

## **APPENDIX 9**

### Peak flows in watercourses

## Brown Hill Creek

Base case – RRR model

Storm duration	36 hour		90 minutes	
Hydrology	2012	2013	2012	2013
Location	Base case peak flow (m <sup>3</sup> /s)			
Scotch College	26.1	26.5	3.7	6.4
Belair Rd	30.2	27.7	18.7	13.8
Cross Road	36.4	30.0	27.8	21.9
Goodwood Rd	37.1	30.2	29.4	23.2
Anzac Hwy	38.9	31	33.9	26.8
Keswick Ck junction	40.2	31.6	35.5	28.0

Mitigation case – 2013 hydrology – RRR and Mike11

Storm duration	36 hour		90 minutes	
Model	RRR	Mike11	RRR	Mike11
Location	Mitigation peak flow (m <sup>3</sup> /s)			
Scotch College	26.5	26.3	6.4	6.4
Belair Rd /Angas Rd	27.7	26.5	13.8	6.4
Cross Road	30.0	27.3	21.9	12.1
Goodwood Rd	30.2	29.9	23.2	20.6
Anzac Hwy – u/s	31.0	30.8	26.7	24.8
Diversion	14.7		22.5	
Anzac Hwy – d/s	41.6		44.1	
Keswick Ck junction	42.2		45.9	

## Brown Hill Creek

Mitigation case – 2013 hydrology – RRR and Mike11

<b>Storm duration</b>	36 hour		90 minutes	
<b>Model</b>	RRR	Mike11	RRR	Mike11
<b>Location</b>	Mitigation peak flow (m <sup>3</sup> /s)			
Scotch College	26.5	26.6	6.4	6.4
Belair Rd	27.7	26.7	13.8	13.0
Angas Rd	27.7	27.9	13.8	13.0
Cross Road (d/s)	30.0	29.8	21.9	21.1
Goodwood Rd (u/s)	30.2	30.5	23.2	21.1
Anzac Hwy – u/s	31.0	31.1	26.7	26.5
Diversion flow	14.7	15.5	22.5	21.6
Anzac Hwy – d/s	41.6	42.2	44.1	46.9
Keswick Ck junction	42.2	42.3	46.0	47.7

## Glen Osmond Creek

Base case – RRR model

<b>Storm duration</b>	36 hour		90 minutes	
<b>Hydrology</b>	2012	2013	2012	2013
<b>Location</b>	Base case peak flow (m <sup>3</sup> /s)			
Ridge Park	8.6	7.4	6.4	6.4
Fullarton Road	10.9	8.1	10.9	10.2
Windsor Street	12.1	8.5	13.6	12.7
Unley Road	17.6	11.0	23.2	20.2
Parklands Creek junction – u/s	19.1	11.9	25.0	21.5
Parklands Creek junction – d/s	36.3	26.7	46.9	40.3

Mitigation case – 2013 hydrology – RRR and Mike11

<b>Storm duration</b>	36 hour		90 minutes	
<b>Model</b>	RRR	Mike11	RRR	Mike11
<b>Location</b>	Mitigation peak flow (m <sup>3</sup> /s)			
Ridge Park	6.9	6.9	5.0	5.0
Fullarton Road	7.5	6.9	6.8	5.0
Windsor Street	7.9	7.9	8.7	8.8
Unley Road	10.9	11.0	17.2	19.5
Parklands Creek junction – u/s	11.8	11.8	19.4	19.5
Parklands Creek junction – d/s	19.3	18.4	26.0	25.5

For Mike 11 data, 6 hour peak flows are less than the 90 minute flows (and greater than the 36 hour flows) after Windsor Street.

## Parklands Creek

Base case – RRR model

<b>Storm duration</b>	36 hour		6 hour		90 minutes	
<b>Hydrology</b>	2012	2013	2012	2013	2012	2013
<b>Location</b>	Base case peak flow (m <sup>3</sup> /s)					
Greenhill & Fullarton Roads intersection	13.4	10.3	(# 1)	(# 1)	21.0	18.9
Greenhill Rd	17.8	14.0	(# 1)	(# 1)	25.7	22.8
Glen Osmond Ck junction – u/s	18.7	14.8	(# 1)	(# 1)	26.2	23.3

Mitigation case – 2013 hydrology – RRR and Mike11

<b>Storm duration</b>	36 hour		6 hour		90 minutes	
<b>Model</b>	RRR	Mike11	RRR	Mike11	RRR	Mike11
<b>Location</b>	Mitigation peak flow (m <sup>3</sup> /s)					
Greenhill & Fullarton Roads intersection	10.2	(# 2)	(# 1)	(# 2)	15.9	(# 2)
Greenhill Rd	7.1	6.2	(# 1)	6.2	6.6	5.8
Glen Osmond Ck junction – u/s	7.5	7.1	(# 1)	7.1	6.9	8.3

Notes:

- (1) Data not provided
- (2) Not in the model

## Keswick Creek

Base case – RRR model

Storm duration	36 hour		90 minutes	
Hydrology	2012	2013	2012	2013
Location	Base case peak flow (m <sup>3</sup> /s)			
Goodwood Road	40.2	28.9	50.4	43.2
Railway line	41.7	29.7	51.5	44.2
Anzac Hwy	41.7	29.7	51.5	44.2
Richmond Road	43.6	31.1	54.4	46.7
South Road	49.1	35.9	62.1	53.0
Brooker Terrace	50.9	37.5	64.1	55.8
BHC junction – u/s	55.8	41.8	68.1	61.3

Mitigation case – 2013 hydrology – RRR and Mike11

Storm duration	36 hour		90 minutes	
Model	RRR	Mike11	RRR	Mike11
Location	Mitigation peak flow (m <sup>3</sup> /s)			
Diversion 1*	8.3	8.0	12.6	11.7
Goodwood Road	13.2	12.6	19.5	20.5
Railway line	14.0	12.6	21.8	20.2
Diversion 2*	6.4		9.9	
Anzac Hwy	7.7	5.8	11.7	11.2
Richmond Road	9.0	7.4	13.8	16.1
South Road	14.1	12.6	19.8	20.7
Brooker Terrace	16.0	14.5	22.6	23.1
BHC junction – u/s	20.7	20.9	28.4	30.5

\* Diversions 1 and 2 refer to the 2012 SMP configuration of separate diversions – Le Hunte Street and Anzac Highway. For the latest configuration, Diversion 2 applies to the twin culverts along Anzac Highway.