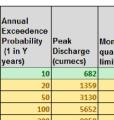
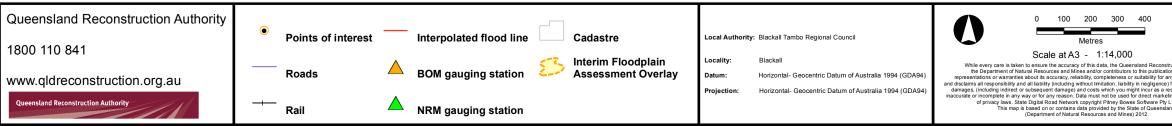
# Appendix C

MAPS 1-7: QUEENSLAND RECONSTRUCTION AUTHORITY FLOOD MAPPING

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Within gauged values Based on theoretical data ie extrapolated rating curve Note - Use this data with extreme caution -: 1 The highest gauging was 700 curnecs, so flows exceeding 700 curnecs were estimated using an extrapolated rating curve. Also data above 604 curnecs is poor. BLACKALLAME These estimates of flows and levels could change as a result of more detailed flood modelling and/or measurements during higher flood events. Significant assumptions have been made about flow in flood runners. A hydraulic model is needed to obtain better estimates of flood heights, discharges and related AEPs Peak Levels are to the gauge datum Gauge Zero at 274.069 m AHD No data is available as these values are beyond the extent of the rating curve and detailed cross section The levels only apply at the location of the gauging station The highest recorded flood event of April 1990 has an estimated AEP of 1in 25 years. bing 2010 DigitalGlobe © 2010



### Flood Frequency Analysis NR&M G/stn 003303A Blackall

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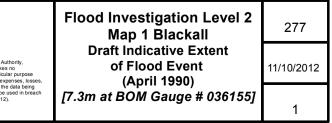
onte Carlo 9 antile proba nits		Peak Level (m Gauge Datum)	Estimated Peak Level (m AHD) at NR&M Gauge
372	1576	5.80	
625	4631	7.42	
1076	18915		282.5
1516	54823		283
2038	157133	See N	lote 5
2909	618262		

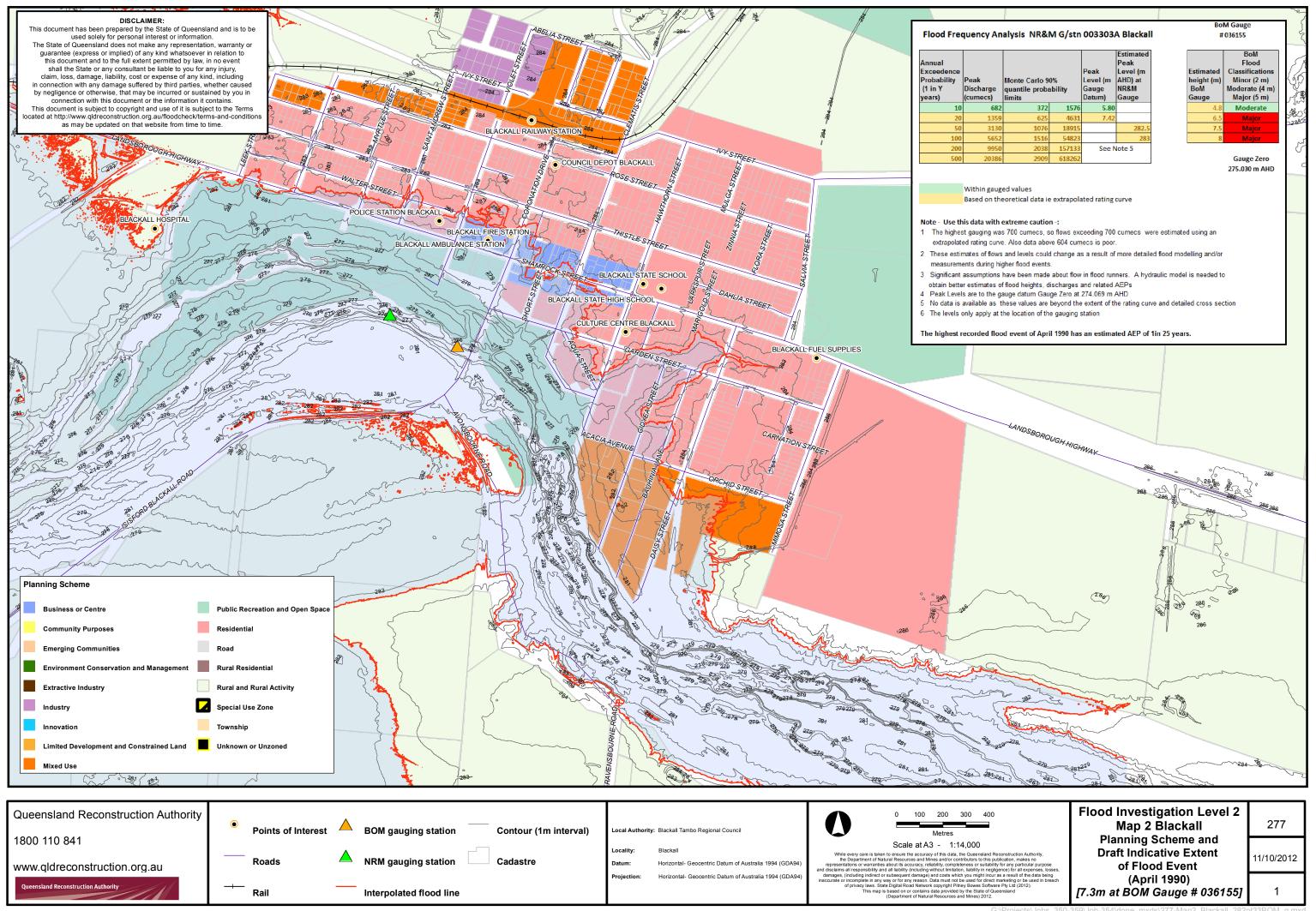


height (m) BoM	Minor (2 m) Moderate (4 m)
Gauge	Major (5 m)
4.8	Moderate
6.5	Major
7.5	Major
8	Maior

Gauge Zero 275.030 m AHD







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# States and



Annual Exceedence Probability (1 in Y years)	Peak Discharge (cumecs)	Monte Carlo 9 quantile proba limits		Peak Level (m	Estimated Peak Level (m AHD) at NR&M Gauge
10	682	372	1576	5.80	
20	1359	625	4631	7.42	
50	3130	1076	18915		282.5
100	5652	1516	54823		283
200	9950	2038	157133	See N	lote 5
500	20386	2909	618262		

Within gauged values

Note - Use this data with extreme caution -:

extrapolated rating curve. Also data above 604 curnecs is poor.

measurements during higher flood events.

Queensland Reconstruction Authority	•	<b>A</b>	<b>Depth (m)</b> 0.8 - 1	Local Authority: Blackall Tambo Regional Council	0 100 200 300
1800 110 841	Points of interes	t A BOM gauging station	0 - 0.5	Local Autonty: Blackall	Metres Scale at A3 - 1:14,00
www.qldreconstruction.org.au	Roads	NRM gauging station	0.5 - 0.8	Datum: Horizontal- Geocentric Datum of Australia 1994 (GDA94)   Projection: Horizontal- Geocentric Datum of Australia 1994 (GDA94)	representations or warranties about its accuracy, reliability, completeness and disclaims all responsibility and all liability (including without limitation, liab
Queensland Reconstruction Authority	Rail	Cadastre	>2		damages. (including indirect or subsequent damage) and costs which you inaccurate or incomplete in any way or for any reason. Data must not be use of privacy laws. State Digital Road Network copyright Pithey Bo This map is based on or contains data provided by the (Department of Natural Resources and Mb

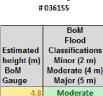
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### Flood Frequency Analysis NR&M G/stn 003303A Blackall

100

1005



BoM Gauge

Gauge Zero 275.030 m AHD

Based on theoretical data ie extrapolated rating curve

1 The highest gauging was 700 cumecs, so flows exceeding 700 cumecs were estimated using an

These estimates of flows and levels could change as a result of more detailed flood modelling and/or

Significant assumptions have been made about flow in flood runners. A hydraulic model is needed to obtain better estimates of flood heights, discharges and related AEPs Peak Levels are to the gauge datum Gauge Zero at 274.069 m AHD No data is available as these values are beyond the extent of the rating curve and detailed cross section

6 The levels only apply at the location of the gauging station

### The highest recorded flood event of April 1990 has an estimated AEP of 1in 25 years.



Flood Investigation Level 2 277 Map 3 Blackall Draft Indicative Extent and Depth of Flood Event 11/10/2012 (April 1990) [7.3m at BOM Gauge # 036155]

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# Same Same

Annual Exceedence Probability (1 in Y years)	Peak Discharge (cumecs)	Monte Carlo 9 quantile proba limits		Peak Level (m Gauge Datum)	Estimated Peak Level (m AHD) at NR&M Gauge	
10	682	372	1576	5.80		
20	1359	625	4631	7.42		
50	3130	1076	18915		282.5	
100	5652	1516	54823		283	
200	9950	2038	157133	See Note 5		
500	20386	2909	618262			

Within gauged values

Note - Use this data with extreme caution -:

measurements during higher flood events. Significant assumptions have been made about flow in flood runners. A hydraulic model is needed to obtain better estimates of flood heights, discharges and related AEPs Peak Levels are to the gauge datum Gauge Zero at 274.069 m AHD No data is available as these values are beyond the extent of the rating curve and detailed cross section

Queensland Reconstruction Authority	Points of inter	· · ·	DOM sousing station	Depth (m)	0.8 - 1	Local Authorit	y: Blackall Tambo Regional Council	Λ	0 100 200 300 400
1800 110 841			BOM gauging station	0 - 0.5		Locality:	Blackall		Metres Scale at A3 - 1:14,000
www.gldreconstruction.org.au	Roads		NRM gauging station	0.5 - 0.8	, 1-2	Datum:	Horizontal- Geocentric Datum of Australia 1994 (GDA94)	the Department of Na representations or warranties	en to ensure the accuracy of this data, the Queensland Re atural Resources and Mines and/or contributors to this pu es about its accuracy, reliability, completeness or suitability
Queensland Reconstruction Authority	Rail		Cadastre	0.5 - 0.6	>2	Projection:	Horizontal- Geocentric Datum of Australia 1994 (GDA94)	damages, (including indirect or inaccurate or incomplete in any of privacy laws. Sta	nd all lability (including without limitation, liability in neglig) or subsequent damage) and costs which you might incur y way or for any reason. Data must not be used for dired t late Digital Road Network copyright Priney Bowes Softwa is based on or contains data provided by the State or Qu

### Flood Frequency Analysis NR&M G/stn 003303A Blackall



BoM Gauge

1 2

BoM Gauge	Moderate (4 m) Major (5 m)
4.8	Moderate
6.5	Major
7.5	Major
8	Major

Gauge Zero 275.030 m AHD

Based on theoretical data ie extrapolated rating curve

1 The highest gauging was 700 cumecs, so flows exceeding 700 cumecs were estimated using an

extrapolated rating curve. Also data above 604 curnecs is poor.

These estimates of flows and levels could change as a result of more detailed flood modelling and/or

6 The levels only apply at the location of the gauging station

### The highest recorded flood event of April 1990 has an estimated AEP of 1in 25 years.



ction Authority,
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d (2012).
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# Flood Investigation Level 2 Map 4 Blackall Draft Indicative Extent and Depth of Estimated Flood AEP 1 in 10 yrs [4.9m at BOM Gauge # 036155]

277	
12/10/2012	
1	

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Annual Exceedence Probability (1 in Y years)	Peak Discharge (cumecs)	Monte Carlo 9 quantile proba limits		Peak Level (m Gauge Datum)	Estimated Peak Level (m AHD) at NR&M Gauge	
10	682	372	1576	5.80		
20	1359	625	4631	7.42		
50	3130	1076	18915		282.5	
100	5652	1516	54823		283	
200	9950	2038	157133	See Note 5		
500	20386	2909	618262			

Within gauged values

Note - Use this data with extreme caution -:

extrapolated rating curve. Also data above 604 curnecs is poor. These estimates of flows and levels could change as a result of more detailed flood modelling and/or measurements during higher flood events.

**Queensland Reconstruction Authority** 300 200 Depth (m) 0.8 - 1 Points of interest BOM gauging station Blackall Tambo Regional Council ocal Ai Metres 0 - 0.5 1800 110 841 Scale at A3 - 1:14,000 1-2 ten to ensure the accuracy of this data, the Queensi Roads NRM gauging station Geocentric Datum of Australia 1994 (GDA94 uracy, reliability, completeness or su www.qldreconstruction.org.au 0.5 - 0.8 Horizontal- Geocentric Datum of Australia 1994 (GDA94) ct or subsequent damage) and costs which you might incur a my way or for any teason. Data must not be used for direct m State Digital Road Network copyright Pitney Bowes Software ap is based on or contains data provided by the State of Que (Department of Natural Resources and Mines) 2012. Rail >2 Cadastre

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### Flood Frequency Analysis NR&M G/stn 003303A Blackall



BoM Gauge

BoM Gauge	Millor (2 m) Moderate (4 m) Major (5 m)
4.8	Moderate
6.5	Major
7.5	Major
8	Major

Gauge Zero 275.030 m AHD

Based on theoretical data ie extrapolated rating curve

1 The highest gauging was 700 cumecs, so flows exceeding 700 cumecs were estimated using an

Significant assumptions have been made about flow in flood runners. A hydraulic model is needed to obtain better estimates of flood heights, discharges and related AEPs Peak Levels are to the gauge datum Gauge Zero at 274.069 m AHD No data is available as these values are beyond the extent of the rating curve and detailed cross section

6 The levels only apply at the location of the gauging station

### The highest recorded flood event of April 1990 has an estimated AEP of 1in 25 years.



## Flood Investigation Level 2 Map 5 Blackall Draft Indicative Extent and Depth of Estimated Flood AEP 1 in 20 yrs [6.5m at BOM Gauge # 036155]

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11/10/2012	
1	

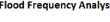
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Annual Exceedence Probability (1 in Y years)	Peak Discharge (cumecs)	Monte Carlo 9 quantile proba limits		Peak Level (m Gauge Datum)	Estimated Peak Level (m AHD) at NR&M Gauge
10	682	372	1576	5.80	
20	1359	625	4631	7.42	
50	3130	1076	18915		282.5
100	5652	1516	54823		283
200	9950	2038	157133	See Note 5	
500	20386	2909	618262		

Within gauged values

Note - Use this data with extreme caution -:

2 These estimates of flows and levels could change as a result of more detailed flood modelling and/or measurements during higher flood events.

Significant assumptions have been made about flow in flood runners. A hydraulic model is needed to obtain better estimates of flood heights, discharges and related AEPs Peak Levels are to the gauge datum Gauge Zero at 274.069 m AHD No data is available as these values are beyond the extent of the rating curve and detailed cross section

**Queensland Reconstruction Authority** 100 200 300 400 Depth (m) 0.8 - 1 Points of interest BOM gauging station Blackall Tambo Regional Council ocal Aut Metres 0 - 0.5 1800 110 841 Scale at A3 - 1:14,000 1-2 are is taken to ensure the accuracy of this data, the Queensi ment of Natural Resources and Mines and/or contributers to Roads NRM gauging station lorizontal- Geocentric Datum of Australia 1994 (GDA94) nt of Matural Resources and Mines and/or contributors to this pur-samines about its accuracy, reliability, completeness or suitabili bitly and all liability (including without limitation, liability in neglid direct or subsequent diamage) and costs which you might incur in any way or for any reason. Data must not be used for direct sws. State Digital Road Network copyright Pines plowes Softwa is map is based on or contains data provided by the State of 0. (Department of Matural Resources and Mines 2012. www.qldreconstruction.org.au 0.5 - 0.8 Horizontal- Geocentric Datum of Australia 1994 (GDA94) Rail >2 Cadastre

### Flood Frequency Analysis NR&M G/stn 003303A Blackall

1 3 2



BoM Gauge

BoM Gauge	Minor (2 m) Moderate (4 m) Major (5 m)	
4.8	Moderate	
6.5	Major	
7.5	Major	
8	Major	

Gauge Zero 275.030 m AHD

Based on theoretical data ie extrapolated rating curve

1 The highest gauging was 700 cumecs, so flows exceeding 700 cumecs were estimated using an

extrapolated rating curve. Also data above 604 curnecs is poor.

6 The levels only apply at the location of the gauging station

### The highest recorded flood event of April 1990 has an estimated AEP of 1in 25 years.



	Flood Investigation Level 2	277
Authority, ies no cular purpose ixpenses, losses,	Map 6 Blackall Draft Indicative Extent and Depth	12/10/2012
the data being e used in breach I2).	of Estimated Flood AEP 1 in 50 yrs [7.5m at BOM Gauge # 036155]	1

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