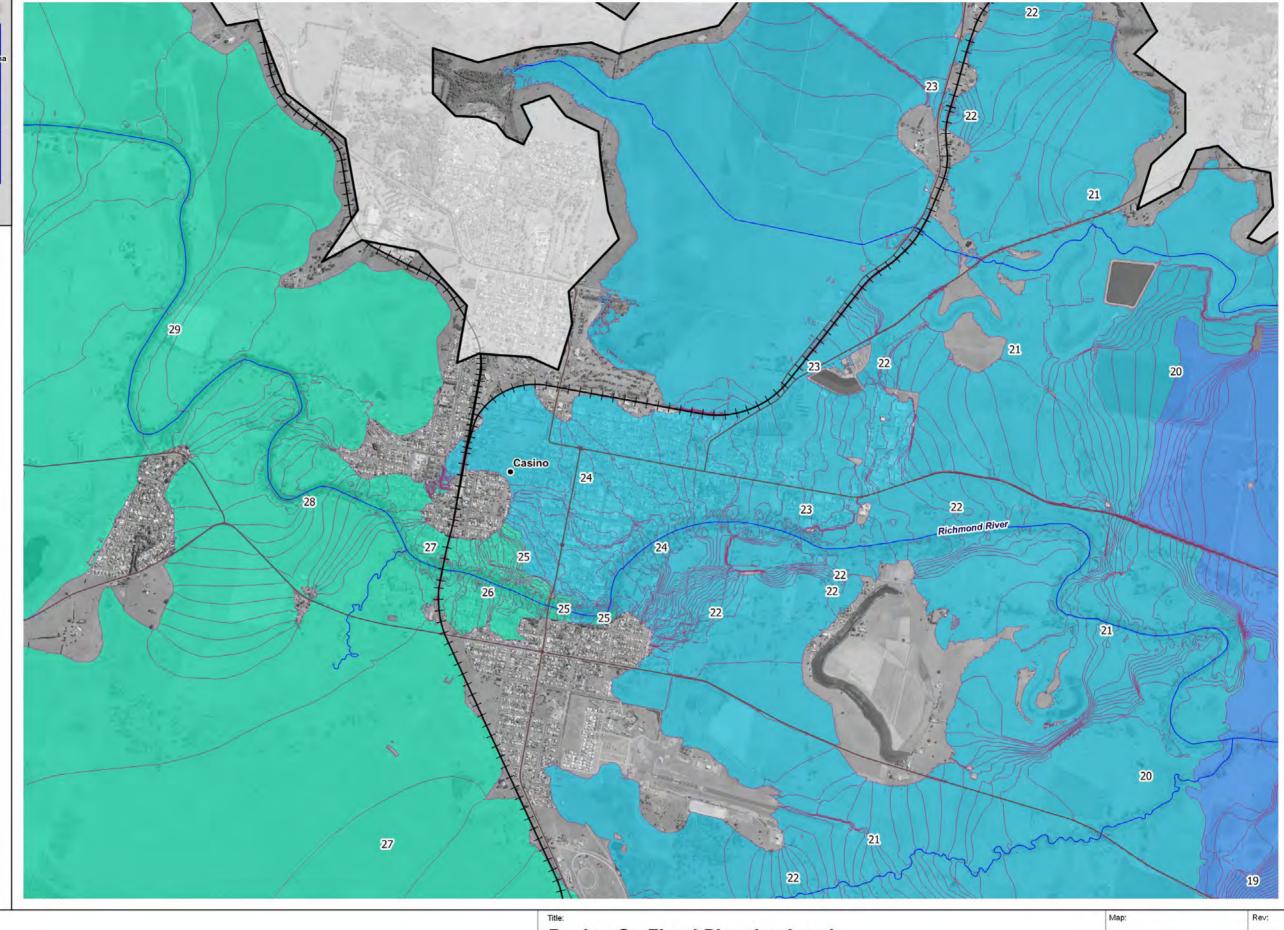


0.1m Interval Contours

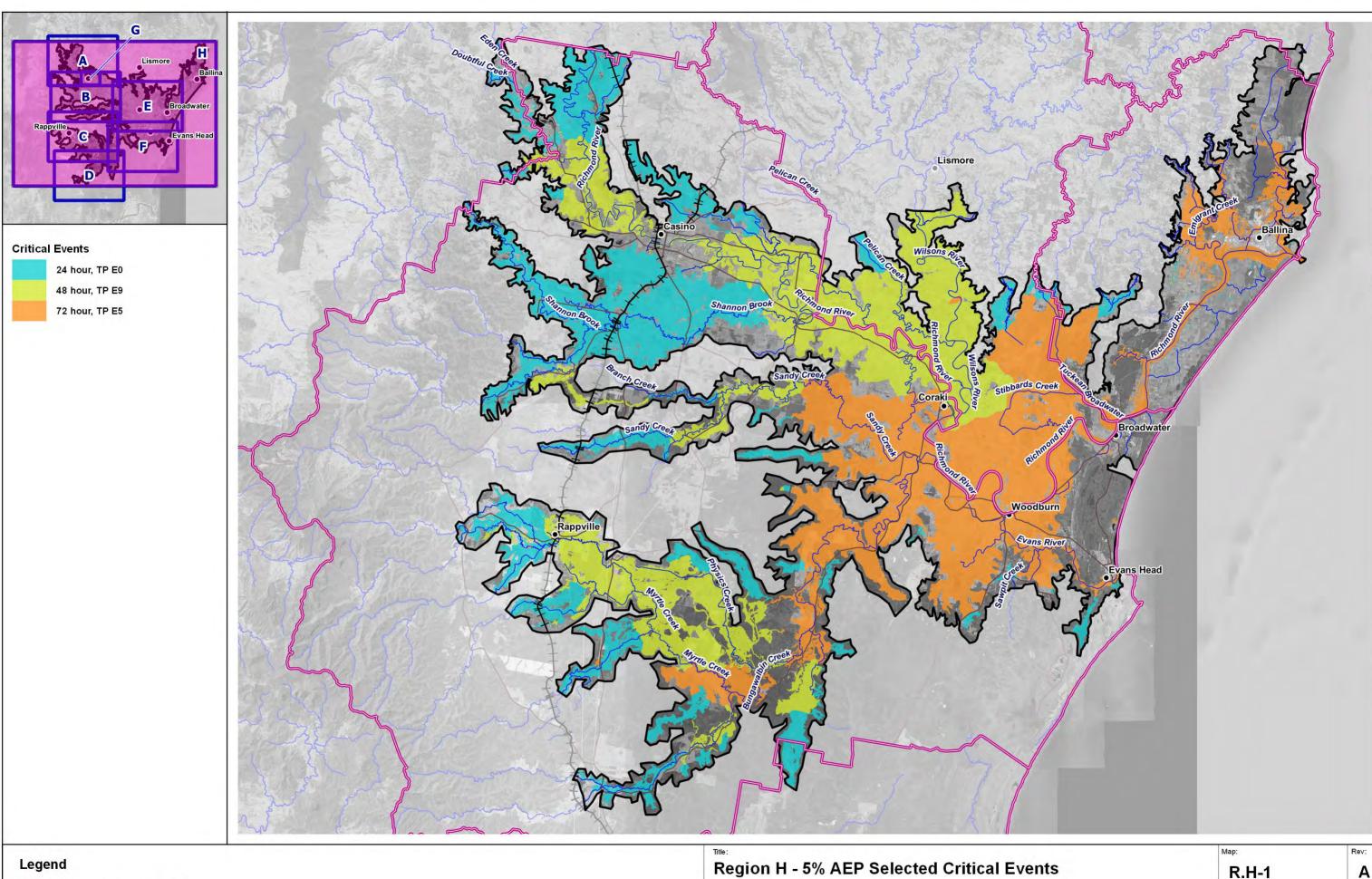
13-2

20 - 25

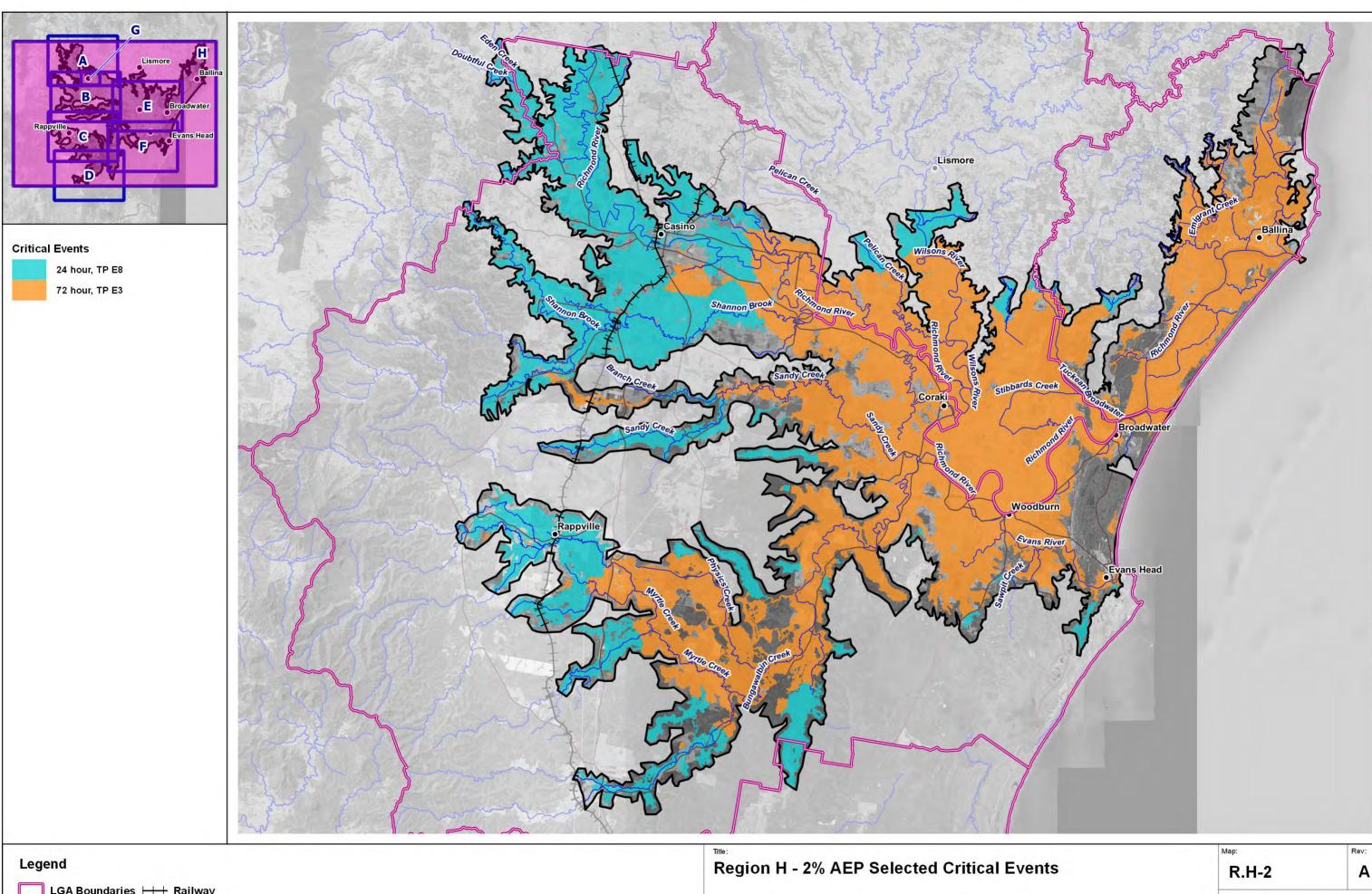
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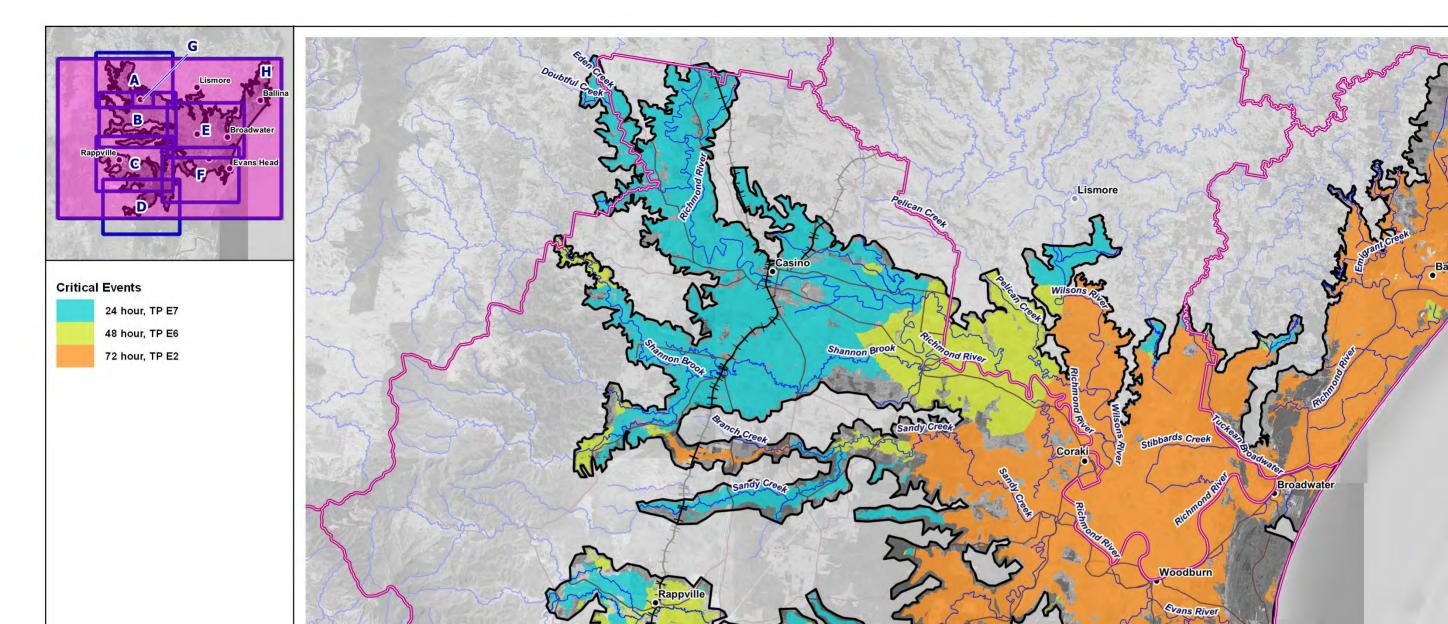




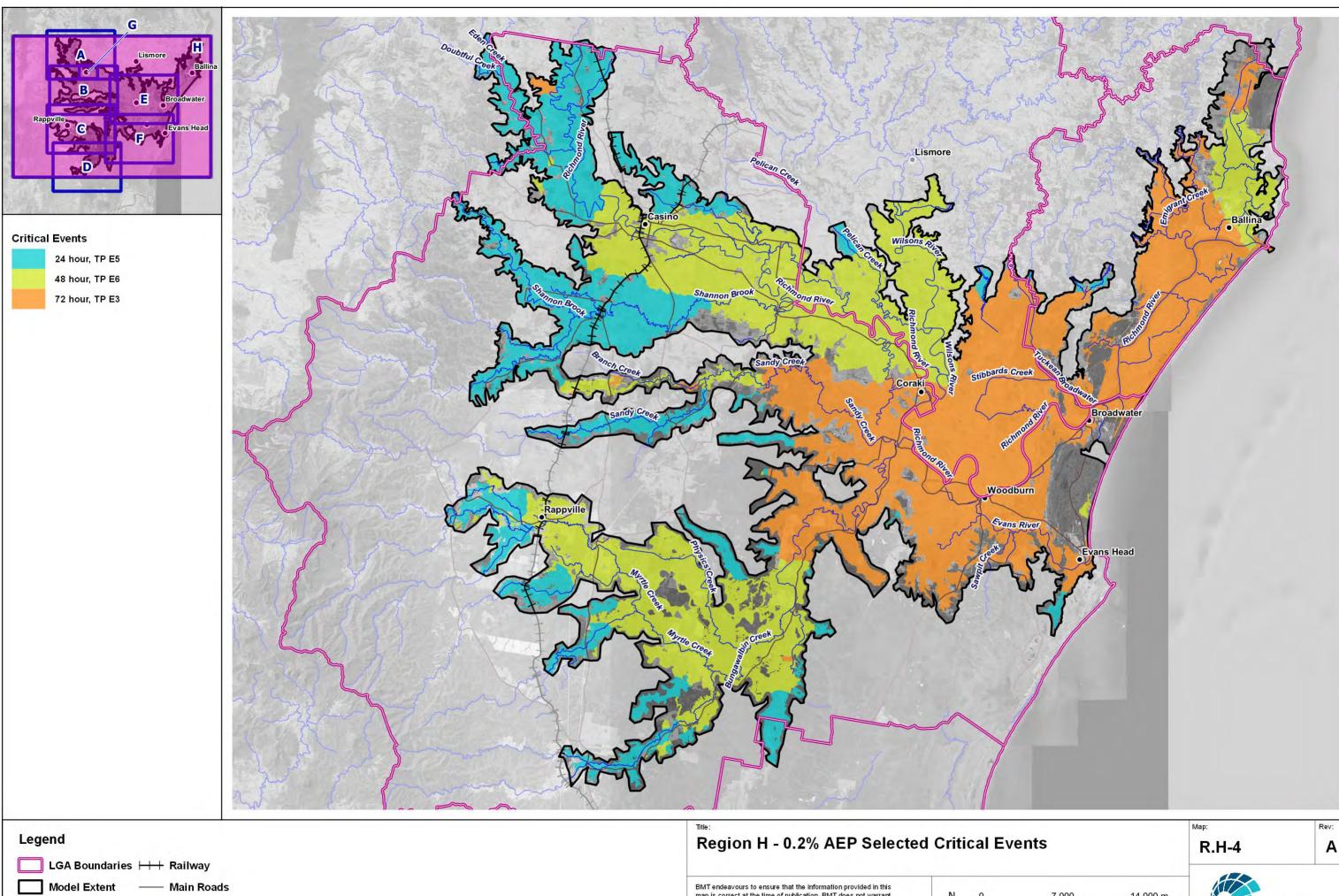




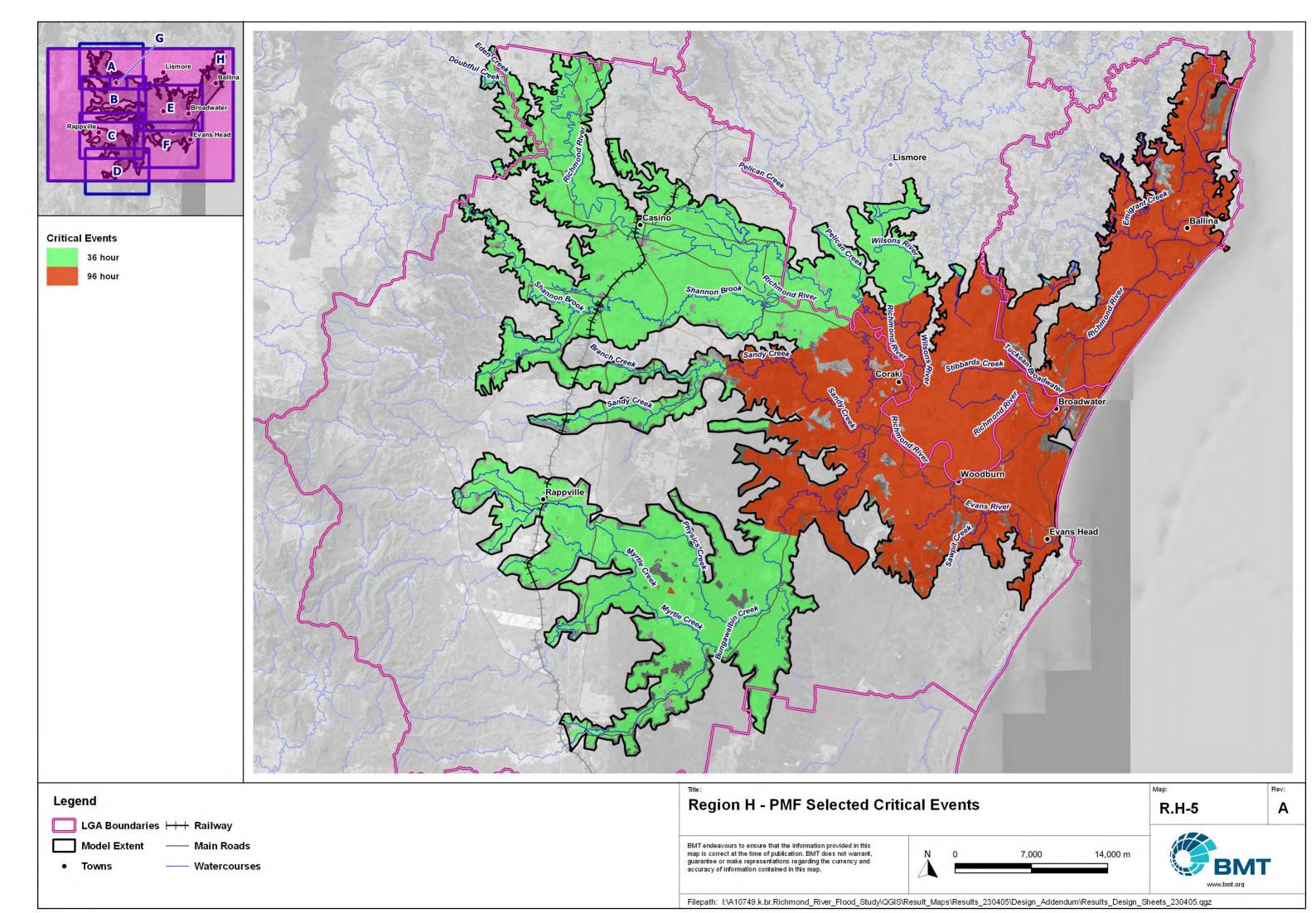


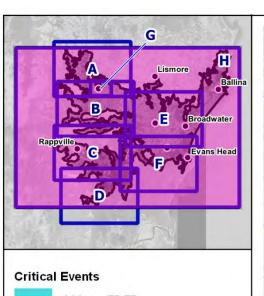










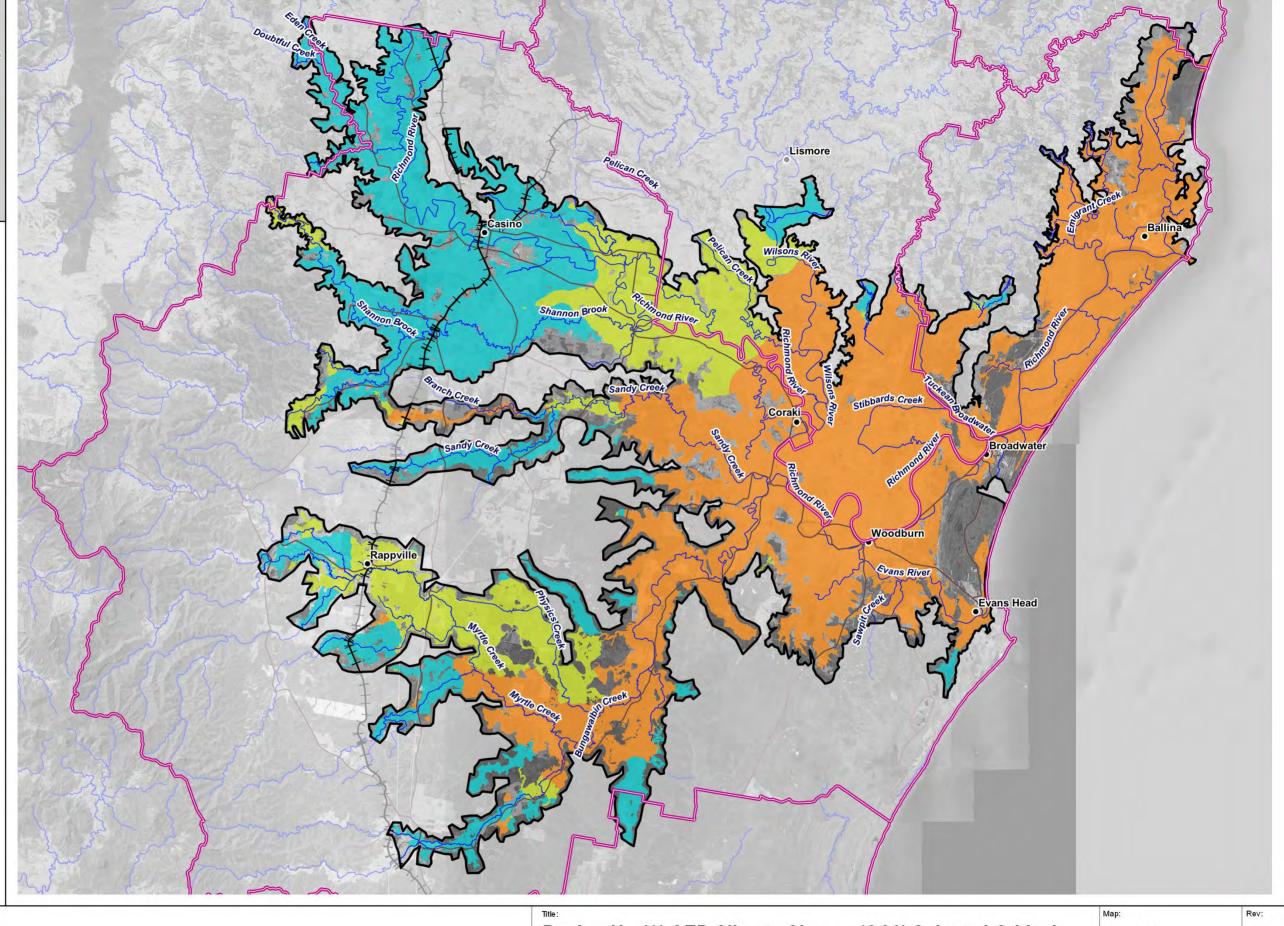


24 ho

24 hour, TP E7

48 hour, TP E6

72 hour, TP E2



Legend LGA Boundaries + Railway Model Extent - Main Roads Towns - Watercourses

Region H - 1% AEP Climate Change (CC3) Selected Critical Events

N 0 7,000 14,000 m

R.H-6 A

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